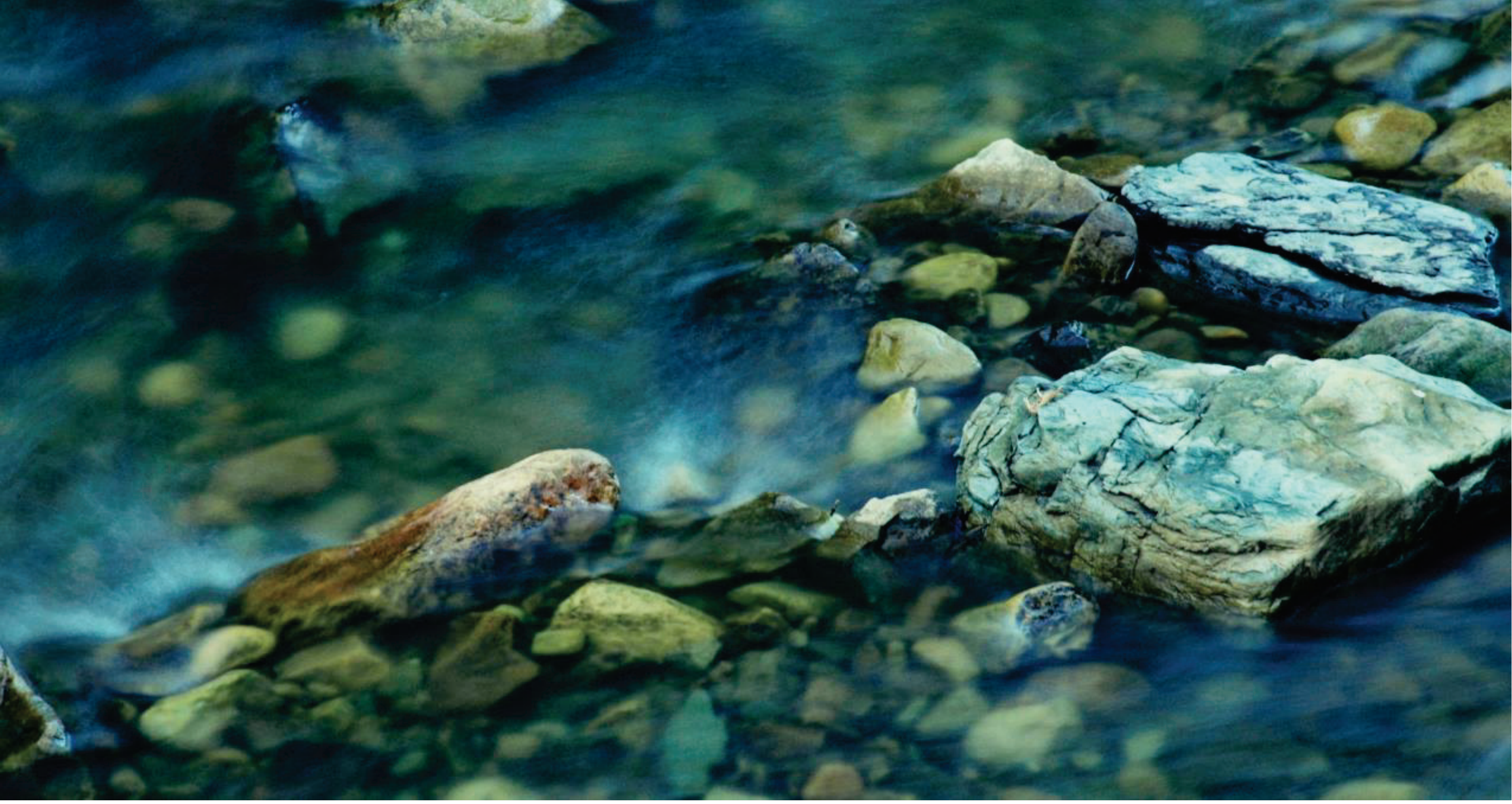


November 2018
Greater Los Angeles and Long Beach Harbor Waters

Linked Model Data Summary Report

Prepared for Port of Long Beach and Port of Los Angeles

November 2018
Greater Los Angeles and Long Beach Harbor Waters

Linked Model Data Summary Report

Prepared for
Port of Long Beach
4801 Airport Plaza Drive
Long Beach, California 90815

Port of Los Angeles
425 South Palos Verdes Street
San Pedro, California 90731

Prepared by
Anchor QEA, LLC
9700 Research Drive
Irvine, California 92618

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

ABBREVIATIONS

CS	Consolidated Slip
CSM	conceptual site model
DCE	Dominguez Channel Estuary
DDX	dichlorodiphenyltrichloroethane and its derivatives
FH	Fish Harbor
Harbor Toxics TMDL	Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants Total Maximum Daily Load
LA/LB	Los Angeles/Long Beach
PCB	polychlorinated biphenyl
PV	Palos Verdes
SedLR	sediment load reduction
WLR	watershed load reduction
WRAP	Water Resources Action Plan

1 Introduction

Addressing indirect human health effects of sediment-borne contaminants due to the consumption of fish from the Los Angeles/Long Beach (LA/LB) Harbor is a critical component of the Final Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants Total Maximum Daily Load (Harbor Toxics TMDL; RWQCB and USEPA 2011). To minimize human health risks associated with fish consumption, the Harbor Toxics TMDL sets contaminant limits in surface sediment, stormwater effluent, and fish tissues. These limits are concentration-based (typically generated from or referred to as numeric targets). Currently all of the sediments and fish tissue within the Harbor exceed the sediment and/or fish tissue numeric targets for total polychlorinated biphenyls (PCBs) and/or total dichlorodiphenyltrichloroethane and its derivatives (DDX[1]); thus, compliance with the Harbor Toxics TMDL presents a challenge. The Ports of Long Beach and Los Angeles (together termed the Ports) have developed a linked hydrodynamic, sediment transport, chemical fate, and bioaccumulation model to better understand how compliance with the Harbor Toxics TMDL may be achieved. The model provides the Ports with a tool for evaluating the relative effectiveness of different management alternatives at reducing fish tissue concentrations, and can be used to evaluate the link between sources and fish tissue concentrations of PCBs and DDX.

1.1 Harbor Toxics TMDL

The Harbor Toxics TMDL (RWQCB and USEPA 2011) was adopted in 2011 by the Regional Water Quality Control Board and became effective on March 23, 2012. The Harbor Toxics TMDL and subsequent Basin Plan Amendment (RWQCB 2011) were established to address water quality impairments and provide a plan for restoring beneficial uses of the Harbor. The Final Harbor Toxics TMDL requires that compliance be demonstrated by 2032 or 20 years after its effective date. A TMDL reconsideration is tentatively scheduled for 2018, at which time the RWQCB will consider changes to numeric targets, implementation schedules, and listed contaminants of concern.

1.2 Project Setting

The area named as the Greater Los Angeles and Long Beach Harbor waters (Harbor) in the Harbor Toxics TMDL includes LA/LB Harbor, Eastern San Pedro Bay, Los Angeles River Estuary, Queensway Bay, and Dominguez Channel Estuary (DCE; Figure 1-1). Eastern San Pedro Bay, which lies to the east of Pier J, exchanges water, sediment, and fish with the Harbor through the opening south of Pier J, just inside the breakwater. LA/LB Harbor and Eastern San Pedro Bay are bounded to the south by the federal breakwater, which stretches across most of San Pedro Bay in three distinct segments.

[1] In this report, Total PCB refers to total congener PCBs or total Aroclor PCBs; total DDX refers to the sum of the following constituents: 4,4'-DDT, 4,4'-DDE, 4,4'-DDD, 2,4'-DDT, 2,4'-DDE, and 2,4'-DDD.

1.3 TMDL Program Approach

The Ports' approach for determining the most effective management actions for achieving compliance with the Harbor Toxics TMDL involves the development of a site-specific, mechanistic model of the Harbor. The model allows for an accurate determination of the linkage between PCB and DDX sources (i.e., water, sediment, and food) and fish PCB and DDX concentrations, and will provide the Ports with a tool for evaluating the relative effectiveness of various management alternatives for reducing fish tissue concentrations. The quantitative model includes the following:

- The Water Resources Action Plan (WRAP) model that simulates hydrodynamic, sediment transport, and chemical fate processes.
- A bioaccumulation model (AQFDCHN) that is based on a bioenergetic, mechanistic, dynamic modeling framework (Thomann and Connolly 1984) that simulates contaminant bioaccumulation from water column and sediment exposure, and accounts for site-specific growth rates of organisms throughout their lives, as well as seasonal and annual changes in diet and lipid content.

Water column dissolved and particulate PCB and DDX concentrations, and sediment PCB and DDX concentrations estimated from WRAP model simulations provide inputs to AQFDCHN (Figure 1-2). Both models have been calibrated to simulate the complex hydrodynamic, sediment transport, and PCB and DDX fate and bioaccumulation processes in the Harbor.

2 Linked Model Development

The Ports' linked model development has been underway since 2012 and has involved numerous steps, including development of a conceptual site model (CSM) (Anchor QEA 2014a; Anchor QEA and Everest 2015), completion of a data gap analysis to determine key data needs (Anchor QEA 2013a, 2014a; Port of Long Beach and Port of Los Angeles 2013), implementation of special studies designed to fill key data needs (Anchor QEA 2013b, 2014b, 2014c, 2014d, 2014e), model development and calibration (Anchor QEA 2017; Everest 2017), and peer review (Wu 2016; Arnot 2016; Bridges 2016). A short summary of each step is briefly described below.

2.1 Conceptual Site Model Development

A CSM is a representation of physical, chemical, and biological processes that affect the transport, migration, and potential impacts of contamination to receptors within a specific waterbody or environment (USEPA 2005). To develop the CSM for the Harbor, representative food web species were selected and the pathways and sources of PCBs and DDX to those receptors were defined. Figure 1-2 is an illustration of the Harbor CSM and shows the physical processes that drive the fate and transport of PCBs and DDX, and their sources to the Harbor food web. The figure shows the relationship between the models used to simulate each process: the WRAP model simulates hydrodynamic, sediment transport, and chemical fate processes (Everest 2017), and the bioaccumulation model simulates accumulation of PCBs and DDX from sediment, water, and prey, to fish receptors (Anchor QEA 2017).

2.1.1 Physical Conceptual Site Model

The relative importance of contaminant sources to the Harbor was initially investigated through the development of a chemical fate-specific CSM for the water column (Anchor QEA and Everest 2015). Specifically, a chemical mass balance evaluation of the total PCB and total DDX concentrations in the Harbor indicated that the flux of dissolved contaminants from surface sediments is an important process. The mass balance evaluation also showed that watershed loadings—particularly for inflows from the San Gabriel River, Los Angeles River, and Dominguez Channel—are also an important source of contaminants to Harbor waters. Tidal exchanges also were shown to be an important contaminant loss mechanism. Other mechanisms contributing to the gain or loss of PCBs and DDX to the Harbor were found to be less important; these included wet and dry atmospheric deposition, groundwater flow, and chemical degradation in the water column.

2.1.2 Biological Conceptual Site Model

The receptors of concern in the Harbor are the white croaker, the only fish named in the Harbor Toxics TMDL, and two other fish that are subject to regional consumption advisories. To represent the Harbor food web, the bioaccumulation model uses fish receptors with a range of feeding strategies: California halibut, a sport fish that consumes pelagic and benthic fish; white croaker, which consumes a mixture of benthic invertebrates and prey fish; and representative prey fishes, shiner and white surfperches, which consume water column and benthic invertebrates. Two types of invertebrates, a representative deposit feeder and a representative filter feeder, also have been included. The basis for selection of these representative species and the degree to which the representative species are exposed to the various PCB and DDX sources to the Harbor is influenced by their habitat and movement patterns, as described in the *Bioaccumulation Model Report* (Anchor QEA 2017).

2.2 Data Gap Analysis

A data gap analysis was conducted in support of CSM and model development. All data that had been previously collected in the Harbor that could be used to understand fish movement patterns and evaluate spatial patterns in PCB and DDX concentrations in sediment and organisms, relationships between fish and sediment, temporal trends for evidence of natural recovery, and characterization of regional background concentrations were evaluated and compiled. Together with the chemical and bioaccumulation CSMs, the analysis identified data gaps that were critical to fill to support accurate model development and calibration. Key data gaps included the following:

- White croaker and California halibut movement patterns
- White croaker, California halibut, and shiner surfperch PCB and DDX data in targeted areas
- Surface sediment PCB and DDX data in targeted locations
- PCB and DDX concentrations in other biota (i.e., polychaetes and mussels) that serve as representative prey for fish
- Food web structure for key organisms in the Harbor food web
- Detectable concentrations of stormwater and water column PCBs and DDX

2.3 Special Studies Designed to Fill Data Gaps

Based on the data gap analysis and updated CSMs for chemical fate and bioaccumulation, special studies were designed and conducted to fill data gaps. The special studies conducted, along with a brief description of each, are shown in Table 2-1.

Other supplemental studies conducted in support of model development or calibration that involved the analysis of existing data included the following:

- Propeller wash analysis to determine if resuspension of sediment from ship propellers is a potential transport mechanism to redistribute pollutants in the Harbor
- Natural recovery evaluation to understand the contaminant recovery rate in tissue and sediment
- As part of determining watershed loading estimates, an evaluation to determine the best analytical method that could be used to estimate ongoing watershed loads

- Regional background evaluation to assess and establish the background concentrations of surface sediment and fish tissue and the potential for achieving TMDL targets below these background concentrations

2.4 WRAP Model Overview

WRAP model development and results have been described in detail in the WRAP Model Development report (Everest 2017), and the final WRAP model incorporates recommendations provided during peer review (Wu 2016).

The LA/LB Harbor and San Pedro Bay form a unique, hydrodynamically complex system that comprises estuarine and coastal waters and has one of the world's largest combined port operations, a confluence of urban discharges from several major watersheds, and widespread distribution of legacy pollutants. The WRAP model—a 3D hydrodynamic, sediment transport, and chemical fate model that is one component of the Linked Model—is capable of simulating organic chemicals (PCB and DDX) in the Harbor. As such, the WRAP model has been continually developed, calibrated, and updated over the last decade, for use as a tool to help define the complex hydrodynamic and transport conditions in the Harbor. Refinement and calibration of this model to support the linked model development has been overseen by the Harbor Technical Working Group and independently peer-reviewed (Wu 2016).

The WRAP model uses the EFDC modeling platform with dynamically coupled hydrodynamic, sediment, and contaminant transport capabilities. Additional features were added to the model to account for volatilization of organic chemicals, and resuspension of sediment from propwash during port operations. The WRAP model was calibrated with a comprehensive set of hydrodynamic, dye, salinity, sediment, and organic chemical data (Everest 2017). The overall calibration showed that the WRAP model can accurately simulate physical processes, including tidal exchange, stormwater discharges, and sediment erosion and deposition, as well as chemical processes of organic chemicals. Model inputs for organic chemicals were developed based on three-phase partitioning for freely dissolved, dissolved organic carbon, and particulate phases.

The WRAP model was used to determine water and bed concentrations of organics for the various management scenarios. Sediment bed concentrations were limited to the top 5-centimeter layer. Transfer of organics concentrations was represented by total, freely dissolved, and carbon-normalized concentrations. Details of the WRAP model setup and model simulation results for the model scenarios described in Section 3 are provided in Appendix A.

2.5 Bioaccumulation Model Overview

Bioaccumulation model development and results have been described in detail in the *Bioaccumulation Model Report* (Anchor QEA 2017), and the final bioaccumulation model incorporates recommendations provided during peer review (Arnot 2016).

This bioaccumulation model application is based on the framework developed as part of the Montrose Chemical Corporation Natural Resource Damage Assessment project (HydroQual 1997) and used in the risk assessment conducted as part of the Palos Verdes (PV) Shelf Remedial Investigation and Feasibility Study (CH2M Hill 2007) to develop sediment remediation goals (Glaser 2009). It has been modified to represent the Harbor food web structure for target fish species and fish migration among subareas of the Harbor and to and from PV Shelf (Lowe et al. 2015a; 2015b). The bioaccumulation model relies on the AQFDCHN bioaccumulation model framework (i.e., computer code), a bioenergetic, mechanistic, dynamic modeling framework originally developed 30 years ago by Thomann and Connolly (1984) and subsequently updated and routinely applied to many projects. AQFDCHN simulates contaminant bioaccumulation from water column and sediment exposure, and it accounts for site-specific growth rates of organisms throughout their lives, as well as seasonal and annual changes in diet and lipid content.

Generally, there are two types of bioaccumulation models: those that rely on equilibrium-based distribution coefficients such as bioaccumulation factors or biota-sediment accumulation factors and those that rely on process-based equations (Barber 2008). AQFDCHN, similar to the BASS (Barber 2001), Ecofate (Gobas et al. 1988), and AQUATOX (USEPA 2000) models, is a process-based model and estimates chemical concentrations in fish as a function of aqueous and dietary exposure. Aqueous uptake occurs through diffusion across the gills, and dietary uptake occurs through ingestion of prey items, by assuming assimilation of a constant fraction of prey chemical concentrations. AQFDCHN, similar to Ecofate, is distinguished from models such as AQUATOX because chemical elimination is explicitly computed (Barber 2008).

AQFDCHN provides a mathematical description of the transfer of PCBs within the food web (Figure 2-1). The food web includes the primary energy transfer pathways from the exposure sources to the species of interest. The generic model framework relies on a time-variable mechanistic simulation of organism bioenergetics and phase partitioning of contaminants. The site-specific component of the model includes the food web structure, species-specific bioenergetics and body composition, water temperature, PCB and DDX chemical properties, and contaminant exposure concentrations. This dynamic (i.e., time variable) PCB and DDX bioaccumulation model, based on principles of mass and energy conservation, computes the uptake and loss of PCBs and DDX in fish. Uptake occurs from the water-column dissolved phase through diffusion across gills and from water-column and sediment particulates through predation, while losses occur through diffusion across respiratory surfaces and growth. Uptake and loss rates are calculated from respiration, feeding, and empirically defined PCB- and DDX-transfer efficiencies. Additional details about the bioaccumulation model are described in the *Bioaccumulation Model Report* (Anchor QEA 2017).

2.5.1 Linking the WRAP and Bioaccumulation Models

A successful linkage between the bioaccumulation model and the WRAP model (Everest 2017) was demonstrated during model calibration, with the WRAP model simulating hydrodynamics, sediment transport, and chemical fate, and providing daily average inputs of surface sediment contaminant concentrations and water column particulate and dissolved contaminant concentrations within each fish movement zone to the bioaccumulation model.

Overall, the linked model was found to accurately simulate the relationship between sediment and water bioaccumulative concentrations and those in target fish species. Peer review indicated that the linked WRAP and bioaccumulation models would be an acceptable tool for evaluating the relative effectiveness of various management alternatives at reducing Harbor fish tissue concentrations (Arnot 2016; Bridges 2016; Anchor QEA 2017).

3 Model Scenario Development

The linked model was used in long-term model simulations designed to evaluate the relative effectiveness of different management scenarios for reducing fish tissue contaminant concentrations in the Harbor. This model-based approach for evaluating management action effectiveness is a standard practice used at numerous contaminated sediment sites throughout the United States, under the Comprehensive Environmental Response, Compensation, and Liability Act (often referred to as Superfund or CERCLA) and the Resource Conservation and Recovery Act.

Management scenarios were developed based on various combinations of source reductions of watershed or sediment loadings. Each management scenario focuses on implementation of a source control or sediment remediation to address a specific source reduction strategy. A total of 10 management scenarios were developed, each having different combinations of source reduction or sediment remediation in different fish movement zones.

The linked model was used to determine reductions in exposure concentrations due to the selected source control strategies over a 20-year period, which reflects the duration of the TMDL implementation period specified in the Basin Plan Amendment (RWQCB 2011). Changes in water column and sediment bed concentrations, under the management scenarios, produce a response in fish tissue concentrations. Because the response in fish tissue concentrations occurs over several years rather than immediately, source reductions were applied from the start of the 20-year simulation period (i.e., time = 0). Hydrodynamic and sediment transport processes were kept the same for all model scenarios, to allow for direct comparison associated with source control strategies relative to baseline conditions.

3.1 Model Scenarios

Table 3-1 shows a matrix of the model scenarios along with the scenario run number, model run title, description, modeling assumptions, and objective for each. While each model run has a specific objective, the model scenarios were developed to address the following overarching questions:

- Do upstream watershed loads make a significant contribution to fish tissue total PCB/total DDX?
- Will compliance with the Harbor Toxics TMDL be achieved through watershed load reductions and TMDL-named hot spot remediation efforts?
- If sediments are managed in accordance with the Harbor Toxics TMDL, would sediments be recontaminated from upstream sources if no source controls are implemented?
- Assuming complete watershed and sediment load reductions are achieved, will PCB/DDX concentrations in Harbor sediments and fish tissue be recontaminated due to ongoing exchange with regional sources and fish movement and exposure to off-site sources (e.g., PV Shelf Superfund Site)?

Three of the six management scenarios focused on a specific source control strategy (i.e., watershed or sediment load reductions). The other three scenarios included combinations of source control strategies. Discussions of the model scenarios are provided below. Further details on the environmental conditions and WRAP model inputs for the model scenarios are provided in Appendix A.

3.1.1 Baseline Scenario

The baseline scenario was designed to represent both ongoing natural recovery processes and other sediment recovery processes that are associated with recurring port operations. For this baseline scenario, declines in water and bed concentrations are attributed to natural recovery; it is assumed that there are no targeted source reductions. Recovery in the Harbor is evident based on historical sediment, mussel, and fish (i.e., white croaker) data. However, there is substantial variability in recovery levels (i.e., 2% to 4% and approximately 4% declines for PCB and DDX in mussels, respectively) and declines are slow (Anchor QEA 2014a). This recovery is likely the result of both natural and anthropogenic effects. Natural recovery in the Harbor may be ongoing due to the deposition of less contaminated sediments from watershed sources over the past few decades and associated reductions in surface sediment deposits of PCB and DDX in the Harbor. Dredging of sediments and port fills (e.g., in a confined disposal facility) over the past 20 years also have been recurring and are expected to continue over the next 20 years as part of normal port operations. The specific modeling assumptions associated with this scenario are provided in Table 3-1 and include ongoing and planned Port capital improvement programs (e.g., deepening and terminal redevelopment) that are on grid scale and affect the future Harbor configuration. The baseline scenario will be compared with the management scenarios to evaluate the source control strategies.

3.1.2 Watershed Load Reductions

Two different management scenarios were defined to evaluate effectiveness of source controls from watershed load reductions (WLRs). The baseline scenario, with a 100% WLR (Scenario 1), shows the contributions of watershed loadings to fish tissue PCB and DDX concentrations. This demonstrates the linkage between upstream sources and fish tissue impairments, as well as the time required for reductions in fish tissue attributable to WLR.

Another management scenario, with a 50% WLR (Scenario 2), was developed to provide additional knowledge regarding watershed-based source controls. This scenario provides a more realistic evaluation of watershed source controls because a simulated 100% WLR is unlikely to be achieved under real-world conditions.

3.1.3 Sediment Load Reductions

A management scenario focusing on Harbor-wide sediment load reduction (SedLR; Scenario 3) was developed to evaluate contributions from all Harbor sediment on fish tissue PCB and DDX concentrations. The purpose of this management scenario (SedLR to TMDL Target) is to determine the effectiveness of remediating all sediments in the Harbor, while upstream watershed sources remain unchanged. For this scenario, sediment concentrations in the Harbor were set to the TMDL fish-associated sediment targets for PCB and DDX specified in the Harbor Toxics TMDL (RWQCB 2011). The Harbor area excludes estuary portions of the Dominguez Channel, Los Angeles River, and San Gabriel River. This scenario also provides the relative time period required for reductions in fish tissue reductions attributable to sediment loading reductions.

A second supplemental management scenario focusing solely on hot spot sediment load reduction was performed, following feedback from the RWQCB, to evaluate contributions from only the sediment hot spots to fish tissue PCB and DDX concentrations. The purpose of this secondary sediment management scenario (Hot Spot SedLR; Scenario 7) was to determine the relative effectiveness of remediation of TMDL-named hot spots (including Fish Harbor, Consolidated Slip, and Dominguez Channel Estuary), without upstream load reductions. Under this scenario, sediment concentrations in the TMDL-named hot spots were set to the TMDL fish-associated sediment targets for PCB and DDX specified in the Harbor Toxics TMDL (RWQCB 2011) and reductions in fish tissue body burden were evaluated.

3.1.4 Combined Management Scenarios

Three management scenarios were developed with differing combinations of WLR and SedLR source control strategies. The management scenario, 100% WLR + DCE SedLR (Scenario 4), is designed to evaluate the total upstream contribution (i.e., from watershed and sediment sources) to the Harbor. The DCE is a TMDL-named sediment hot spot that discharges into the Port of Los Angeles Consolidated Slip (CS). This management scenario combines a 100% WLR and SedLR in the DCE by reducing bed concentrations in the DCE to TMDL fish-associated sediment targets. Results of this management scenario can be used to evaluate the DCE as an upstream source to the Harbor.

The management scenario characterized by 100% WLR + Hot Spot SedLR (Scenario 5) is intended to evaluate how remediation of two other TMDL-named hot spots in the CS and Fish Harbor (FH) will further reduce fish tissue concentrations. In general, this management scenario incorporates major components of the TMDL implementation plan; it combines a 100% WLR with SedLR in the DCE, CS, and FH zones to TMDL fish-associated sediment targets.

The management scenario characterized by 100% WLR + 100% SedLR (Scenario 6) is designed to evaluate the level to which the Harbor will recontaminate over time, due to sources outside of the Harbor (excluding upstream sources) and fish exposure to off-site PCB and DDX sources. This management scenario includes complete load reduction within the Harbor, in order to evaluate the influence of sources outside of the Harbor (e.g., PV Shelf Superfund site and regional background levels). While technically impossible to eliminate all ongoing and legacy sediment sources, this management scenario illustrates the model-predicted lowest possible fish tissue concentrations. The model scenario was designed to show whether it is possible to reduce all fish tissue PCBs and DDX to zero, even when all Harbor sources are removed.

3.1.5 Phased Sediment Management

These 30-year management scenarios were developed to compare the timing of implementing sediment management. The management scenario 50% WLR + T=0 Hot Spot SedLR (Scenario 8) combines the 50% watershed load reduction and hot spot removal scenarios described above. For this scenario, the hot spot reduction (in addition to the watershed load reduction) is applied at time zero. The scenario 50% WLR + T=20 Hot Spot SedLR (Scenario 9) combines the same management actions as 50% WLR + T=0 Hot Spot SedLR, but the hot spot removal was not applied until year 20 of the run. These scenarios were designed to evaluate whether delaying the hot spot removal would have added effectiveness at reducing fish tissue concentrations over the long term.

4 TMDL Scenario Results

Results of linked WRAP and bioaccumulation model simulations are shown in Tables 4-1 through 4-12. Table 4-1 shows the initial sediment, water, and market basket[2] fish tissue PCB and DDX concentrations that represent average conditions during the first year of the simulation (i.e., time zero to year 1). Table 4-2 provides the results of the baseline model scenario, which represents the changes in market basket fish tissue PCB and DDX associated with both ongoing natural recovery processes and other sediment recovery processes in the Harbor that are associated with recurring port operations. Tables 4-3 through 4-12 show the results of the long-term model simulations conducted to evaluate the relative effectiveness of the different management scenarios at reducing market basket fish tissue PCB and DDX concentrations in the Harbor. Model simulation results over a 20-year period, as provided in Tables 4-3 through 4-10, can be compared to those associated with the baseline scenario to gain an understanding of the additional value that each management scenario might provide, relative to the baseline conditions alone. Model simulation results over a 30-year period are provided in Tables 4-11 and 4-12 for purposes of comparing the relative differences in the simulation of remediation at time zero versus at year 20. Temporal plots of simulation results from the WRAP and bioaccumulation models are provided in Appendices A and B, respectively.

[2] Market basket is the weighted-average of three representative fish species: white croaker, California halibut, and surfperches.

5 TMDL Compliance Tables

Tables 5-1 through 5-6 provide a summary of the baseline and management scenario model simulation results as they relate to TMDL compliance. Tables 5-1 and 5-2 show the approximate number of years that the model estimates it will take for the market basket fish tissue PCB and DDX concentrations to reach the TMDL fish-associated sediment targets for PCBs and DDX, respectively, for each scenario separately. Tables 5-3 and 5-4 show the approximate number of years that the model estimates it will take for the market basket fish tissue PCB and DDX concentrations to reach the advisory tissue level associated with three meals per week (ATL3) for PCBs and DDX, respectively, for each scenario separately. Given that the model scenarios were limited to 20 years, if the model did not estimate that the market basket fish concentrations would reach the targets within the 20-year simulation period, the approximate number of years to reach the targets were estimated by calculating a rate of decline from the model-estimated concentrations from year 6 through year 20, for each scenario, and calculating the amount of time beyond 20 years it would take to reach the target from the decline rates. Given the uncertainty associated with this calculation, estimates outside of the 20-year simulation period are provided as values greater than the closest decade, for time to target estimates less than 100 years, and greater than 100 years for all estimates greater than 100. Model-predicted percent reductions in market basket fish tissue PCB and DDX concentrations achieved in 20 years for PCBs and DDX are shown in Tables 5-5 and 5-6, respectively, for each scenario separately.

6 References

Anchor QEA (Anchor QEA, LLC), 2013a. Technical Memorandum to: Ports of Long Beach and Los Angeles. Regarding: Comprehensive Data Review for the TMDL Programs. February 4, 2013.

Anchor QEA, 2013b. Technical Memorandum to Harbor Technical Working Group. Regarding: Harbor Toxics TMDL Special Study – Low Detection Sampling for PCBs and DDTs in the Water Column. Greater Los Angeles and Long Beach Harbor Waters. Prepared on behalf of the Ports of Long Beach and Los Angeles. August 2013.

Anchor QEA, 2014a. *Data Gaps Analysis for Bioaccumulation Model Development.* Prepared for Ports of Long Beach and Los Angeles. August 2014.

Anchor QEA, 2014b. *Food Web Sampling Work Plan.* Greater Los Angeles and Long Beach Harbor Waters. Prepared for Ports of Long Beach and Los Angeles. August 2014.

Anchor QEA, 2014c. *Surface Sediment Characterization and Polychaete Tissue Collection Program.* Greater Los Angeles and Long Beach Harbor Waters. Prepared for Ports of Long Beach and Los Angeles. August 2014.

Anchor QEA, 2014d. *Sampling and Analysis Plan: Low Detection Limit Water Column Study Phase 2.* Greater Los Angeles and Long Beach Harbor Waters. Prepared for Ports of Long Beach and Los Angeles. September 2014.

Anchor QEA, 2014e. *Draft Programmatic Quality Assurance Project Plan Supporting Compliance Monitoring and Special Studies Related to the Harbor Toxics Total Maximum Daily Load.* Prepared for Ports of Long Beach and Los Angeles. Updated August 2014.

Anchor QEA, 2017. *Bioaccumulation Model Report*. Greater Los Angeles and Long Beach Harbor Waters. In Support of Final Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants Total Maximum Daily Load. Prepared for Ports of Long Beach and Los Angeles. April 2017.

Anchor QEA and Everest (Everest International Consultants, Inc.), 2015. Technical Memorandum to: Port of Long Beach and Port of Los Angeles. Regarding: Development of a Chemical Fate Conceptual Site Model for the Greater Los Angeles and Long Beach Harbor Waters. February 25, 2015.

Arnot, J., 2016. *Concluding Comments on the Peer Review of Draft Bioaccumulation Model Report Greater Los Angeles and Long Beach Harbor Waters*. December 16, 2016.

Barber, M.C., 2001. *Bioaccumulation and Aquatic System Simulator (BASS) User's Manual, Beta Test Version 2.1.* U.S. Environmental Protection Agency Report No. 600/R-01/035. April 2001.

Barber, M.C., 2008. "Dietary Uptake Models used for Modeling the Bioaccumulation of Organic Contaminants in Fish." *Environmental Science & Technology* 27(4):755–777.

Bridges, T.S., 2016. *Concluding Comments on the Linked Models Applied to the TMDL for Greater Los Angeles and Long Beach Harbor Waters.* December 14, 2016.

CH2M Hill, 2007. *Final Palos Verdes Shelf Superfund Site Remedial Investigation Report.* Prepared for U.S. Environmental Protection Agency, Region 9. October 2007.

Everest, 2017. *WRAP Model Development*. In Support of Final Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants Total Maximum Daily Load. Final Report. Prepared for the Ports of Long Beach and Los Angeles. February 2017.

Glaser, D., 2009. Memorandum to: Robert Lindfors, ITSI. Regarding: Palos Verdes Shelf Feasibility Study: Development of a Relationship between Fish Tissue and Sediment Contaminant Concentrations. Appendix C in U.S. Environmental Protection Agency Palos Verdes Shelf Feasibility Study. May 2009.

Gobas, F., D. Muir, and D. Mackay, 1988. "Dynamics of Dietary Bioaccumulation and Fecal Elimination of Hydrophobic Organic Chemicals in Fish." *Chemosphere* 17:943–962.

HydroQual, 1997. *Southern California Bight Natural Resources Damage Assessment, Food Web/Pathways Study*. Revised August 25, 1997.

Lowe, C.G., B. Ahr, M. Farris, and A. Barilloti, 2015a. Data Report for Special Study: White Croaker Fish Tracking Study Phase 1. California State University Long Beach. Prepared for the Ports of Long Beach and Los Angeles. March 2015.

Lowe, C.G., B. Ahr, M. Farris, and A. Barilloti, 2015b. Data Report for Fish Tracking Special Study: White Croaker and California Halibut Study – Phase 2. California State University Long Beach. Prepared for the Ports of Long Beach and Los Angeles. April 2015.

Port of Long Beach and Port of Los Angeles, 2013. Memorandum regarding: Compilation of Sediment, Fish Tissue, and Mussel Tissue Datasets for the TMDL Support Program. Prepared by Anchor QEA. April 2013.

RWQCB (Los Angeles Regional Water Quality Control Board), 2011. *Final Basin Plan Amendment. Attachment A to Resolution No. R11-008. Amendment to the Water Quality Control Plan – Los Angeles Region to Incorporate the Total Maximum Daily Load for Toxic Pollutants in*

Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters. Adopted by the RWQCB on May 5, 2011.

RWQCB and USEPA (U.S. Environmental Protection Agency), 2011. *Final Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants Total Maximum Daily Loads*. May 2011.

Thomann, R.V. and J.P. Connolly, 1984. "Model of PCB in the Lake Michigan lake trout food chain." *Environmental Science and Technology* 18:65–71.

USEPA, 2000. AQUATOX for Windows®, Ver 1.69. Volume 2: Technical Documentation. EPA-823-R-00-007. Office of Water. September 2000.

USEPA, 2005. *Contaminated Sediment Remediation Guidance for Hazardous Waste Sites.* Office of Solid Waste and Emergency Response. EPA-540-R-05-012. OSWER 9355.0-85. December 2005.

Wu, W., 2016. *Concluding Comments on the WRAP Hydrodynamic Model for the Los Angeles/Long Beach Harbors Toxics TMDL*. Clarkson University, Department of Civil and Environmental Engineering. December 16, 2016.

Tables

Table 2-1
TMDL Program Special Studies

Special Study	Description
Harbor-Wide Bathymetric Survey	New bathymetry data were collected to fill data gaps and update the WRAP model. Current and historical bathymetry provided long-term characterization of sediment depositional or erosional patterns.
Stormwater PCBs and DDX for Watershed Loading Estimates	This study involved the collection of stormwater samples and analysis for PCBs and DDX using low detection limit analyses, as well as metals, POC, TOC, and particle size, to provide necessary data for the accurate estimation of watershed loadings.
Surface Sediment Characterization and Polychaete Tissue Collection Program	This study involved the collection of additional surface sediment data for PCB and DDT in areas with insufficient data and or areas that have been identified to be critical (e.g., areas susceptible to propeller-wash-induced erosion). Benthic infauna (identified as part of the Food Web Sampling Program) including polychaete worms and/or other deposit-feeding organisms were synoptically collected with a subset of the surface sediment samples and also analyzed for PCBs and DDX in tissues.
Low Detection Limit Water Column Sampling Program	Water column PCB and DDX data were collected as part of this program. Phase 1 was a method development program in which three methods were evaluated for their reproducibility, accuracy, and reliability at measuring low concentrations of PCBs and DDX in the water column. SPME samplers with high resolution GC/MS were selected as the sampling method (and analytical method) of choice, and this was used in Phase 2 to evaluate spatial variability of PCBs and DDX in the water column at different depths and during wet and dry seasons, separately.
Fish Movement Study	Phase 1: White croaker fish movement data collected in 2011 and 2012 were used together with fish contaminant data to characterize fish movement and foraging patterns to be represented in the bioaccumulation model and to support the design of the second phase of the fish tracking study. Phase 2: Additional fish (white croaker and California halibut) tracking data were collected in 2013 and 2014 to supplement the existing white croaker fish movement dataset. Movement data were used to further characterize fish movement patterns of white croaker and California halibut.
Food Web Sampling Program	A food web sampling program was used to collect site-specific food web (biota) PCB and DDX concentrations necessary for bioaccumulation model development. Tissue samples include tissue of three target fish species (California halibut, white croaker, and shiner/white surfperch). Benthic infauna including deposit-feeding organisms were collected as part of the surface sediment characterization program (see above), and filter-feeding-organisms (i.e., mussels and oysters) that are representative prey of target fish species were collected and analyzed for PCBs and DDX as part of the food web sampling program. Stable isotope analysis was performed on all biota to support the establishment of the Harbor food web structure. Otoliths or scales were analyzed from fish for purposes of establishing site-specific and species-specific growth rates.

Notes:
GC/MS: gas chromatography/mass spectrometry
PCB: polychlorinated biphenyl
POC: particulate organic carbon
SPME: solid-phase microextraction
TMDL: Total Maximum Daily Load
TOC: total organic carbon

Table 3-1
Model Scenarios For Evaluation of Management Alternatives

Scenario No.	Model Scenario		Model Scenario Description	Modeling Assumptions	Objective of Model Run
0	**Baseline**		- Baseline model for purposes of comparison with management/source reduction model runs - Represents expected future projections (due to natural recovery and recovery due to port operations, including dredging) without specific source reductions - Predicts changing chemical concentrations in sediment and fish over decades	- Watershed loadings at inflow boundary: use existing data (2004 to 2013) to define future watershed loads - Post-dredge surface residual concentrations: 50% decline in surface sediment concentrations for areas affected by anticipated Ports' capital improvement projects - WRAP model grid changes: planned Port capital improvement programs (e.g., deepening and terminal redevelopment that are on grid scale) set at time zero - Other considerations: incorporation of Los Angeles River Estuary maintenance dredging conducted every 5 years	Establish baseline estimate of time to achieve fish tissue and related sediment-compliance targets if no targeted management alternatives are implemented, for comparison with other scenarios.
1	**Baseline +**	**100% WLR**	- Contribution of watershed loadings to Harbor sediment and fish tissue PCBs/DDX	- 100% WLR, organics set to 0 - WLR completed at Time = 0	Determine the contribution of watershed loadings to fish tissue PCB/DDX concentrations relative to baseline, during the 20-year simulation period.
2	**Baseline +**	**50% WLR**		- 50% WLR reduction - WLR completed at Time = 0	If watershed loadings are shown to contribute to fish tissue body burdens (Run #1 relative to Baseline), then estimate time to achieve compliance (i.e., fish and sediment targets) if a 50% reduction in watershed loading was implemented, relative to Baseline and Run #1. This run may be important for understanding the impacts of source control because it is unlikely that watershed loads can be reduced by 100%.
3	**Baseline +**	**SedLR to Target**	- Contribution of all Greater Harbor Waters sediment to fish tissue PCBs/DDX	- Sediments set to TMDL Fish-Associated Sediment Target - Remediate sediment at Time = 0 - No change in hydrodynamics or water depth	Estimate time to TMDL compliance by only reducing sediment PCBs/DDX concentrations to TMDL targets.
4	**Baseline +**	**100% WLR + DCE SedLR**	- Contribution of DCE sediments in addition to watershed loadings to fish tissue PCBs/DDX	- 100% WLR reduction - Sediments set to TMDL Fish-Associated Sediment Target in DCE - WLR completed at Time = 0 - Remediate sediment at Time = 0 - No change in hydrodynamics or water depth	Evaluate how remediation of the DCE hot spot will further reduce Harbor fish tissue PCBs/DDX beyond Run #1, due to the reduction in the PCB/DDX load coming from DCE.
5	**Baseline +**	**100% WLR + Hot Spot SedLR**	- Additional contribution of named Harbor hot spots (CS + FH), along with ongoing sources and DCE sediment to fish tissue PCBs/DDX	- 100% WLR reduction - Sediments set to TMDL Fish-Associated Sediment Target in CS, FH, and DCE - WLR completed at Time = 0 - Remediate sediment at Time = 0 - No change in hydrodynamics or water depth	Evaluate how remediation of TMDL-named hot spots will further reduce fish tissue PCBs/DDX beyond Run #4. Evaluate whether TMDL compliance will be achieved through WLR and TMDL-specified actions.
6	**Baseline +**	**100% WLR + 100% SedLR**	- Influence of recontamination of the Harbor due to the influence of outside Harbor influences (PV Shelf, regional fish tissue, and exchange with Harbor)	- DCE sediments set to zero - 100% WLR : organics set to zero - Harbor sediments set to zero - WLR completed at Time = 0 - Remediate sediment at Time = 0 - No change in hydrodynamics or water depth	Evaluate the level to which the Harbor will recontaminate over time from exchange of Harbor water and sediment with regional DDX/PCB sources (e.g., PV Shelf Superfund site and outside Harbor areas) and due to fish movement and exposure to off-site DDX/PCB sources (i.e., outside Harbor)
7	**Baseline +**	**Hot Spot SedLR**	- Contribution of DCE sediment and other named Harbor hot spots (CS + FH) to fish tissue PCBs/DDX	- Sediments set to TMDL Fish-Associated Sediment Target in DCE, CS, and FH - Remediate at Time = 0 - No change in hydrodynamics or water depth	Evaluate how remediation of TMDL-named hot spots (including DCE) without watershed load reductions will reduce fish tissue PCBs/DDX.
8	**Baseline +**	**50% WLR + T=0 Hot Spot SedLR**	- Impact of watershed loading reductions along with time zero DCE sediment and other named Harbor hot spots (CS +FH) SedLR on fish tissue PCBs/DDX	- 50% WLR reduction - Sediments set to TMDL Fish-Associated Sediment Target in CS, FH, and DCE - WLR completed at Time = 0 - Remediate sediment at Time = 0 - No change in hydrodynamics or water depth	Evaluate how remediation of TMDL-named hot spots (including DCE) along with estimated watershed load reductions will reduce fish tissue PCBs/DDX.

Table 3-1
Model Scenarios For Evaluation of Management Alternatives

Scenario No.	Model Scenario		Model Scenario Description	Modeling Assumptions	Objective of Model Run
9	**Baseline +**	**50% WLR + T=20 Hot Spot SedLR**	- Impact of watershed loading reductions along with year 20 DCE sediment and other named Harbor hot spots (CS +FH) SedLR on fish tissue PCBs/DDX	- 50% WLR reduction - Sediments set to TMDL Fish-Associated Sediment Target in CS, FH, and DCE - WLR completed at Time = 0 - Remediate sediment at Time = Year 20 - No change in hydrodynamics or water depth	Compare to Scenario 8 to examine the difference in fish tissue PCBs/DDX if sediments are reduced before sources are reduced.

Notes:
CS: Consolidated Slip (TMDL hot spot)
DCE: Dominguez Channel Estuary (TMDL hot spot upstream of Consolidated Slip)
FH: Fish Harbor (TMDL hot spot)
PCB: polychlorinated biphenyl
PV: Palos Verdes
SedLR: sediment load reduction
TMDL: Total Maximum Daily Load
WLR: watershed load reduction

Table 4-1
Initial Sediment, Water Column, and Fish Market Basket Total PCB and Total DDX Concentrations

FMZ	Sediment PCBs (µg/g OC)	Sediment DDX (µg/g OC)	Water Column Particulate PCBs (µg/g OC)	Water Column Particulate DDX (µg/g OC)	Water Column Dissolved PCBs (ng/L)	Water Column Dissolved DDX (ng/L)	Market Basket TPCBs (µg/kg ww)	Market Basket TDDX (µg/kg ww)
DCE	14.67	7.28	12.56	13.60	10.92	9.38	385.56	260.80
CS	24.21	8.29	2.46	2.21	2.14	1.52	265.76	159.55
LA Inner	4.09	3.93	0.66	0.70	0.57	0.48	137.93	212.27
Fish Harbor	8.07	5.14	0.68	0.45	0.59	0.31	79.60	53.06
Seaplane L.	2.31	2.29	0.41	0.47	0.36	0.33	71.43	77.61
LA Outer	1.44	3.61	0.32	0.43	0.28	0.30	52.25	129.61
LB Inner N	2.60	1.26	0.64	0.68	0.56	0.47	92.49	74.73
LB Inner S	4.88	2.80	0.44	0.48	0.38	0.33	69.77	80.10
LB Outer	1.18	2.77	0.31	0.40	0.27	0.28	94.19	77.18
LARE	4.01	0.95	1.78	1.42	1.55	0.98	144.06	70.93
E. SP Bay	1.80	1.35	0.45	0.49	0.39	0.34	121.21	64.50

Notes:
µg/g: micrograms per gram
µg/kg: micrograms per kilogram
CS: Consolidated Slip
DCE: Dominguez Channel Estuary
E. SP: East San Pedro
FMZ: fish movement zone
L.: Lagoon
LA: Los Angeles
LARE: Los Angeles River Estuary
LB: Long Beach
Market Basket: Market Basket: weighted-average of three representative fish species: white croaker, California halibut, and surfperches
N: north
ng/L: nanograms per liter
OC: organic carbon
PCB: polychlorinated biphenyl
S: south
TPCB: total polychlorinated biphenyls
ww: wet weight

Table 4-2
Baseline Scenario Year 20 Predicted Sediment, Water Column, and Fish Market Basket Total PCB and Total DDX Concentrations

FMZ	Sediment PCBs (µg/g OC)	Sediment DDX (µg/g OC)	Water Column Particulate PCBs (µg/g OC)	Water Column Particulate DDX (µg/g OC)	Water Column Dissolved PCBs (ng/L)	Water Column Dissolved DDX (ng/L)	Market Basket TPCBs (µg/kg ww)	Market Basket TDDX (µg/kg ww)
DCE	11.44	5.05	4.86	7.04	4.22	4.85	132.23	115.77
CS	8.20	3.09	0.68	0.83	0.59	0.57	85.25	72.56
LA Inner	2.52	3.24	0.31	0.34	0.27	0.23	61.80	189.49
Fish Harbor	5.55	4.71	0.49	0.26	0.42	0.18	55.36	41.00
Seaplane L.	1.56	2.12	0.26	0.27	0.22	0.19	41.80	55.01
LA Outer	0.97	3.01	0.22	0.26	0.19	0.18	34.01	114.42
LB Inner N	1.45	1.01	0.27	0.30	0.24	0.20	44.35	47.76
LB Inner S	2.49	2.37	0.23	0.24	0.20	0.16	35.10	64.66
LB Outer	0.65	2.31	0.20	0.23	0.18	0.16	54.16	57.32
LARE	0.55	0.13	1.32	1.02	1.15	0.70	77.92	45.54
E. SP Bay	0.93	0.95	0.30	0.30	0.26	0.21	73.11	43.85

Notes:
µg/g: micrograms per gram
µg/kg: micrograms per kilogram
CS: Consolidated Slip
DCE: Dominguez Channel Estuary
E. SP: East San Pedro
FMZ: fish movement zone
L.: Lagoon
LA: Los Angeles
LARE: Los Angeles River Estuary
LB: Long Beach
Market Basket: Market Basket: weighted-average of three representative fish species: white croaker, California halibut, and surfperches
N: north
ng/L: nanograms per liter
OC: organic carbon
PCB: polychlorinated biphenyl
S: south
TPCB: total polychlorinated biphenyls
ww: wet weight

Table 4-3
Scenario 1 Year 20 Predicted Sediment, Water Column, and Fish Market Basket Total PCB and Total DDX Concentrations

FMZ	Sediment PCBs (µg/g OC)	Sediment DDX (µg/g OC)	Water Column Particulate PCBs (µg/g OC)	Water Column Particulate DDX (µg/g OC)	Water Column Dissolved PCBs (ng/L)	Water Column Dissolved DDX (ng/L)	Market Basket TPCBs (µg/kg ww)	Market Basket TDDX (µg/kg ww)
DCE	11.40	5.04	1.68	2.04	1.46	1.41	89.64	64.09
CS	8.19	3.09	0.48	0.41	0.42	0.28	71.91	54.08
LA Inner	2.51	3.24	0.27	0.27	0.24	0.19	55.84	181.35
Fish Harbor	5.55	4.71	0.47	0.25	0.41	0.17	53.62	39.50
Seaplane L.	1.54	2.12	0.24	0.25	0.21	0.17	38.69	51.96
LA Outer	0.97	3.01	0.21	0.24	0.18	0.17	31.80	111.96
LB Inner N	1.44	1.00	0.23	0.23	0.20	0.16	40.29	42.75
LB Inner S	2.48	2.37	0.21	0.21	0.18	0.15	31.32	60.11
LB Outer	0.65	2.31	0.18	0.21	0.16	0.15	50.06	53.67
LARE	0.53	0.13	0.15	0.15	0.13	0.10	47.85	27.40
E. SP Bay	0.91	0.95	0.18	0.20	0.15	0.14	55.16	32.68

Notes:
Scenario 1 is Baseline + 100% WLR
µg/g: micrograms per gram
µg/kg: micrograms per kilogram
CS: Consolidated Slip
DCE: Dominguez Channel Estuary
E. SP: East San Pedro
FMZ: fish movement zone
L.: Lagoon
LA: Los Angeles
LARE: Los Angeles River Estuary
LB: Long Beach
Market Basket: Market Basket: weighted-average of three representative fish species: white croaker, California halibut, and surfperches
N: north
ng/L: nanograms per liter
OC: organic carbon
PCB: polychlorinated biphenyl
S: south
TPCB: total polychlorinated biphenyls
ww: wet weight

Table 4-4
Scenario 2 Year 20 Predicted Sediment, Water Column, and Fish Market Basket Total PCB and Total DDX Concentrations

FMZ	Sediment PCBs (µg/g OC)	Sediment DDX (µg/g OC)	Water Column Particulate PCBs (µg/g OC)	Water Column Particulate DDX (µg/g OC)	Water Column Dissolved PCBs (ng/L)	Water Column Dissolved DDX (ng/L)	Market Basket TPCBs (µg/kg ww)	Market Basket TDDX (µg/kg ww)
DCE	11.42	5.05	3.27	4.54	2.84	3.13	110.91	89.88
CS	8.20	3.09	0.58	0.62	0.50	0.43	78.56	63.27
LA Inner	2.51	3.24	0.29	0.30	0.25	0.21	58.81	185.40
Fish Harbor	5.55	4.71	0.48	0.26	0.42	0.18	54.50	40.25
Seaplane L.	1.55	2.12	0.25	0.26	0.22	0.18	40.25	53.49
LA Outer	0.97	3.01	0.21	0.25	0.18	0.17	32.91	113.18
LB Inner N	1.45	1.00	0.25	0.26	0.22	0.18	42.32	45.25
LB Inner S	2.48	2.37	0.22	0.22	0.19	0.15	33.21	62.37
LB Outer	0.65	2.31	0.19	0.22	0.17	0.15	52.11	55.50
LARE	0.54	0.13	0.74	0.58	0.64	0.40	62.85	36.45
E. SP Bay	0.92	0.95	0.24	0.25	0.21	0.17	64.11	38.24

Notes:
Scenario 2 is Baseline + 50% WLR
µg/g: micrograms per gram
µg/kg: micrograms per kilogram
CS: Consolidated Slip
DCE: Dominguez Channel Estuary
E. SP: East San Pedro
FMZ: fish movement zone
L.: Lagoon
LA: Los Angeles
LARE: Los Angeles River Estuary
LB: Long Beach
Market Basket: Market Basket: weighted-average of three representative fish species: white croaker, California halibut, and surfperches
N: north
ng/L: nanograms per liter
OC: organic carbon
PCB: polychlorinated biphenyl
S: south
TPCB: total polychlorinated biphenyls
ww: wet weight

Table 4-5
Scenario 3 Year 20 Predicted Sediment, Water Column, and Fish Market Basket Total PCB and Total DDX Concentrations

FMZ	Sediment PCBs (µg/g OC)	Sediment DDX (µg/g OC)	Water Column Particulate PCBs (µg/g OC)	Water Column Particulate DDX (µg/g OC)	Water Column Dissolved PCBs (ng/L)	Water Column Dissolved DDX (ng/L)	Market Basket TPCBs (µg/kg ww)	Market Basket TDDX (µg/kg ww)
DCE	11.44	5.05	4.76	7.00	4.14	4.83	83.88	90.55
CS	0.05	0.02	0.47	0.78	0.41	0.54	29.47	42.82
LA Inner	0.12	0.08	0.22	0.31	0.19	0.21	27.99	155.43
Fish Harbor	0.13	0.09	0.15	0.20	0.13	0.14	14.02	26.16
Seaplane L.	0.31	0.25	0.18	0.24	0.15	0.16	21.08	28.37
LA Outer	0.13	0.12	0.19	0.25	0.17	0.17	21.63	67.65
LB Inner N	0.12	0.10	0.21	0.28	0.18	0.19	20.99	39.36
LB Inner S	0.22	0.22	0.18	0.23	0.15	0.16	18.24	52.56
LB Outer	0.14	0.21	0.18	0.23	0.16	0.16	27.20	43.56
LARE	0.03	0.01	1.29	1.01	1.12	0.70	49.70	38.66
E. SP Bay	0.13	0.09	0.28	0.30	0.24	0.20	41.12	35.40

Notes:
Scenario 3 is Baseline + SedLR to TMDL Target
µg/g: micrograms per gram
µg/kg: micrograms per kilogram
CS: Consolidated Slip
DCE: Dominguez Channel Estuary
E. SP: East San Pedro
FMZ: fish movement zone
L.: Lagoon
LA: Los Angeles
LARE: Los Angeles River Estuary
LB: Long Beach
Market Basket: Market Basket: weighted-average of three representative fish species: white croaker, California halibut, and surfperches
N: north
ng/L: nanograms per liter
OC: organic carbon
PCB: polychlorinated biphenyl
S: south
TPCB: total polychlorinated biphenyls
ww: wet weight

Table 4-6
Scenario 4 Year 20 Predicted Sediment, Water Column, and Fish Market Basket Total PCB and Total DDX Concentrations

FMZ	Sediment PCBs (µg/g OC)	Sediment DDX (µg/g OC)	Water Column Particulate PCBs (µg/g OC)	Water Column Particulate DDX (µg/g OC)	Water Column Dissolved PCBs (ng/L)	Water Column Dissolved DDX (ng/L)	Market Basket TPCBs (µg/kg ww)	Market Basket TDDX (µg/kg ww)
DCE	0.05	0.03	0.17	0.12	0.15	0.09	58.20	40.27
CS	8.19	3.09	0.37	0.24	0.32	0.17	66.45	48.49
LA Inner	2.51	3.24	0.26	0.25	0.23	0.17	54.02	179.28
Fish Harbor	5.54	4.71	0.47	0.25	0.41	0.17	53.41	39.30
Seaplane L.	1.54	2.12	0.23	0.25	0.20	0.17	38.28	51.51
LA Outer	0.97	3.01	0.20	0.24	0.18	0.16	31.41	111.53
LB Inner N	1.44	1.00	0.22	0.21	0.19	0.15	39.33	41.68
LB Inner S	2.48	2.37	0.21	0.21	0.18	0.14	30.47	59.23
LB Outer	0.64	2.31	0.18	0.21	0.16	0.14	49.63	53.26
LARE	0.53	0.13	0.15	0.15	0.13	0.10	47.73	27.29
E. SP Bay	0.91	0.95	0.17	0.20	0.15	0.14	55.02	32.54

Notes:
Scenario 4 is Baseline + 100% WLR + DCE SedLR
µg/g: micrograms per gram
µg/kg: micrograms per kilogram
CS: Consolidated Slip
DCE: Dominguez Channel Estuary
E. SP: East San Pedro
FMZ: fish movement zone
L.: Lagoon
LA: Los Angeles
LARE: Los Angeles River Estuary
LB: Long Beach
Market Basket: Market Basket: weighted-average of three representative fish species: white croaker, California halibut, and surfperches
N: north
ng/L: nanograms per liter
OC: organic carbon
PCB: polychlorinated biphenyl
S: south
TPCB: total polychlorinated biphenyls
ww: wet weight

Table 4-7
Scenario 5 Year 20 Predicted Sediment, Water Column, and Fish Market Basket Total PCB and Total DDX Concentrations

FMZ	Sediment PCBs (µg/g OC)	Sediment DDX (µg/g OC)	Water Column Particulate PCBs (µg/g OC)	Water Column Particulate DDX (µg/g OC)	Water Column Dissolved PCBs (ng/L)	Water Column Dissolved DDX (ng/L)	Market Basket TPCBs (µg/kg ww)	Market Basket TDDX (µg/kg ww)
DCE	0.05	0.03	0.11	0.10	0.09	0.07	20.21	24.41
CS	0.04	0.02	0.25	0.21	0.22	0.15	22.53	30.01
LA Inner	2.51	3.24	0.24	0.24	0.21	0.17	35.53	171.75
Fish Harbor	0.13	0.09	0.15	0.20	0.13	0.14	13.42	26.20
Seaplane L.	1.54	2.12	0.23	0.25	0.20	0.17	35.88	50.95
LA Outer	0.97	3.01	0.20	0.24	0.17	0.16	29.58	110.49
LB Inner N	1.44	1.00	0.21	0.21	0.18	0.14	35.69	40.86
LB Inner S	2.48	2.37	0.20	0.20	0.18	0.14	27.72	57.96
LB Outer	0.64	2.31	0.18	0.21	0.16	0.14	49.31	53.19
LARE	0.53	0.13	0.15	0.15	0.13	0.10	47.64	27.27
E. SP Bay	0.91	0.95	0.17	0.20	0.15	0.14	54.90	32.52

Notes:
Scenario 5 is Baseline + 100% WLR + Hot Spot SedLR
µg/g: micrograms per gram
µg/kg: micrograms per kilogram
CS: Consolidated Slip
DCE: Dominguez Channel Estuary
E. SP: East San Pedro
FMZ: fish movement zone
L.: Lagoon
LA: Los Angeles
LARE: Los Angeles River Estuary
LB: Long Beach
Market Basket: Market Basket: weighted-average of three representative fish species: white croaker, California halibut, and surfperches
N: north
ng/L: nanograms per liter
OC: organic carbon
PCB: polychlorinated biphenyl
S: south
TPCB: total polychlorinated biphenyls
ww: wet weight

Table 4-8
Scenario 6 Year 20 Predicted Sediment, Water Column, and Fish Market Basket Total PCB and Total DDX Concentrations

FMZ	Sediment PCBs (µg/g OC)	Sediment DDX (µg/g OC)	Water Column Particulate PCBs (µg/g OC)	Water Column Particulate DDX (µg/g OC)	Water Column Dissolved PCBs (ng/L)	Water Column Dissolved DDX (ng/L)	Market Basket TPCBs (µg/kg ww)	Market Basket TDDX (µg/kg ww)
DCE	0.0001	0.0000	0.06	0.08	0.05	0.05	8.90	14.50
CS	0.0044	0.0007	0.14	0.19	0.12	0.13	9.78	18.22
LA Inner	0.0160	0.0026	0.16	0.22	0.14	0.15	18.99	144.18
Fish Harbor	0.0219	0.0041	0.13	0.19	0.11	0.13	11.18	24.16
Seaplane L.	0.0332	0.0071	0.14	0.21	0.12	0.14	14.92	23.46
LA Outer	0.0275	0.0047	0.18	0.22	0.15	0.16	17.76	62.84
LB Inner N	0.0187	0.0035	0.15	0.19	0.13	0.13	14.48	32.67
LB Inner S	0.0322	0.0064	0.15	0.19	0.13	0.13	12.55	46.21
LB Outer	0.0348	0.0076	0.16	0.20	0.14	0.14	20.03	38.22
LARE	0.0024	0.0003	0.11	0.14	0.10	0.09	16.30	19.73
E. SP Bay	0.0182	0.0028	0.15	0.19	0.13	0.13	19.12	23.30

Notes:
Scenario 6 is Baseline + 100% WLR + 100% SedLR
µg/g: micrograms per gram
µg/kg: micrograms per kilogram
CS: Consolidated Slip
DCE: Dominguez Channel Estuary
E. SP: East San Pedro
FMZ: fish movement zone
L.: Lagoon
LA: Los Angeles
LARE: Los Angeles River Estuary
LB: Long Beach
Market Basket: Market Basket: weighted-average of three representative fish species: white croaker, California halibut, and surfperches
N: north
ng/L: nanograms per liter
OC: organic carbon
PCB: polychlorinated biphenyl
S: south
TPCB: total polychlorinated biphenyls
ww: wet weight

Table 4-9
Scenario 7 Year 20 Predicted Sediment, Water Column, and Fish Market Basket Total PCB and Total DDX Concentrations

FMZ	Sediment PCBs (µg/g OC)	Sediment DDX (µg/g OC)	Water Column Particulate PCBs (µg/g OC)	Water Column Particulate DDX (µg/g OC)	Water Column Dissolved PCBs (ng/L)	Water Column Dissolved DDX (ng/L)	Market Basket TPCBs (µg/kg ww)	Market Basket TDDX (µg/kg ww)
DCE	0.09	0.04	3.29	5.09	2.86	3.51	62.64	75.97
CS	0.05	0.02	0.45	0.63	0.39	0.43	35.71	48.38
LA Inner	2.51	3.24	0.28	0.31	0.24	0.21	41.44	179.85
Fish Harbor	0.13	0.09	0.16	0.21	0.14	0.15	15.12	27.69
Seaplane L.	1.55	2.12	0.25	0.27	0.22	0.19	38.99	54.00
LA Outer	0.97	3.01	0.21	0.26	0.18	0.18	31.79	112.94
LB Inner N	1.45	1.00	0.25	0.27	0.21	0.19	39.75	45.87
LB Inner S	2.48	2.37	0.22	0.23	0.20	0.16	31.51	62.50
LB Outer	0.65	2.31	0.20	0.23	0.17	0.16	53.42	56.84
LARE	0.55	0.13	1.32	1.02	1.15	0.70	77.70	45.41
E. SP Bay	0.92	0.95	0.30	0.30	0.26	0.21	72.86	43.69

Notes:
Scenario 7 is Baseline + Hot Spot SedLR
µg/g: micrograms per gram
µg/kg: micrograms per kilogram
CS: Consolidated Slip
DCE: Dominguez Channel Estuary
E. SP: East San Pedro
FMZ: fish movement zone
L.: Lagoon
LA: Los Angeles
LARE: Los Angeles River Estuary
LB: Long Beach
Market Basket: Market Basket: weighted-average of three representative fish species: white croaker, California halibut, and surfperches
N: north
ng/L: nanograms per liter
OC: organic carbon
PCB: polychlorinated biphenyl
S: south
TPCB: total polychlorinated biphenyls
ww: wet weight

Table 4-10
Scenario 8 Year 20 Predicted Sediment, Water Column, and Fish Market Basket Total PCB and Total DDX Concentrations

FMZ	Sediment PCBs (µg/g OC)	Sediment DDX (µg/g OC)	Water Column Particulate PCBs (µg/g OC)	Water Column Particulate DDX (µg/g OC)	Water Column Dissolved PCBs (ng/L)	Water Column Dissolved DDX (ng/L)	Market Basket TPCBs (µg/kg ww)	Market Basket TDDX (µg/kg ww)
DCE	0.07	0.03	1.70	2.59	1.47	1.79	41.35	50.11
CS	0.05	0.02	0.35	0.42	0.30	0.29	29.05	39.11
LA Inner	2.51	3.24	0.26	0.28	0.23	0.19	38.46	175.77
Fish Harbor	0.13	0.09	0.15	0.21	0.13	0.14	14.27	26.94
Seaplane L.	1.55	2.12	0.24	0.26	0.21	0.18	37.44	52.50
LA Outer	0.97	3.01	0.20	0.25	0.18	0.17	30.69	111.71
LB Inner N	1.44	1.00	0.23	0.24	0.20	0.17	37.72	43.35
LB Inner S	2.48	2.37	0.21	0.22	0.19	0.15	29.61	60.22
LB Outer	0.65	2.31	0.19	0.22	0.17	0.15	51.37	55.02
LARE	0.54	0.13	0.74	0.58	0.64	0.40	62.63	36.32
E. SP Bay	0.92	0.95	0.24	0.25	0.21	0.17	63.85	38.09

Notes:
Scenario 8 is Baseline + 50% WLR + T=0 Hot Spot SedLR
µg/g: micrograms per gram
µg/kg: micrograms per kilogram
CS: Consolidated Slip
DCE: Dominguez Channel Estuary
E. SP: East San Pedro
FMZ: fish movement zone
L.: Lagoon
LA: Los Angeles
LARE: Los Angeles River Estuary
LB: Long Beach
Market Basket: Market Basket: weighted-average of three representative fish species: white croaker, California halibut, and surfperches
N: north
ng/L: nanograms per liter
OC: organic carbon
PCB: polychlorinated biphenyl
S: south
TPCB: total polychlorinated biphenyls
ww: wet weight

Table 4-11
Scenario 8 Year 30 Predicted Sediment, Water Column, and Fish Market Basket Total PCB and Total DDX Concentrations

FMZ	Sediment PCBs (µg/g OC)	Sediment DDX (µg/g OC)	Water Column Particulate PCBs (µg/g OC)	Water Column Particulate DDX (µg/g OC)	Water Column Dissolved PCBs (ng/L)	Water Column Dissolved DDX (ng/L)	Market Basket TPCBs (µg/kg ww)	Market Basket TDDX (µg/kg ww)
DCE	0.07	0.03	1.67	2.57	1.45	1.77	39.51	49.12
CS	0.04	0.02	0.33	0.40	0.28	0.28	27.08	38.05
LA Inner	2.18	3.08	0.25	0.27	0.22	0.19	36.19	173.57
Fish Harbor	0.13	0.09	0.15	0.20	0.13	0.14	14.00	26.30
Seaplane L.	1.36	2.07	0.23	0.25	0.20	0.17	34.80	50.44
LA Outer	0.88	2.89	0.20	0.24	0.17	0.17	29.25	108.63
LB Inner N	1.23	0.94	0.22	0.24	0.19	0.16	34.30	42.20
LB Inner S	2.05	2.26	0.20	0.21	0.18	0.15	27.11	59.04
LB Outer	0.55	2.18	0.19	0.22	0.16	0.15	46.08	52.67
LARE	0.40	0.10	0.72	0.57	0.63	0.40	56.49	34.89
E. SP Bay	0.76	0.86	0.23	0.24	0.20	0.17	57.09	36.39

Notes:
Scenario 8 is Baseline + 50% WLR + T=0 Hot Spot SedLR
µg/g: micrograms per gram
µg/kg: micrograms per kilogram
CS: Consolidated Slip
DCE: Dominguez Channel Estuary
E. SP: East San Pedro
FMZ: fish movement zone
L.: Lagoon
LA: Los Angeles
LARE: Los Angeles River Estuary
LB: Long Beach
Market Basket: Market Basket: weighted-average of three representative fish species: white croaker, California halibut, and surfperches
N: north
ng/L: nanograms per liter
OC: organic carbon
PCB: polychlorinated biphenyl
S: south
TPCB: total polychlorinated biphenyls
ww: wet weight

Table 4-12
Scenario 9 Year 30 Predicted Sediment, Water Column, and Fish Market Basket Total PCB and Total DDX Concentrations

FMZ	Sediment PCBs (µg/g OC)	Sediment DDX (µg/g OC)	Water Column Particulate PCBs (µg/g OC)	Water Column Particulate DDX (µg/g OC)	Water Column Dissolved PCBs (ng/L)	Water Column Dissolved DDX (ng/L)	Market Basket TPCBs (µg/kg ww)	Market Basket TDDX (µg/kg ww)
DCE	0.08	0.04	1.68	2.58	1.46	1.78	39.92	49.42
CS	0.07	0.04	0.33	0.40	0.29	0.28	27.39	38.26
LA Inner	2.19	3.08	0.25	0.27	0.22	0.19	36.33	173.65
Fish Harbor	0.14	0.09	0.15	0.20	0.13	0.14	14.23	26.35
Seaplane L.	1.36	2.07	0.23	0.25	0.20	0.17	34.84	50.46
LA Outer	0.88	2.89	0.20	0.24	0.17	0.17	29.28	108.64
LB Inner N	1.23	0.94	0.22	0.24	0.19	0.16	34.35	42.22
LB Inner S	2.05	2.27	0.20	0.21	0.18	0.15	27.15	59.06
LB Outer	0.56	2.18	0.19	0.22	0.16	0.15	46.11	52.68
LARE	0.40	0.10	0.72	0.57	0.63	0.40	56.50	34.89
E. SP Bay	0.76	0.86	0.23	0.24	0.20	0.17	57.11	36.39

Notes:
Scenario 9 is Baseline + 50% WLR + T=20 Hot Spot SedLR
µg/g: micrograms per gram
µg/kg: micrograms per kilogram
CS: Consolidated Slip
DCE: Dominguez Channel Estuary
E. SP: East San Pedro
FMZ: fish movement zone
L.: Lagoon
LA: Los Angeles
LARE: Los Angeles River Estuary
LB: Long Beach
Market Basket: Market Basket: weighted-average of three representative fish species: white croaker, California halibut, and surfperches
N: north
ng/L: nanograms per liter
OC: organic carbon
PCB: polychlorinated biphenyl
S: south
TPCB: total polychlorinated biphenyls
ww: wet weight

Table 5-1

Years to Reach TMDL Target: Market Basket PCBs

Fish Movement Zone	Baseline	100% WLR	50% WLR	SedLR to TMDL Target	100% WLR + DCE SedLR	100% WLR + Hot Spot SedLR	100% WLR + 100% SedLR	Hot Spot SedLR	50% WLR + T=0 Hot Spot SedLR	50% WLR + T=20 Hot Spot Sed LR
Dominguez Channel	>100	>100	>100	>100	>80	>60	>30	>100	>100	>100
Consolidated Slip	>100	>90	>90	>80	>90	>80	>40	>100	>90	>90
LA Inner Harbor	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
Fish Harbor	>100	>100	>100	>90	>100	>90	>80	>100	>90	>100
Seaplane Lagoon	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
LA Outer Harbor	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
LB Inner Harbor North	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
LB Inner Harbor South	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
LB Outer Harbor	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
LAR Estuary	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
Eastern San Pedro Bay	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100

Notes:

Total Maximum Daily Load (TMDL) Target = 3.6 micrograms per kilogram (µg/kg)

DCE: Dominguez Channel Estuary

LA: Los Angeles

LAR: Los Angeles River

PCB: polychlorinated biphenyl

SedLR: sediment load reduction

WLR: watershed load reduction

Table 5-2

Years to Reach TMDL Target: Market Basket DDX

Fish Movement Zone	Baseline	100% WLR	50% WLR	SedLR to TMDL Target	100% WLR + DCE SedLR	100% WLR + Hot Spot SedLR	100% WLR + 100% SedLR	Hot Spot SedLR	50% WLR + T=0 Hot Spot SedLR	50% WLR + T=20 Hot Spot Sed LR
Dominguez Channel	>100	>50	>80	>100	>40	>20	7	>100	>80	>80
Consolidated Slip	>70	>50	>60	>50	>50	>40	7	>90	>60	>60
LA Inner Harbor	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
Fish Harbor	>100	>100	>100	>40	>100	>40	>30	>40	>40	>100
Seaplane Lagoon	>100	>100	>100	>40	>100	>100	>20	>100	>100	>100
LA Outer Harbor	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
LB Inner Harbor North	>100	>90	>90	>80	>100	>100	>100	>100	>90	>90
LB Inner Harbor South	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
LB Outer Harbor	>100	>100	>100	>80	>100	>100	>100	>100	>100	>100
LAR Estuary	>90	>30	>60	>80	>30	>30	9	>90	>60	>60
Eastern San Pedro Bay	>80	>50	>60	>60	>50	>50	>20	>80	>60	>60

Notes:

Total Maximum Daily Load (TMDL) Target = 21 micrograms per kilogram (µg/kg)

DCE: Dominguez Channel Estuary

LA: Los Angeles

LAR: Los Angeles River

SedLR: sediment load reduction

WLR: watershed load reduction

Table 5-3

Years to Reach ATL3 Target: Market Basket PCBs

Fish Movement Zone	Baseline	100% WLR	50% WLR	SedLR to TMDL Target	100% WLR + DCE SedLR	100% WLR + Hot Spot SedLR	100% WLR + 100% SedLR	Hot Spot SedLR	50% WLR + T=0 Hot Spot SedLR	50% WLR + T=20 Hot Spot Sed LR
Dominguez Channel	>80	>50	>60	>80	>40	>10	6	>80	>50	>60
Consolidated Slip	>50	>40	>50	>30	>40	>20	6	>40	>30	>50
LA Inner Harbor	>60	>50	>50	>30	>50	>50	7	>60	>50	>50
Fish Harbor	>80	>70	>70	6	>70	5	5	6	5	>70
Seaplane Lagoon	>60	>50	>50	>20	>50	>50	4	>60	>50	>50
LA Outer Harbor	>50	>50	>50	>20	>50	>50	5	>50	>50	>50
LB Inner Harbor North	>50	>40	>50	>10	>50	>40	4	>50	>50	>50
LB Inner Harbor South	>40	>30	>40	8	>30	>30	4	>40	>30	>40
LB Outer Harbor	>60	>50	>60	>30	>50	>50	8	>60	>60	>60
LAR Estuary	>80	>40	>60	>100	>40	>40	6	>80	>60	>60
Eastern San Pedro Bay	>80	>60	>70	>80	>60	>60	7	>80	>70	>70

Notes:

Start Year: 2014

ATL3: Advisory Tissue Level based on consumption of three meals per week

ATL3 Target: 21 micrograms per kilogram (µg/kg)

DCE: Dominguez Channel Estuary

LA: Los Angeles

LAR: Los Angeles River

LB: Long Beach

PCB: polychlorinated biphenyl

SedLR: sediment load reduction

WLR: watershed load reduction

Table 5-4
Years to Reach ATL3 Target: Market Basket DDX

Fish Movement Zone	Baseline	100% WLR	50% WLR	SedLR to TMDL Target	100% WLR + DCE SedLR	100% WLR + Hot Spot SedLR	100% WLR + 100% SedLR	Hot Spot SedLR	50% WLR + T=0 Hot Spot SedLR	50% WLR + T=20 Hot Spot Sed LR
Dominguez Channel	0	0	0	0	0	0	0	0	0	0
Consolidated Slip	0	0	0	0	0	0	0	0	0	0
LA Inner Harbor	0	0	0	0	0	0	0	0	0	0
Fish Harbor	0	0	0	0	0	0	0	0	0	0
Seaplane Lagoon	0	0	0	0	0	0	0	0	0	0
LA Outer Harbor	0	0	0	0	0	0	0	0	0	0
LB Inner Harbor North	0	0	0	0	0	0	0	0	0	0
LB Inner Harbor South	0	0	0	0	0	0	0	0	0	0
LB Outer Harbor	0	0	0	0	0	0	0	0	0	0
LAR Estuary	0	0	0	0	0	0	0	0	0	0
Eastern San Pedro Bay	0	0	0	0	0	0	0	0	0	0

Notes:
Start Year: 2014
ATL3: Advisory Tissue Level based on consumption of three meals per week
ATL3 Target: 520 micrograms per kilogram (µg/kg)
DCE: Dominguez Channel Estuary
LA: Los Angeles
LAR: Los Angeles River
LB: Long Beach
SedLR: sediment load reduction
WLR: watershed load reduction

Table 5-5

Percent Reduction of Market Basket PCBs in 20 Years

Fish Movement Zone	Baseline	100% WLR	50% WLR	SedLR to TMDL Target	100% WLR + DCE SedLR	100% WLR + Hot Spot SedLR	100% WLR + 100% SedLR	Hot Spot SedLR	50% WLR + T=0 Hot Spot SedLR	50% WLR + T=20 Hot Spot Sed LR
Dominguez Channel	66	75	70	77	81	93	97	79	86	70
Consolidated Slip	68	72	70	88	71	89	95	83	86	70
LA Inner Harbor	55	59	57	77	58	70	83	66	68	57
Fish Harbor	30	32	31	80	31	80	83	78	79	31
Seaplane Lagoon	41	44	42	68	43	46	75	44	45	42
LA Outer Harbor	35	38	36	56	37	40	62	37	39	36
LB Inner Harbor North	52	55	53	75	53	57	81	54	55	53
LB Inner Harbor South	50	54	52	72	53	57	79	52	54	52
LB Outer Harbor	42	45	44	68	45	45	75	42	44	44
LAR Estuary	46	62	54	63	62	62	86	46	54	54
Eastern San Pedro Bay	40	51	45	64	51	51	82	40	45	45

Notes:

Start Year: 2014

ATL3: Advisory Tissue Level based on consumption of three meals per week

ATL3 Target: 21 micrograms per kilogram (µg/kg)

DCE: Dominguez Channel Estuary

LA: Los Angeles

LAR: Los Angeles River

LB: Long Beach

PCB: polychlorinated biphenyl

SedLR: sediment load reduction

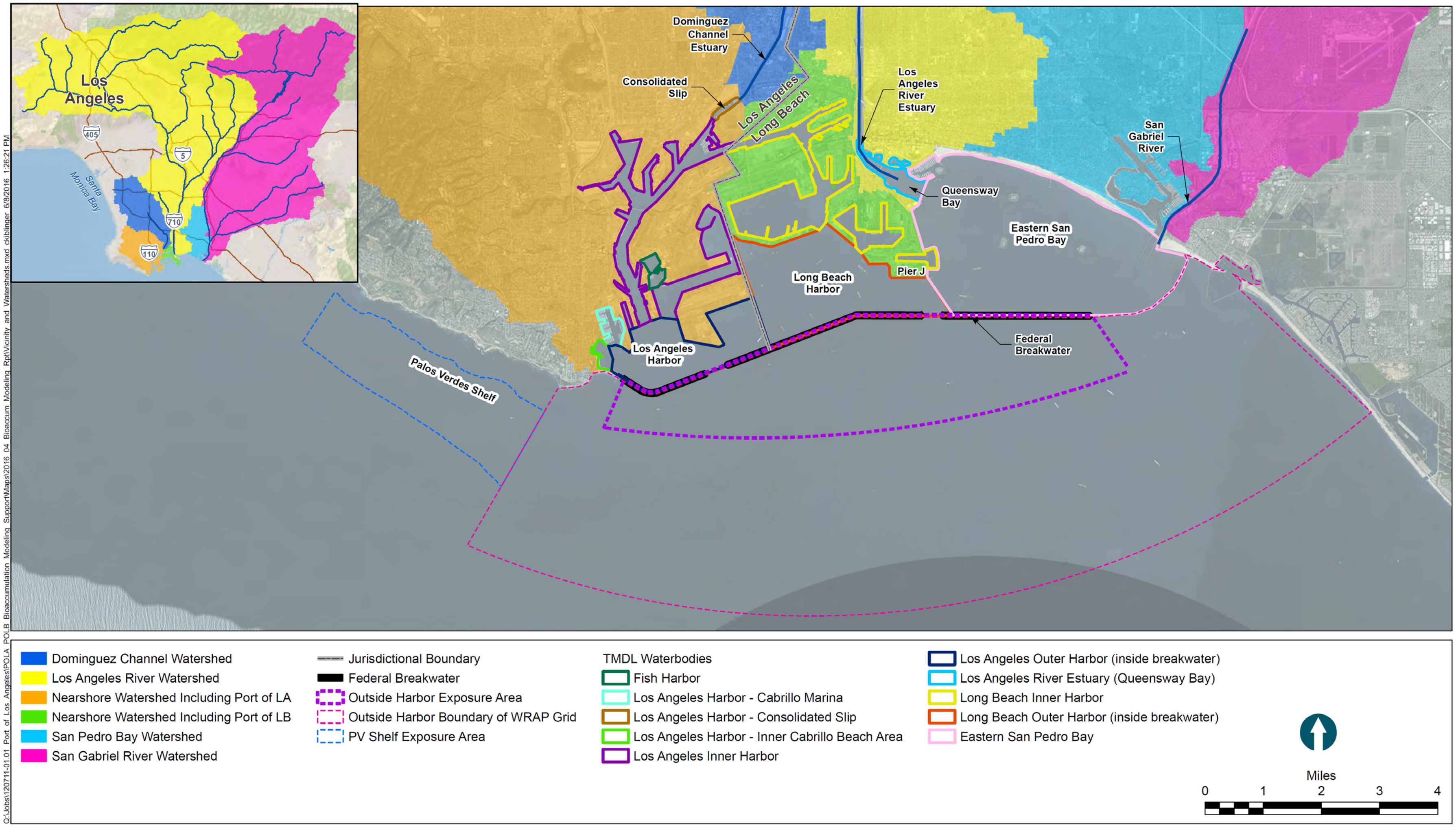
WLR: watershed load reduction

Table 5-6
Percent Reduction in Market Basket DDX in 20 Years

Fish Movement Zone	Baseline	100% WLR	50% WLR	SedLR to TMDL Target	100% WLR + DCE SedLR	100% WLR + Hot Spot SedLR	100% WLR + 100% SedLR	Hot Spot SedLR	50% WLR + T=0 Hot Spot SedLR	50% WLR + T=20 Hot Spot Sed LR
Dominguez Channel	56	73	64	64	79	87	92	64	75	64
Consolidated Slip	55	64	59	71	64	76	85	64	70	59
LA Inner Harbor	11	13	12	24	12	15	26	12	13	12
Fish Harbor	23	24	23	48	24	47	50	45	46	23
Seaplane Lagoon	29	31	30	61	31	32	66	30	31	30
LA Outer Harbor	12	13	12	44	13	13	47	12	13	12
LB Inner Harbor North	36	40	38	46	39	40	51	36	38	38
LB Inner Harbor South	19	23	21	32	22	24	37	20	22	21
LB Outer Harbor	26	29	27	41	28	28	46	25	27	27
LAR Estuary	36	55	45	44	55	55	67	36	45	45
Eastern San Pedro Bay	32	45	38	44	45	45	60	32	38	38

Notes:
Start Year: 2014
ATL3: Advisory Tissue Level based on consumption of three meals per week
ATL3 Target: 520 micrograms per kilogram (µg/kg)
DCE: Dominguez Channel Estuary
LA: Los Angeles
LAR: Los Angeles River
LB: Long Beach
SedLR: sediment load reduction
WLR: watershed load reduction

Figures

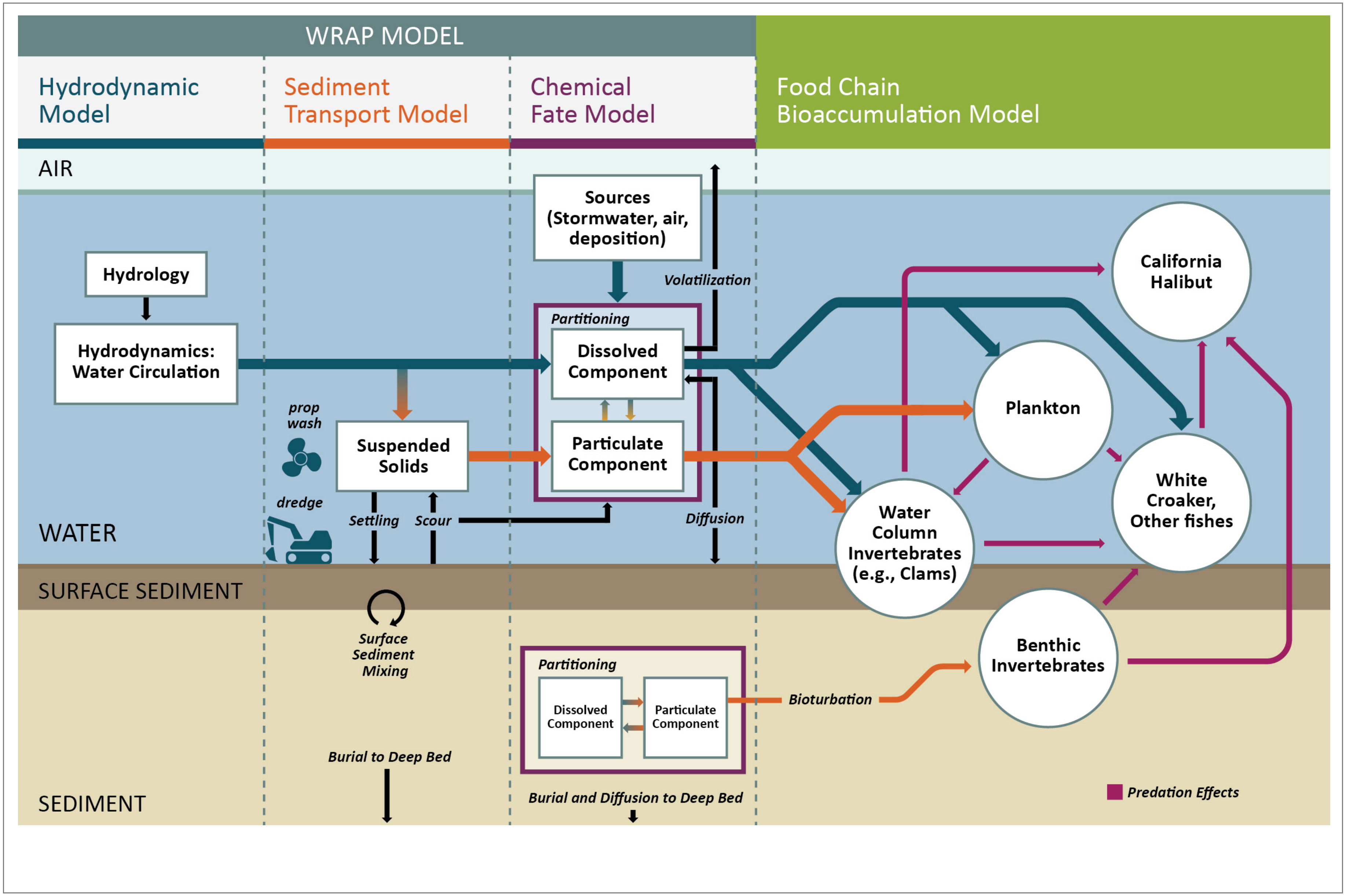


Filepath: S:\PROJECTS\Ports_LA-LB\Harbor_Toxics_TMDL\Model Scenarios\TMDL Linked Model Report\Figures\Figure 1-1.docx

ANCHOR QEA

Figure 1-1
Project Setting

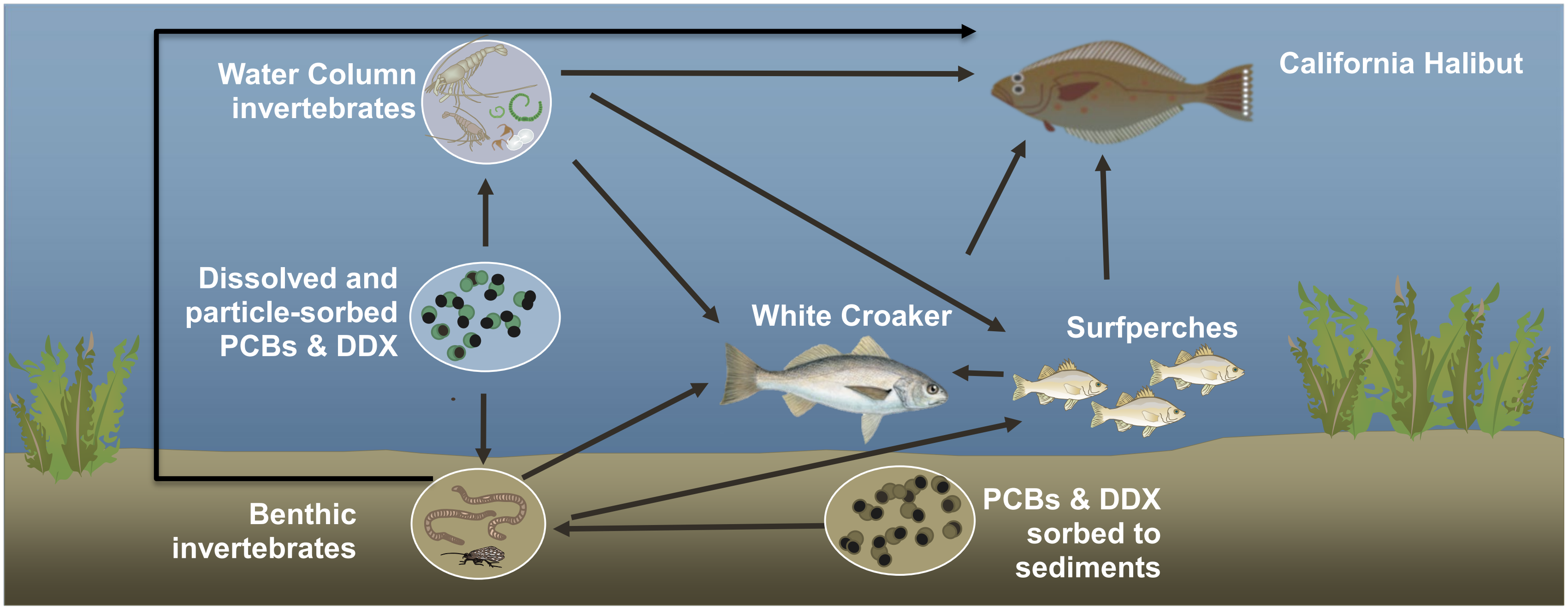
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



Filepath: S:\PROJECTS\Ports_LA-LB\Harbor_Toxics_TMDL\Model Scenarios\TMDL Linked Model Report\Figures\Figure 1-2.docx

ANCHOR QEA

Figure 1-2
Processes Simulated in the Linked WRAP and Bioaccumulation Model



Filepath: S:\PROJECTS\Ports_LA-LB\Harbor_Toxics_TMDL\Model Scenarios\TMDL Linked Model Report\Figures\Figure 2-1.docx

ANCHOR QEA

Figure 2-1
Illustration of PCB and DDX Accumulation in the Harbor Food Web
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

Appendix A
WRAP Model Simulation Setup and Results

APPENDIX A - WRAP MODEL SIMULATION SETUP AND RESULTS FOR TMDL MODEL SCENARIOS

In Support of

Final Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants Total Maximum Daily Load

Final Report

Prepared For

Port of Long Beach
4801 Airport Plaza Drive
Long Beach, CA 90815

Port of Los Angeles
425 South Palos Verdes Street
San Pedro, CA 90731

Prepared By

Everest International Consultants, Inc.
444 West Ocean Boulevard. Suite 1104
Long Beach, CA 90802

Contact: Ying Poon

Under Contract to

Anchor QEA
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691

August 2018

TABLE OF CONTENTS

LIST OF FIGURES

List of Tables

LIST OF ACRONYMS AND ABBREVIATIONS

BSAF	biota-sediment accumulation factor
CC	Coyote Creek
cm	centimeter
CS	Consolidated Slip
DC	Dominguez Channel
DDX	dichlorodiphenyltrichloroethane-related compounds
EFDC	Environmental Fluid Dynamics Code
EPA	Environmental Protection Agency
FH	Fish Harbor
HTWG	Harbor Technical Work Group
kg	kilogram
km	kilometer
LA	Los Angeles
LACDPW	Los Angeles County Department of Public Works
LAR	Los Angeles River
LB	Long Beach
mm	millimeter
ng/L	nanogram per liter
NOAA	National Oceanic Atmospheric Administration
POLA	Port of Los Angeles
POLB	Port of Long Beach
Ports	Port of Long Beach and Port of Los Angeles
PORTS®	Physical Oceanographic Real-Time Systems
RWQCB	Regional Water Quality Control Board
SCCWRP	Southern California Coastal Water Research Project
SGR	San Gabriel River
SQO	Sediment Quality Objective
SQO HH	SQO II for human health
SWRCB	State Water Resources Control Board
TDDX	total dichlorodiphenyltrichloroethane-related compounds (4,4’-DDT, 4,4’-DDE, 4,4’-DDD, 2,4’-DDT, 2,4’-DDE, and 2,4’-DDD)
TMDL	total maximum daily load
TPCB	total polychlorinated biphenyl
TSS	total suspended solids
WRAP	Water Resources Action Plan
yr	year

1. INTRODUCTION

1.1 BACKGROUND

The Total Maximum Daily Load for Toxic Pollutants in Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters (Harbor Toxics TMDL) sets water, sediment, and fish tissue targets designed to protect beneficial uses and aquatic life (RWQCB 2011). The Harbor Toxics TMDL applies to impaired receiving waterbodies of the Dominguez Channel (DC), Los Angeles and Long Beach Harbor (LA/LB Harbor), Los Angeles River (LAR) Estuary, and Eastern San Pedro Bay. The Harbor Toxics TMDL-designated receiving water bodies are shown in Figure 1.1.

The Harbor Toxics TMDL, which became effective March 2012, includes discharge limits for total polychlorinated biphenyls (TPCB) and total dichlorodiphenyltrichloroethane-related compounds (TDDX), both of which are bioaccumulative compounds. Phase I of the TMDL implementation plan concludes with a TMDL re-opener that includes an option for making adjustments to the TMDL, based on updated information or new State policies. This TMDL re-opener is scheduled for 2018, at which time the Los Angeles Regional Water Quality Control Board (RWQCB) may consider the findings of special studies conducted to support refinement of source assessments, allocations, and targets of the TMDL. Examples of these special studies include stressor identification studies, air deposition studies, evaluation of watershed loadings to the Harbor, sediment and fish tissue linkage studies, and additional monitoring studies of harbor waters.

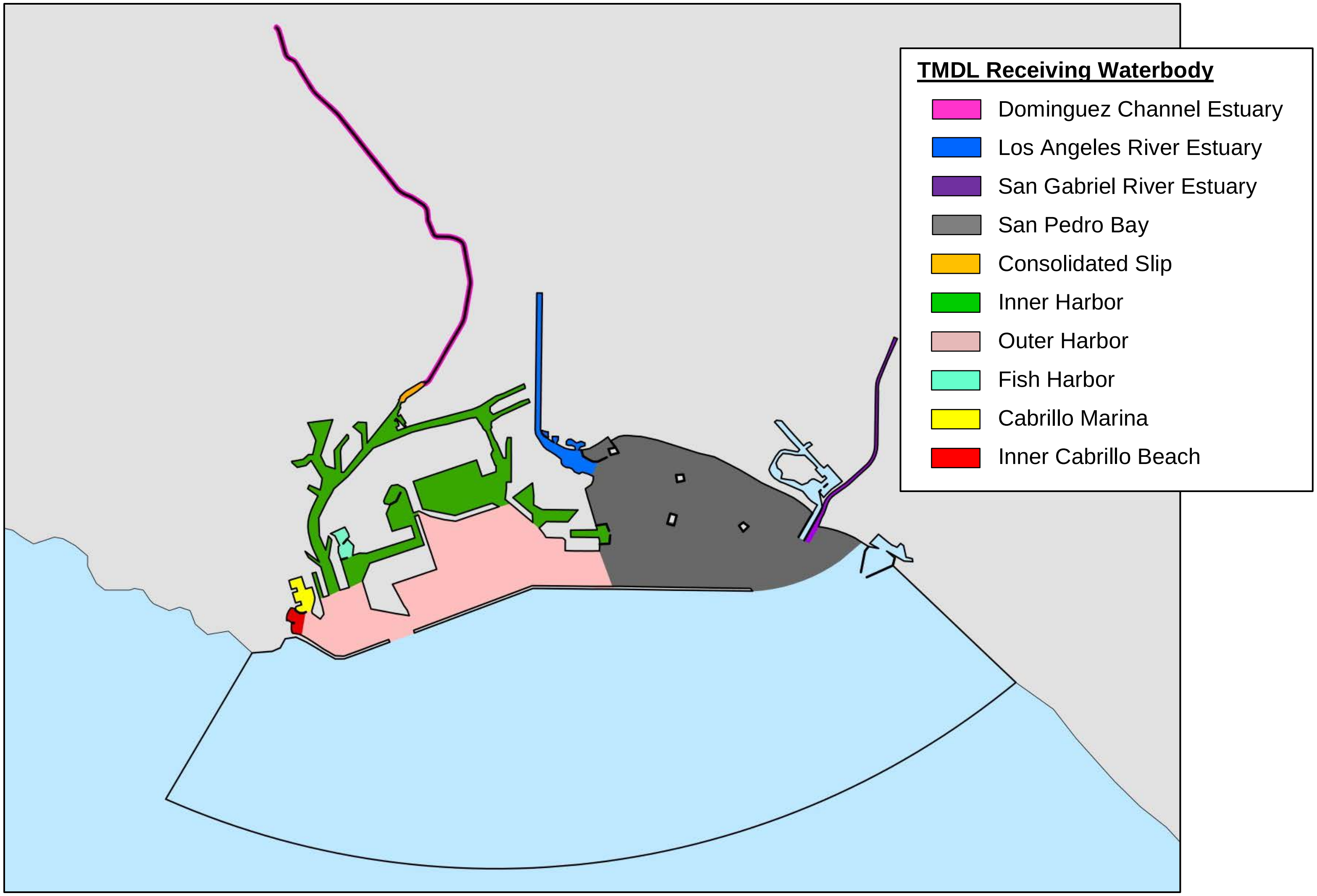


Figure 1.1 Harbor Toxics TMDL Receiving Waterbodies

1.2 TMDL PROGRAM APPROACH

The Port of Long Beach (POLB) and Port of Los Angeles (POLA) (or Ports) are developing a TMDL compliance approach that will utilize logistically feasible management options to comply with the Harbor Toxics TMDL, and provide technically sound support for changes that are proposed as part of the TMDL re-opener.

The LA/LB Harbor is a unique, hydrodynamically complex system with one of the world's largest combined port operations, a confluence of urban discharges from several major watersheds, and widespread distribution of legacy pollutants. In order to balance potential ecological benefits with financial costs, the Ports' compliance approach includes development of a Linked Model to help discern chemical fate and transport in the harbor and corresponding fish tissue concentrations. This site-specific model is also a part of a proposed Sediment Quality Objective (SQO) indirect effects Tier III assessment. The Linked Model consists of a chemical fate and transport model (WRAP Model) that is linked with a food chain Bioaccumulation Model. A schematic of the Linked Model is provided in Figure 1.2. The linkage between the two models involves the transfer of TPCB and TDDX concentrations in water and sediment, which are determined by the WRAP Model for input to the Bioaccumulation Model. The linkage consists of daily averaged concentrations within designated fish movement zones, as shown in Figure 1.3.

The Linked Model was used to evaluate potential management scenarios for attaining TMDL targets. The WRAP Model was used simulate load reduction strategies to determine responses in water and bed concentrations. The Bioaccumulation Model was then used to determine the corresponding response in fish tissue concentrations.

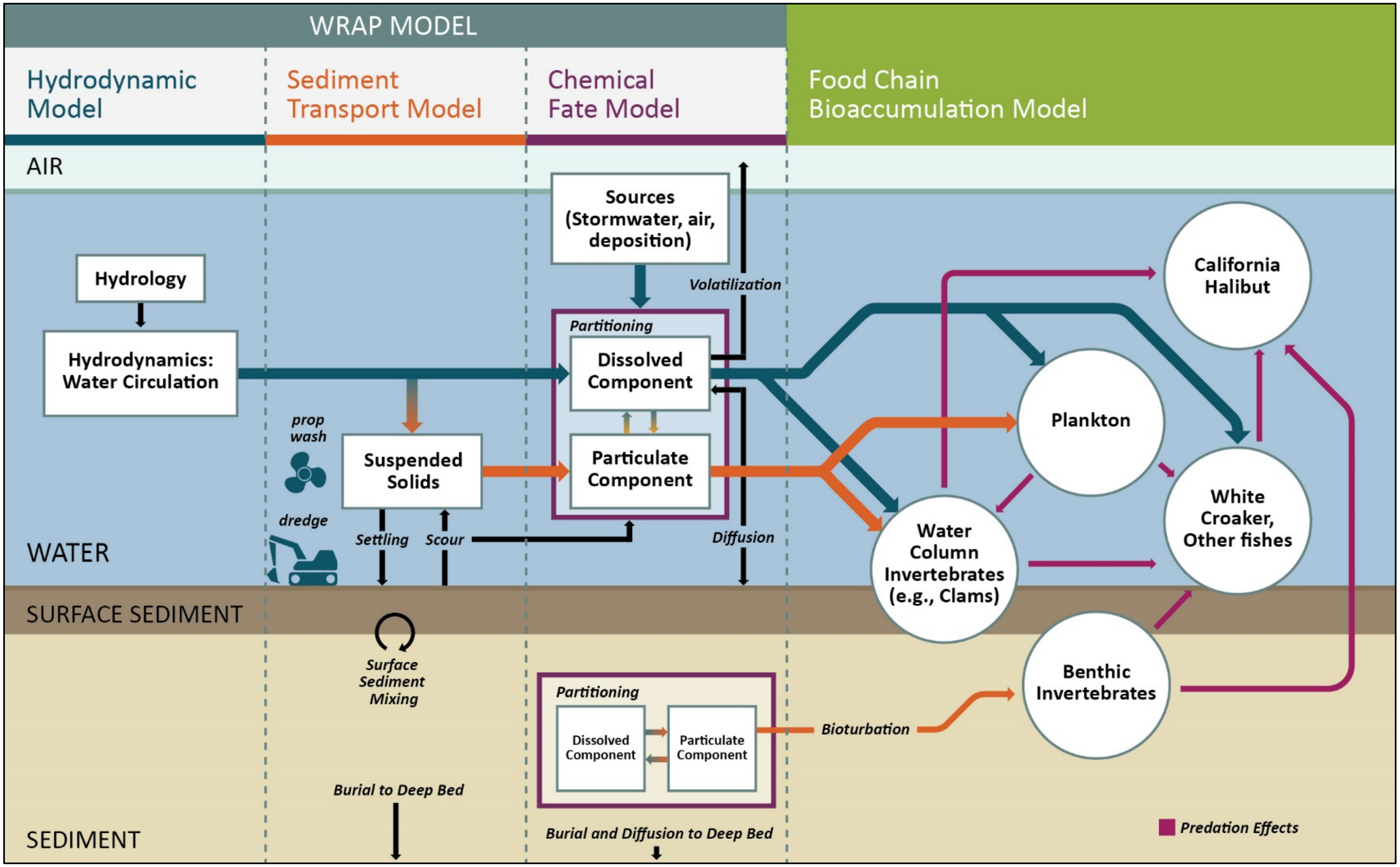


Figure 1.2 Linked Model Schematic

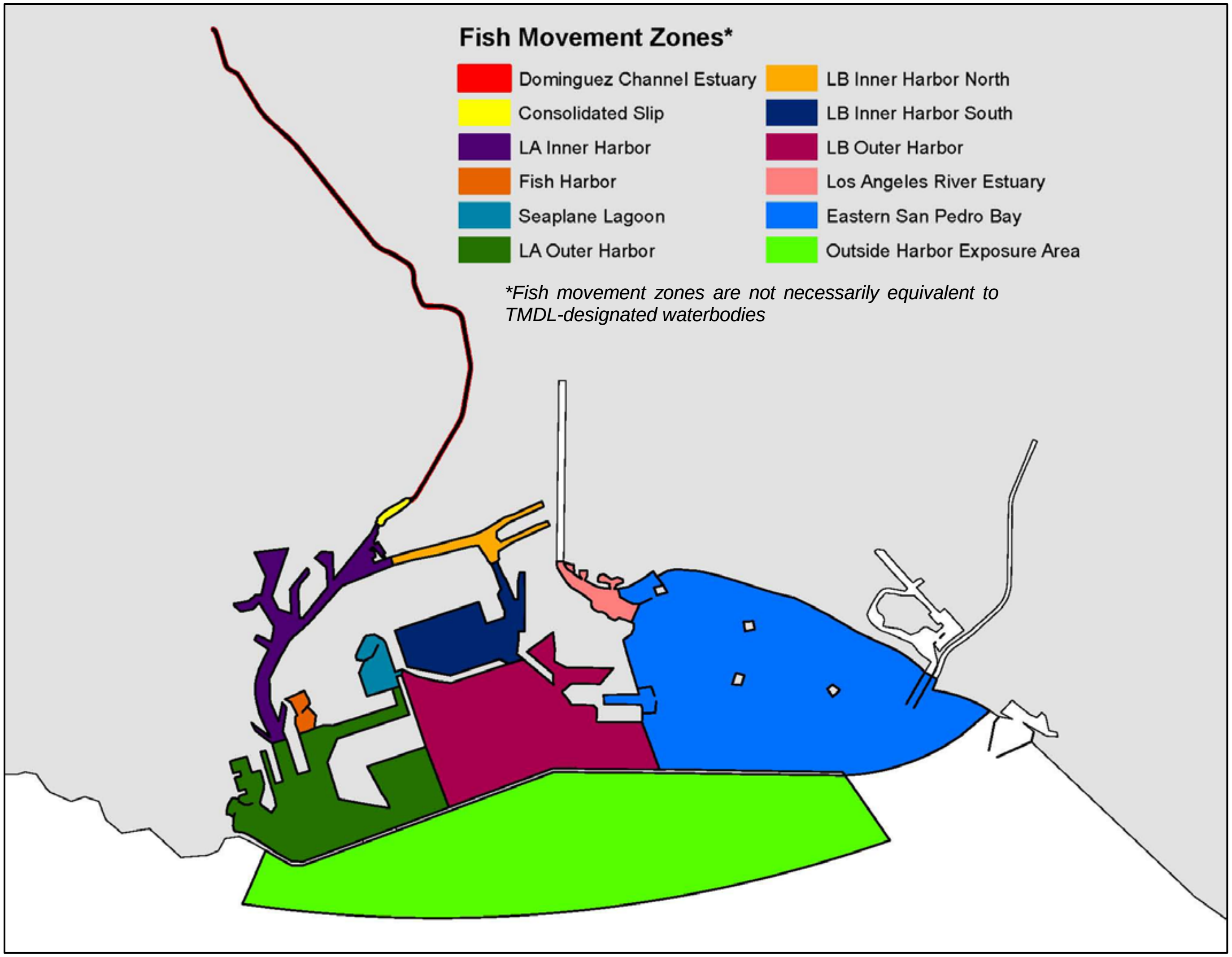


Figure 1.3 Fish Movement Zones for Linkage with Bioaccumulation Model

1.3 DEVELOPMENT OVERVIEW

In October 2012, the Ports selected a team of consultants led by Anchor QEA to design and implement tasks for developing a TMDL compliance strategy and special studies to be considered during the TMDL re-opener, and for supporting TMDL revisions and compliance requirements. The Anchor QEA team is working with oversight from the Harbor Technical Work Group (HTWG). Members of the HTWG include the POLB, POLA, RWQCB, State Water Resources Control Board (SWRCB), and Southern California Coastal Water Research Project (SCCWRP).

Several special studies were conducted to provide sufficient data for developing and calibrating the WRAP Model and overall Linked Model. These special studies included fish tracking, fish tissue sampling, sediment sampling, water column sampling, and storm water monitoring. The WRAP Model is a three-dimensional hydrodynamic, sediment transport, and chemical fate model that simulates the movement of organic chemicals in the LA/LB Harbor and San Pedro Bay. The WRAP Model was calibrated with a comprehensive set of hydrodynamic, mixing, sediment, and organic chemical data (Everest 2017). The Linked Model calibration utilized a consistent dataset of organic chemical concentrations and fish tissue concentrations. Organic chemical concentrations determined from the WRAP Model were transferred to the Bioaccumulation Model for the calibration of the Bioaccumulation Model (Anchor QEA 2017). The WRAP Model, the Bioaccumulation Model, and the approach to link the two models have been peer reviewed and determined to be suitable for evaluating potential TMDL management scenarios.

1.4 REPORT OVERVIEW

This Appendix documents the WRAP Model results of the TMDL management scenarios. These results were transferred to the Bioaccumulation Model. A companion Appendix documents the corresponding fish tissue concentrations determined from the Bioaccumulation Model (Anchor QEA 2018).

An overview of the WRAP Model development and calibration is provided in Section 2. Nine model scenarios were developed to address the effectiveness of various source reduction strategies, as compared to a Baseline Scenario. Details of the model scenarios are described in Section 3. The WRAP Model was used to simulate organics concentrations over a 20-year simulation period for seven of the nine TMDL management scenarios; the remaining two scenarios were simulated over a 30-year period. WRAP Model results for the model scenarios are summarized in Section 4 with interpretation of the results provided in Section 5. Lastly, a summary of this study is provided in Section 6.

2. WRAP MODEL DEVELOPMENT

2.1 DEVELOPMENT HISTORY

The WRAP Model has been continually developed, calibrated, and updated over the last decade to provide a tool for simulating and understanding the complex hydrodynamic, sediment, and contaminant transport conditions in the LA/LB Harbor and San Pedro Bay. The model utilizes the Environmental Fluid Dynamic Code (EFDC) modeling platform, which is a surface water modeling system developed and distributed by the Environmental Protection Agency (EPA) Center for Exposure Assessment Modeling (EPA 2007). The WRAP Model utilizes the dynamically-coupled hydrodynamic, sediment, and contaminant components of EFDC. In total, the WRAP Model simulates four distinct, yet interacting processes: hydrodynamics, mixing, sediment transport, and organic chemical transport. Additional features were added to the model to account for the effects of volatilization and propeller wash from port operations.

Extensive calibration efforts have been made to evaluate the four processes (Everest 2017). A comprehensive set of hydrodynamic (water level, velocity), mixing (dye, salinity), sediment transport (sediment tracer, deposition/erosion), and organic chemical data were utilized in the WRAP Model calibration. Calibration data, as shown in Figure 2.1, were selected to provide an overall spatial coverage of the greater harbor waters and included seasonal variations (dry and wet weather conditions). Although the types of calibration data that were available varied by location, the combination of the different data types and locations supports the WRAP Model capabilities. Ultimately, the WRAP Model has been calibrated and validated to simulate physical and chemical processes including tidal exchange, storm water discharges, sediment transport, and organic contaminants.

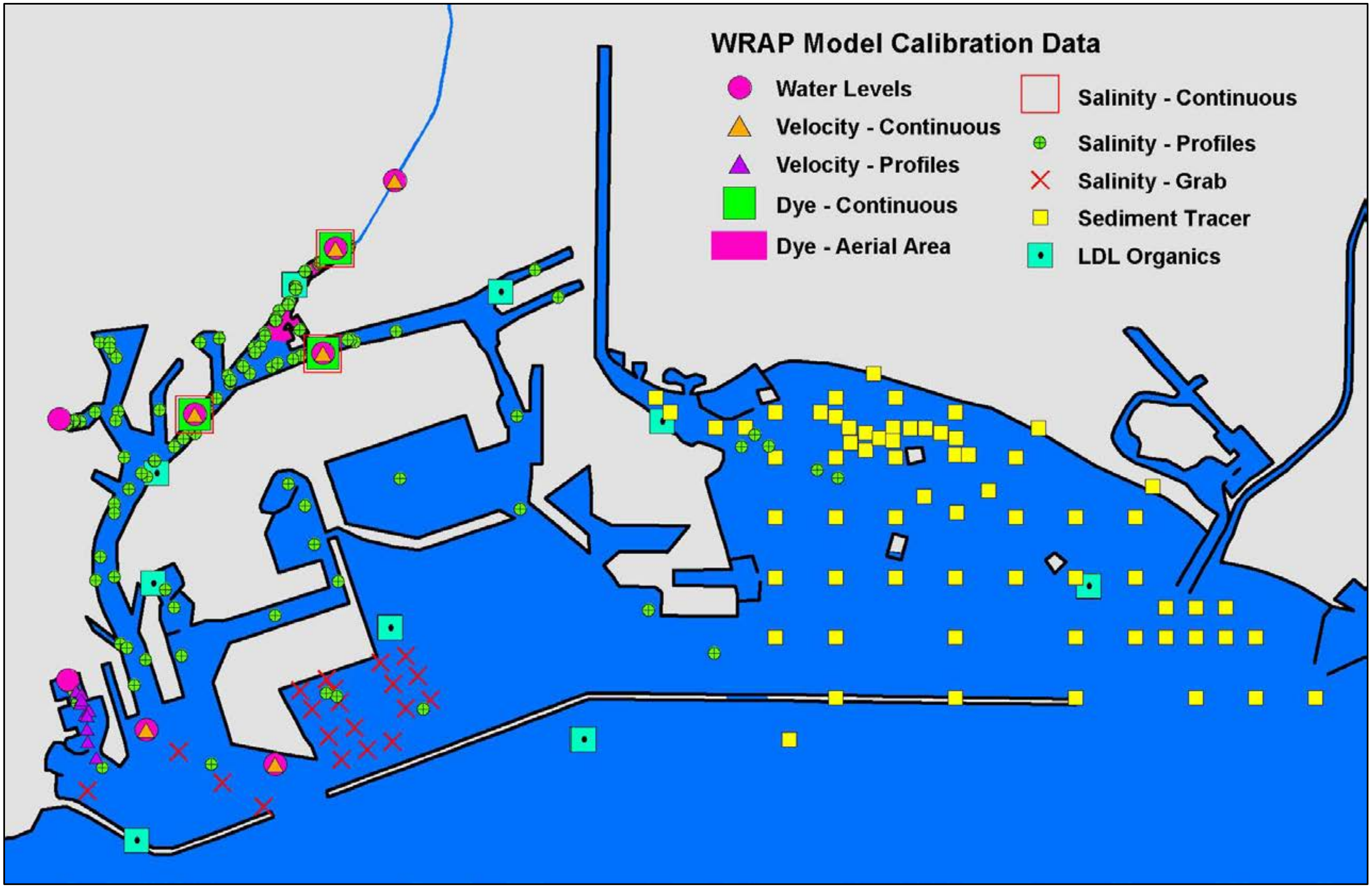


Figure 2.1 WRAP Model Calibration Data Overview

2.2 MODEL SETUP

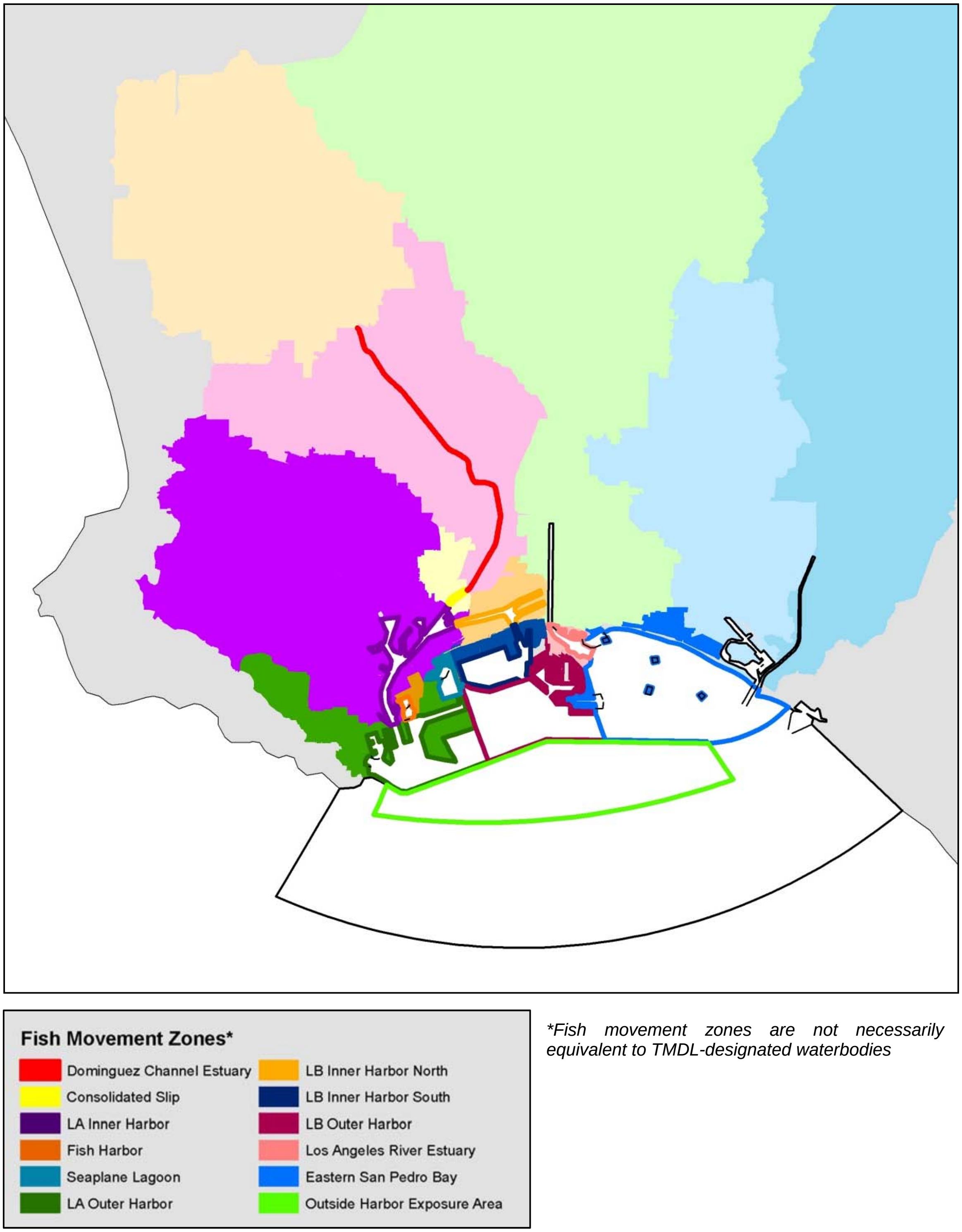
There are four major watersheds that discharge into the greater harbor. The LAR and San Gabriel River (SGR) Watersheds comprise 90% of the greater harbor watershed and flow into Eastern San Pedro Bay. The DC Watershed drains into the DC Estuary, which enters the harbor at the Consolidated Slip (CS). The remaining areas – including drainages areas of the Ports, LAR Estuary, San Pedro Bay, Alamitos Bay, and SGR Estuary – are grouped together and referred to as the Nearshore Watershed.

The watersheds surrounding the greater harbor correspond to designated fish movement zones, as shown in Figure 2.2. Like colors are used to indicate the correlation between each fish movement zone (i.e., outlined in color), and the drainage areas (i.e., filled in with color) which discharge directly into each of these zones. Drainage areas of the greater harbor are summarized in Table 2.1. Among all the fish movement zones, LA Inner Harbor has the largest drainage area. Additional drainage areas include upstream sources of the DC, LAR, SGR, and Alamitos Bay. Further details regarding the watershed areas are provided by fish movement zone in Section 5.

Hydrodynamics in the LA/LB Harbor and San Pedro Bay are driven by river flows, tide, and wind conditions. The WRAP Model boundary conditions for storm water inflows, tide, and wind are illustrated in Figure 2.3. Storm water inflows that discharge into the harbor were simulated with approximately 200 model inflows, as indicated by the orange dots in the figure. The tide and wind gages are indicated by the yellow star and magenta asterisk symbols, respectively.

Tide and wind boundary conditions were specified using data from the National Oceanic Atmospheric Administration (NOAA) National Ocean Service. Water levels and meteorological parameters are monitored as part of the Physical Oceanographic Real-Time System (PORTS®) for the LA/LB Harbor. Water levels are monitored at the NOAA LA Outer Harbor tide gage. Tides are mixed and semi-diurnal, with two daily highs and two daily lows. Wind speed, wind gust, and wind direction are monitored at seven meteorological stations, as shown in Figure 2.3. For the WRAP Model, spatially and temporally varying wind conditions were applied in the model domain based on an inverse distance weighting of data from the meteorological stations.

As part of the WRAP Model development, a methodology to estimate watershed loadings was developed to estimate flows, sediment, and organic chemical concentrations from storm drain discharges. Analytical methods were used to estimate long term, continuous time series. Additional details of watershed loadings are provided in Section 3.2.1.



**Fish movement zones are not necessarily equivalent to TMDL-designated waterbodies*

Figure 2.2 Fish Movement Zone Watersheds

Table 2.1 Summary of Greater Harbor Watersheds

Major Watershed	Subwatershed	Drainage Area (km^2)
Los Angeles River (LAR)	LAR at Wardlow Rd	2,207
	LAR Estuary*	0.94
San Gabriel River (SGR)	SGR at Spring St	1,687
	SGR Estuary	20.1
Dominguez Channel (DC)	DC at Vermont Ave	104
	DC Estuary*	81
Nearshore	Consolidated Slip (CS)*	4.52
	Fish Harbor (FH)*	0.90
	Seaplane Lagoon*	0.69
	LA Inner Harbor*	95.17
	LA Outer Harbor*	13.74
	LB Inner Harbor North*	5.68
	LB Inner Harbor South*	3.87
	LB Outer Harbor*	2.60
	Eastern San Pedro Bay*	3.57
	Alamitos Bay	81.5

**Fish movement zone*

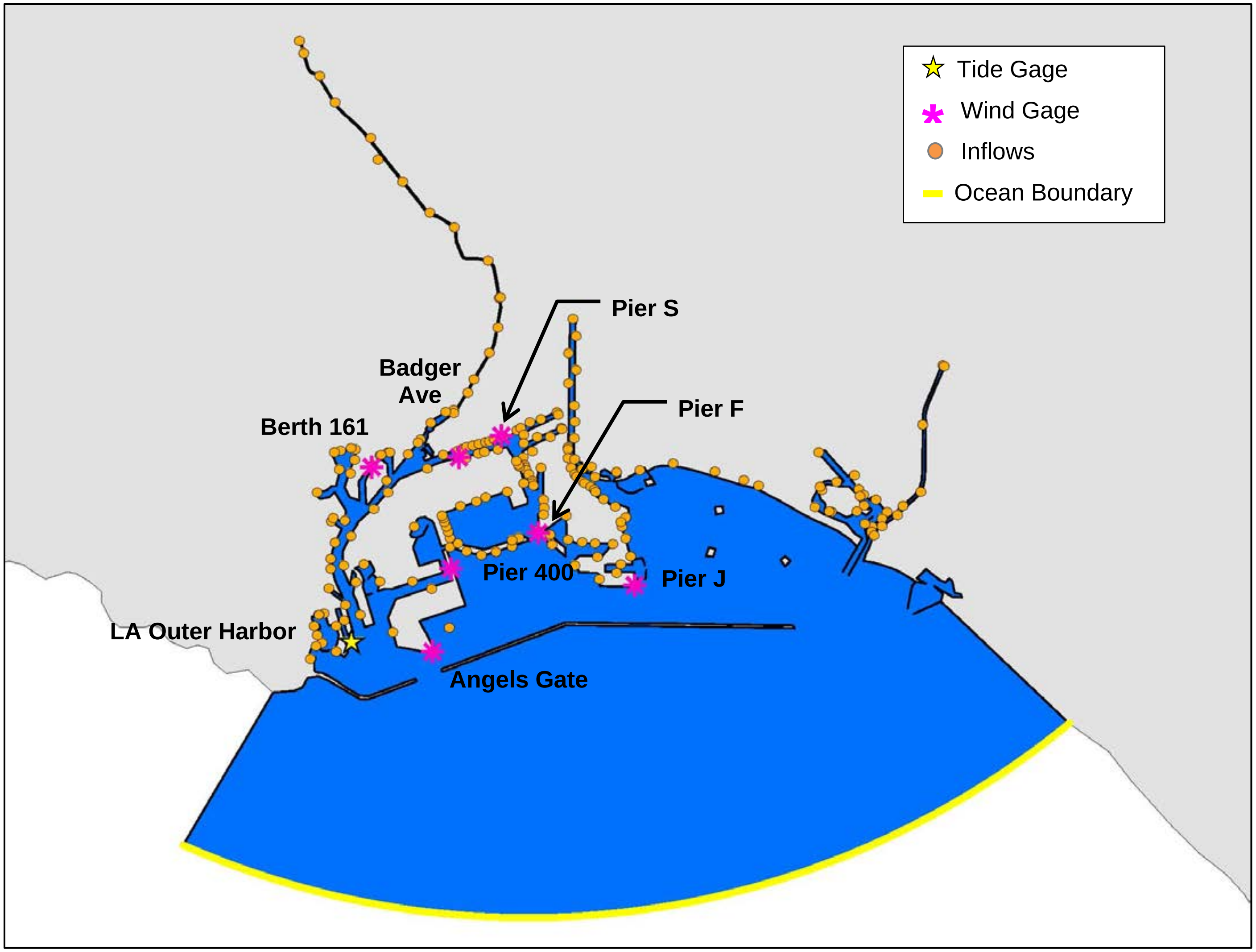


Figure 2.3 WRAP Model Boundary Conditions

3. SCENARIO DEVELOPMENT

3.1 APPROACH

TMDL model scenarios were developed to evaluate the effectiveness of various source reduction strategies as compared with a Baseline Scenario, which represents a no-action scenario. A total of nine TMDL model scenarios were developed and analyzed, each with different combinations of source reduction strategies, watershed and/or sediment loading reductions. The source reduction strategies for the model scenarios are summarized in Table 3.1. Initially, six TMDL model scenarios (Scenarios 1 to 6) were developed for a 20-year period for comparison with the Baseline Scenario to determine changes in water, bed, and fish tissue concentrations associated with the source reduction strategy. The other model scenarios (Scenarios 7 to 9) were developed at the request of the RWQCB.

In January 2018, the RWQCB proposed six additional model scenarios to determine a whole harbor sediment concentration at which the SQO II for human health (SQO HH) would be met. Potentially, this sediment concentration could be written into the TMDL as a sediment target for achieving the SQO HH or revising load allocations for the harbor. However, each fish movement zone has different sources and fish uses; thus, each fish movement zone would have a different sediment concentration while needing to meet the same SQO HH. In addition, those sediment concentrations are expected to change over time due to changes in sources. Due to such complexities, the Ports made recommendations for the new model scenarios. Two of the RWQCB-proposed model scenarios were removed due to similarities with Scenarios 4 and 5. One of the scenarios was replaced with a future condition SQO analysis of Scenario 2. In order for the remaining three RWQCB-proposed model scenarios to represent more realistic TMDL implementation actions, the Ports recommended Scenarios 7, 8, and 9, as described below.

For Scenario 7, the RWQCB proposed the Baseline Scenario with hot spot remediation sufficient to meet the SQO II. Sediment hot spots would include those identified in the TMDL (e.g., DC Estuary, CS, and Fish Harbor [FH]) and any additional locations based on updated sediment data. This scenario would have determined the effectiveness of remediating known hot spots, though no new hot spots have currently been identified. Thus, the Ports recommended conducting Scenario 7 with sediment loading reduction only at TMDL-named hot spots.

The original Scenario 8 proposed by the RWQCB would have combined the TMDL-named hot spot sediment loading reduction with an 80% watershed loading reduction, which may be a more realistically achievable watershed loading reduction than 100% reduction. Instead, the Ports recommended that Scenario 8 be conducted with a 50% watershed loading reduction for consistency with other model scenarios that have been conducted and that it would be more realistic than a 80% watershed loading reduction. This model scenario was conducted for a 30-year period to allow comparison with Scenario 9.

For the last model scenario, the Ports proposed Scenario 9 to evaluate a phased approach to source reduction strategies. This model scenario combines a 50% watershed loading reduction with sediment loading reduction in the TMDL-named hot spots. The watershed loading reduction would begin at the start of the simulation period and continue over the 20-year period. After 20 years, the sediment loading reduction would be applied by reducing bed concentrations in the DC Estuary, CS, and FH to TMDL fish-associated sediment targets, and be simulated along with the 50% watershed loading reduction for an additional 10 years. Effectively, Scenario 9 is a continuation of Scenario 2 with sediment loading reduction. Comparisons of Scenarios 8 and 9 over a 30-year period would allow an evaluation of a phased approach to the source reductions.

Table 3.1 TMDL Model Scenarios

TMDL Model Scenario	Source Reduction Strategy
Baseline Scenario	Expected future conditions without specific source reductions
Scenario 1	100% watershed loading reduction
Scenario 2	50% watershed loading reduction
Scenario 3	Greater harbor waters sediment loading reduction
Scenario 4	100% watershed loading reduction and DC Estuary sediment loading reduction
Scenario 5	100% watershed loading reduction and DC Estuary and TMDL-named hot spots (CS and FH) sediment loading reduction
Scenario 6	100% watershed loading reduction and DC Estuary and greater harbor waters sediment loading reductions
Scenario 7	DC Estuary and TMDL-named hot spots (CS and FH) sediment loading reduction
Scenario 8	50% watershed loading reduction and DC Estuary and TMDL-named hot spots (CS and FH) sediment loading reduction. Simulated for 30-year period for comparison with Scenario 9.
Scenario 9	50% watershed loading reduction at Year 0 and DC Estuary and TMDL-named hot spots (CS and FH) sediment loading reduction at Year 20. Simulated for 30-year period to evaluate timing of sediment loading reduction.

Development of model inputs (e.g., tide, wind, and inflows) for the WRAP Model was based on actual data. Specifically, the model inputs were derived from a historical 10-year dataset, and then repeated to obtain a 20-year period. This assumes that future conditions will be similar to historical conditions. Historical hydrologic conditions based on precipitation from 1997 to 2014 are shown in Figure 3.1. The annual precipitation was determined from Los Angeles County Department of Public Works (LACDPW) precipitation records at gage AL315, which is located within the DC Watershed. Annual precipitation ranged from 3.82 inches in 2002 to 24.0 inches in 2010, with an average annual precipitation of 10.1 inches. The historical 10-year period extended from 2004 through 2013, as indicated by the yellow-outlined bars in Figure 3.1, and was selected based on availability of tide, wind, and flow data. Availability of historical wind and flow data preceding 2004 is limited, and was insufficient for defining model inputs. The selected 10-year period covers varying hydrologic conditions, including extremely large rain events that occurred between December 2004 and February 2005. The average annual precipitation over the selected 10-year period was 10.0 inches. This shows that the selected 10-year period has a similar average precipitation as the longer historical record. For the model scenario simulations, model inputs from the historical 10-year period were simulated sequentially and then repeated to obtain model inputs for a 20-year period. In other words, model inputs based on 2004 data correspond to Year 1 and Year 11 of the 20-year model simulation period, model inputs based on 2005 data correspond to Year 2 and Year 12 of the model simulation period, and so on.

The WRAP Model was used to simulate water column and sediment bed concentrations over the 20-year simulation period. Daily averaged water column and sediment bed concentrations in each fish movement zone were transferred to the Bioaccumulation Model to determine corresponding fish tissue concentrations. Changes in water column and sediment bed concentrations under the source reduction scenarios would produce a response in fish tissue concentrations. Since the response in fish tissue concentrations would occur gradually over several years, source reductions were applied from the start of the 20-year simulation (i.e., Year 0) to provide sufficient time for these changes to be reflected in the fish tissue concentrations. Initial conditions for all scenarios were the same as those of the Baseline Scenario. This allowed for evaluation of the long-term effects of the source reductions.

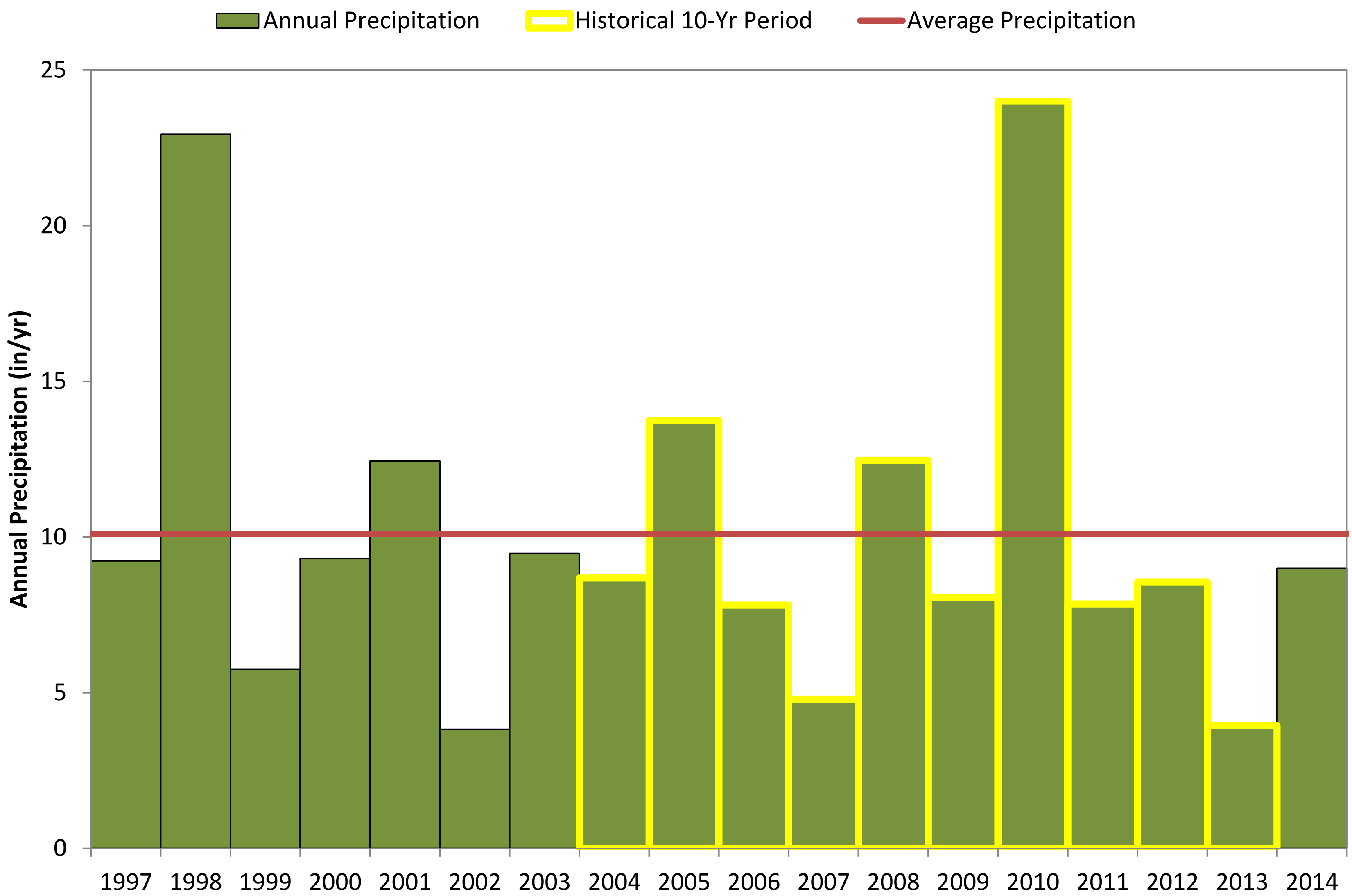


Figure 3.1 Historical Hydrologic Conditions

3.2 BASELINE SCENARIO

The Baseline Scenario represents existing conditions and normal port operations, with no actions to reduce pollutant sources. For this scenario, decreases in water column and sediment bed concentrations are attributed to natural recovery. Comparisons with the TMDL model scenarios were used to provide the time scale for natural recovery and to evaluate the source reduction strategies.

3.2.1 Watershed Loadings

Watershed loadings were estimated for sources discharging into the greater harbor waters. These sources include four major rivers (LAR, SGR, Coyote Creek [CC], and DC) and nearly 200 storm drains. Historical watershed loadings from 2004 to 2013 were repeated sequentially to obtain watershed loadings for the 20-year simulation period, as shown in Figure 3.2. In the figure, annual watershed loadings of flow volume, sediment, TPCB, and TDDX are depicted in separate panels. The total annual watershed loadings are shown by the dry weather (green) and wet weather (blue) contributions. Over the 20-year period, watershed loadings vary year-to-year depending on the hydrologic conditions. As shown in the figure, the sediment and organic chemical loadings are dominated by wet weather flows. Even during dry years (e.g. Year 4, based on 2007 data) when the dry weather flows were higher than the wet weather flows, the corresponding sediment and organic chemical loadings were still dominated by the wet weather flows. For wet years, such as Year 2 (based on 2005 data), wet weather flows dominate watershed discharges and account for most of the sediment and organic chemical loadings. On average, wet weather loadings account for 52% of the flow volume, but 85% of sediment loadings, 97% of TPCB loadings, and 98% of TDDX loadings. The average annual watershed loadings are summarized in Table 3.2. In the table, the ranges in annual watershed loadings are also provided to show the annual variability in watershed loadings, which can be an order of magnitude for sediment and organic chemical loadings.

Table 3.2 Baseline Scenario Average Annual Watershed Loadings

WATERSHED LOADING	RANGE	AVERAGE ANNUAL LOADING
Volume (million m^3/yr)	361.3 – 1,796.4	642.8
Sediment (million kg/yr)	40.7 – 334.4	100.4
TPCB (kg/yr)	7.7 – 78.7	22.2
TDDX (kg/yr)	5.1 – 57.4	16.0

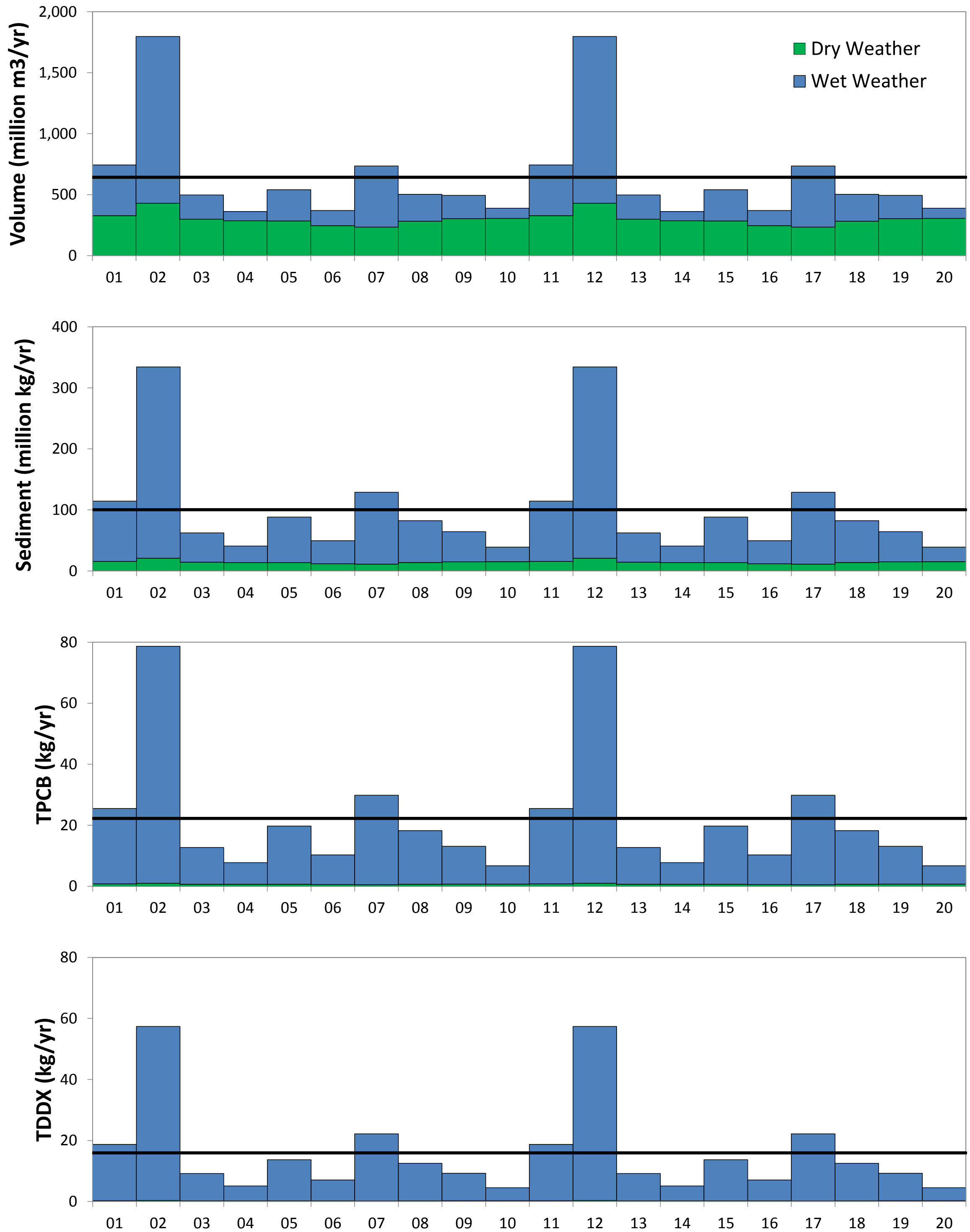


Figure 3.2 Baseline Scenario Annual Watershed Loadings

The watershed loadings were calculated from continuous time series of flows and concentrations developed for all watershed discharges. Analytical methods were developed to estimate flows, sediment, and organic chemical concentrations (Everest 2017). Brief descriptions for estimating the watershed discharges are provided below.

Flows

Continuous time series of flows were estimated for the four major rivers, based on measured data. These flows account for approximately 92% of the total drainage area of the greater harbor waters. Volume rating curves developed from historical flow data were used to estimate flows for periods without measured flow data. Flow data from CC were used to estimate data for and fill in gaps in the LAR flow record, and vice versa. Flow data from Ballona Creek, which is located in another watershed, were used to estimate data for and fill in gaps in both the SGR and DC flow records. Also, there was limited data availability for Machado Lake. Due to the unique characteristics of flows from Machado Lake, which occur only during wet weather conditions, flow data from the SGR were used to estimate data for and fill in gaps in the Machado Lake flow record.

A separate method was developed to estimate flows from unmonitored drainage areas, which include the lower portion of the DC Estuary Watershed and vast majority of the Nearshore Watershed. Dry weather flows were estimated based on a correlation between urban dry weather flows and the size of the drainage area (Stein and Ackerman 2007). Dry weather flows are mostly from wastewater reclamation plant effluent and urban land uses. Wet weather flows were estimated by scaling the DC flows based on drainage area. Individual scaling factors were determined for each watershed discharge.

Sediment Concentrations

Sediment concentrations were estimated using seasonal average total suspended solids (TSS) concentrations based on storm water data. This method was selected since the data did not support development of a TSS and flow discharge rating curve. Seasonal TSS concentrations were determined for the LAR, CC, DC, Torrance Lateral, Machado Lake, and port land uses. These TSS concentrations are summarized in Table 3.3. TSS data showed distinctive characteristics for dry weather, first flush, and wet weather conditions. Dry weather conditions characterize perennial base flows that occur year round (i.e., flows that occur without precipitation). Wet weather conditions represent flows generated by rainfall, while the first flush refers to the first rain event that occurs at the beginning of the wet season, which typically occurs in October. TSS data indicate higher sediment concentrations following the extended dry summer months.

Table 3.3 Seasonal Average TSS Concentrations

Location	Dry Weather TSS (mg/L)	First Flush TSS (mg/L)	Wet Weather TSS (mg/L)
Los Angeles River (LAR)	56	1,040	273
Coyote Creek (CC)	49	897	195
Dominguez Channel (DC)	39	470	130
Torrance Lateral	38	658	194
Port Land Uses	16	99	90
Machado Lake	--	--	16

Storm water sediment compositions were determined from a storm water special study. Grain size distributions were obtained from the LAR and DC. All storm water sediment discharges were composed of 3% coarse sand, 14% fine sand, 46% coarse silt, 29% fine silt, and 8% clay.

Organics Concentrations

For organic chemical concentrations, rating curves were developed based on TSS concentrations to estimate wet weather organic chemical concentrations. Concurrent TSS and organics data from a storm water special study was used to establish a relationship between TSS and organics concentrations. TSS rating curves showed very strong correlations with TPCB (R^2=0.996) and TDDX (R^2=0.95). Organics concentrations, which are summarized in Table 3.4 for TPCB and Table 3.5 for TDDX, were specified based on estimated TSS concentrations. Data used to establish the relationship included data from the LAR, DC, and Machado Lake. A separate rating curve was established to estimate TDDX concentrations for the Torrance Lateral, which has significantly higher first flush and wet weather TDDX concentrations than those at the other locations. Limited data from port land uses indicated lower organics concentrations, thus, constant concentrations were used for port land uses. Due to limited data, organic chemical concentrations for dry weather and for port land uses were each specified based on averaged data.

Table 3.4 Storm Water TPCB Concentrations

Location	Dry Weather (ng/L)	First Flush (ng/L)	Wet Weather (ng/L)
Los Angeles River (LAR)	2.27	287	68.1
Coyote Creek (CC)	2.27	245	47.4
Dominguez Channel (DC)	2.27	122	30.6
Torrance Lateral	2.27	176	47.1
Port Land Uses	2.27	32.4	32.4
Machado Lake	--	--	3.21

Table 3.5 Storm Water TDDX Concentrations

Location	Dry Weather (ng/L)	First Flush (ng/L)	Wet Weather (ng/L)
Los Angeles River (LAR)	0.744	167	48.5
Coyote Creek (CC)	0.744	146	35.5
Dominguez Channel (DC)	0.744	80.2	24.4
Torrance Lateral	0.744	497	227
Port Land Uses	0.744	3.98	3.98
Machado Lake	--	--	3.52

3.2.2 Initial Conditions

Initial water and bed conditions (i.e., Year 0) for the Baseline Conditions were established over a three-year spin-up period to allow water column and bed conditions to become more stable and established under the effects of the simulated hydrodynamic processes. The three-year spin-up period was comprised of one-year for sediment spin-up, followed by two-years for spin-up of sediment and organics concentrations.

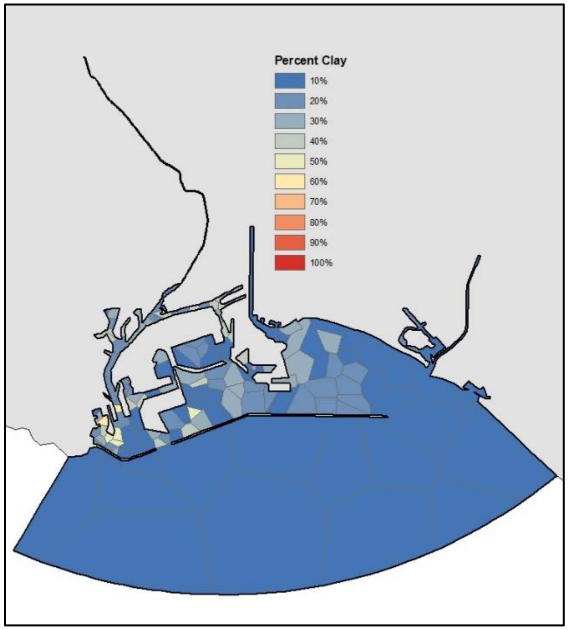
The starting sediment conditions were established from the WRAP Model development (Everest 2017), and include bed properties (e.g., thickness, bulk density, porosity, and grain size) and water column concentrations. Sediment bed properties were specified based on data compiled from multiple studies, with most of the data collected more recently than 2003. Sediment data were applied to the WRAP Model based on Thiessen polygons generated for the sediment data. Starting bed heights for the upper two bed layers were specified as 5 cm. Watershed loadings during the one-year sediment spin-up were simulated based on data from a wet year in 2010.

The WRAP Model sediment properties were developed based on five sediment classes, as summarized in Table 3.6. One sediment class was specified for clay particles. Silts and sands were each simulated with two sediment classes. The sediment bed initial conditions are provided in Figure 3.3. In general, sediments within the greater harbor were predominantly silts, while sediments outside of the breakwater were composed mostly of sands.

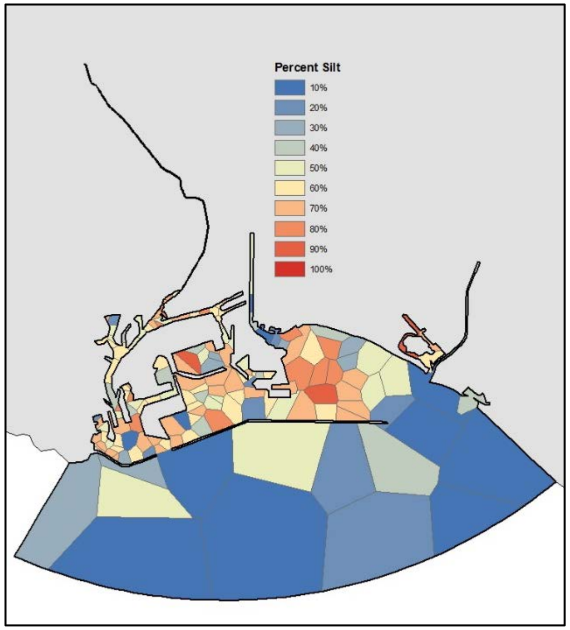
Table 3.6 WRAP Model Sediment Classes

WRAP Model Sediment Class	Sediment Type	Diameter (mm)
Coarse Sand	Gravel	2.0 – 4.0
	Very Coarse Sand	1.0 – 2.0
	Coarse Sand	0.5 – 1.0
	Medium Sand	0.25 – 0.50
Fine Sand	Fine Sand	0.125 – 0.25
	Very Fine Sand	0.0625 – 0.125
Coarse Silt	Coarse Silt	0.0312 – 0.0625
	Medium Silt	0.0156 – 0.0312
Fine Silt	Fine Silt	0.0078 – 0.0156
	Very Fine Silt	0.0039 – 0.0078
Clay	Clay	<0.0039

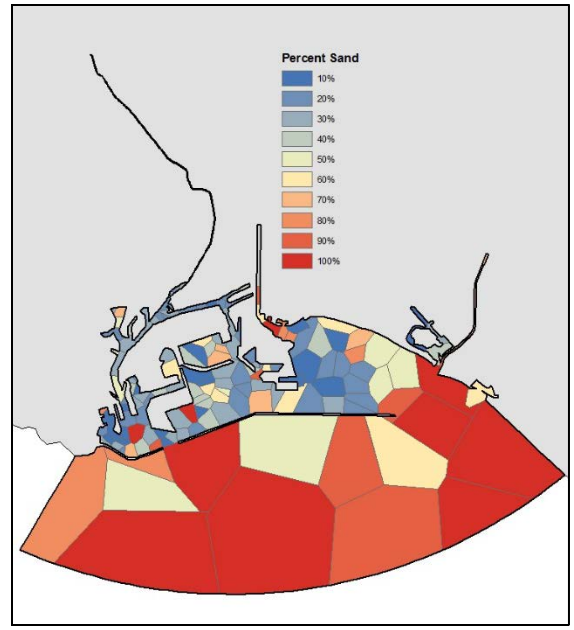
The starting organic chemical concentrations and parameters were established from the WRAP Model development (Everest 2017). Sediment bed organics concentrations were specified using data from multiple studies conducted between 2002 and 2014, which were applied to the WRAP Model based on Thiessen polygons generated for the data. Watershed loadings during the two-year organics spin-up were simulated based on years 2002 and 2003. The initial organics concentrations for the sediment bed are depicted in Figure 3.4 and summarized by fish movement zone in Table 3.7.



Percent Clay

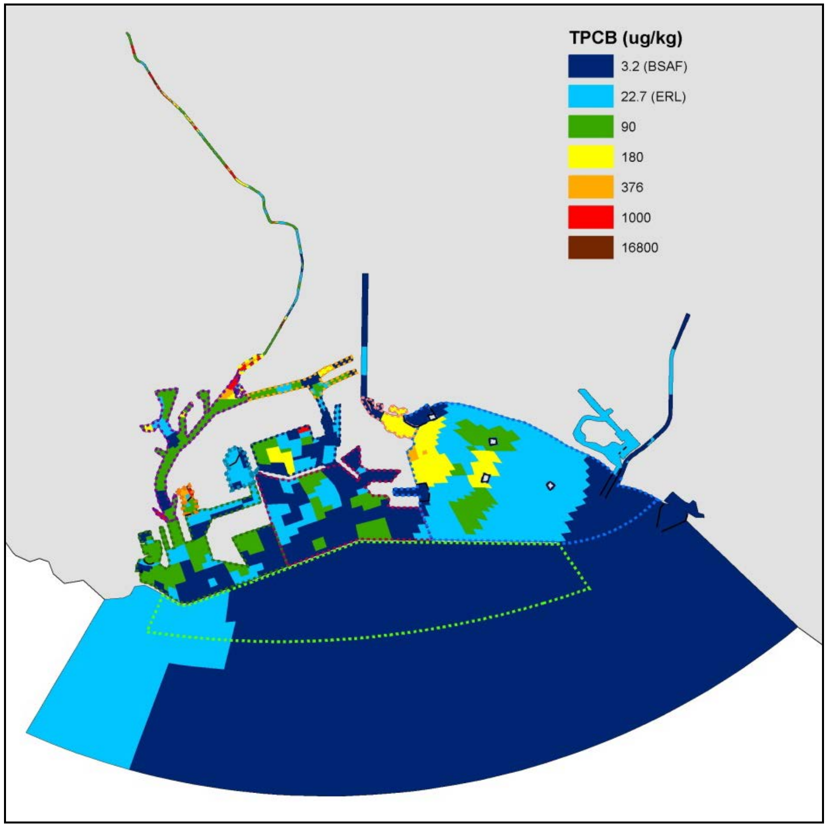


Percent Silt



Percent Sand

Figure 3.3 Sediment Bed Composition Initial Conditions



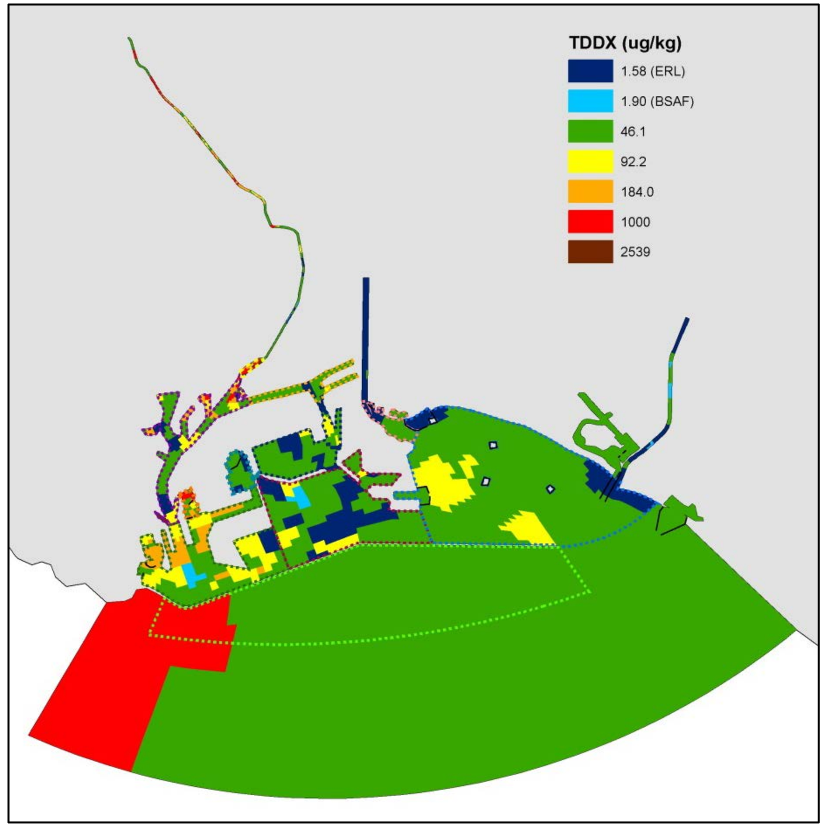


Figure 3.4 Baseline Scenario Sediment Bed Initial Organics Concentrations

Table 3.7 Baseline Scenario Initial Organics Concentrations for Top 5 cm of Sediment Bed

FISH MOVEMENT ZONE	TPCB (UG/KG)	TDDX (UG/KG)
DC Estuary	437.9	222.2
Consolidated Slip (CS)	798.2	273.5
LA Inner Harbor	76.1	72.1
Fish Harbor (FH)	163.7	103.1
Seaplane Lagoon	14.6	14.2
LA Outer Harbor	19.8	49.2
LB Inner Harbor North	38.2	18.2
LB Inner Harbor South	32.1	18.1
LB Outer Harbor	8.4	19.3
LAR Estuary	104.2	24.4
Eastern San Pedro Bay	29.2	21.6
Outside Harbor Exposure Area	2.2	50.5

3.3 SCENARIO 1

Scenario 1 was designed to determine the contribution of watershed loadings by simulating a 100% reduction in watershed loading of organics. Watershed loadings of all storm water discharges were simulated without organics concentrations. Watershed flows and sediment loadings were the same as those used in the Baseline Scenario. The watershed loading reduction was applied at the start of the 20-year simulation period.

Compared with the Baseline Scenario, Scenario 1 was used to evaluate the impact of watershed loadings on water column, sediment bed, and fish tissue concentrations (i.e., contribution of watershed loadings to fish tissue). This scenario also provides the time scale required to reduce fish tissue concentrations attributed to watershed loading reductions. In addition, comparison of Scenario 1 with other model scenarios can be used to prioritize source reduction strategies.

3.4 Scenario 2

Scenario 2 was developed to provide additional information on watershed impacts by simulating a 50% reduction in watershed loading of organics. Watershed loadings of organics in all storm water discharges were simulated at 50% of the baseline organics concentrations. Watershed flows and sediment loadings were the same as those used in the Baseline Scenario. The watershed loading reduction was applied at the start of the 20-year simulation period.

Scenario 2 was also used to evaluate the impact of watershed loadings on water column, sediment bed, and fish tissue concentrations. Scenario 2 provides a more realistic evaluation of watershed loading reductions, since the 100% watershed loading reduction simulated under Scenario 1 is unlikely to be achieved.

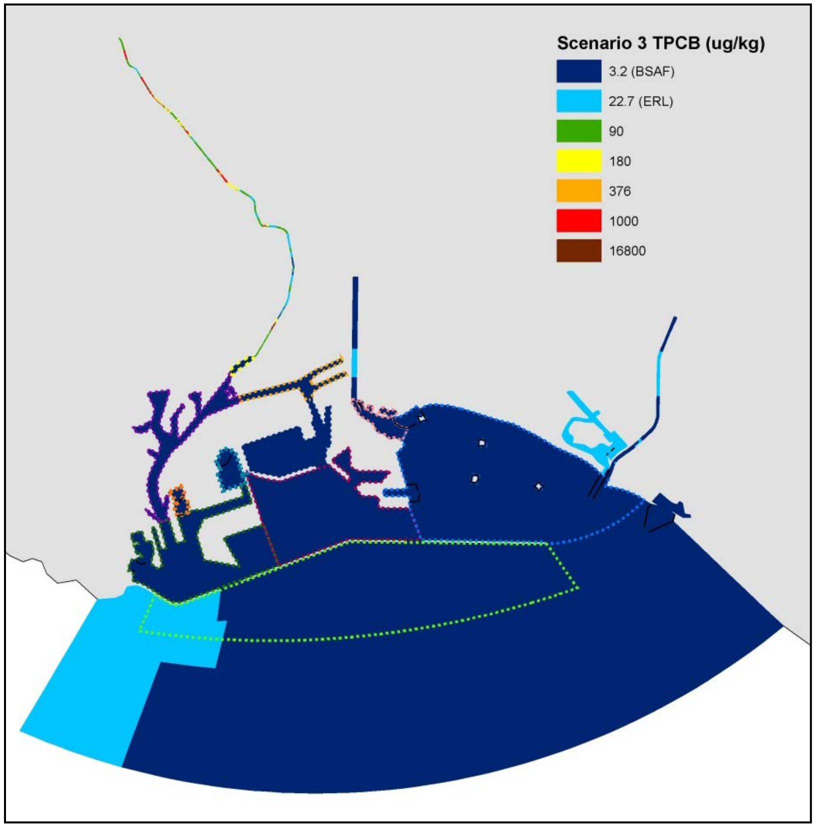
3.5 Scenario 3

Scenario 3 represents the sediment loading contribution that results from reducing sediment bed concentrations. Sediments within the greater harbor were set to the fish-associated TMDL sediment target. These sediment targets were specified in the Harbor Toxics TMDL based on fish tissue targets for the protection of human health (RWQCB 2011, pg. 5). The sediment targets correspond to the biota-sediment accumulation factor (BSAF). At the start of the 20-year simulation period, all sediment bed concentrations above the TMDL sediment target were reduced to match the TMDL sediment target. The sediment loading reduction was applied to the greater harbor area. The sediment bed initial organics concentrations for Scenario 3 are compared to the TMDL sediment target in Table 3.8. For Scenario 3, sediment concentrations were reduced to sediment targets only within the harbor areas and not the estuary portions of the DC, LAR, and SGR, as shown in Figure 3.5. Watershed flows, sediment, and organics loadings were the same as those used in the Baseline Scenario.

Compared with the Baseline Scenario, Scenario 3 was used to evaluate the impact of sediment bed loadings on water column, sediment bed, and fish tissue concentrations (i.e., contribution of sediment bed loadings to fish tissue). Scenario 3 also provides the time scale required to reduce fish tissue concentrations attributed to sediment loading reductions, and can be used to prioritize source reduction strategies when compared with other model scenarios.

Table 3.8 Scenario 3 Initial Organics Concentrations for Top 5 cm of Sediment Bed

Fish Movement Zone	TPCB (ug/kg)	TDDX (ug/kg)
DC Estuary	437.95	222.19
Consolidated Slip (CS)	3.15	1.80
LA Inner Harbor	2.90	1.76
Fish Harbor (FH)	3.15	1.90
Seaplane Lagoon	2.61	1.66
LA Outer Harbor	2.22	1.86
LB Inner Harbor North	2.55	1.73
LB Inner Harbor South	2.19	1.59
LB Outer Harbor	1.48	1.65
LAR Estuary	2.66	1.69
Eastern San Pedro Bay	2.69	1.83
Outside Harbor Exposure Area	2.22	50.53
TMDL Sediment Target	***3.20***	***1.90***



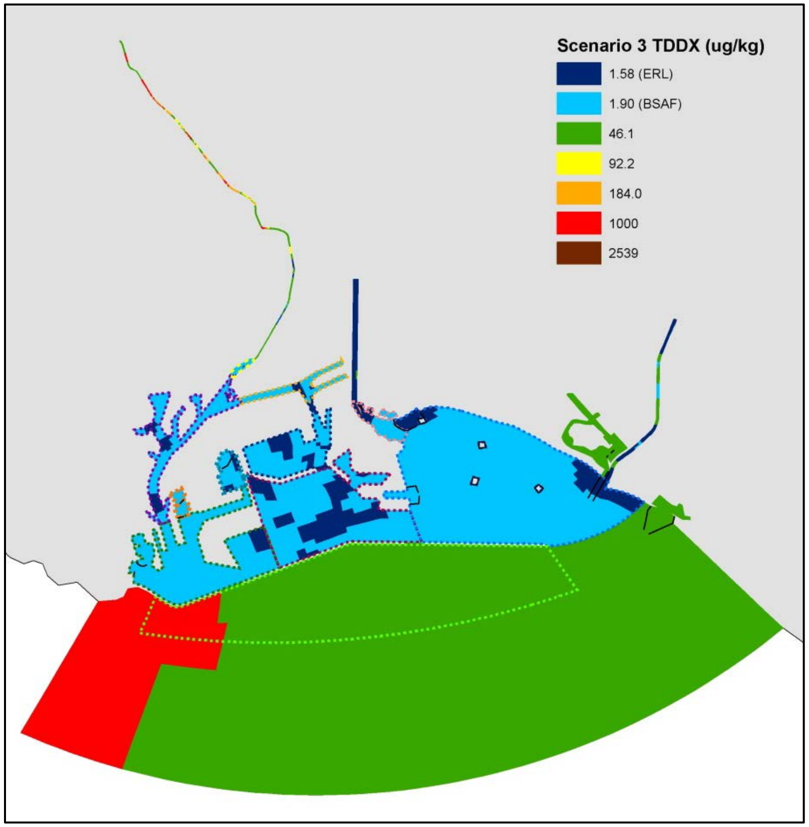


Figure 3.5 Scenario 3 Sediment Bed Initial Organics Concentrations

3.6 Scenario 4

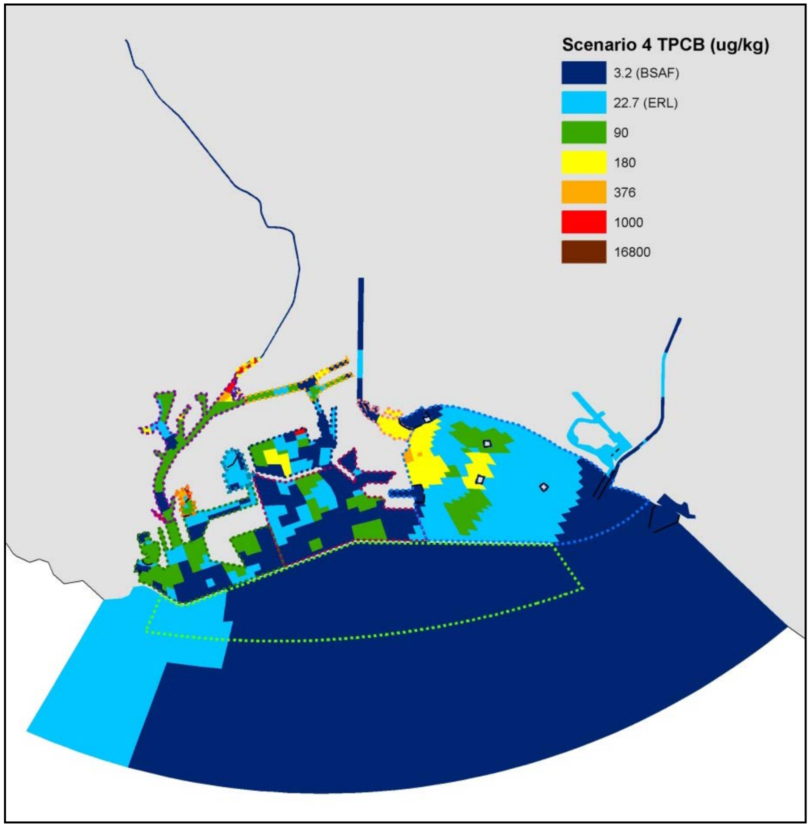
Scenario 4 was developed to address a combination of watershed loading reductions and sediment loading reductions for hot spots named in the TMDL. This scenario was simulated with a 100% watershed loading reduction, as implemented under Scenario 1. Sediment loading reduction was specified for the DC Estuary hot spot. The Scenario 4 sediment bed initial organics concentrations are provided in Table 3.9. Sediments within the DC Estuary were set to the fish-associated TMDL sediment target (indicated by bold, italic font), while sediment bed concentrations elsewhere were maintained at the Baseline Scenario levels. The initial sediment bed organics concentrations for Scenario 4 are provided in Figure 3.6.

Scenario 4 will be used to evaluate the DC Estuary as an upstream source to the greater harbor. In comparison with Scenario 1, Scenario 4 will provide additional reductions in water column, sediment bed, and fish tissue concentrations that can be achieved by remediating the DC Estuary. Comparisons with other model scenarios can also be used to prioritize source reduction strategies.

Table 3.9 Scenario 4 Initial Organics Concentrations for Top 5 cm of Sediment Bed

Fish Movement Zone	TPCB (ug/kg)	TDDX (ug/kg)
DC Estuary	***3.2***	***1.9***
Consolidated Slip (CS)	798.2	273.5
LA Inner Harbor	76.1	72.1
Fish Harbor (FH)	163.7	103.1
Seaplane Lagoon	14.6	14.2
LA Outer Harbor	19.8	49.2
LB Inner Harbor North	38.2	18.2
LB Inner Harbor South	32.1	18.1
LB Outer Harbor	8.4	19.3
LAR Estuary	104.2	24.4
Eastern San Pedro Bay	29.2	21.6
Outside Harbor Exposure Area	2.2	50.5

Bold italic font *– sediments set to the fish-associated TMDL sediment target*



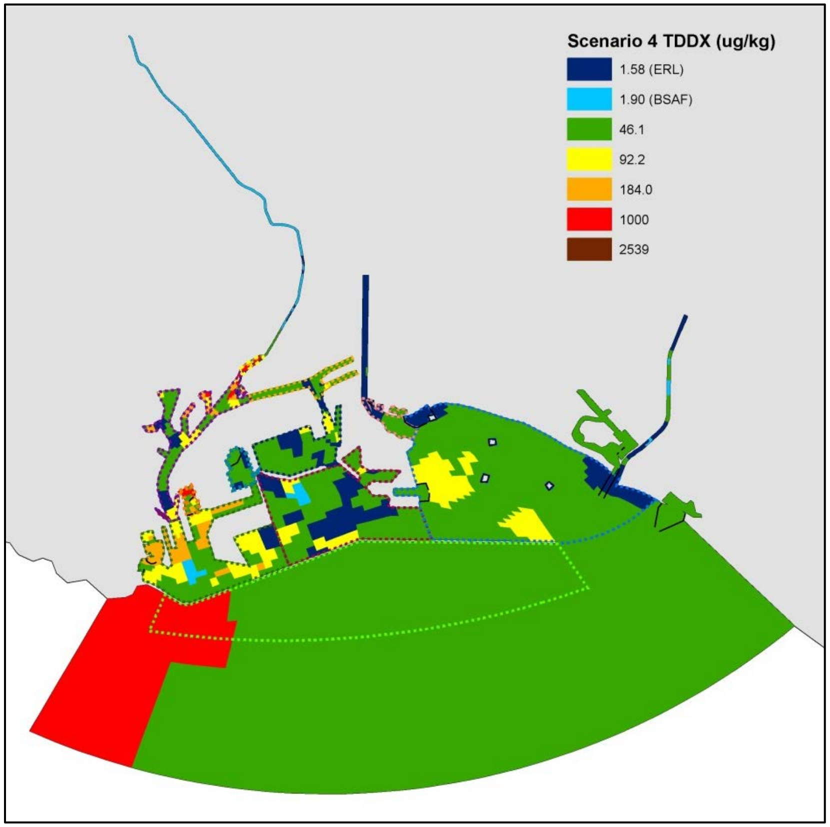


Figure 3.6 Scenario 4 Sediment Bed Initial Organics Concentrations

3.7 SCENARIO 5

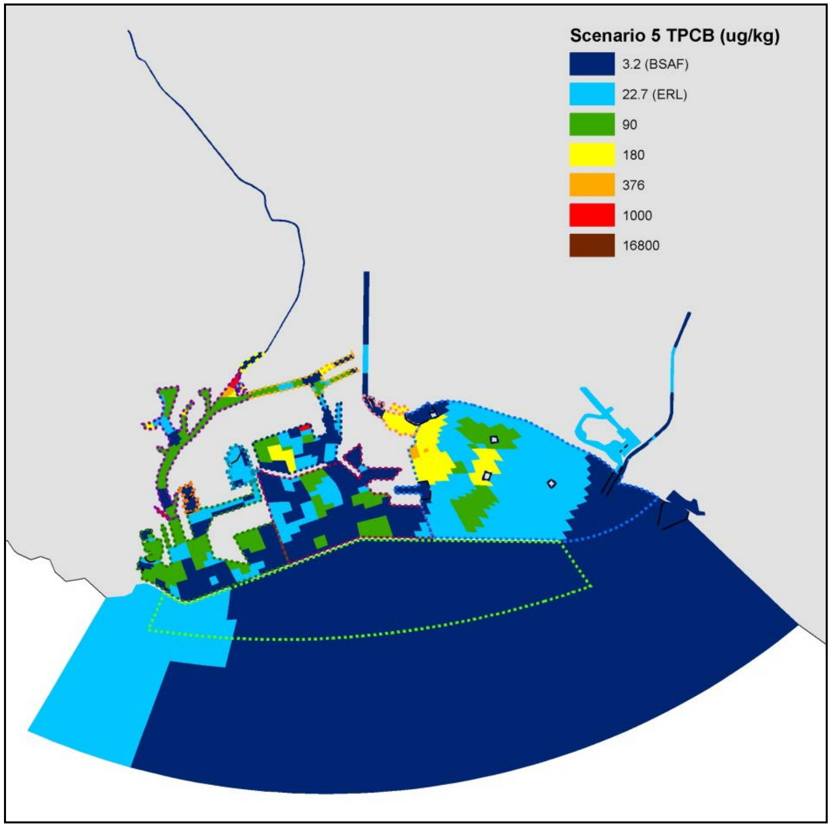
Scenario 5 was also developed to address a combination of watershed loading reductions and sediment loading reductions for hot spots named in the TMDL. Under Scenario 5, source reductions were made using a 100% watershed loading reduction and sediment loading reductions within the DC Estuary, CS, and FH. This scenario was the same as Scenario 4, except with the inclusion of sediment bed concentration reductions in CS and FH. The sediment bed initial organics concentrations for Scenario 5 are summarized in Table 3.10 with the reductions indicated in bold, italic font. Figure 3.7 shows the initial organics concentrations for Scenario 5.

Scenario 5 evaluates potential watershed and sediment loading reduction strategies. Comparison with Scenario 4 will determine potential improvements that may result from the additional cleanup of CS and FH. Comparisons with other model scenarios can also be used to prioritize source reduction strategies.

Table 3.10 Scenario 5 Initial Organics Concentrations for Top 5 cm of Sediment Bed

FISH MOVEMENT ZONE	TPCB (UG/KG)	TDDX (UG/KG)
DC Estuary	***3.20***	***1.90***
Consolidated Slip (CS)	***3.15***	***1.80***
LA Inner Harbor	76.13	72.13
Fish Harbor (FH)	***3.15***	***1.90***
Seaplane Lagoon	14.56	14.23
LA Outer Harbor	19.81	49.20
LB Inner Harbor North	38.21	18.17
LB Inner Harbor South	32.14	18.05
LB Outer Harbor	8.39	19.25
LAR Estuary	104.19	24.44
Eastern San Pedro Bay	29.15	21.59
Outside Harbor Exposure Area	2.22	50.53

Bold italic font *– sediment concentrations reduced*



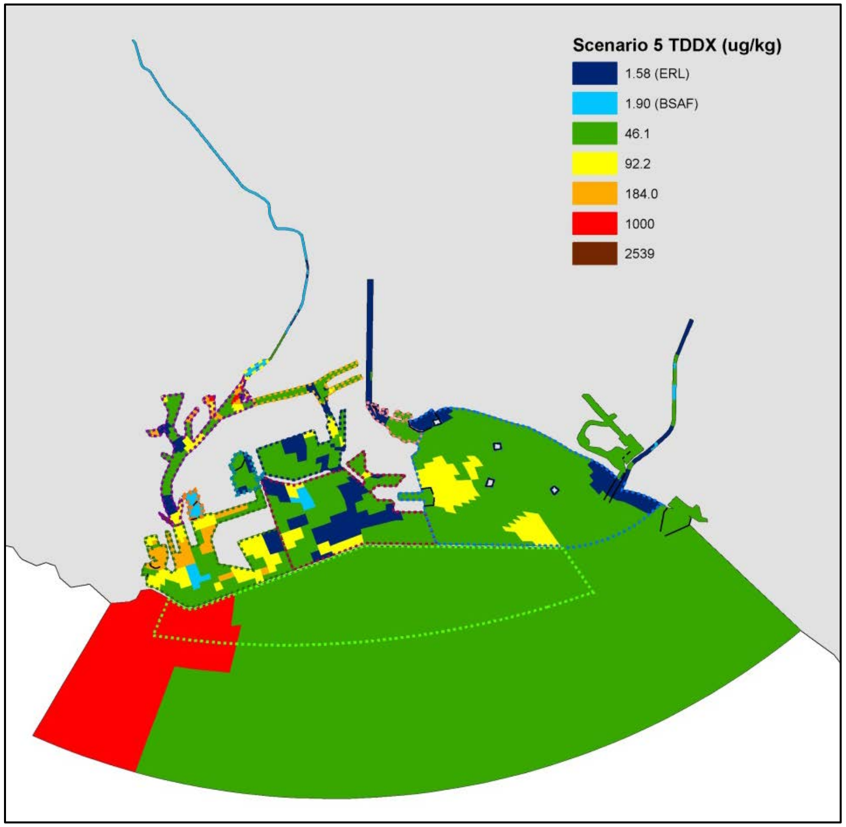


Figure 3.7 Scenario 5 Sediment Bed Initial Organics Concentrations

3.8 SCENARIO 6

Scenario 6 was developed to evaluate the influence of sources outside the harbor (e.g., PV Shelf and regional background levels). This scenario was simulated without sources in the harbor, and included the 100% watershed loading reduction and complete sediment loading reduction. As depicted in Figure 3.8 and summarized in Table 3.11, all sediment bed concentrations inside the harbor (e.g., breakwater) were set to 0.0 ug/kg, while bed concentrations outside the harbor were the same as those under the Baseline Scenario. Initial water column concentrations were also the same as those under the Baseline Scenario, representing residual watershed loadings.

Scenario 6 will be used to evaluate the contribution of regional or background sources, including exposure due to fish movement to and from the PV Shelf. Essentially, Scenario 6 simulates the “recontamination” that would occur over time due to the remaining watershed loadings and tidal exchange with ocean sources.

Table 3.11 Scenario 6 Initial Organics Concentrations for Top 5 cm of Sediment Bed

FISH MOVEMENT ZONE	TPCB (UG/KG)	TDDX (UG/KG)
DC Estuary	0.0	0.0
Consolidated Slip (CS)	0.0	0.0
LA Inner Harbor	0.0	0.0
Fish Harbor (FH)	0.0	0.0
Seaplane Lagoon	0.0	0.0
LA Outer Harbor	0.0	0.0
LB Inner Harbor North	0.0	0.0
LB Inner Harbor South	0.0	0.0
LB Outer Harbor	0.0	0.0
LAR Estuary	0.0	0.0
Eastern San Pedro Bay	0.0	0.0
Outside Harbor Exposure Area	2.2	50.5

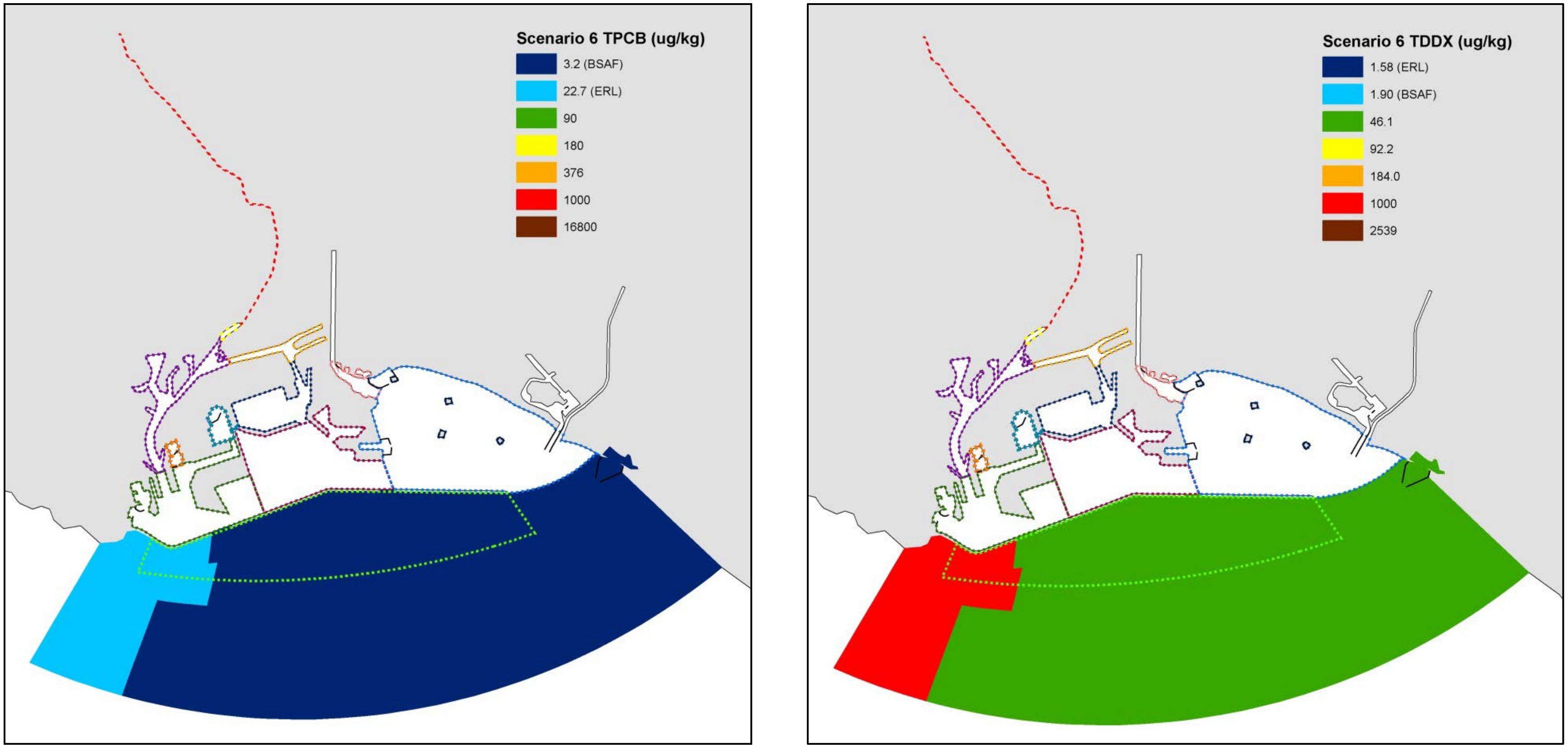


Figure 3.8 Scenario 6 Sediment Bed Initial Organics Concentrations

3.9 SCENARIO 7

Scenario 7 was simulated with only sediment loading reductions in the DC Estuary, CS, and FH. This model scenario is the same as Scenario 5, without the watershed loading reduction. Scenario 7 provides an understanding and influence of watershed loadings when compared to Scenario 5, as well as an understanding of the overall effectiveness of remediating TMDL-named hot spots and impacts on local and harbor-wide fish tissue. The initial sediment bed organics concentrations for the hot spot remediation used for Scenario 7 is the same as those for Scenario 5, as previously summarized in Table 3.10 and illustrated in Figure 3.7. Sediment bed concentrations were set to TMDL fish-associated sediment targets in the DC Estuary, CS, and FH. Under Scenario 7, watershed flows, sediment, and organics loadings were the same as those used in the Baseline Scenario.

3.10 SCENARIO 8

Scenario 8 combines a 50% watershed loading reduction with sediment loading reductions at TMDL hot spots. The effect of the watershed loading reduction can be evaluated when compared to Scenario 5s or 7. Watershed loadings of organics in all storm water discharges were simulated at 50% of the baseline organics concentrations, which is the same as under Scenario 2. Watershed flows and sediment loadings were the same as those used in the Baseline Scenario. Initial sediment bed concentrations were set to TMDL fish-associated sediment targets in the DC Estuary, CS, and FH (Table 3.10 and Figure 3.7), which is the same as under Scenarios 5 and 7. Both the watershed and sediment loading reductions were applied at the start of the simulation period.

3.11 SCENARIO 9

Scenario 9 was developed to evaluate a phased approach to source reduction strategies with a 50% watershed loading reduction at Year 0, followed by the sediment loading reduction at TMDL hot spots at Year 21. The sediment loading reduction would be applied by reducing bed concentrations in the DC Estuary, CS, and FH to TMDL fish-associated sediment targets, as summarized in Table 3.12, and simulated along with the 50% watershed loading reduction for an additional 10 years. Comparisons of Scenario 8 and Scenario 9 over a 30-year period would allow an evaluation a phased approach to the source reductions.

Table 3.12 Scenario 9 Sediment Bed Organics Concentrations for Hot Spot Remediation at Year 21

Fish Movement Zone	TPCB (ug/kg)	TDDX (ug/kg)
DC Estuary	***3.12***	***1.83***
Consolidated Slip (CS)	***3.12***	***1.75***
LA Inner Harbor	45.55	58.95
Fish Harbor (FH)	***3.20***	***1.90***
Seaplane Lagoon	9.54	13.13
LA Outer Harbor	12.95	40.27
LB Inner Harbor North	20.55	14.35
LB Inner Harbor South	15.73	15.14
LB Outer Harbor	4.44	15.90
LAR Estuary	12.59	3.11
Eastern San Pedro Bay	14.40	14.94
Outside Harbor Exposure Area	1.47	44.38

Bold italic font *– sediment concentrations reduced*

4. WRAP MODEL SCENARIO RESULTS

4.1 BASELINE SCENARIO

The Baseline Scenario involved the simulation of hydrodynamics and transport conditions over the 20-year simulation period with existing watershed loadings. Detailed analyses were conducted to gain a better understanding of organic contaminant transport conditions throughout the greater harbor. Results for the Baseline Scenario are first evaluated for the greater harbor area in Section 4.1.1, followed by results for the individual fish movement zones in Section 4.1.2.

4.1.1 Greater Harbor

As shown in Figure 4.1, the greater harbor area extends from the LA/LB Harbor to Eastern San Pedro Bay, covering 10 of the 12 fish movement zones. Only the DC Estuary and the Ocean fish movement zones are not included as part of the greater harbor area. The greater harbor area receives contaminant loadings from upstream areas including the DC Estuary, LAR, SGR, and Alamitos Bay.

From the WRAP Model development and calibration of organic contaminants, three dominant processes that affect organics concentrations were identified: watershed loadings, sediment bed, and tidal exchange. To understand contaminant transport conditions due to these processes, sources and sinks were quantified annually to evaluate their relative loading contributions to the greater harbor. Such sources and sinks include watershed loadings, sediment bed fluxes, volatilization, and tidal exchange.

Sources to the greater harbor from the watershed loadings and sediment bed were quantified for sediment, TPCB, and TDDX. Watershed loadings include upstream discharges (e.g., DC Estuary, LAR, SGR, and Alamitos Bay) and direct storm water discharges to the greater harbor waters. Sources from the sediment bed were determined from resuspension and deposition fluxes at the sediment bed. The annual sediment loadings from the watershed and sediment bed are provided in Figure 4.2a. In the figure, the annual sediment watershed loadings (dark green) are shown in the top panel. The annual sediment fluxes at the bed are compared based on the resuspension (red) and deposition (dark blue) in the middle panel. Resuspension acts as a source to the water column, while deposition acts as a sink. Annual fluxes were calculated based on fluxes in daily resuspension and deposition rates. The annual net sedimentation (light blue) is provided in the lower panel. Though sediment resuspension and deposition occur continually, overall, the greater harbor is depositional. Higher sediment fluxes occur during wet years (higher sediment loading) and lower fluxes occur during dry years. Comparison of the sediment fluxes and watershed loadings indicates that a portion of watershed loadings are being deposited to the sediment bed. Annual watershed and sediment bed loadings for TPCB and TDDX are shown in Figures 4.2b and 4.2c, respectively. For both TPCB and TDDX, watershed loadings (top panel) are significantly greater than fluxes from the sediment bed (middle panel). Resuspension is greater than deposition for these organics, thus there is a net flux of TPCB and TDDX from the sediment bed to the water column (lower panel). With a net deposition of sediment and a net resuspension of organics, sediment bed concentrations are expected to decrease over time.

Organic contaminant sources and sinks for the greater harbor were compared to illustrate the relative contribution of loadings to the greater harbor area, as shown in Figure 4.3. In the figure, the average annual sources (watershed and sediment bed) are compared to the average annual sinks (volatilization and tidal exchange), which are represented by the colored bars. The black bars indicate the range in annual loadings over the 20-year simulation period. Annual mass balances of the watershed loadings, net bed fluxes, volatilization, and water fluxes were used to determine the tidal exchange, which has a net flux from the harbor to the ocean. The tidal exchange represents the total exchange that occurs through the gaps in the breakwater. For the greater harbor, the largest source of TPCB and TDDX is watershed loadings, which are predominantly exported out of the harbor.

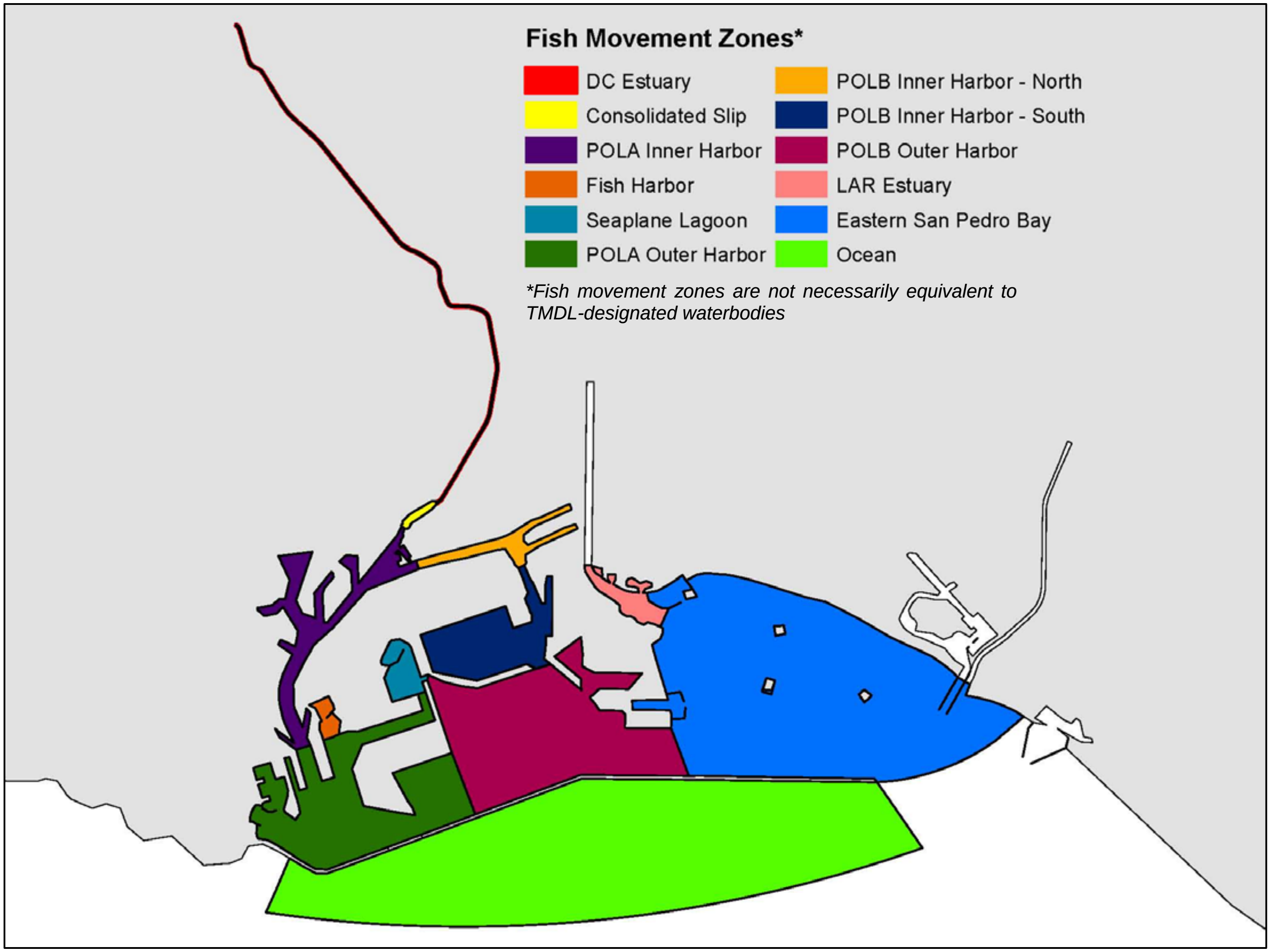


Figure 4.1 Greater Harbor Fish Movement Zones

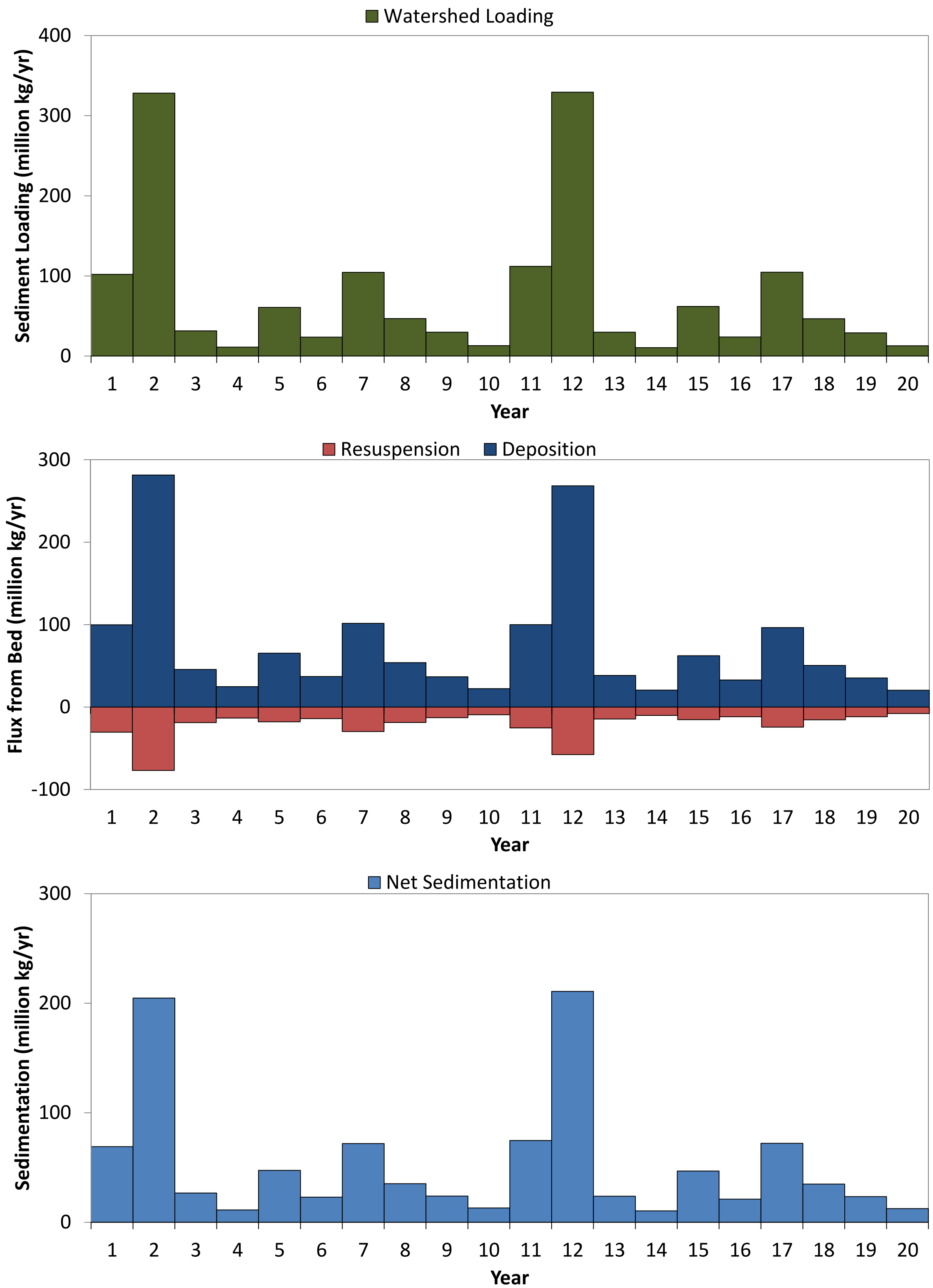


Figure 4.2a Greater Harbor Annual Watershed and Sediment Bed Loadings - Sediment

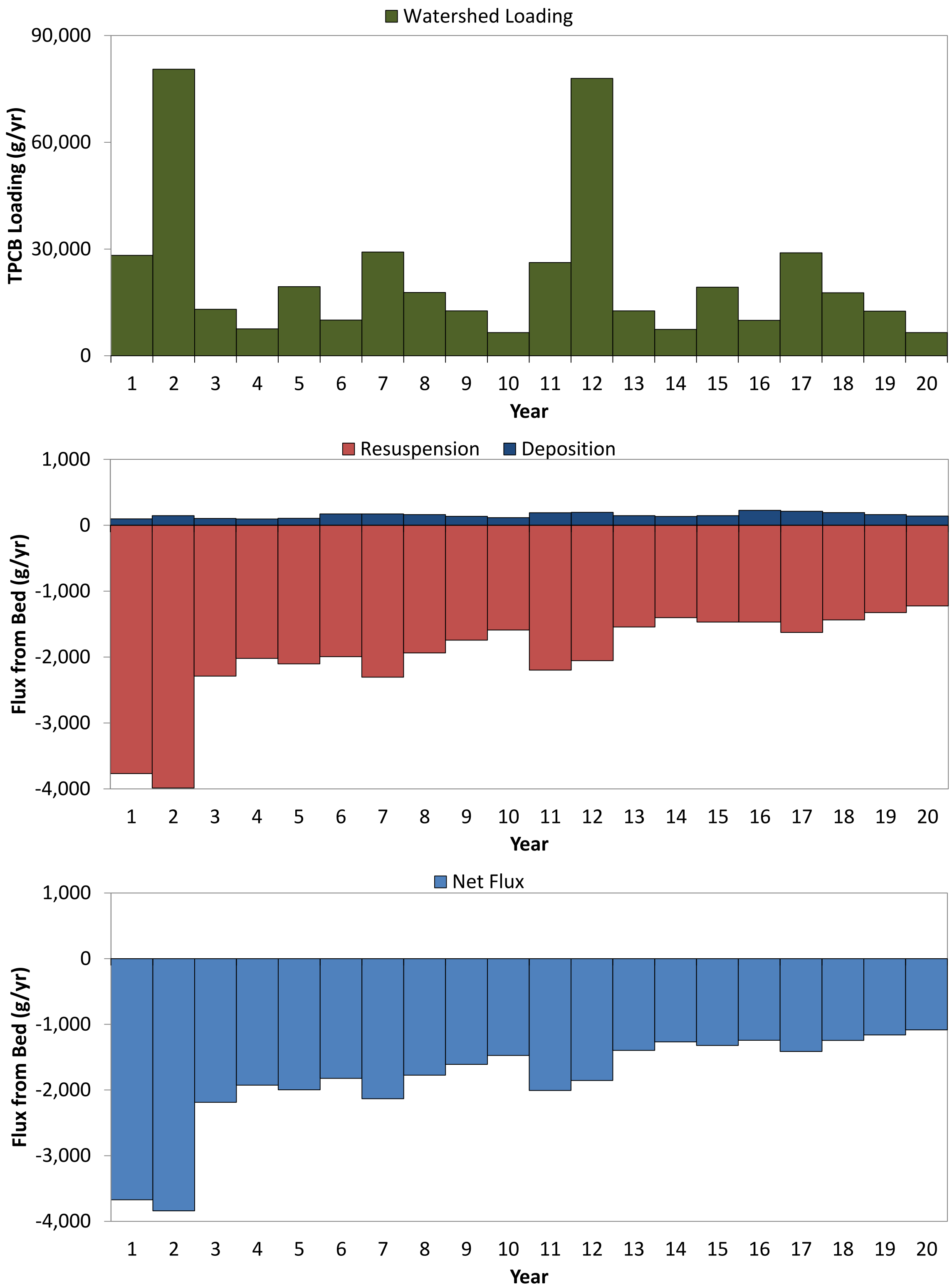


Figure 4.2b Greater Harbor Annual Watershed and Sediment Bed Loadings - TPCB

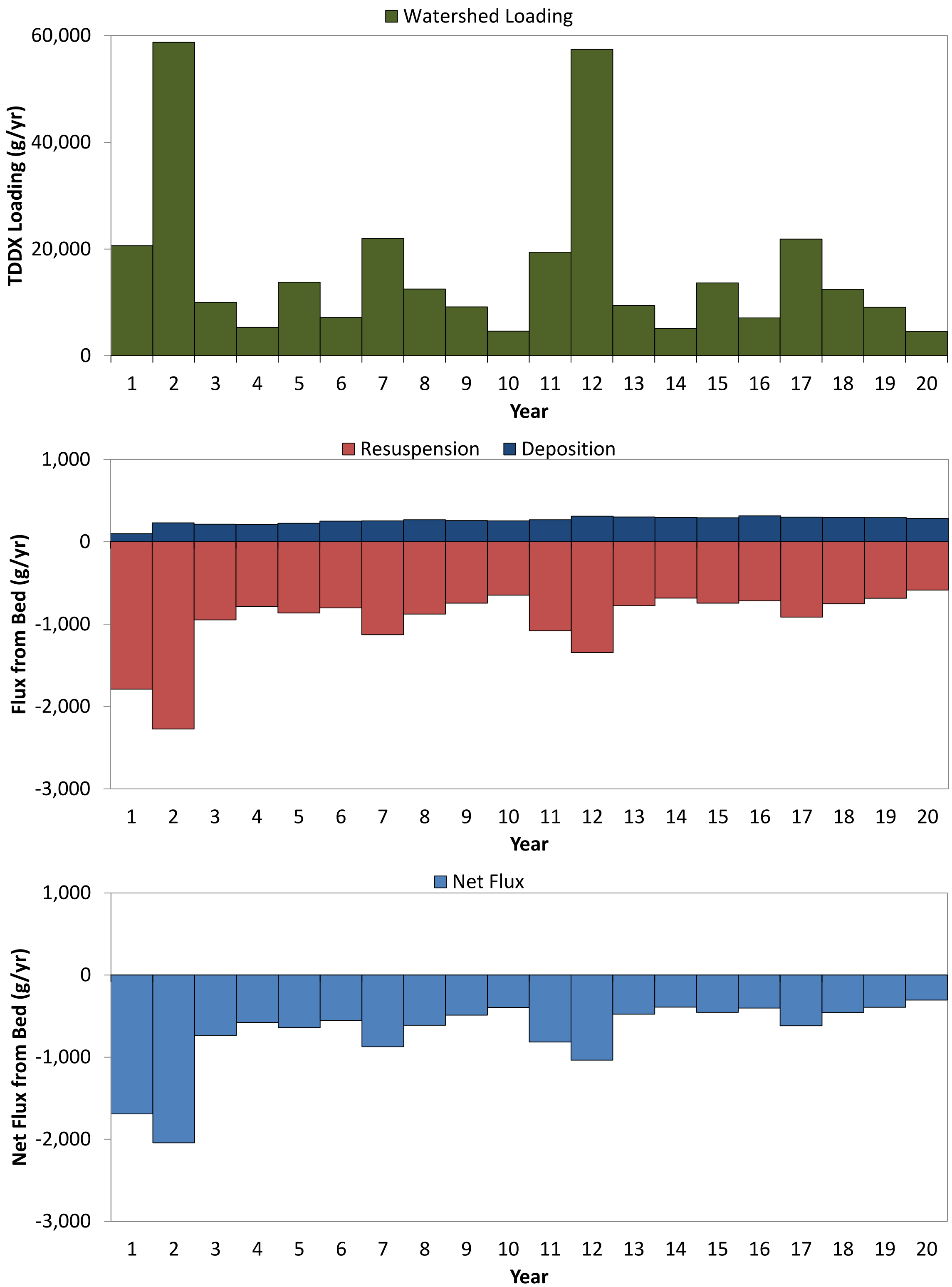


Figure 4.2c Greater Harbor Annual Watershed and Sediment Bed Loadings - TDDX

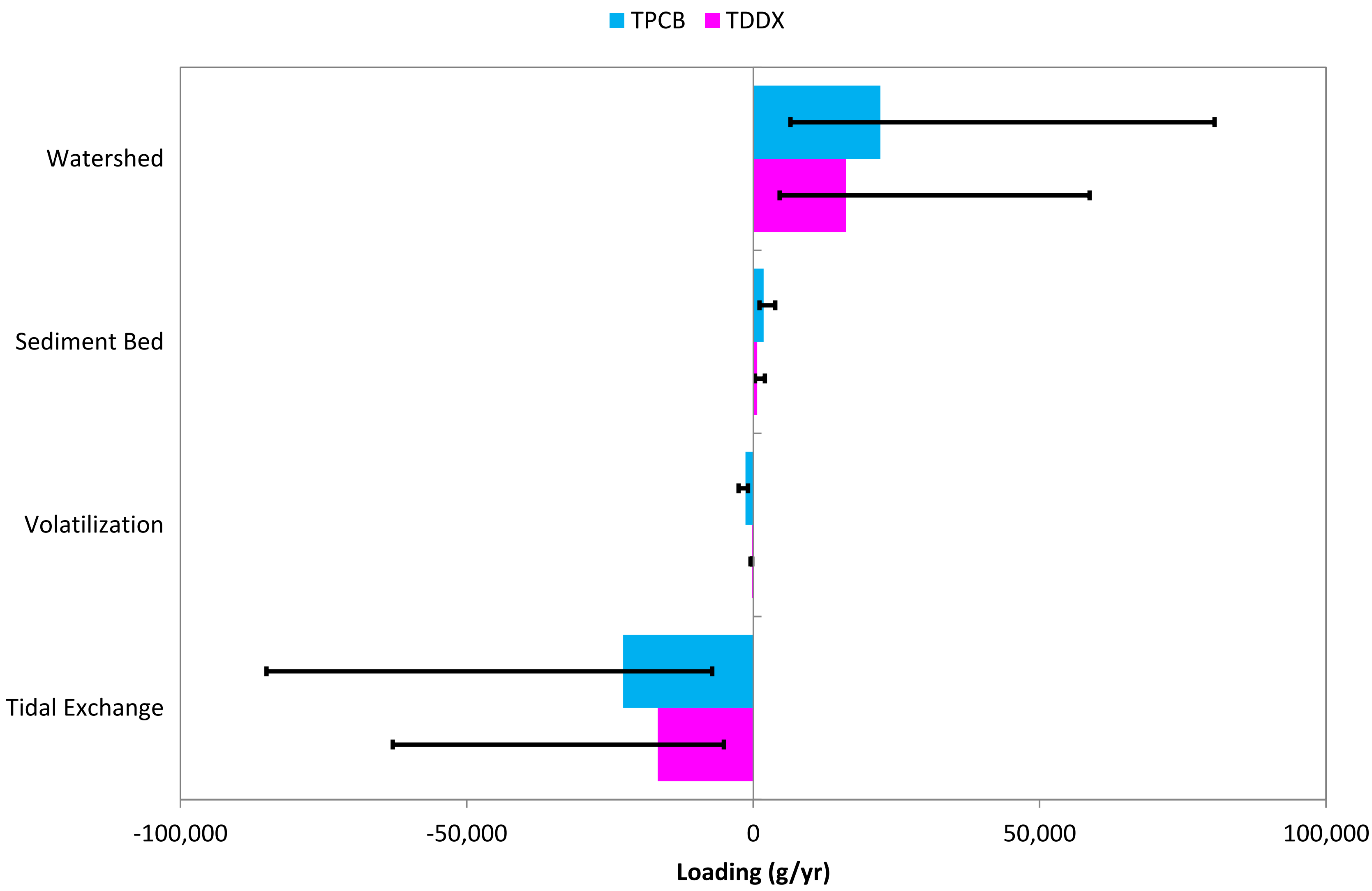


Figure 4.3 Baseline Scenario Greater Harbor Sources and Sinks

4.1.2 Fish Movement Zones

For linkage to the Bioaccumulation Model, the water and sediment bed organics concentrations were averaged over each fish movement zone. TPCB and TDDX concentrations for the Baseline Scenario are provided in Figures 4.4a-l and Figures 4.5a-l, respectively. In each figure, the water column and sediment bed concentrations are shown in the top and bottom panels, respectively. The vertical scale varies for the different fish movement zones, to help illustrate the fluctuations in concentrations which occur in each zone. Water column concentrations (top panel) are shown as the daily, depth-averaged particulate concentrations normalized to organic carbon. Sediment bed concentrations (lower panel) are shown as the daily total concentrations normalized to organic carbon for the top 5 cm of the sediment bed. These particulate water and bed concentrations, as normalized to organic carbon, best correlate with fish tissue concentrations.

In general, fluctuations in water column concentrations correspond to watershed loadings and resuspension from the sediment bed, which increase due to erosion during rain events. For both TPCB and TDDX, the highest water column concentrations are observed closest to the river discharges at the DC and LAR Estuaries. Further downstream, high water column concentrations are also apparent in the CS and Eastern San Pedro Bay, which indicate transport from the DC Estuary and LAR Estuary, respectively. Similarly, the largest declines in sediment bed concentrations corresponded to the highest depositional areas in the CS and LAR Estuary, which are the primary depositional areas for discharges from the DC and LAR, respectively.

The annual average concentrations determined based on the daily concentrations was used to compare the water and bed concentrations between fish movement zones. A comparison of annual TPCB concentrations in the fish movement zones is shown in Figure 4.6. The top panel shows the fish movement zones, which correspond to the colored lines of the annual concentrations in the middle and bottom panels. The annual water concentrations are shown in the middle panel, and the annual bed concentrations in the bottom panel. Comparison of the annual water concentrations shows that the highest concentrations are found in the DC Estuary, followed by the CS and LAR Estuary. The largest watershed loadings are from the LAR, but the highest water concentrations occur in the DC Estuary. This is primarily due to differences in bed concentrations that are resuspended and contribute to water concentrations. The sediment bed of the DC Estuary has higher organics concentrations compared with those of the bed along the LAR. As previously provided in Table 3.5, the DC Estuary bed has an average TPCB concentration of 438 ug/kg, as compared with 104 ug/kg in the LAR Estuary and 127.8 ug/kg in the bed along the LAR, which is upstream of the LAR Estuary. Hence, the resuspension from the DC Estuary bed is significantly higher than resuspension from the bed at the LAR and LAR Estuary. Water concentrations in the DC Estuary decline over time due to the declining sediment bed concentrations. Water concentrations in the LAR Estuary are relatively stable since the primary source is from watershed loadings. Comparison of the annual bed concentrations shows the highest concentrations in the CS and the sharpest declines in the CS, followed by the LAR Estuary. Bed concentrations in the DC Estuary show occasional increases that coincide with significant rain events, and are followed by more gradual declines in concentration. In the other fish movement zones, the water and bed concentrations show less fluctuation than at the DC Estuary, CS, and LAR Estuary.

Comparisons of annual TDDX concentrations in the fish movement zones are provided in Figure 4.7. Trends in the annual water and bed concentrations are similar to those of TPCB, with the highest concentrations occurring in the DC Estuary and CS. Similarly, the water concentrations are higher in the DC Estuary than the LAR due differences in bed concentrations in those areas. The DC Estuary has an average TDDX bed concentration of 222 ug/kg, while the LAR and LAR Estuary have concentrations of 46.0 ug/kg and 24.4 ug/kg, respectively. In the other fish movement zones, water and bed concentrations show less fluctuation than at the DC Estuary, CS, and LAR Estuary.

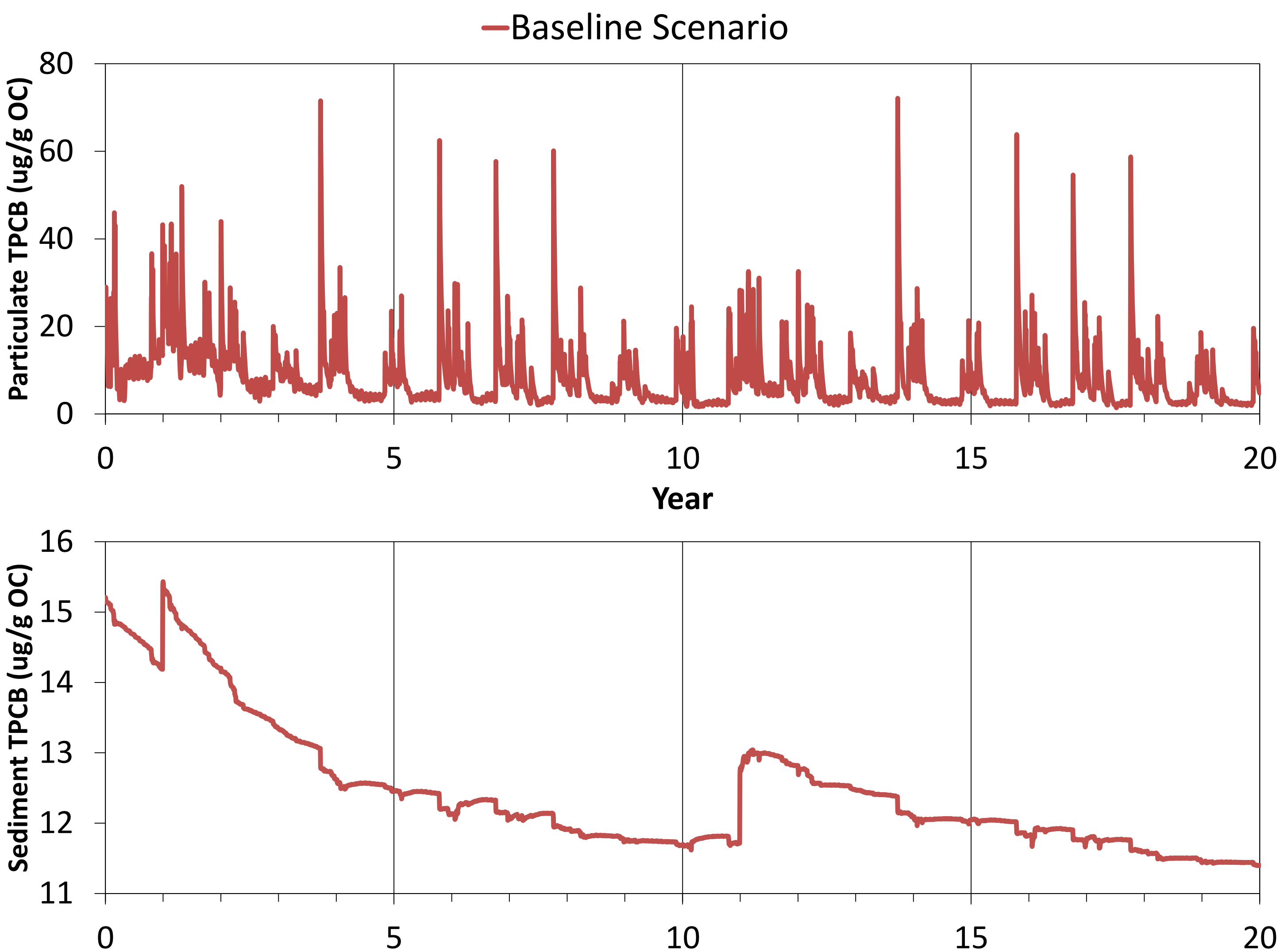


Figure 4.4a Baseline Scenario TPCB Concentrations - Dominguez Channel Estuary

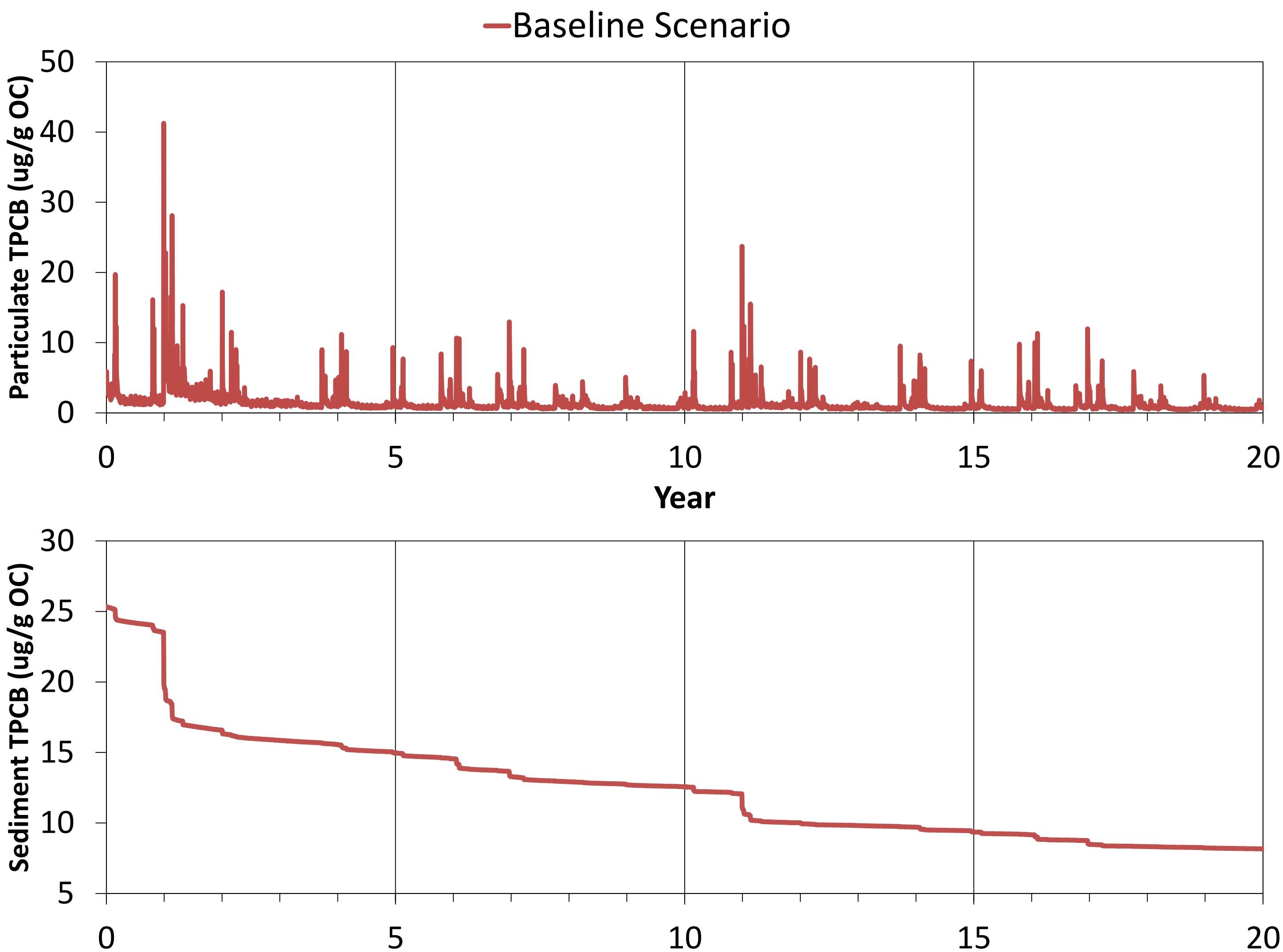


Figure 4.4b Baseline Scenario TPCB Concentrations - Consolidated Slip

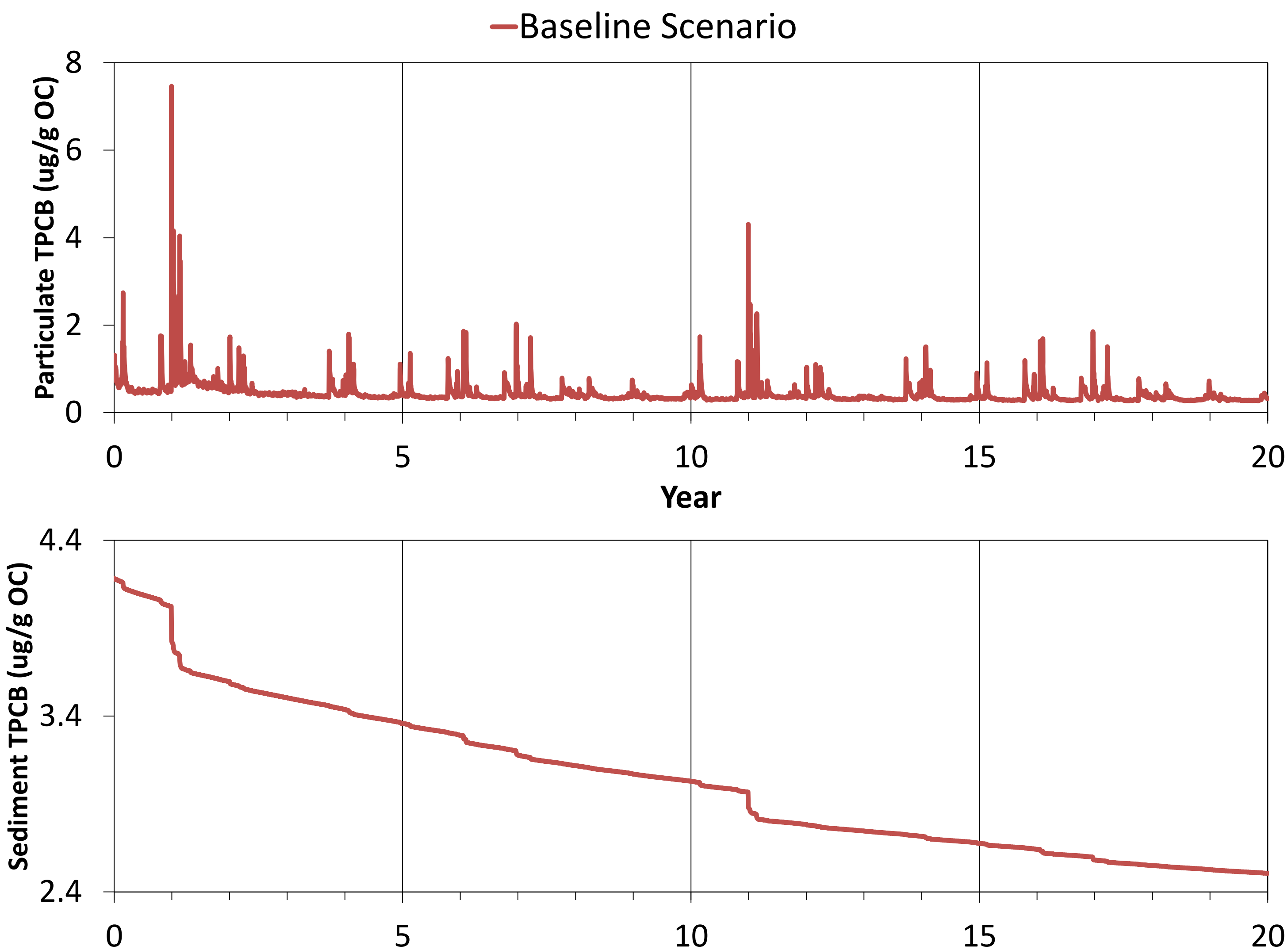


Figure 4.4c Baseline Scenario TPCB Concentrations - LA Inner Harbor

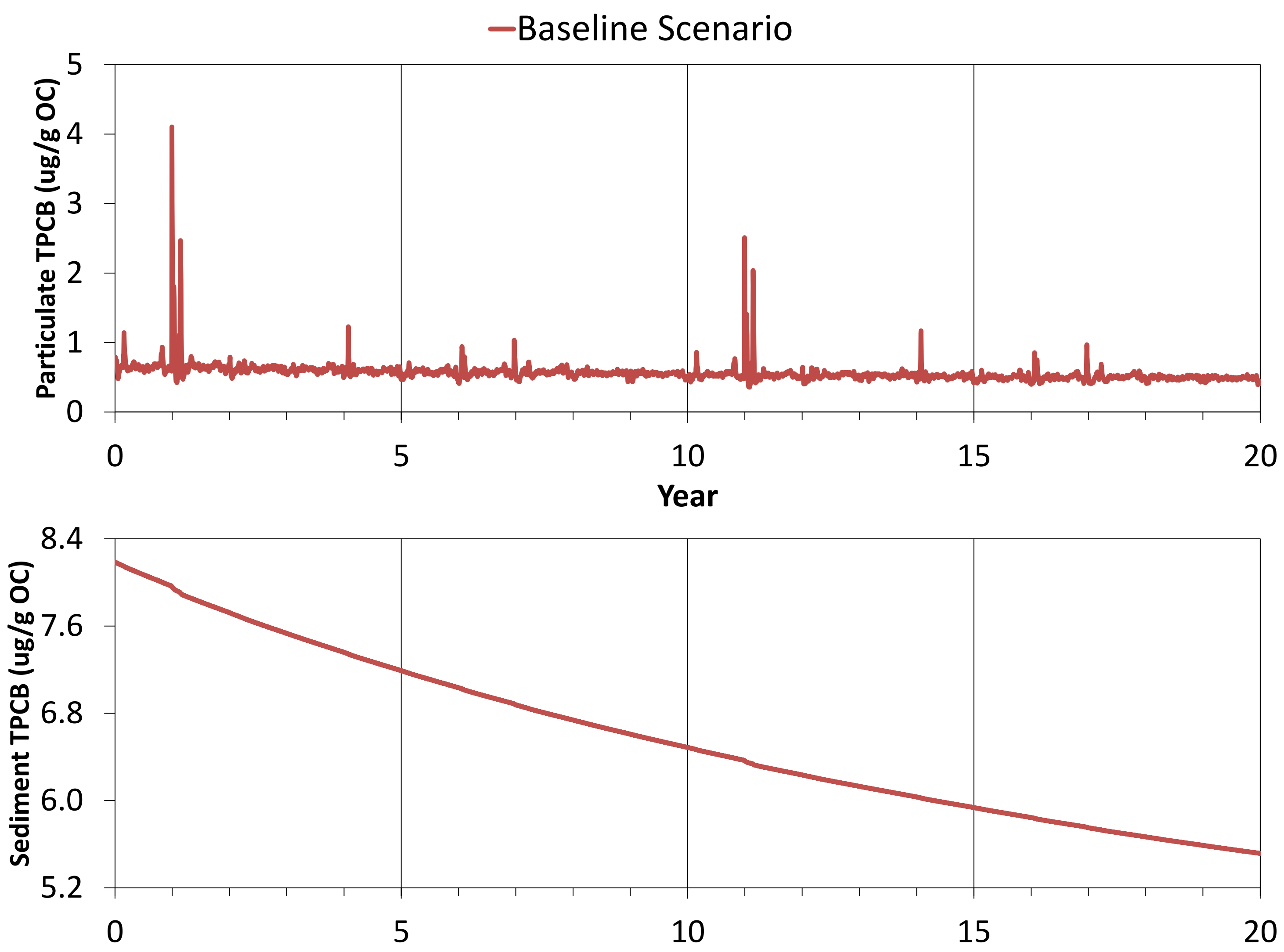


Figure 4.4d Baseline Scenario TPCB Concentrations - Fish Harbor

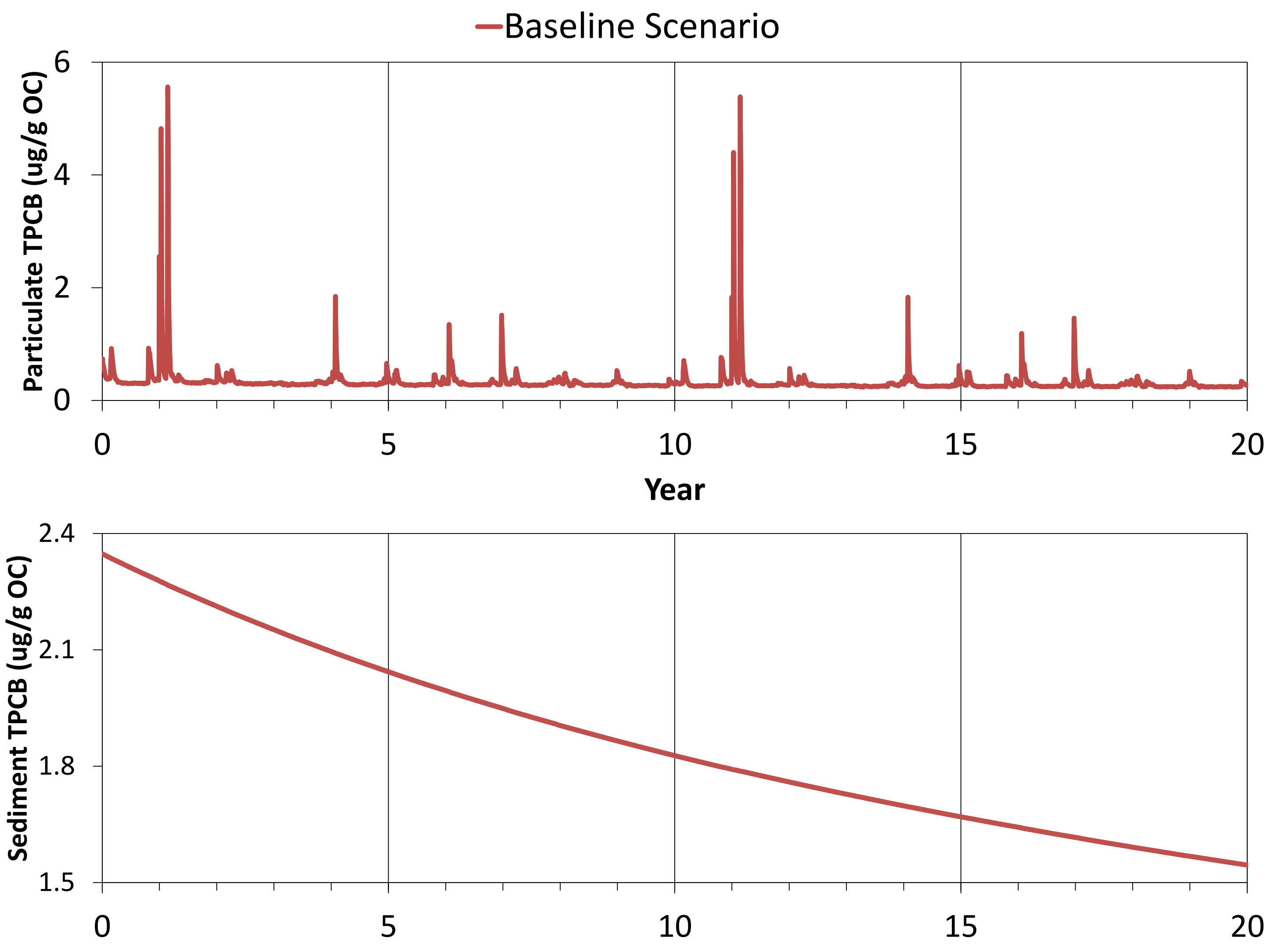


Figure 4.4e Baseline Scenario TPCB Concentrations - Seaplane Lagoon

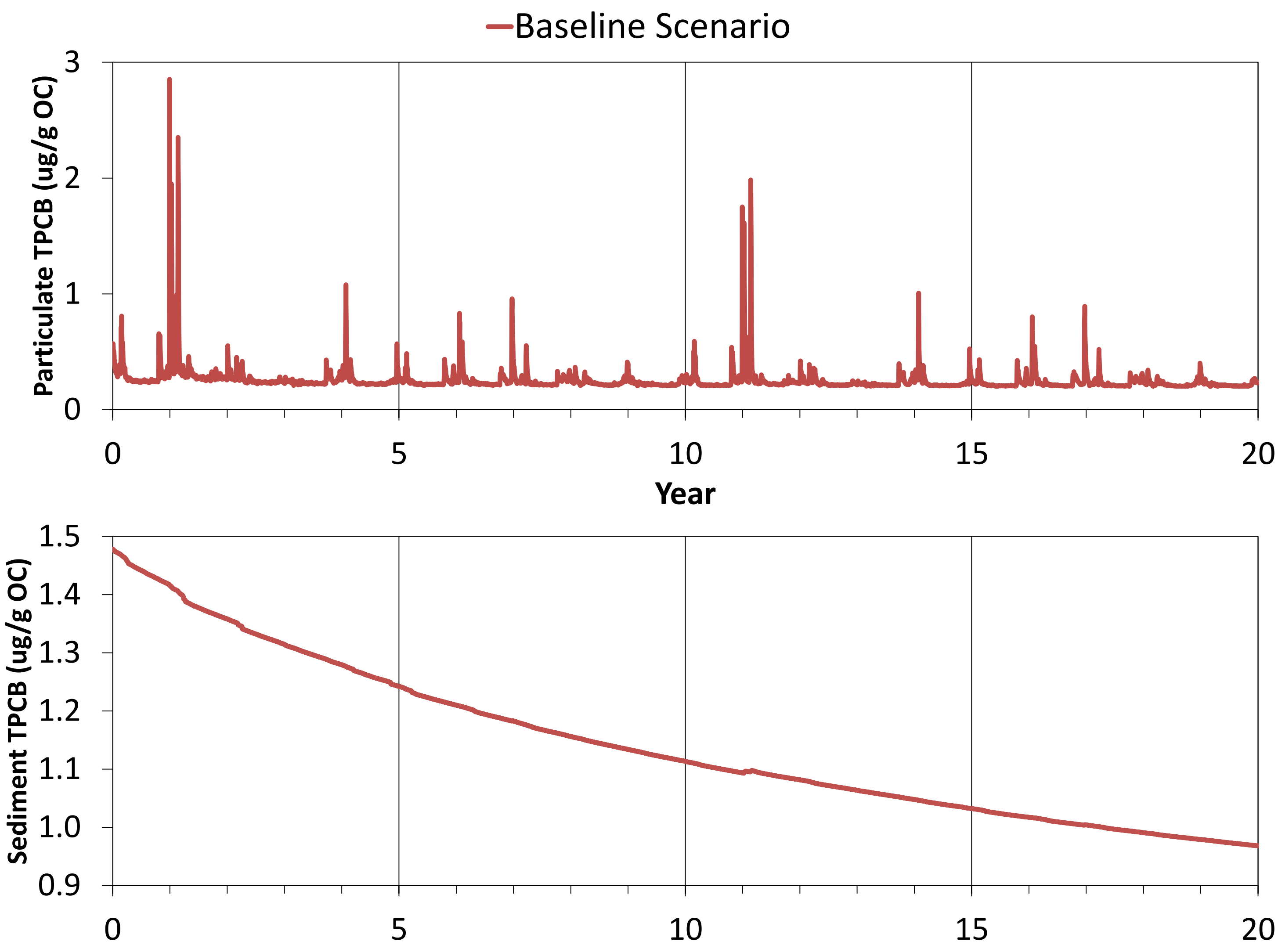


Figure 4.4f Baseline Scenario TPCB Concentrations - LA Outer Harbor

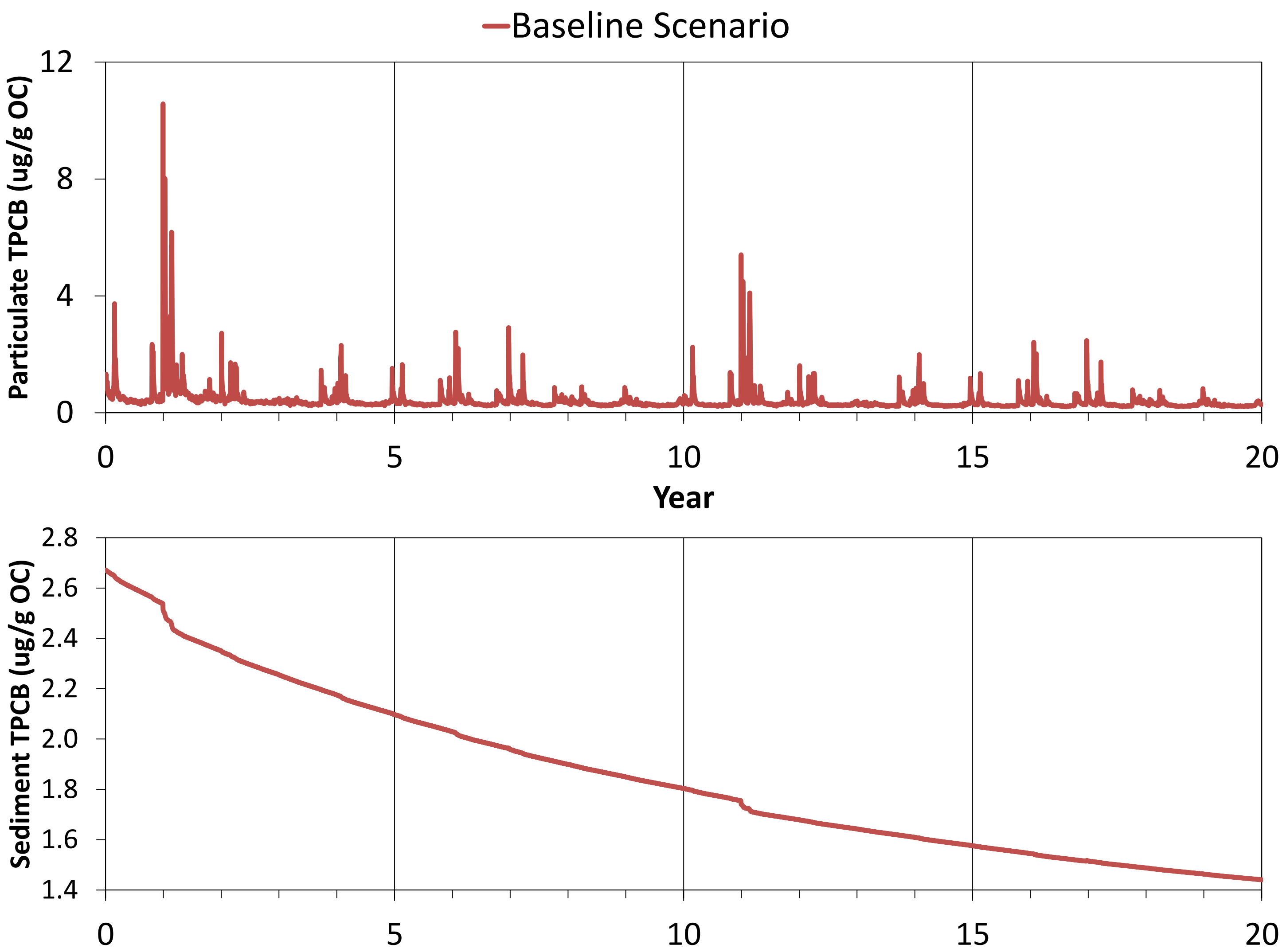


Figure 4.4g Baseline Scenario TPCB Concentrations - LB Inner Harbor North

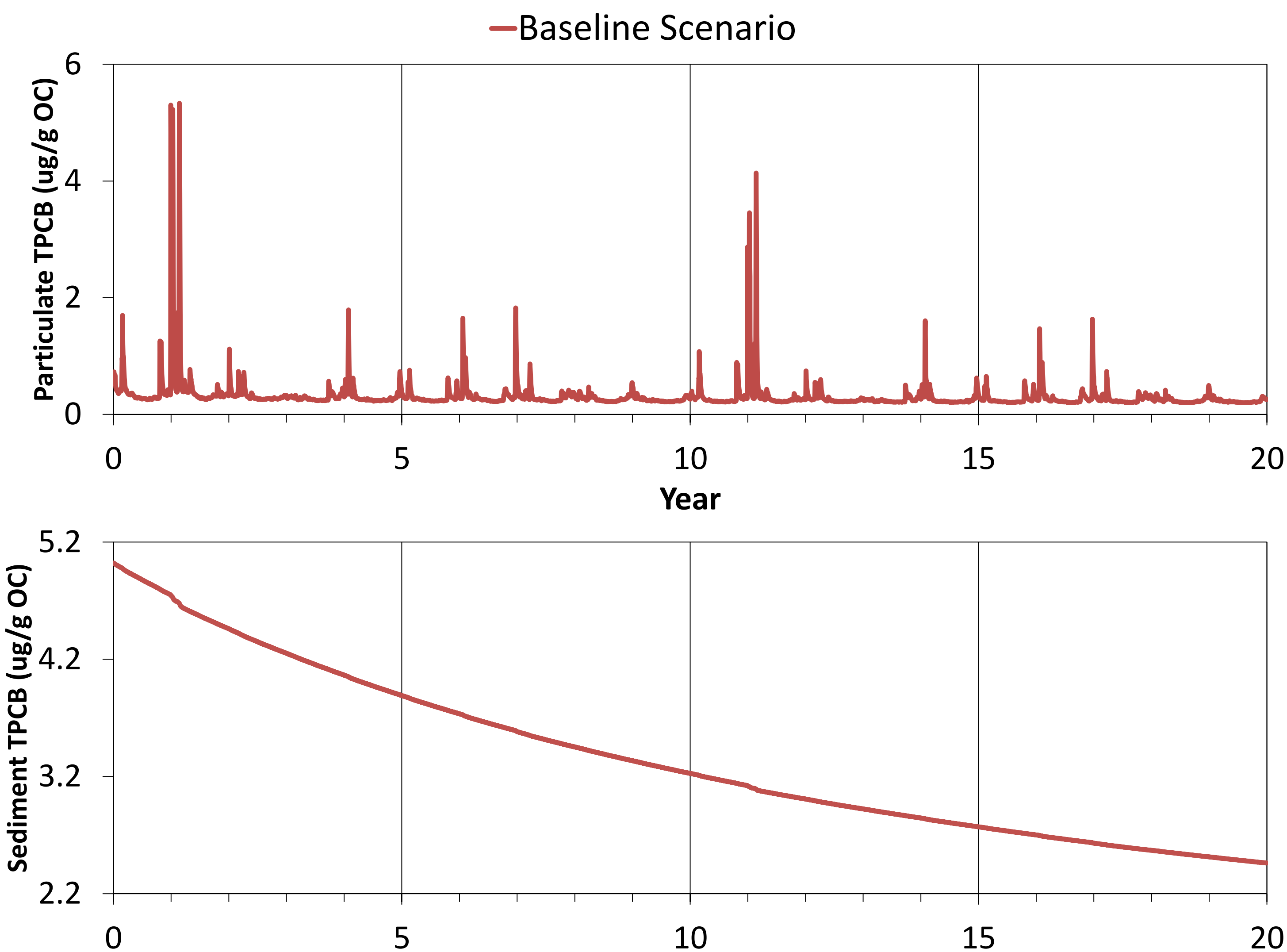


Figure 4.4h Baseline Scenario TPCB Concentrations - LB Inner Harbor South

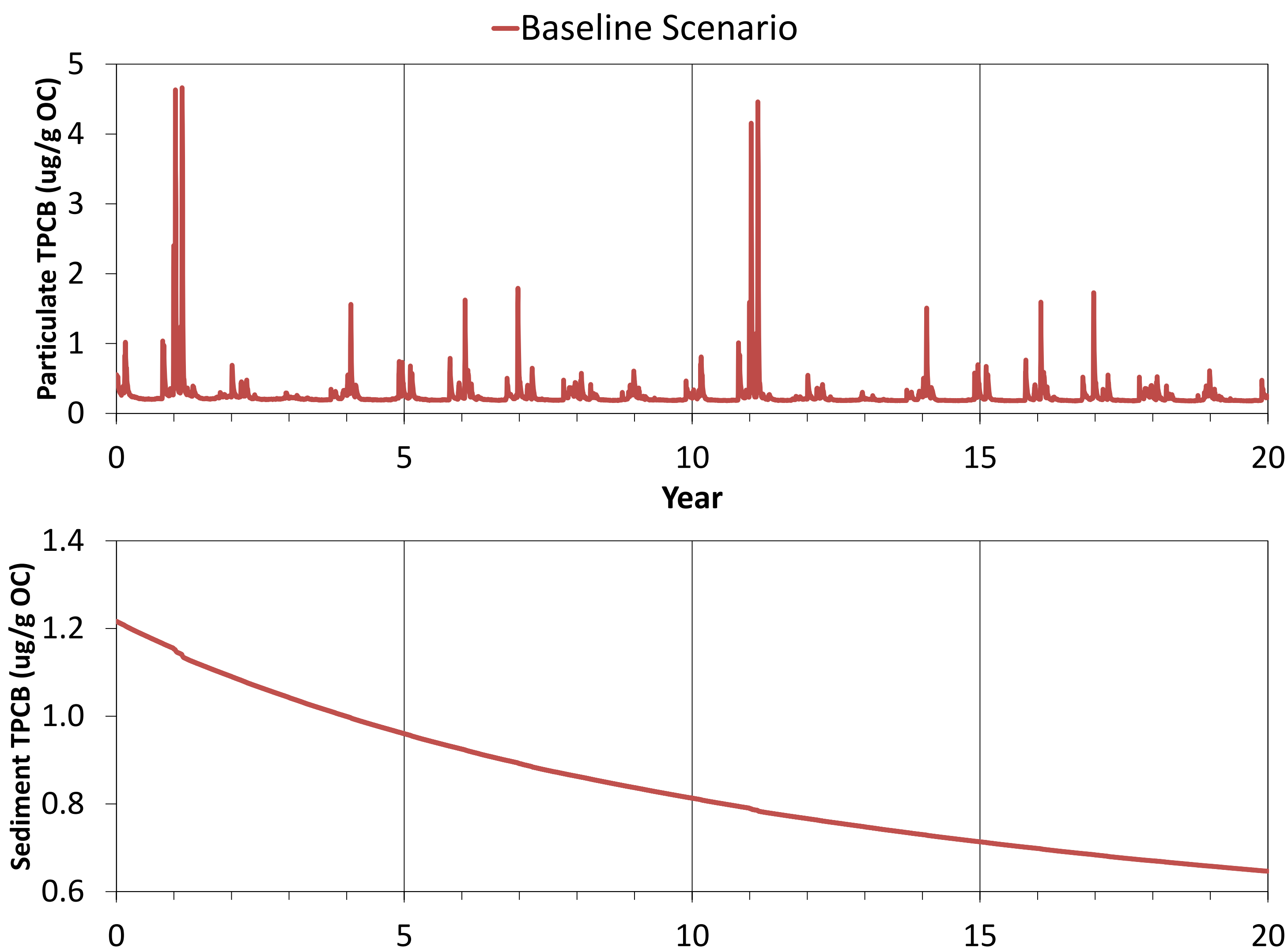


Figure 4.4i Baseline Scenario TPCB Concentrations - LB Outer Harbor

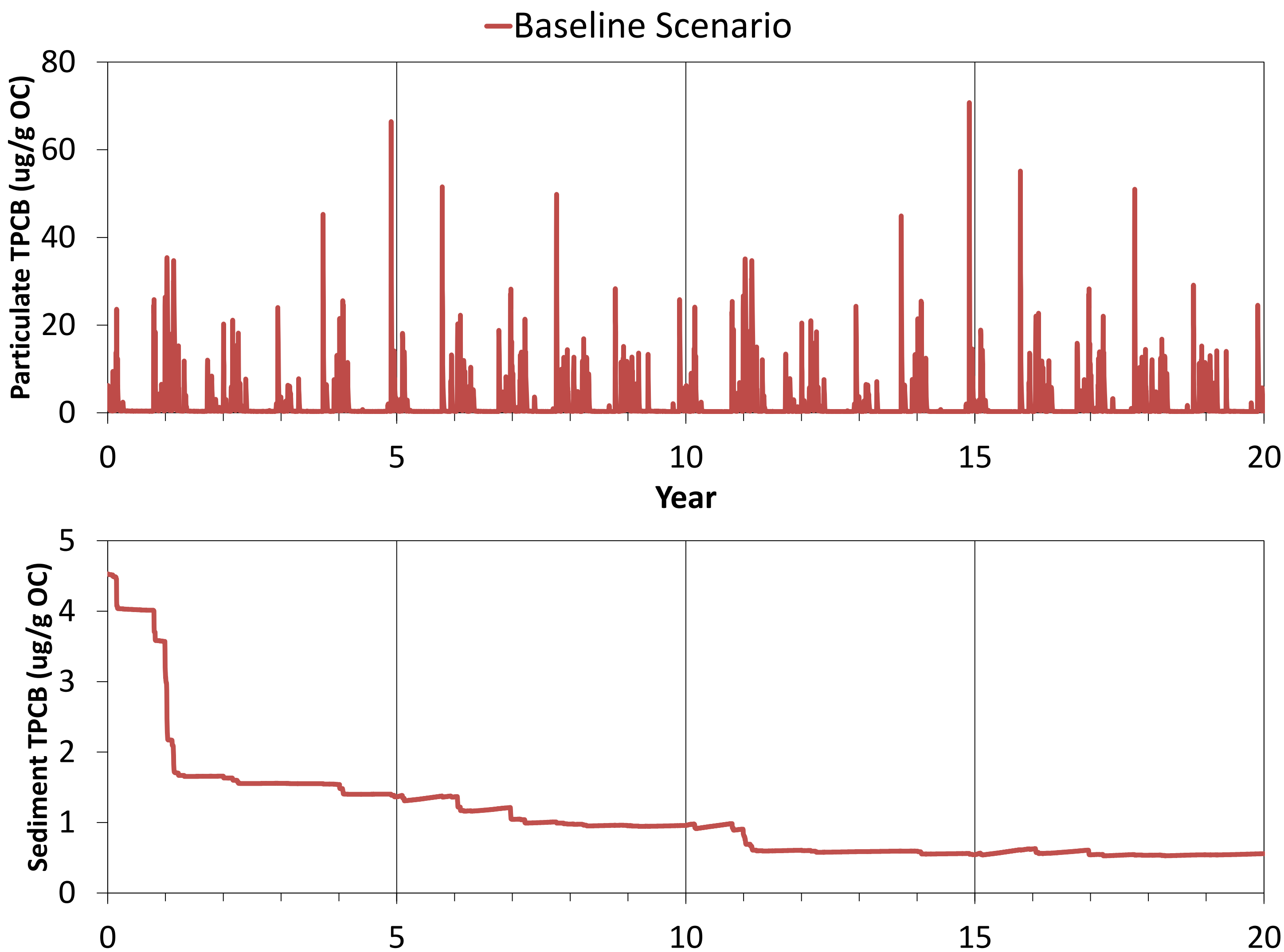


Figure 4.4j Baseline Scenario TPCB Concentrations - Los Angeles River Estuary

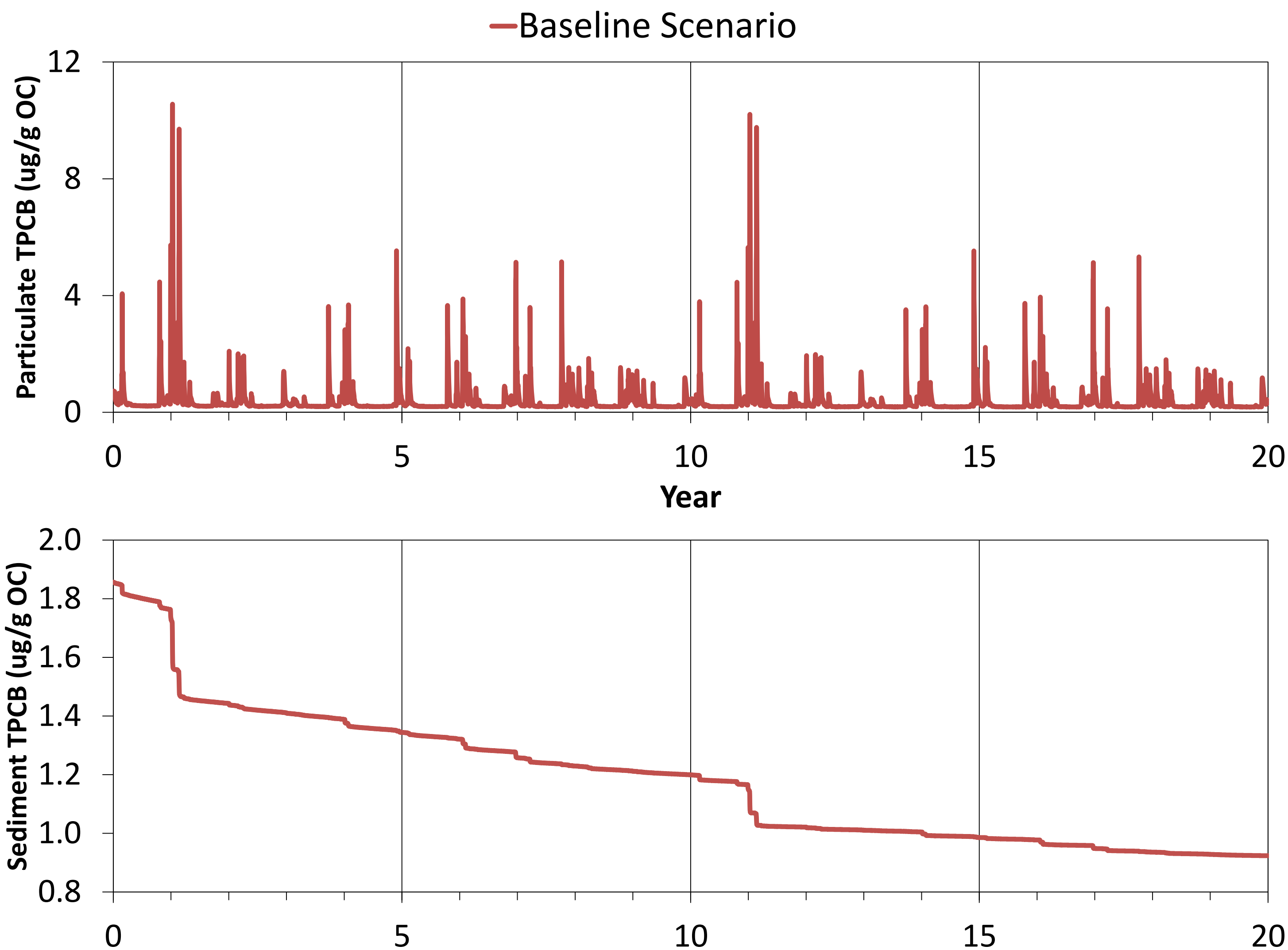


Figure 4.4k Baseline Scenario TPCB Concentrations - Eastern San Pedro Bay

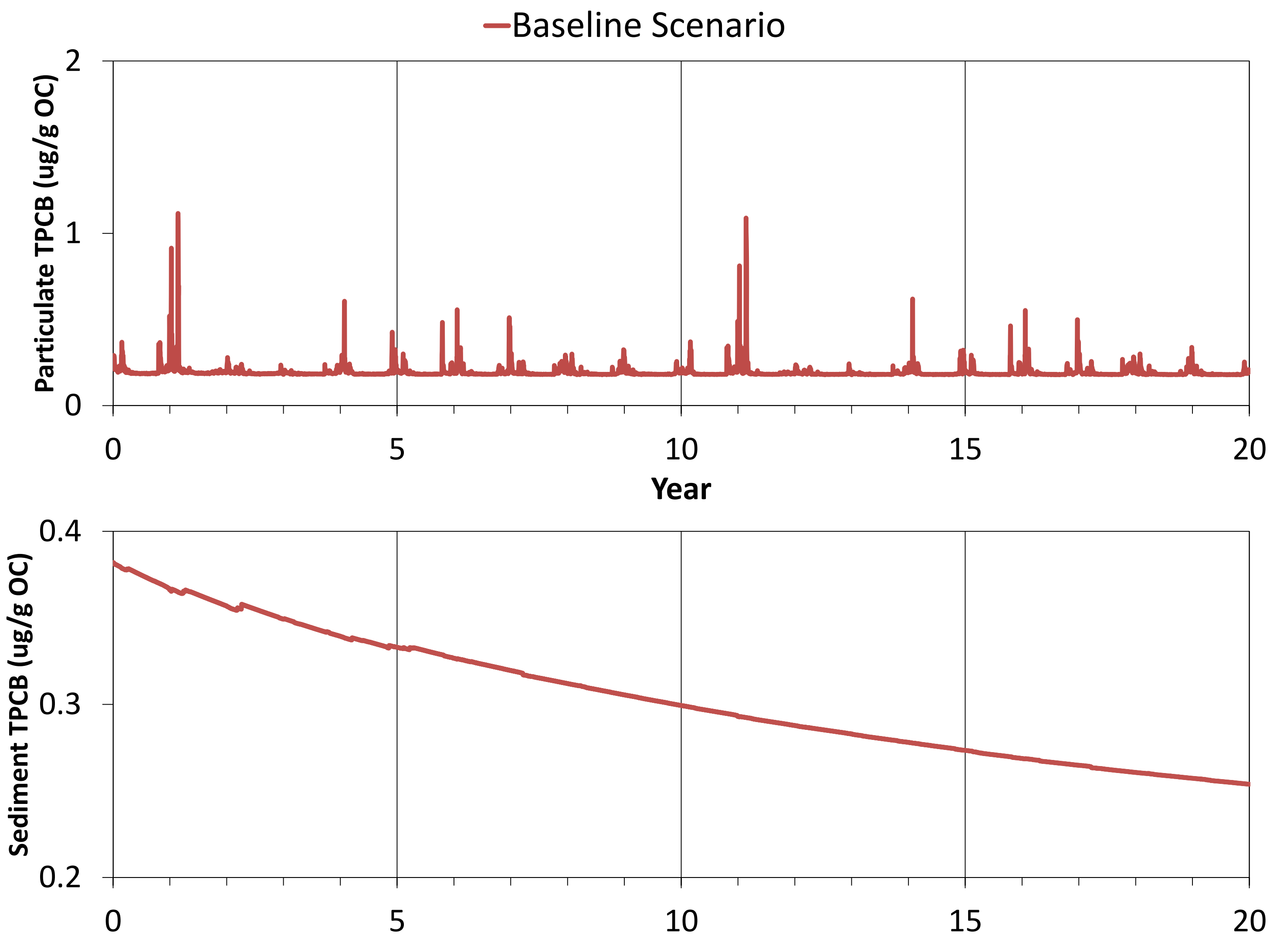


Figure 4.4l Baseline Scenario TPCB Concentrations - Outside Harbor Exposure Area

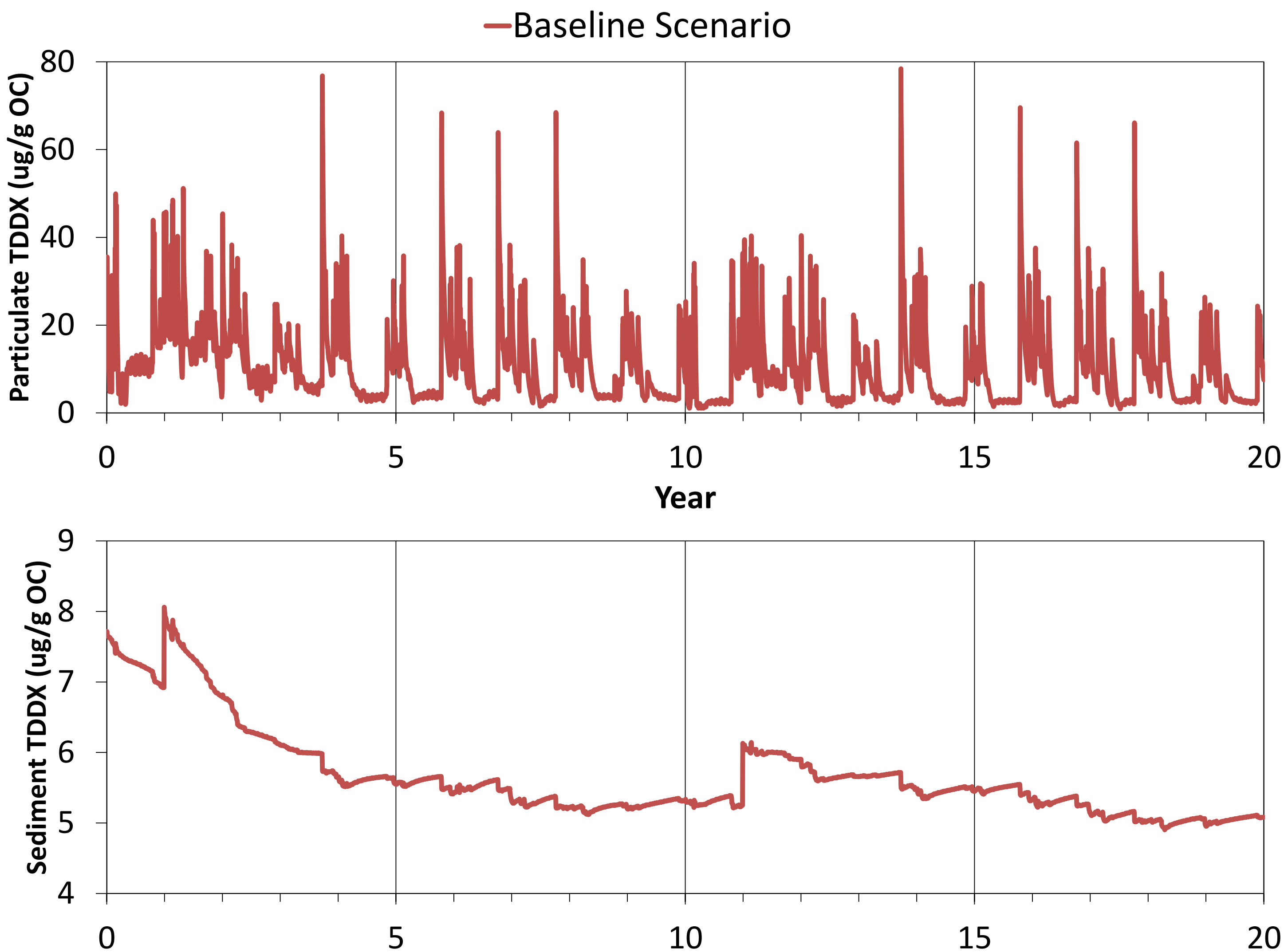


Figure 4.5a Baseline Scenario TDDX Concentrations - Dominguez Channel Estuary

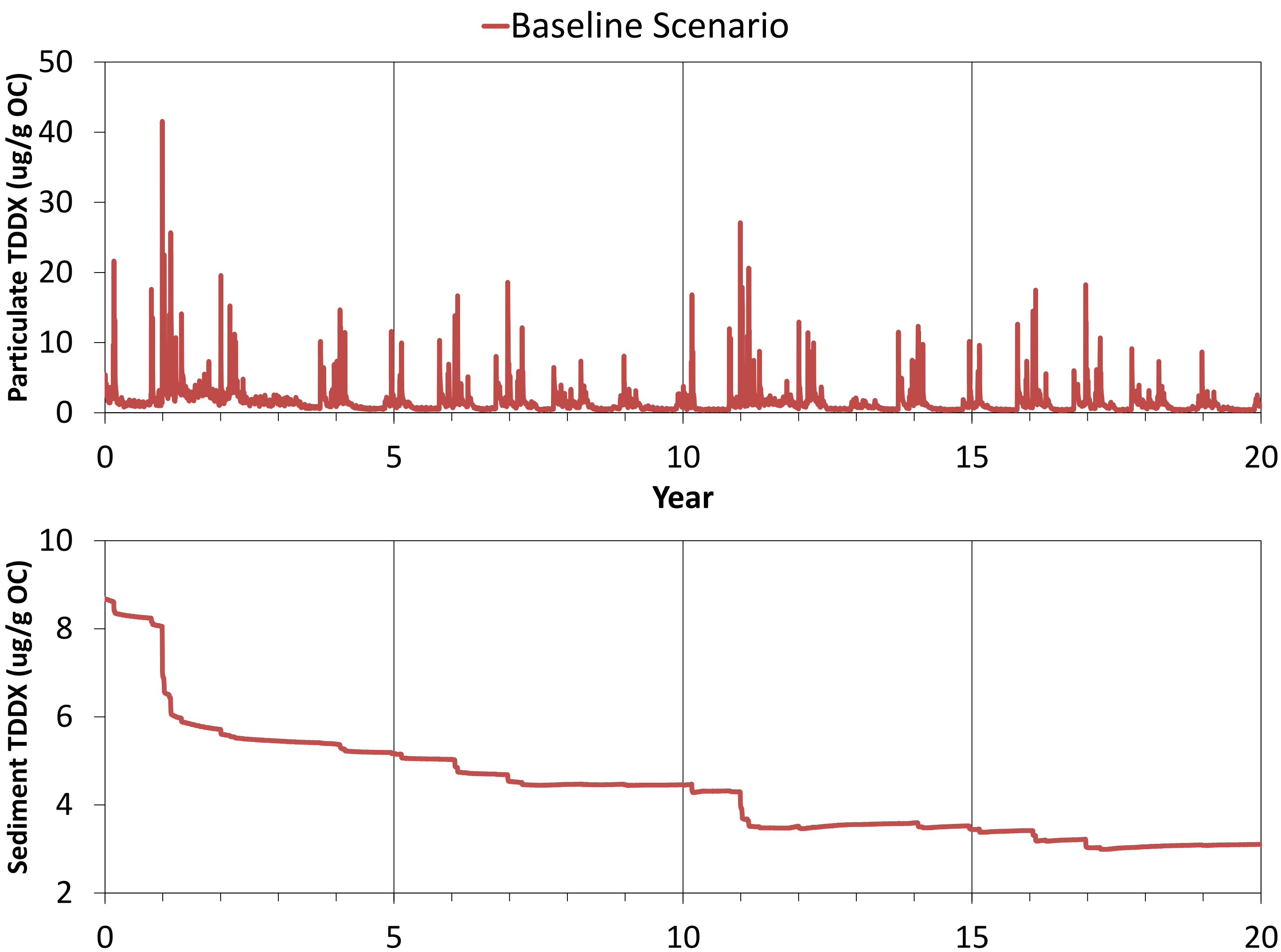


Figure 4.5b Baseline Scenario TDDX Concentrations - Consolidated Slip

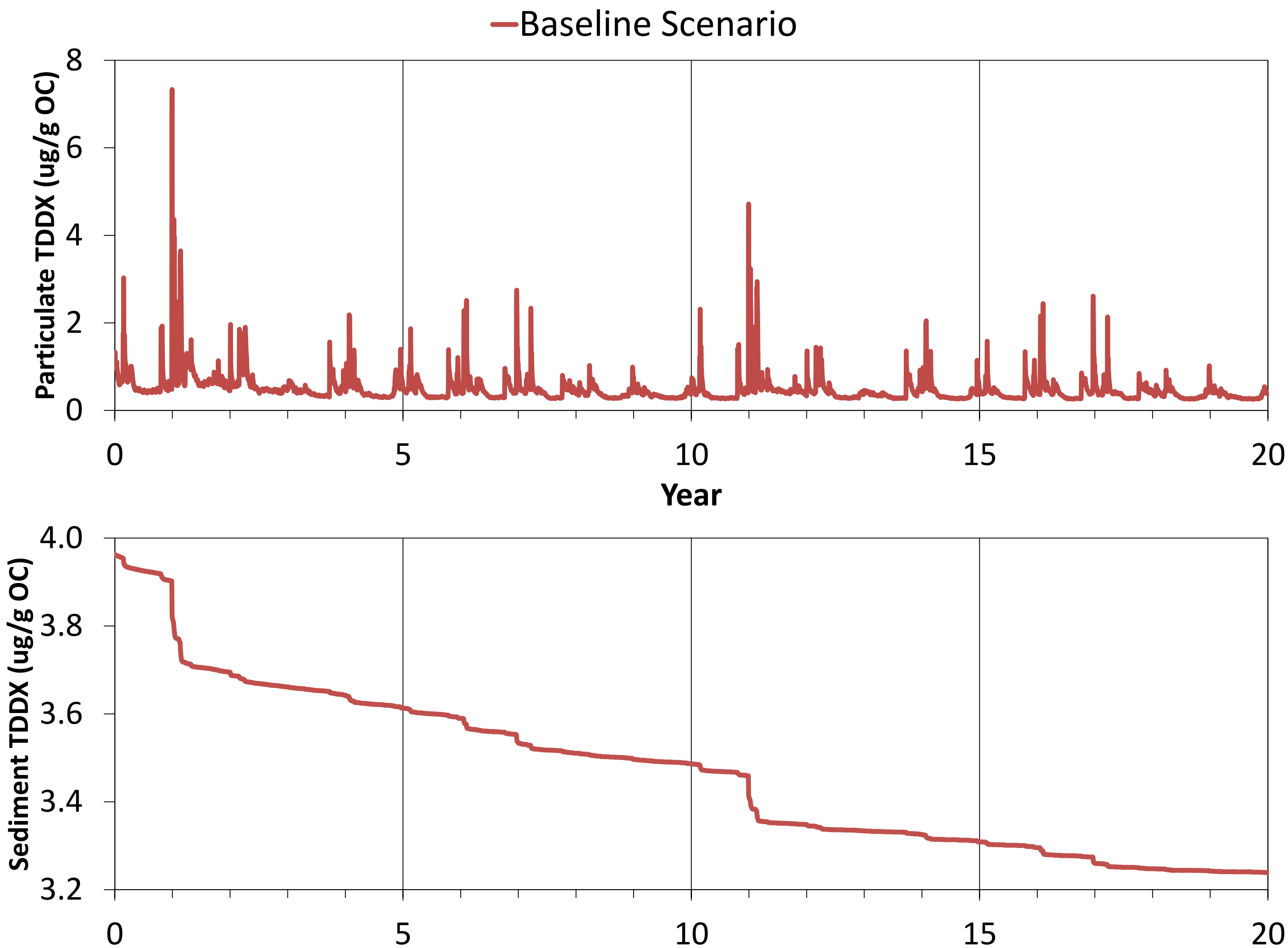


Figure 4.5c Baseline Scenario TDDX Concentrations - LA Inner Harbor

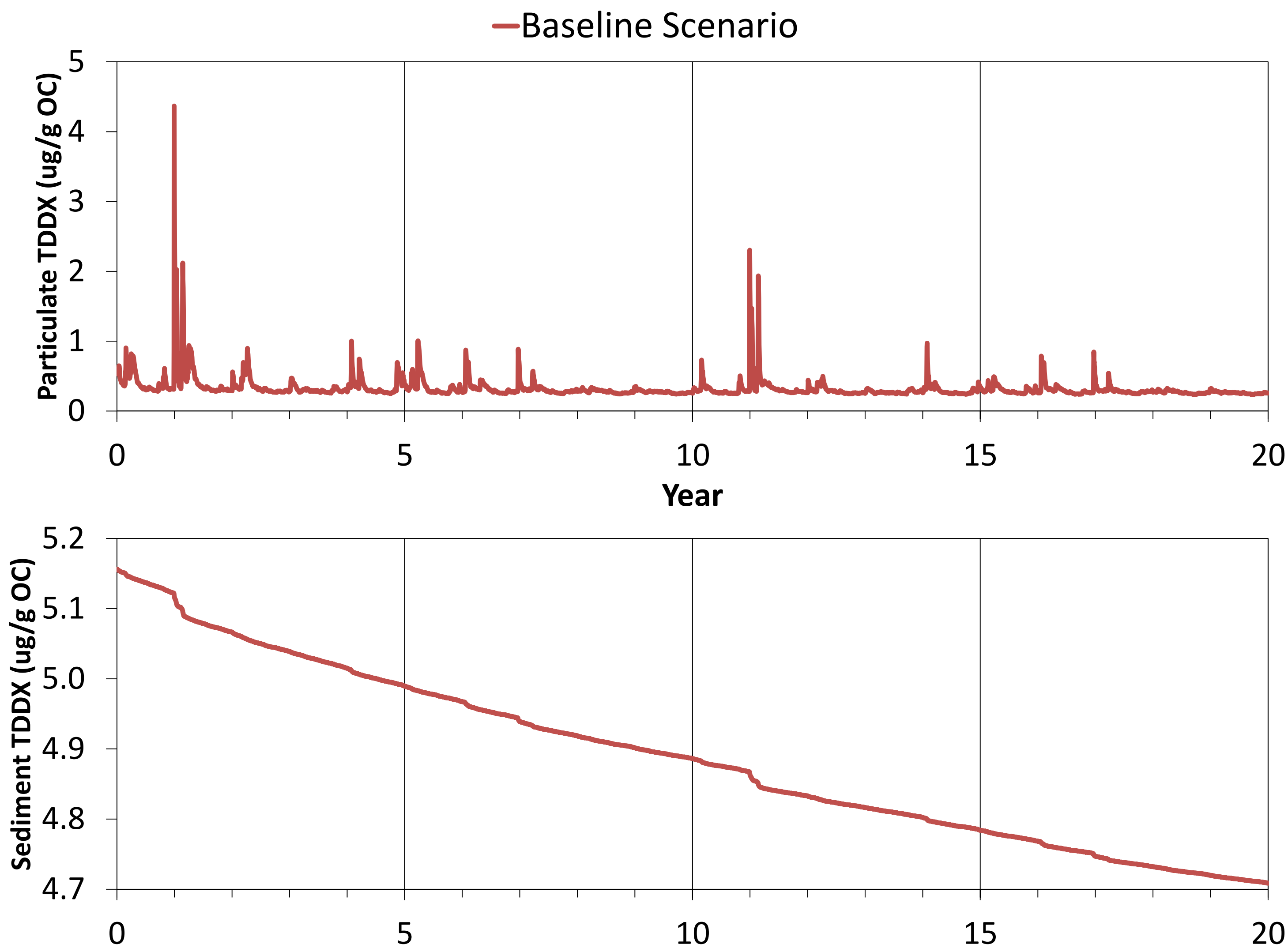


Figure 4.5d Baseline Scenario TDDX Concentrations - Fish Harbor

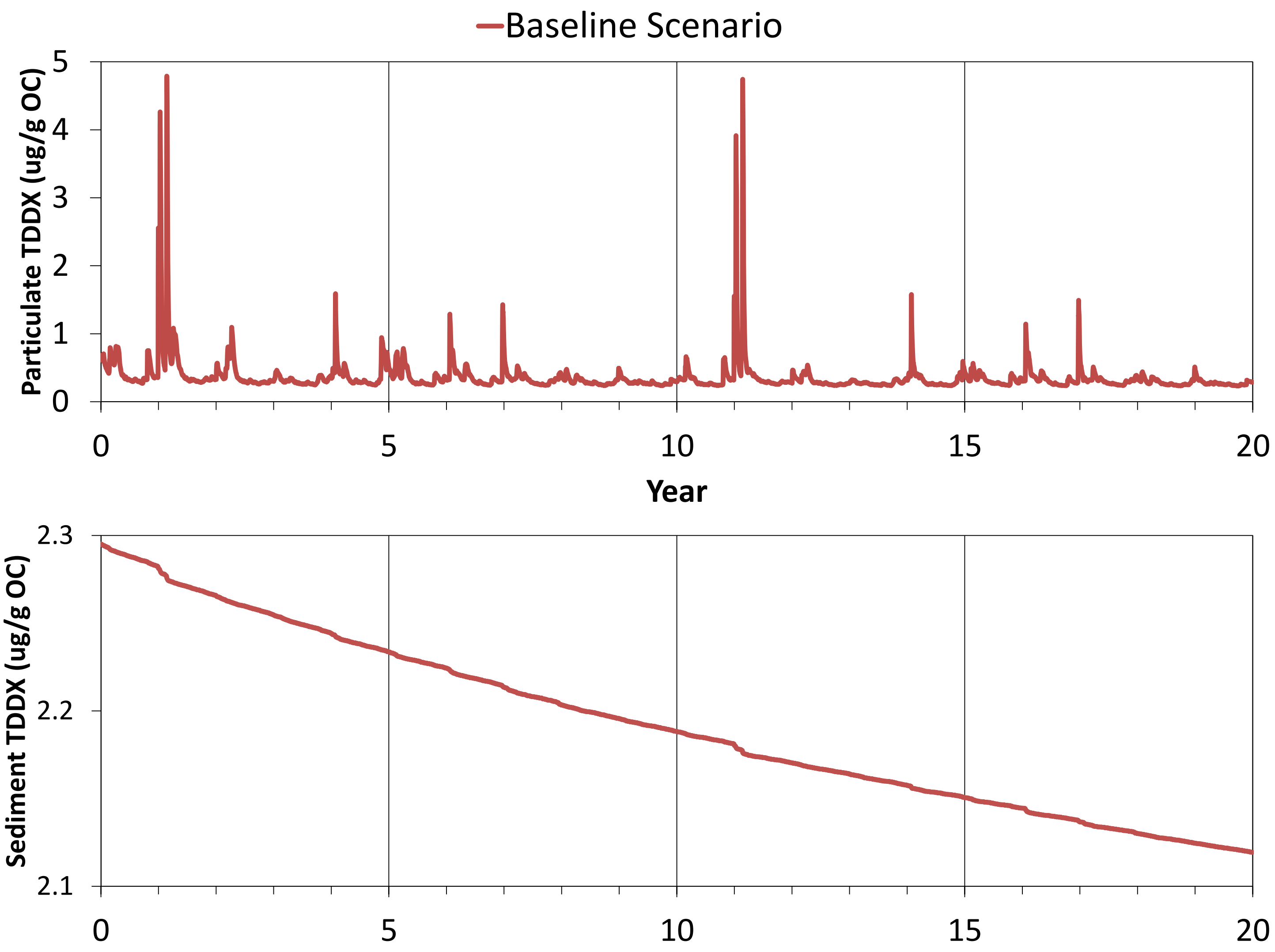


Figure 4.5e Baseline Scenario TDDX Concentrations - Seaplane Lagoon

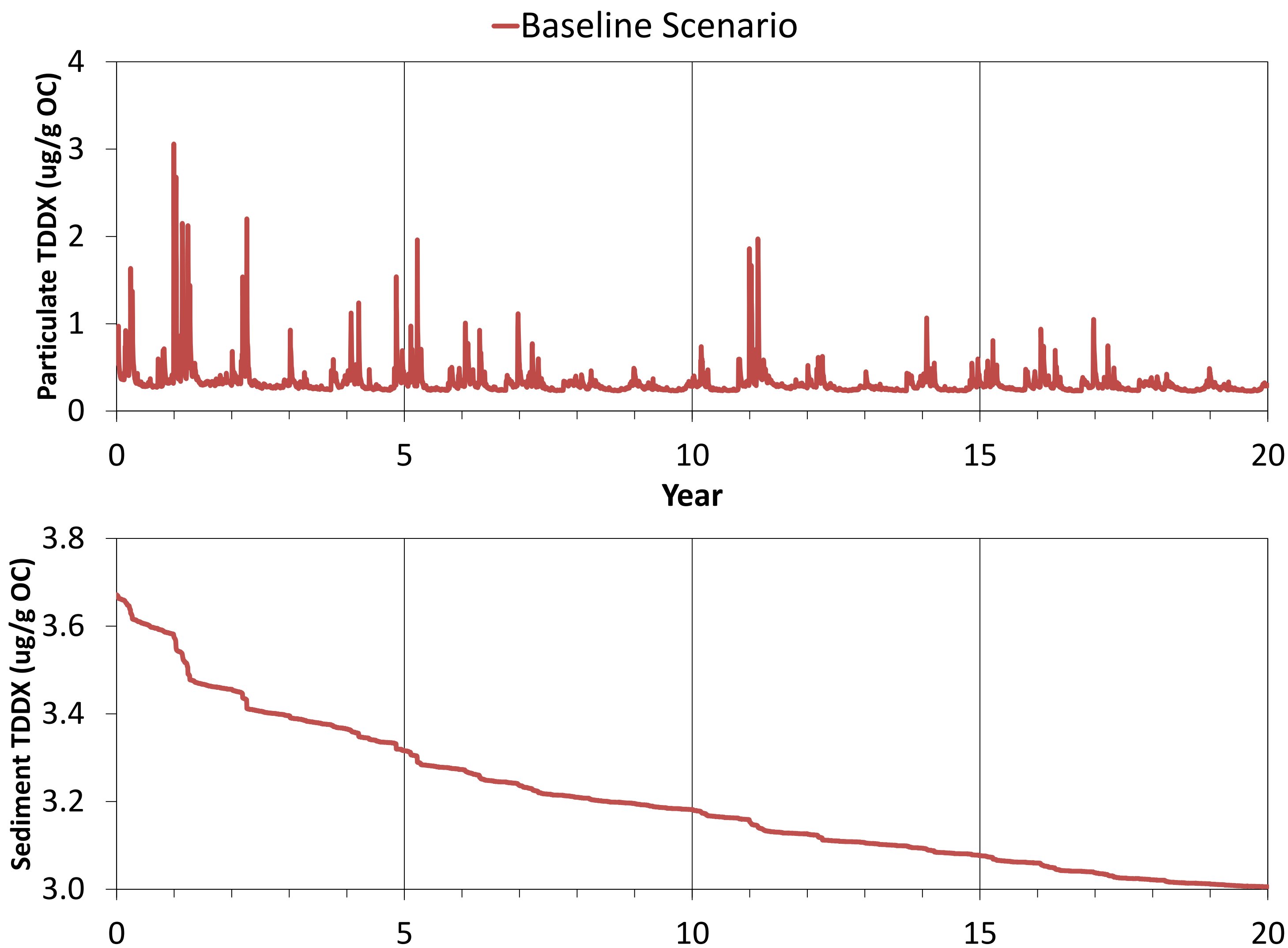


Figure 4.5f Baseline Scenario TDDX Concentrations - LA Outer Harbor

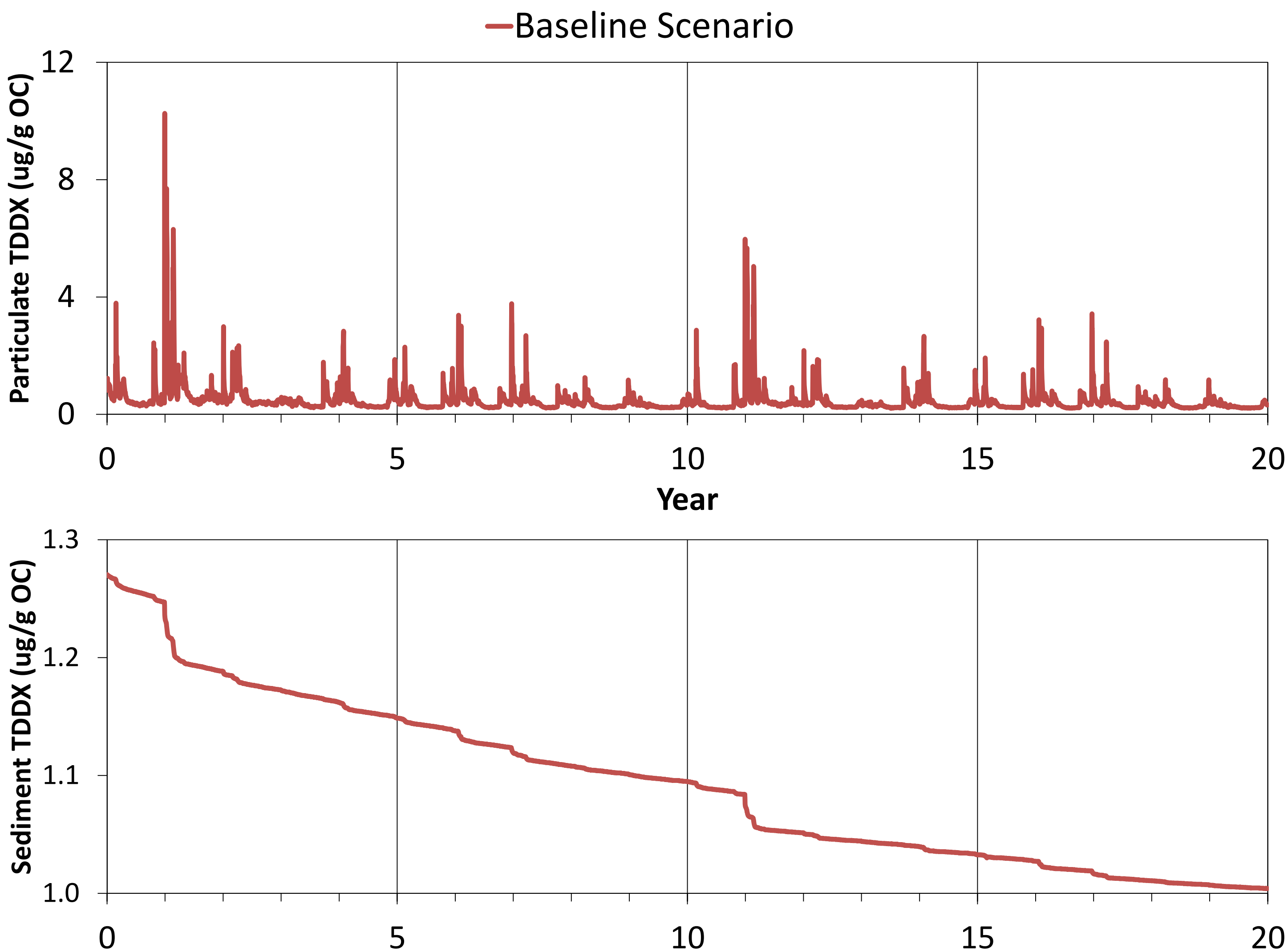


Figure 4.5g Baseline Scenario TDDX Concentrations - LB Inner Harbor North

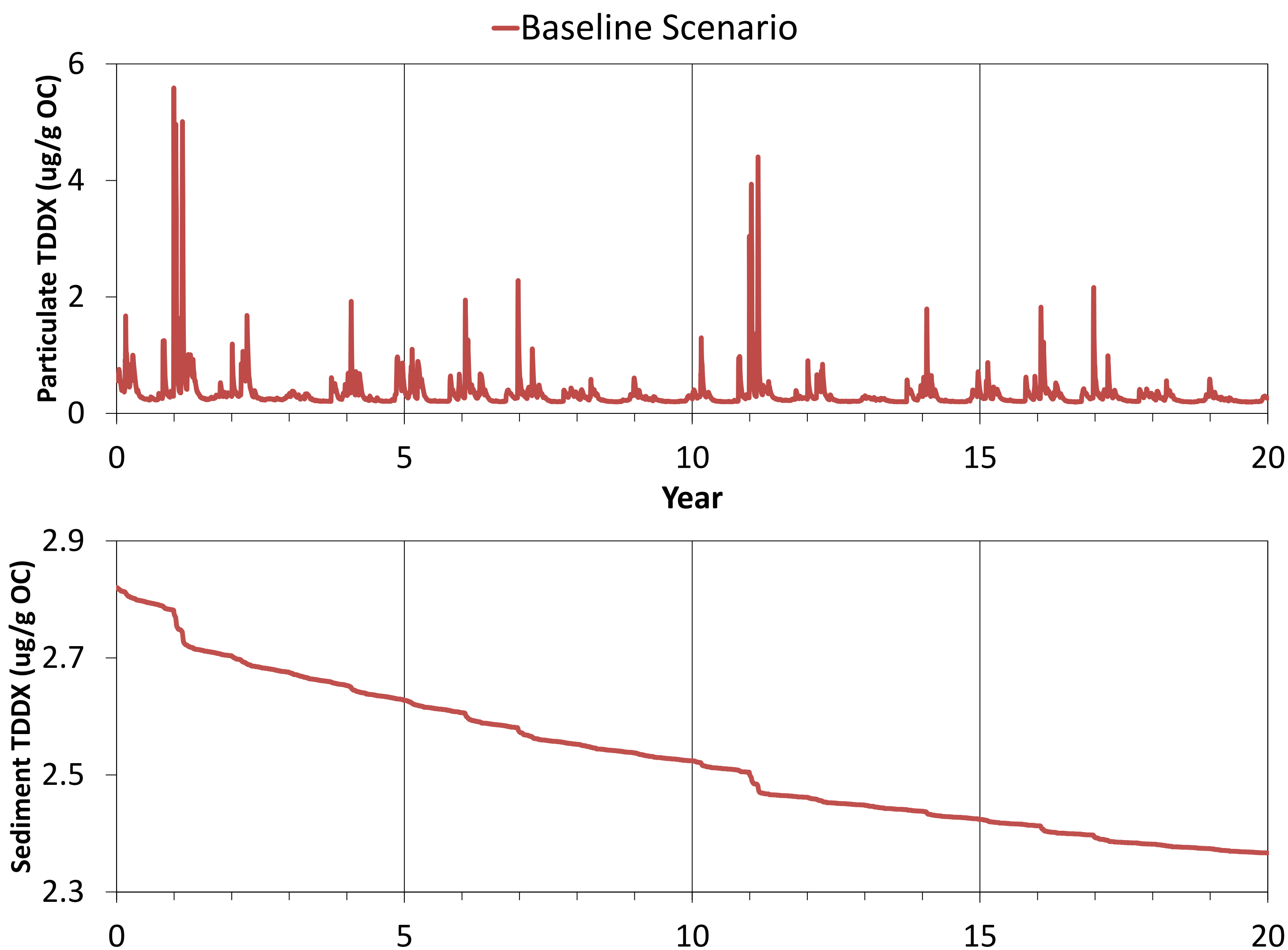


Figure 4.5h Baseline Scenario TDDX Concentrations - LB Inner Harbor South

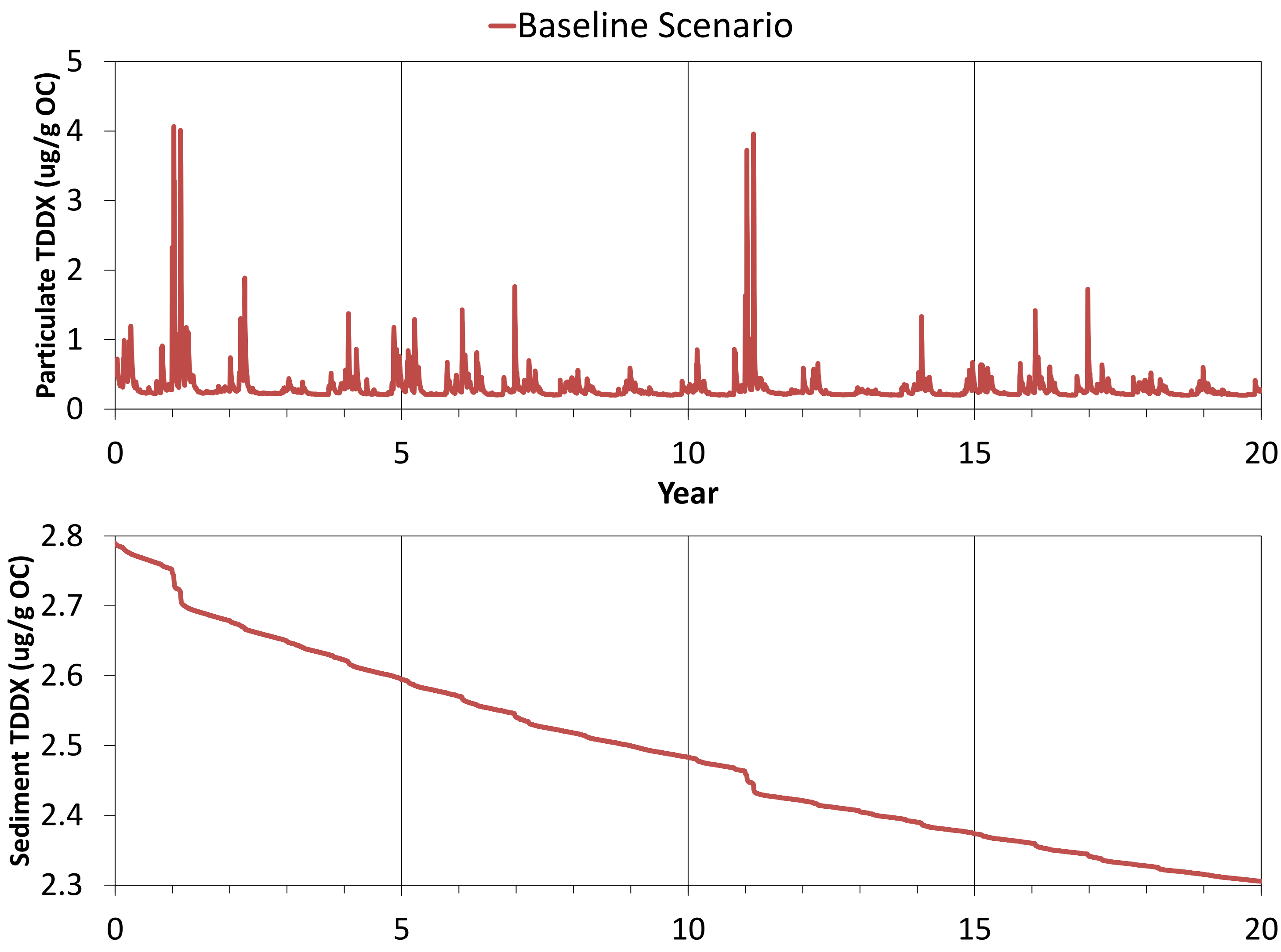


Figure 4.5i Baseline Scenario TDDX Concentrations - LB Outer Harbor

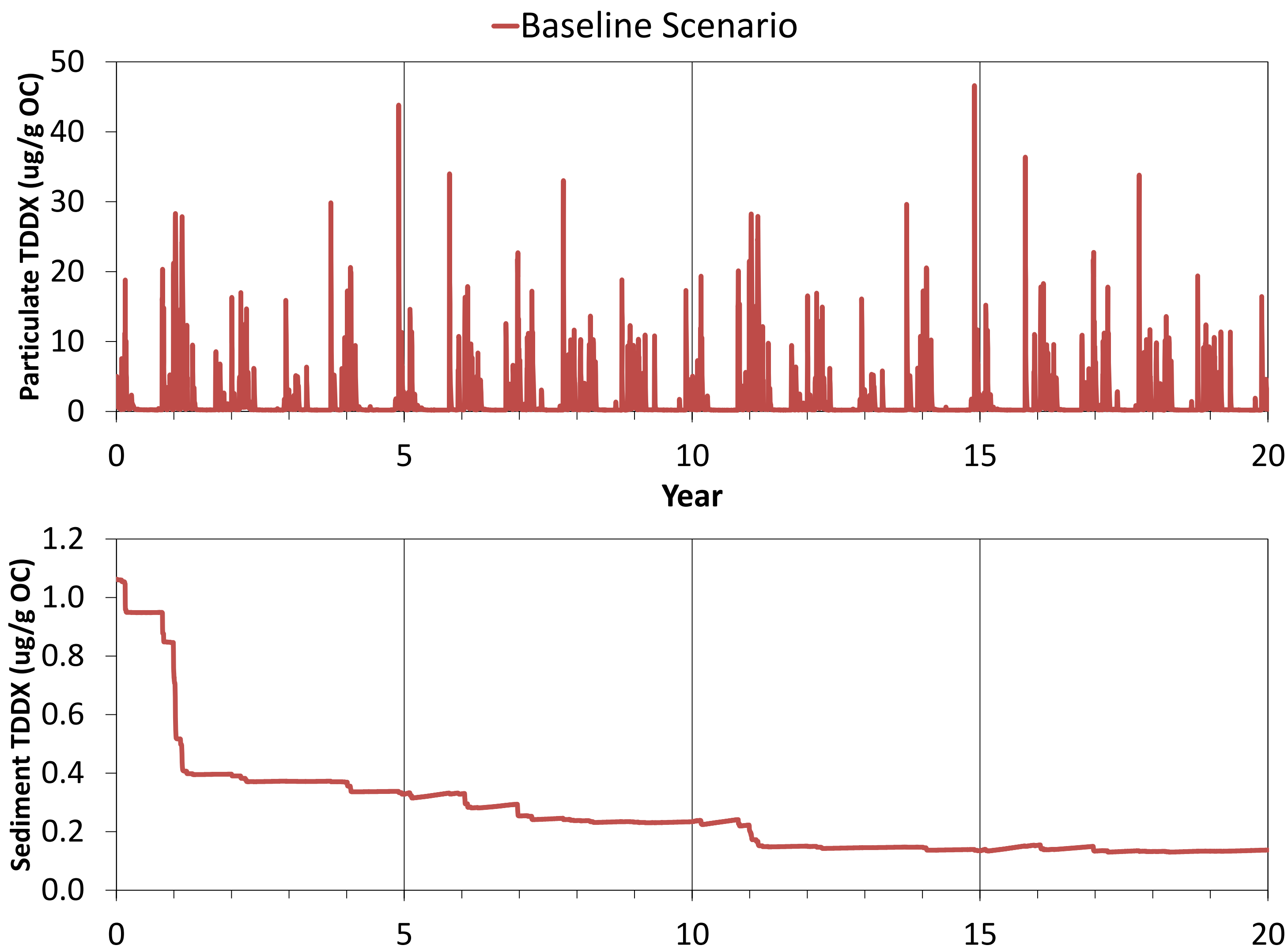


Figure 4.5j Baseline Scenario TDDX Concentrations - Los Angeles River Estuary

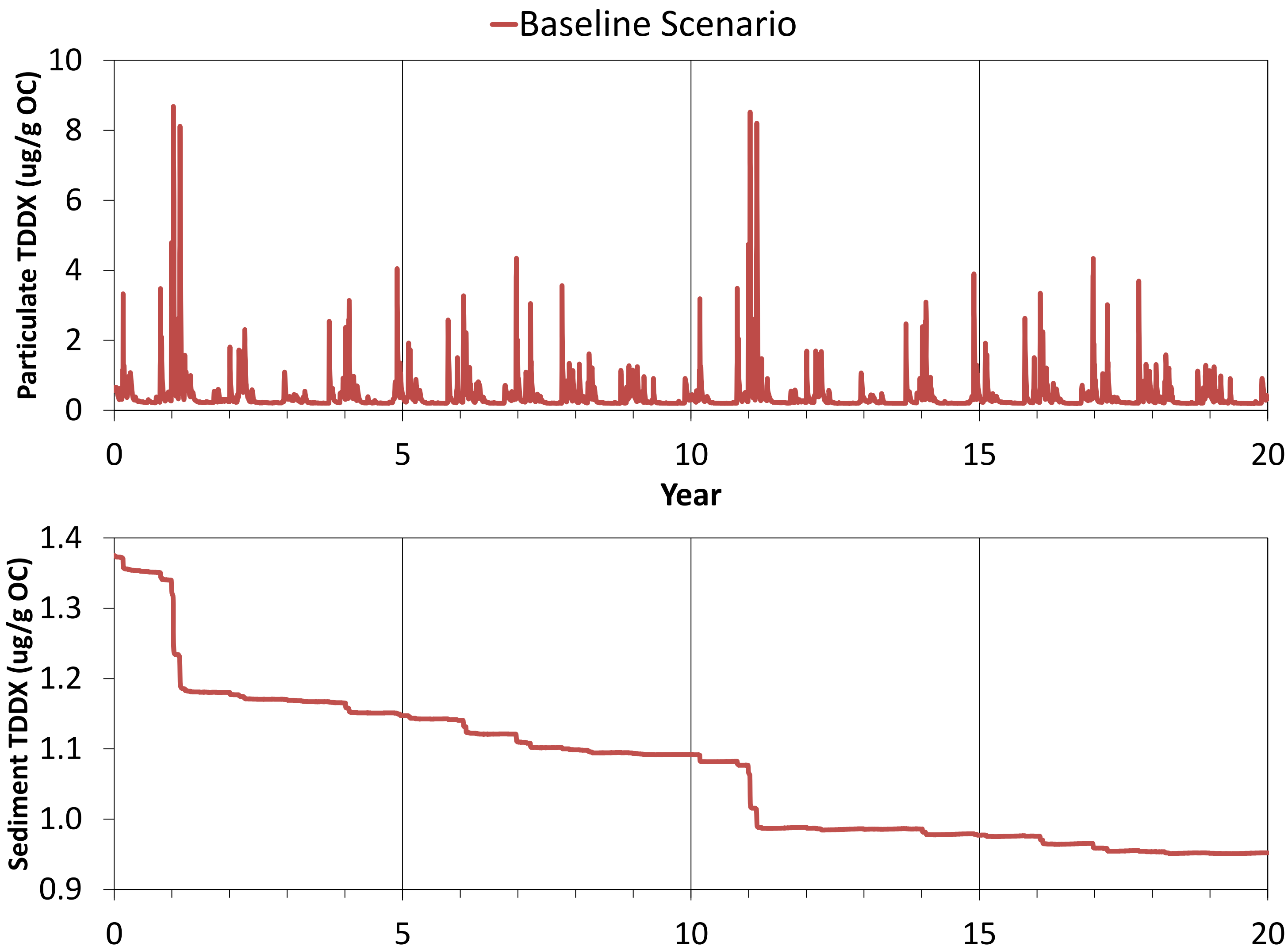


Figure 4.5k Baseline Scenario TDDX Concentrations - Eastern San Pedro Bay

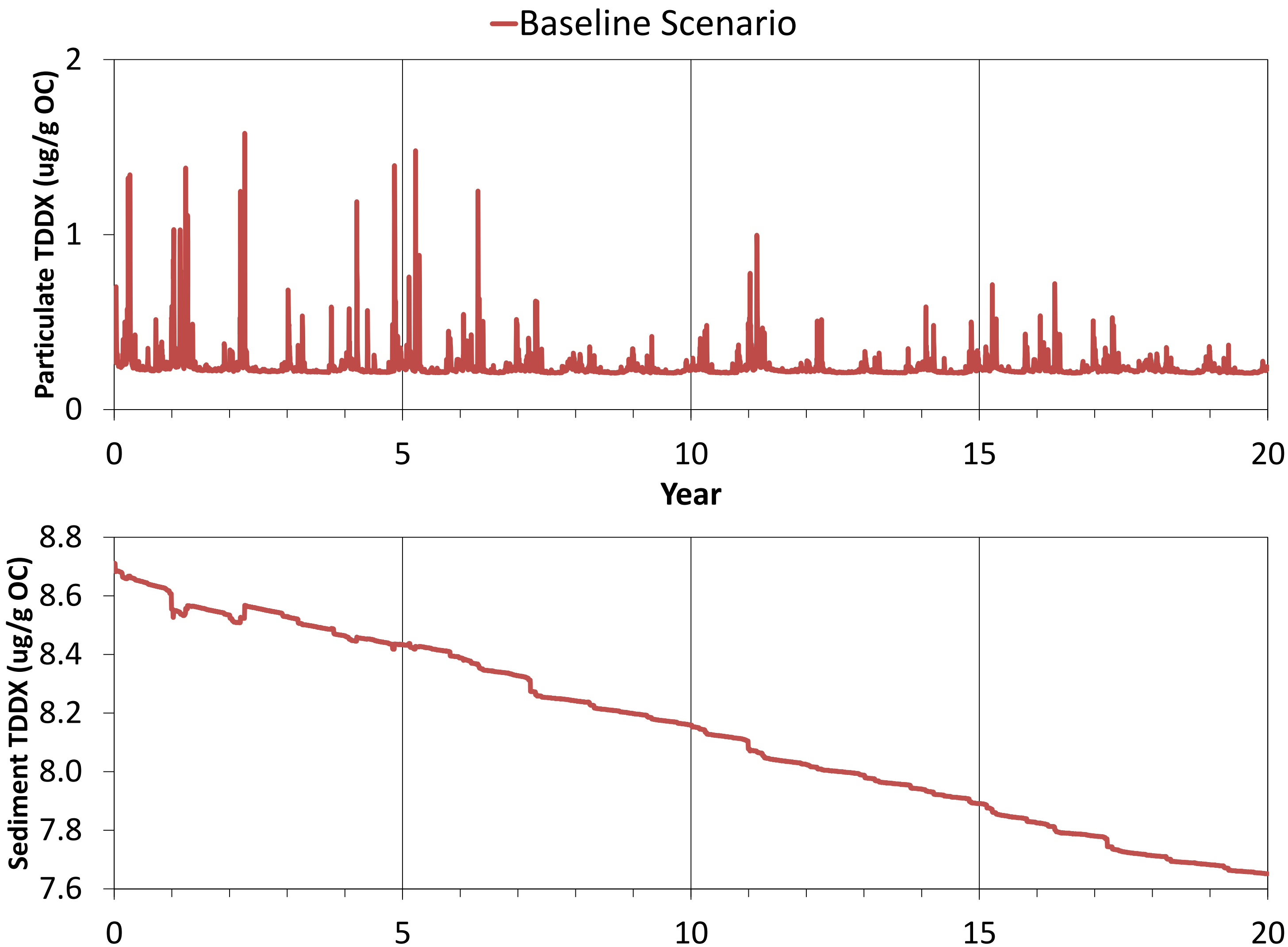


Figure 4.5l Baseline Scenario TDDX Concentrations - Outside Harbor Exposure Area

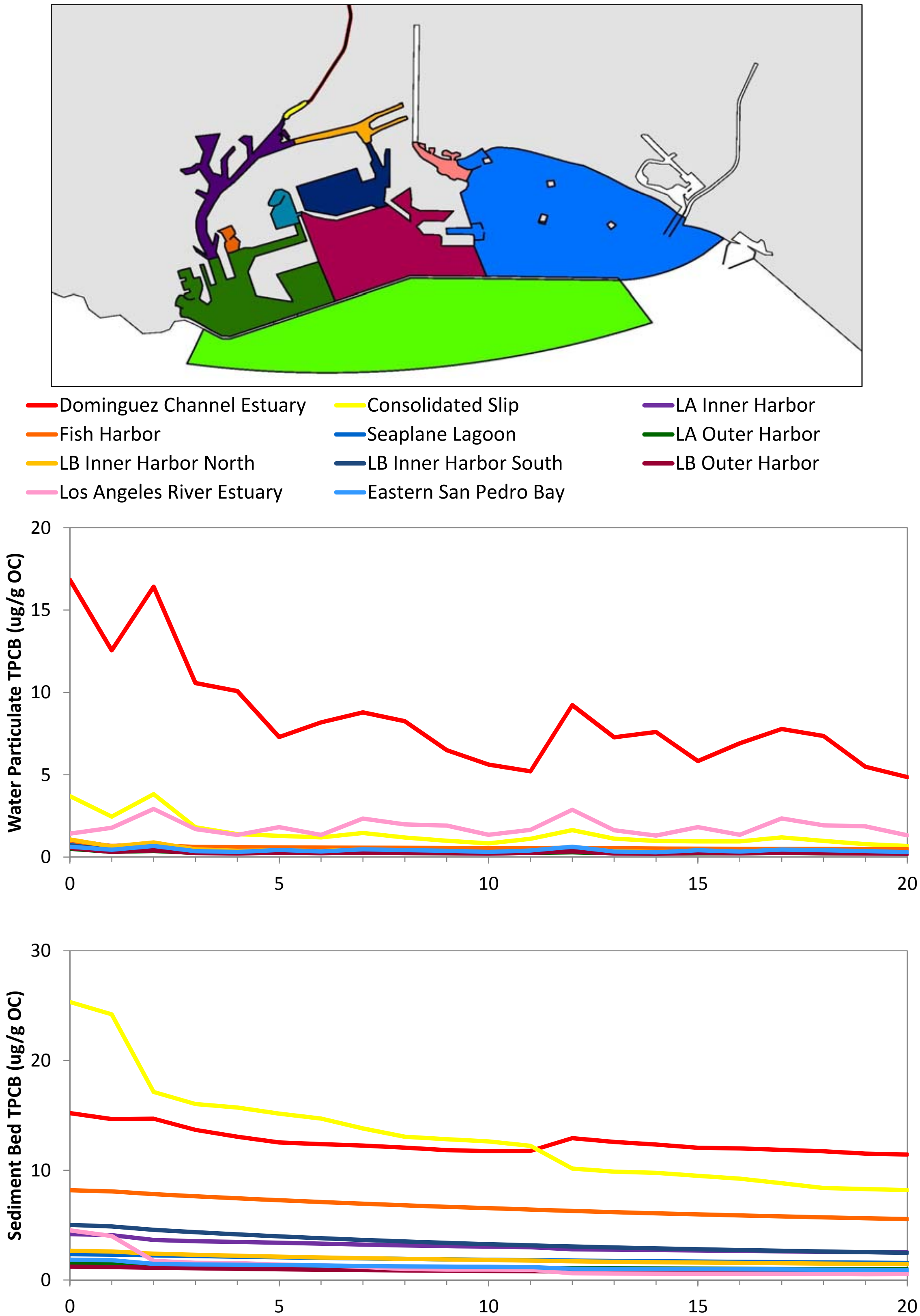


Figure 4.6 Baseline Scenario Comparison of Annual TPCB Concentrations

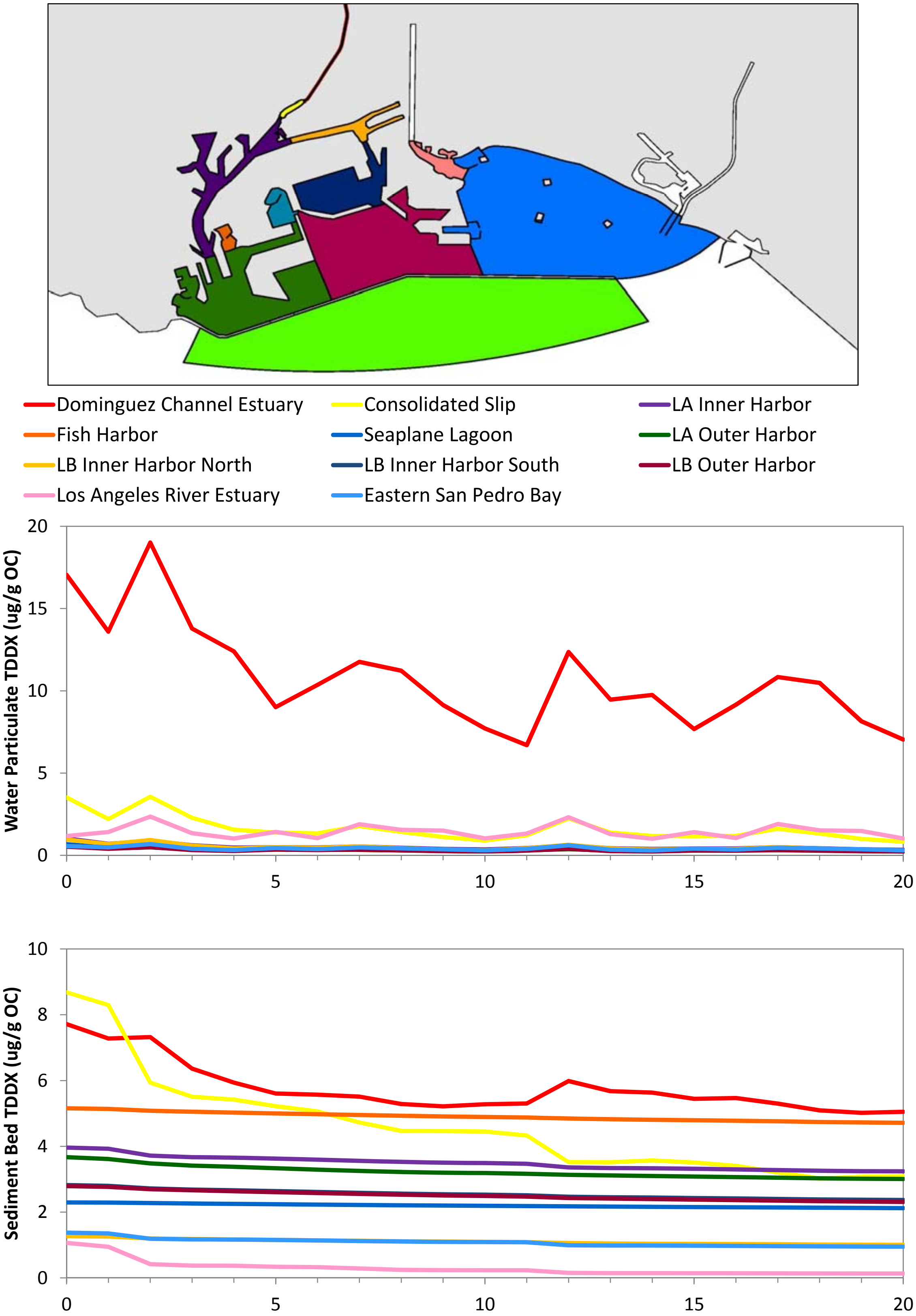


Figure 4.7 Baseline Scenario Comparison of Annual TDDX Concentrations

The average annual percent declines in sediment bed concentrations are summarized in Table 4.1. These decline rates represent the effects of natural recovery in the harbor. The highest decline rates occur in the LAR Estuary and CS, where sedimentation rates are the highest. In general, the decline rates are greater for TPCB than for TDDX due to differences in the mass transfer coefficient.

Table 4.1 Baseline Scenario Sediment Annual Decline Rates

FISH MOVEMENT ZONE	TPCB DECLINE RATE (%/YR)	TDDX DECLINE RATE (%/YR)
DC Estuary	-1.3	-1.7
Consolidated Slip (CS)	-3.4	-3.2
LA Inner Harbor	-2.0	-0.9
Fish Harbor (FH)	-1.6	-0.4
Seaplane Lagoon	-1.7	-0.4
LA Outer Harbor	-1.7	-0.9
LB Inner Harbor North	-2.3	-1.0
LB Inner Harbor South	-2.5	-0.8
LB Outer Harbor	-2.3	-0.9
LAR Estuary	-4.4	-4.4
Eastern San Pedro Bay	-2.5	-1.5

4.2 WATERSHED LOADING REDUCTION SCENARIOS

Water and sediment concentrations of TPCB and TDDX in the fish movement zones are shown for Scenarios 1 and 2 in Figures 4.8a-l for TPCB and Figures 4.9a-l for TDDX. In the figures, concentrations for Scenarios 1 and 2 are shown by the navy blue and yellow lines, respectively. The Baseline Scenario concentrations (red line) are also shown to illustrate the changes in concentration that result from the watershed loading reductions.

In general, trends in water and bed concentrations of TPCB and TDDX are similar. Reductions in water concentrations correspond to watershed loading reductions. The water concentrations for Scenario 1 are attributed to resuspension and fluxes from the sediment bed, which are apparent for all fish movement zones, except the LAR Estuary and Eastern San Pedro Bay. Differences between the Baseline Scenario and Scenario 1 represent contributions from watershed loadings. In the LAR Estuary and Eastern San Pedro Bay, the Scenario 1 water concentrations are relatively low compared to those of the Baseline Scenario, illustrating that organics concentrations are predominantly from watershed loadings. With a 50% reduction in watershed loadings for Scenario 2, its water concentrations are in between those of Baseline Scenario and Scenario 1.

Bed concentrations are similar under the Baseline Scenario, Scenario 1, and Scenario 2, which indicates that only a small portion of watershed loadings settle in the sediment bed. In general, bed concentrations under Scenarios 1 and 2 are lower than those under the Baseline Scenario. Bed concentrations of TPCB and TDDX at the end of the 20-year simulations are summarized in Tables 4.2 and 4.3, respectively. Comparisons of the ending bed concentrations indicate that the reductions in bed concentrations are due to the watershed loading reductions.

Table 4.2 Scenario 1 and 2 TPCB Sediment Concentrations at Year 20

FISH MOVEMENT ZONE	TPCB CONCENTRATION* (UG/G OC)		
	BASELINE	SCENARIO 1	SCENARIO 2
DC Estuary	11.401	11.359	11.380
Consolidated Slip (CS)	8.163	8.155	8.162
LA Inner Harbor	2.506	2.501	2.503
Fish Harbor (FH)	5.516	5.510	5.513
Seaplane Lagoon	1.545	1.531	1.538
LA Outer Harbor	0.968	0.964	0.966
LB Inner Harbor North	1.441	1.434	1.437
LB Inner Harbor South	2.462	2.453	2.457
LB Outer Harbor	0.647	0.640	0.643
LAR Estuary	0.558	0.537	0.547
Eastern San Pedro Bay	0.923	0.911	0.917

*Concentration in top 5 cm of sediment bed at end of 20-year simulation

Table 4.3 Scenario 1 and 2 TDDX Sediment Concentrations at Year 20

FISH MOVEMENT ZONE	TDDX CONCENTRATION* (UG/G OC)		
	BASELINE*	SCENARIO 1*	SCENARIO 2*
DC Estuary	5.084	5.078	5.081
Consolidated Slip (CS)	3.104	3.103	3.103
LA Inner Harbor	3.239	3.239	3.239
Fish Harbor (FH)	4.709	4.709	4.709
Seaplane Lagoon	2.119	2.117	2.118
LA Outer Harbor	3.006	3.005	3.006
LB Inner Harbor North	1.004	1.003	1.003
LB Inner Harbor South	2.367	2.365	2.366
LB Outer Harbor	2.306	2.304	2.305
LAR Estuary	0.137	0.134	0.135
Eastern San Pedro Bay	0.952	0.951	0.952

*Concentration in top 5 cm of sediment bed at end of 20-year simulation

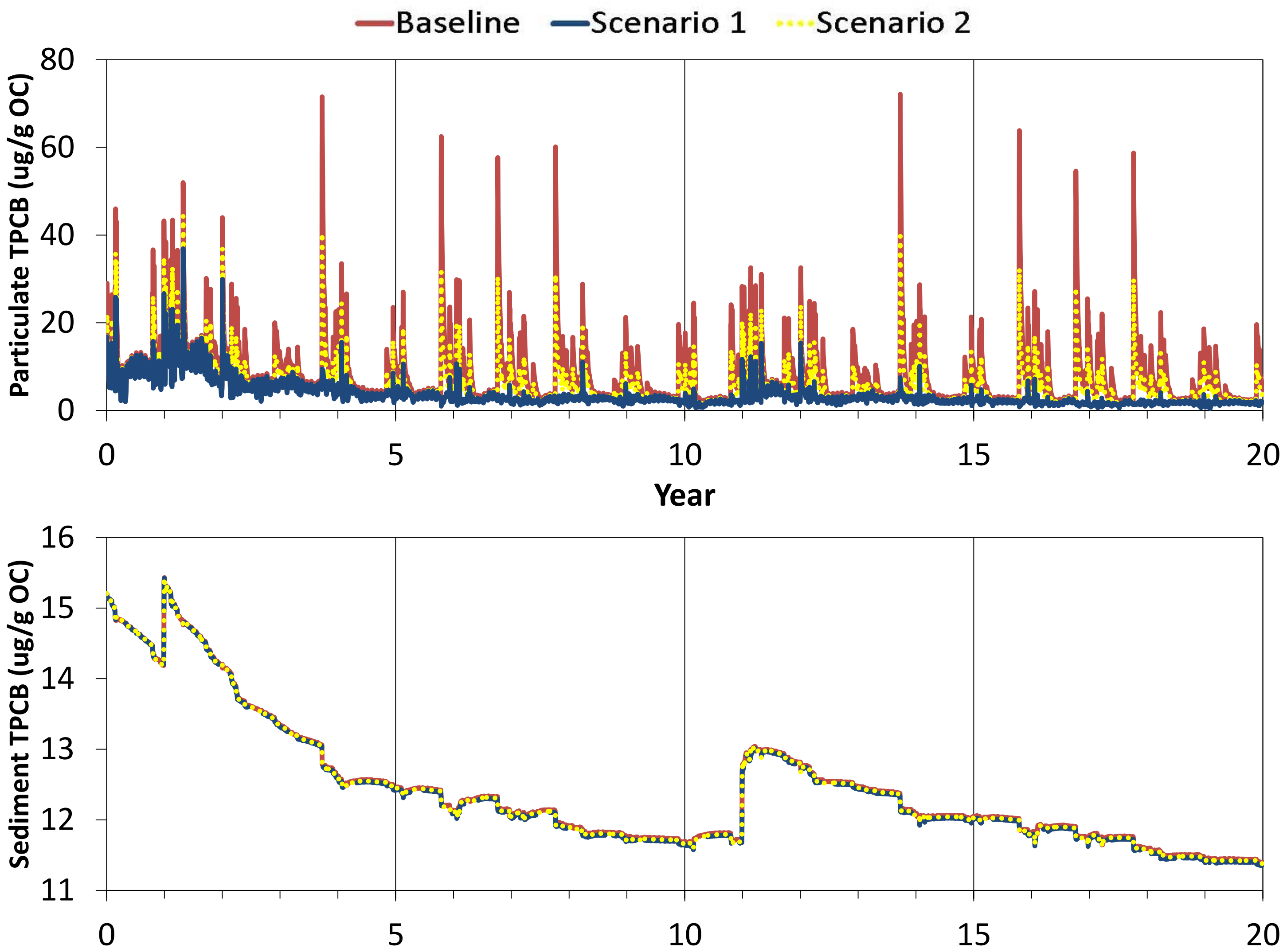


Figure 4.8a Scenario 1 and 2 TPCB Concentrations - Dominguez Channel Estuary

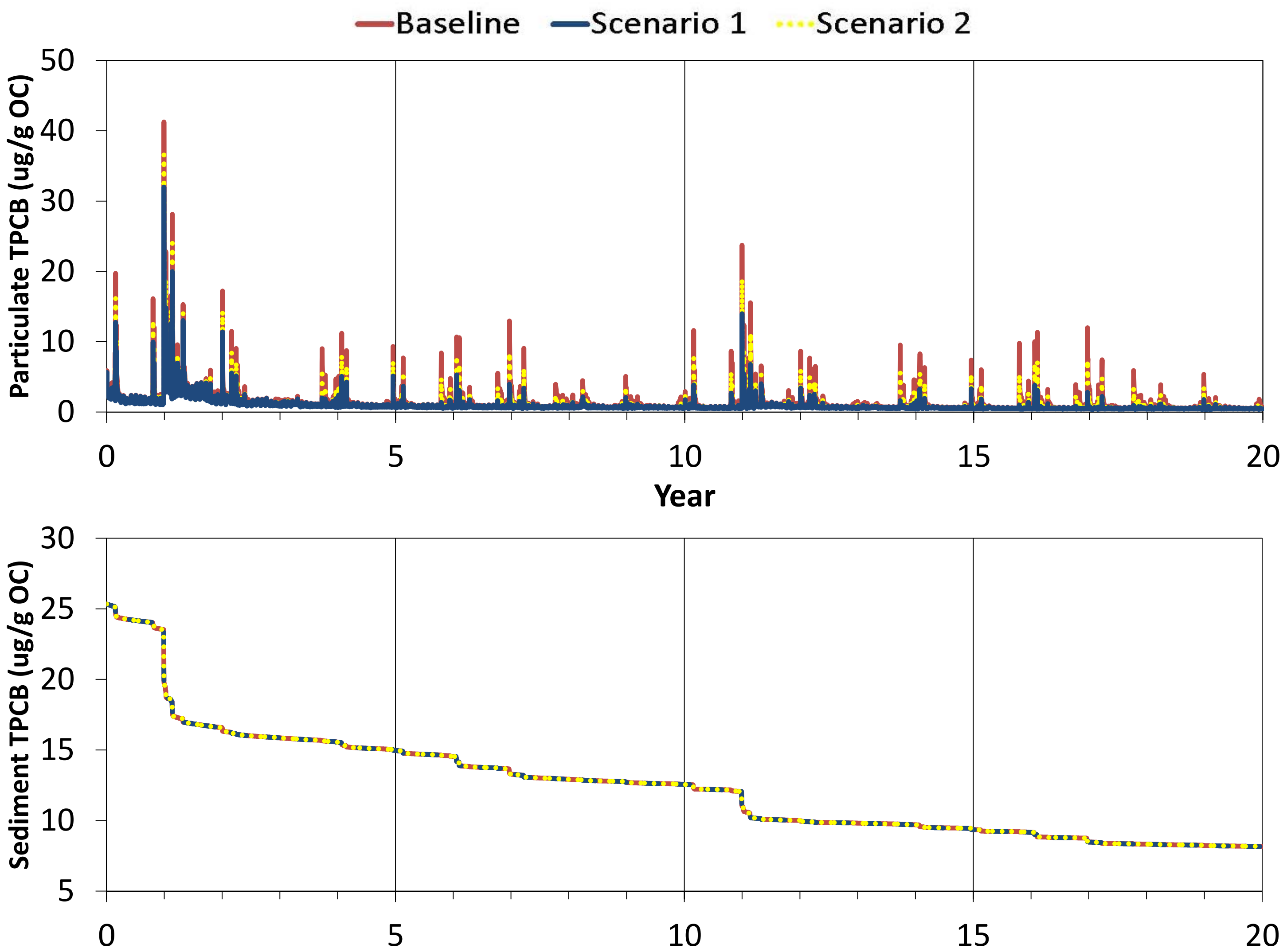


Figure 4.8b Scenario 1 and 2 TPCB Concentrations - Consolidated Slip

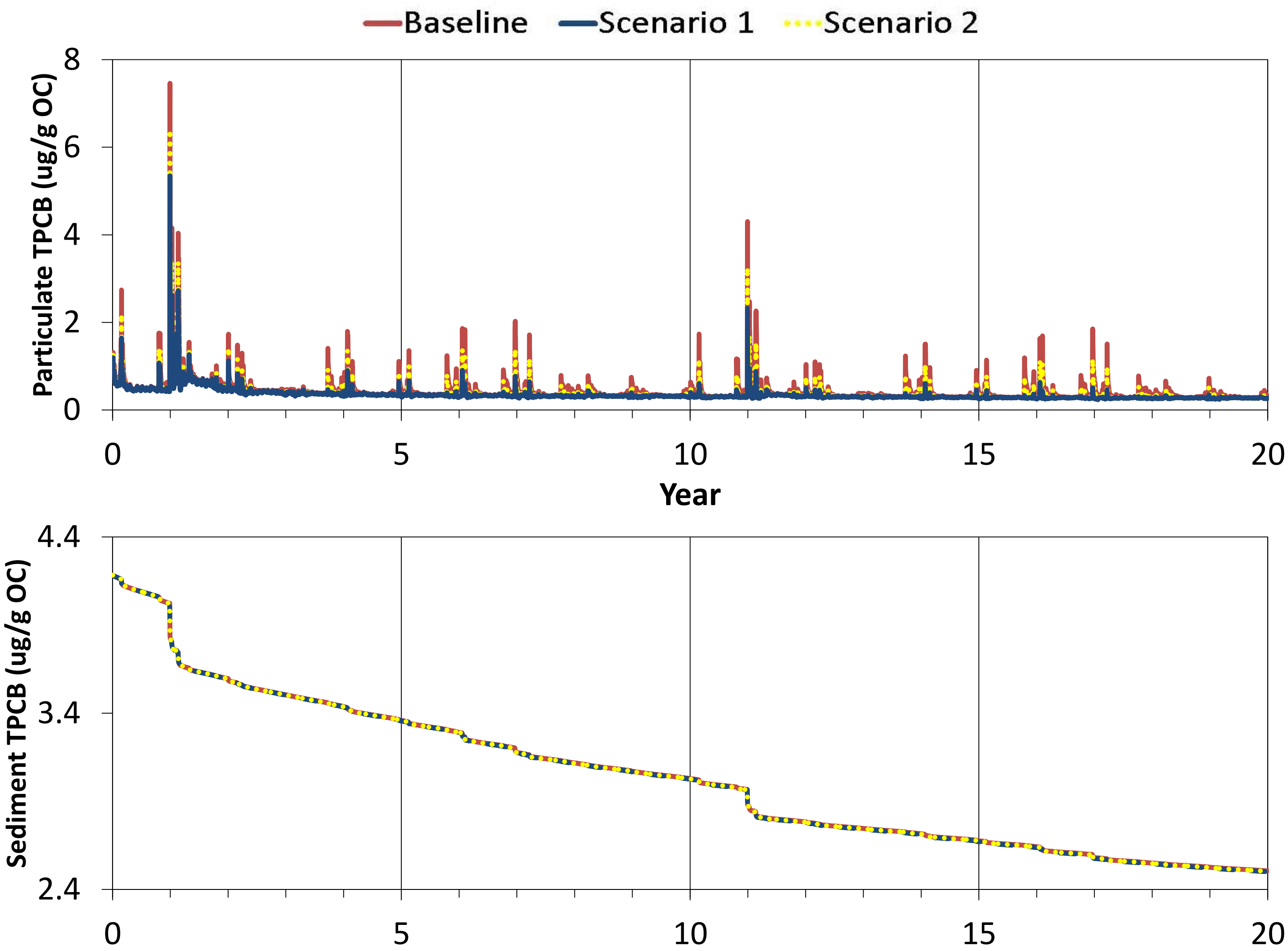


Figure 4.8c Scenario 1 and 2 TPCB Concentrations - LA Inner Harbor

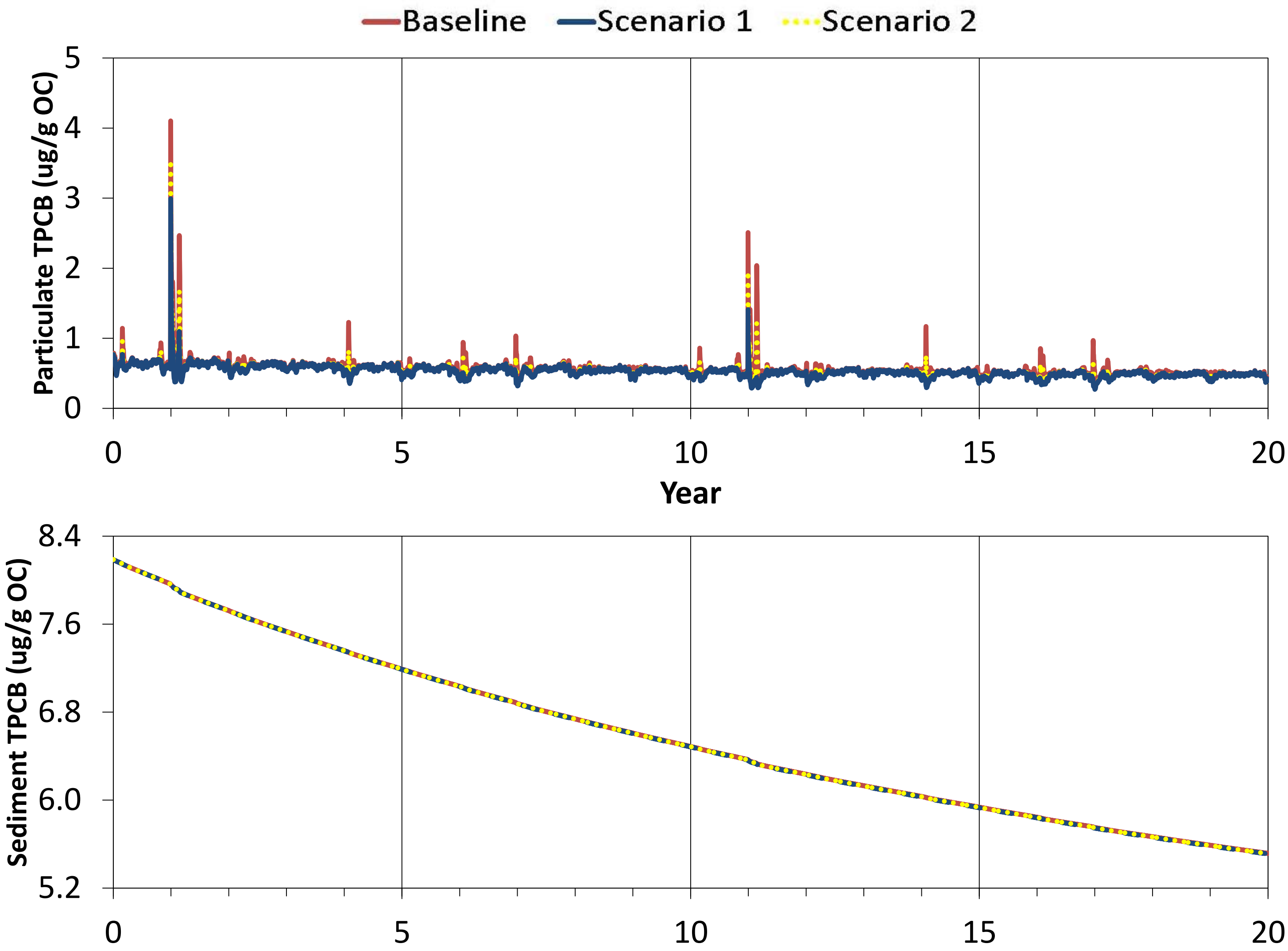


Figure 4.8d Scenario 1 and 2 TPCB Concentrations - Fish Harbor

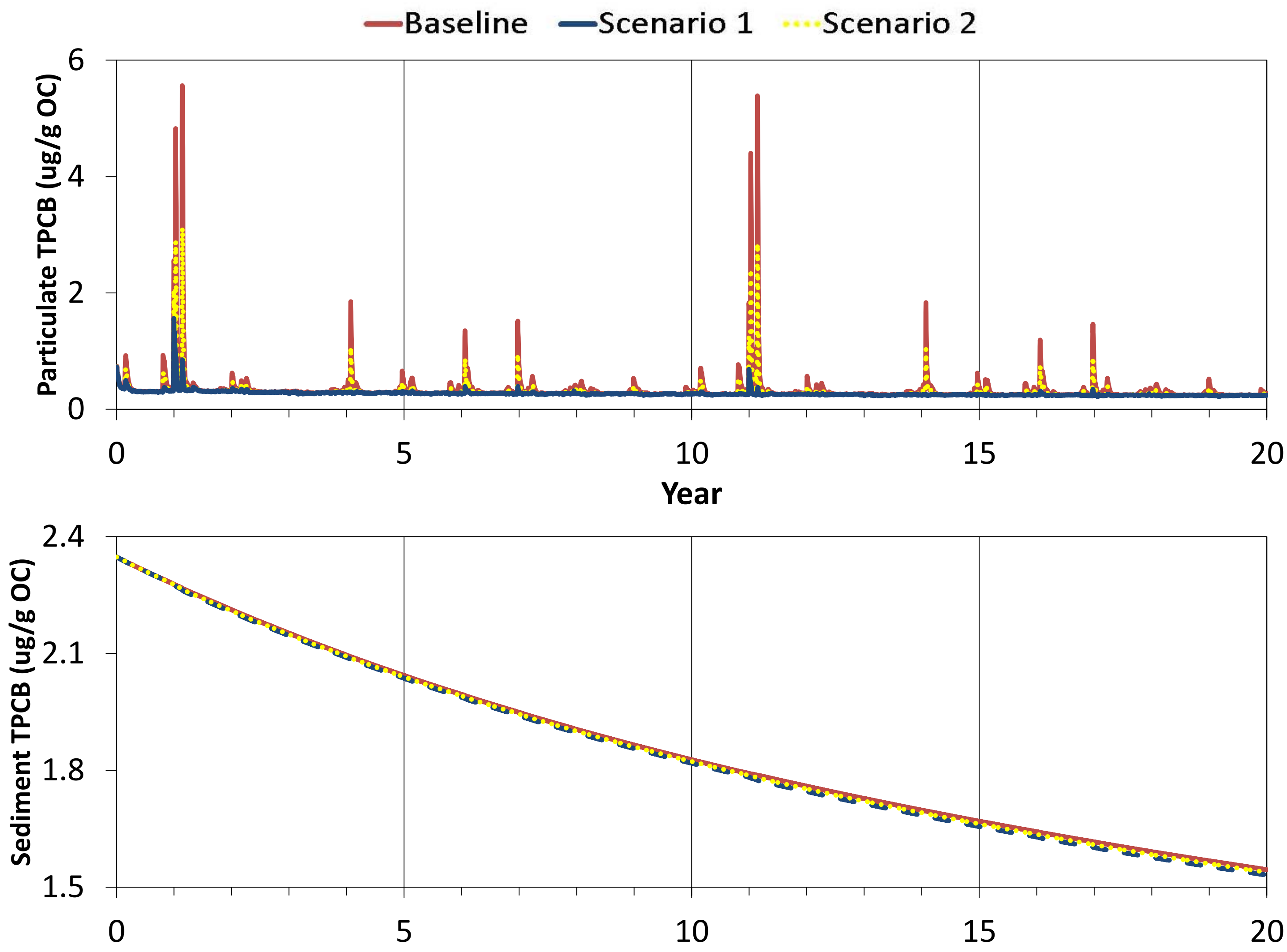


Figure 4.8e Scenario 1 and 2 TPCB Concentrations - Seaplane Lagoon

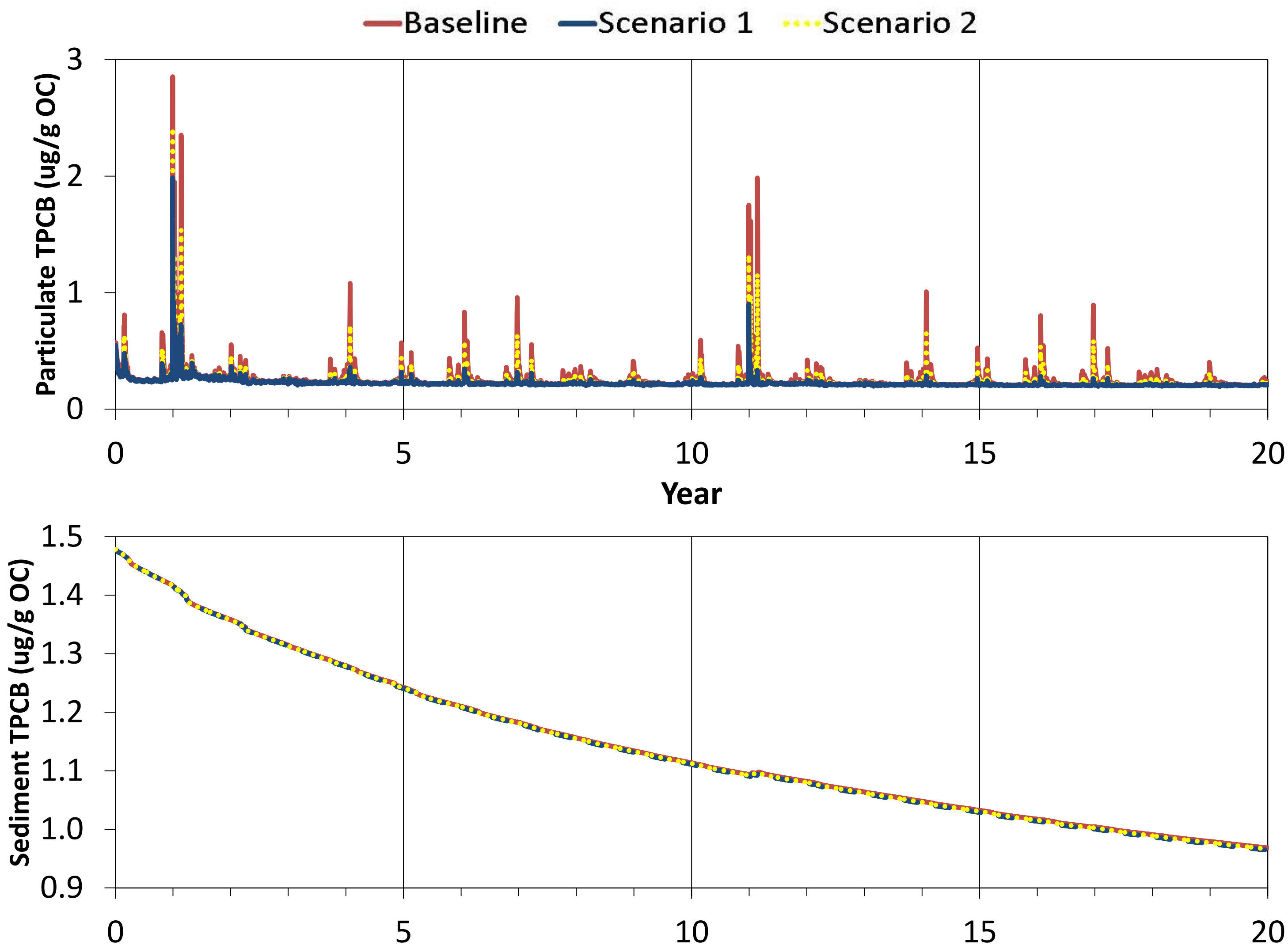


Figure 4.8f Scenario 1 and 2 TPCB Concentrations - LA Outer Harbor

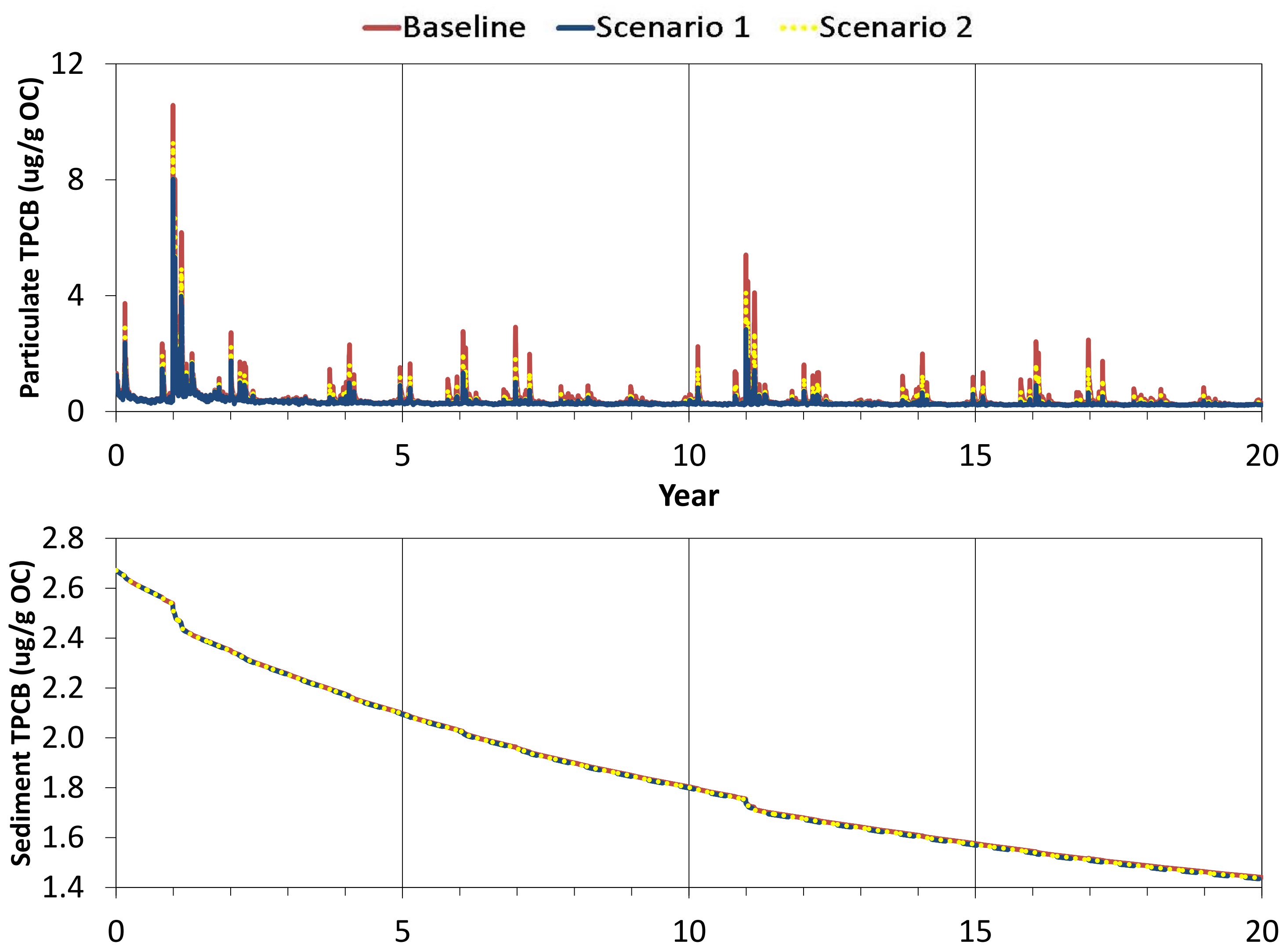


Figure 4.8g Scenario 1 and 2 TPCB Concentrations - LB Inner Harbor North

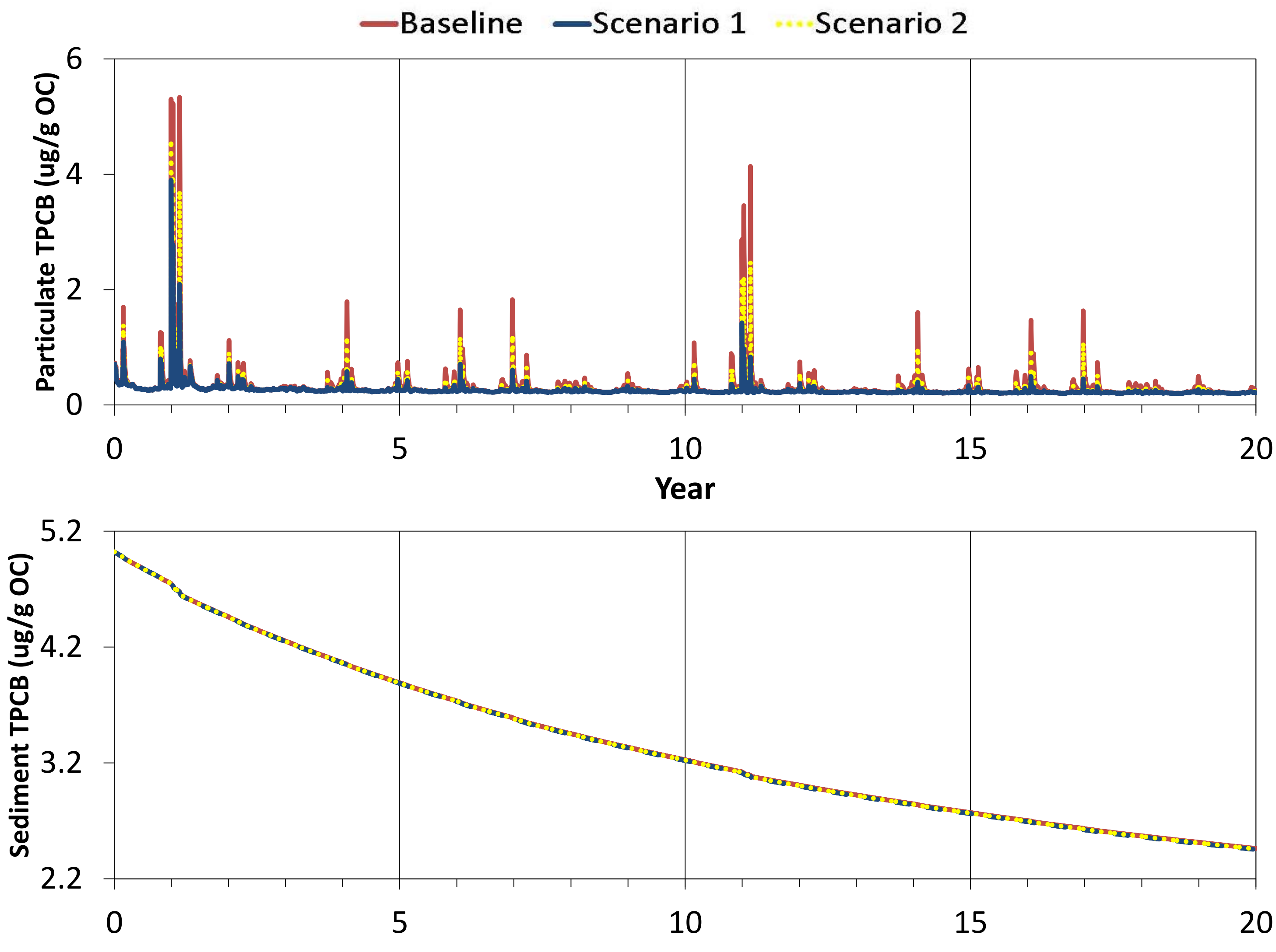


Figure 4.8h Scenario 1 and 2 TPCB Concentrations - LB Inner Harbor South

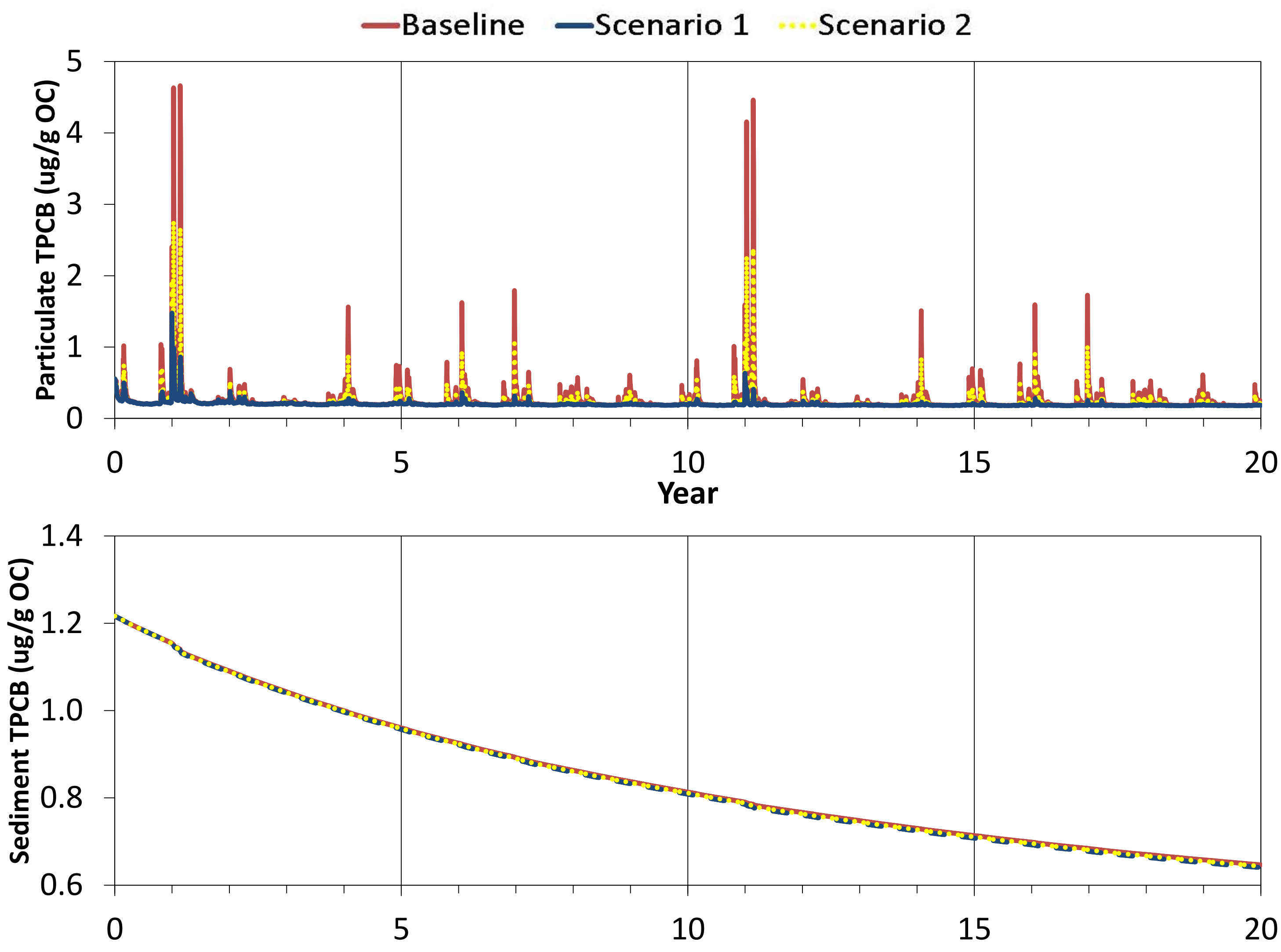


Figure 4.8i Scenario 1 and 2 TPCB Concentrations - LB Outer Harbor

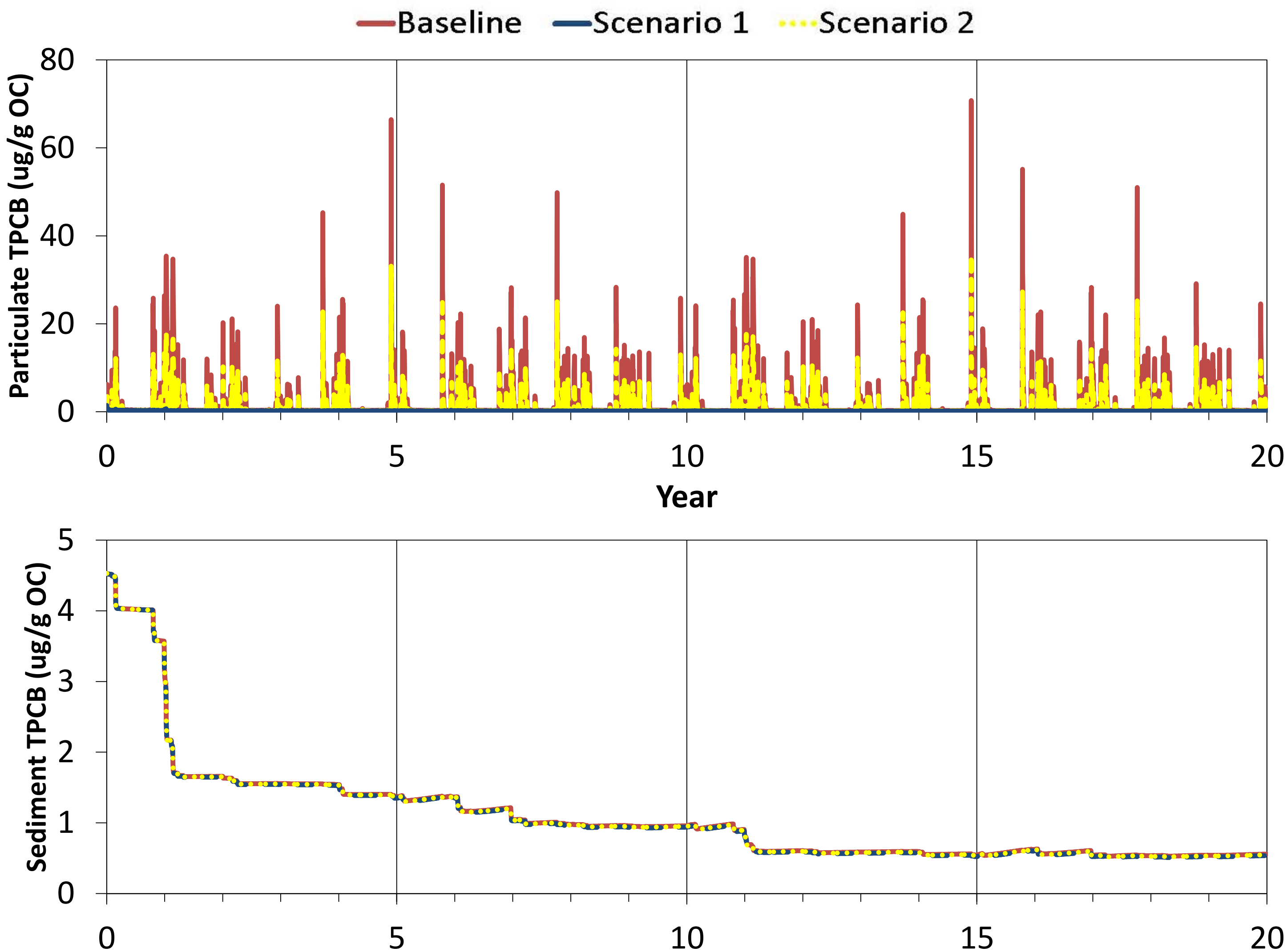


Figure 4.8j Scenario 1 and 2 TPCB Concentrations - Los Angeles River Estuary

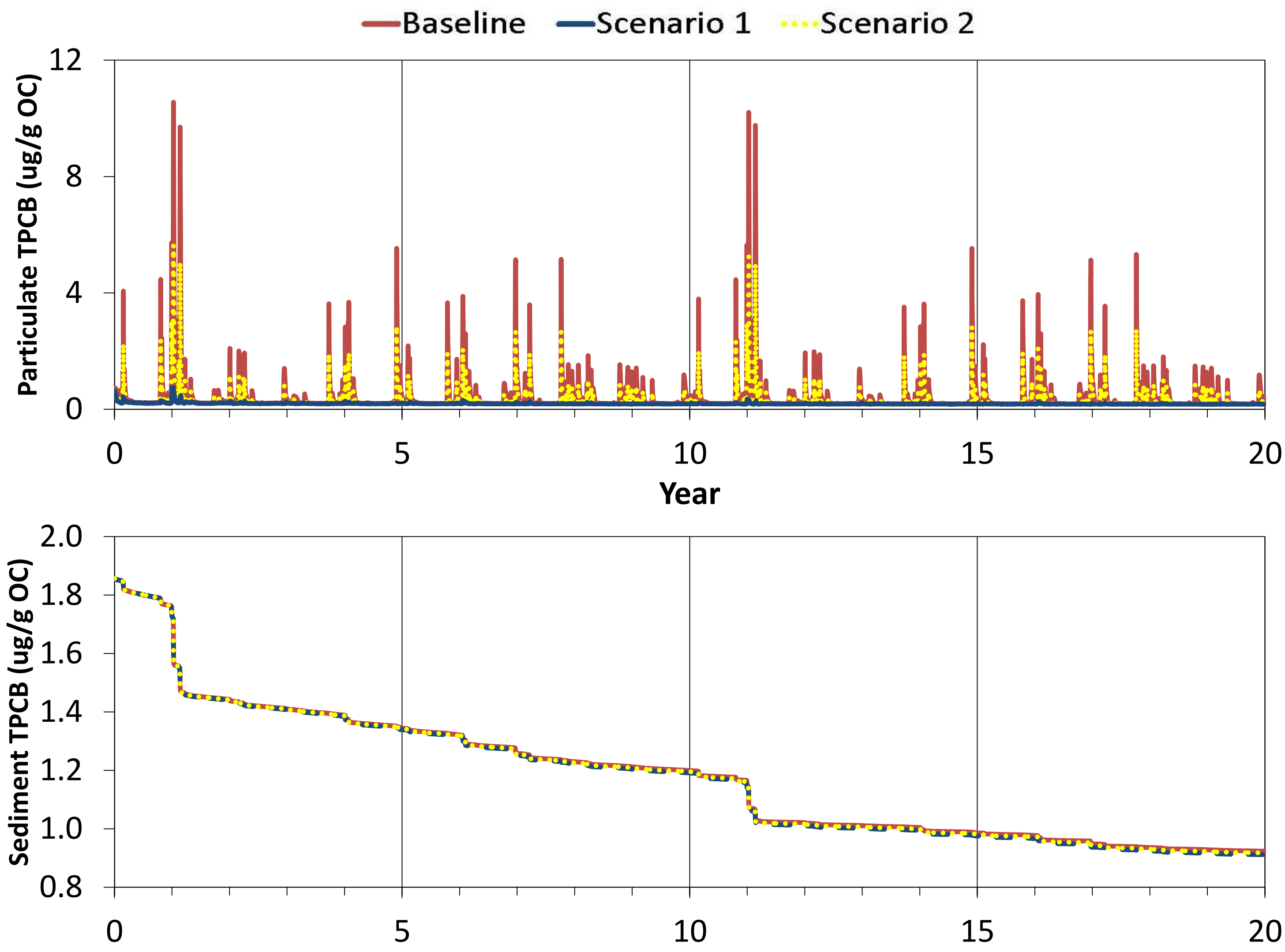


Figure 4.8k Scenario 1 and 2 TPCB Concentrations - Eastern San Pedro Bay

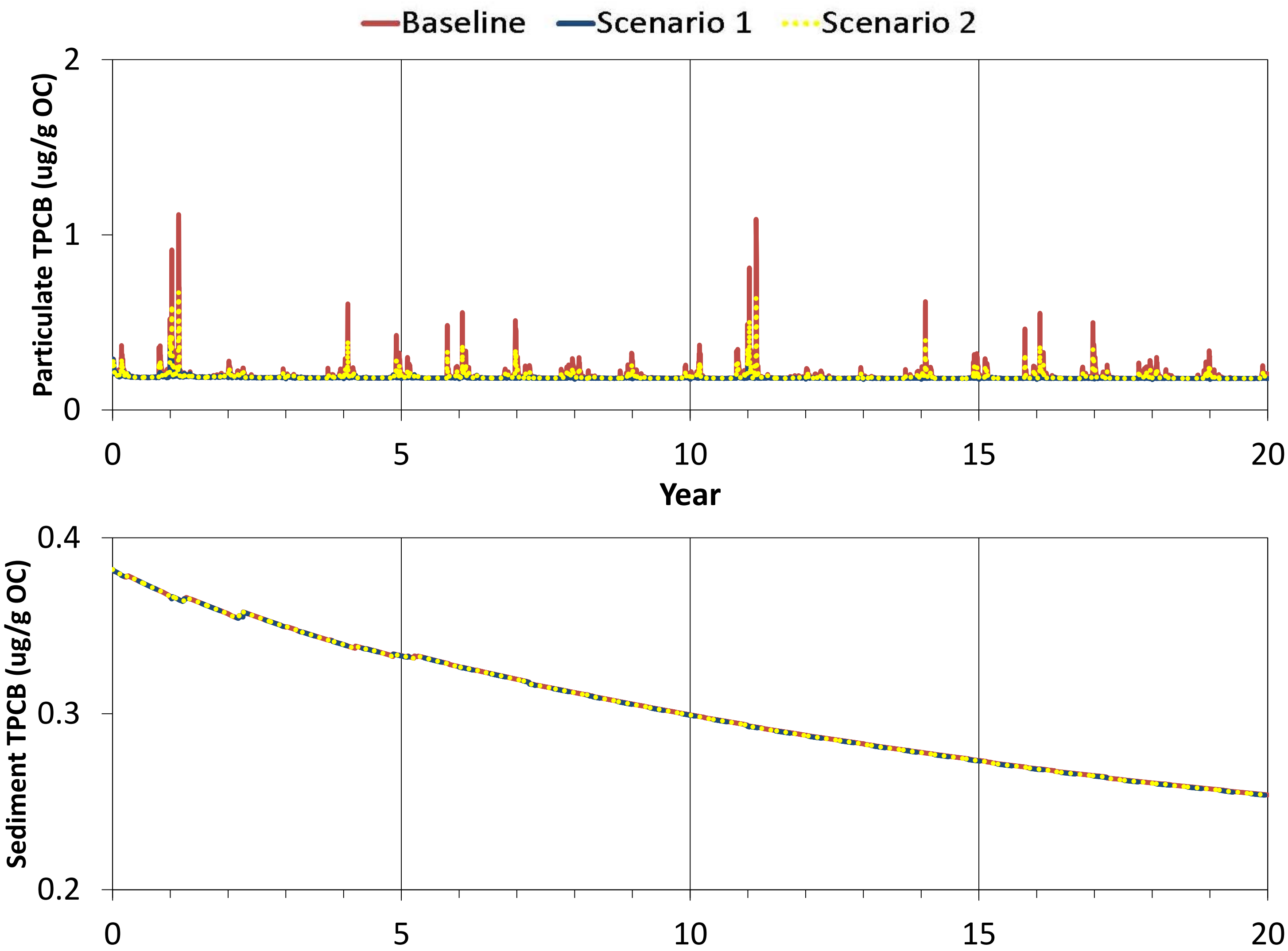


Figure 4.8l Scenario 1 and 2 TPCB Concentrations - Outside Harbor Exposure Area

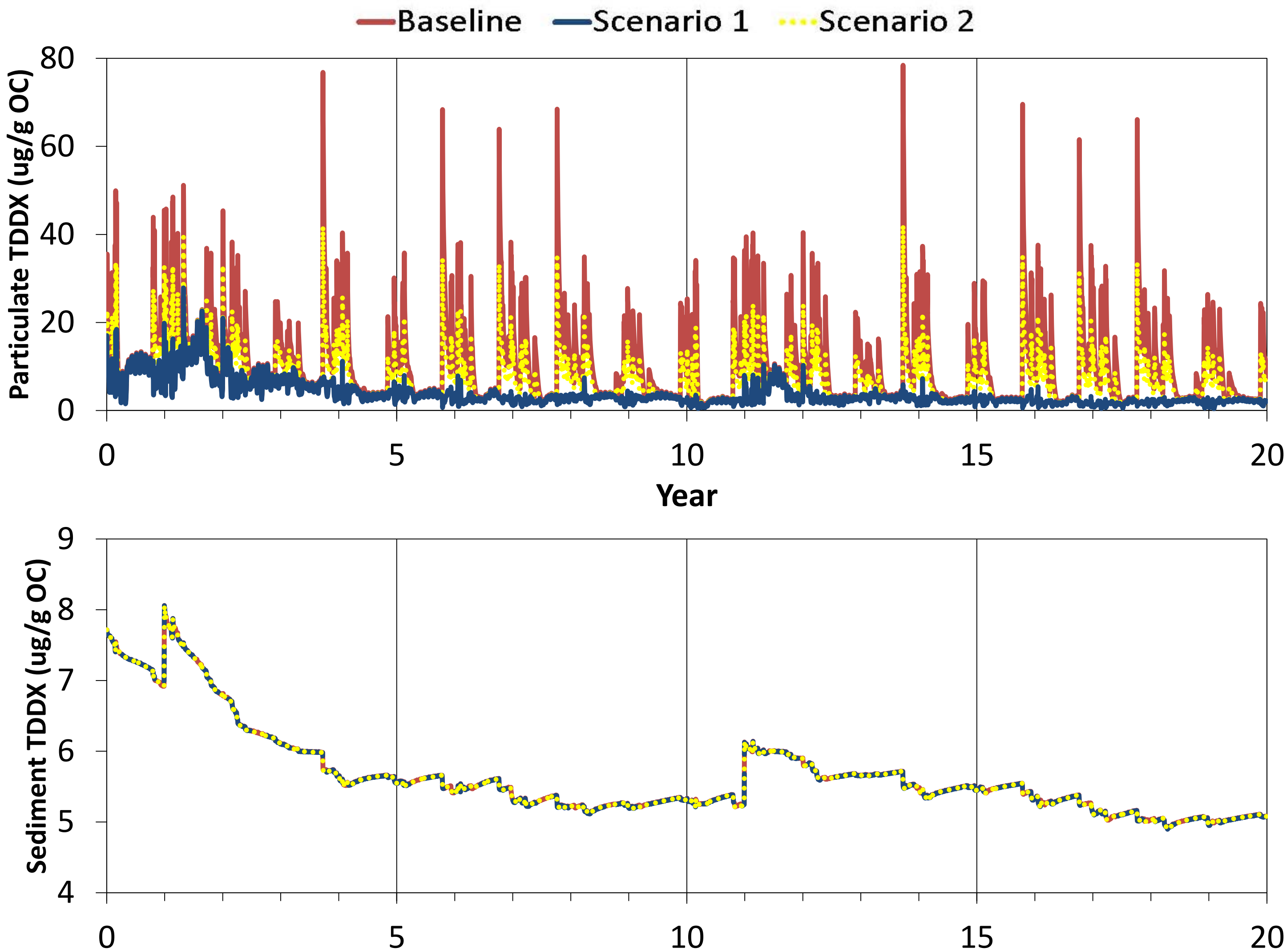


Figure 4.9a Scenario 1 and 2 TDDX Concentrations - Dominguez Channel Estuary

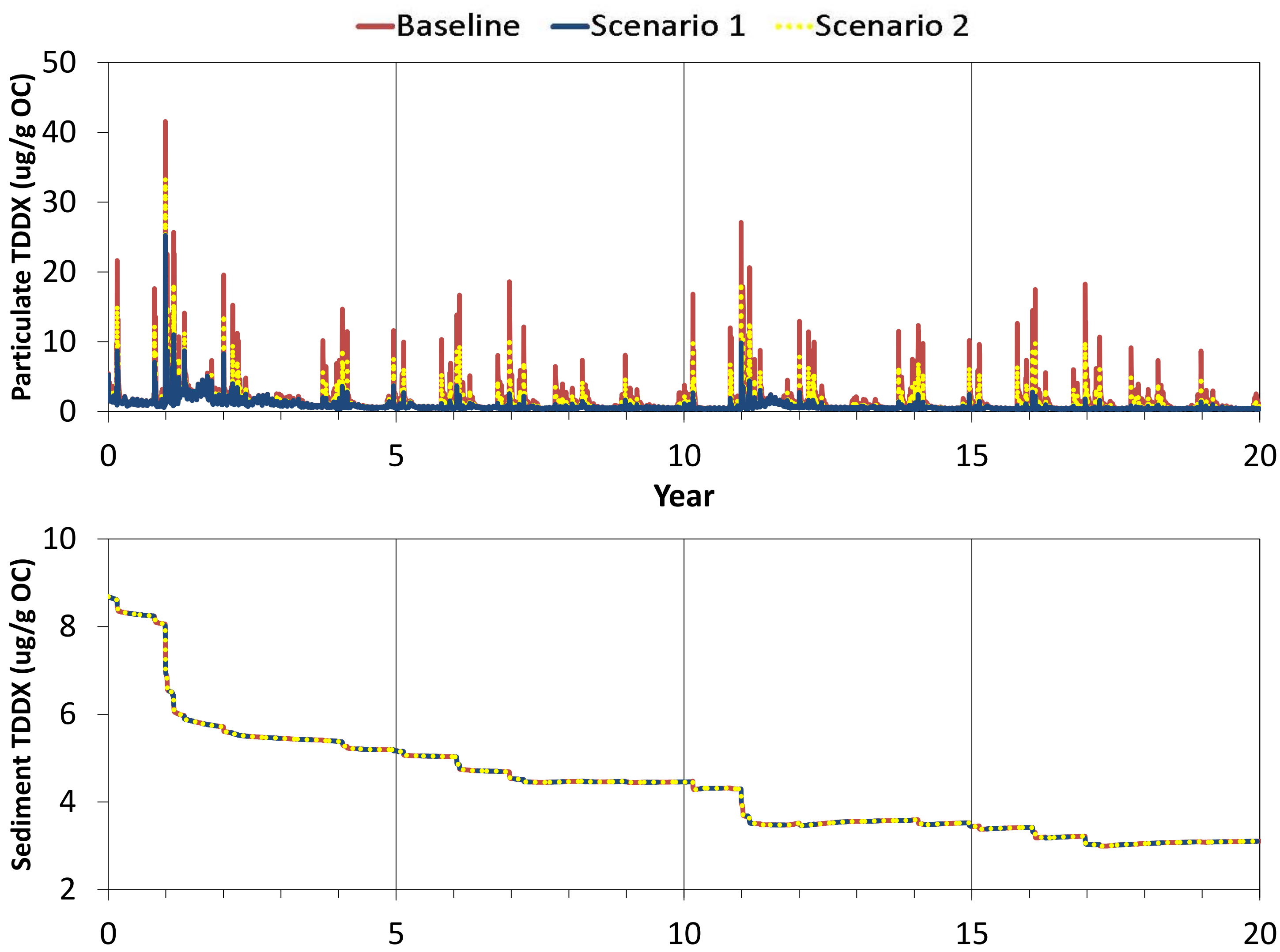


Figure 4.9b Scenario 1 and 2 TDDX Concentrations - Consolidated Slip

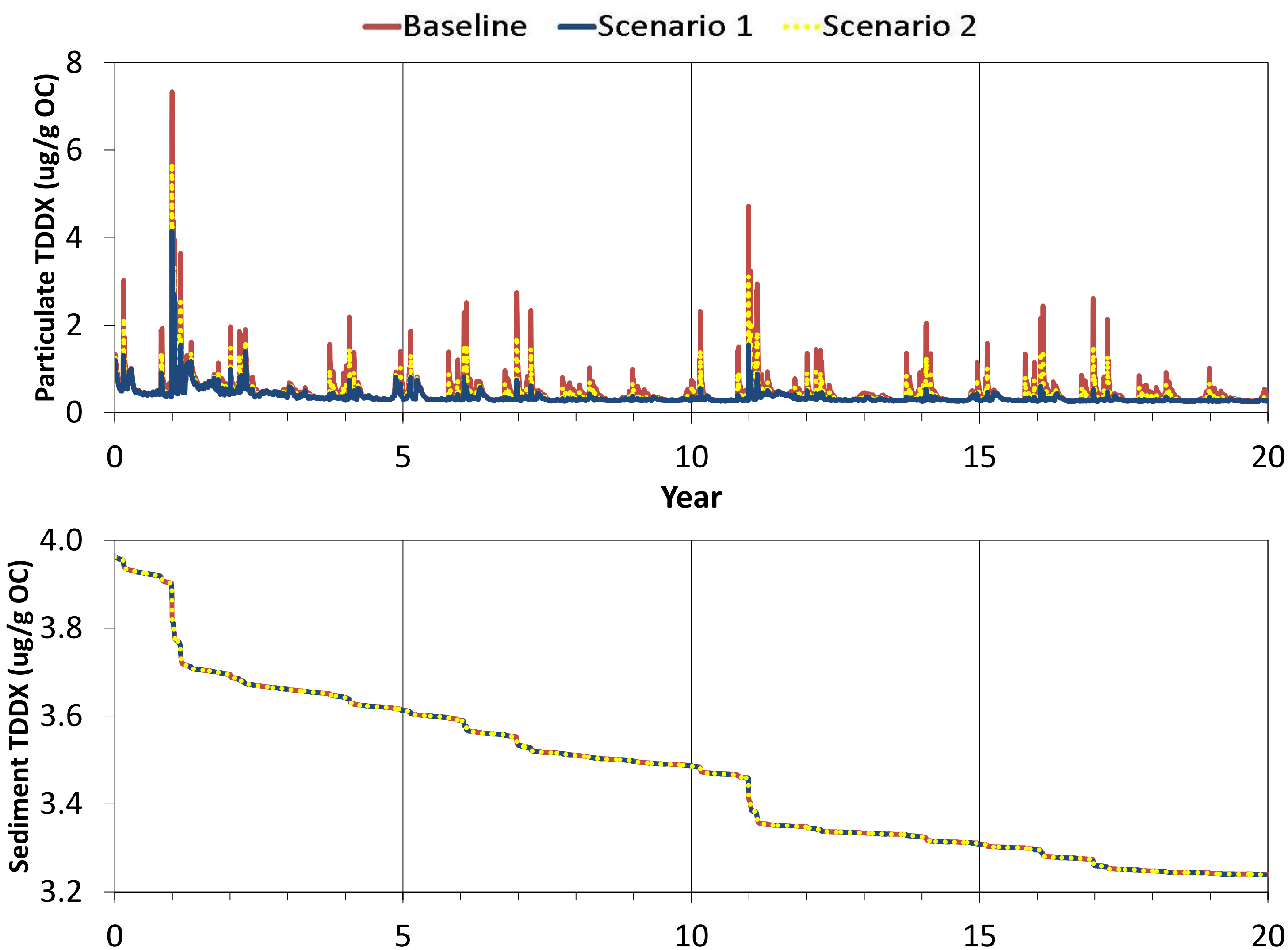


Figure 4.9c Scenario 1 and 2 TDDX Concentrations - LA Inner Harbor

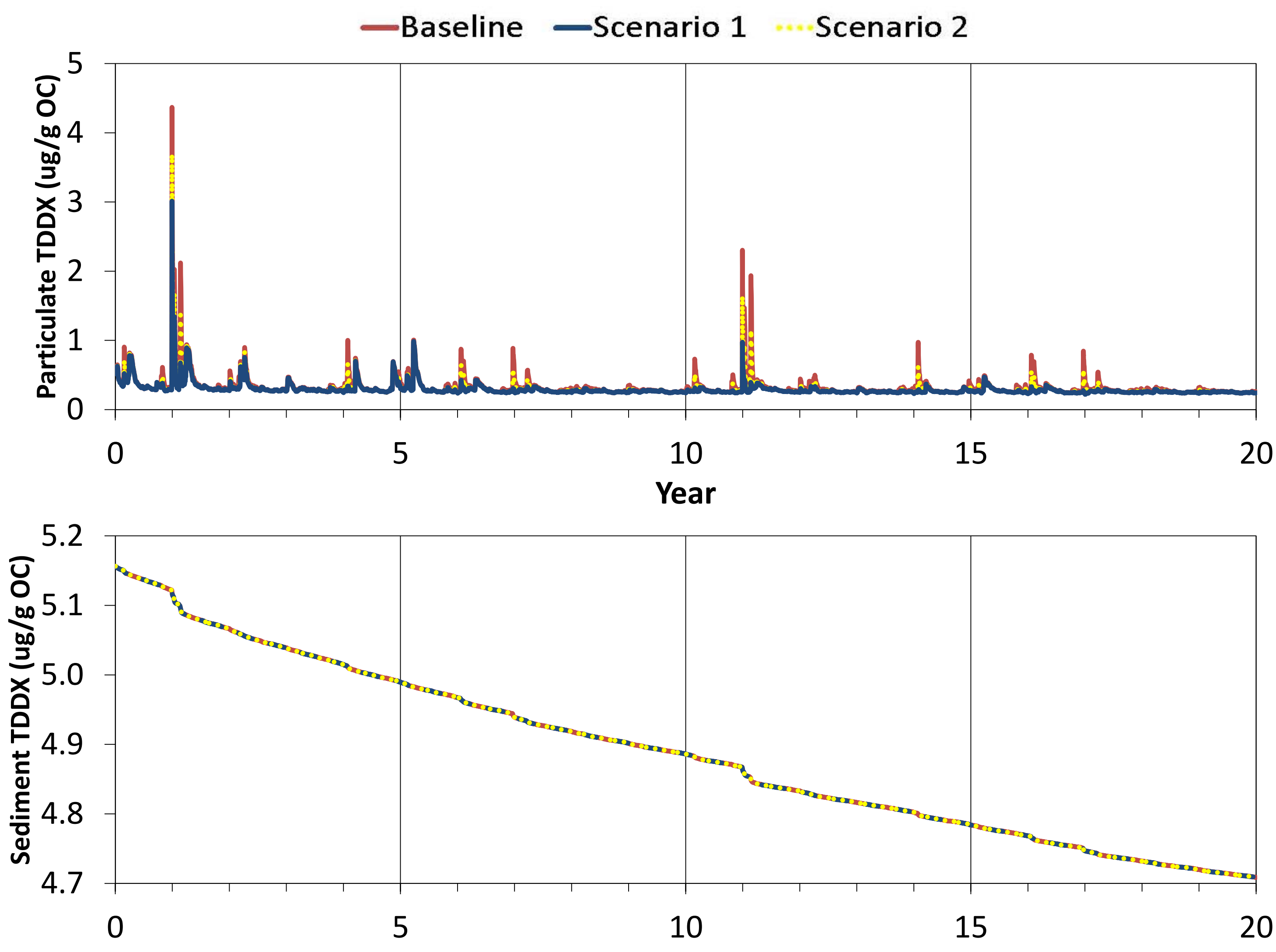


Figure 4.9d Scenario 1 and 2 TDDX Concentrations - Fish Harbor

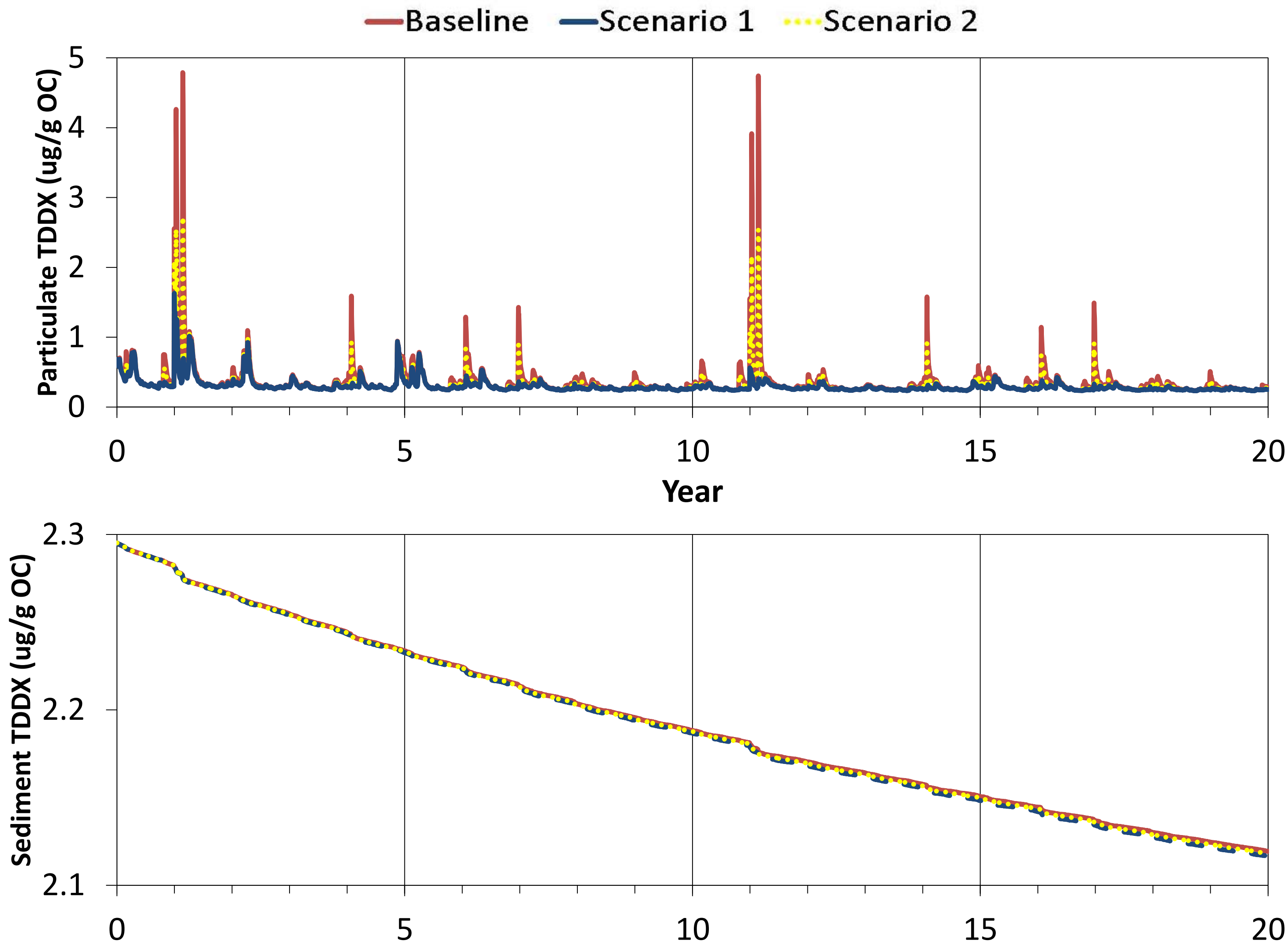


Figure 4.9e Scenario 1 and 2 TDDX Concentrations - Seaplane Lagoon

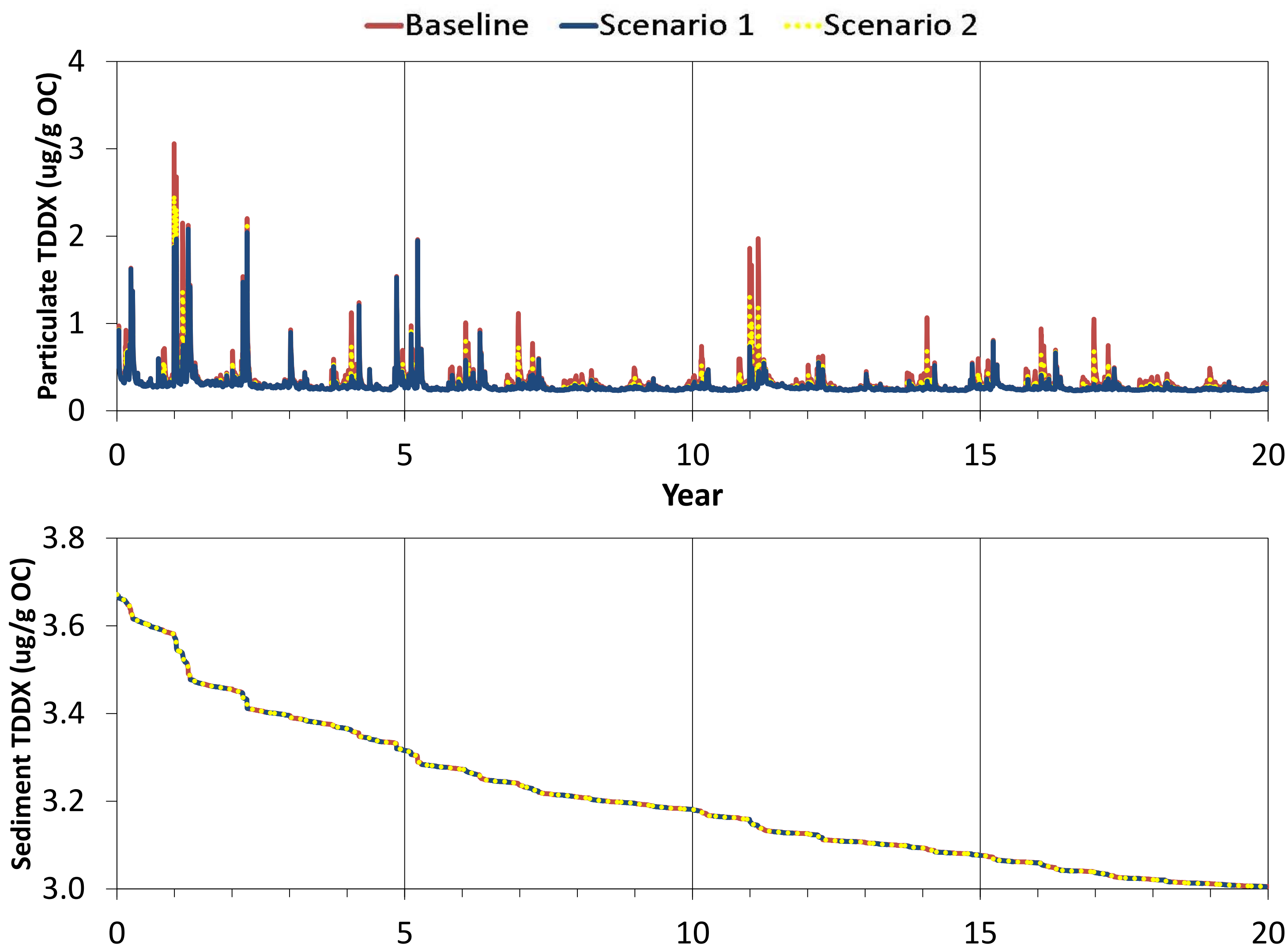


Figure 4.9f Scenario 1 and 2 TDDX Concentrations - LA Outer Harbor

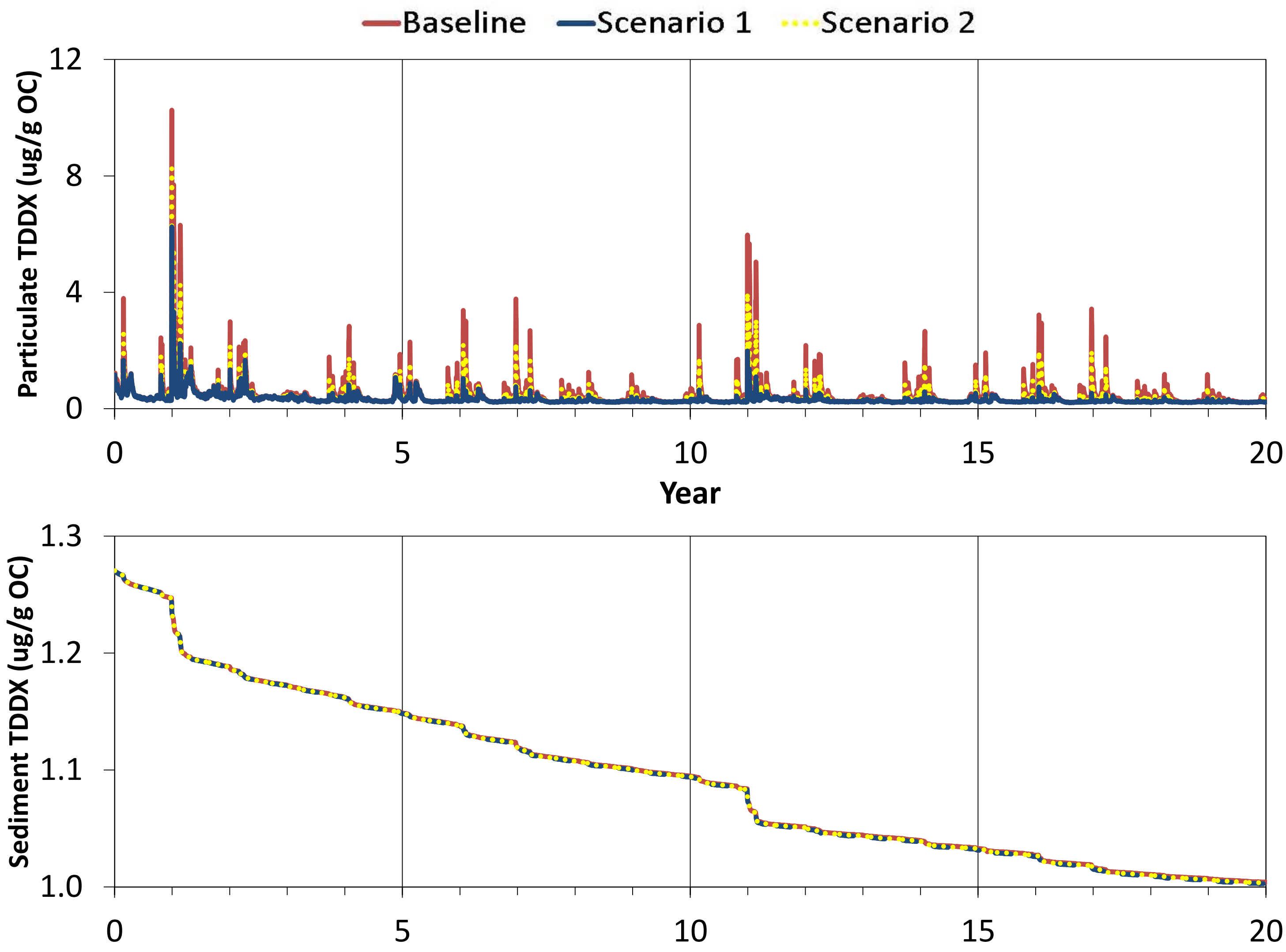


Figure 4.9g Scenario 1 and 2 TDDX Concentrations - LB Inner Harbor North

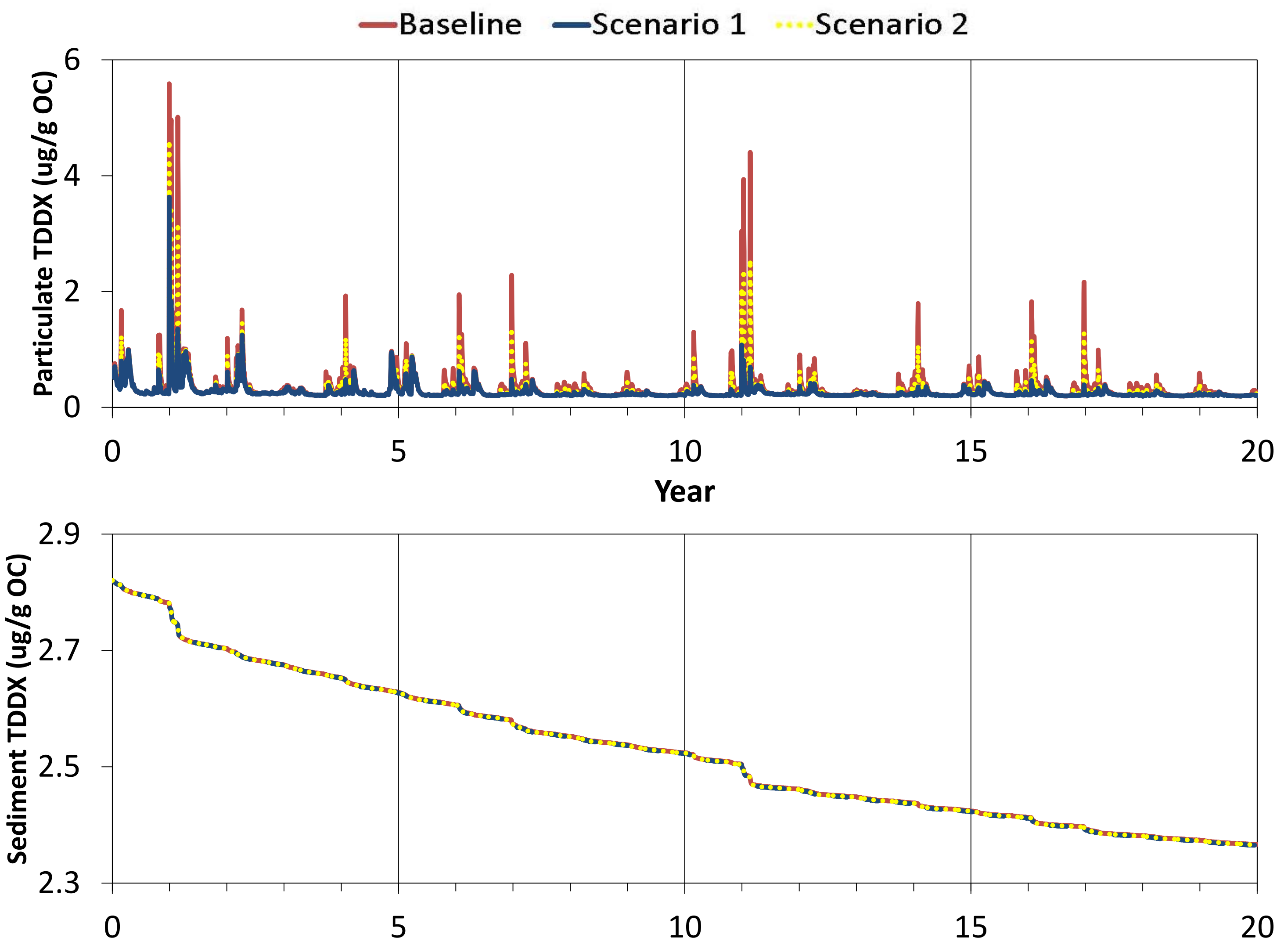


Figure 4.9h Scenario 1 and 2 TDDX Concentrations - LB Inner Harbor South

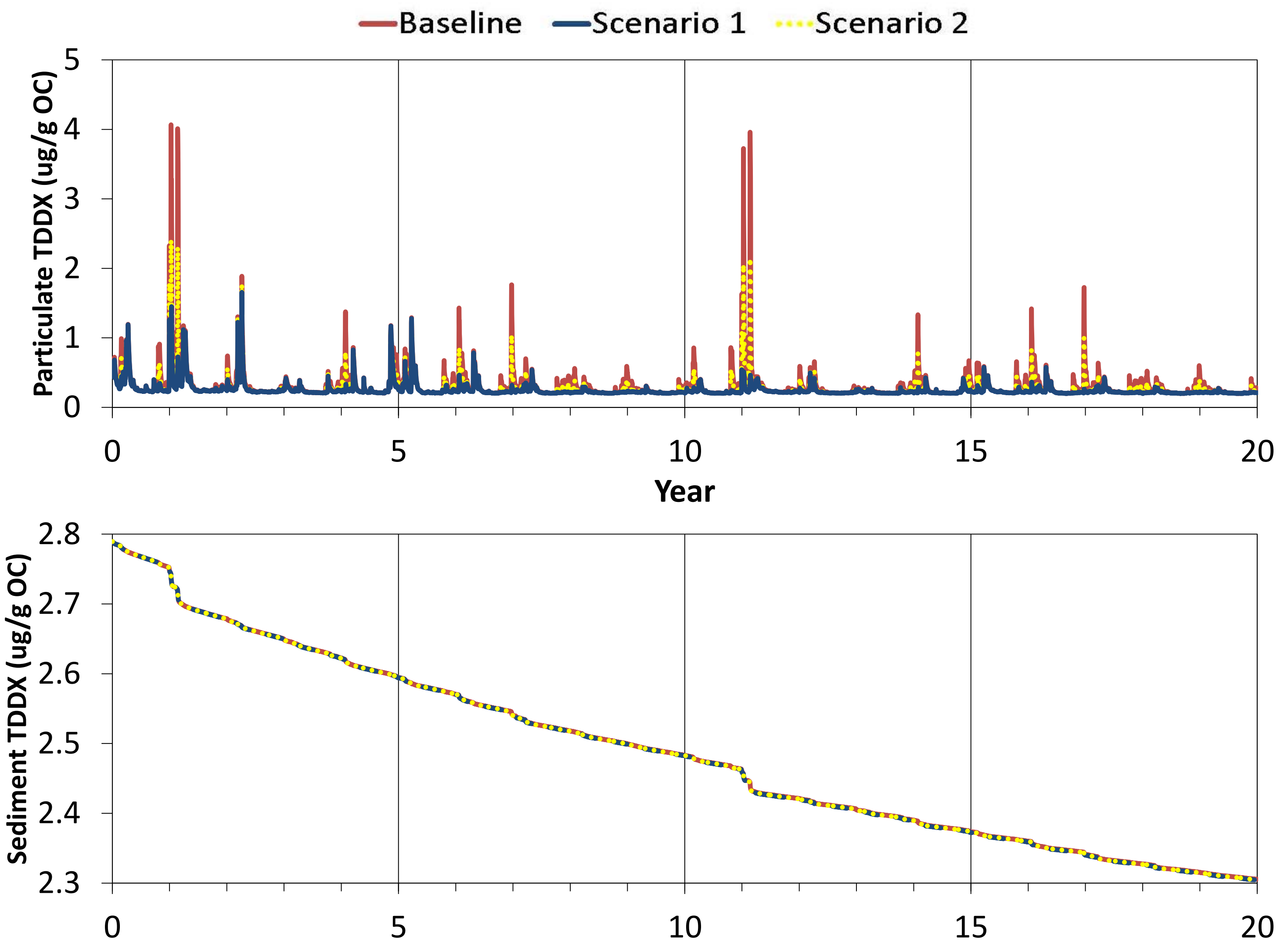


Figure 4.9i Scenario 1 and 2 TDDX Concentrations - LB Outer Harbor

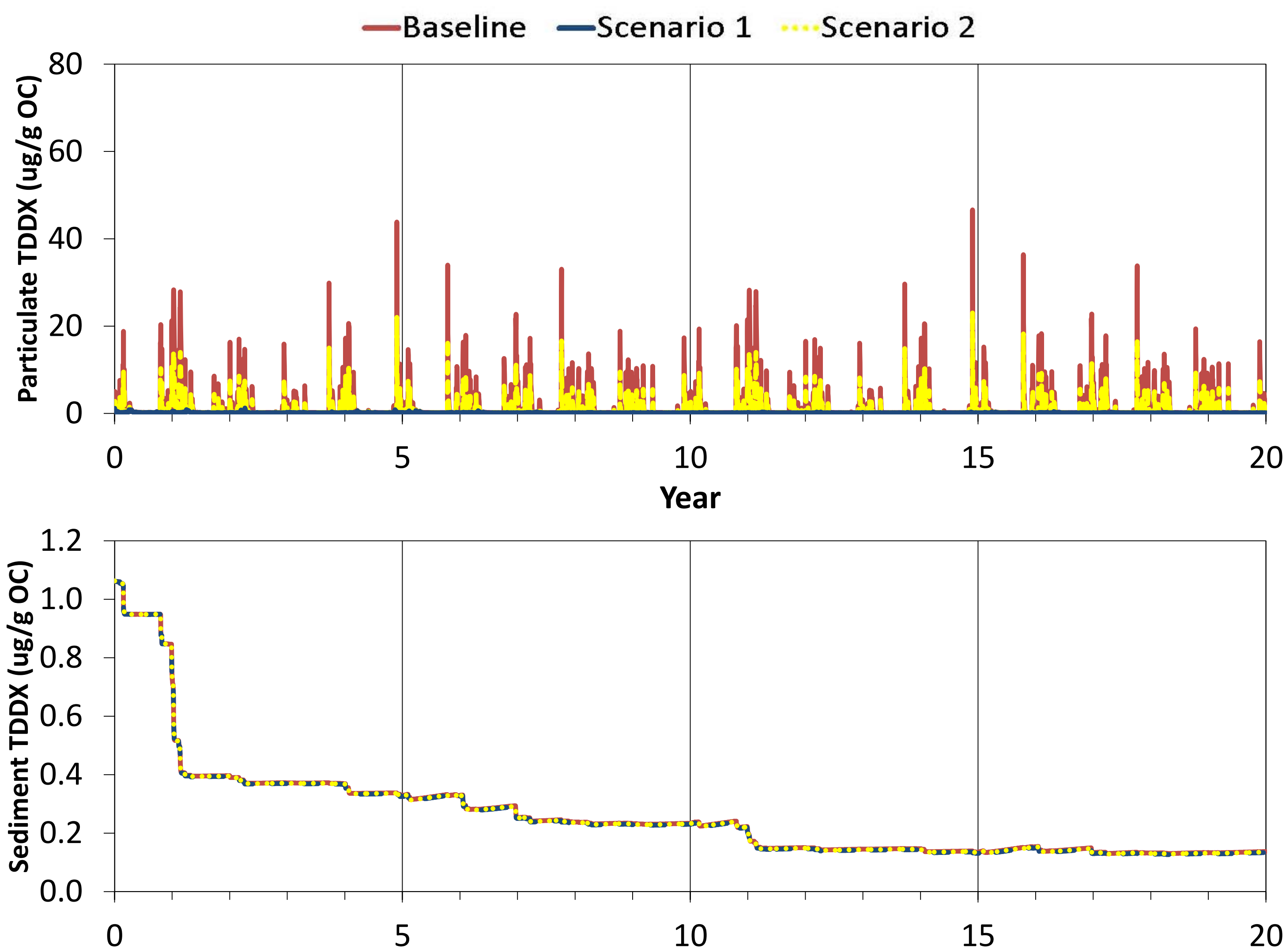


Figure 4.9j Scenario 1 and 2 TDDX Concentrations - Los Angeles River Estuary

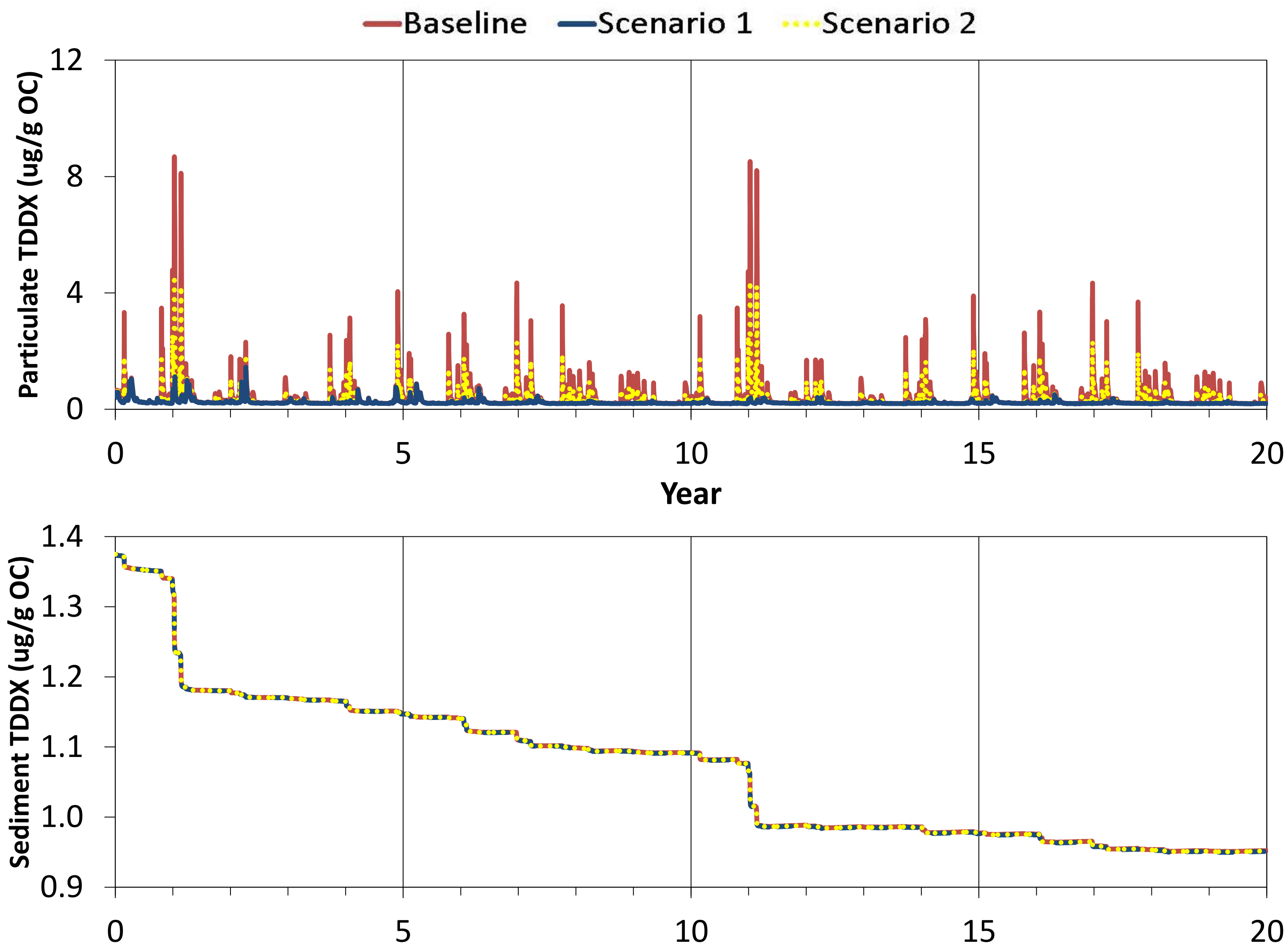


Figure 4.9k Scenario 1 and 2 TDDX Concentrations - Eastern San Pedro Bay

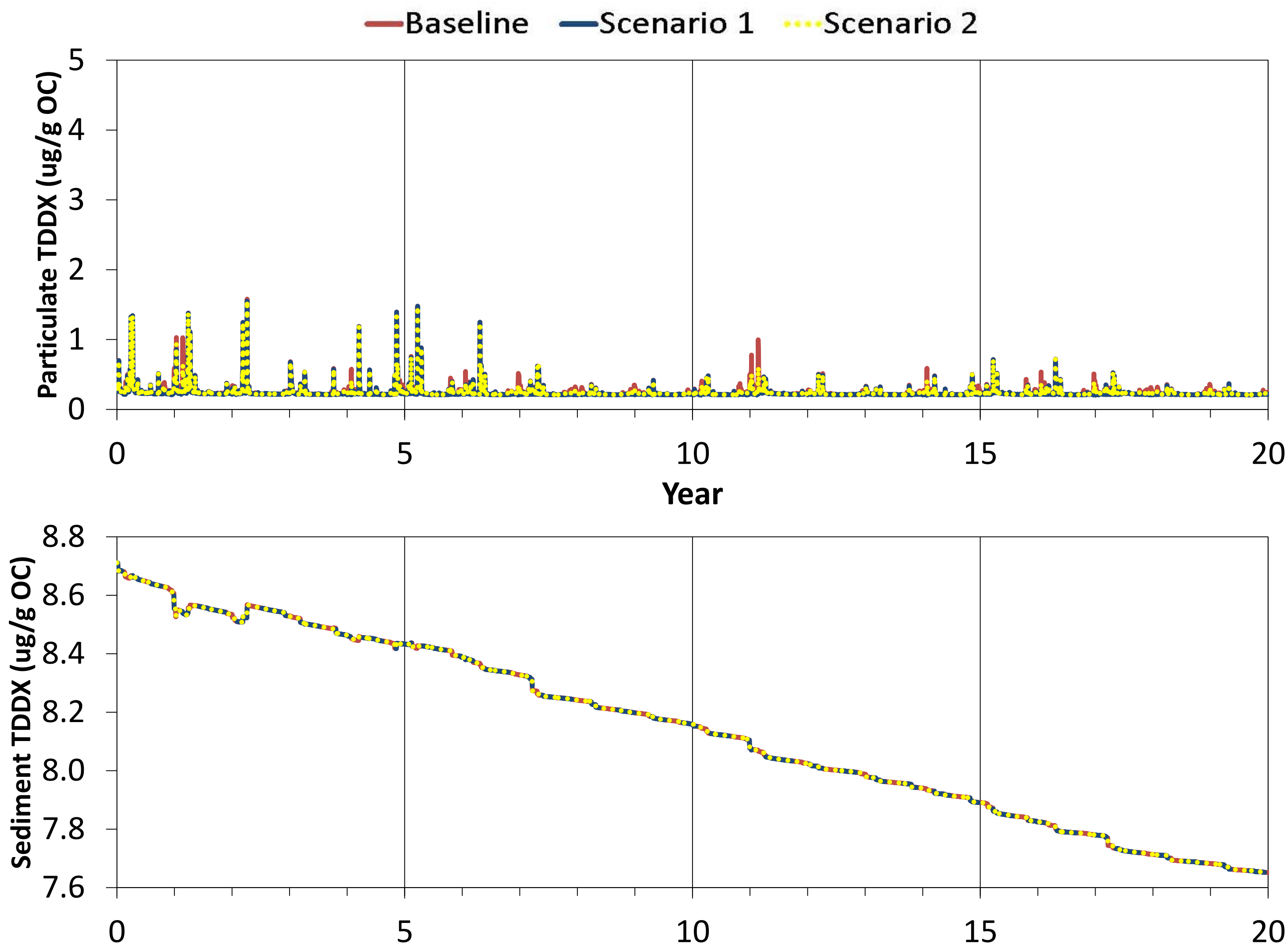


Figure 4.9l Scenario 1 and 2 TDDX Concentrations - Outside Harbor Exposure Area

For comparisons among fish movement zones, the annual TPCB and TDDX concentrations under Scenario 1 are shown in Figures 4.10 and 4.11, respectively. Similar to the Baseline Scenario, the highest TPCB water concentrations under Scenario 1 occur in the DC Estuary and CS, which indicates that watershed loadings account for only a portion of TPCB loadings. Comparison of TPCB bed concentrations among fish movement zones for Scenario 1 show that the highest concentrations occur in the CS, DC, and FH. For TDDX, the Scenario 1 water concentrations are also the highest in the DC Estuary and CS. TDDX bed concentrations are the highest in the CS, DC, and FH. Overall, Scenario 1 results in decreases in water concentrations for both TPCB and TDDX. Fish movement zones closest to watershed sources – DC Estuary, CS, and LAR Estuary – have the greatest reduction in water concentrations. Bed concentrations under Scenario 1 are reduced slightly from those under the Baseline Scenario.

Annual TPCB and TDDX concentrations for Scenario 2 are shown in Figures 4.12 and 4.13, respectively. Water and bed concentrations for both TPCB and TDDX show similar trends between fish movement zones, as compared to those under the Baseline Scenario and Scenario 1. Reductions in water and bed concentrations under Scenario 2 correspond to the proximity of fish movement zones to watershed sources.

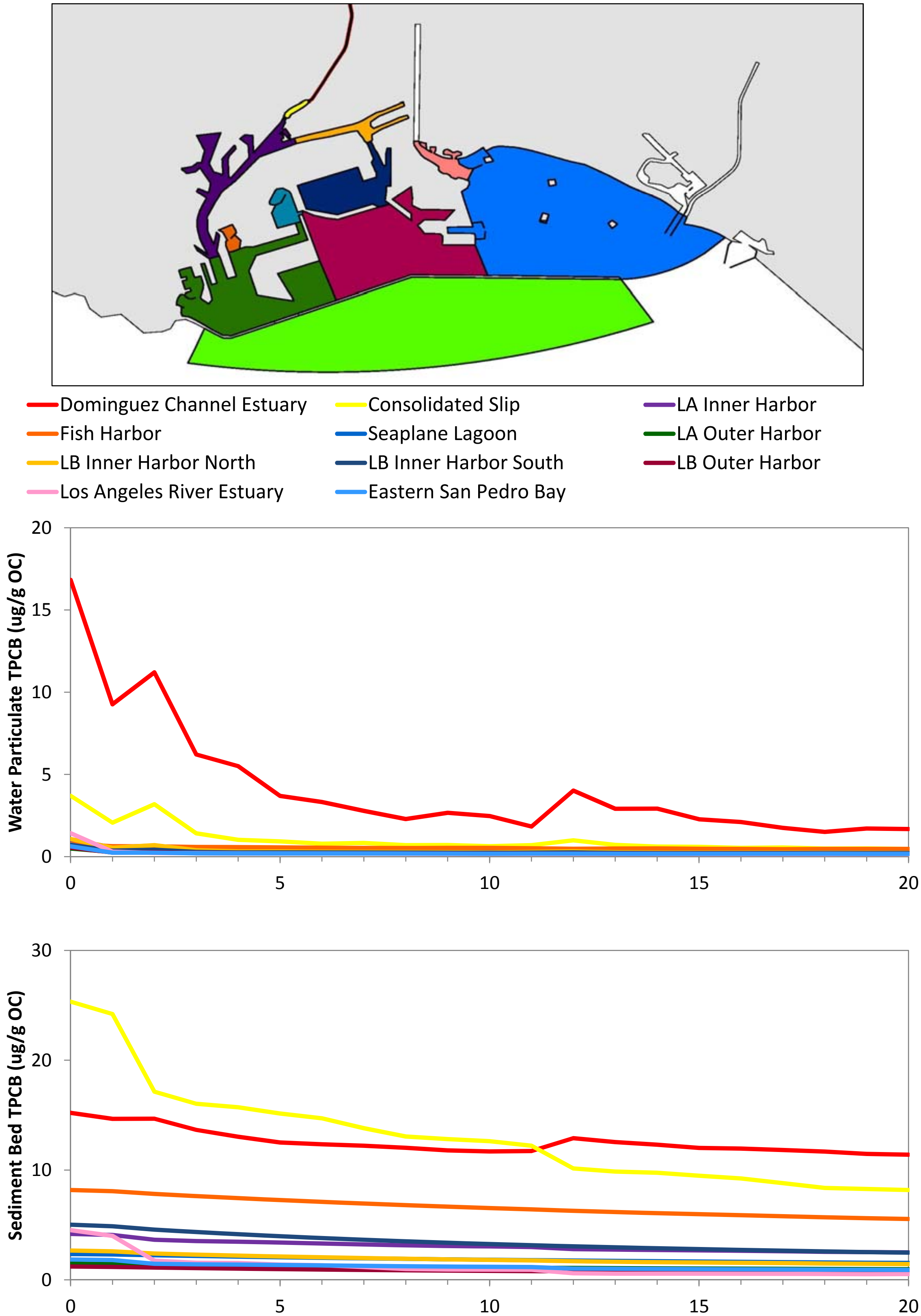


Figure 4.10 Scenario 1 Comparison of Annual TPCB Concentrations

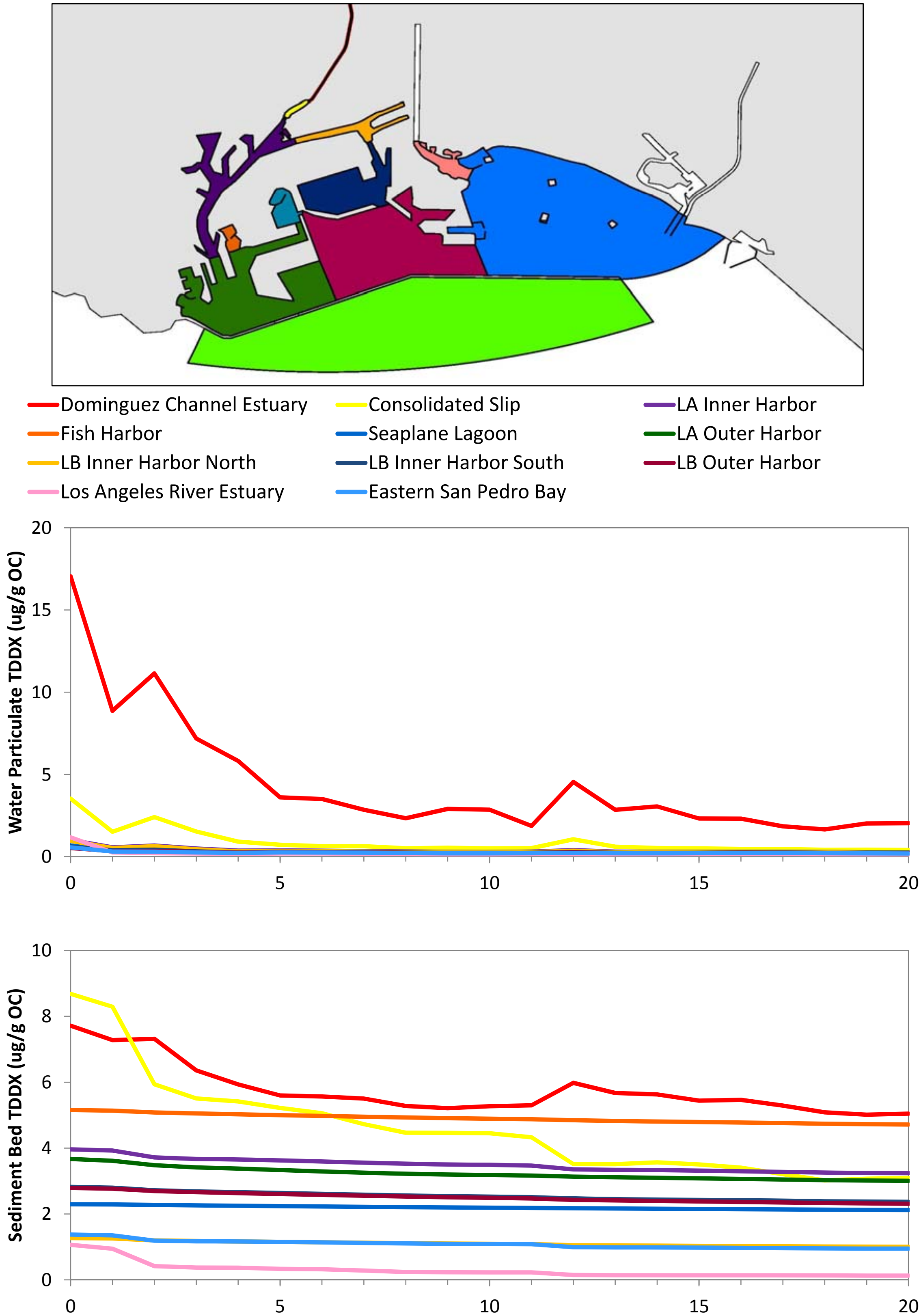


Figure 4.11 Scenario 1 Comparison of Annual TDDX Concentrations

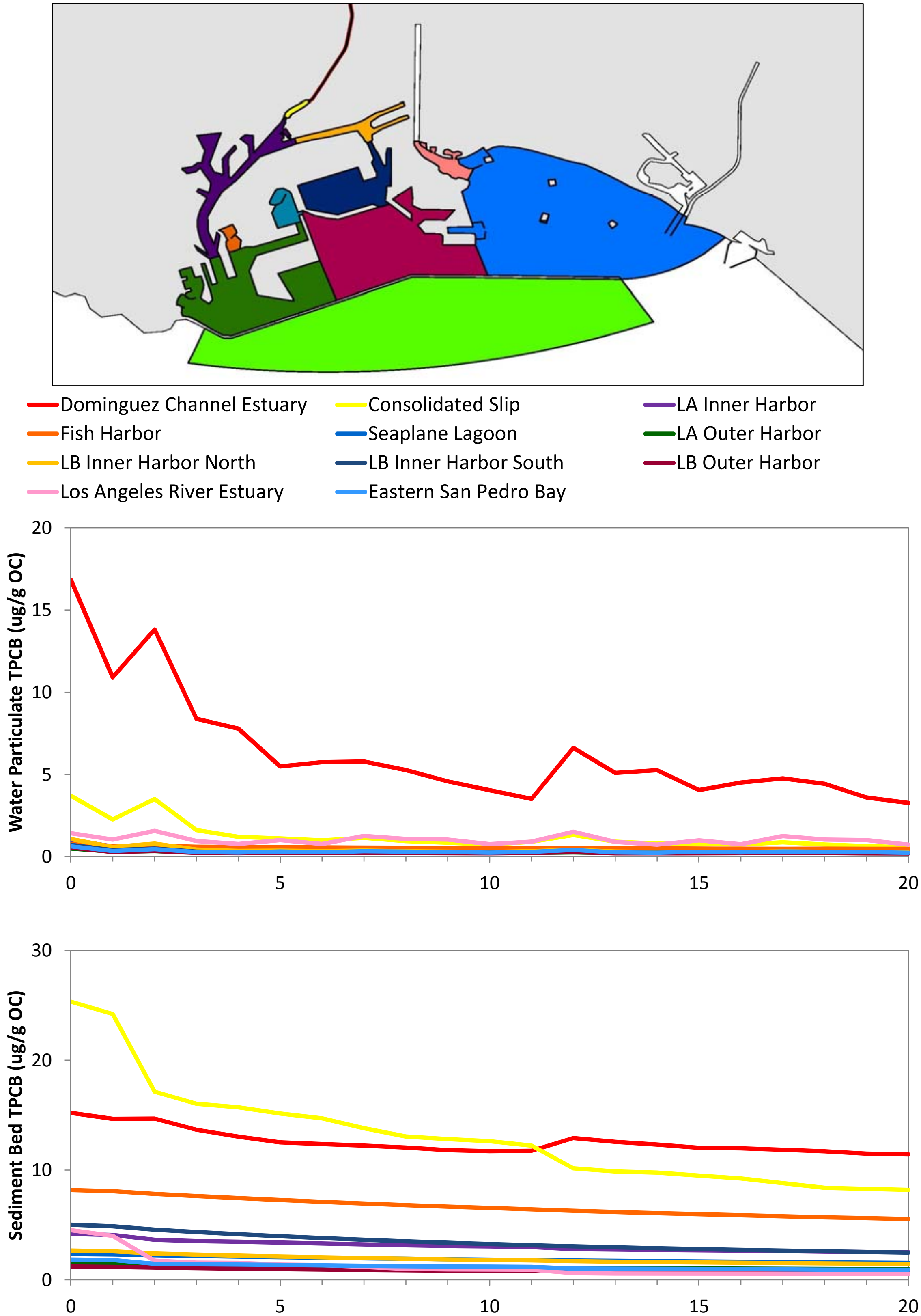


Figure 4.12 Scenario 2 Comparison of Annual TPCB Concentrations

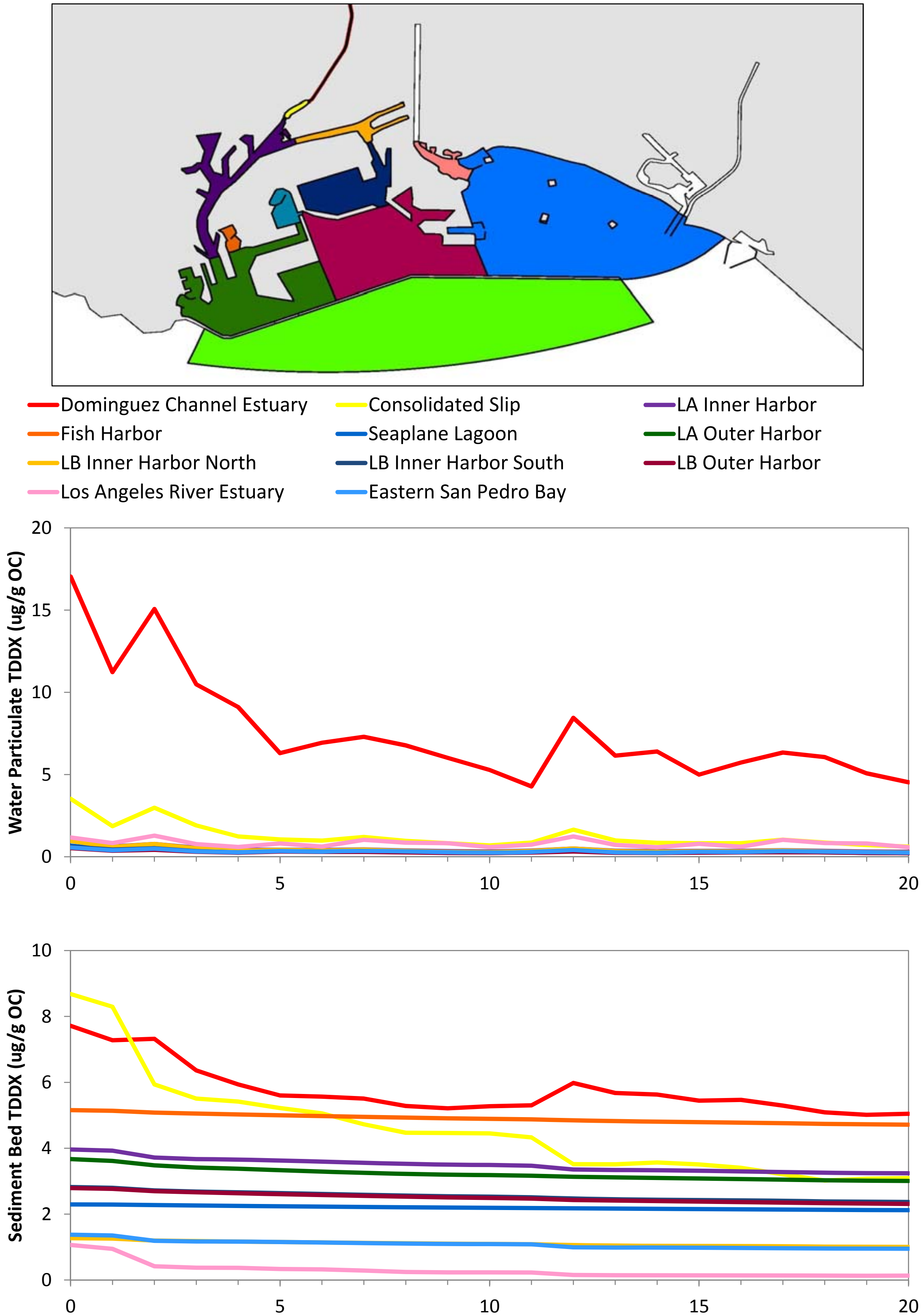


Figure 4.13 Scenario 2 Comparison of Annual TDDX Concentrations

4.3 Sediment Loading Reduction Scenario

Under Scenario 3, the sediment bed concentrations for TPCB and TDDX were set to the TMDL fish-associated sediment targets. Daily water and bed concentrations for Scenario 3 are shown in Figures 4.14a-l for TPCB and Figures 4.15a-l for TDDX. Water concentrations under the Baseline Scenario and Scenario 3 are compared in the top panel. In the DC Estuary, water concentrations are similar between the Baseline and Scenario 3 since these scenarios had the same watershed loadings and sediment bed concentrations. In the LAR Estuary and Eastern San Pedro Bay, the Baseline and Scenario 3 water concentrations are also similar, since these areas are mainly influenced by watershed loadings. The Scenario 3 water concentrations are significantly lower than those under the Baseline Scenario for FH, and to a lesser extent, for Seaplane Lagoon. In these hydrodynamically inactive areas, the sediment bed is a major source, due to the mass transfer from bed to water column. For the other fish movement zones, Scenario 3 water concentrations are slightly lower than those under the Baseline Scenario. The differences between the Baseline Scenario and Scenario 3 are greater for TPCB results than for TDDX results due to the differences in the mass transfer coefficients; these differences are most apparent in FH.

Scenario 3 bed concentrations are shown in the lower panel, with vertical scales that are varied to best show the changes in bed concentrations. Due the lowered bed concentrations under Scenario 3, Baseline Scenario bed concentrations are not included for comparison. In the DC Estuary, the bed concentrations are similar to those under the Baseline Scenario since there were no changes to the sediment bed concentrations under Scenario 3. In general, bed concentrations decline over time, similar to what happens under the Baseline Scenario. In some areas, however, increases in bed concentrations occur due to watershed loadings, indicating “recontamination” of bed sediments. In the CS and LAR Estuary, declines in bed concentrations coincide with large rain events, and increases in bed concentrations occur during drier years. Increases in bed concentrations also occur in FH and Seaplane Lagoon. For zones that show increases in bed concentrations, the rate of “recontamination” is less than the recovery rate, so there is still an overall decrease in bed concentrations under Scenario 3.

Figures 4.16 and 4.17 compare the Scenario 3 annual TPCB and TDDX concentrations, respectively. For both TPCB and TDDX, the highest annual water concentrations occur in the DC Estuary, CS, and LAR Estuary. Bed concentrations in the DC Estuary are not shown in order to clearly depict declines in the other fish movement zones, in which bed concentrations were modified under Scenario 3. In most fish movement zones, the sediment bed concentrations gradually decline over time. Fluctuations in bed concentrations due to watershed loadings are most apparent in the CS and LAR Estuary. Overall, Scenario 3 results in reductions in water and bed concentrations.

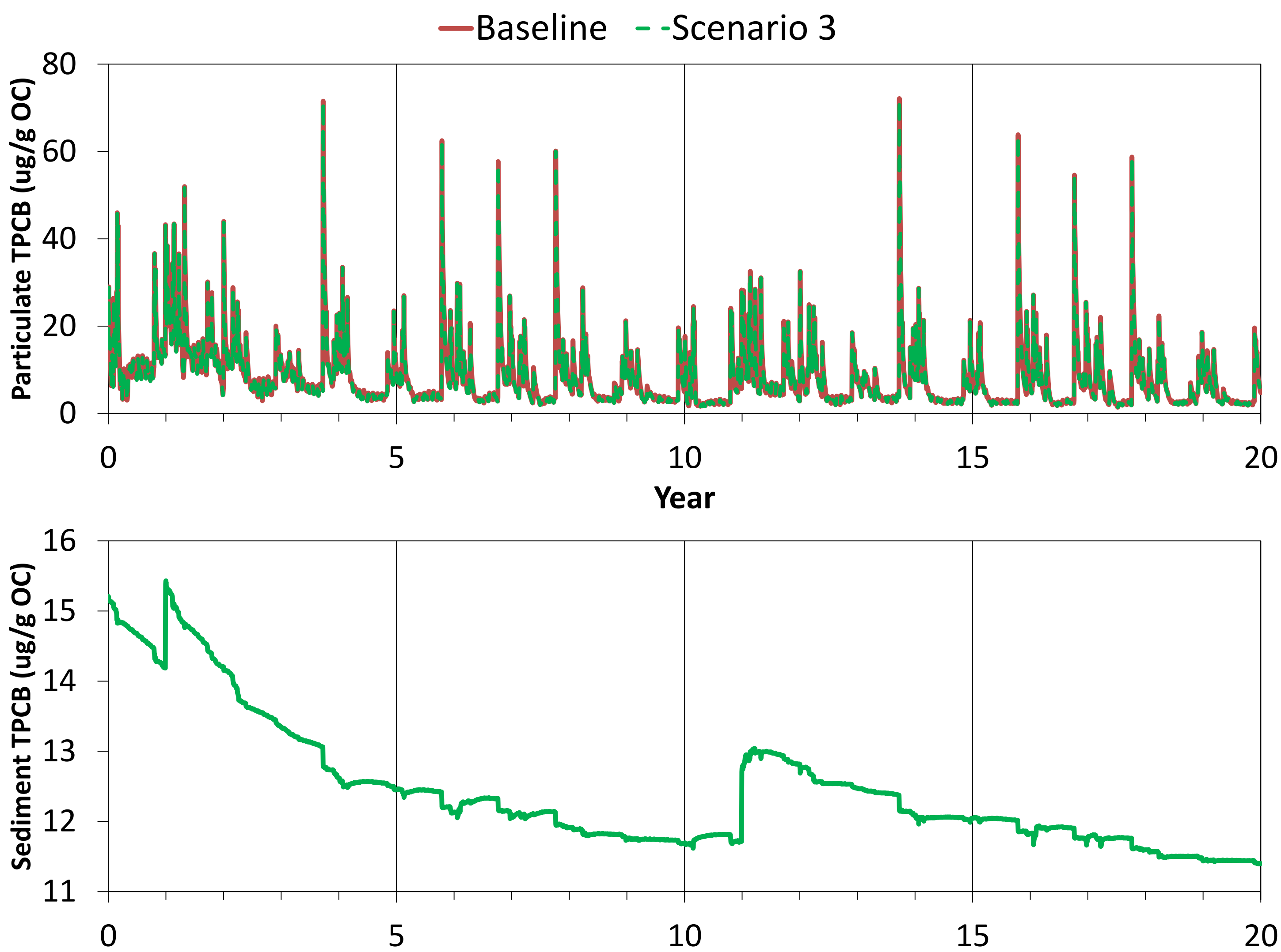


Figure 4.14a Scenario 3 TPCB Concentrations - Dominguez Channel Estuary

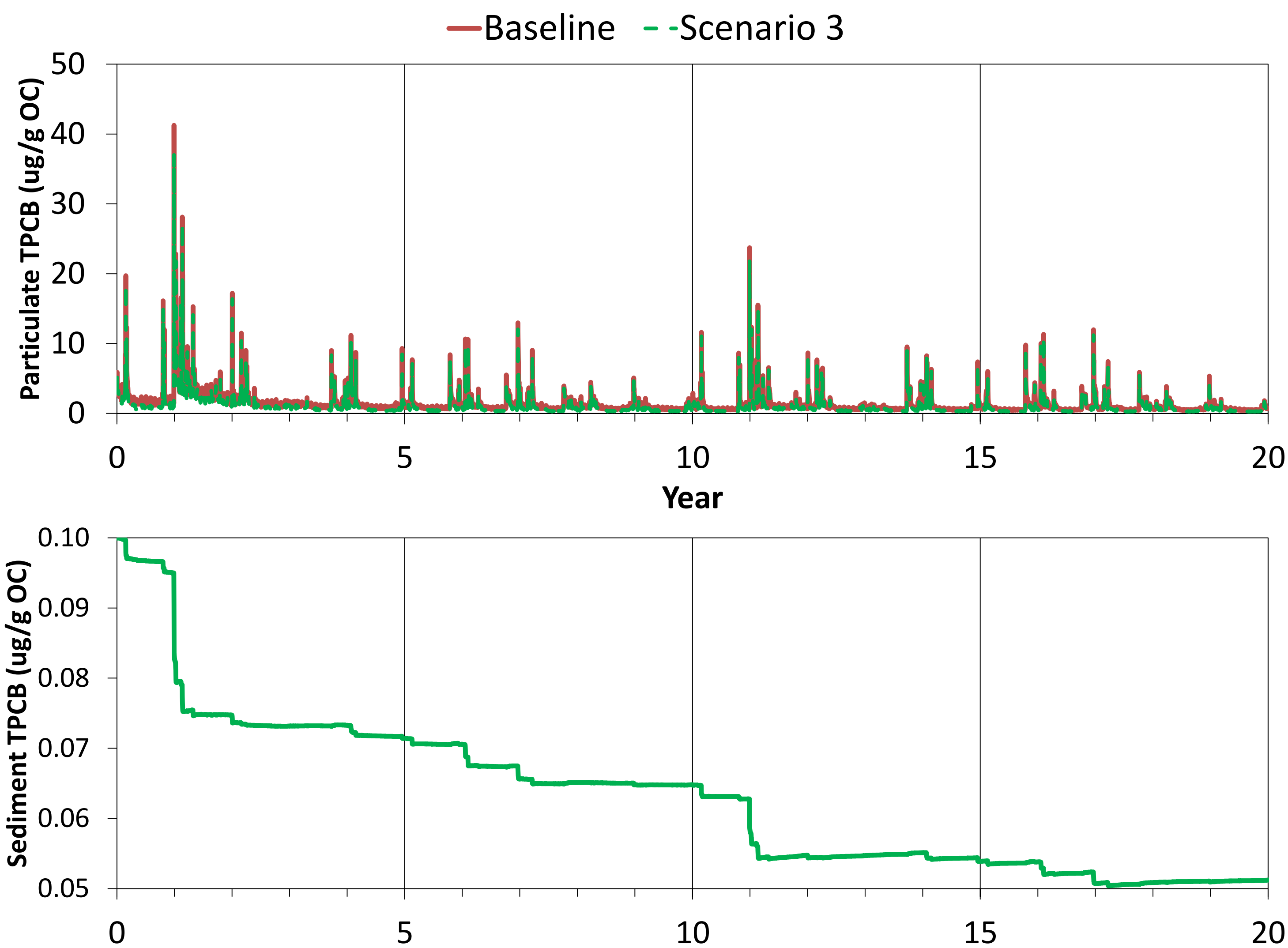


Figure 4.14b Scenario 3 TPCB Concentrations - Consolidated Slip

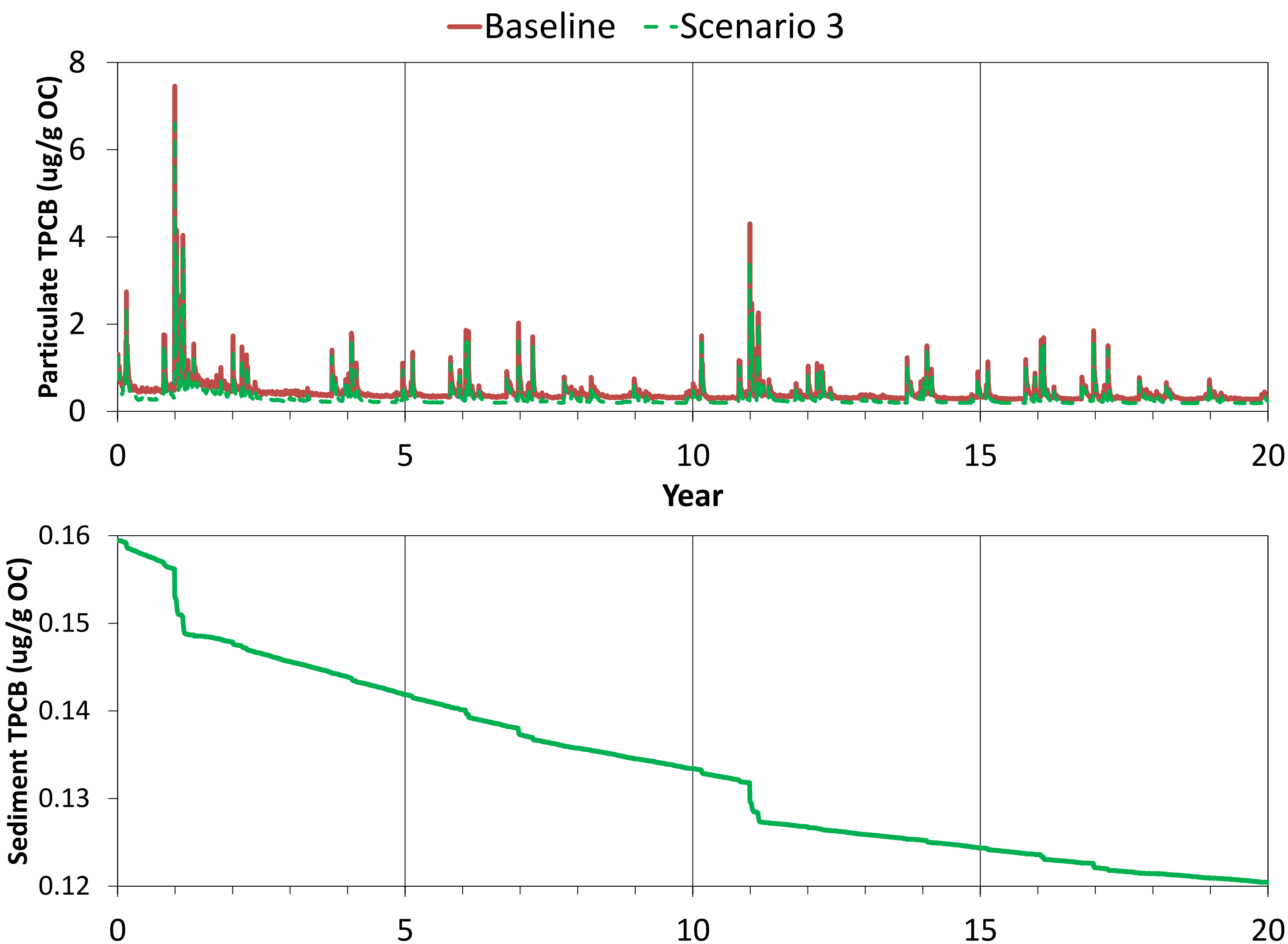


Figure 4.14c Scenario 3 TPCB Concentrations - LA Inner Harbor

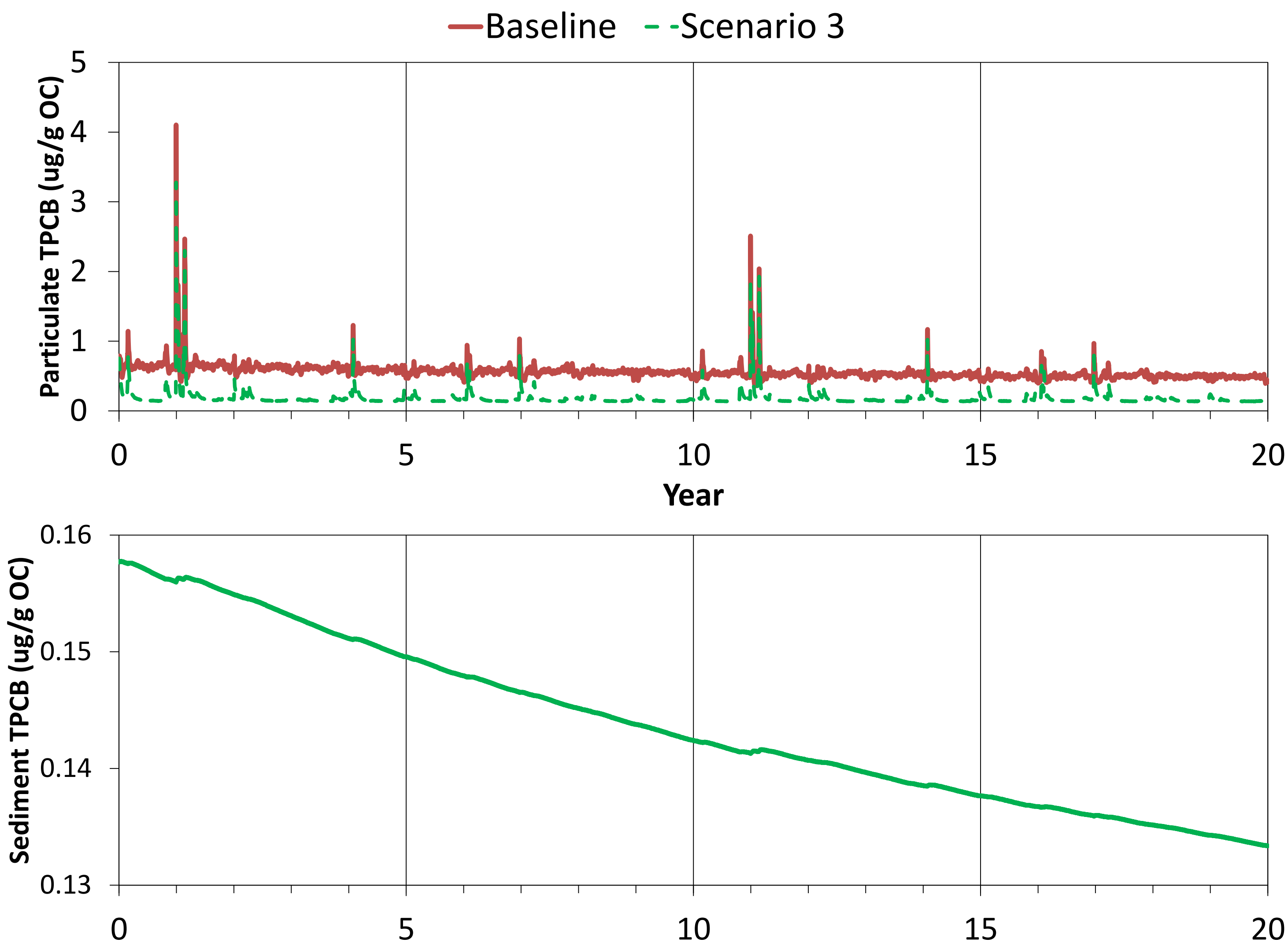


Figure 4.14d Scenario 3 TPCB Concentrations - Fish Harbor

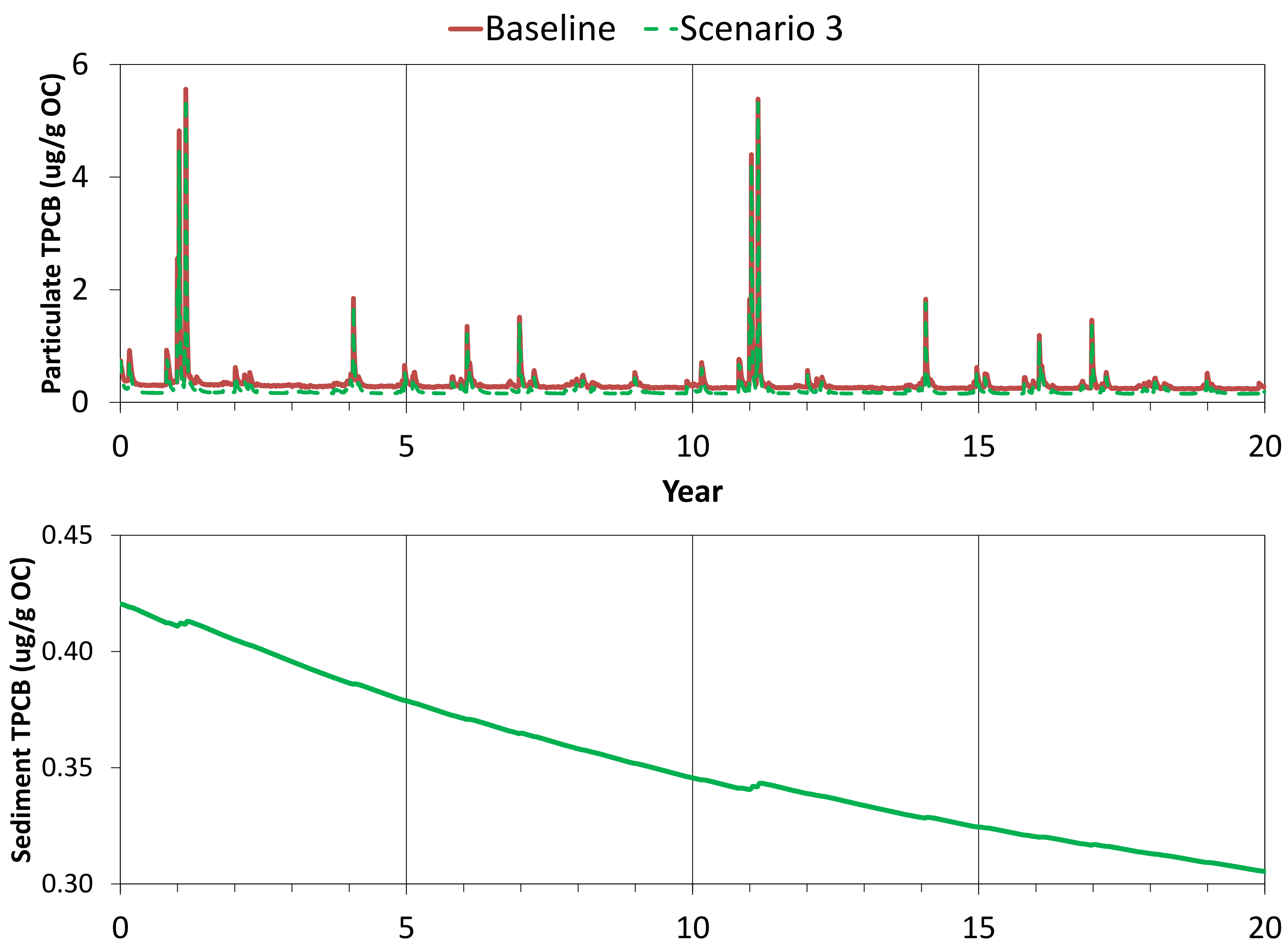


Figure 4.14e Scenario 3 TPCB Concentrations - Seaplane Lagoon

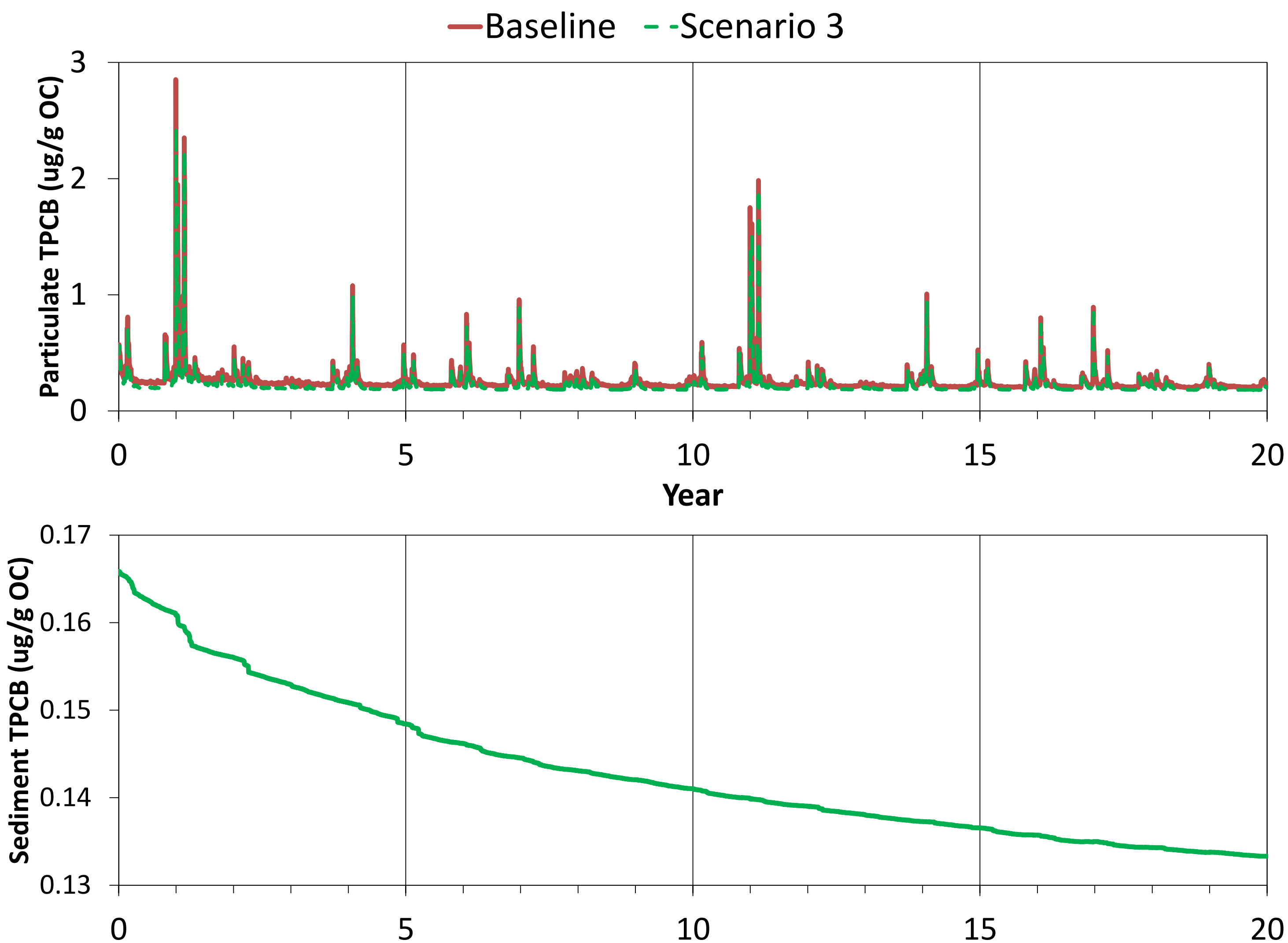


Figure 4.14f Scenario 3 TPCB Concentrations - LA Outer Harbor

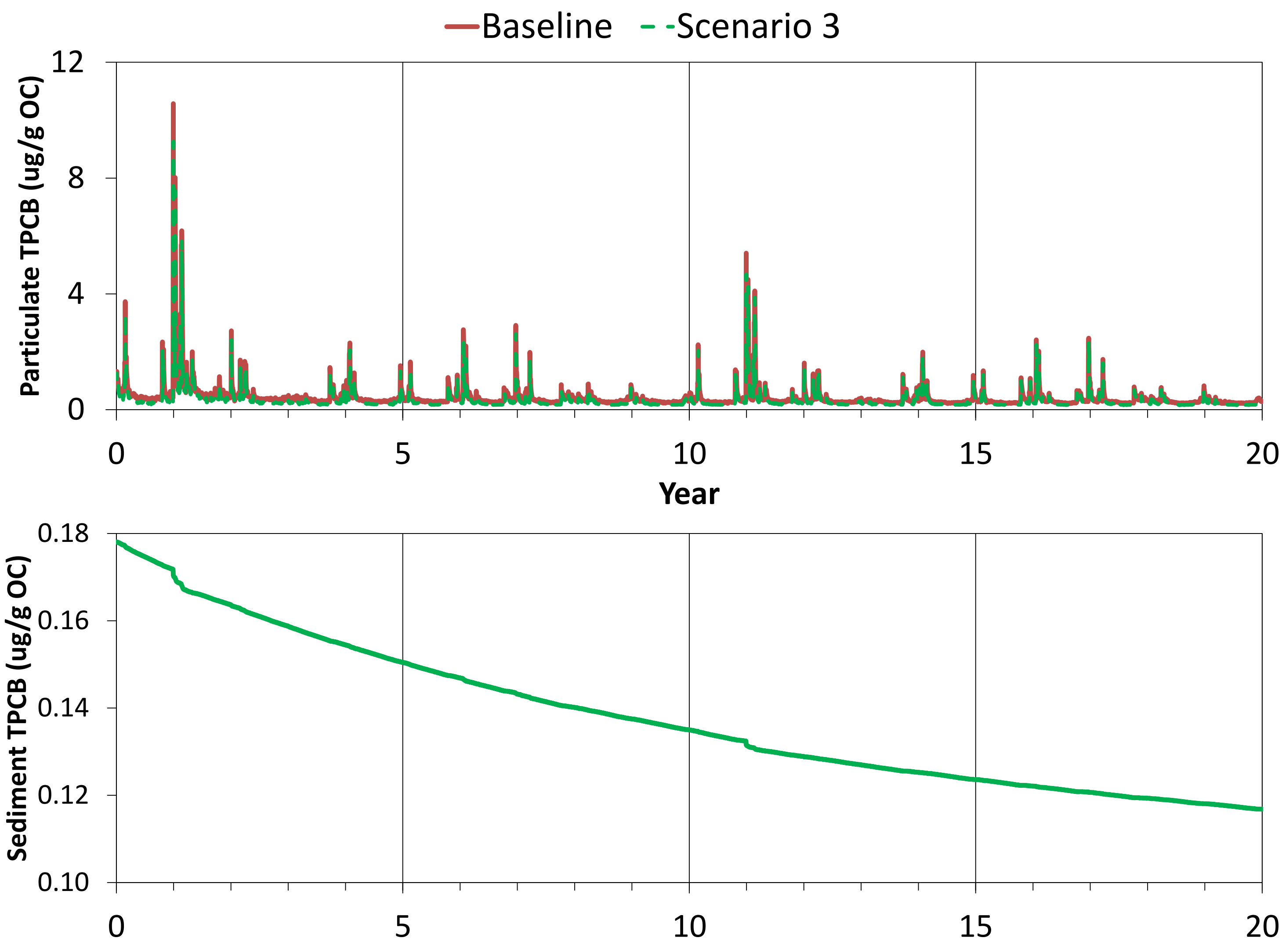


Figure 4.14g Scenario 3 TPCB Concentrations - LB Inner Harbor North

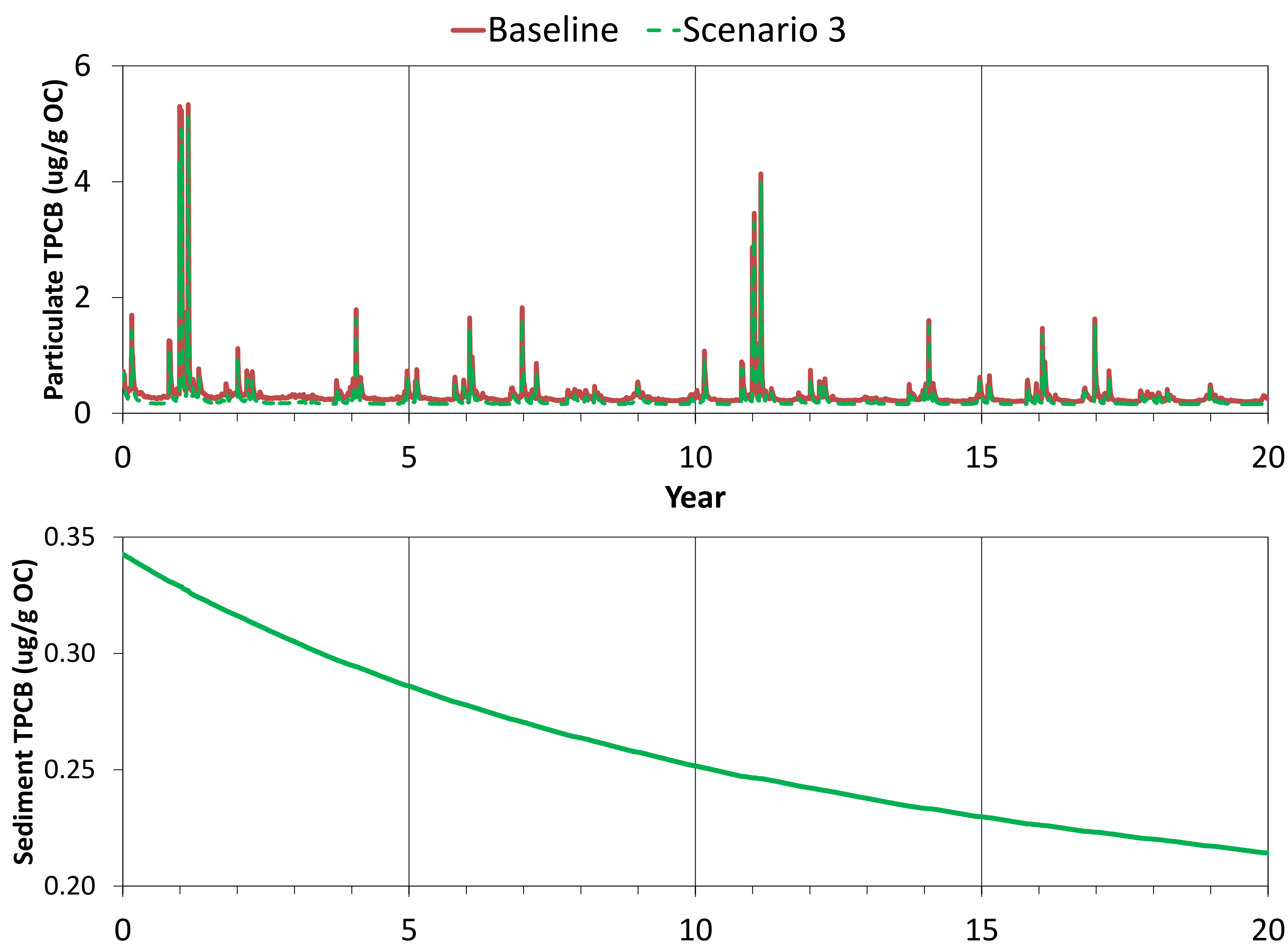


Figure 4.14h Scenario 3 TPCB Concentrations - LB Inner Harbor South

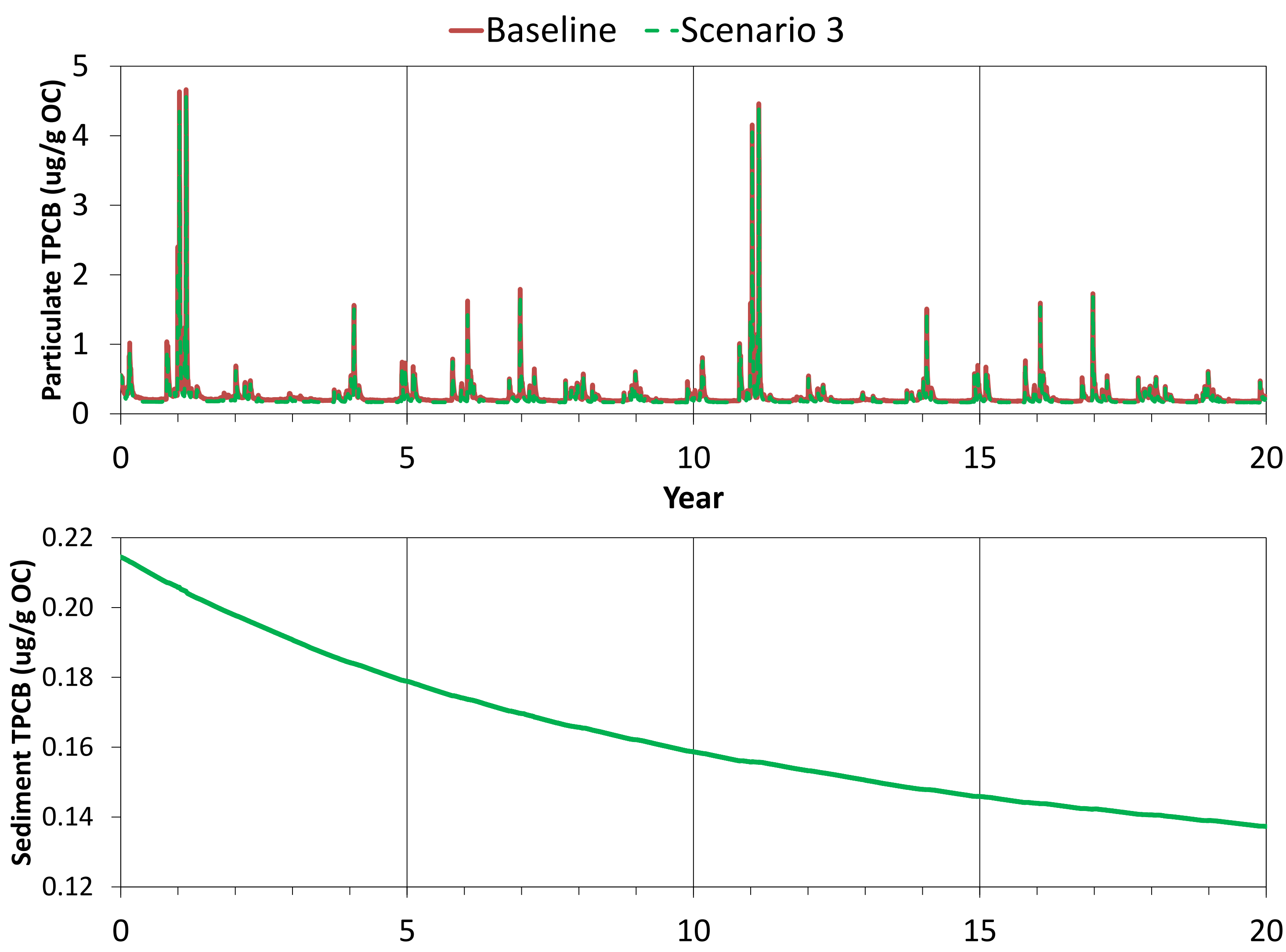


Figure 4.14i Scenario 3 TPCB Concentrations - LB Outer Harbor

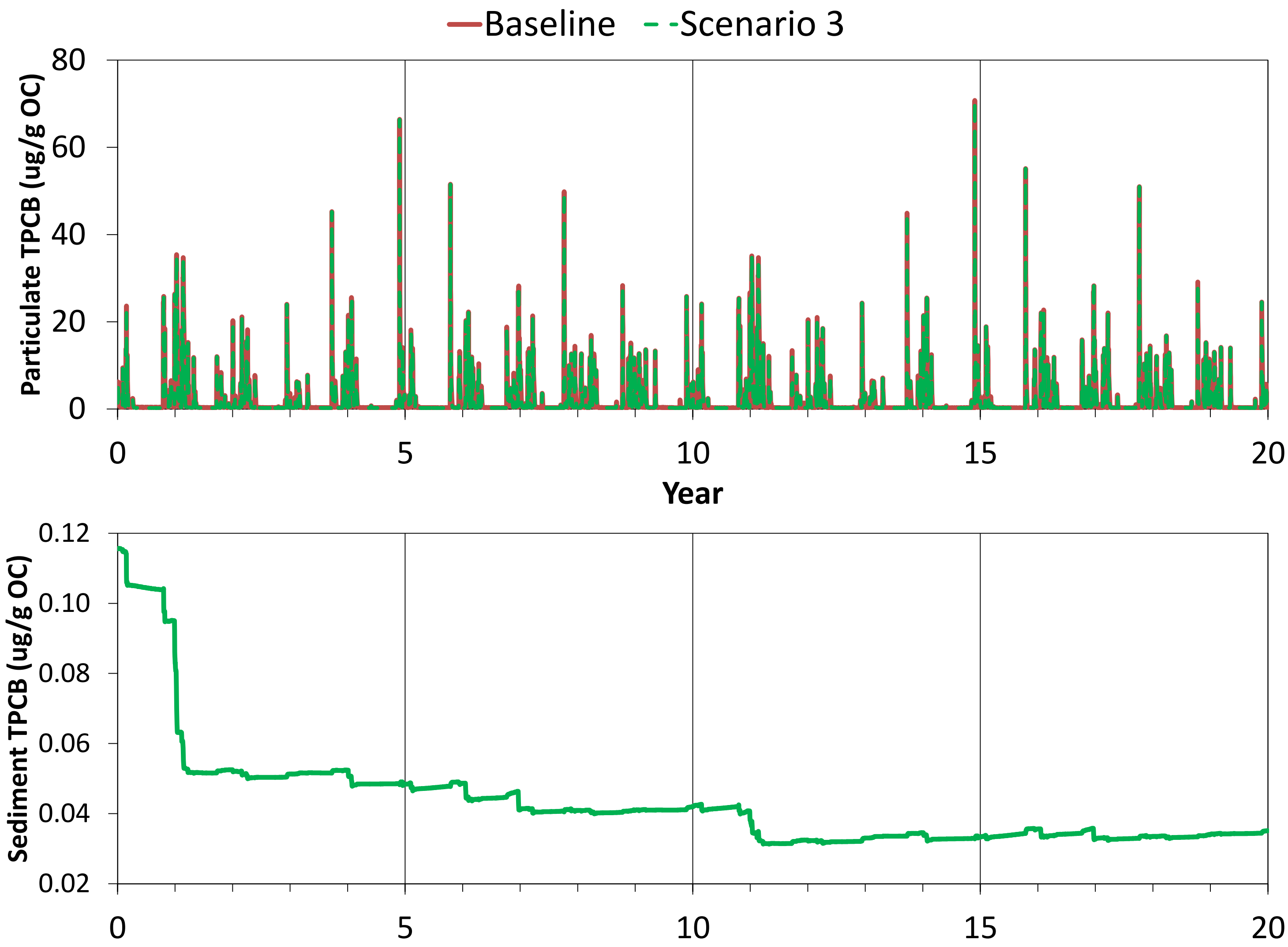


Figure 4.14j Scenario 3 TPCB Concentrations - Los Angeles River Estuary

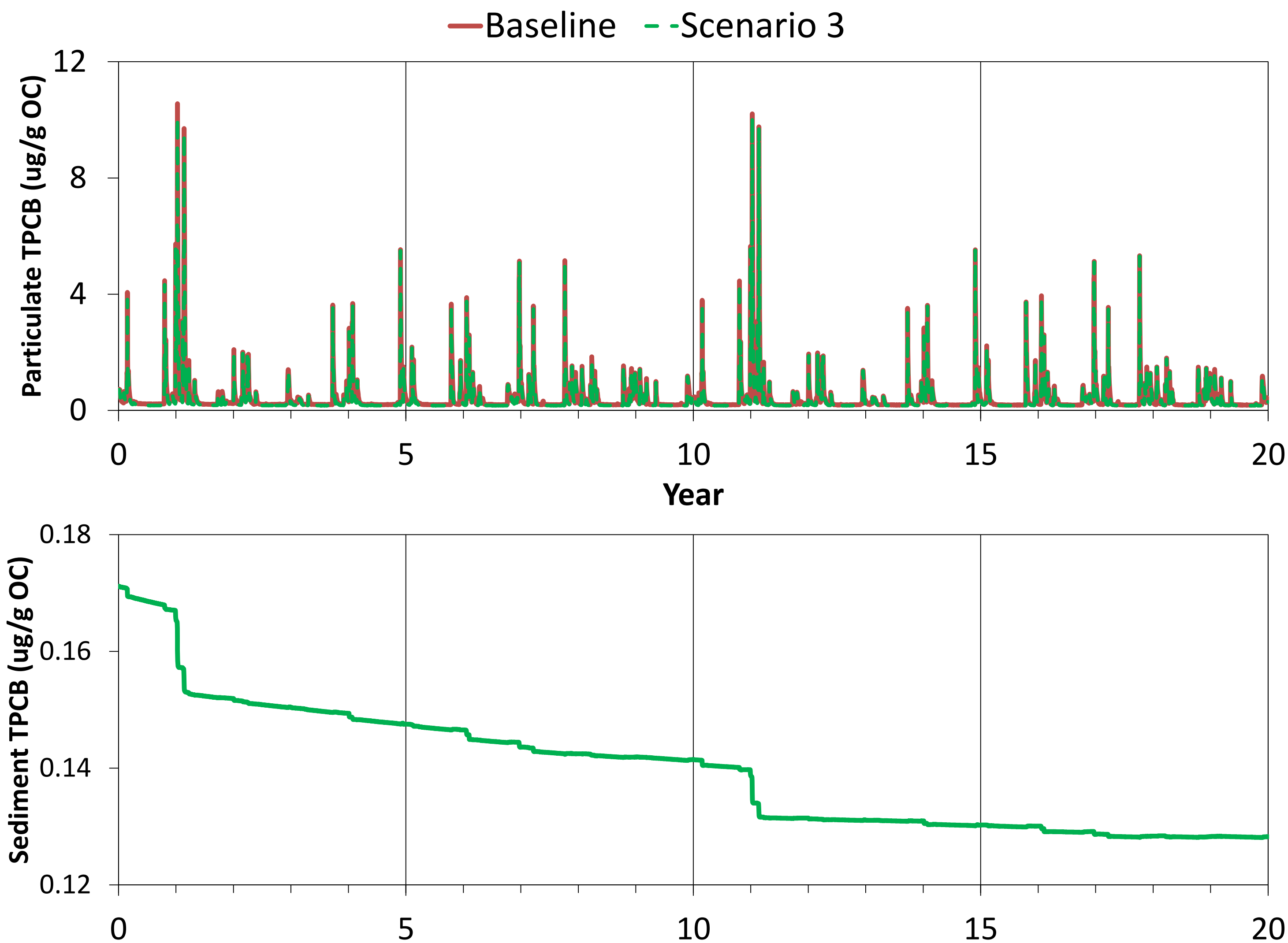


Figure 4.14k Scenario 3 TPCB Concentrations - Eastern San Pedro Bay

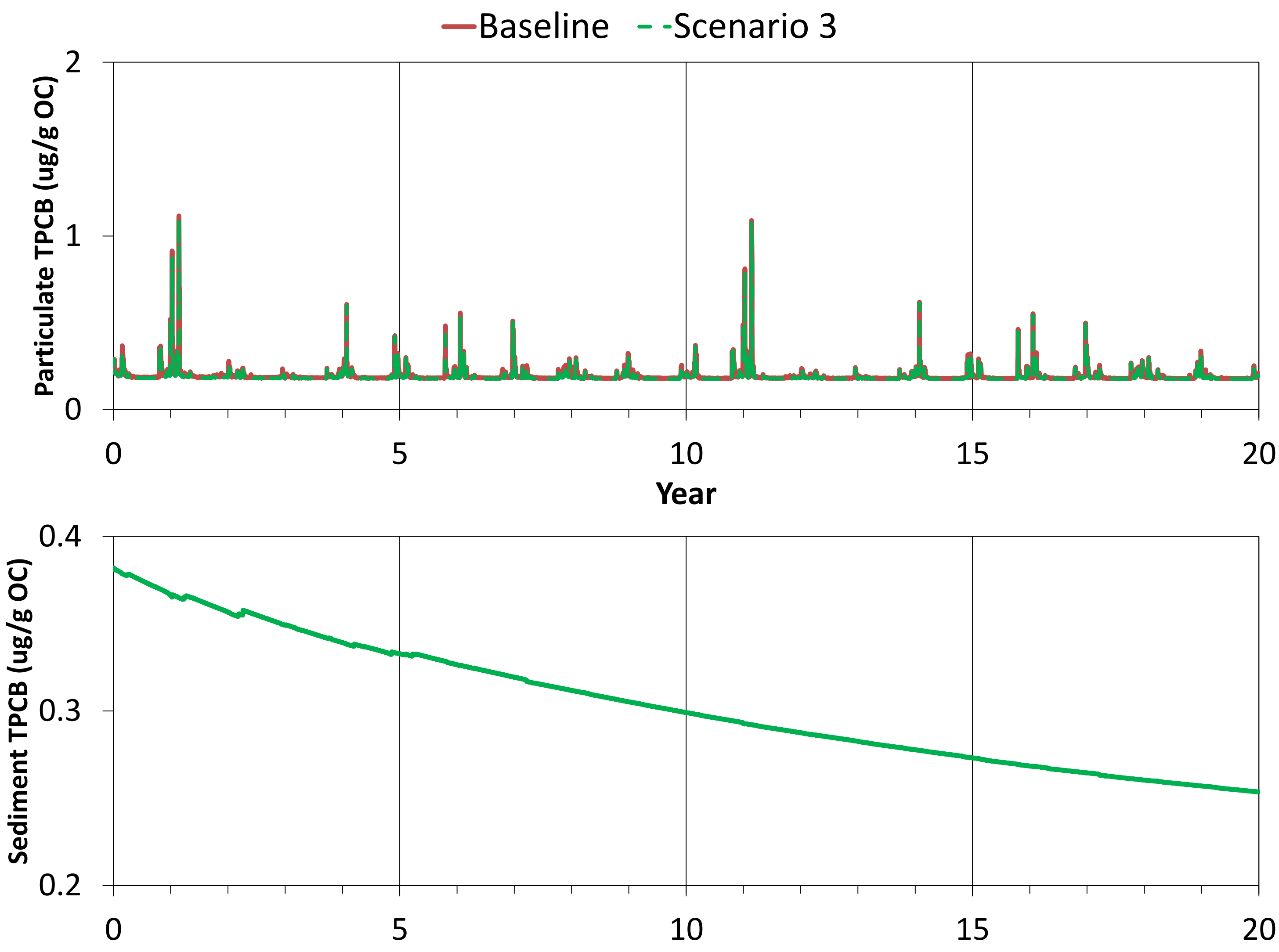


Figure 4.14l Scenario 3 TPCB Concentrations - Outside Harbor Exposure Area

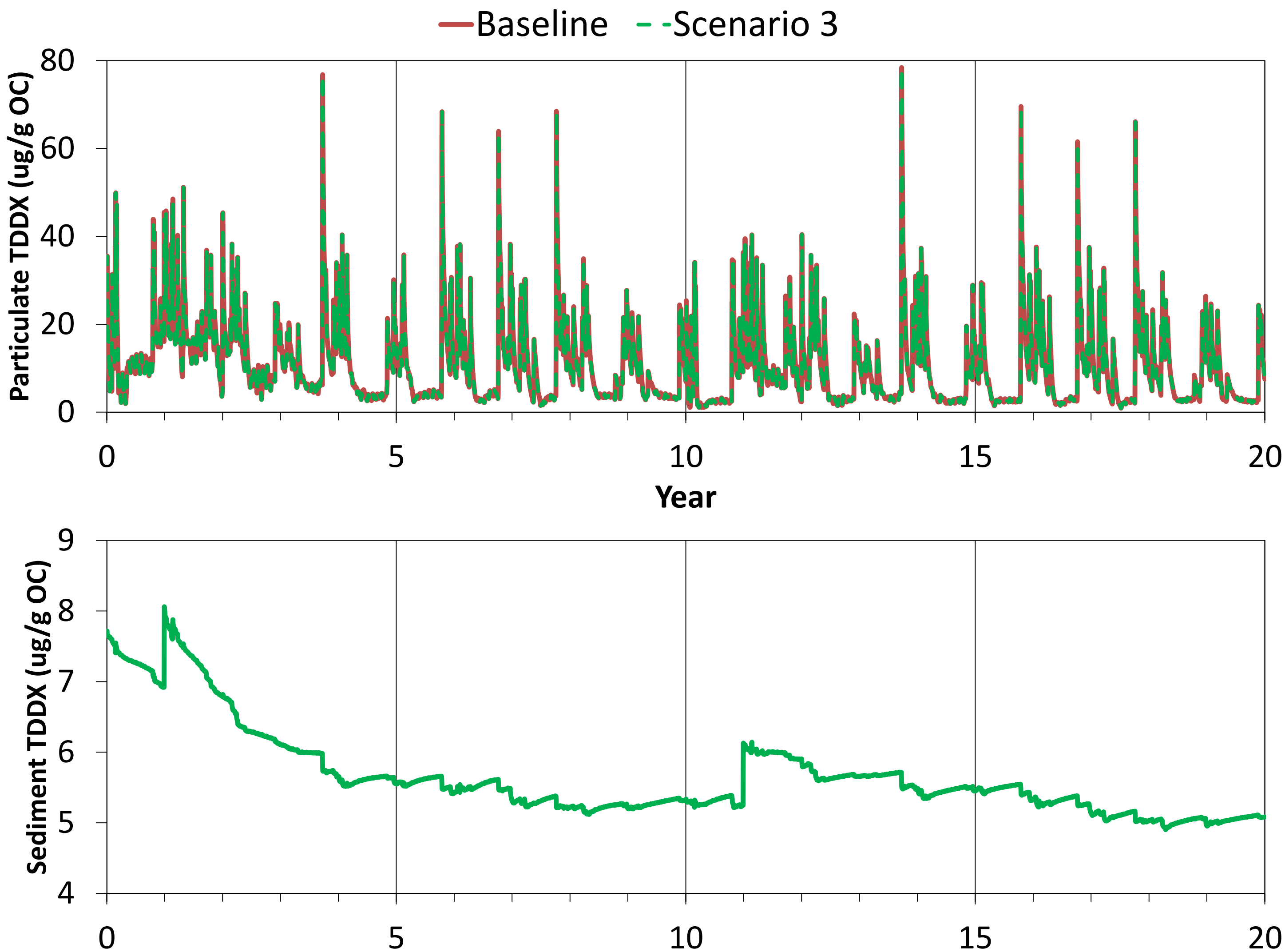


Figure 4.15a Scenario 3 TDDX Concentrations - Dominguez Channel Estuary

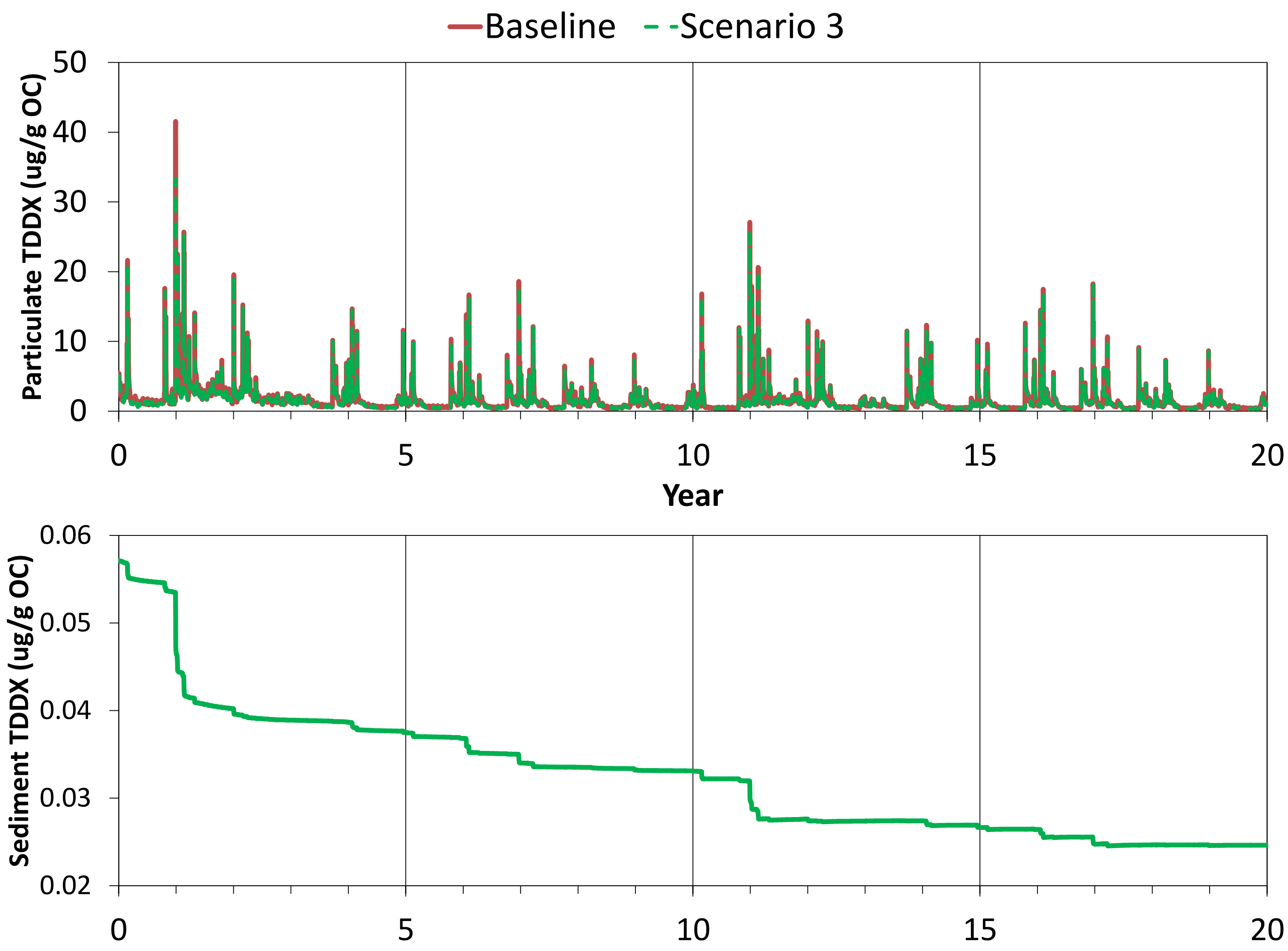


Figure 4.15b Scenario 3 TDDX Concentrations - Consolidated Slip

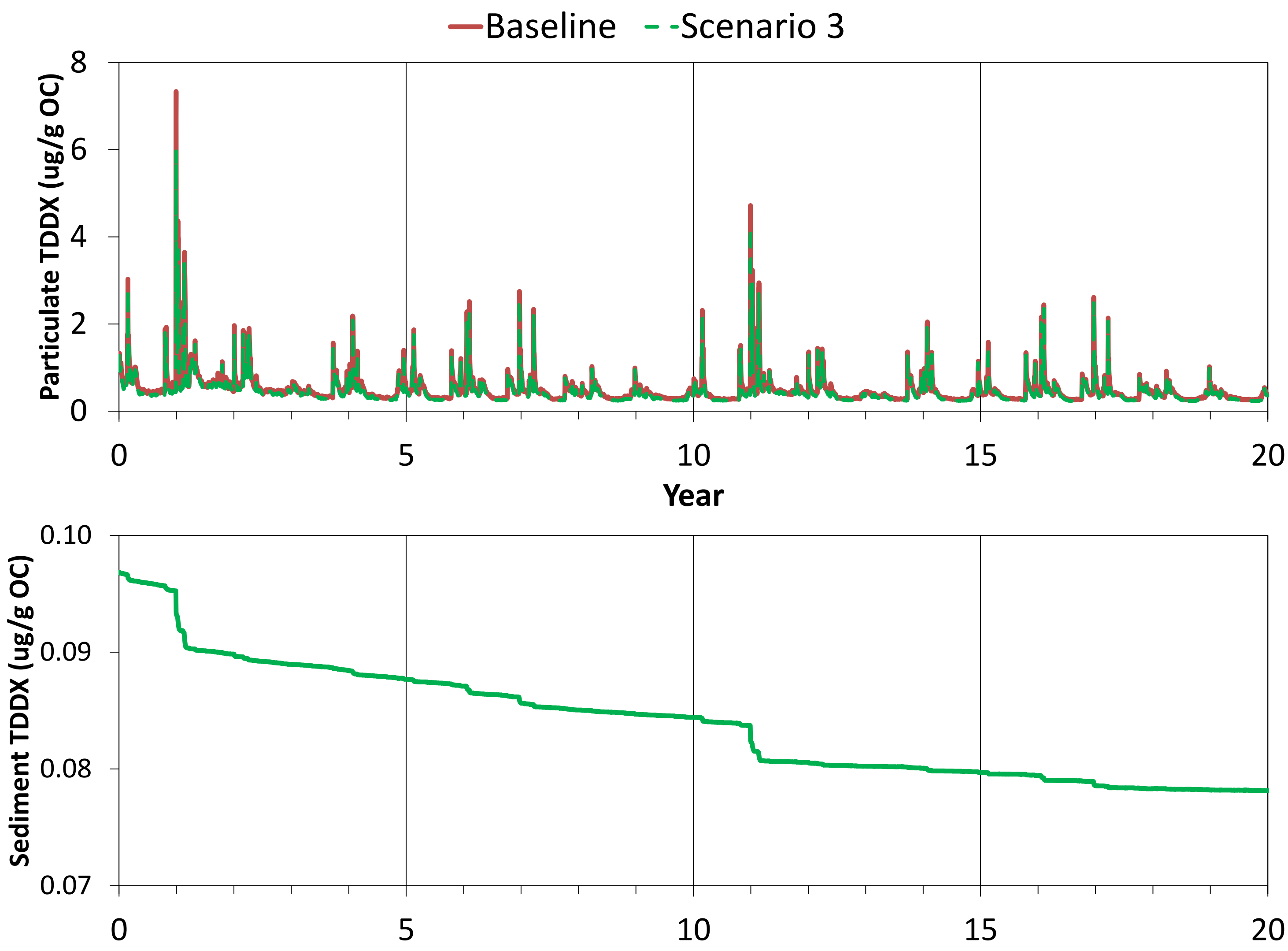


Figure 4.15c Scenario 3 TDDX Concentrations - LA Inner Harbor

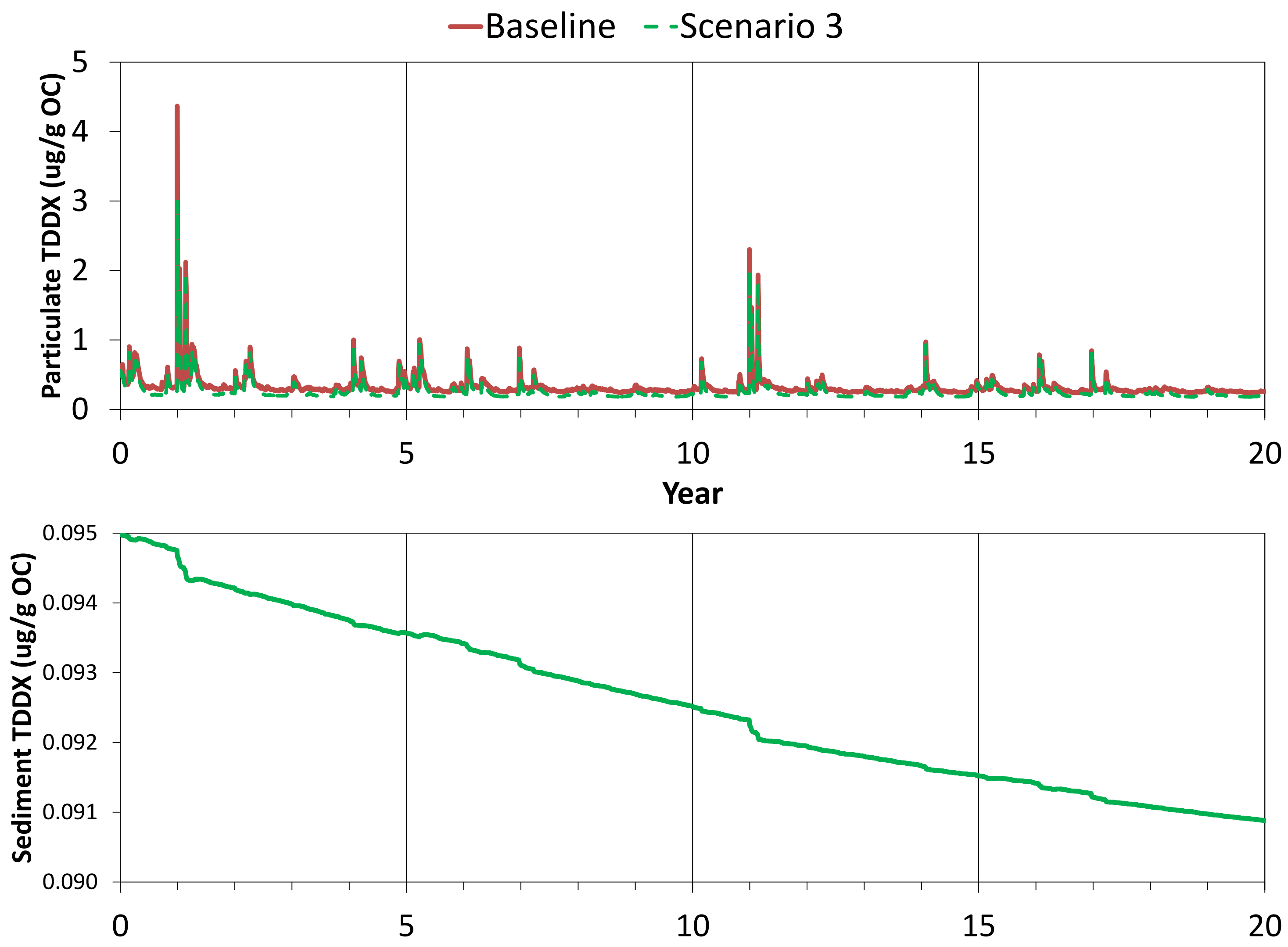


Figure 4.15d Scenario 3 TDDX Concentrations - Fish Harbor

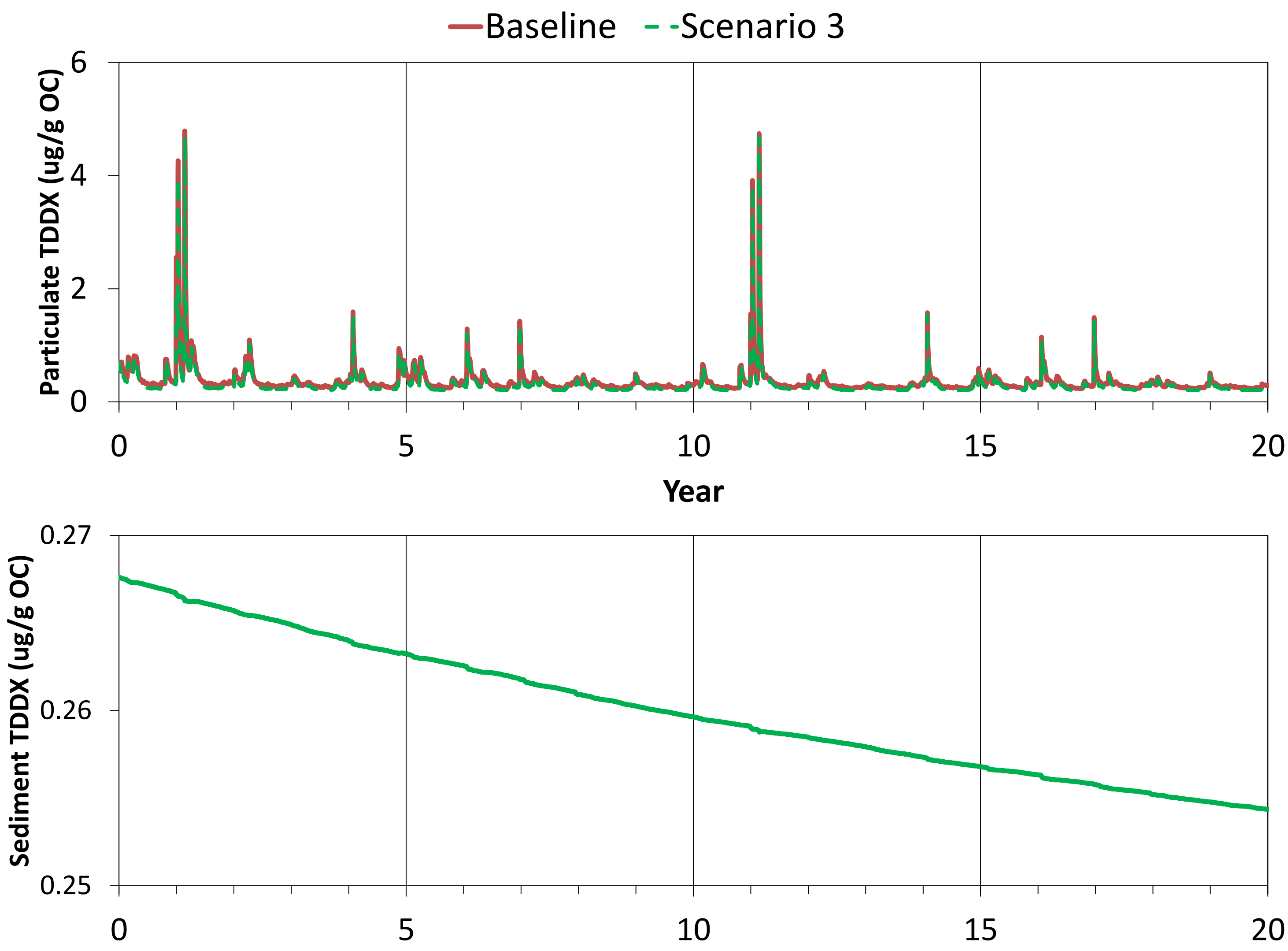


Figure 4.15e Scenario 3 TDDX Concentrations - Seaplane Lagoon

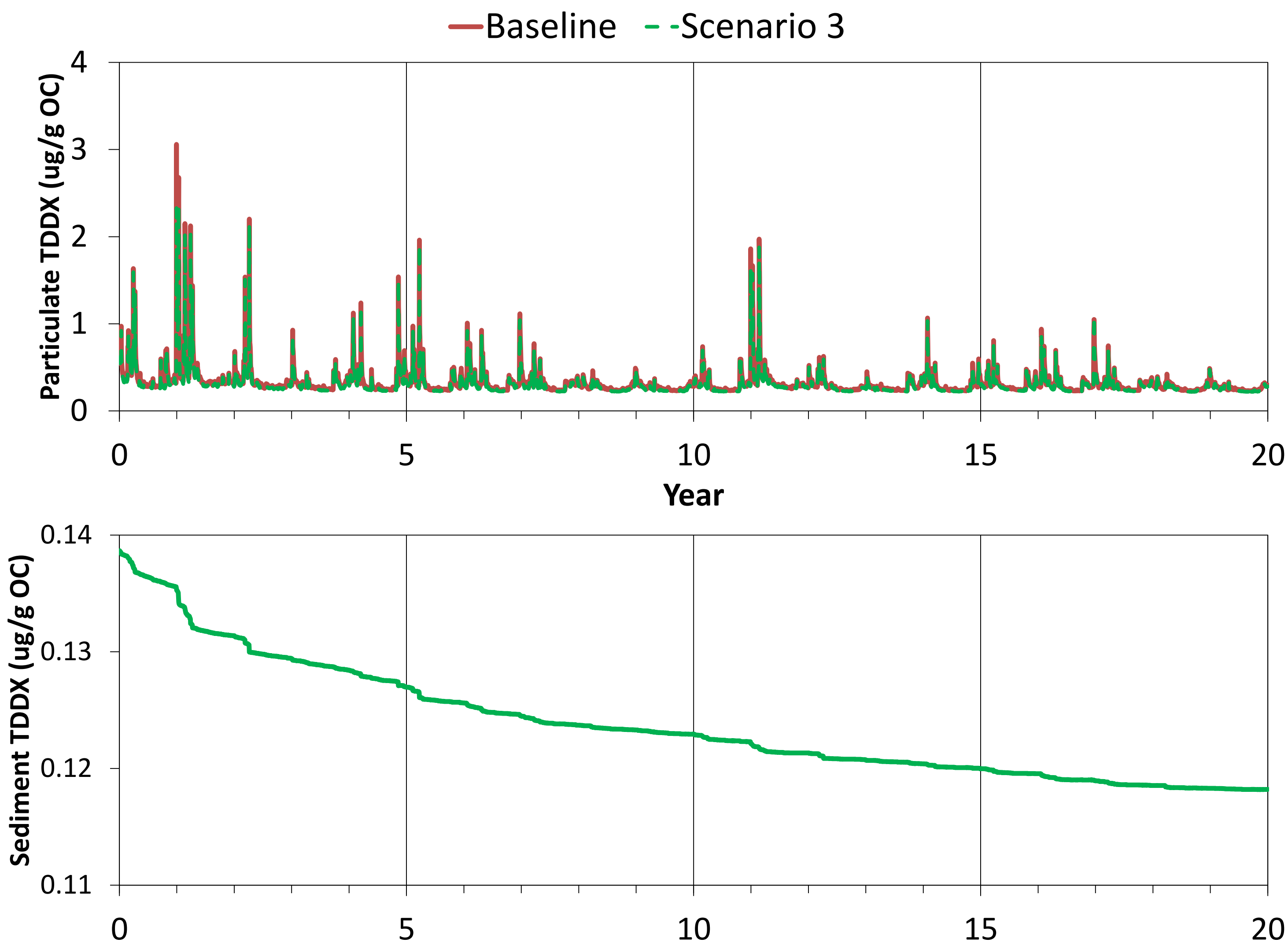


Figure 4.15f Scenario 3 TDDX Concentrations - LA Outer Harbor

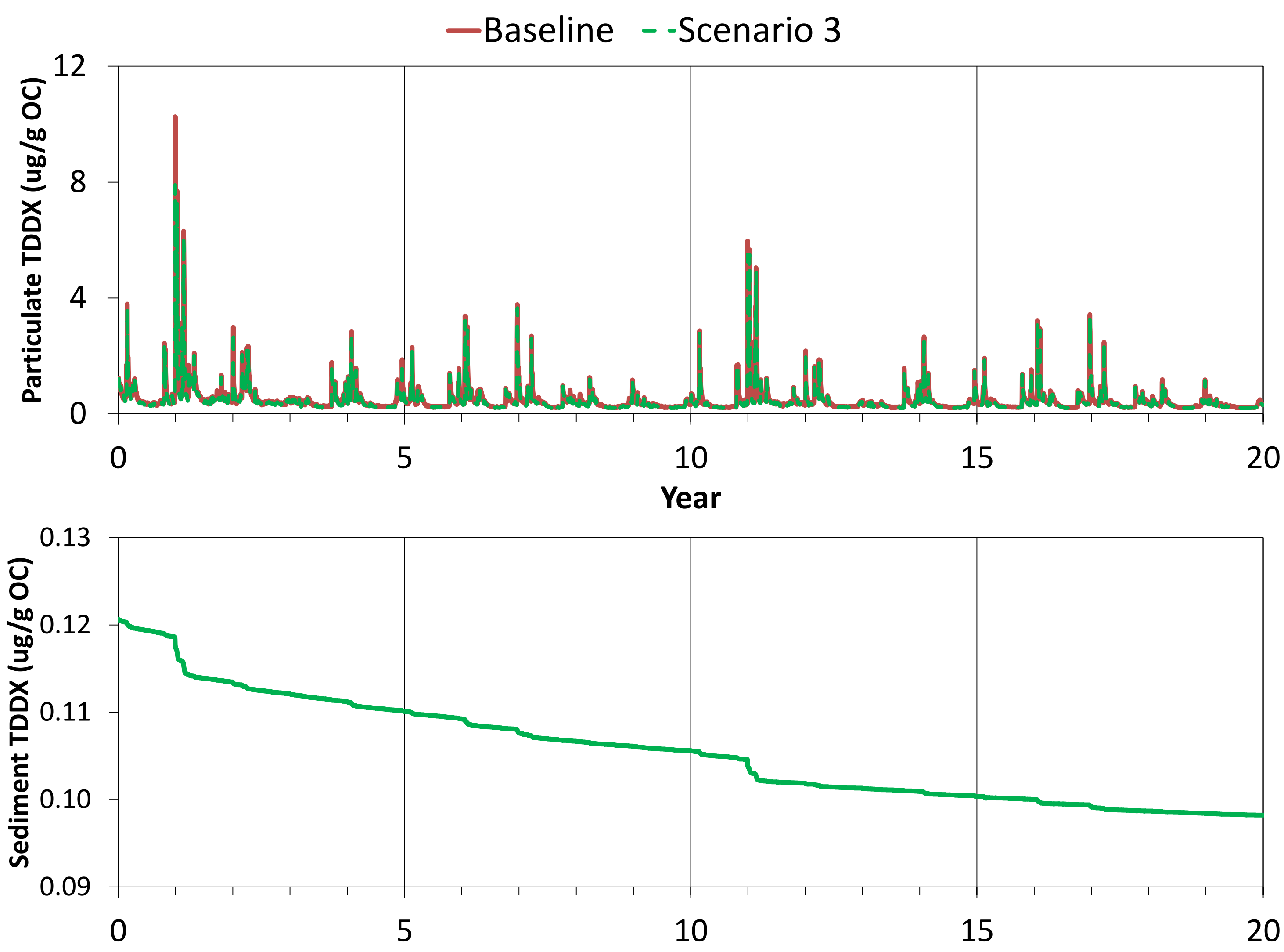


Figure 4.15g Scenario 3 TDDX Concentrations - LB Inner Harbor North

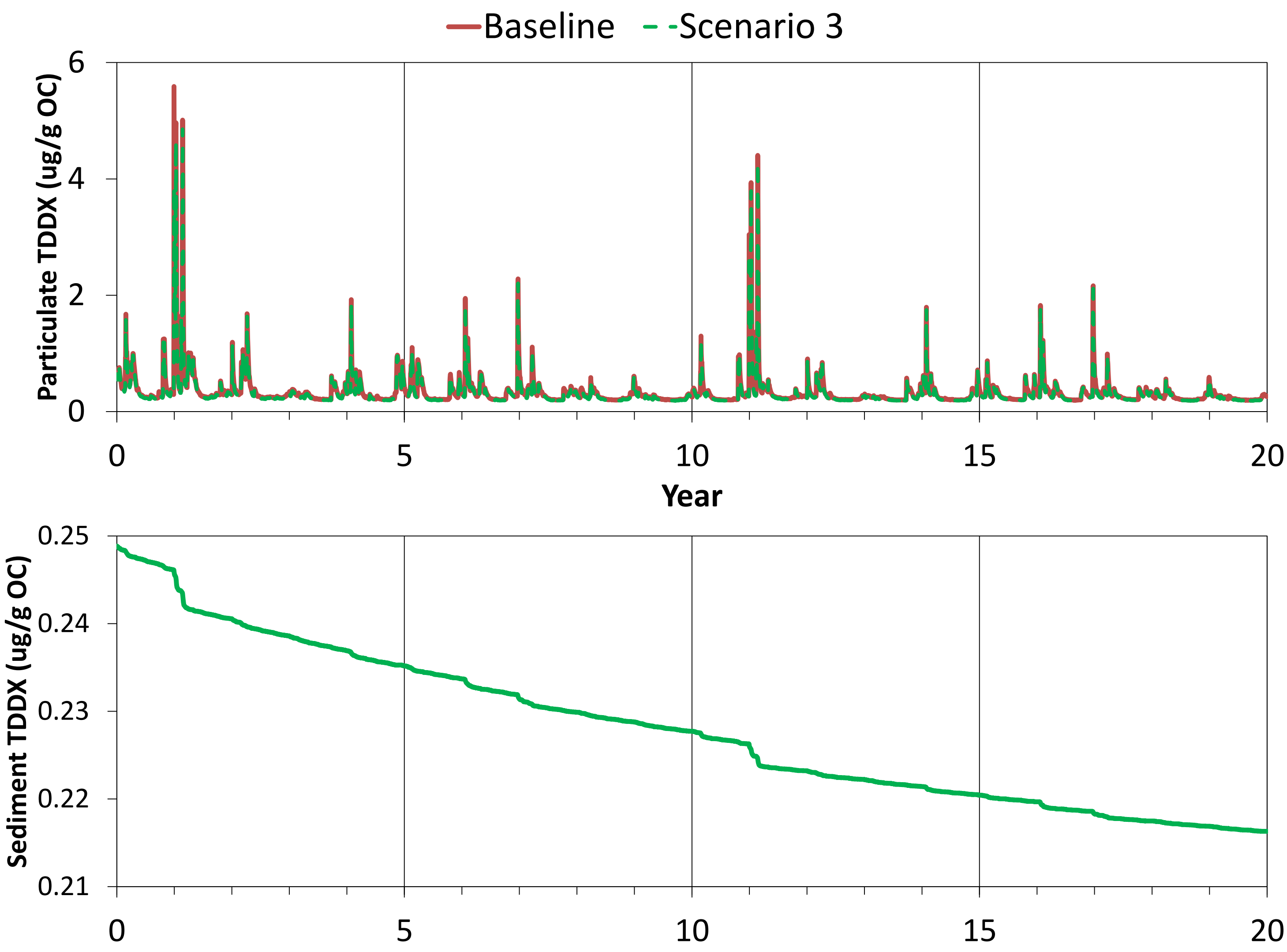


Figure 4.15h Scenario 3 TDDX Concentrations - LB Inner Harbor South

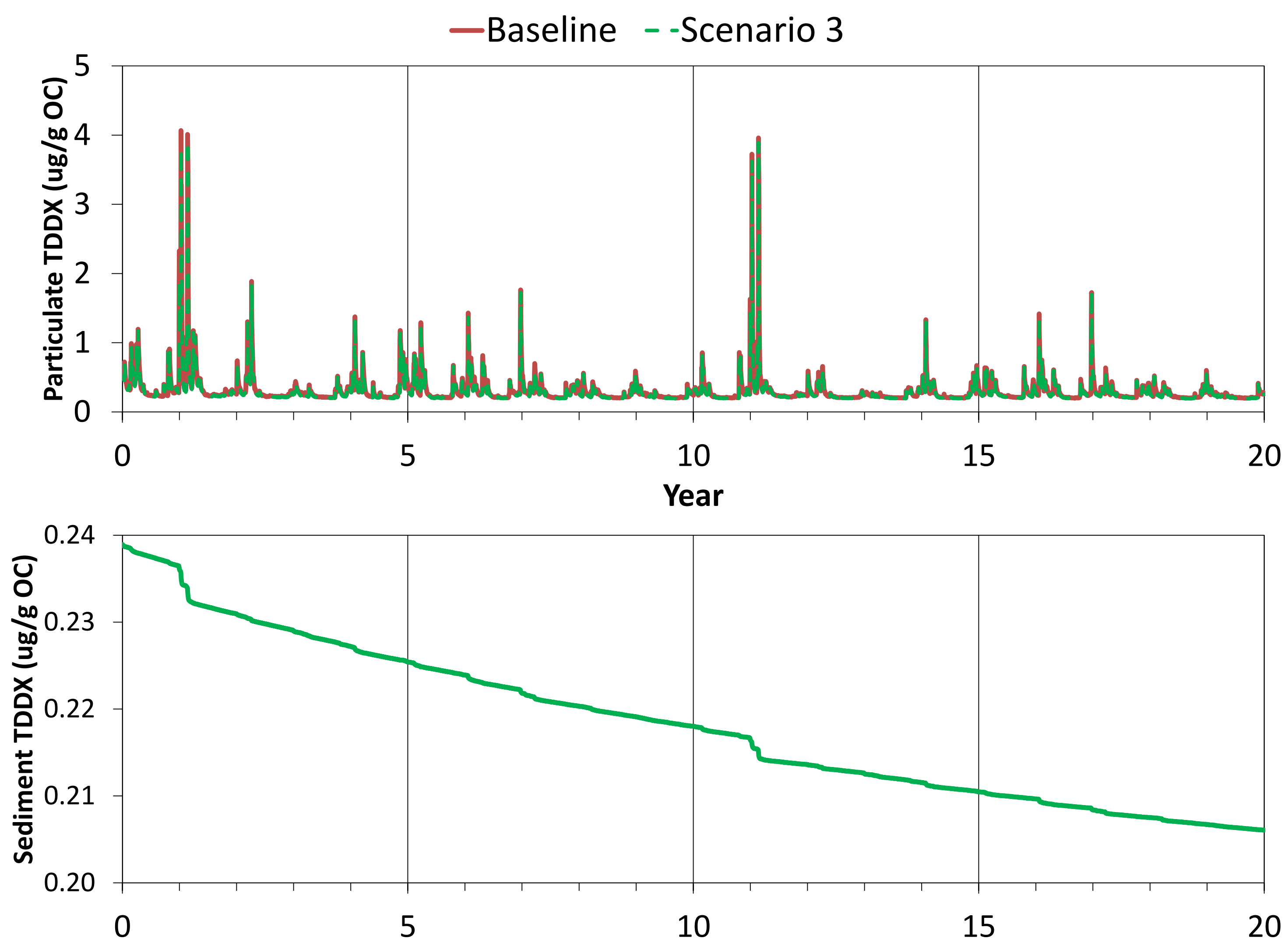


Figure 4.15i Scenario 3 TDDX Concentrations - LB Outer Harbor

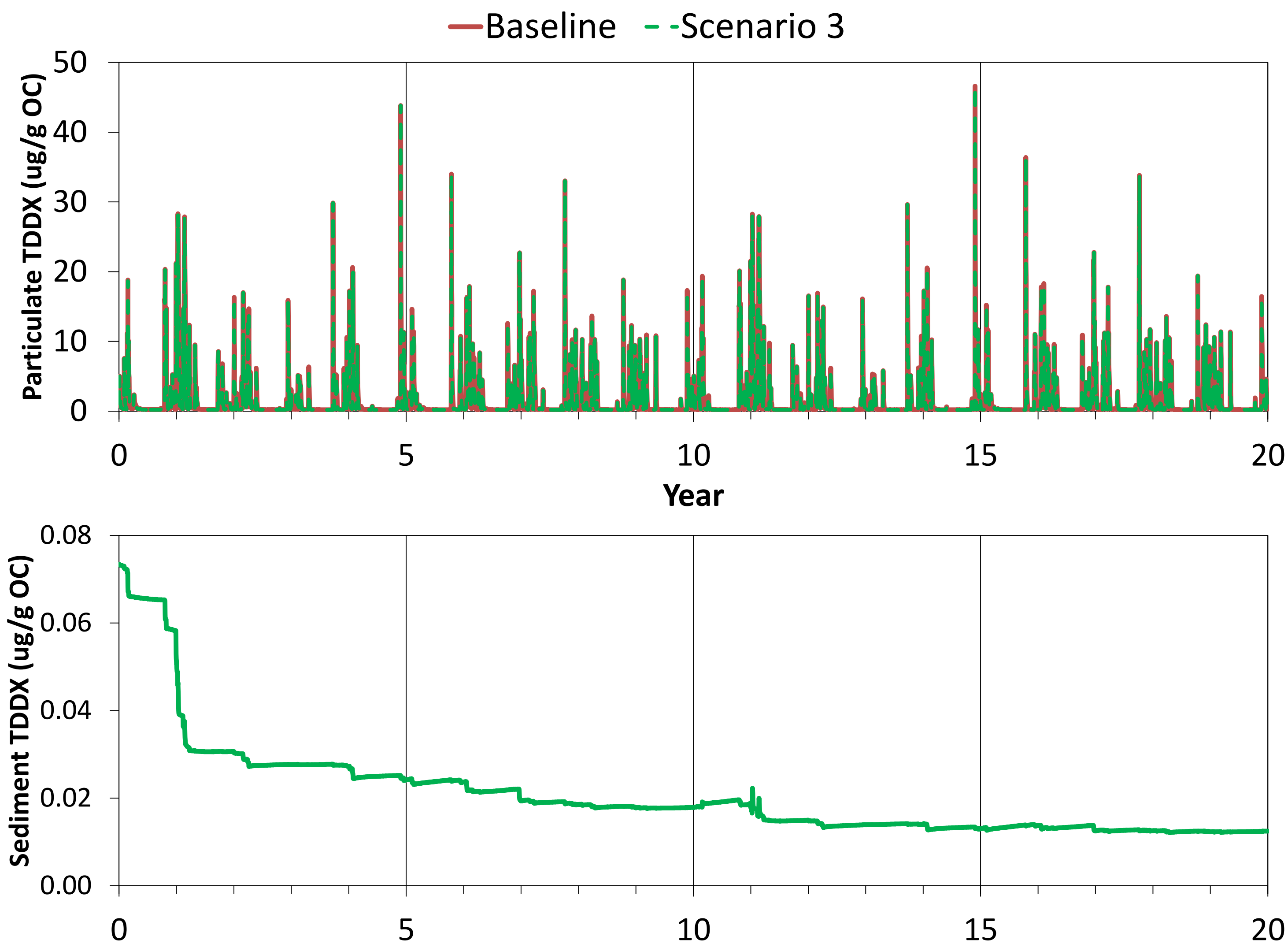


Figure 4.15j Scenario 3 TDDX Concentrations - Los Angeles River Estuary

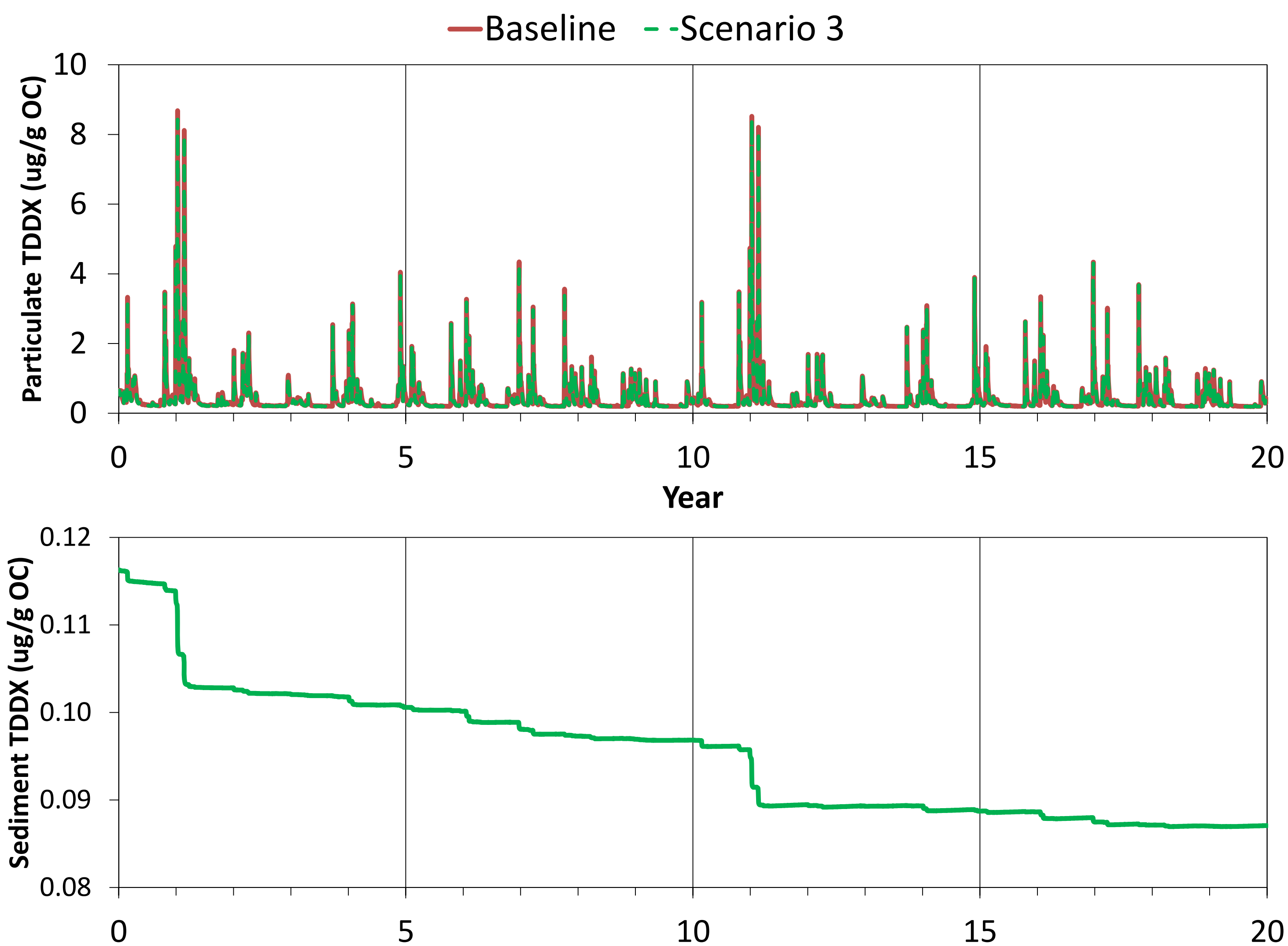


Figure 4.15k Scenario 3 TDDX Concentrations - Eastern San Pedro Bay

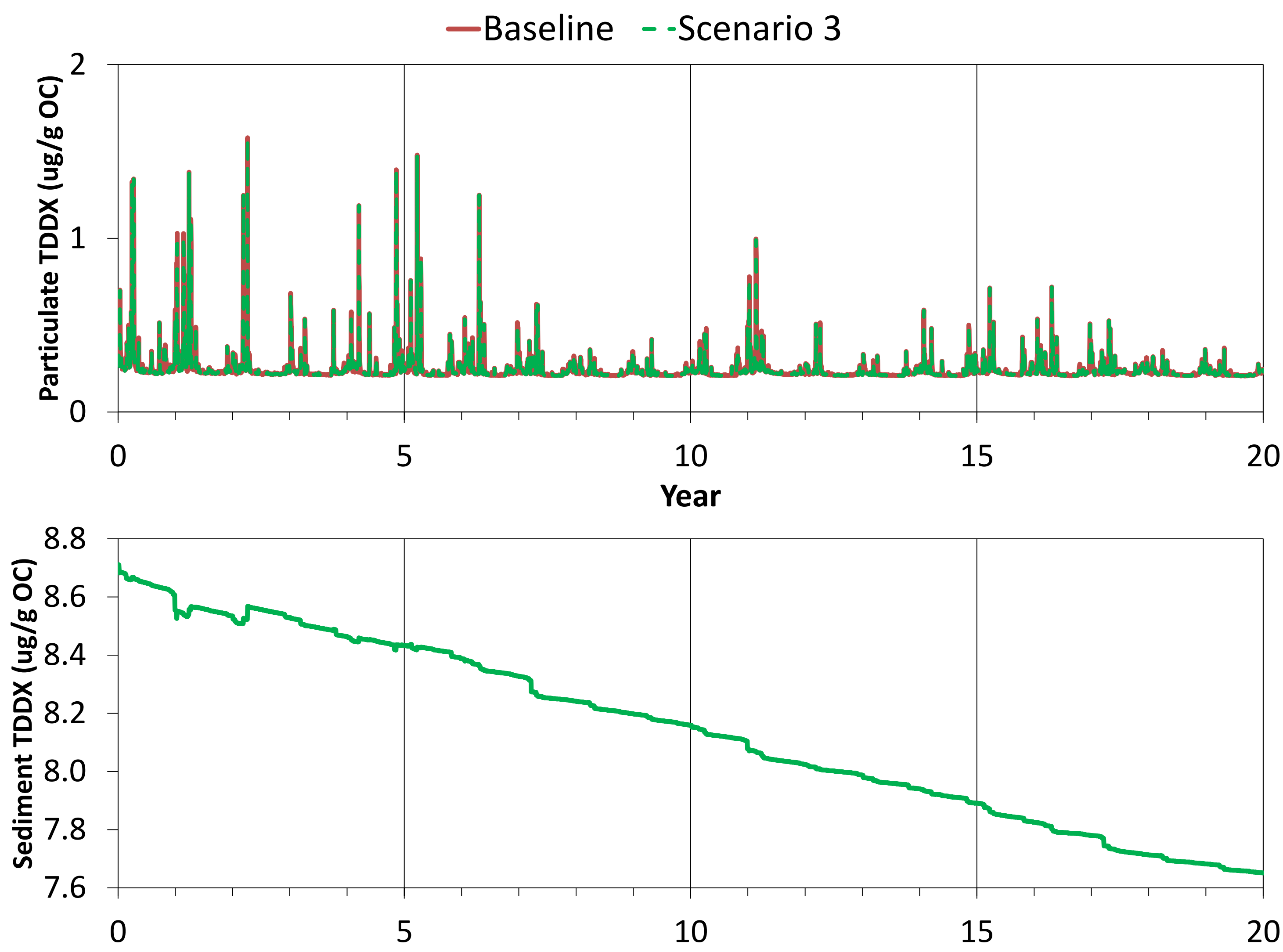


Figure 4.15l Scenario 3 TDDX Concentrations - Outside Harbor Exposure Area

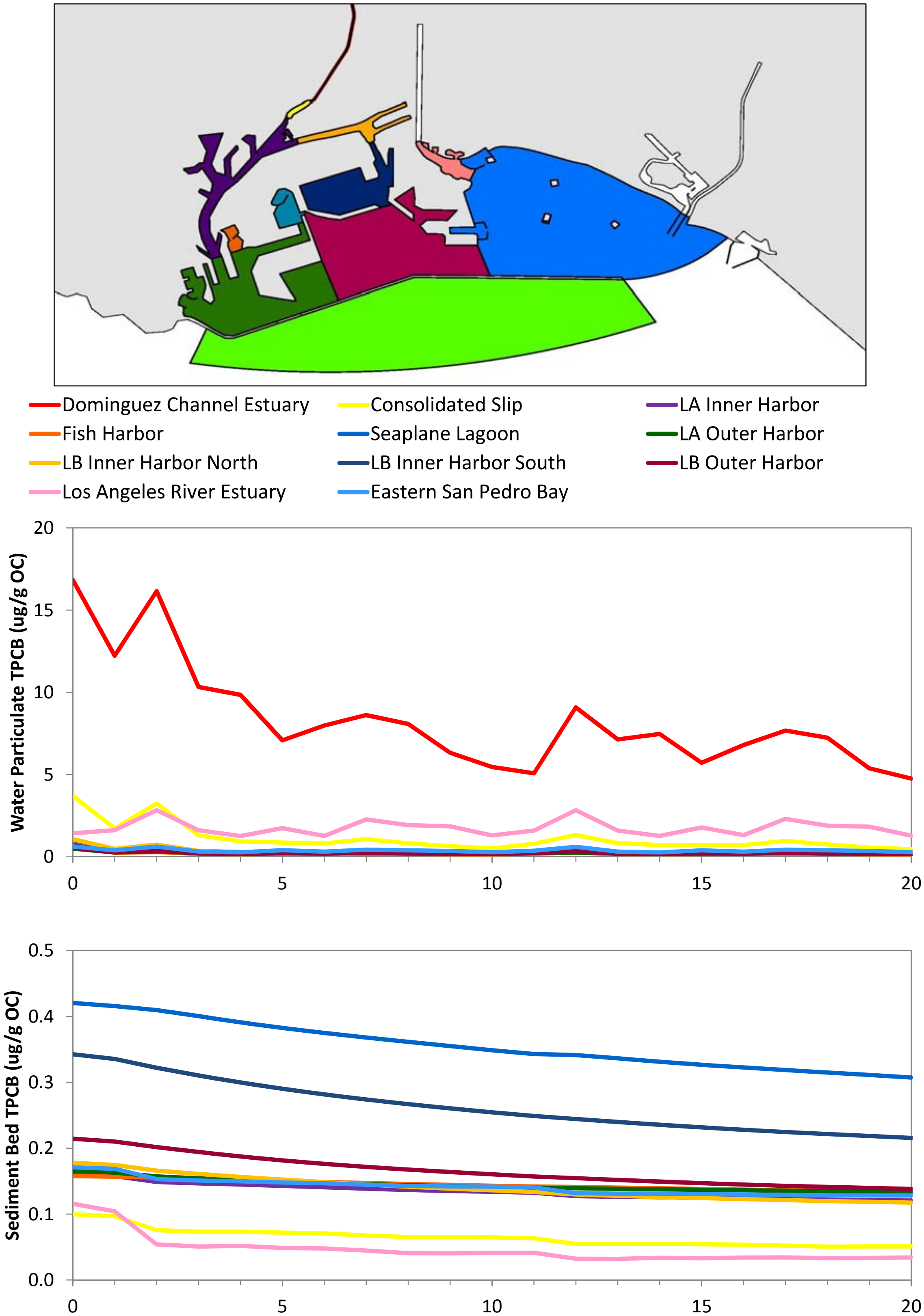


Figure 4.16 Scenario 3 Comparison of Annual TPCB Concentrations

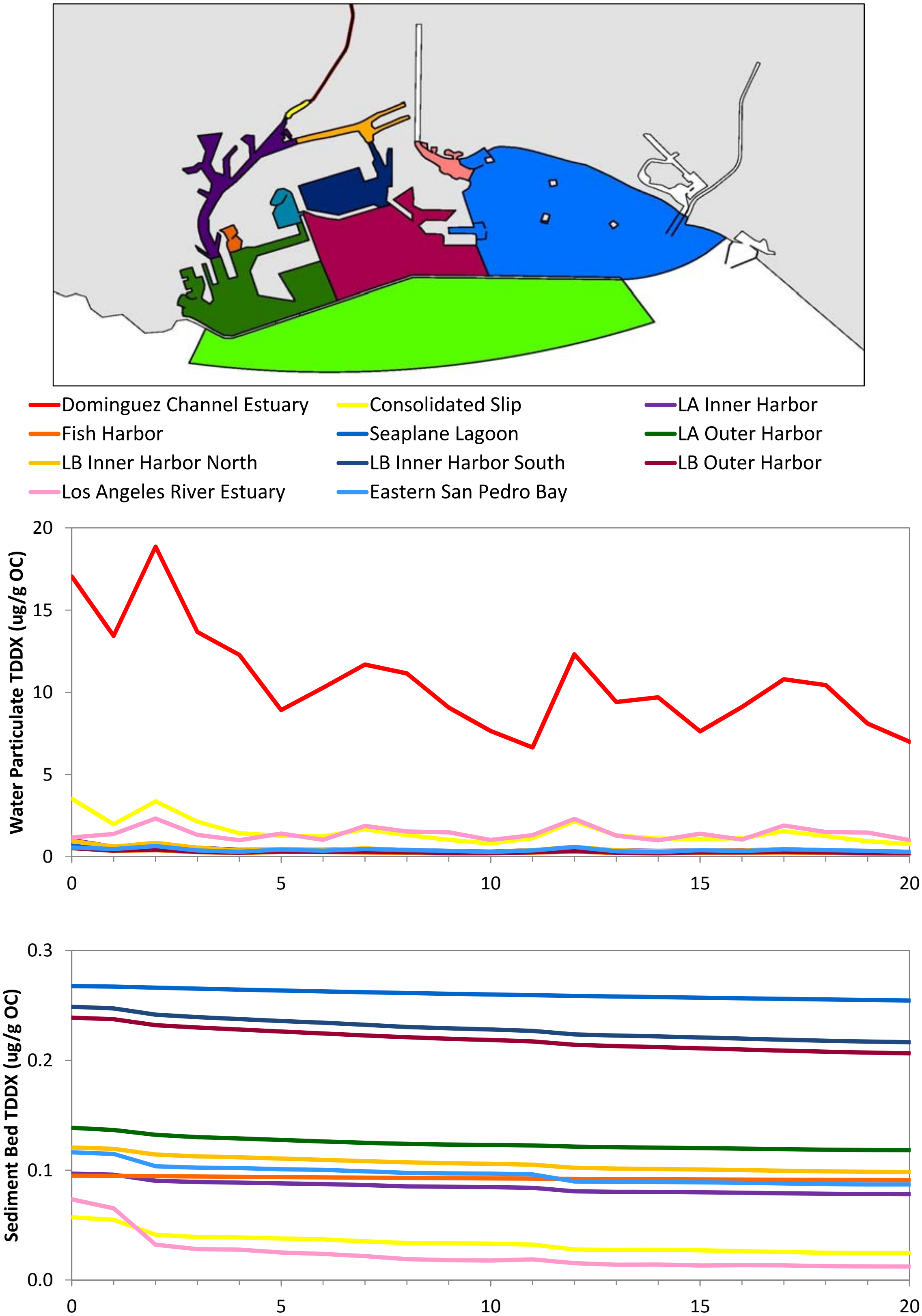


Figure 4.17 Scenario 3 Comparison of Annual TDDX Concentrations

4.4 COMBINED MANAGEMENT SCENARIOS

4.4.1 Scenarios 4 and 5

Scenarios 4 and 5 involved a 100% reduction in watershed loading, as well as reductions in sediment loading at selected TMDL hot spots. For Scenario 4, sediment loading to the DC Estuary hot spot was reduced to TMDL fish-associated sediment targets. For Scenario 5, sediment loadings to the DC Estuary, CS, and FH hot spots were reduced to TMDL fish-associated sediment targets. Comparisons of TPCB concentrations for Scenario 4 and Scenario 5 are provided in Figures 4.18a-l for all fish movement zones. The vertical scales were varied in order to best illustrate the differences between Scenarios 4 and 5. In the DC Estuary, water concentrations are lower under Scenario 5, which indicates that resuspended organics from the CS are transported into the DC Estuary. In the CS, the differences in water concentrations reflect contributions from the CS sediment bed. Similarly, Scenario 5 water concentrations are slightly lower than those under Scenario 4 in the LA Inner Harbor and LB Inner Harbor North. Differences in water concentrations also occur in FH, which are reduced under Scenario 5 due to the lowered bed concentrations. TPCB bed concentrations are generally similar between Scenarios 4 and 5, with the exception of those at CS and FH.

TDDX concentrations for all fish movement zones under Scenarios 4 and 5 are shown in Figures 4.19a-l. For TDDX, water concentrations in the DC Estuary are lower for Scenario 5 than for Scenario 4, which indicates that there are contributions from the CS sediment bed. However, the TDDX water concentrations are lower than those for TPCB, since the sediment bed TDDX concentrations are less than those for TPCB in CS. In FH, the Scenario 5 TDDX water concentrations are lower than those under Scenario 4, but to a lesser extent than those for TPCB. Water concentrations are similar between Scenarios 4 and 5 for the other fish movement zones. With the exception of CS and FH, the TDDX bed concentrations are similar between Scenarios 4 and 5.

The annual concentrations under Scenario 4 are shown in Figures 4.20 and 4.21 for TPCB and TDDX, respectively. Trends in water and bed concentrations are similar for TPCB and TDDX. Under Scenario 4, water and bed concentrations are significantly reduced in the DC Estuary. The highest water and bed concentrations under Scenario 4 occur in CS and FH.

For Scenario 5, annual TPCB and TDDX concentrations are provided in Figures 4.22 and 4.23, respectively. Under Scenario 5, water and bed concentrations in the CS and FH are reduced from those under Scenario 4, which results in the highest concentrations in the LA and LB Inner Harbors. For TDDX, water and bed concentrations in CS and FH are reduced for Scenario 5, which results in the highest concentrations in the LA Inner Harbor.

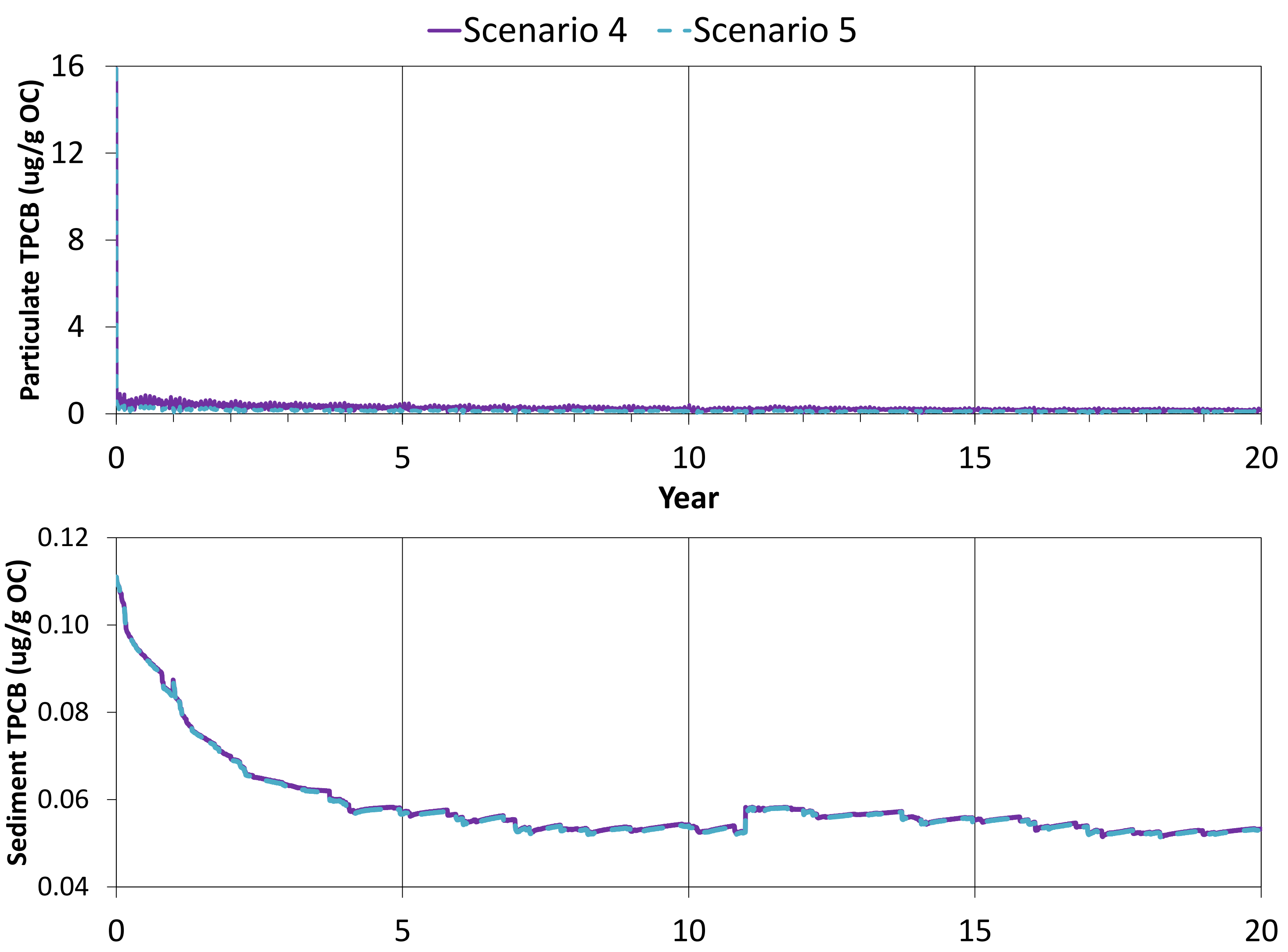


Figure 4.18a Scenario 4 and 5 TPCB Concentrations - Dominguez Channel Estuary

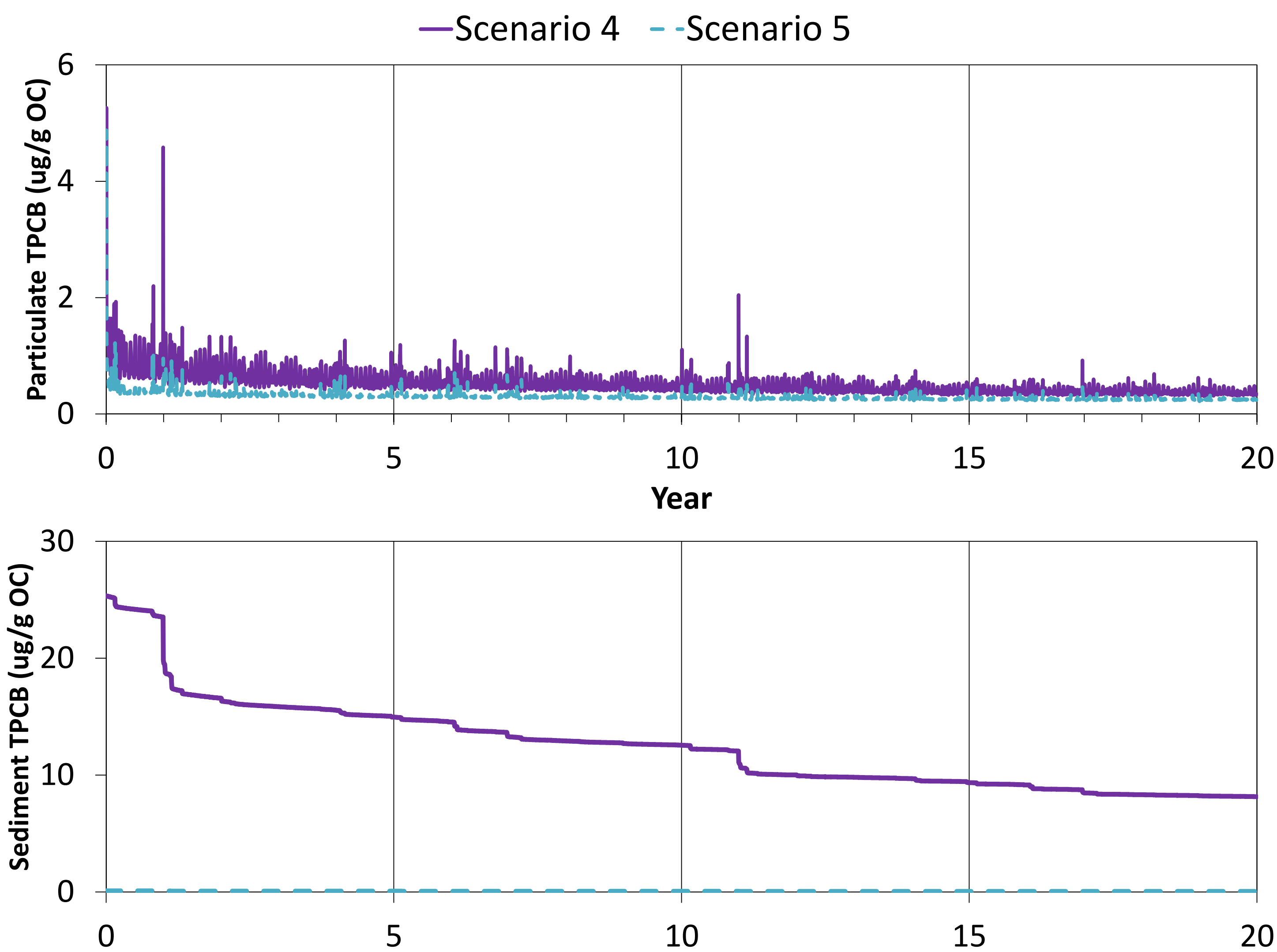


Figure 4.18b Scenario 4 and 5 TPCB Concentrations - Consolidated Slip

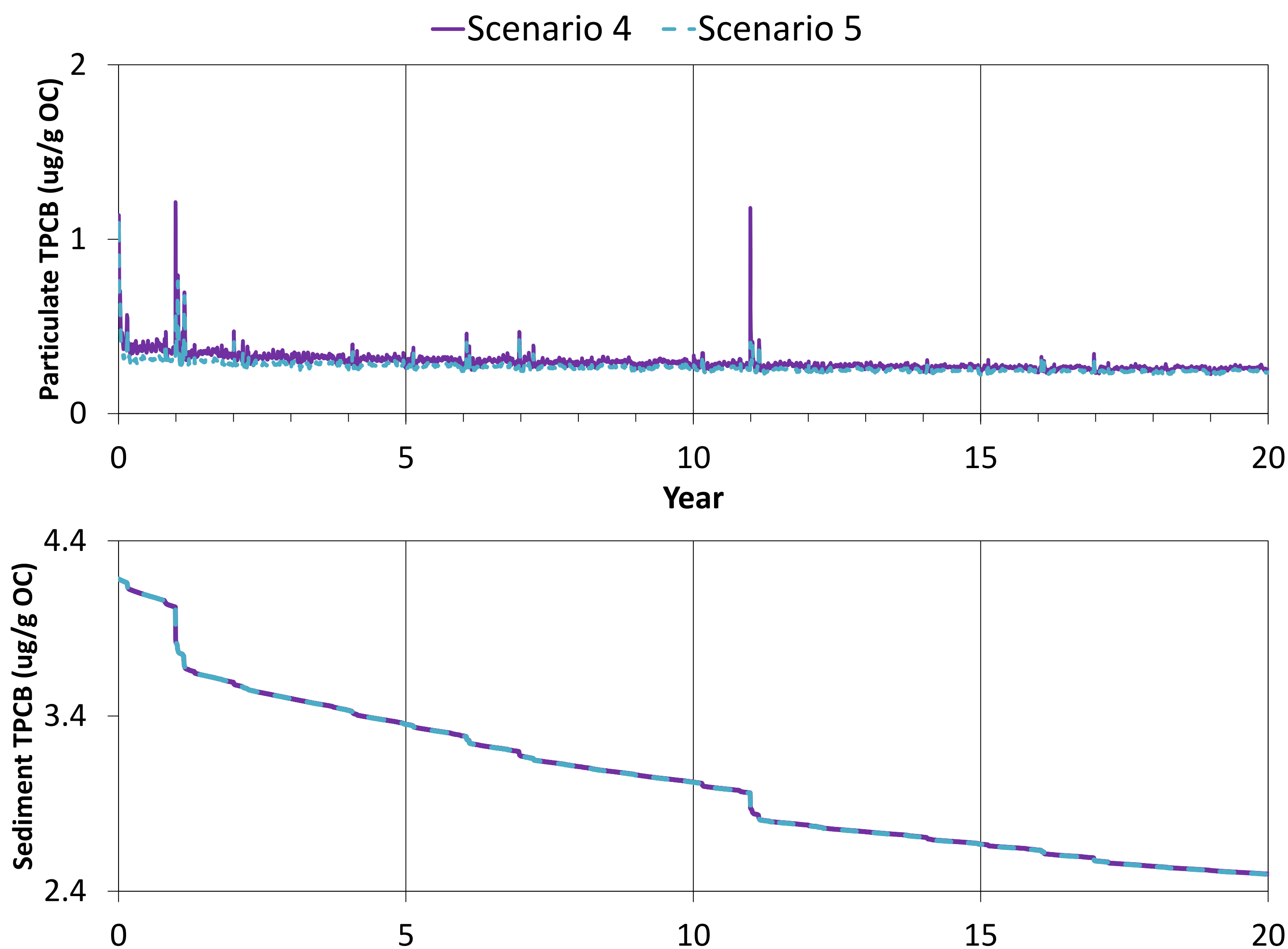


Figure 4.18c Scenario 4 and 5 TPCB Concentrations - LA Inner Harbor

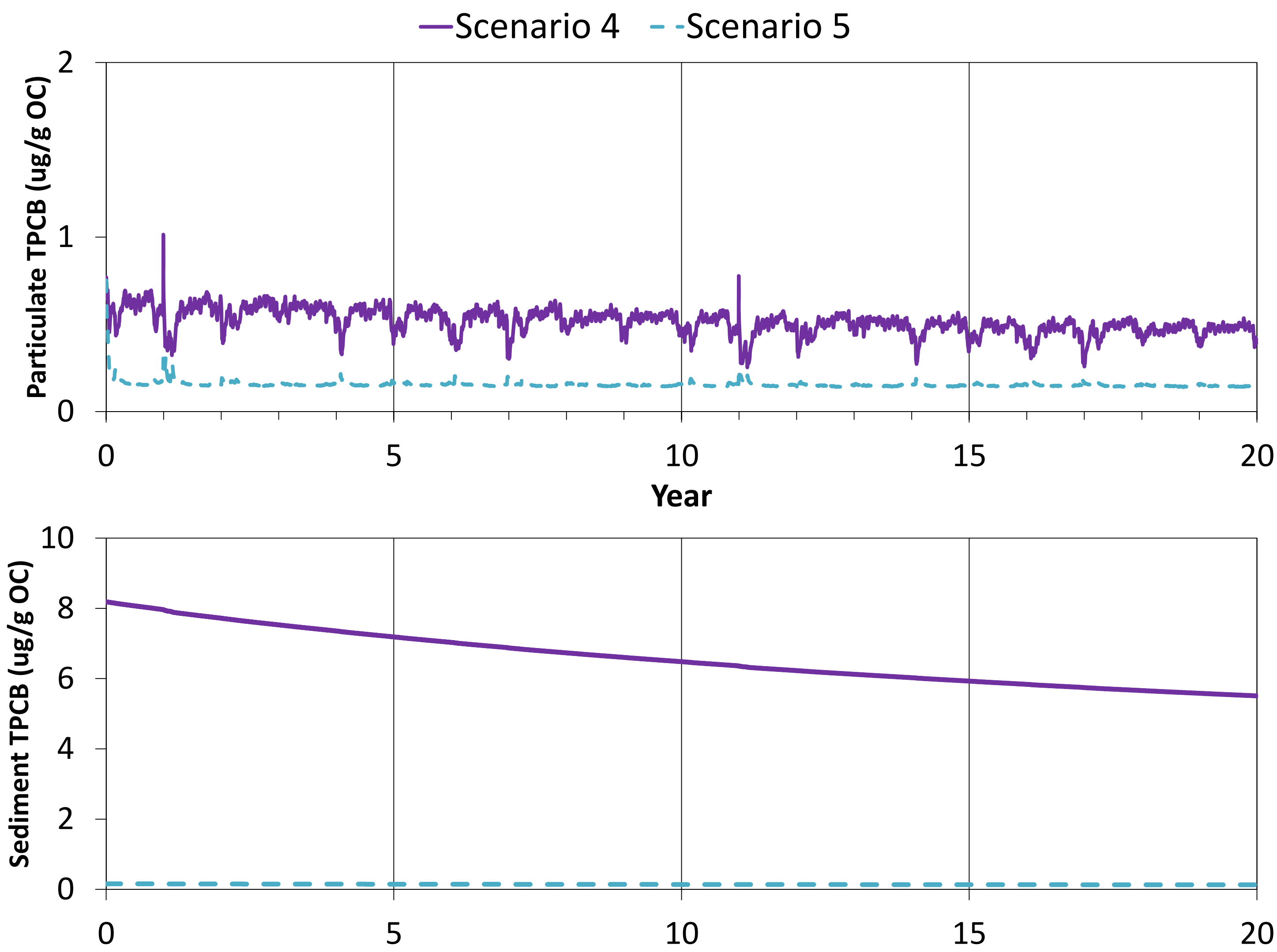


Figure 4.18d Scenario 4 and 5 TPCB Concentrations - Fish Harbor

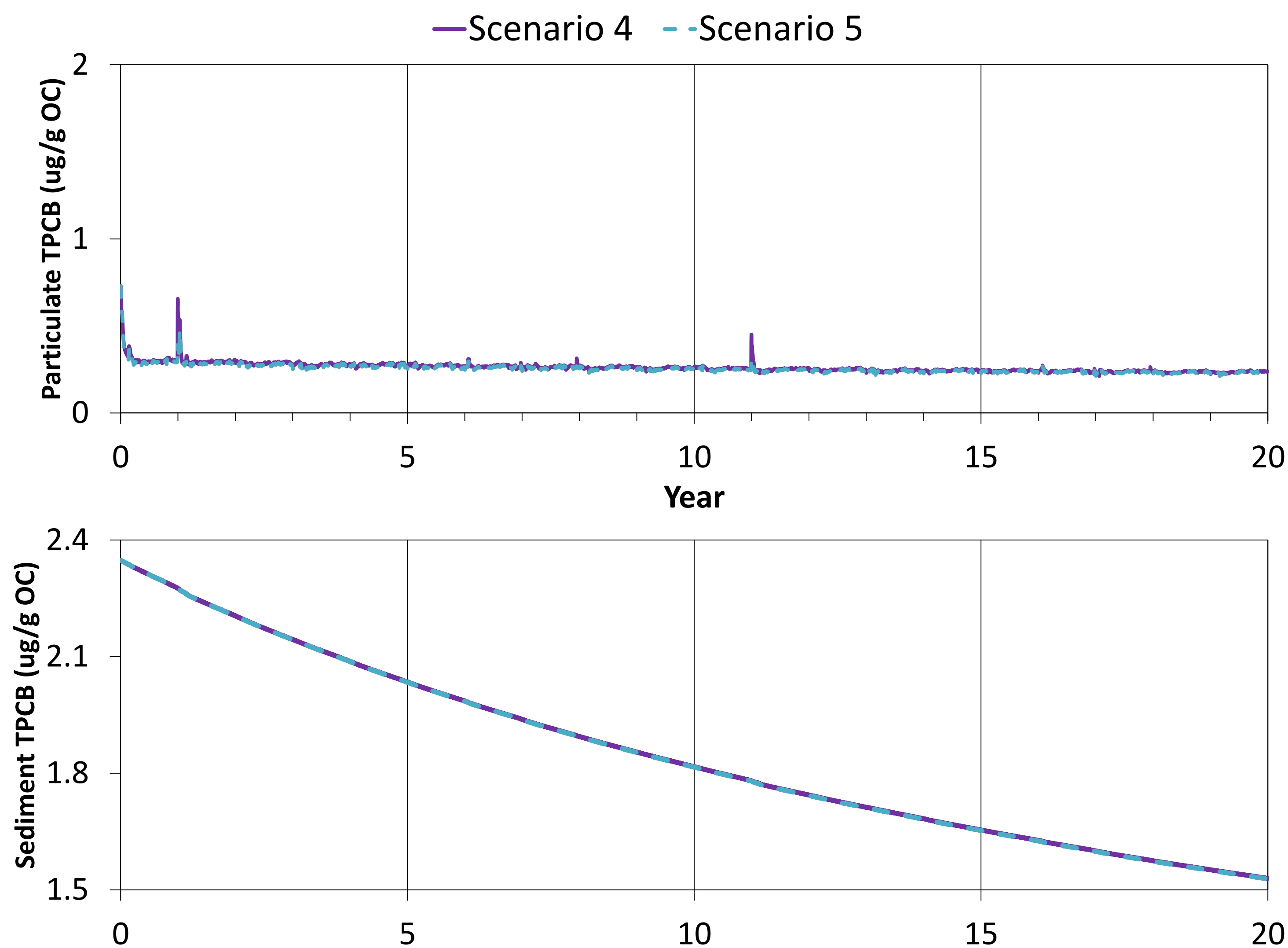


Figure 4.18e Scenario 4 and 5 TPCB Concentrations - Seaplane Lagoon

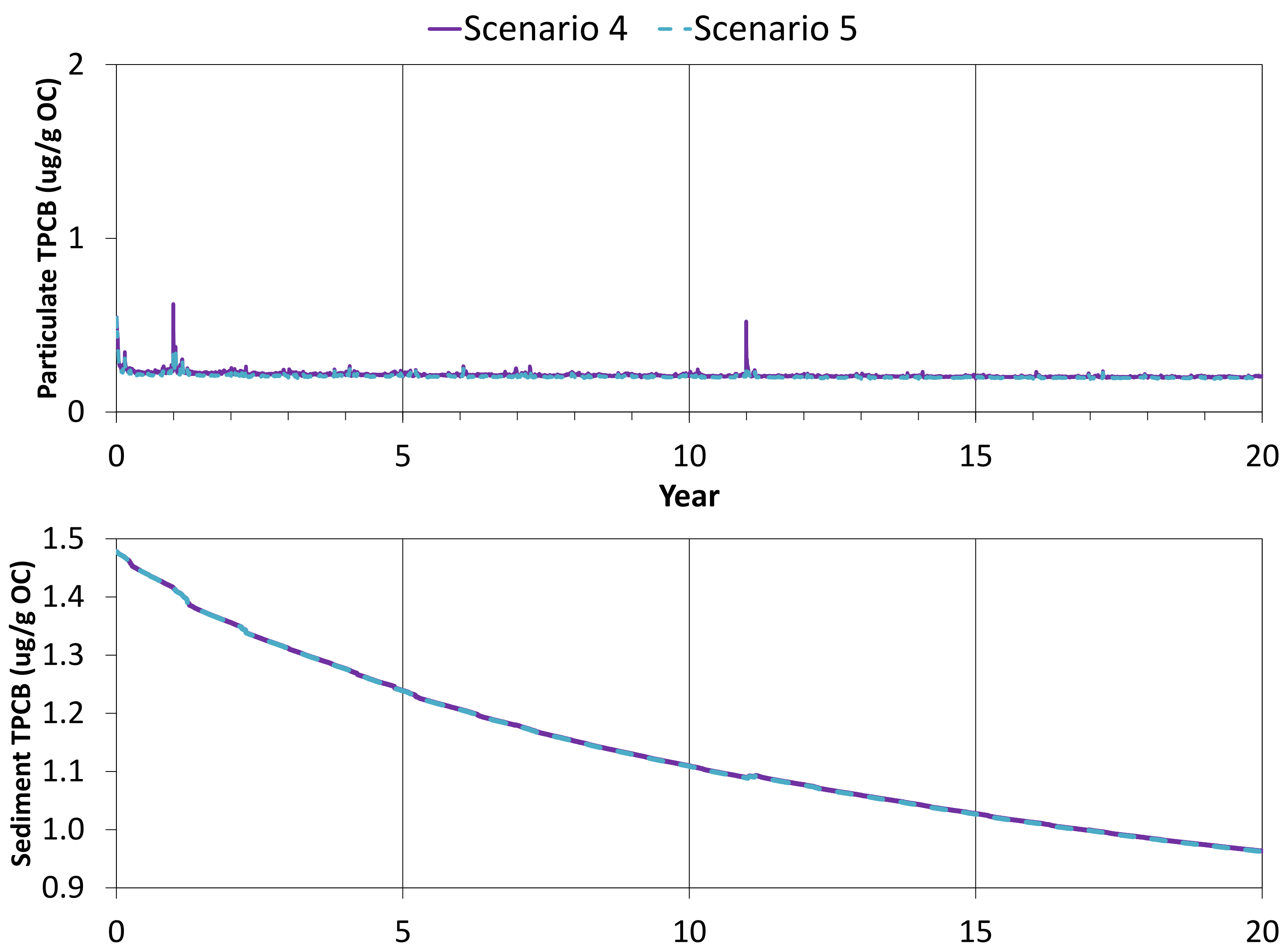


Figure 4.18f Scenario 4 and 5 TPCB Concentrations - LA Outer Harbor

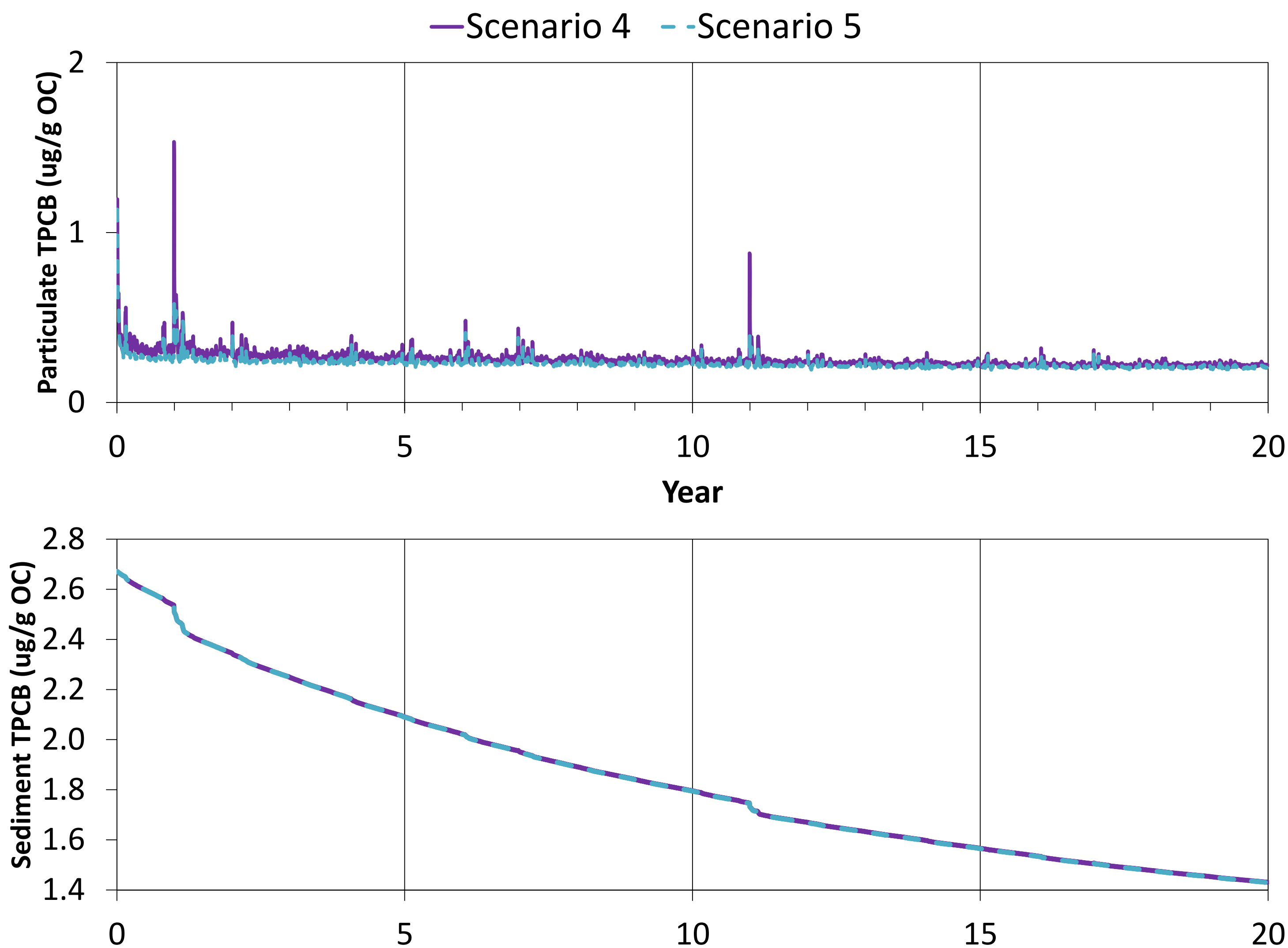


Figure 4.18g Scenario 4 and 5 TPCB Concentrations - LB Inner Harbor North

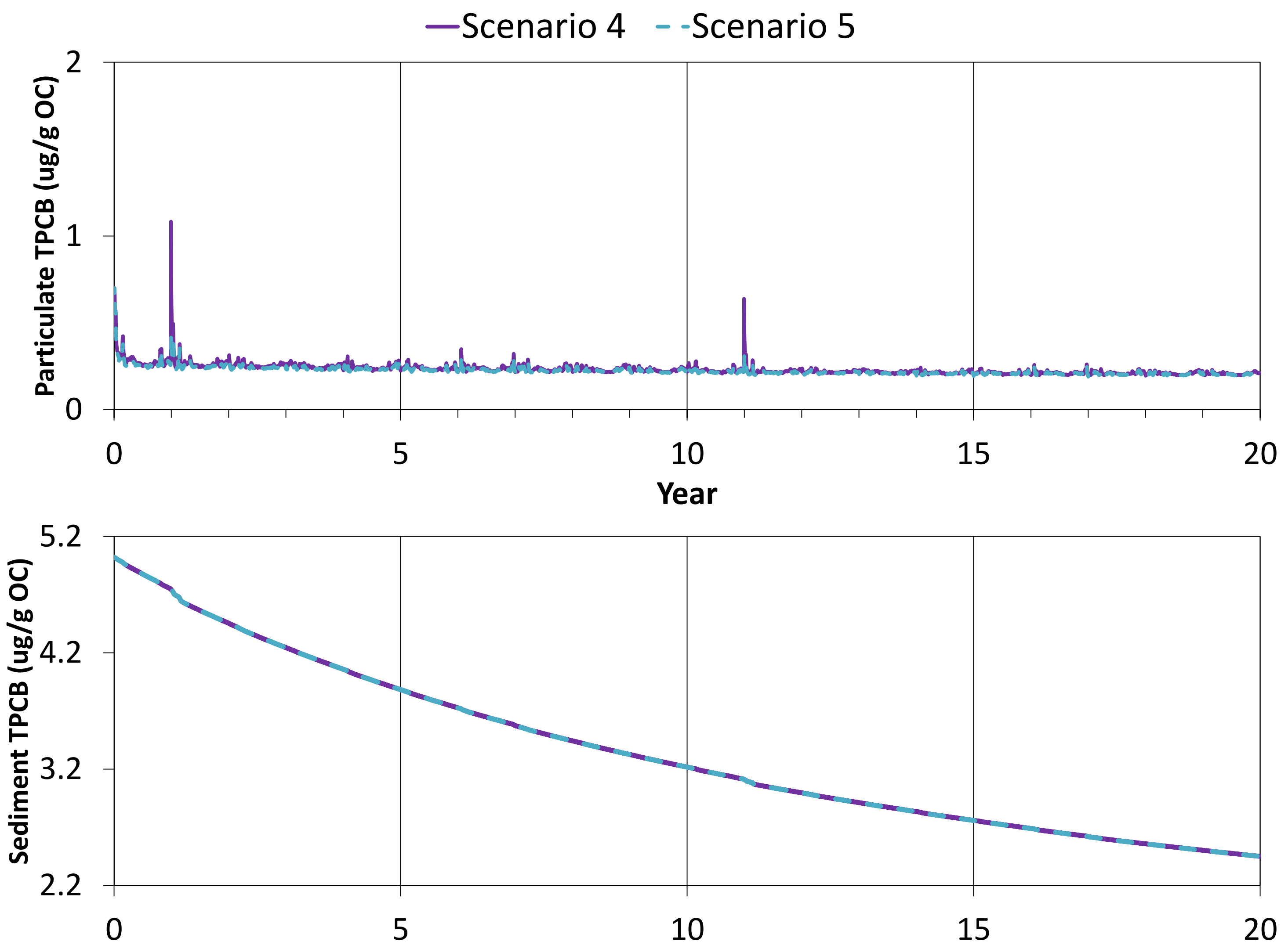


Figure 4.18h Scenario 4 and 5 TPCB Concentrations - LB Inner Harbor South

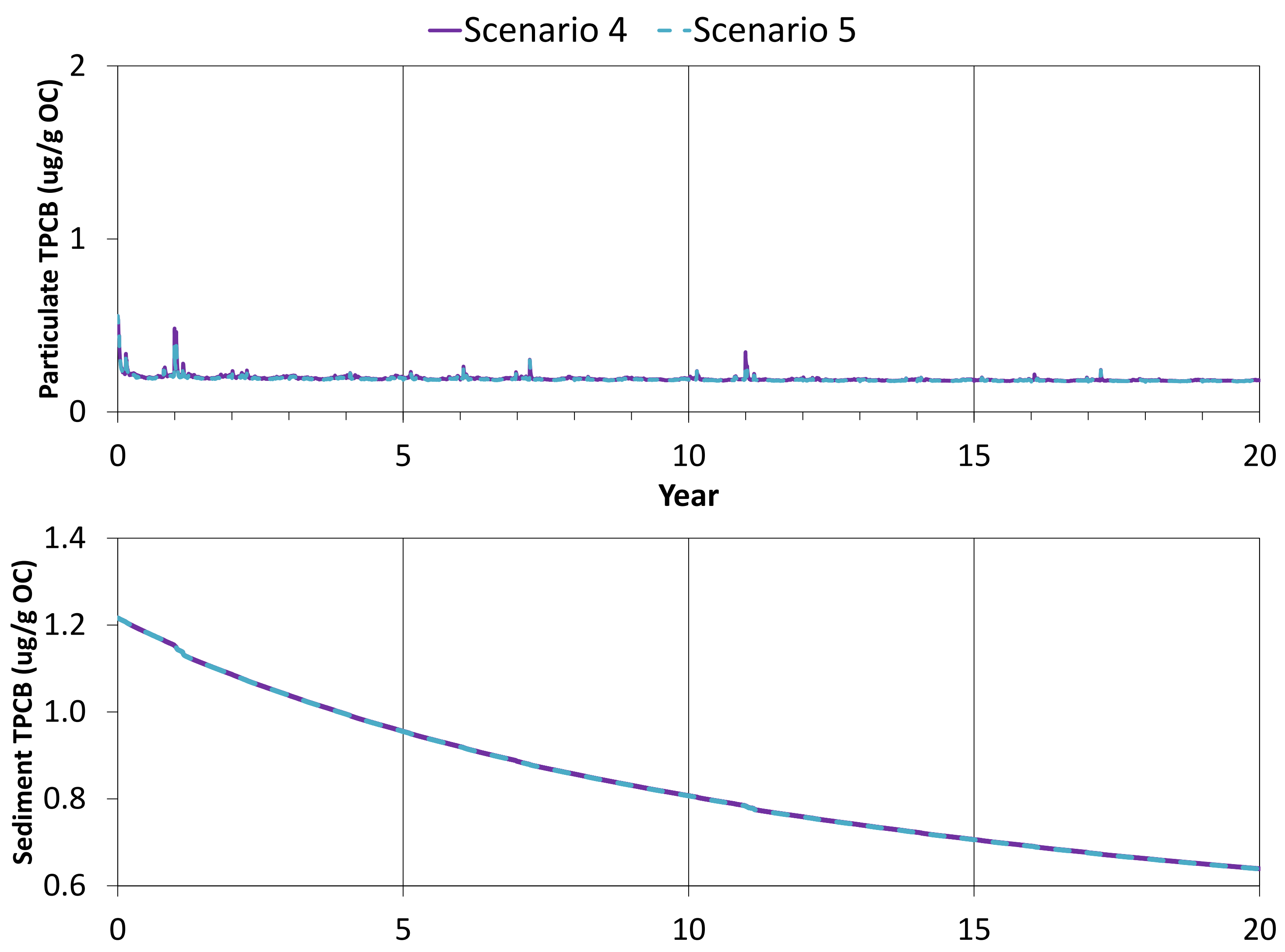


Figure 4.18i Scenario 4 and 5 TPCB Concentrations - LB Outer Harbor

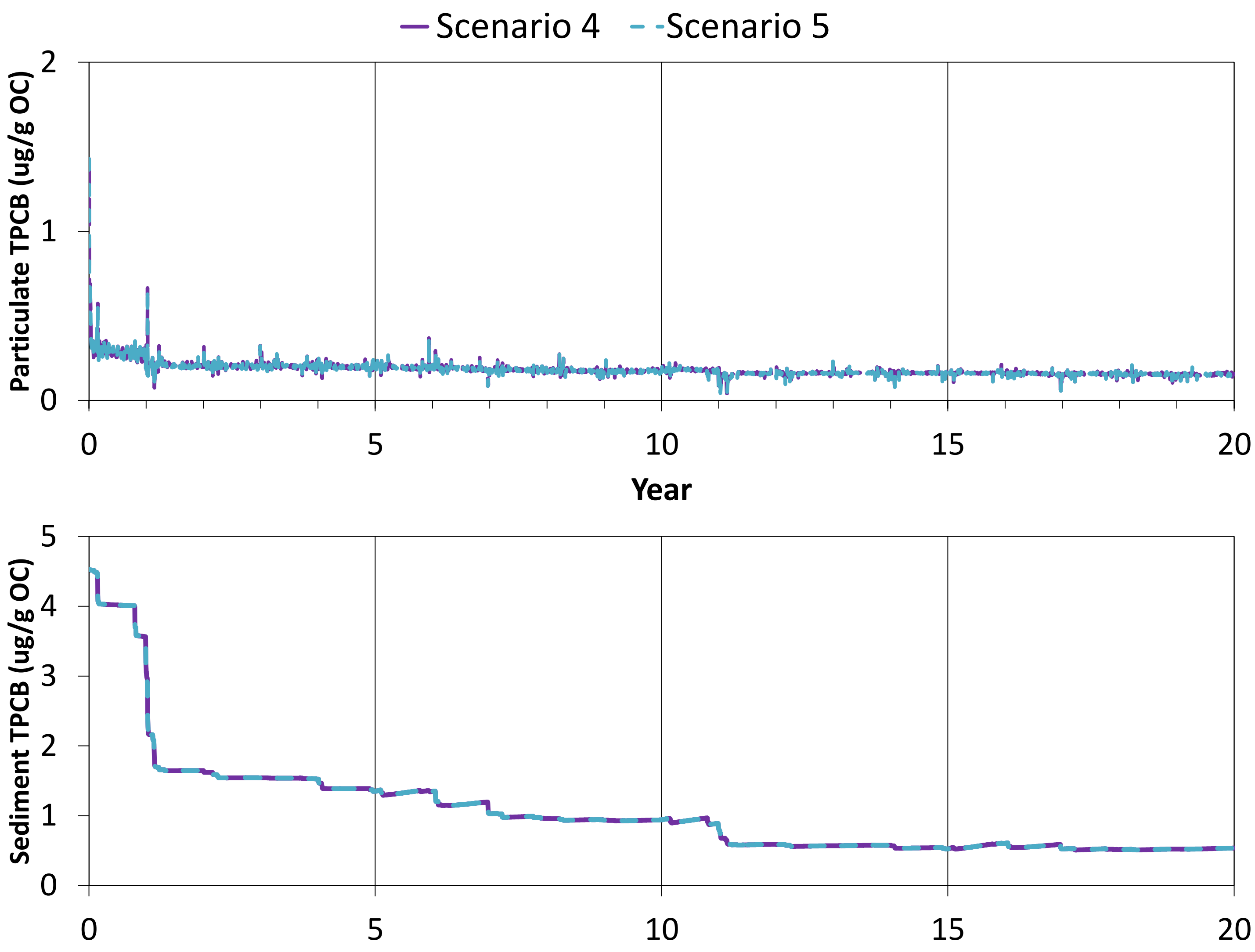


Figure 4.18j Scenario 4 and 5 TPCB Concentrations - Los Angeles River Estuary

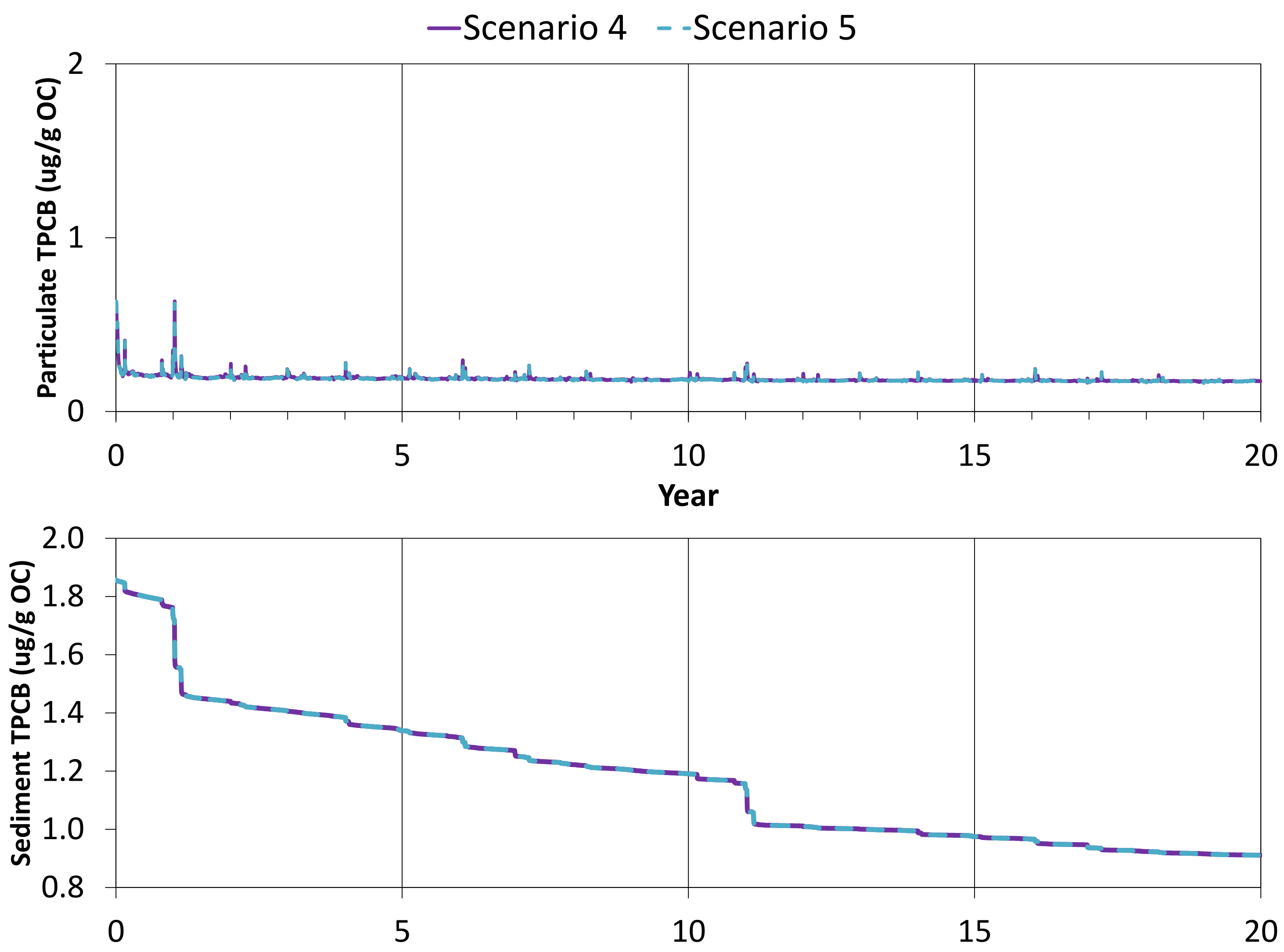


Figure 4.18k Scenario 4 and 5 TPCB Concentrations - Eastern San Pedro Bay

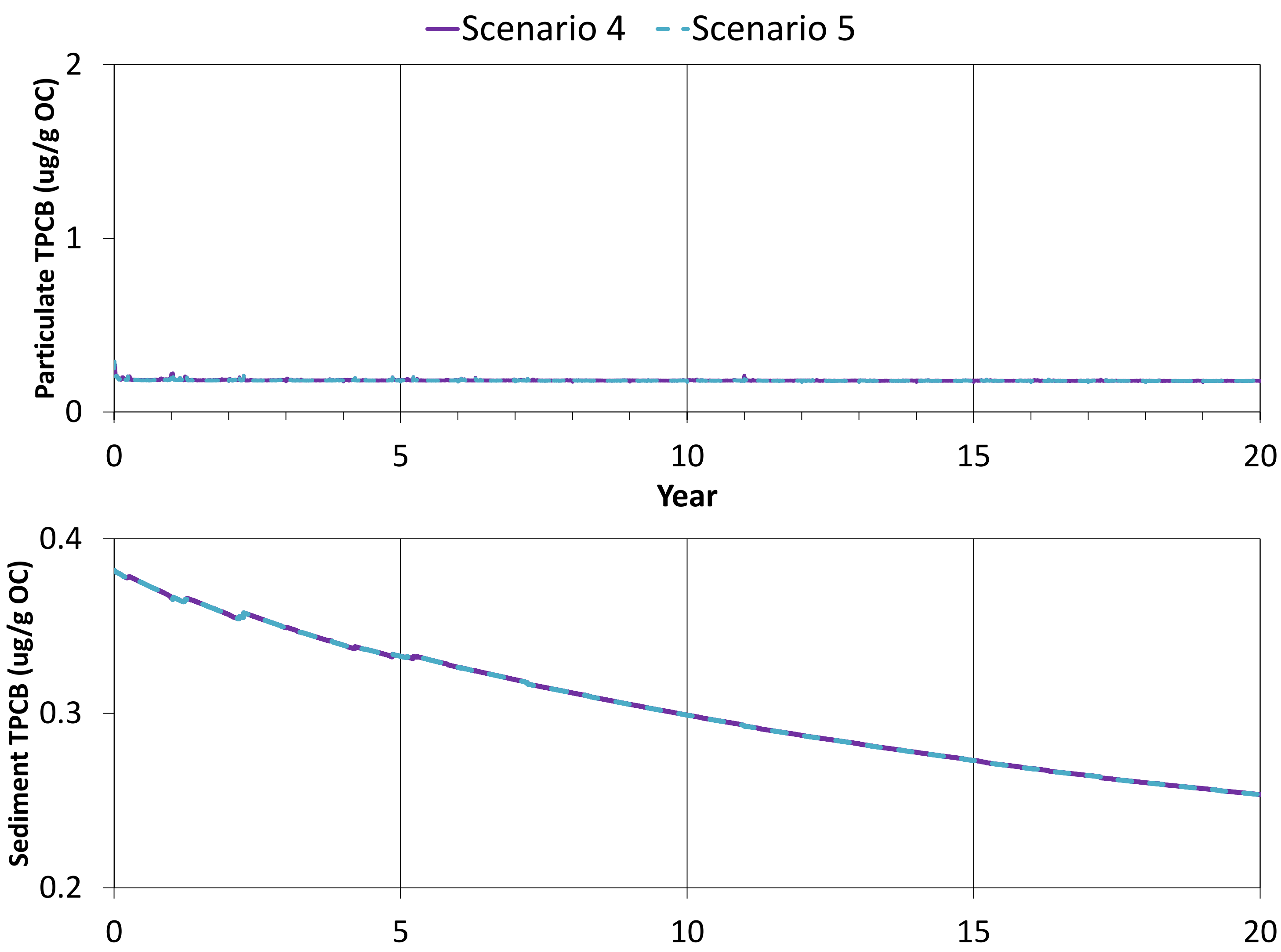


Figure 4.18l Scenario 4 and 5 TPCB Concentrations - Outside Harbor Exposure Area

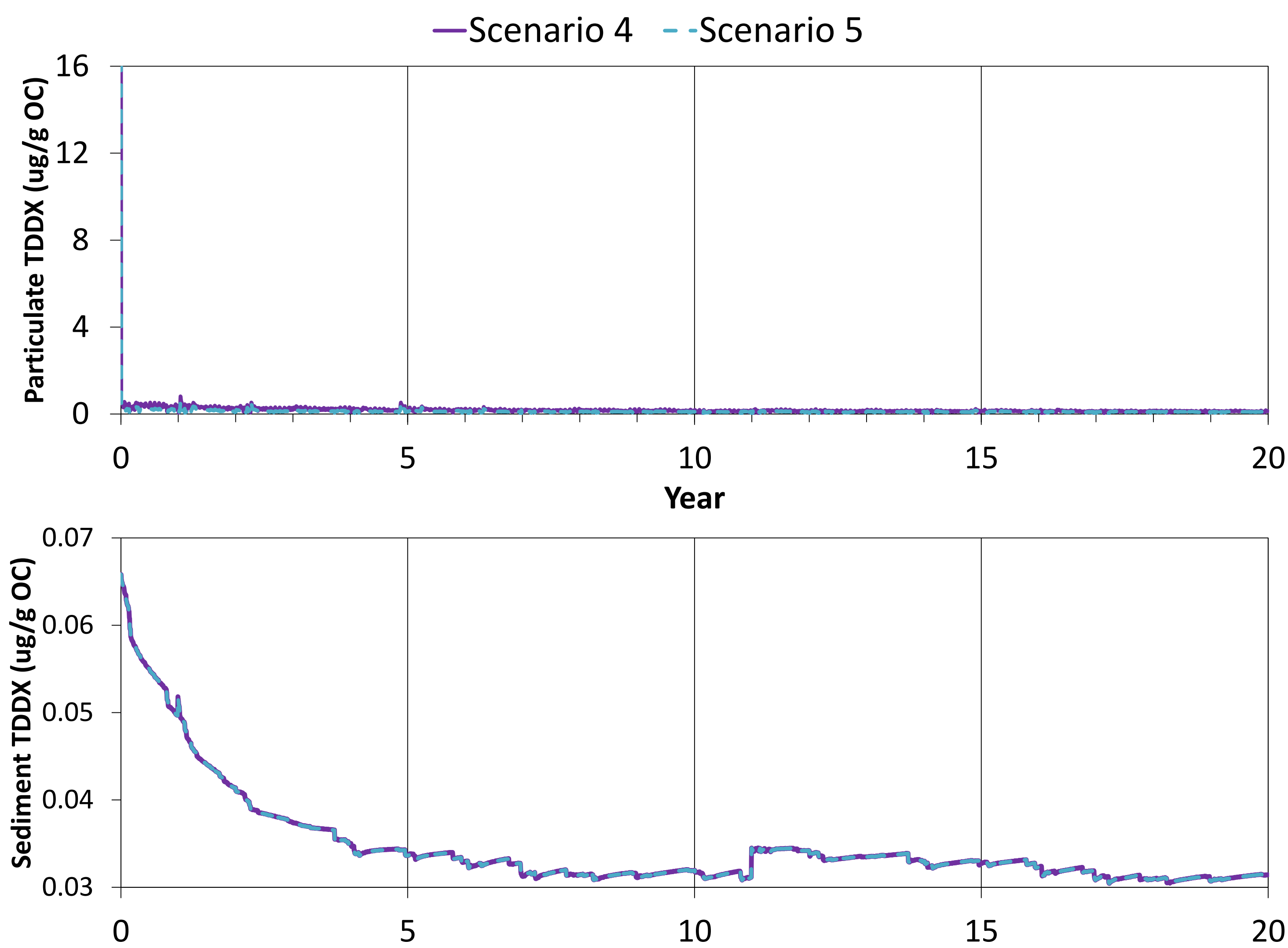


Figure 4.19a Scenario 4 and 5 TDDX Concentrations - Dominguez Channel Estuary

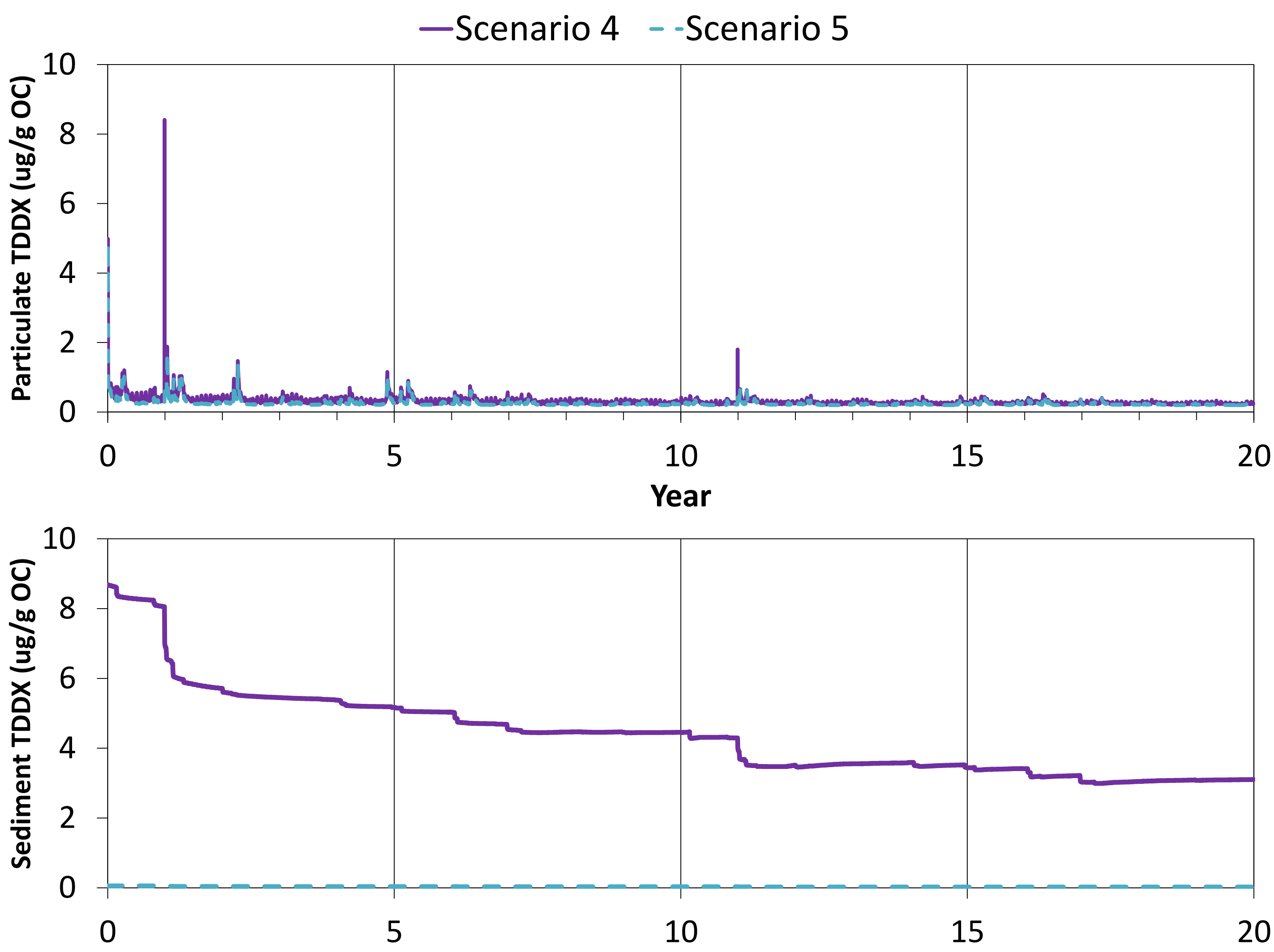


Figure 4.19b Scenario 4 and 5 TDDX Concentrations - Consolidated Slip

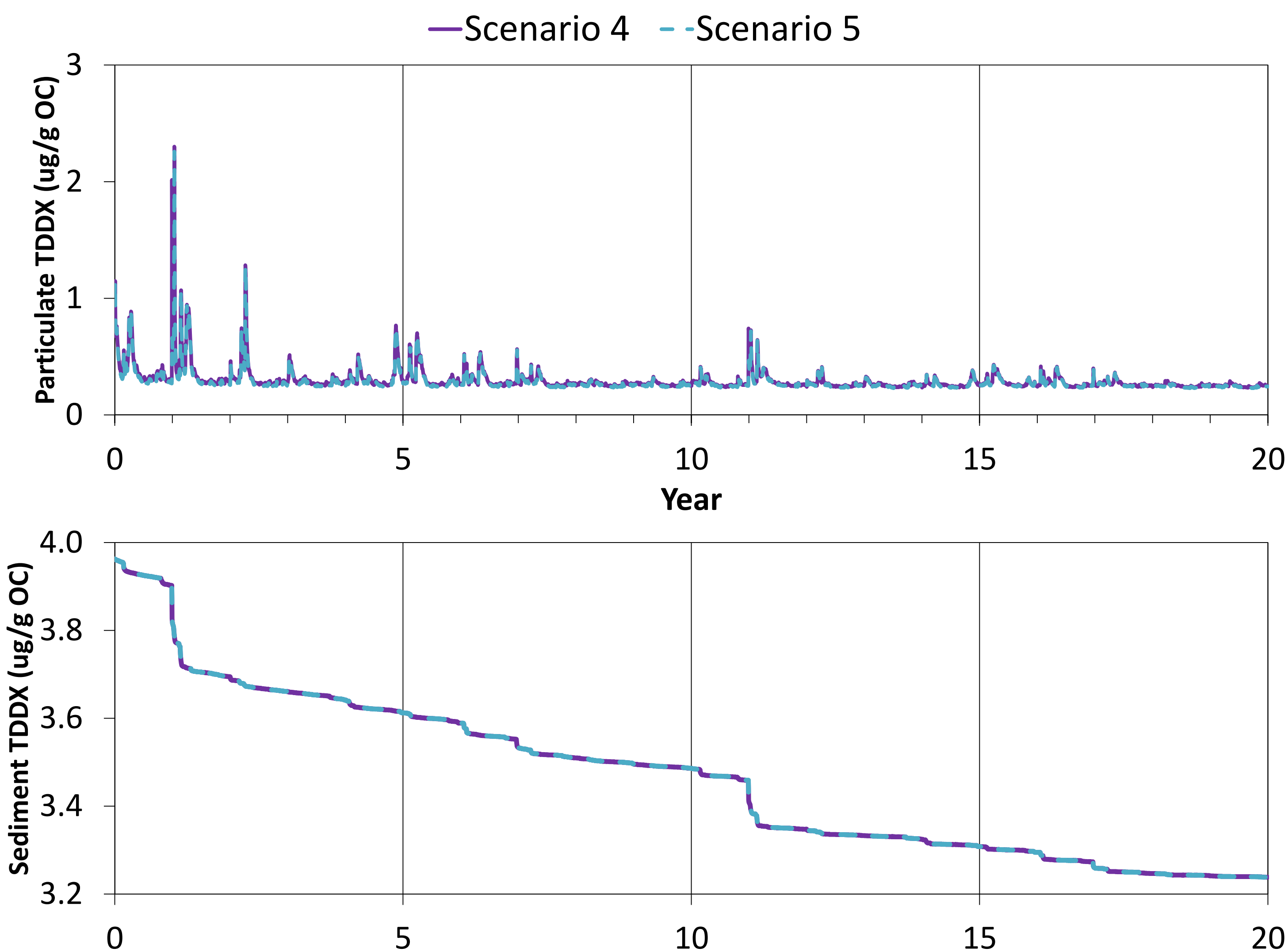


Figure 4.19c Scenario 4 and 5 TDDX Concentrations - LA Inner Harbor

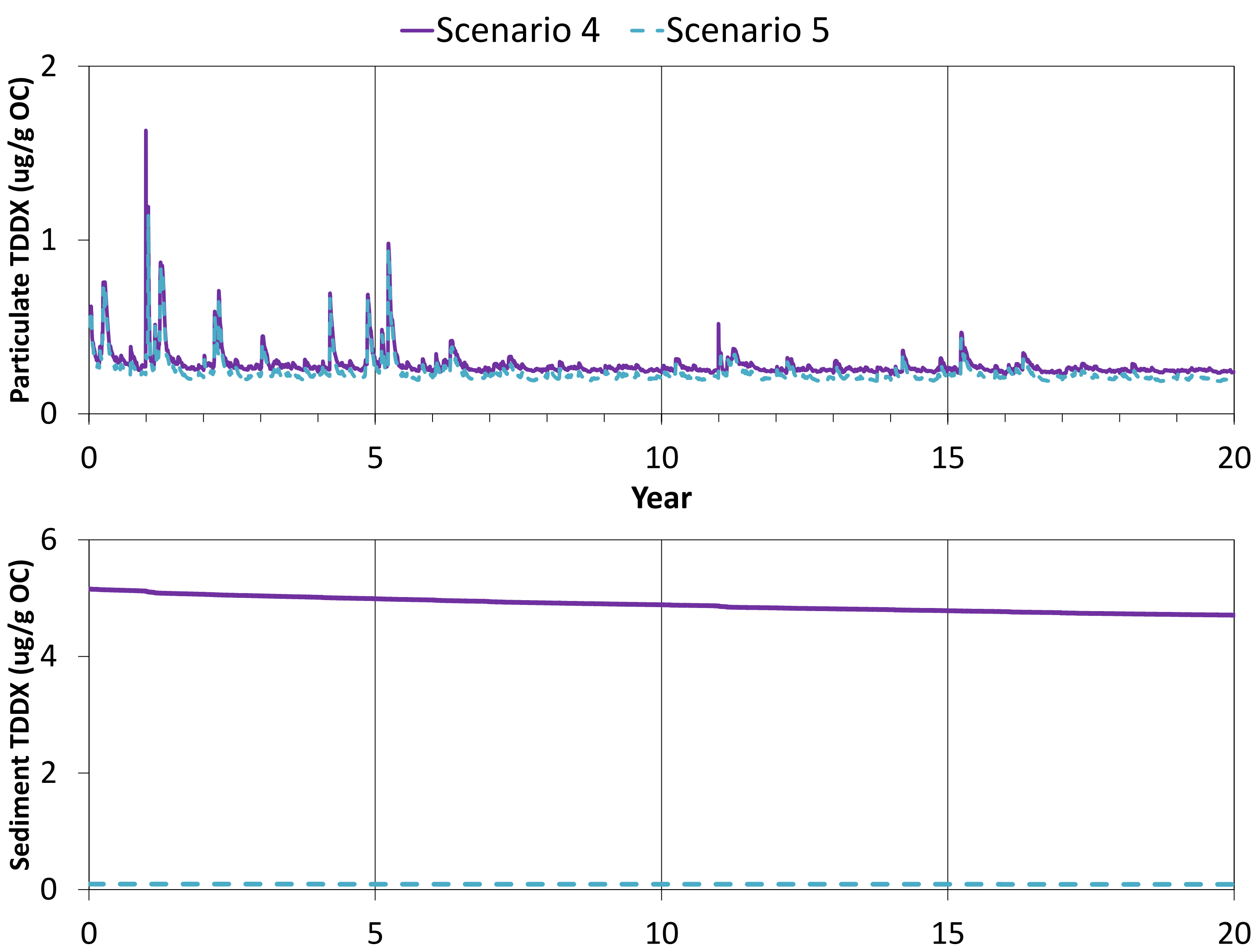


Figure 4.19d Scenario 4 and 5 TDDX Concentrations - Fish Harbor

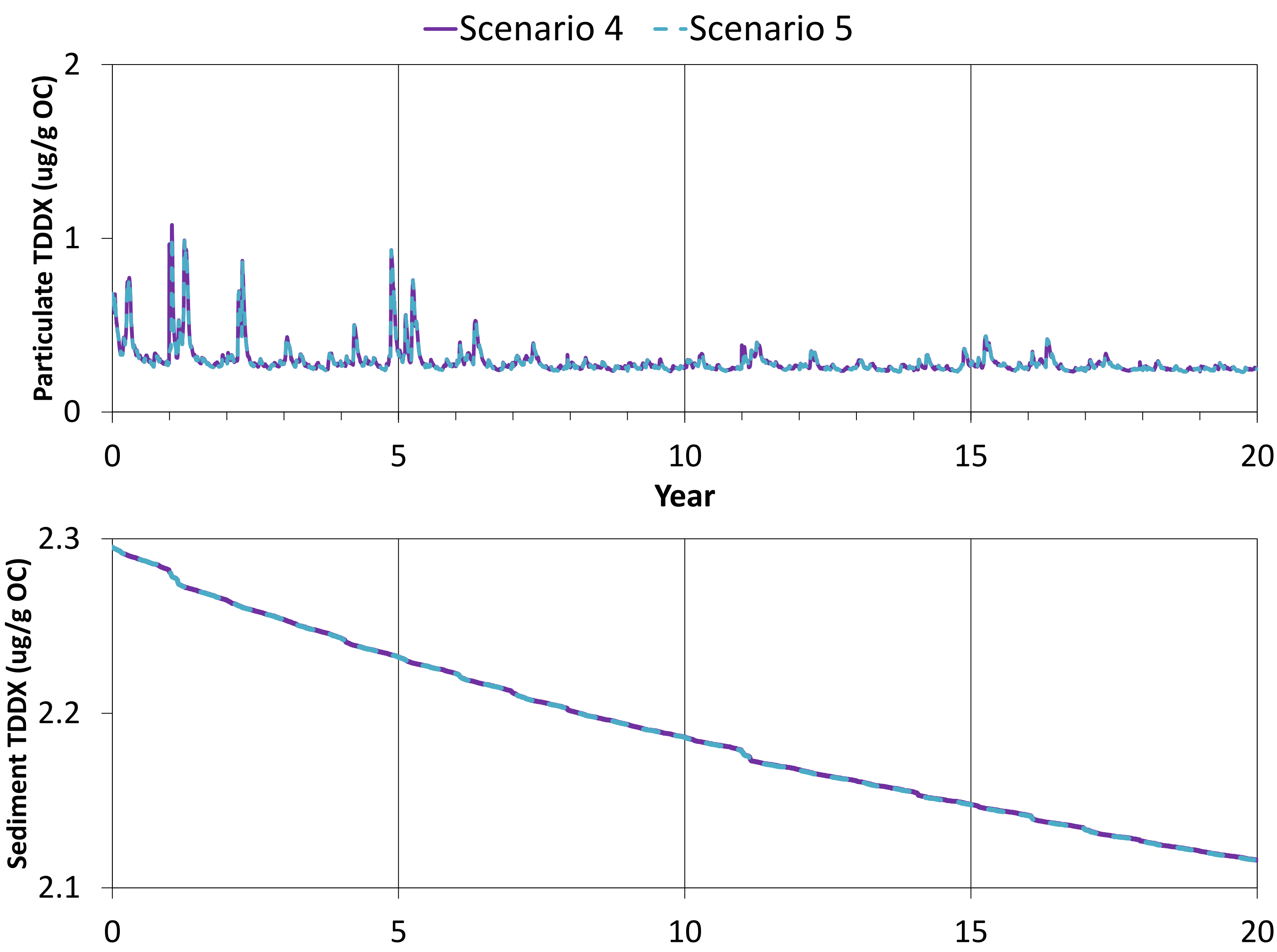


Figure 4.19e Scenario 4 and 5 TDDX Concentrations - Seaplane Lagoon

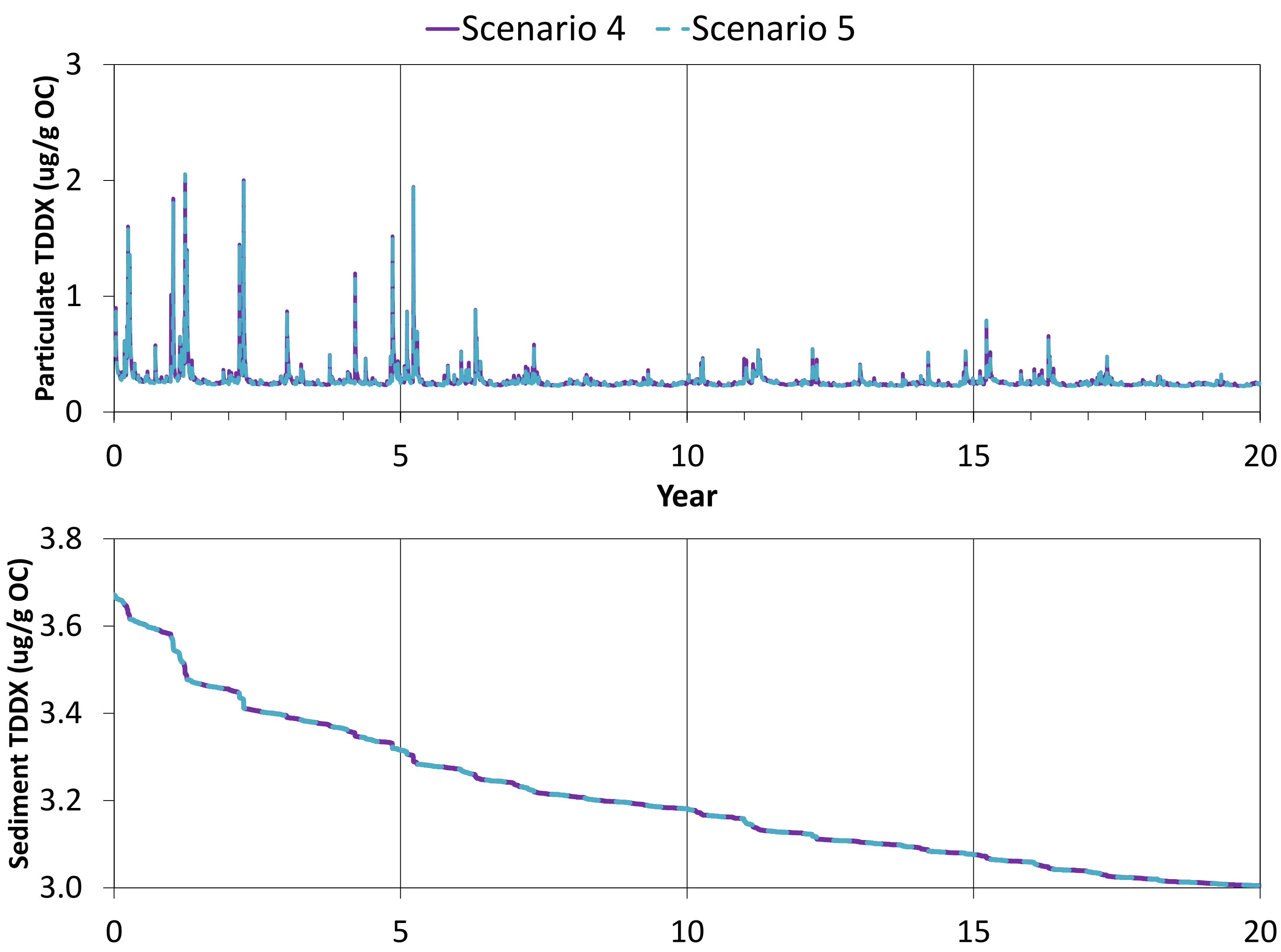


Figure 4.19f Scenario 4 and 5 TDDX Concentrations - LA Outer Harbor

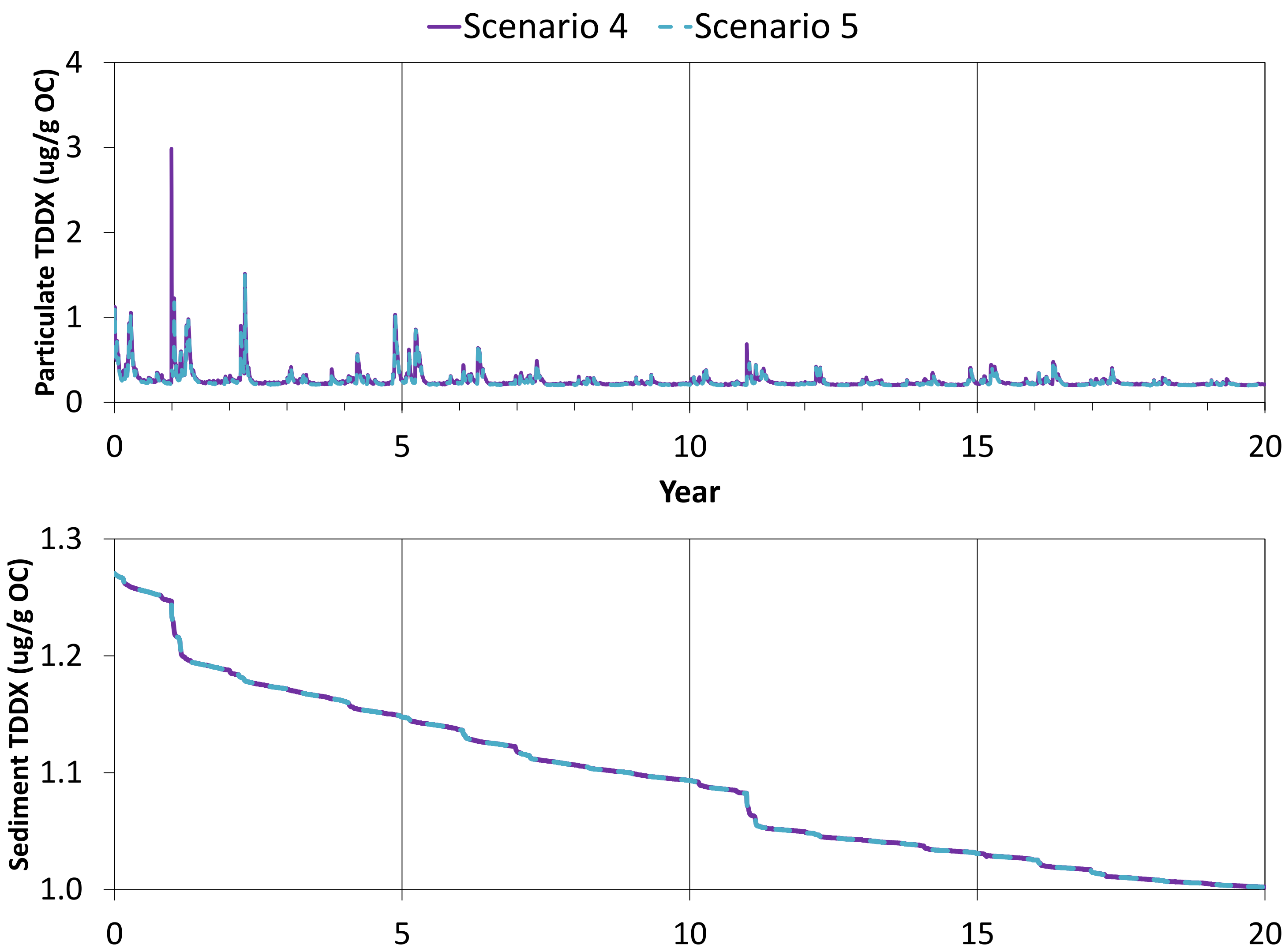


Figure 4.19g Scenario 4 and 5 TDDX Concentrations - LB Inner Harbor North

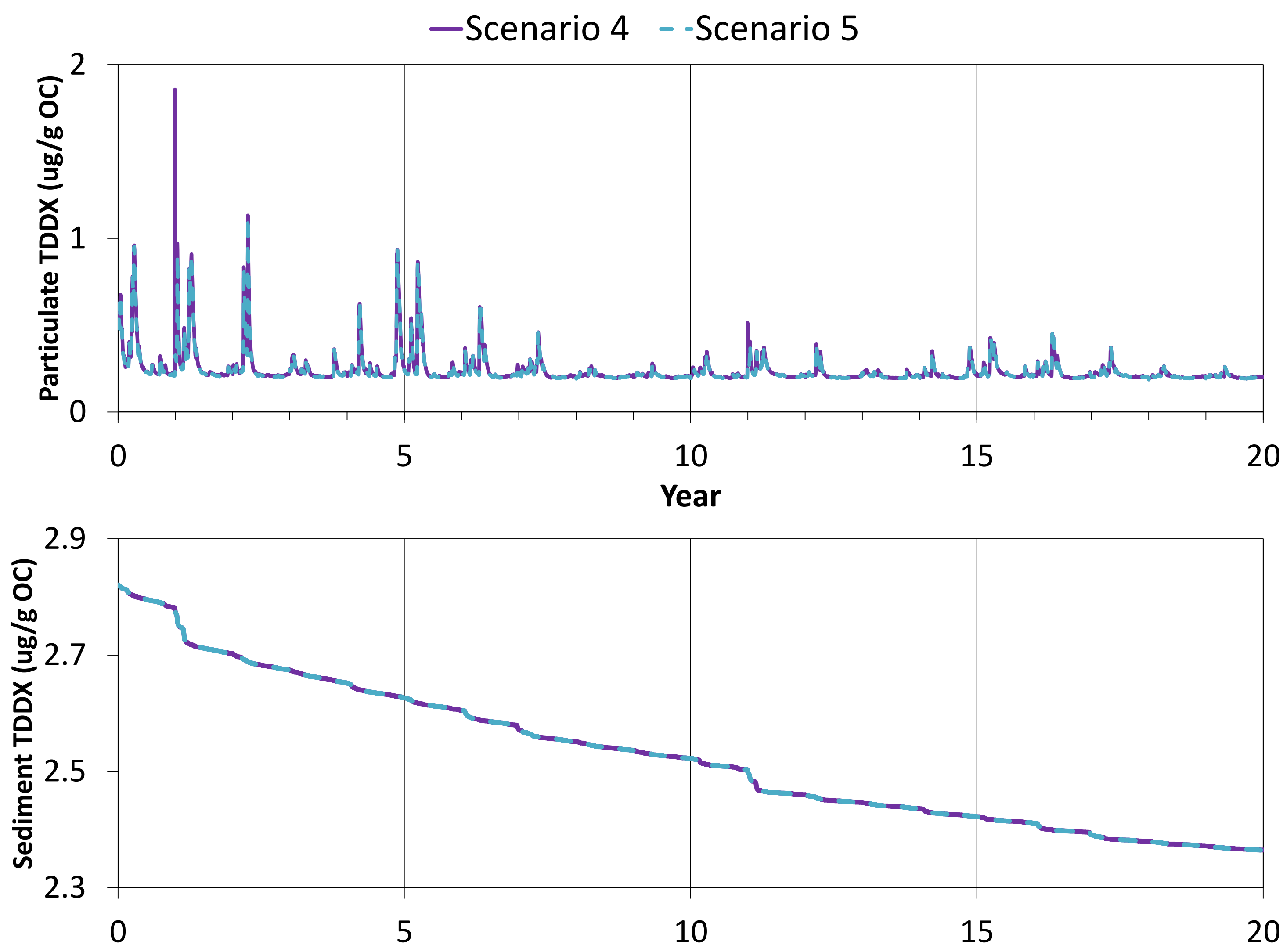


Figure 4.19h Scenario 4 and 5 TDDX Concentrations - LB Inner Harbor South

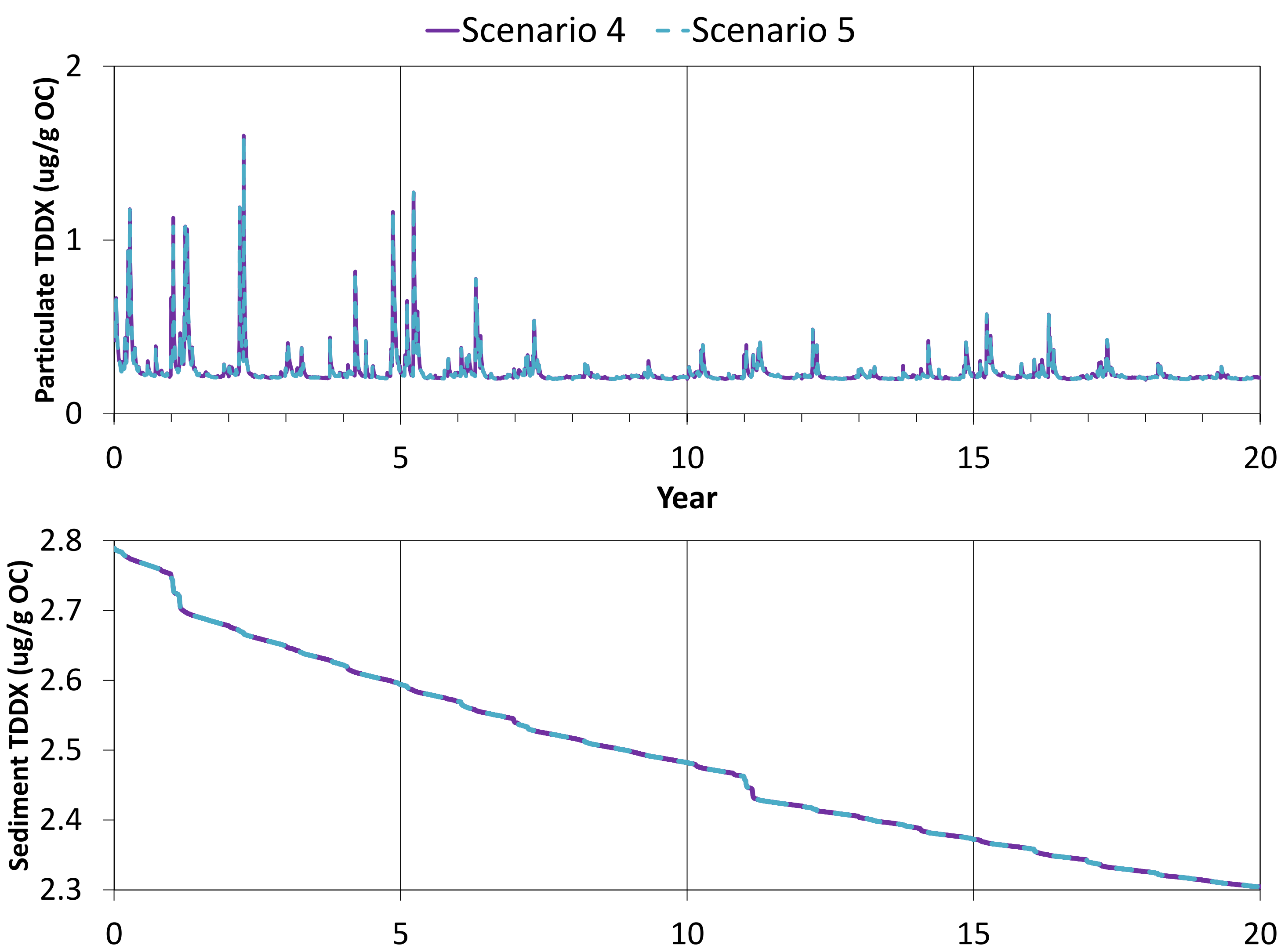


Figure 4.19i Scenario 4 and 5 TDDX Concentrations - LB Outer Harbor

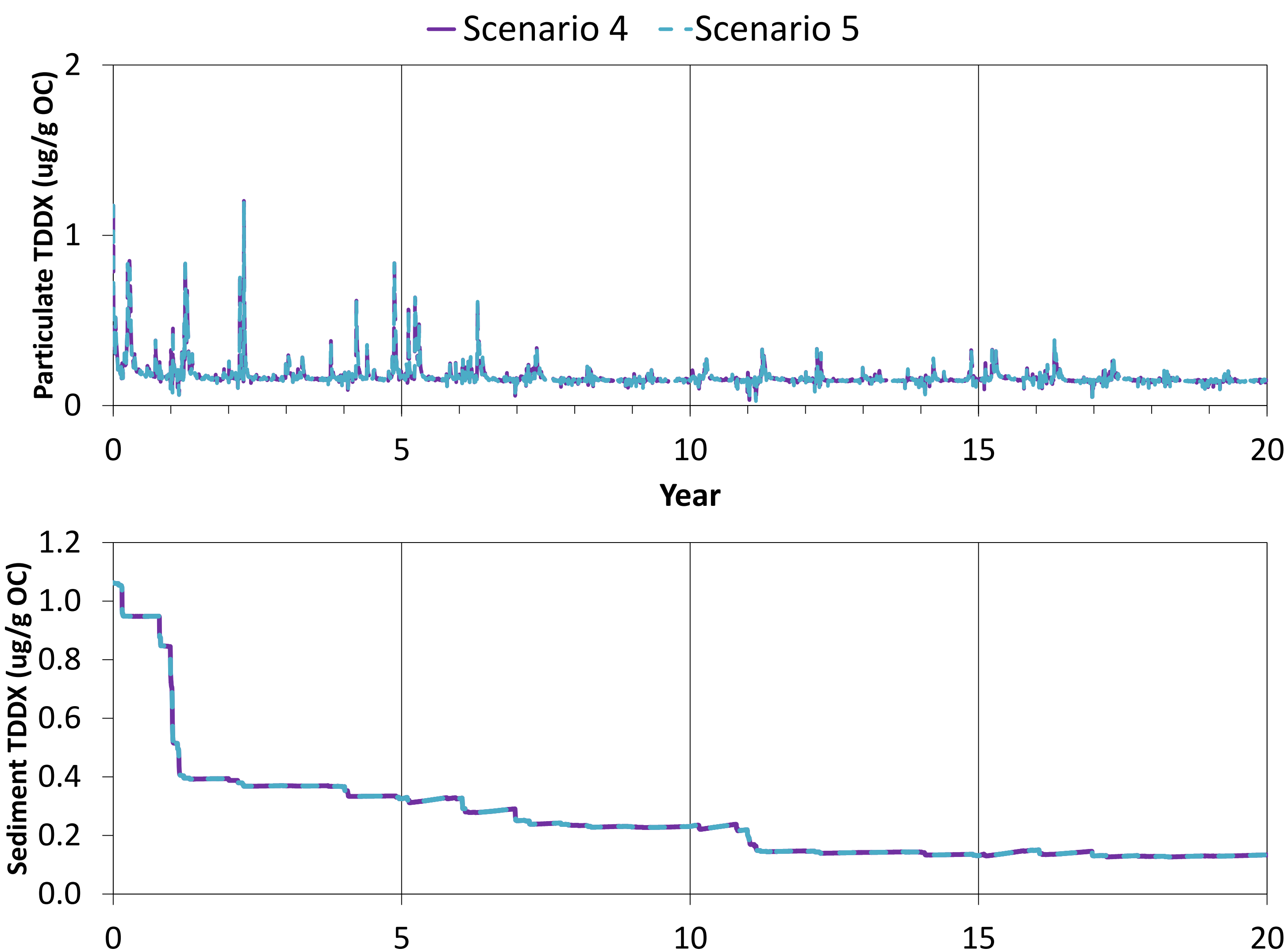


Figure 4.19j Scenario 4 and 5 TDDX Concentrations - Los Angeles River Estuary

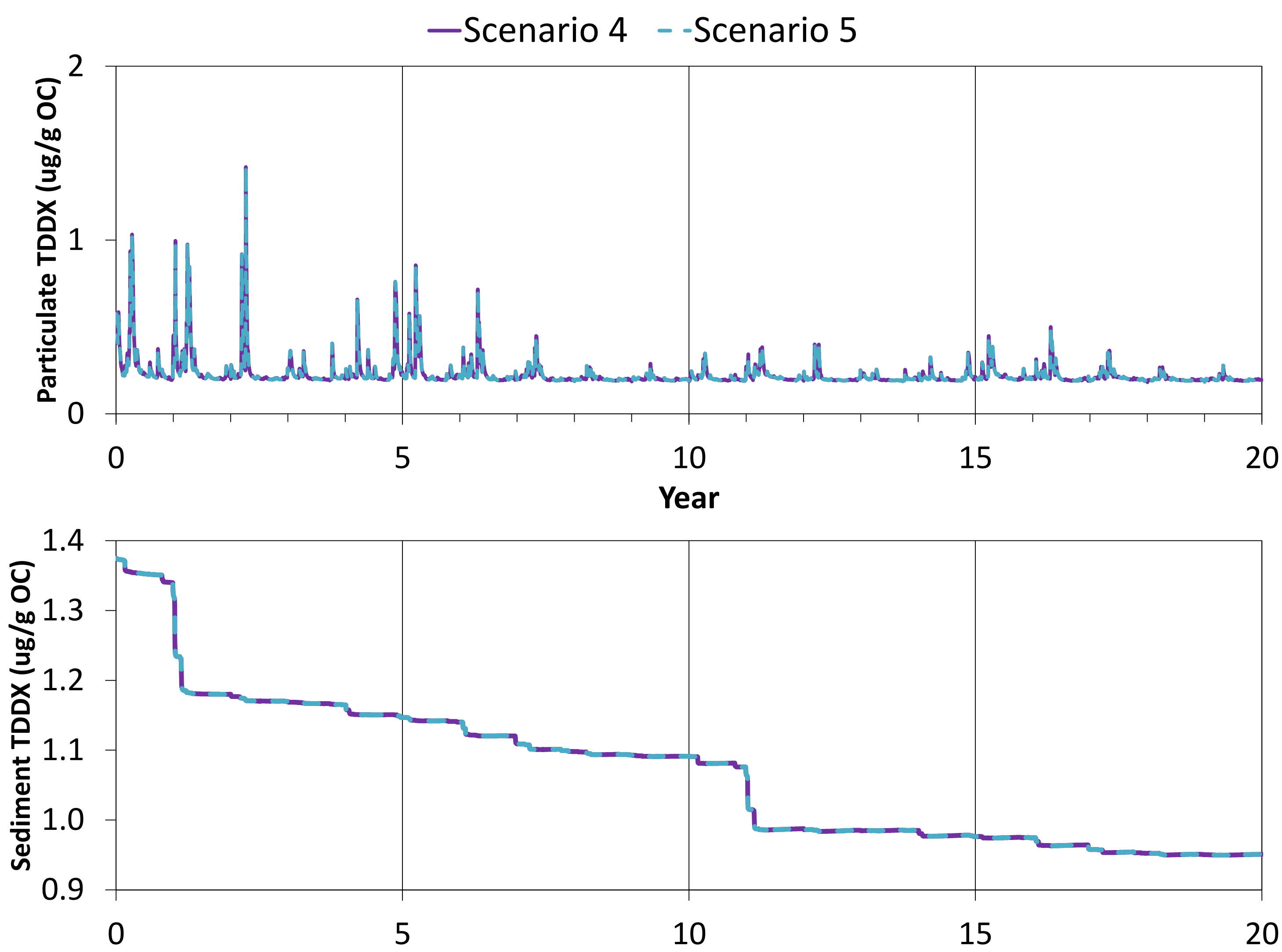


Figure 4.19k Scenario 4 and 5 TDDX Concentrations - Eastern San Pedro Bay

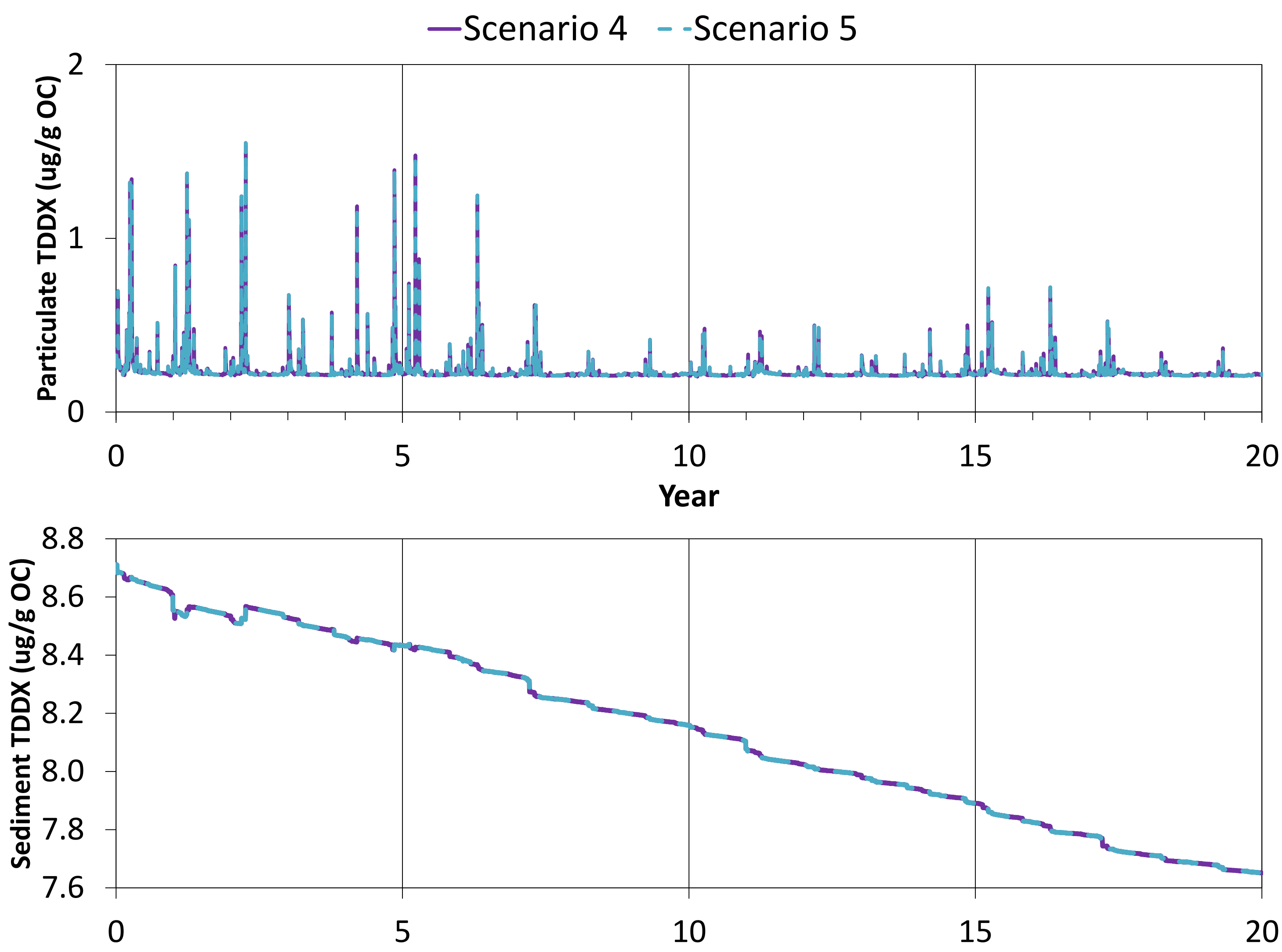


Figure 4.19l Scenario 4 and 5 TDDX Concentrations - Outside Harbor Exposure Area

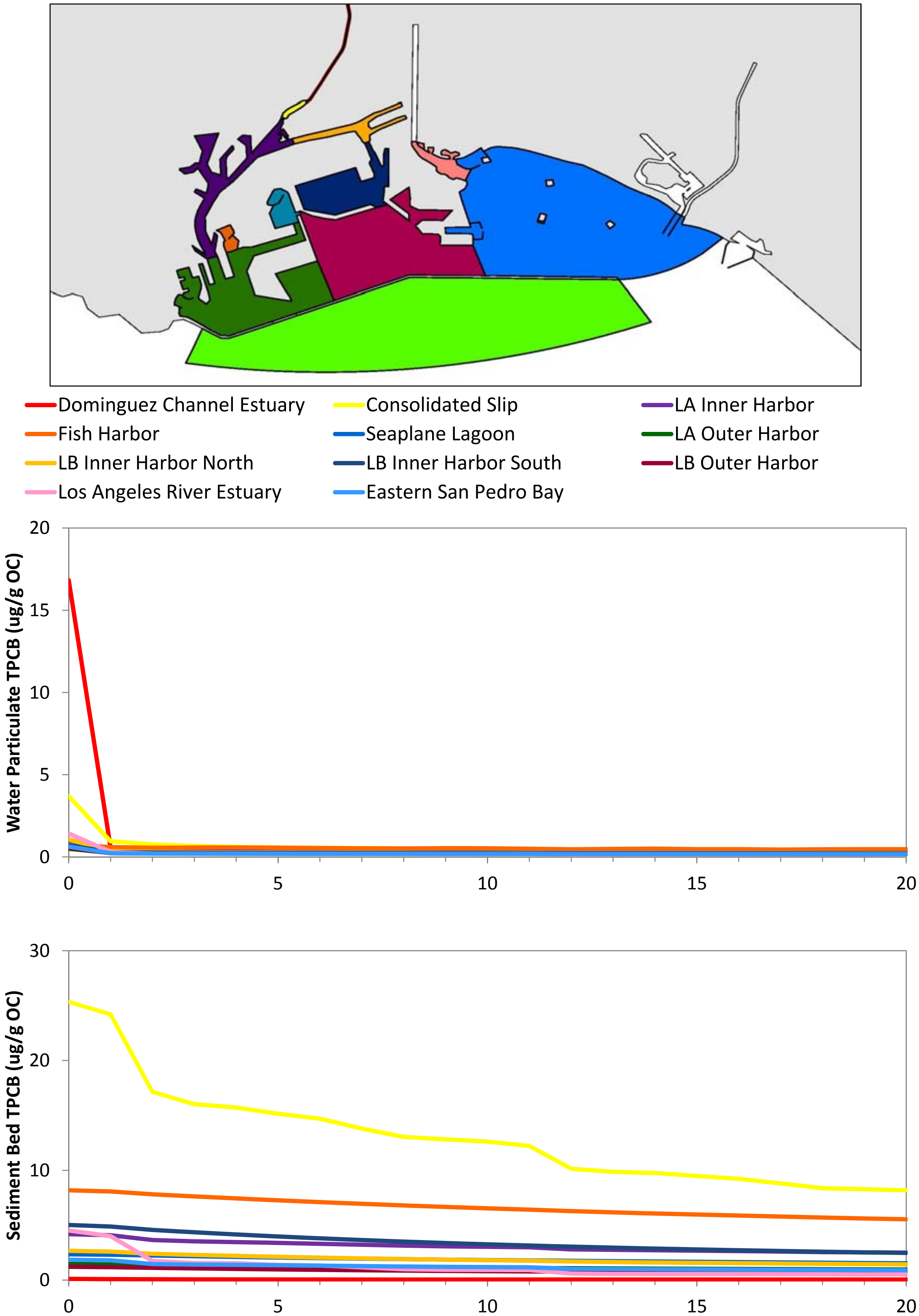


Figure 4.20 Scenario 4 Comparison of Annual TPCB Concentrations

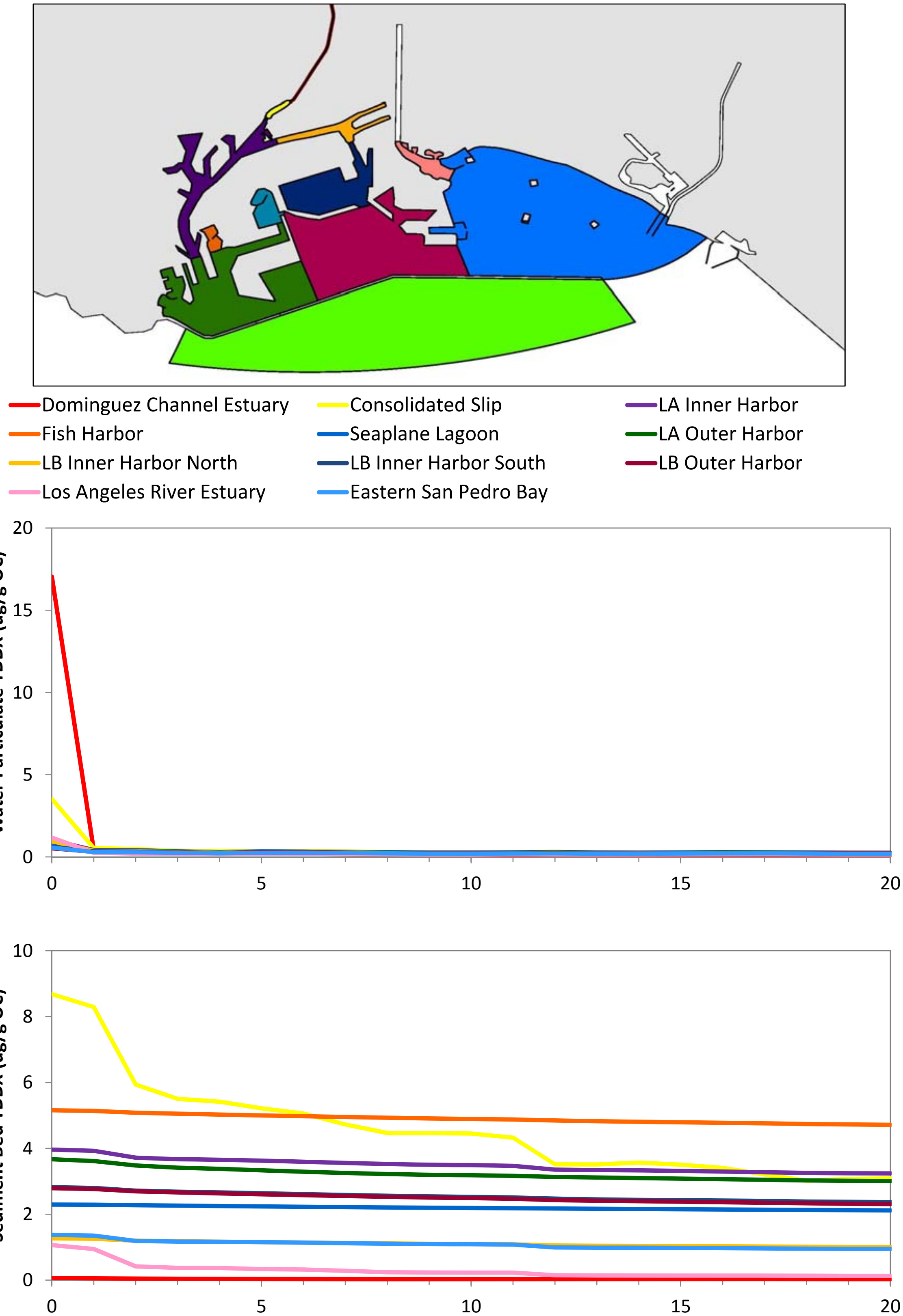


Figure 4.21 Scenario 4 Comparison of Annual TDDX Concentrations

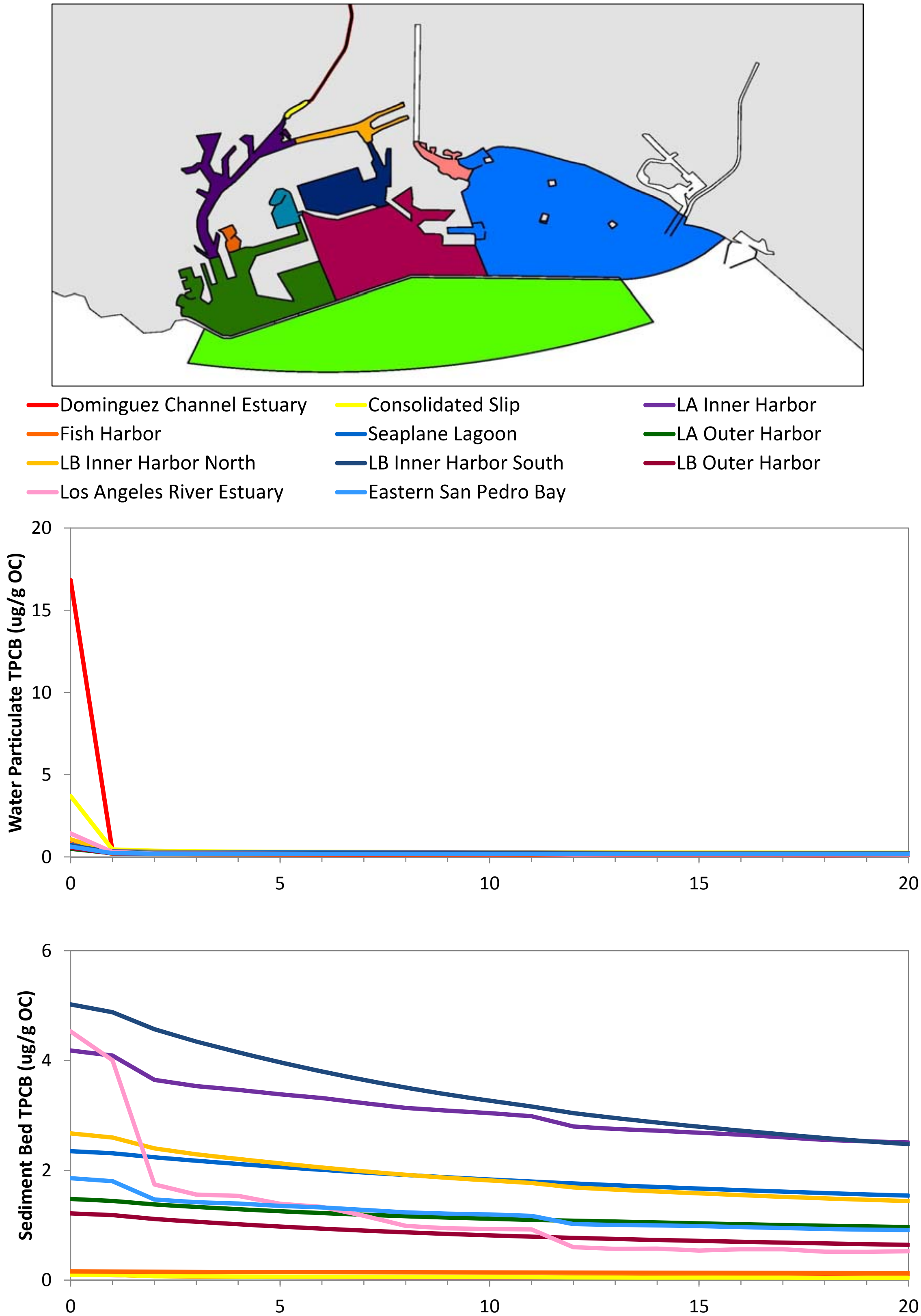


Figure 4.22 Scenario 5 Comparison of Annual TPCB Concentrations

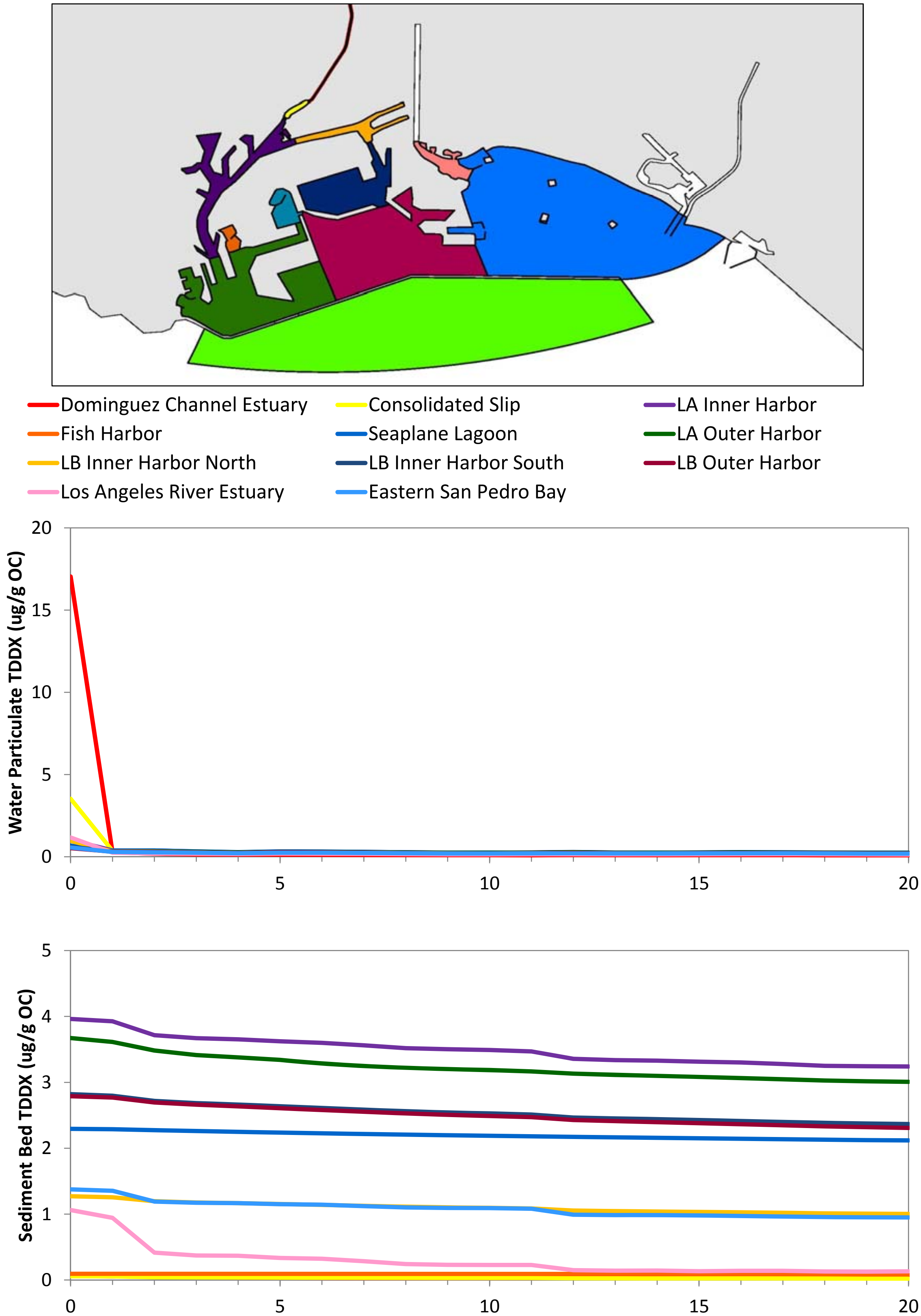


Figure 4.23 Scenario 5 Comparison of Annual TDDX Concentrations

4.4.2 Scenario 6

Scenario 6 was simulated with a 100% reduction in watershed loading and complete reduction in sediment loading (i.e., sediment organics concentrations set to 0). TPCB and TDDX concentrations for Scenario 6 are shown in Figures 4.24a-l and Figures 4.25a-l, respectively. In these figures, the water concentrations are compared to those under the Baseline Scenario, though bed concentrations are only shown for Scenario 6 and not the Baseline in order to best illustrate the changes in bed concentrations. As Scenario 6 includes no watershed or sediment bed sources, resulting water column concentrations are attributed to sources outside of the harbor occurring during tidal exchange. For TPCB, water concentrations are relatively stable once the initial water concentrations are flushed out of the harbor. In contrast, TDDX water concentrations fluctuate due to erosion that occurs outside of the breakwater, with the highest water concentrations occurring in the LA Outer Harbor. Bed concentrations gradually increase over time due to the continual effects of the ocean sources.

Comparisons among the fish movement zones are shown in Figures 4.26 and 4.27 for TPCB and TDDX, respectively. Overall, bed concentrations are highest in the outer harbors, given their proximity to tidal exchange. The highest bed concentrations occur in the LB Outer Harbor, LB Inner Harbor South, Seaplane Lagoon, and LA Outer Harbor. TPCB bed concentrations are higher than those for TDDX, due to its higher mass transfer coefficient.

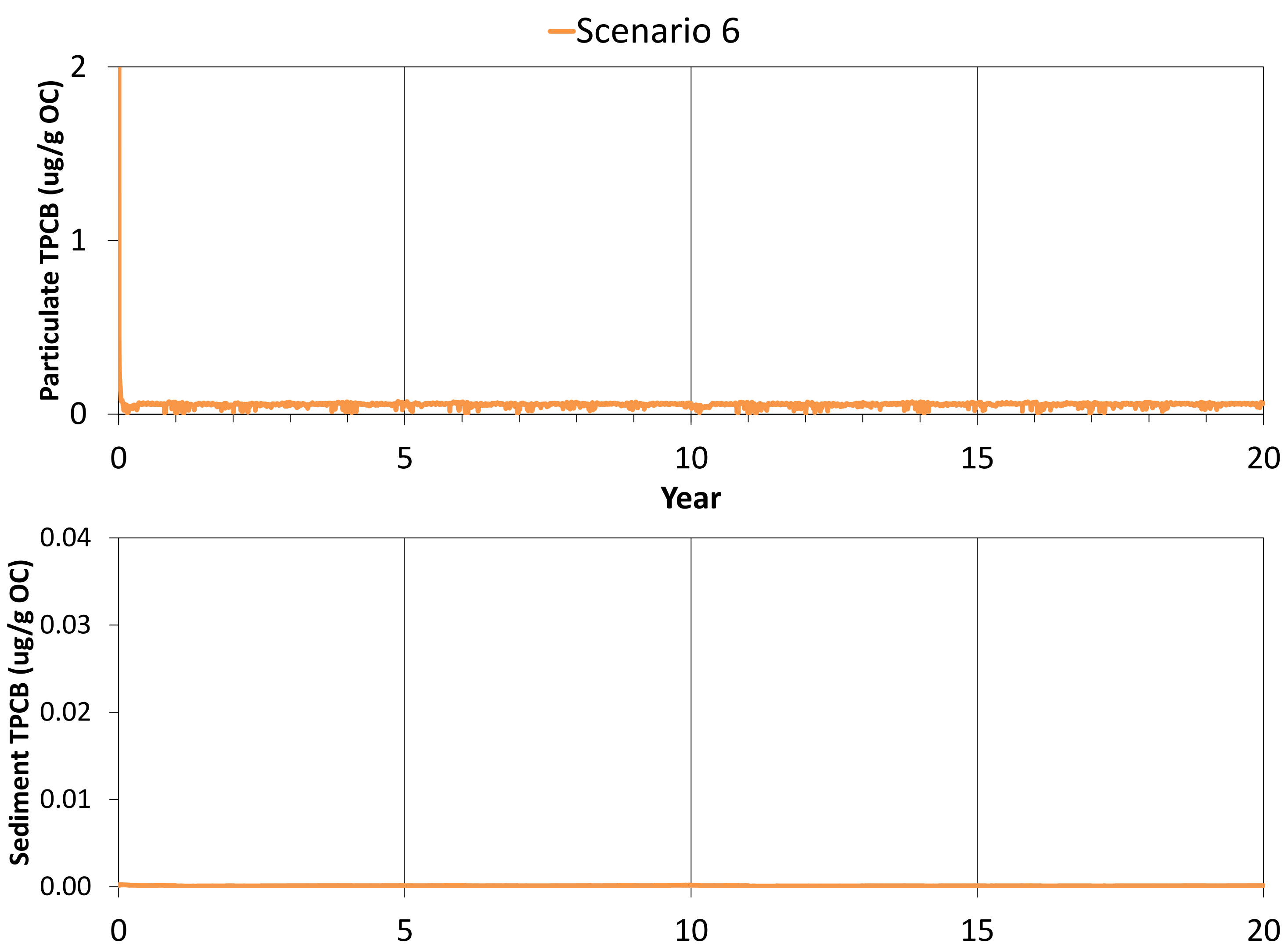


Figure 4.24a Scenario 6 TPCB Concentrations - Dominguez Channel Estuary

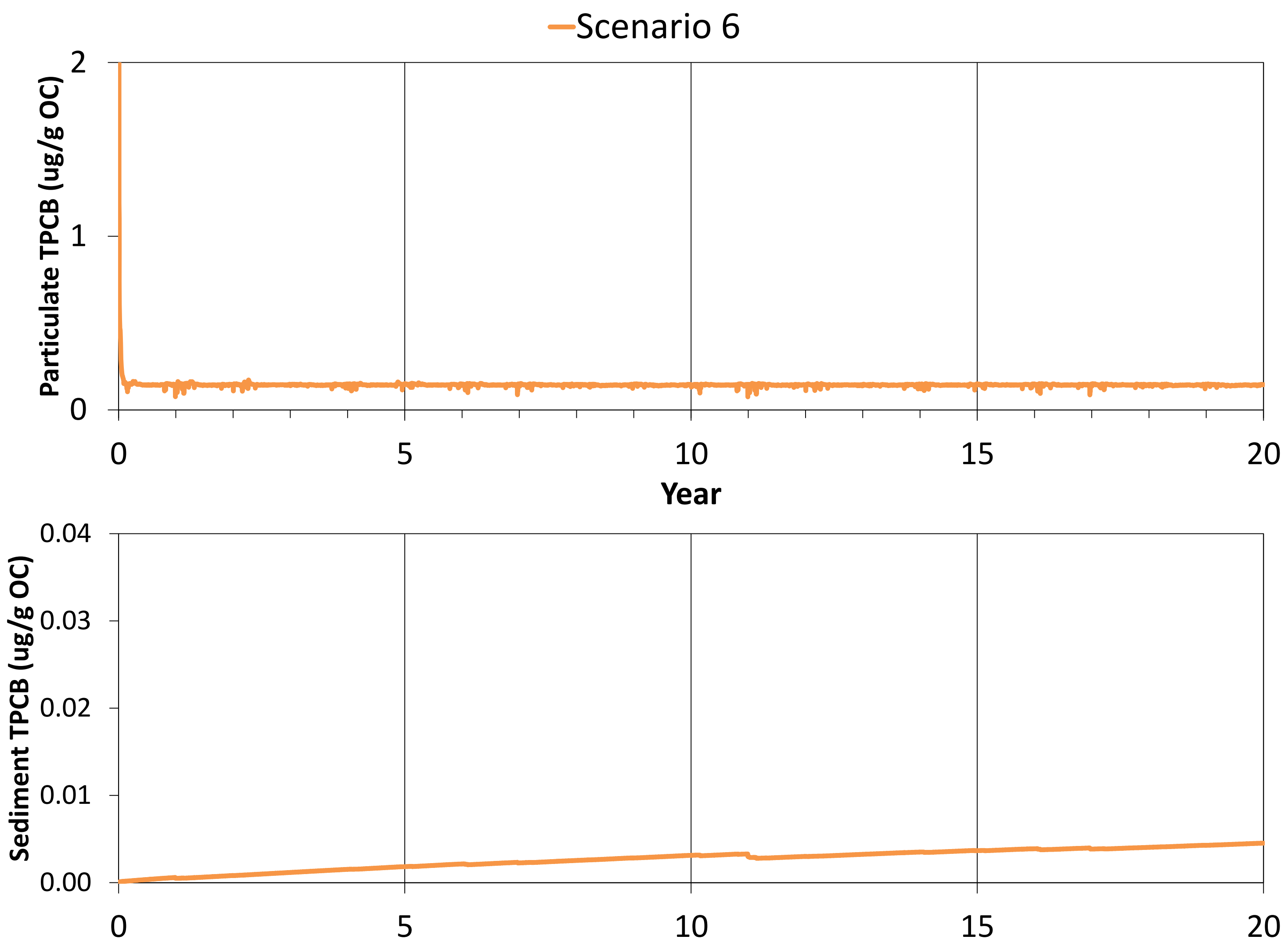


Figure 4.24b Scenario 6 TPCB Concentrations - Consolidated Slip

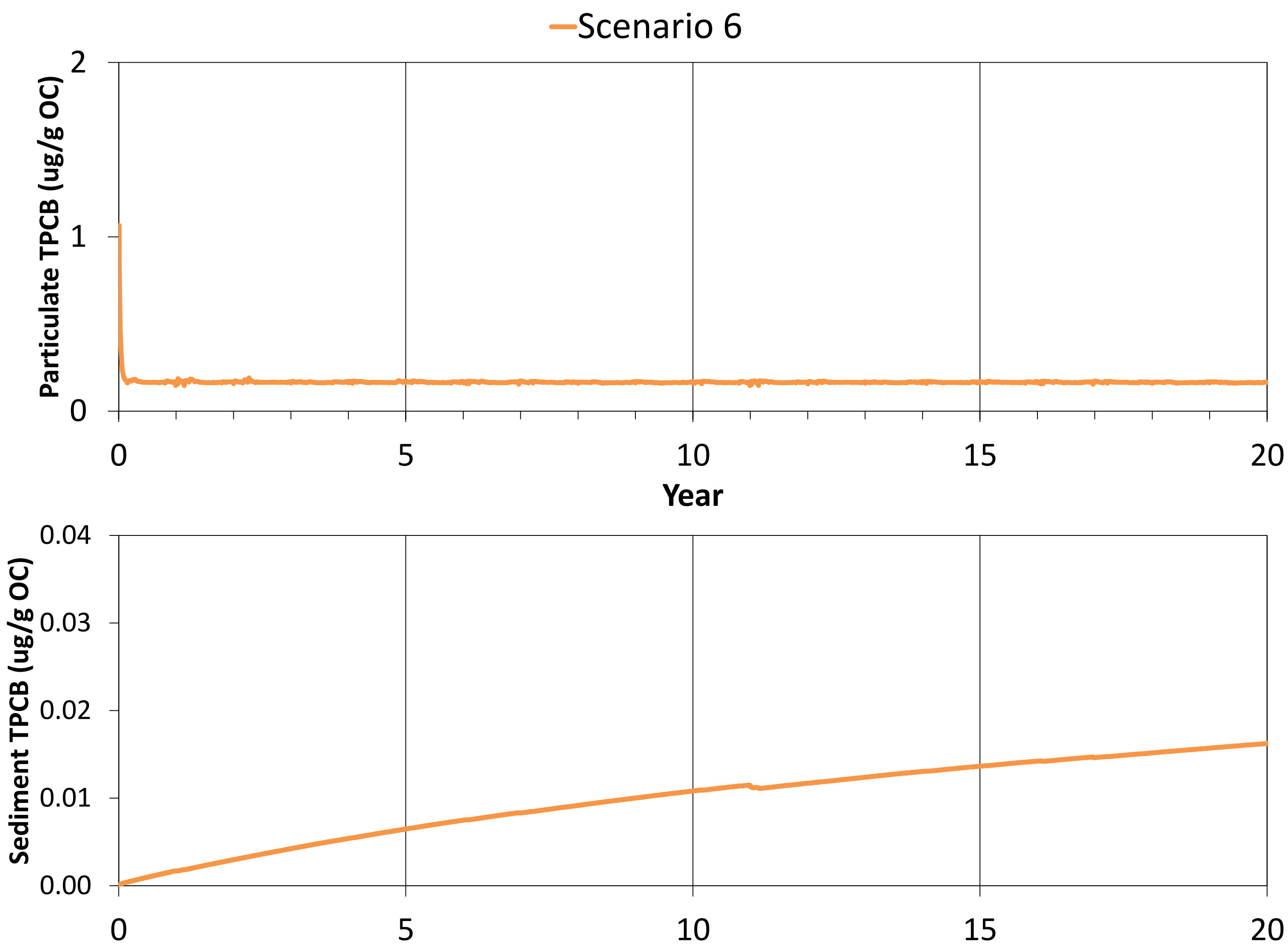


Figure 4.24c Scenario 6 TPCB Concentrations - LA Inner Harbor

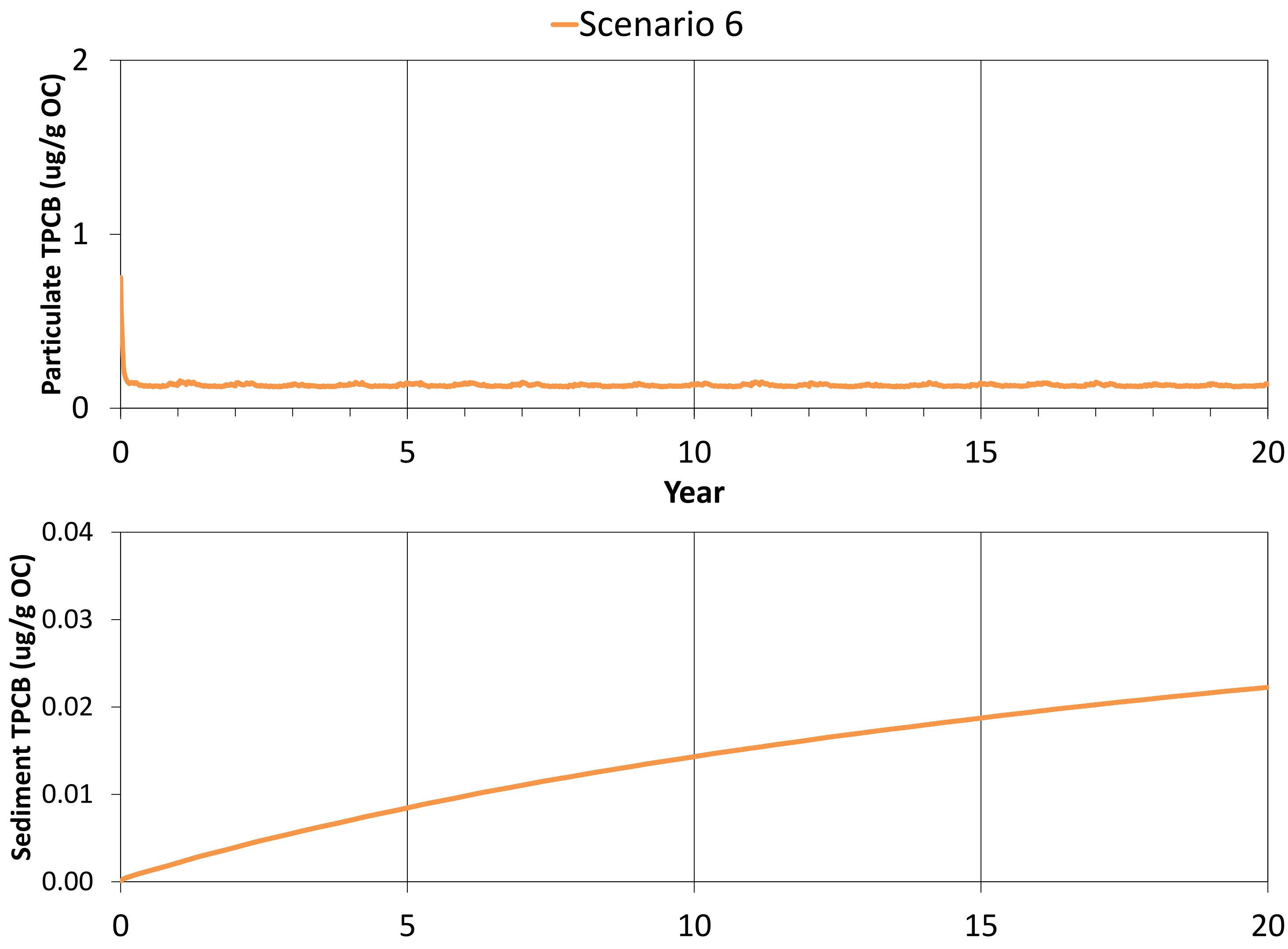


Figure 4.24d Scenario 6 TPCB Concentrations - Fish Harbor

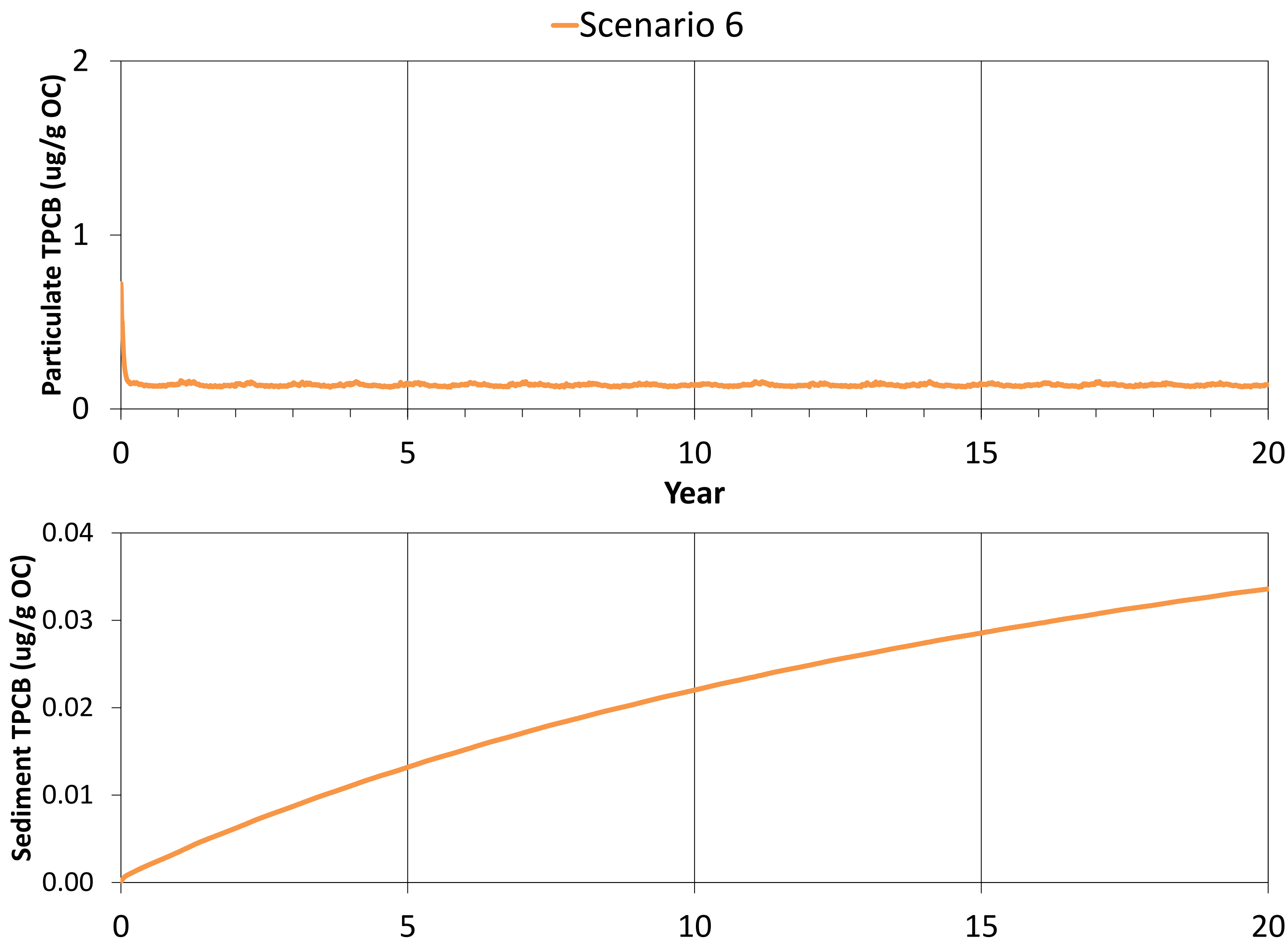


Figure 4.24e Scenario 6 TPCB Concentrations - Seaplane Lagoon

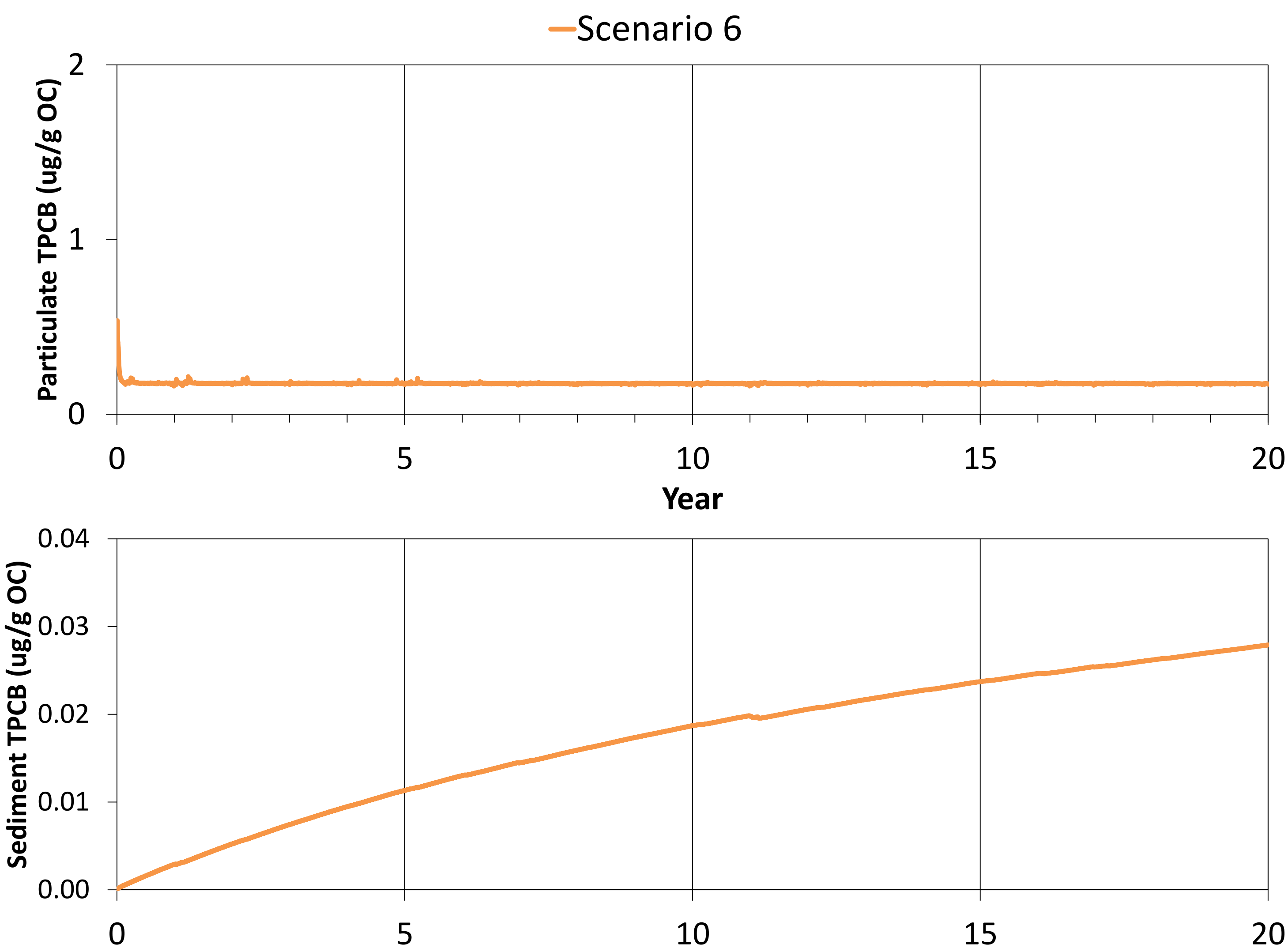


Figure 4.24f Scenario 6 TPCB Concentrations - LA Outer Harbor

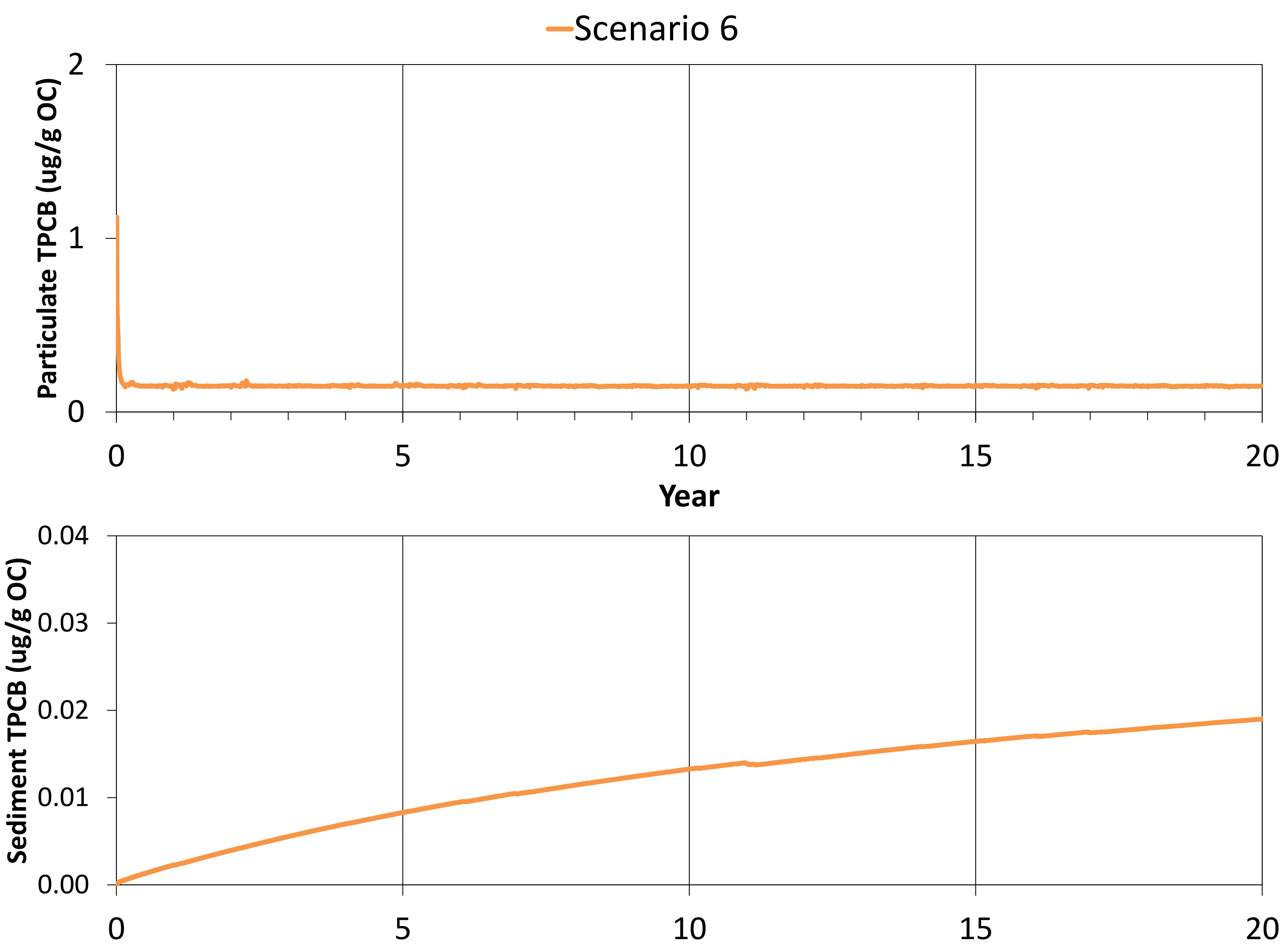


Figure 4.24g Scenario 6 TPCB Concentrations - LB Inner Harbor North

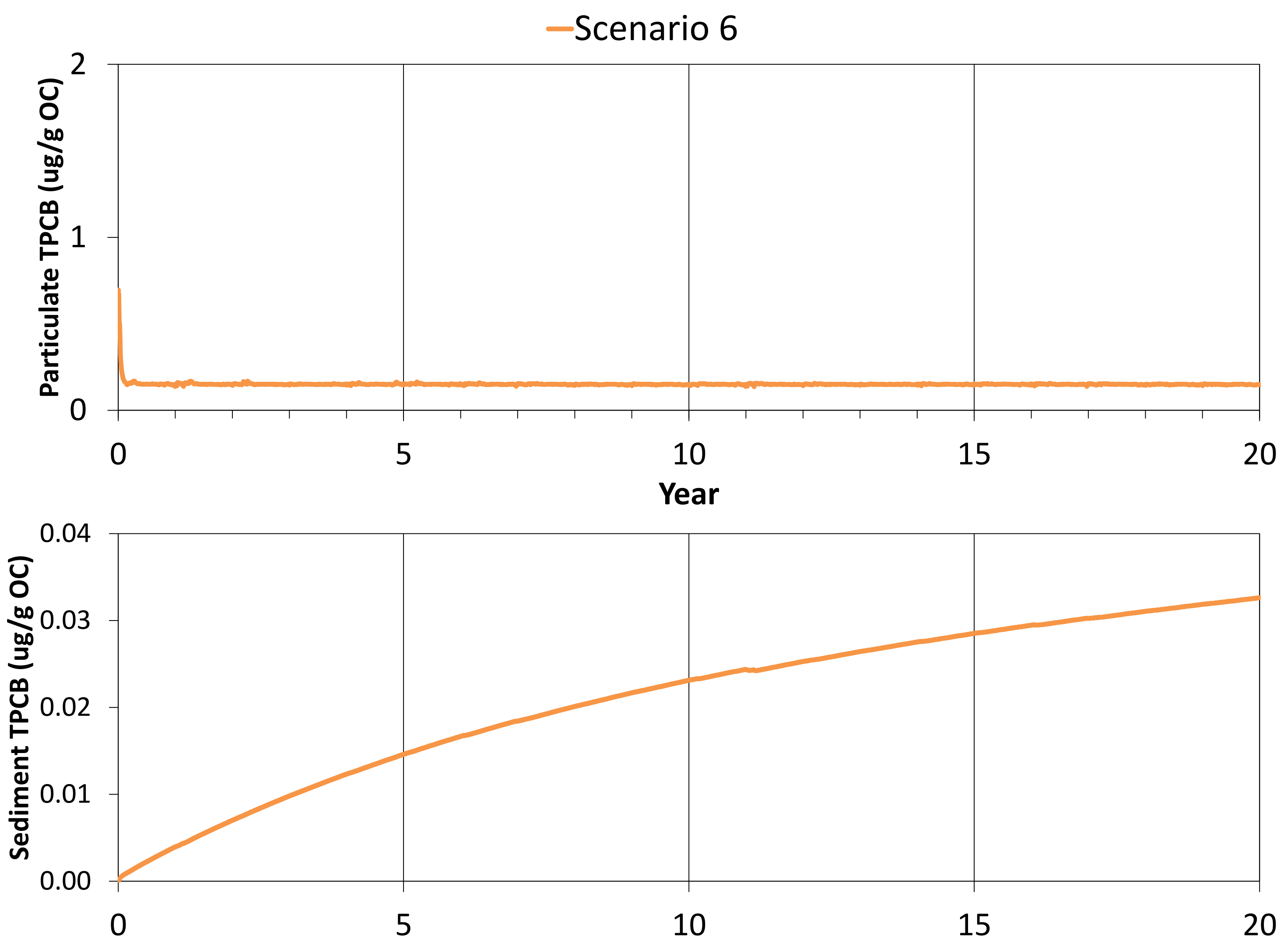


Figure 4.24h Scenario 6 TPCB Concentrations - LB Inner Harbor South

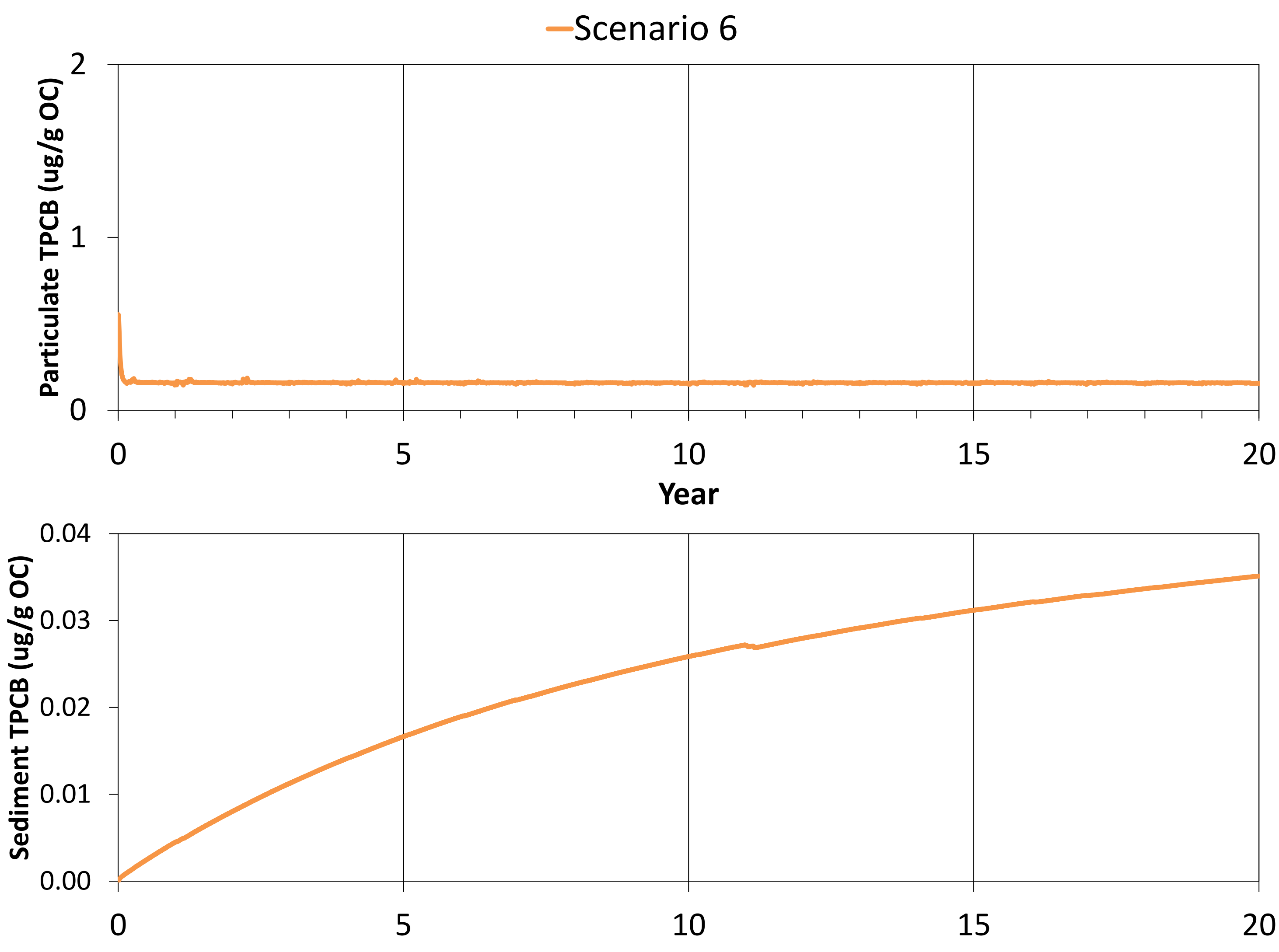


Figure 4.24i Scenario 6 TPCB Concentrations - LB Outer Harbor

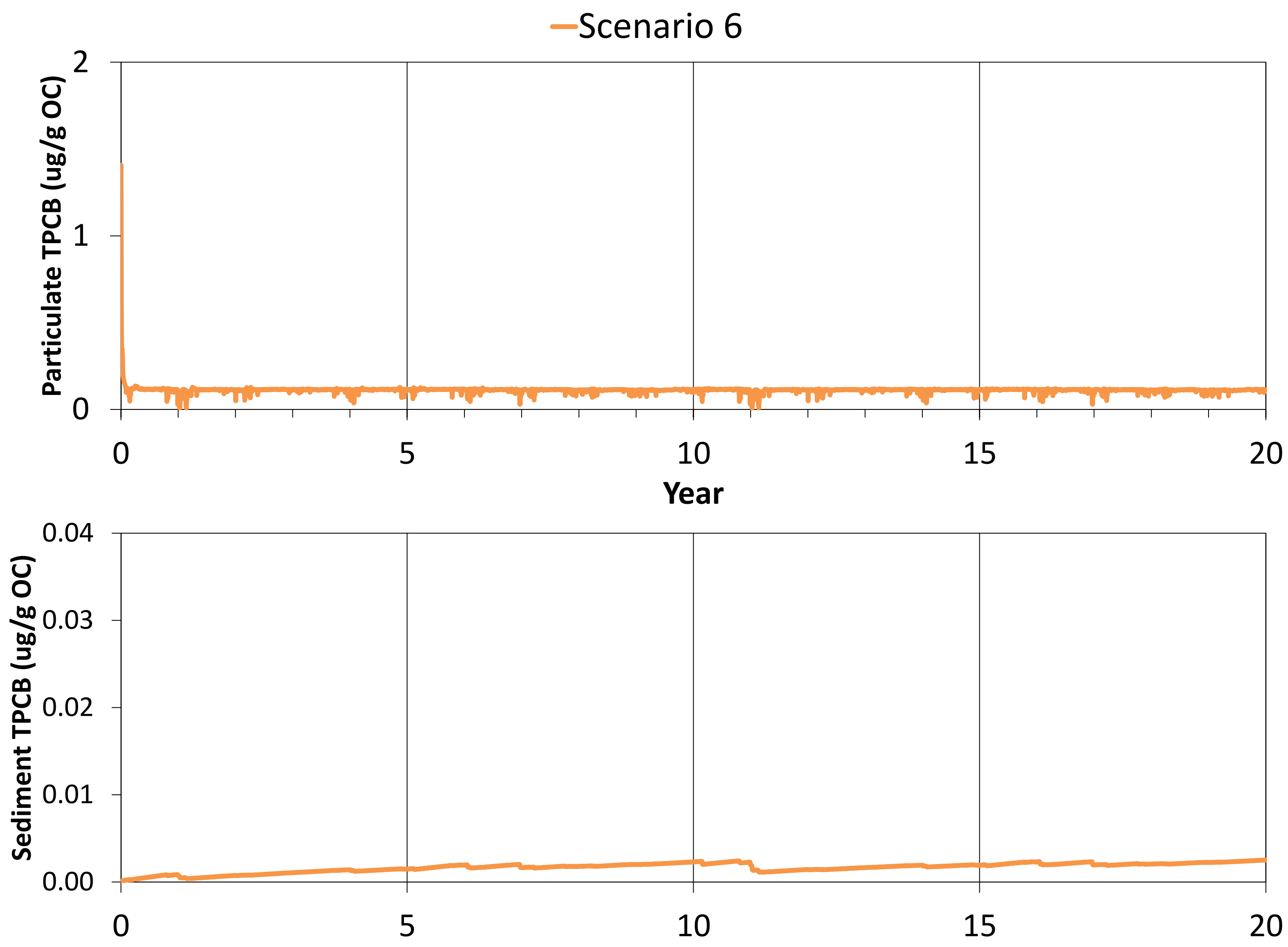


Figure 4.24j Scenario 6 TPCB Concentrations - Los Angeles River Estuary

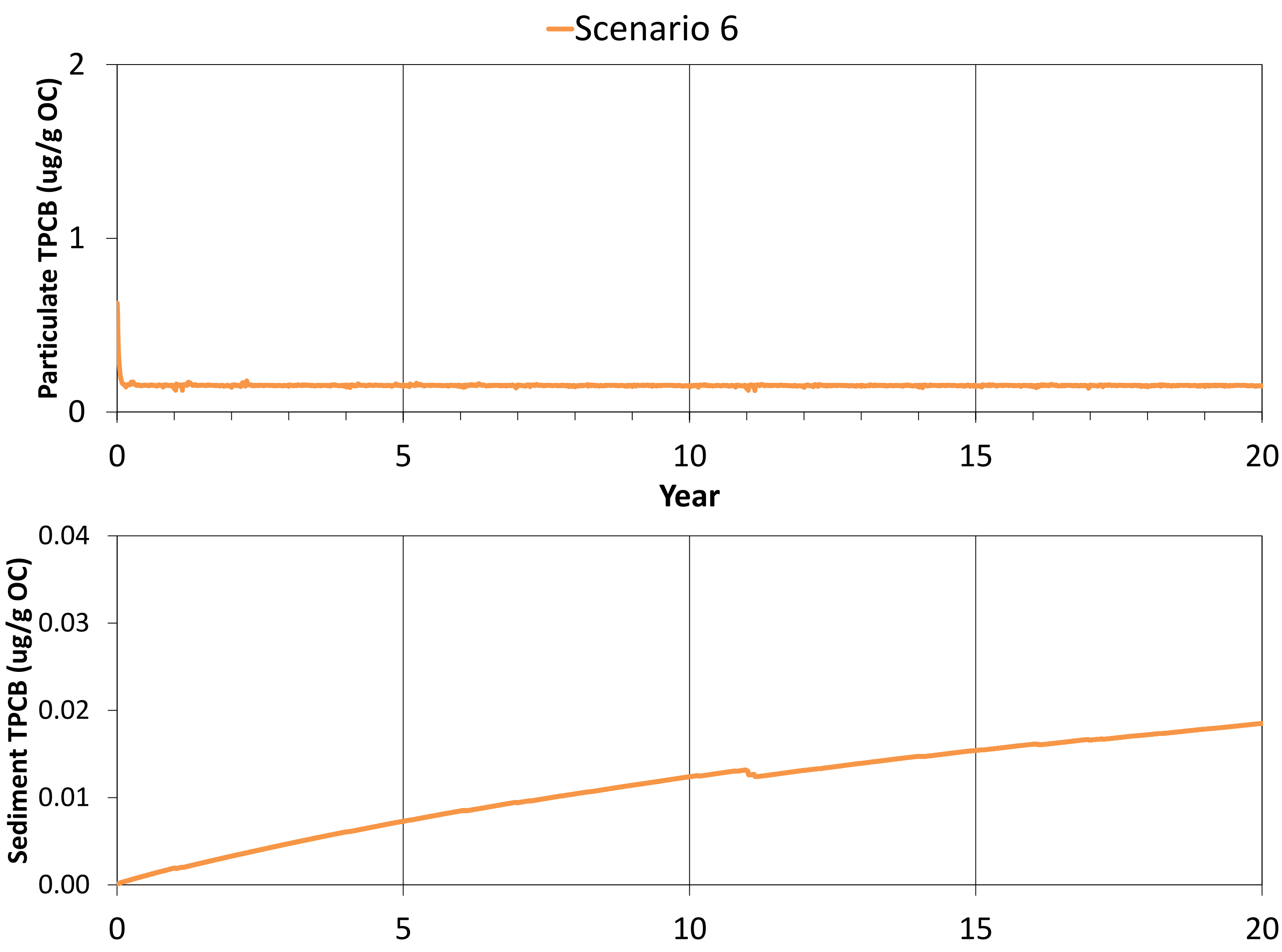


Figure 4.24k Scenario 6 TPCB Concentrations - Eastern San Pedro Bay

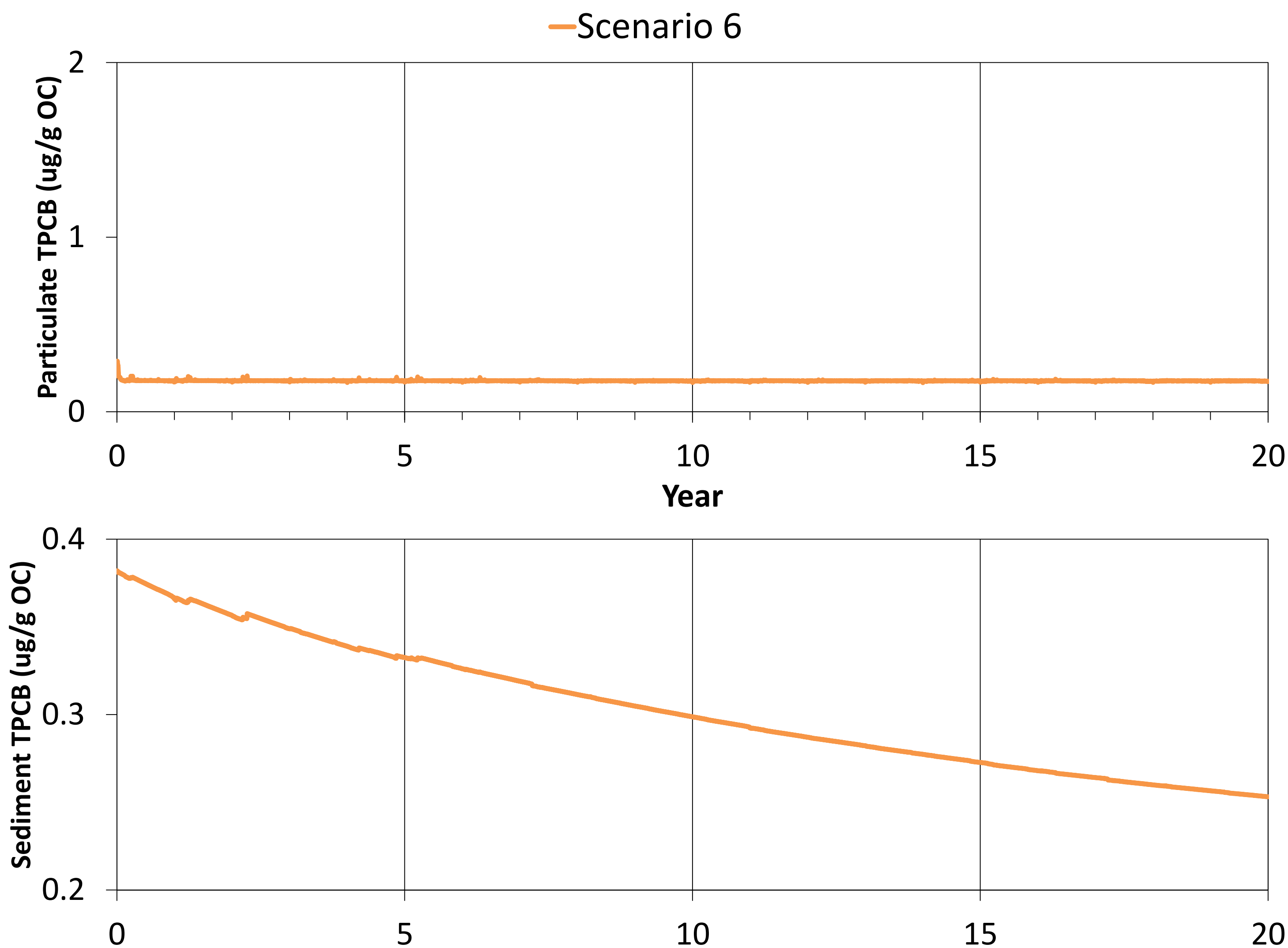


Figure 4.24l Scenario 6 TPCB Concentrations - Outside Harbor Exposure Area

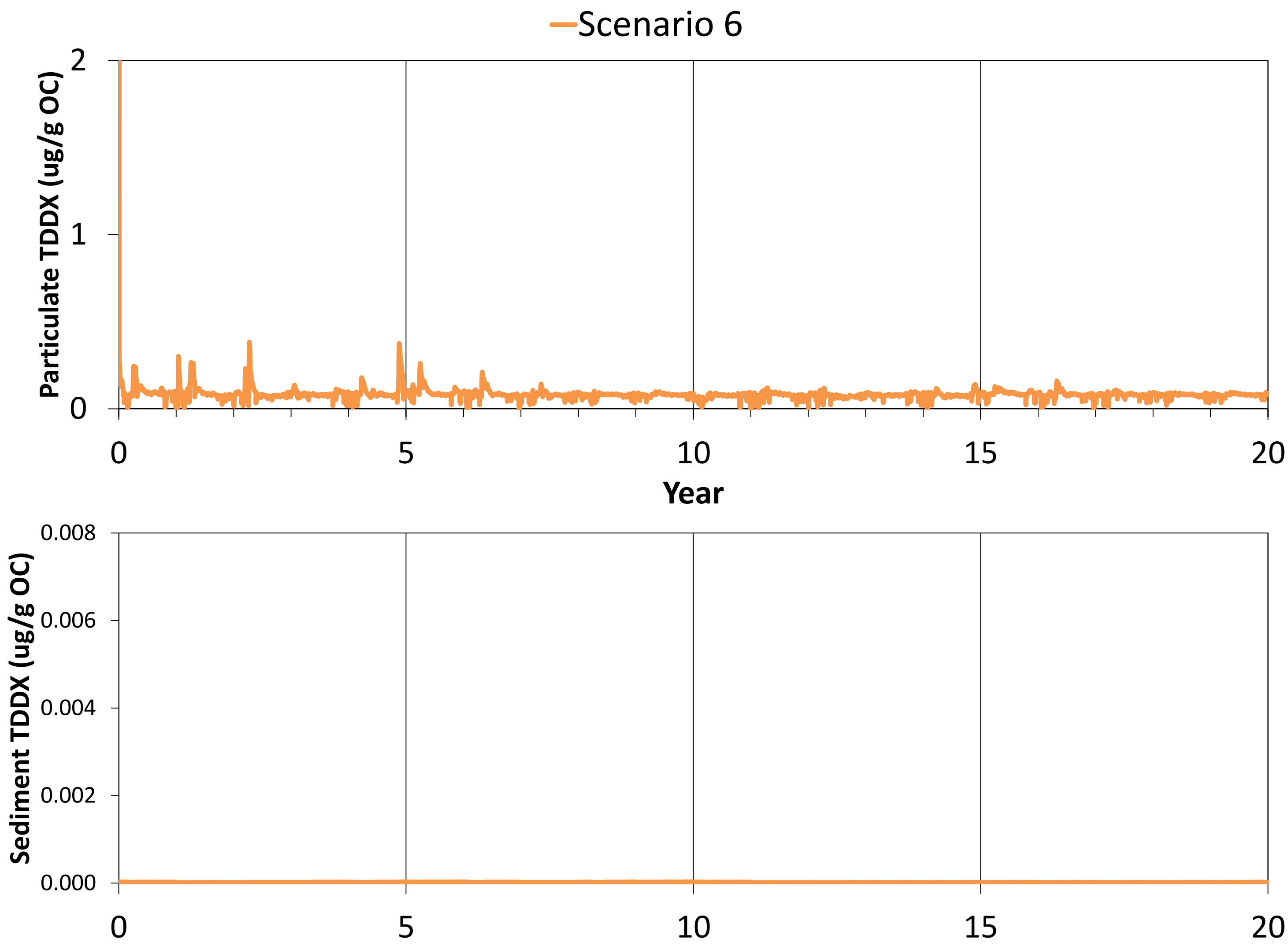


Figure 4.25a Scenario 6 TDDX Concentrations - Dominguez Channel Estuary

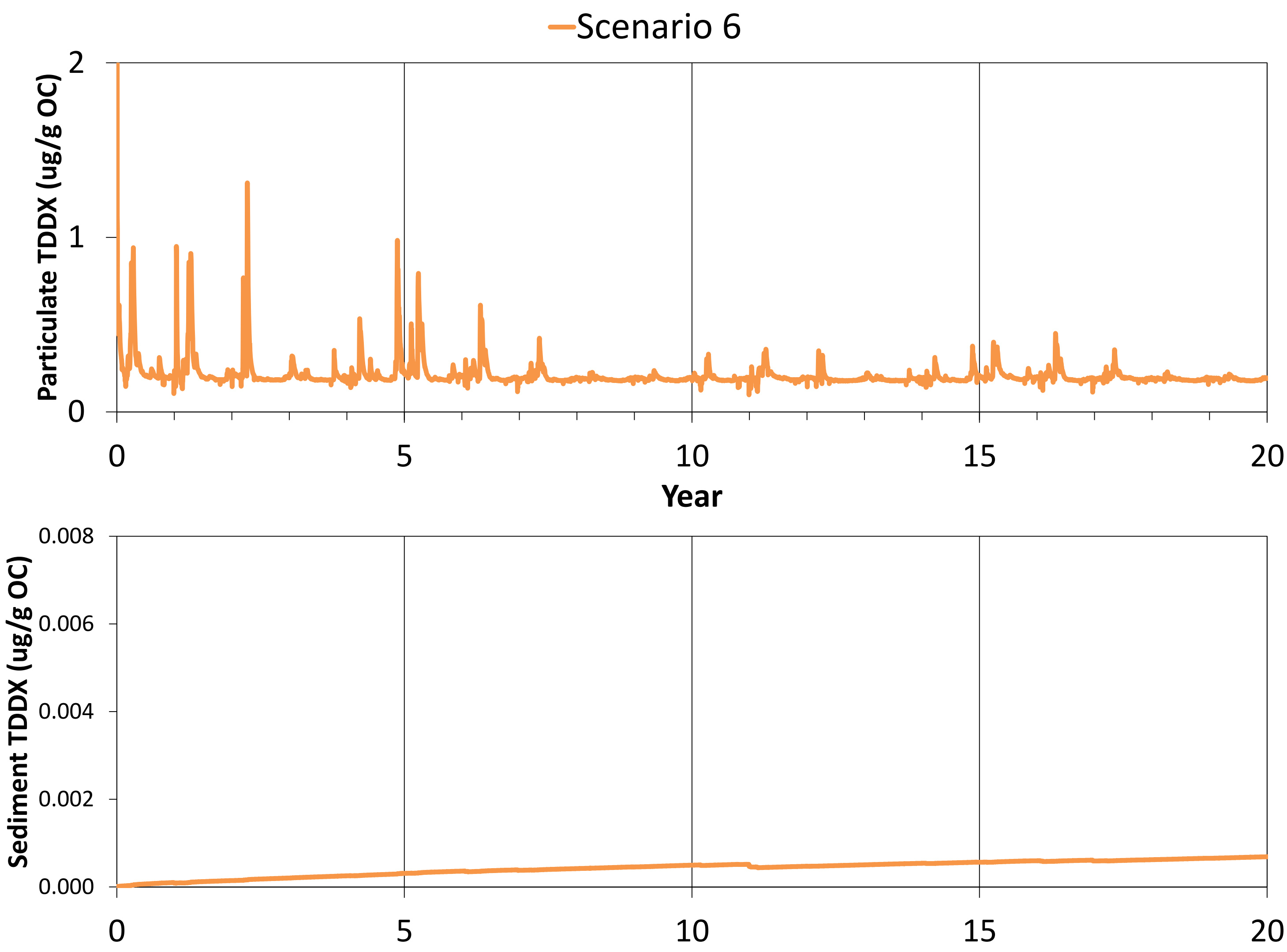


Figure 4.25b Scenario 6 TDDX Concentrations - Consolidated Slip

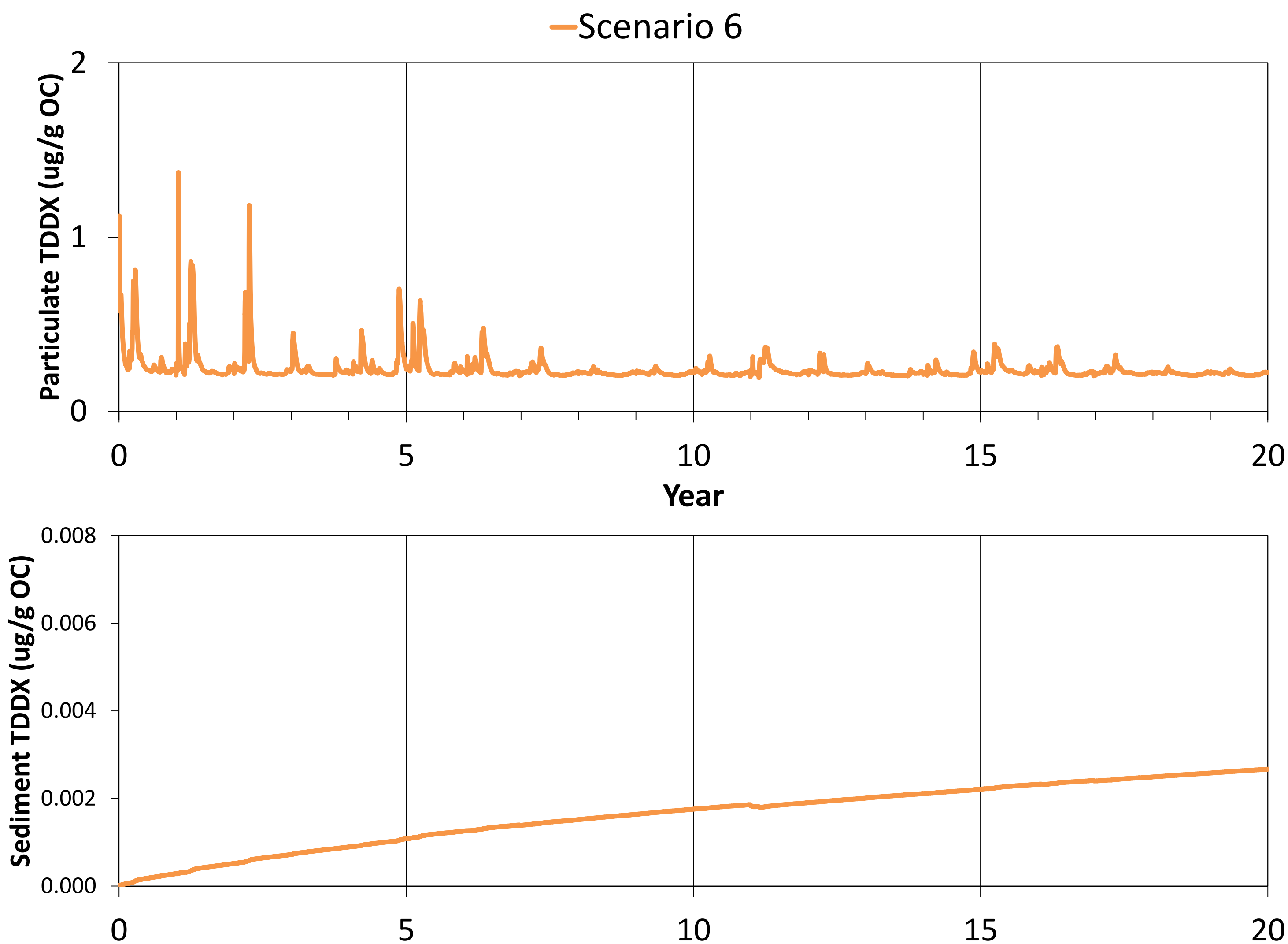


Figure 4.25c Scenario 6 TDDX Concentrations - LA Inner Harbor

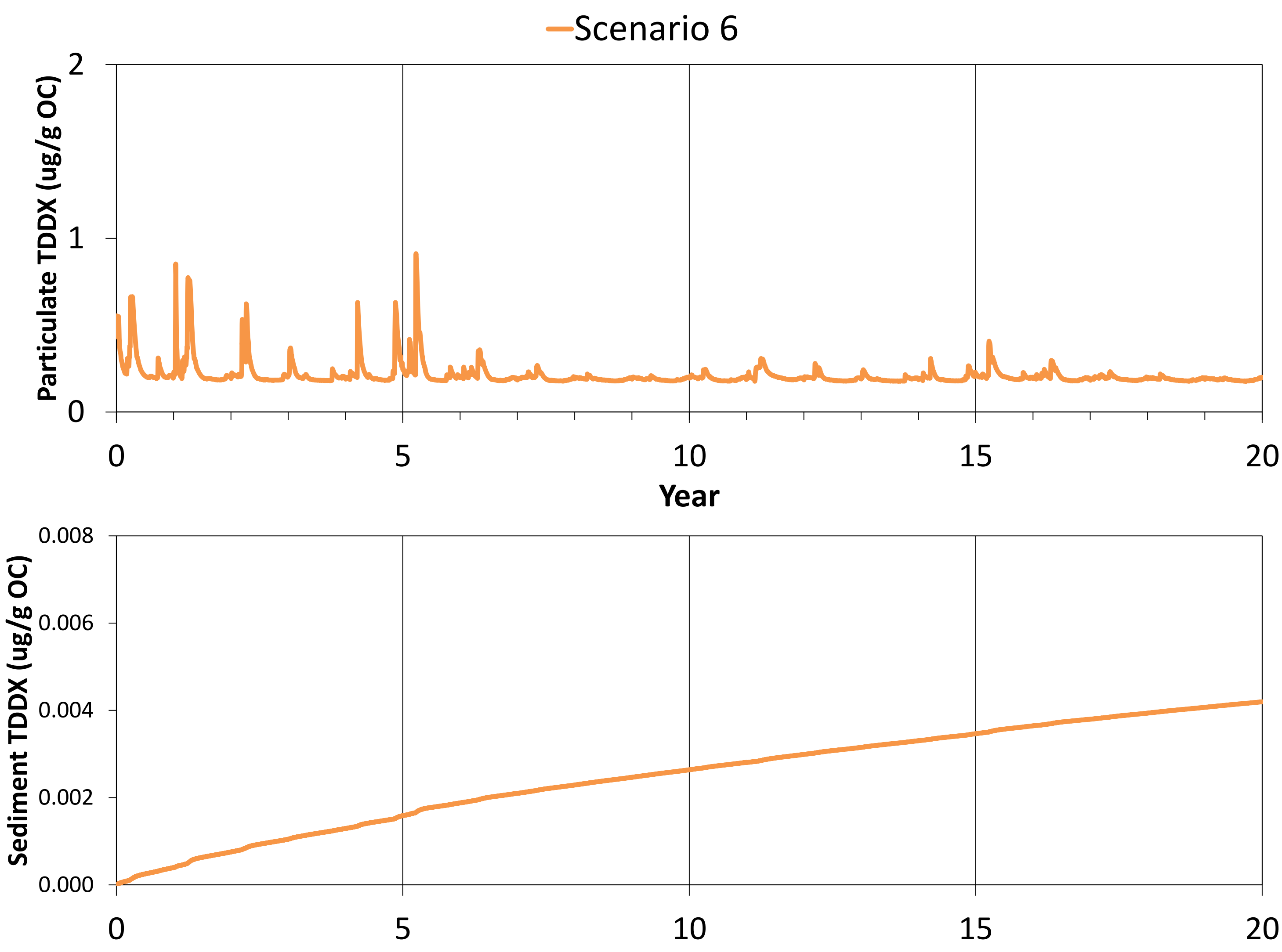


Figure 4.25d Scenario 6 TDDX Concentrations - Fish Harbor

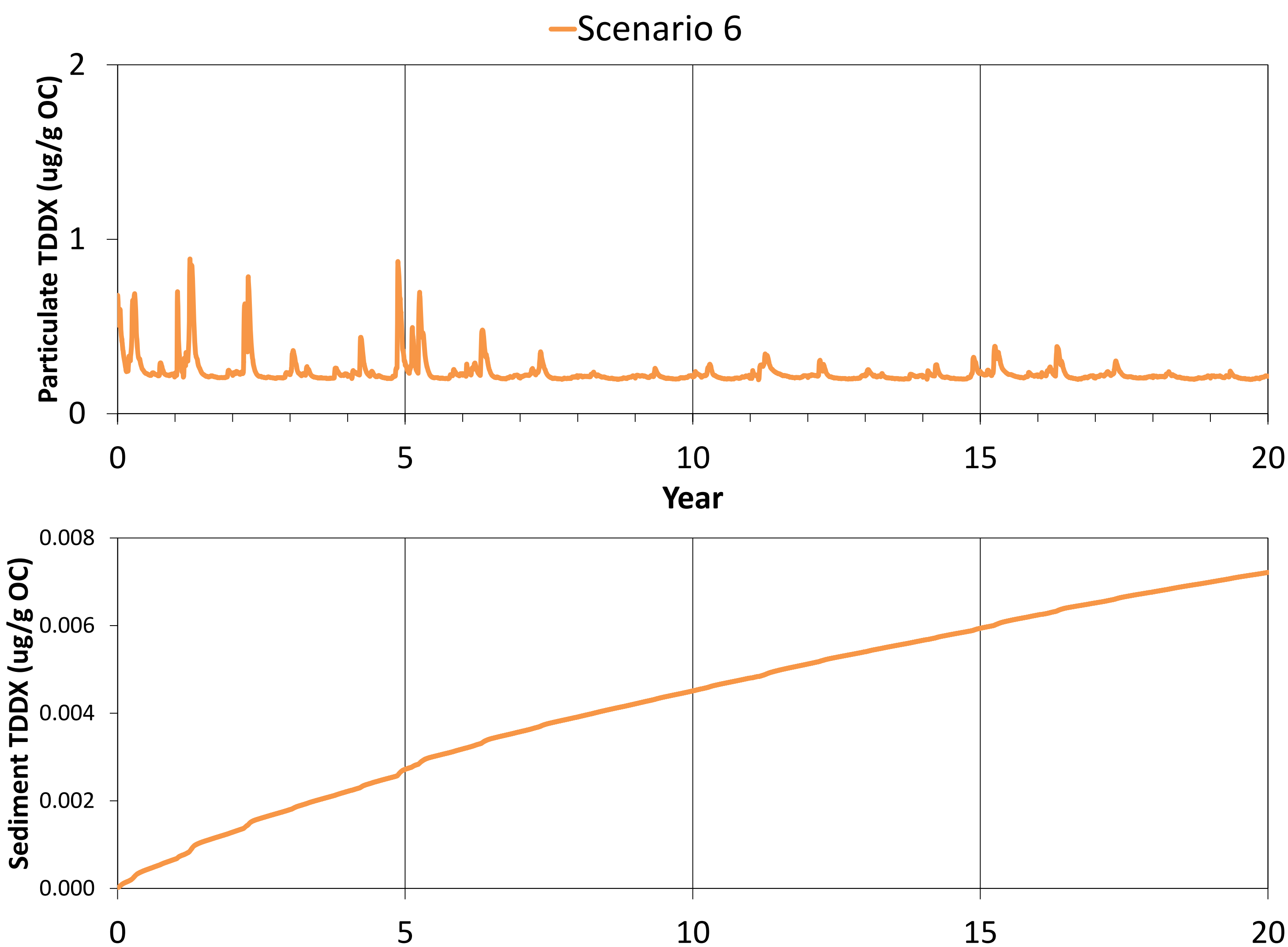


Figure 4.25e Scenario 6 TDDX Concentrations - Seaplane Lagoon

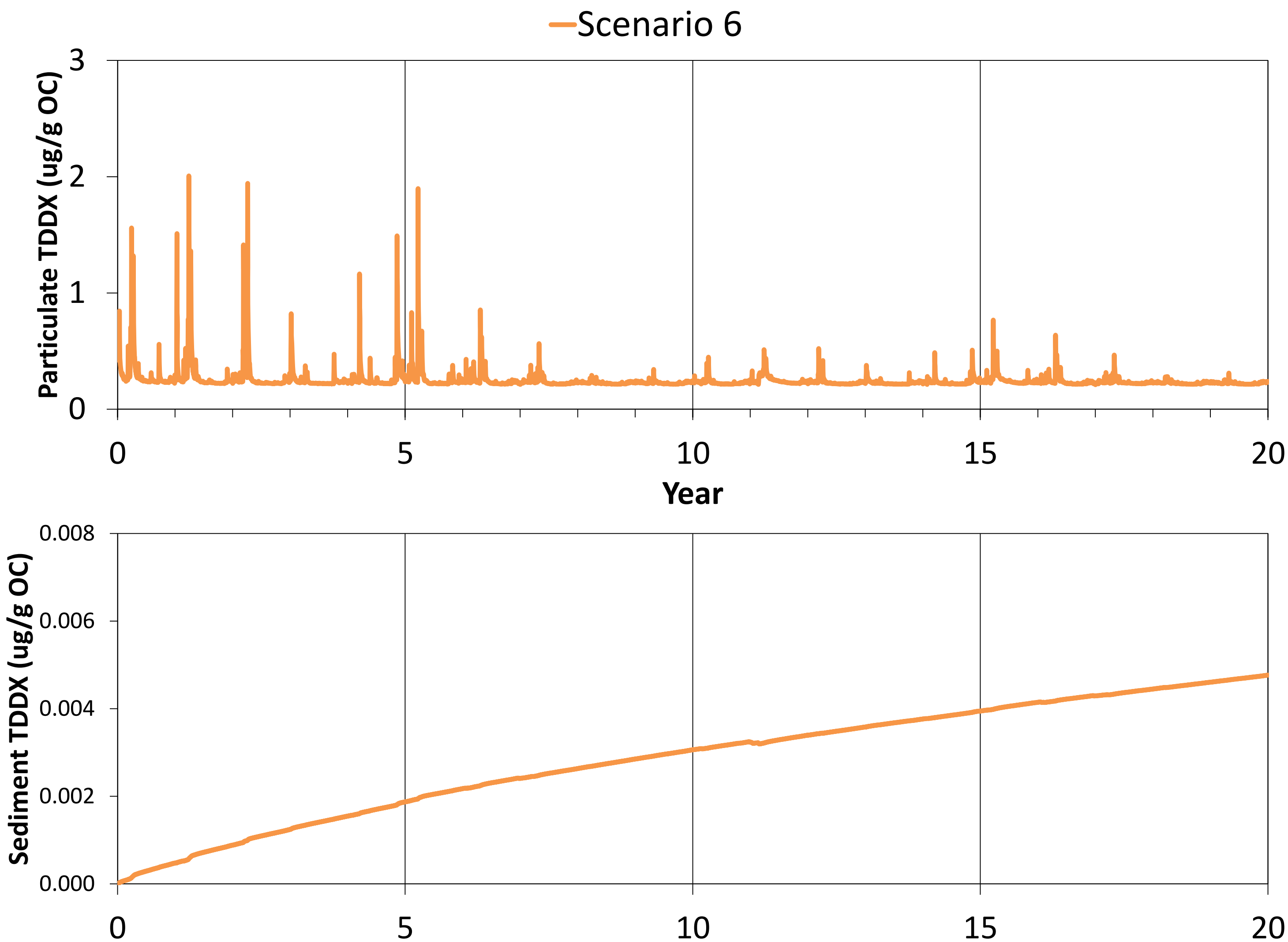


Figure 4.25f Scenario 6 TDDX Concentrations - LA Outer Harbor

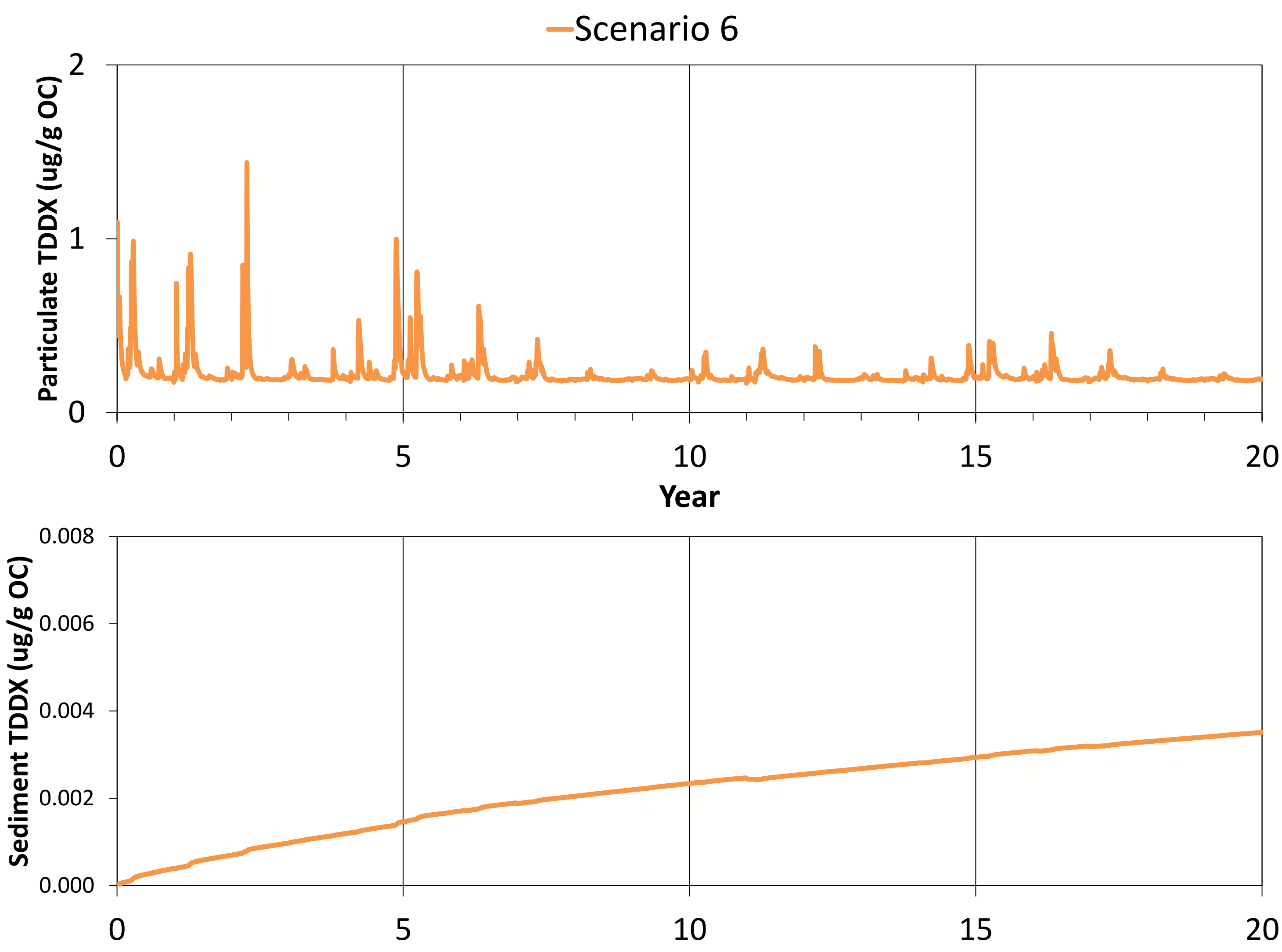


Figure 4.25g Scenario 6 TDDX Concentrations - LB Inner Harbor North

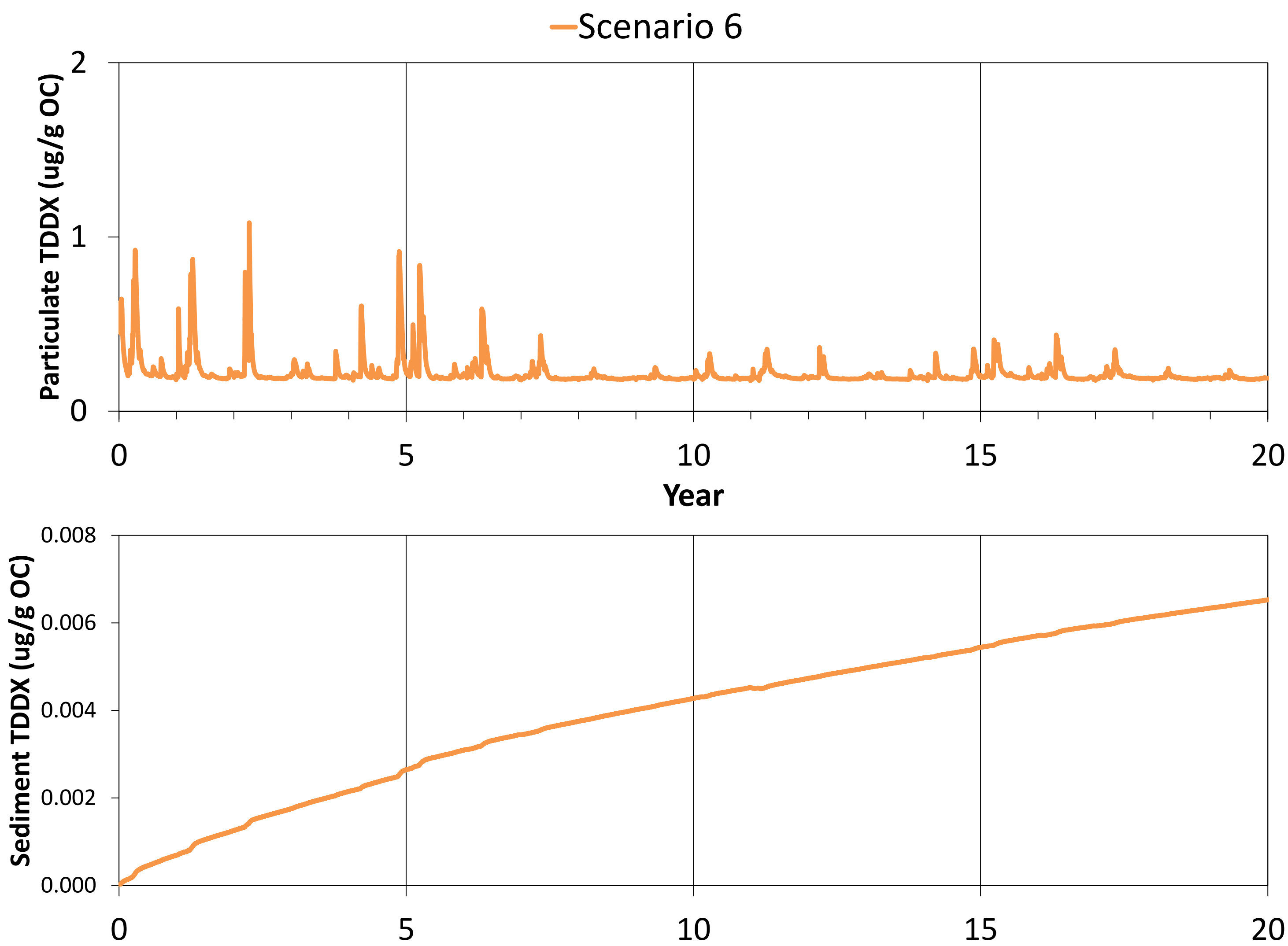


Figure 4.25h Scenario 6 TDDX Concentrations - LB Inner Harbor South

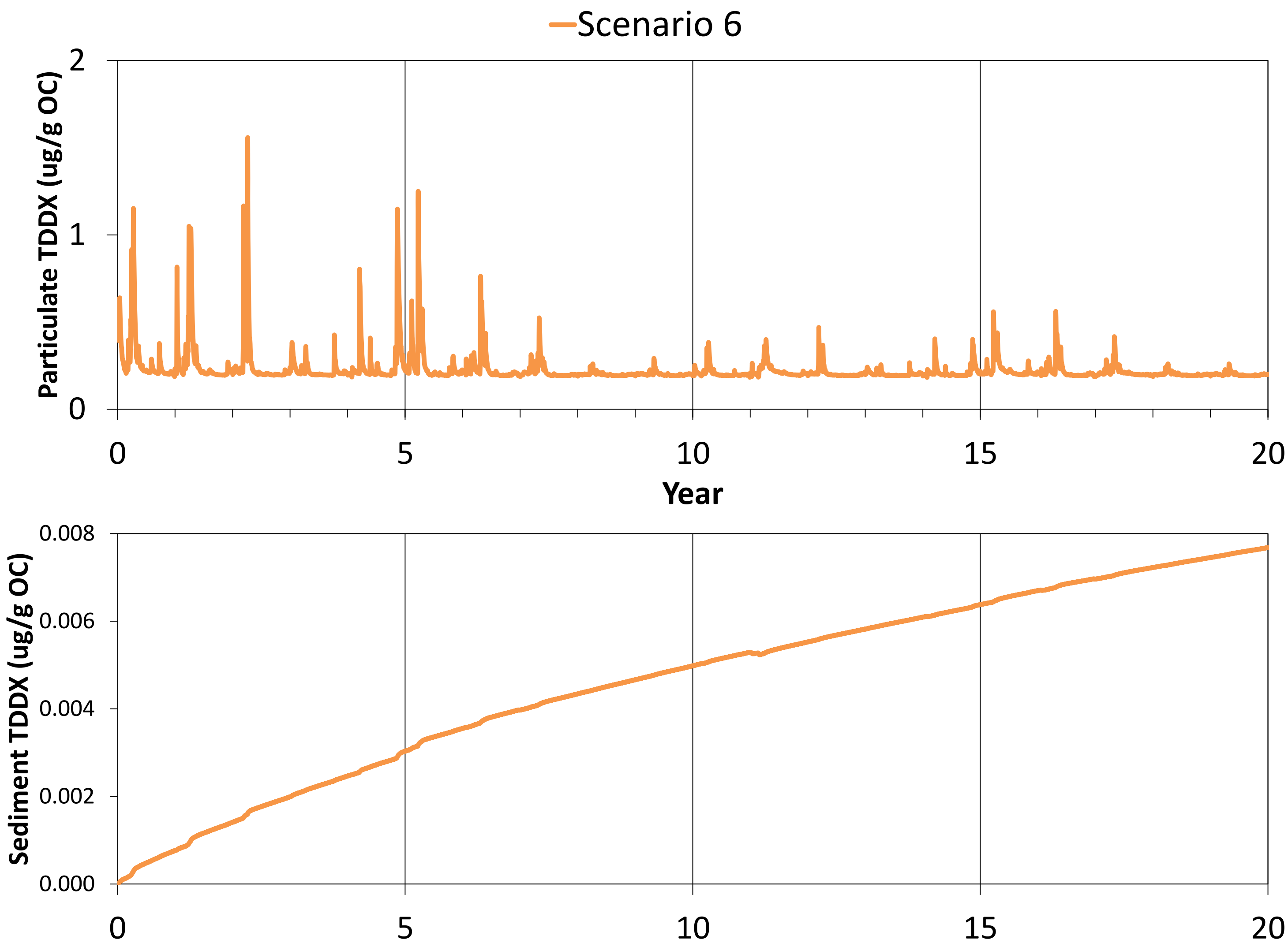


Figure 4.25i Scenario 6 TDDX Concentrations - LB Outer Harbor

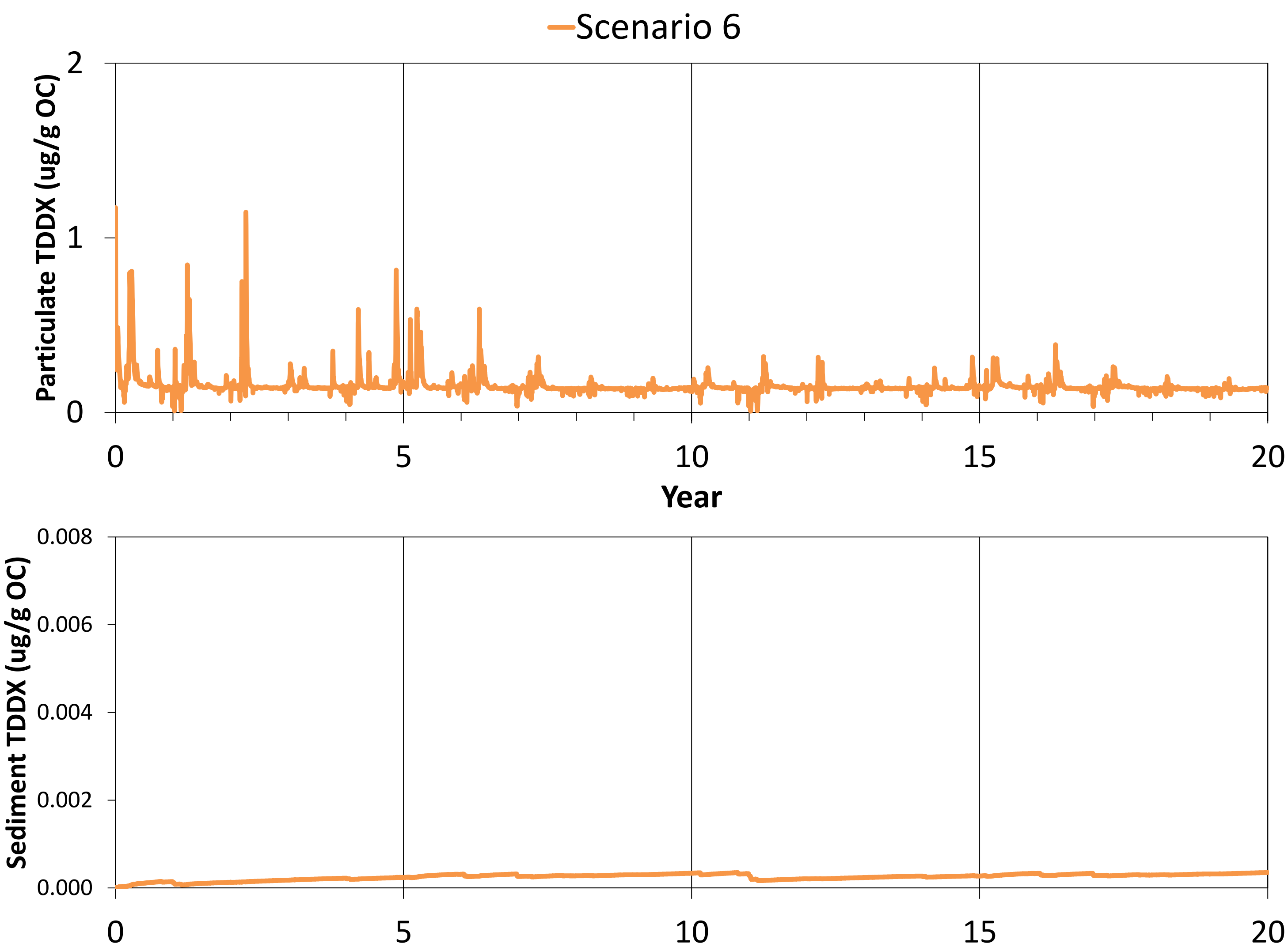


Figure 4.25j Scenario 6 TDDX Concentrations - Los Angeles River Estuary

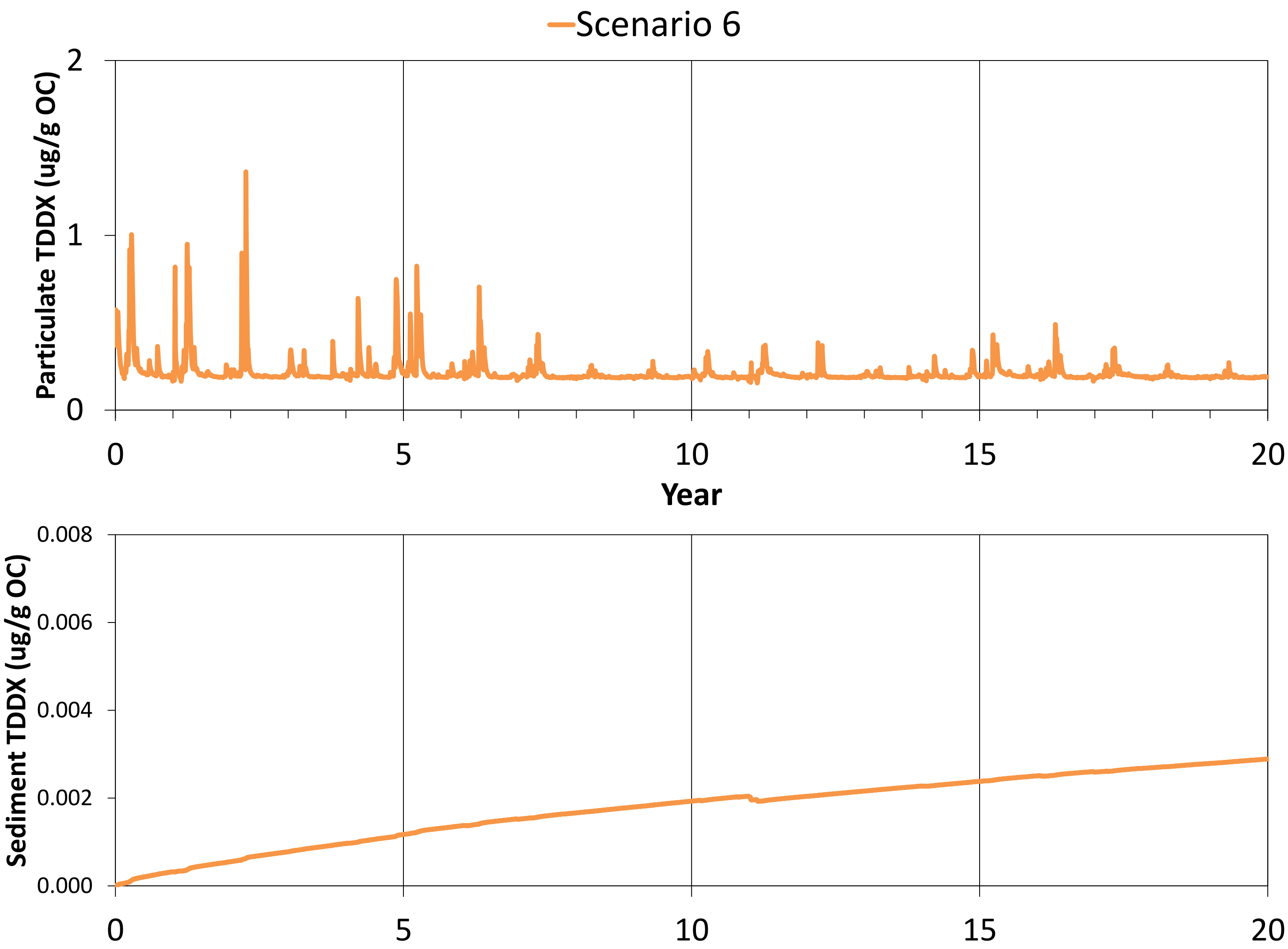


Figure 4.25k Scenario 6 TDDX Concentrations - Eastern San Pedro Bay

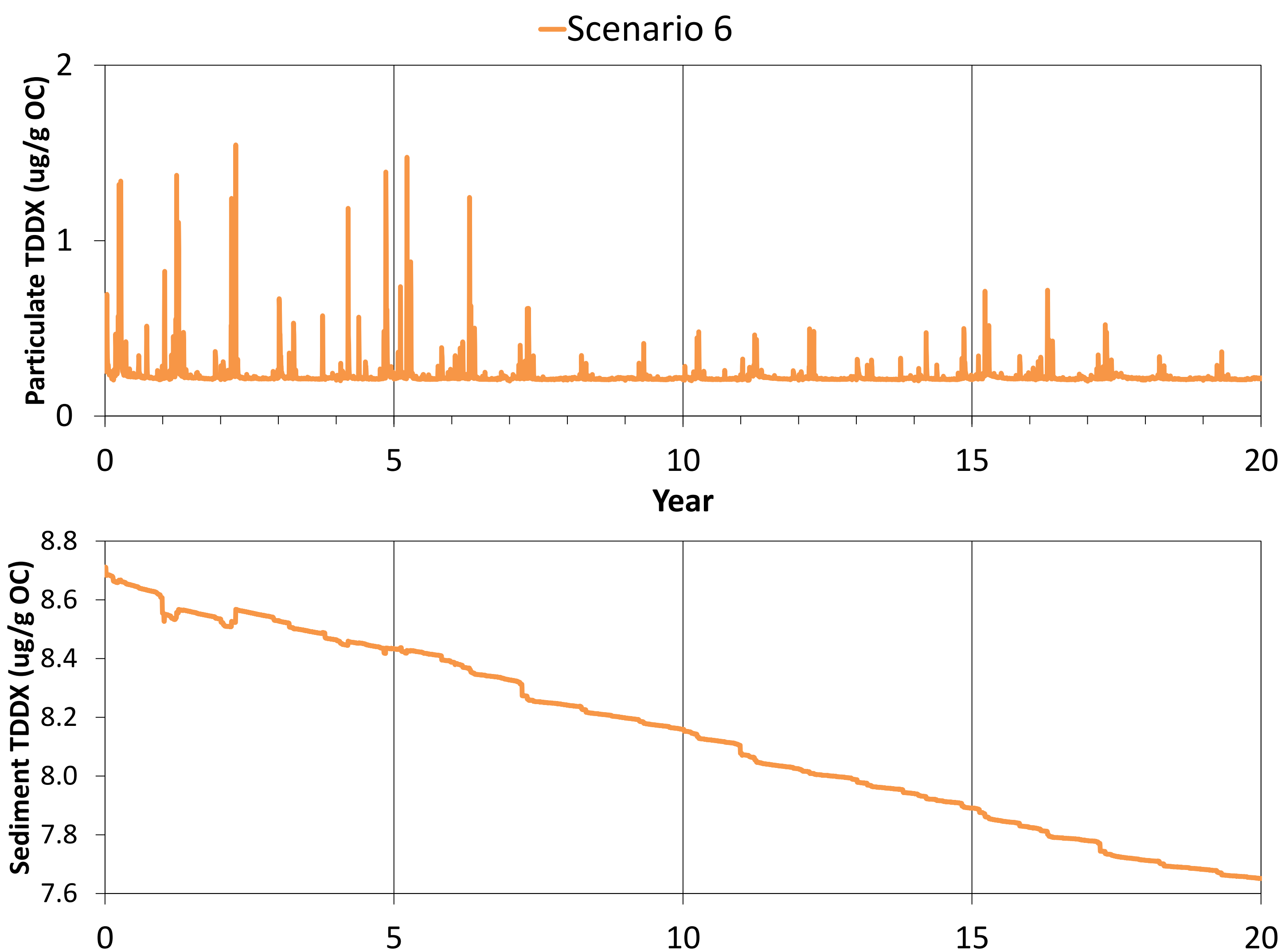


Figure 4.25l Scenario 6 TDDX Concentrations - Outside Harbor Exposure Area

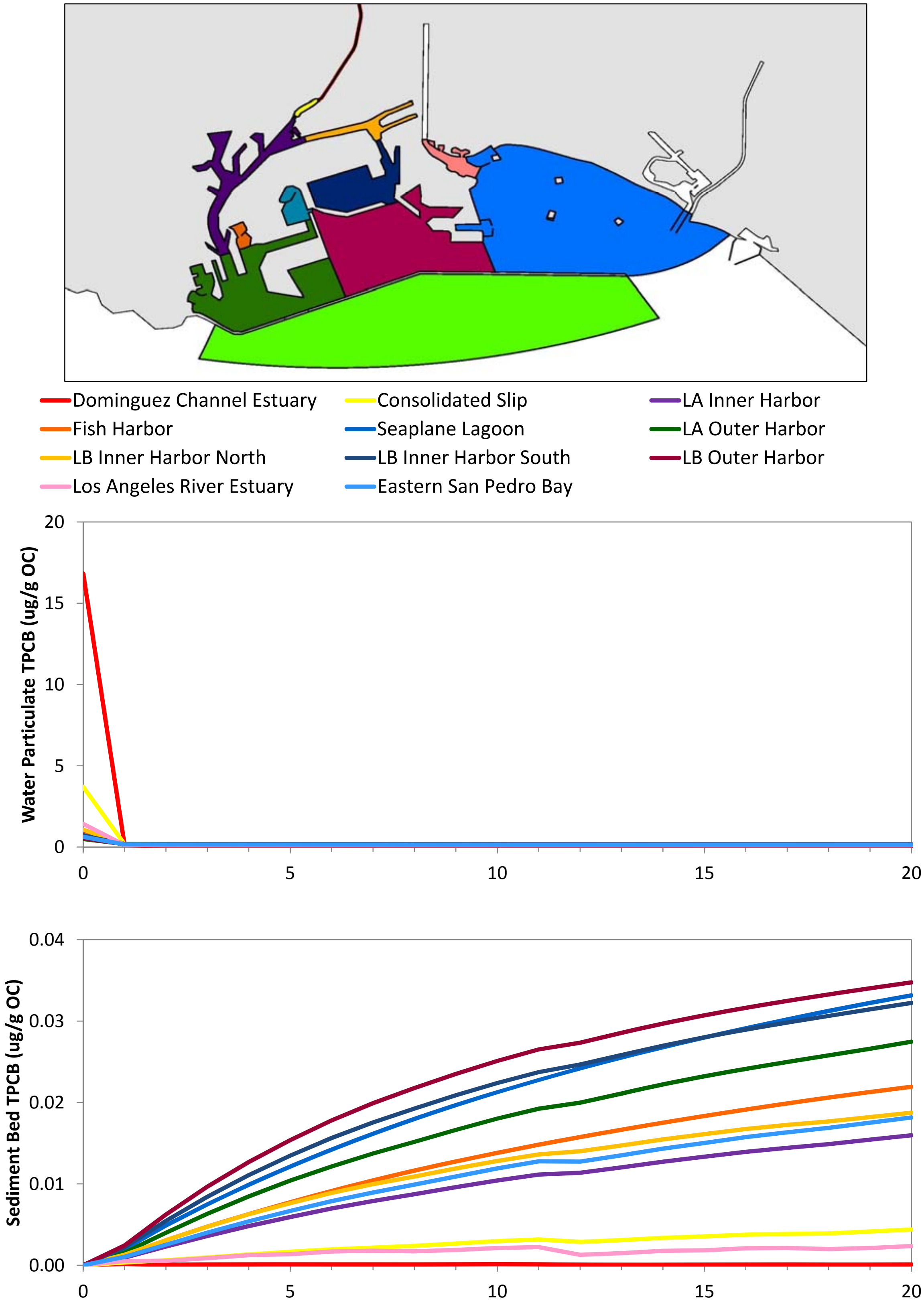


Figure 4.26 Scenario 6 Comparison of Annual TPCB Concentrations

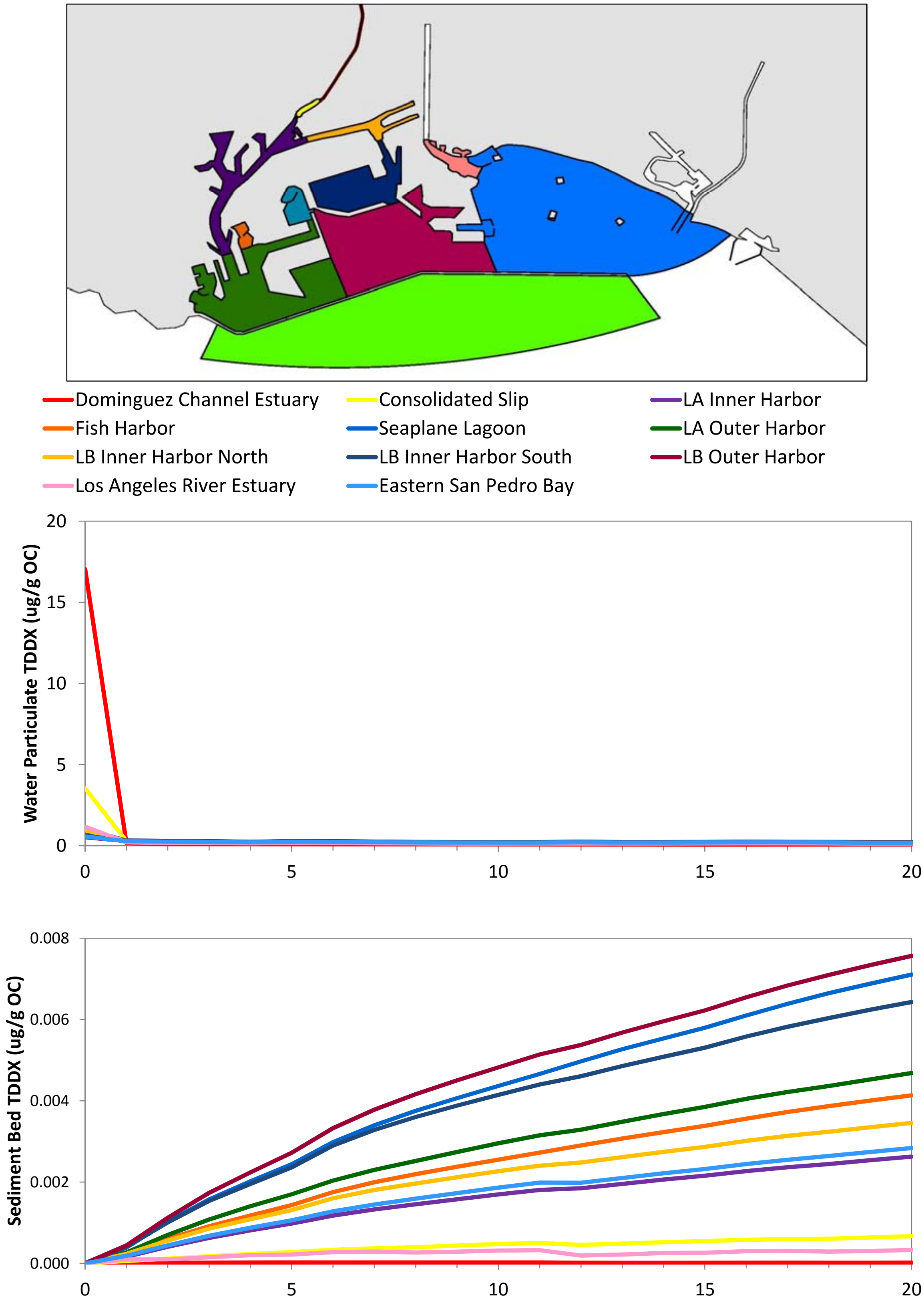


Figure 4.27 Scenario 6 Comparison of Annual TDDX Concentrations

4.5 RWQCB SCENARIOS

4.5.1 Scenarios 7 and 8

Scenarios 7 and 8 included sediment loading reductions at the TMDL hot spots (DC Estuary, CS, and FH) to TMDL fish-associated sediment targets, that were combined with no watershed loading reductions for Scenario 7, and a 50% watershed loading reduction for Scenario 8. Comparisons of TPCB concentrations in the fish movement zones under Scenarios 7 and 8 are provided in Figures 4.28a-l, while comparisons of TDDX concentrations are provided in Figures 4.29a-l. In the upper panels, water concentrations for Scenarios 7 and 8 are compared to the Baseline Scenario, while bed concentrations are shown in the lower panels. Overall, TPCB and TDDX concentrations show similar patterns.

The greatest differences in TPCB and TDDX concentrations from the Baseline Scenario occur at the TMDL hot spots. In the DC Estuary and CS, water concentrations for Scenario 7 are lower than the Baseline Scenario during dry weather conditions. During wet weather conditions, the water concentrations are significantly lower than those of the Baseline Scenario over the first three years due to the sediment loading reduction, but then, wet weather peak concentrations become similar to those of the Baseline Scenario as the bed becomes more stable. The additional watershed loading reduction for Scenario 8 results in lower water concentrations compared to Scenario 7. Bed concentrations in the TMDL hot spots that were reduced to TMDL fish-associated sediment targets are shown only for Scenarios 7 and 8 in order to illustrate the differences between the scenarios. In the DC Estuary, bed concentrations drop over the first three years and then become more level as the bed becomes more stable. After the first three years, bed concentrations fluctuate, but show a general increase in concentration due to watershed loadings (i.e., recontamination). Comparison of Scenarios 7 and 8 shows that Scenario 8 results in lower bed concentrations. In the CS, bed concentrations show more of an overall decline, with Scenario 7 showing slight increases in bed concentrations. In FH, Scenarios 7 and 8 result in a greater decrease in water concentrations compared to the Baseline Scenario, which is most apparent in the water TPCB concentrations, due to the higher mass transfer coefficient. Bed concentrations in FH have an overall decrease in concentration with slight increases for Scenario 7.

In the other harbor fish movement zones, differences in TPCB and TDDX concentrations under Scenarios 7 and 8 are dependent on the proximity to the source reductions. Inner harbor areas show reductions in water concentrations compared to those of the Baseline Scenario, with less differences in the Outer Harbor areas. Bed concentrations are similar to those of the Baseline Scenario. In the LAR Estuary and Eastern San Pedro Bay, water column concentrations are reduced for Scenario 8 only, due to the watershed loading reductions, while bed concentrations are similar to those of the Baseline Scenario.

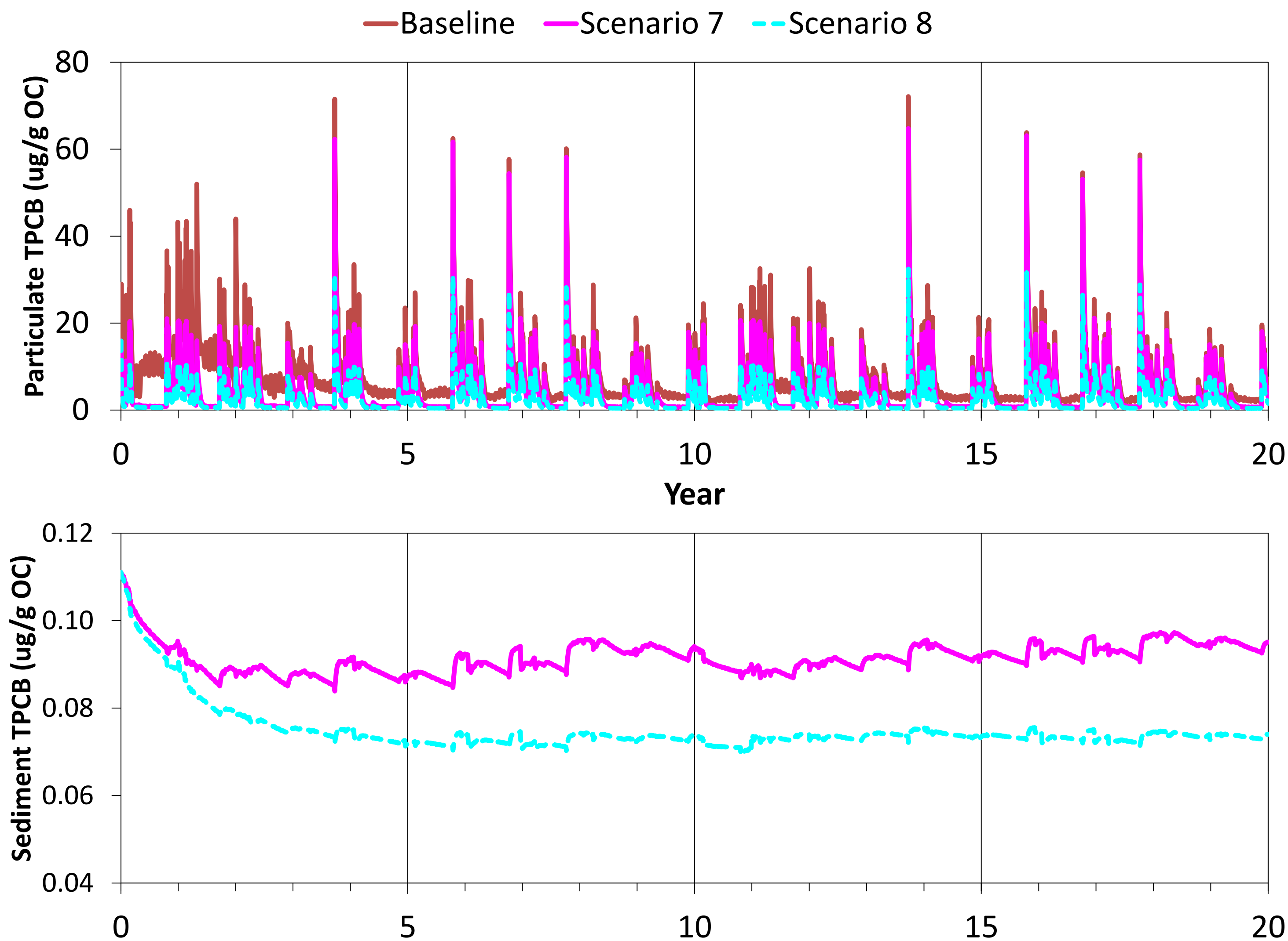


Figure 4.28a Scenario 7 and 8 TPCB Concentrations - Dominguez Channel Estuary

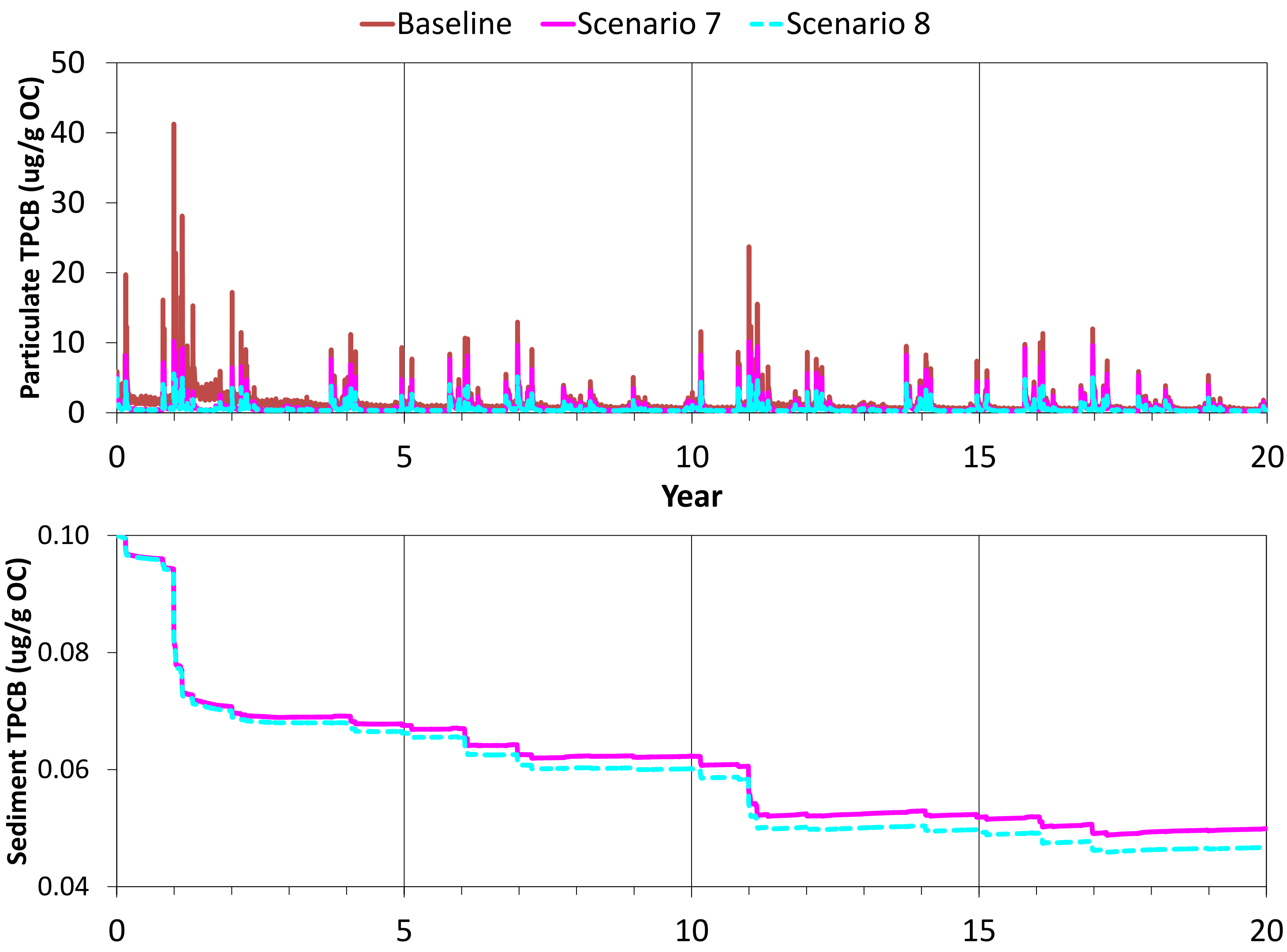


Figure 4.28b Scenario 7 and 8 TPCB Concentrations - Consolidated Slip

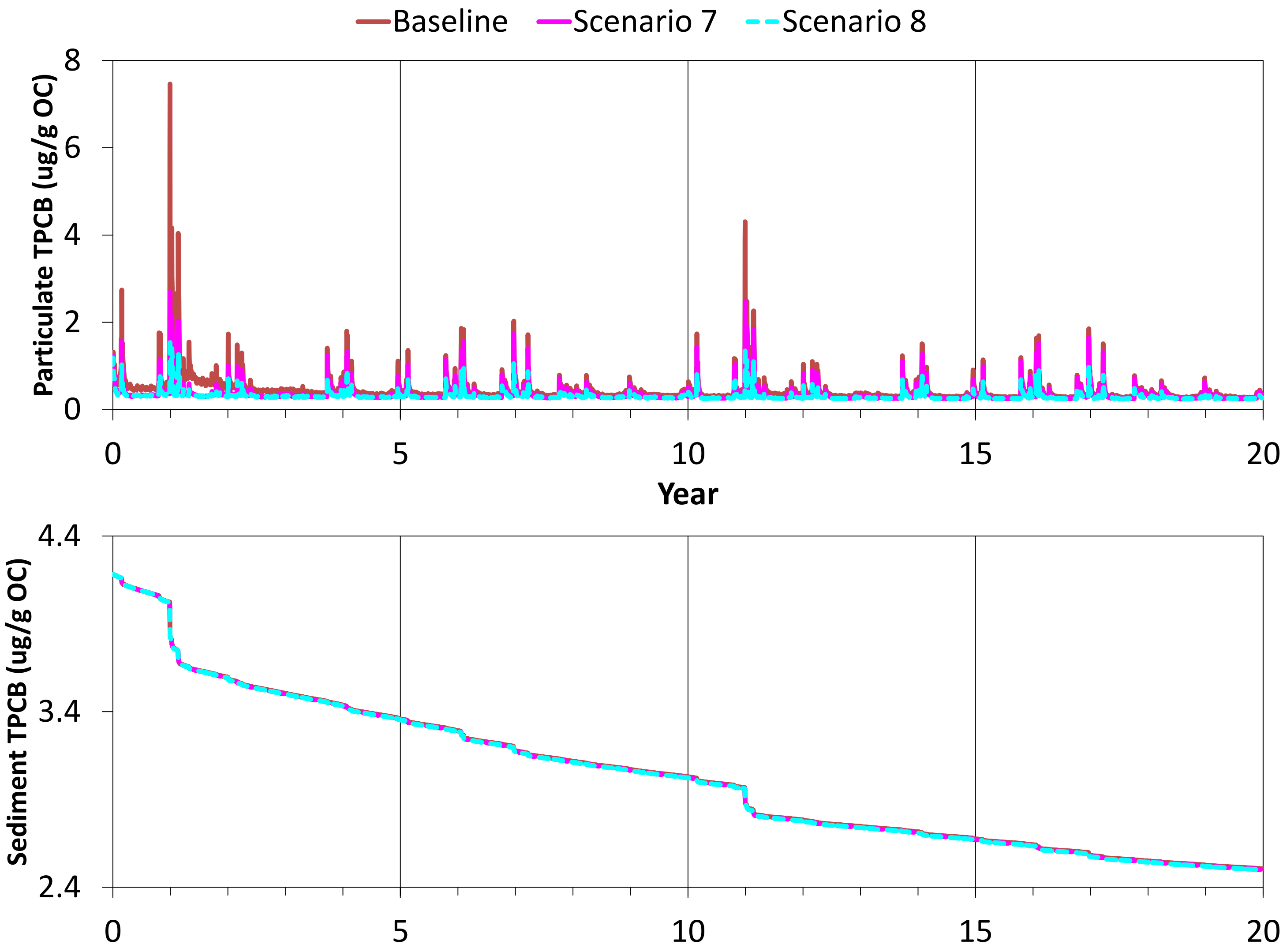


Figure 4.28c Scenario 7 and 8 TPCB Concentrations - LA Inner Harbor

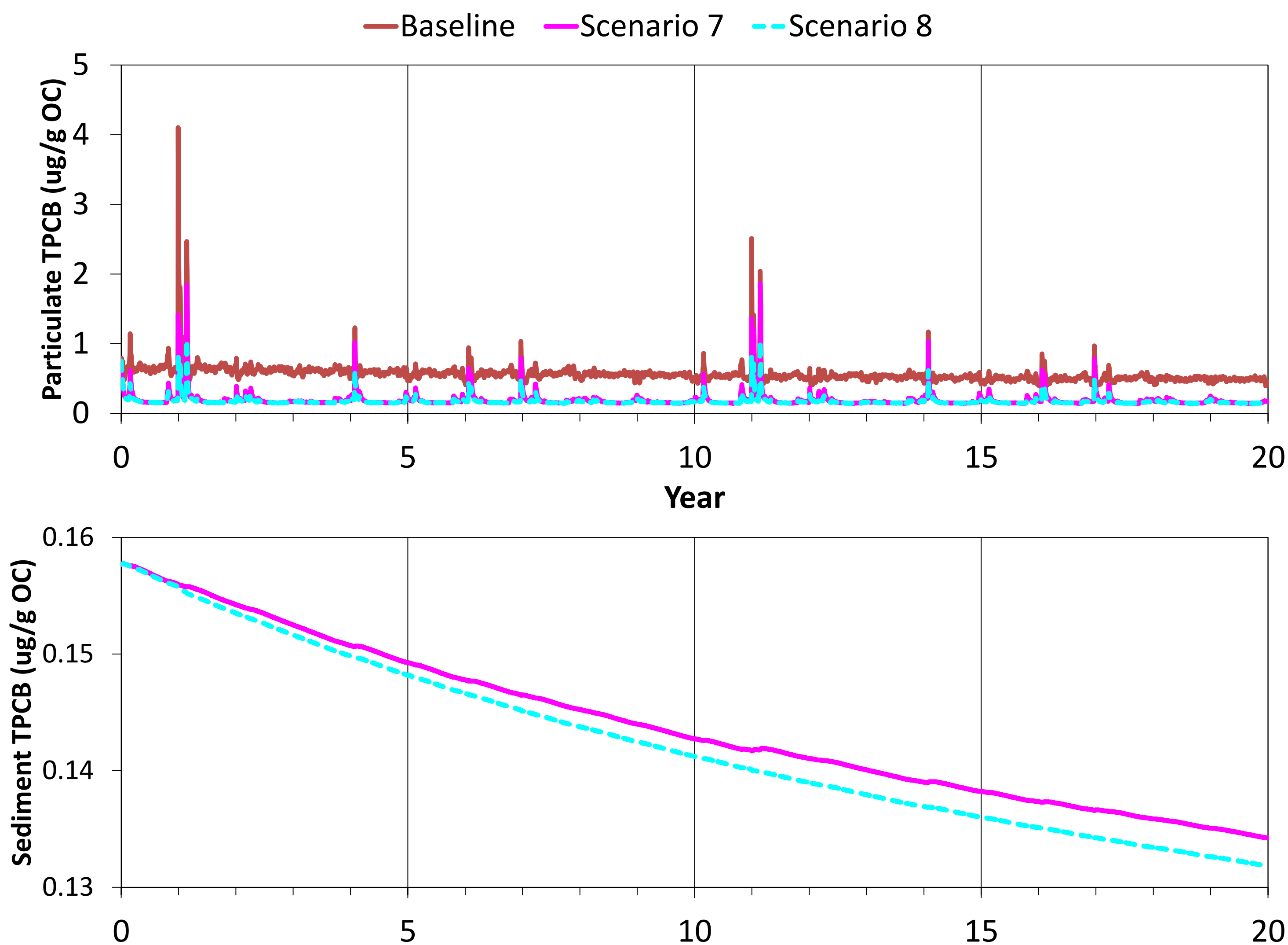


Figure 4.28d Scenario 7 and 8 TPCB Concentrations - Fish Harbor

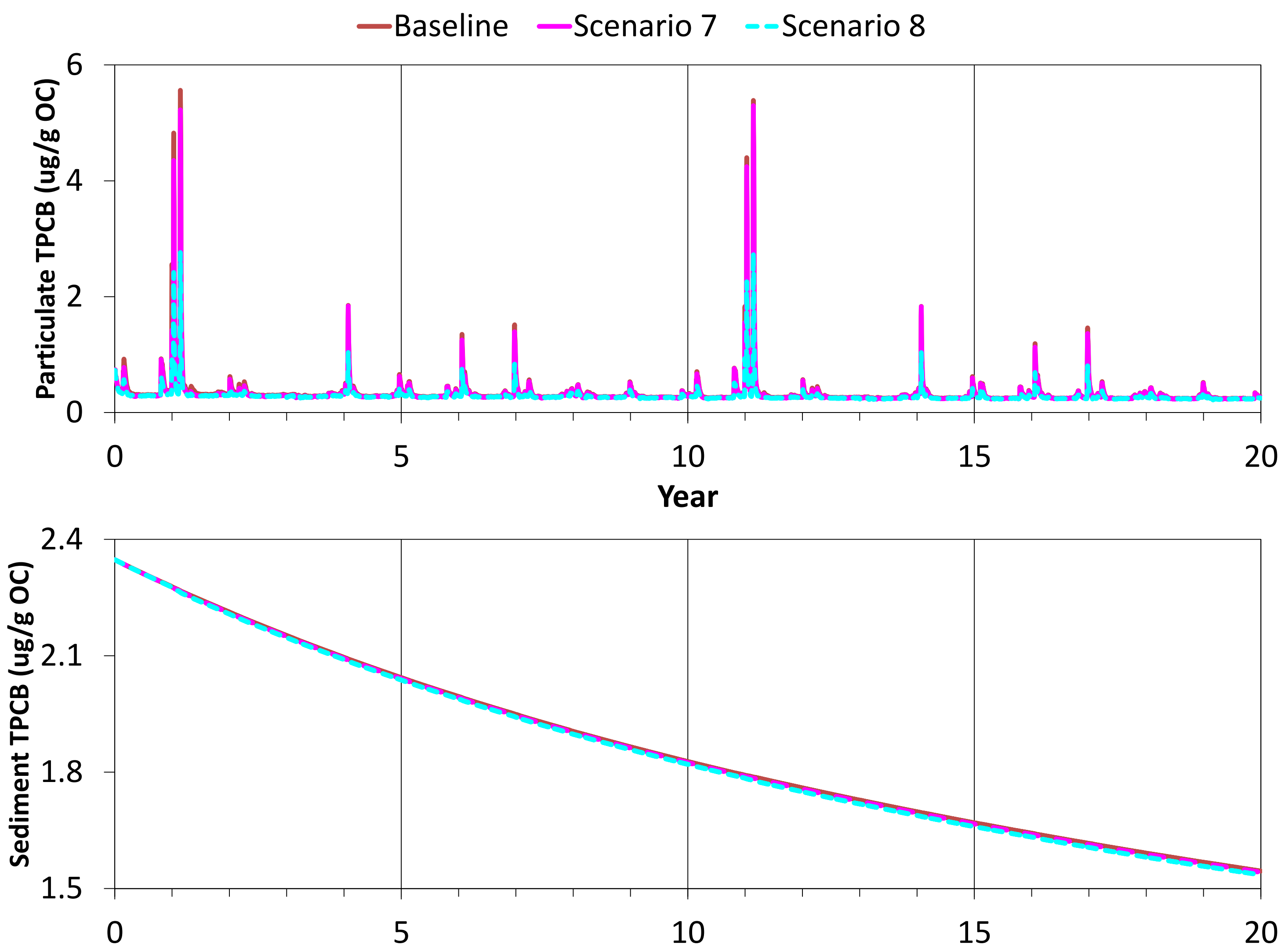


Figure 4.28e Scenario 7 and 8 TPCB Concentrations - Seaplane Lagoon

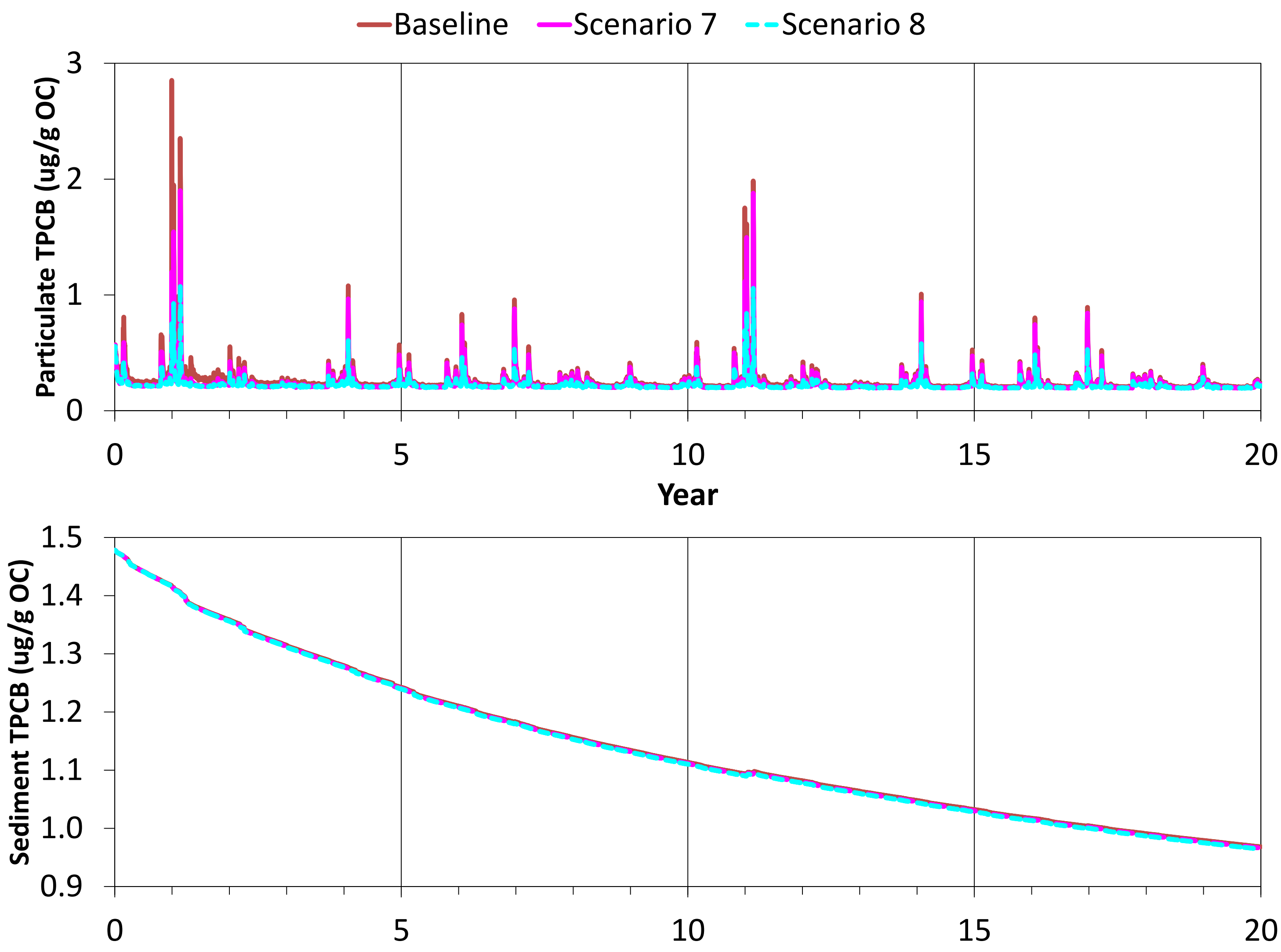


Figure 4.28f Scenario 7 and 8 TPCB Concentrations - LA Outer Harbor

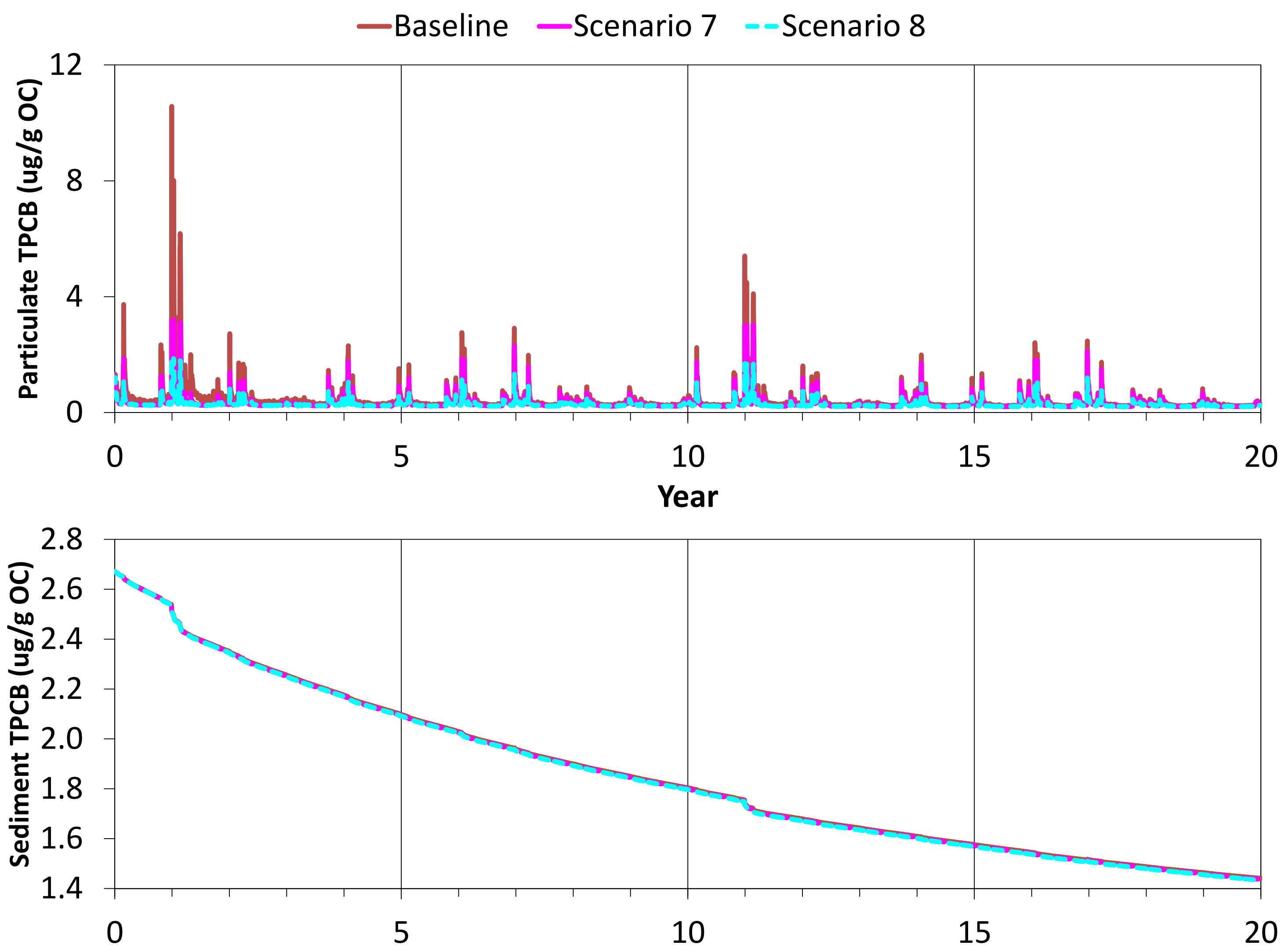


Figure 4.28g Scenario 7 and 8 TPCB Concentrations - LB Inner Harbor North

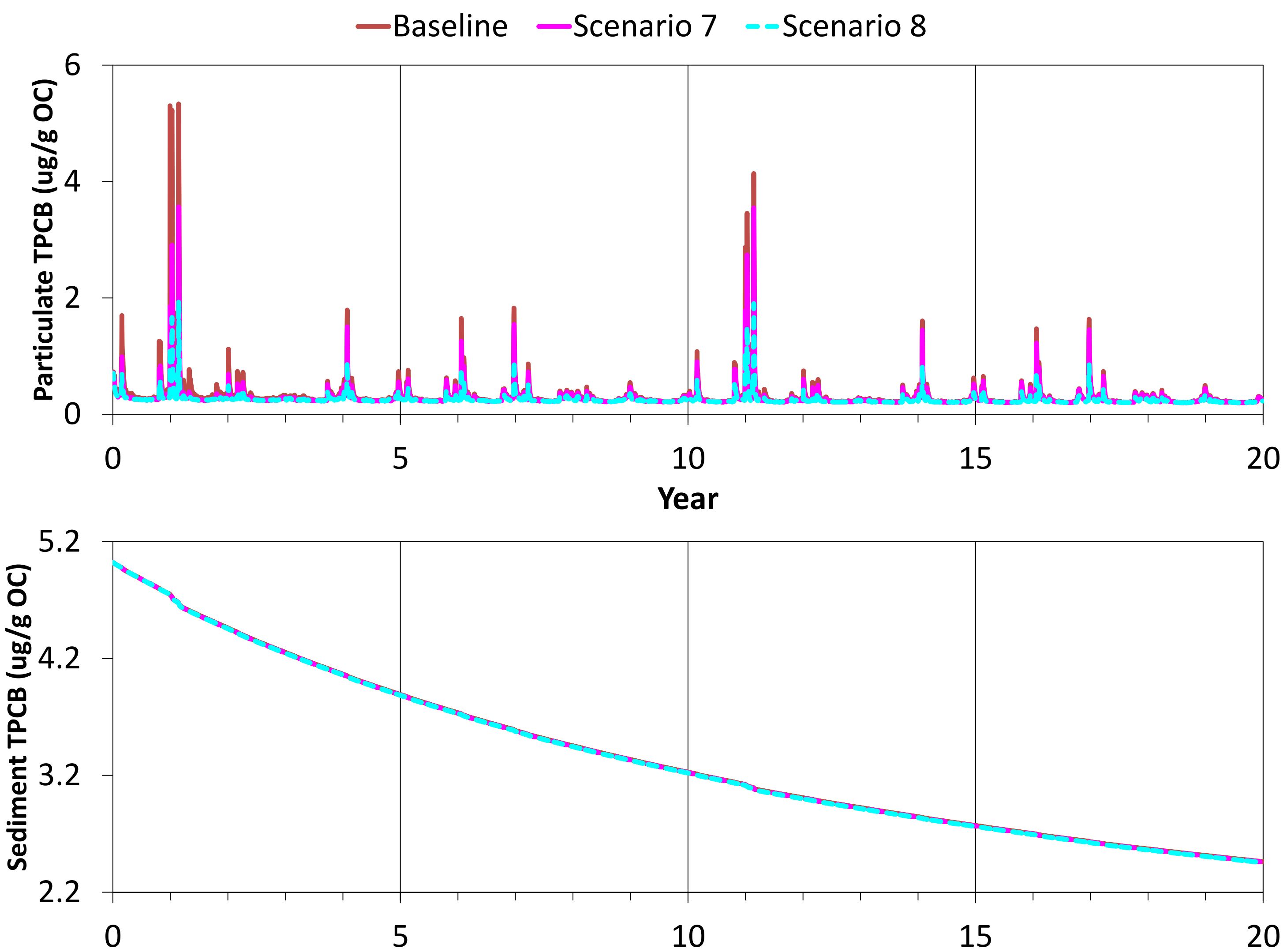


Figure 4.28h Scenario 7 and 8 TPCB Concentrations - LB Inner Harbor South

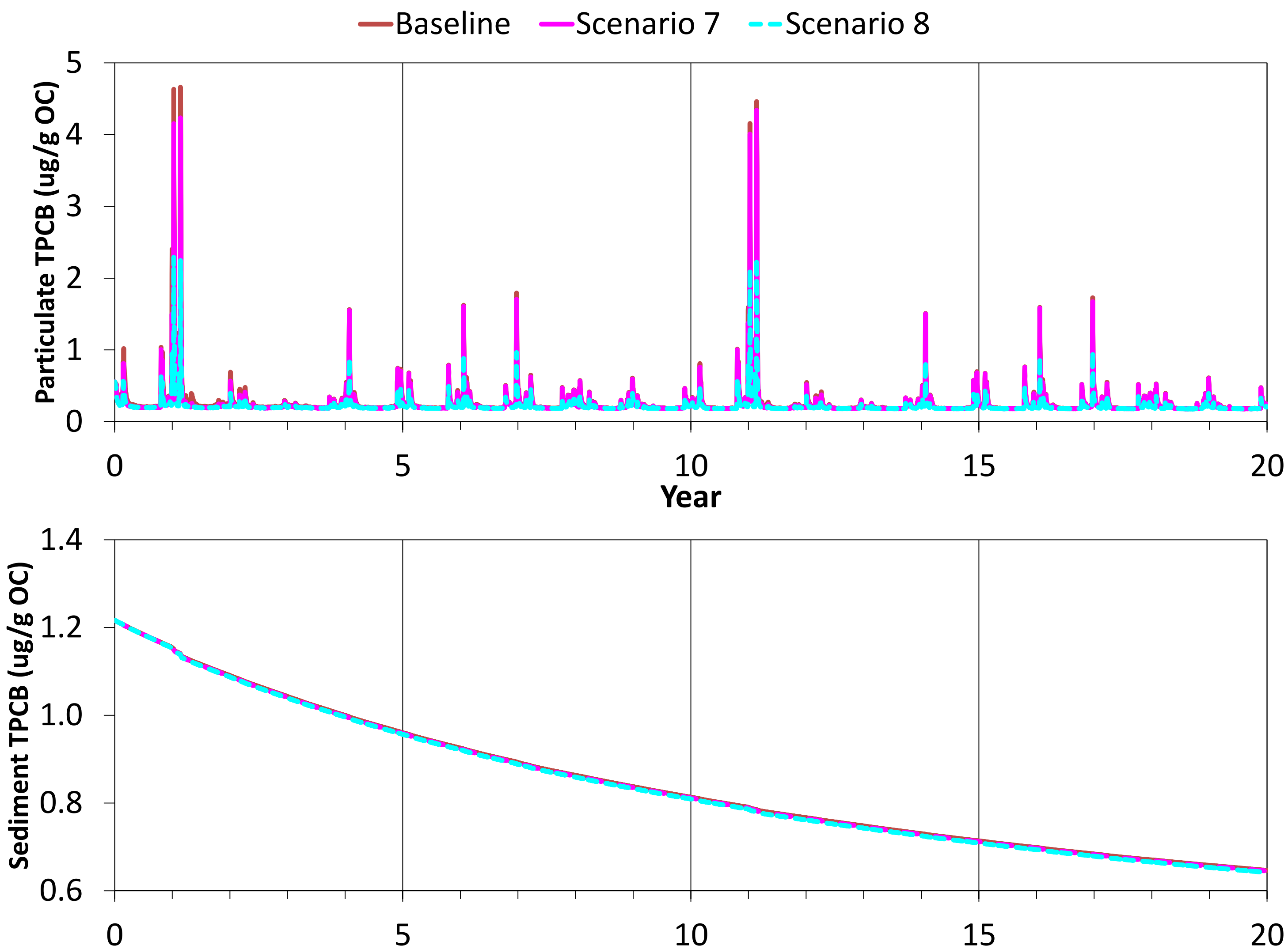


Figure 4.28i Scenario 7 and 8 TPCB Concentrations - LB Outer Harbor

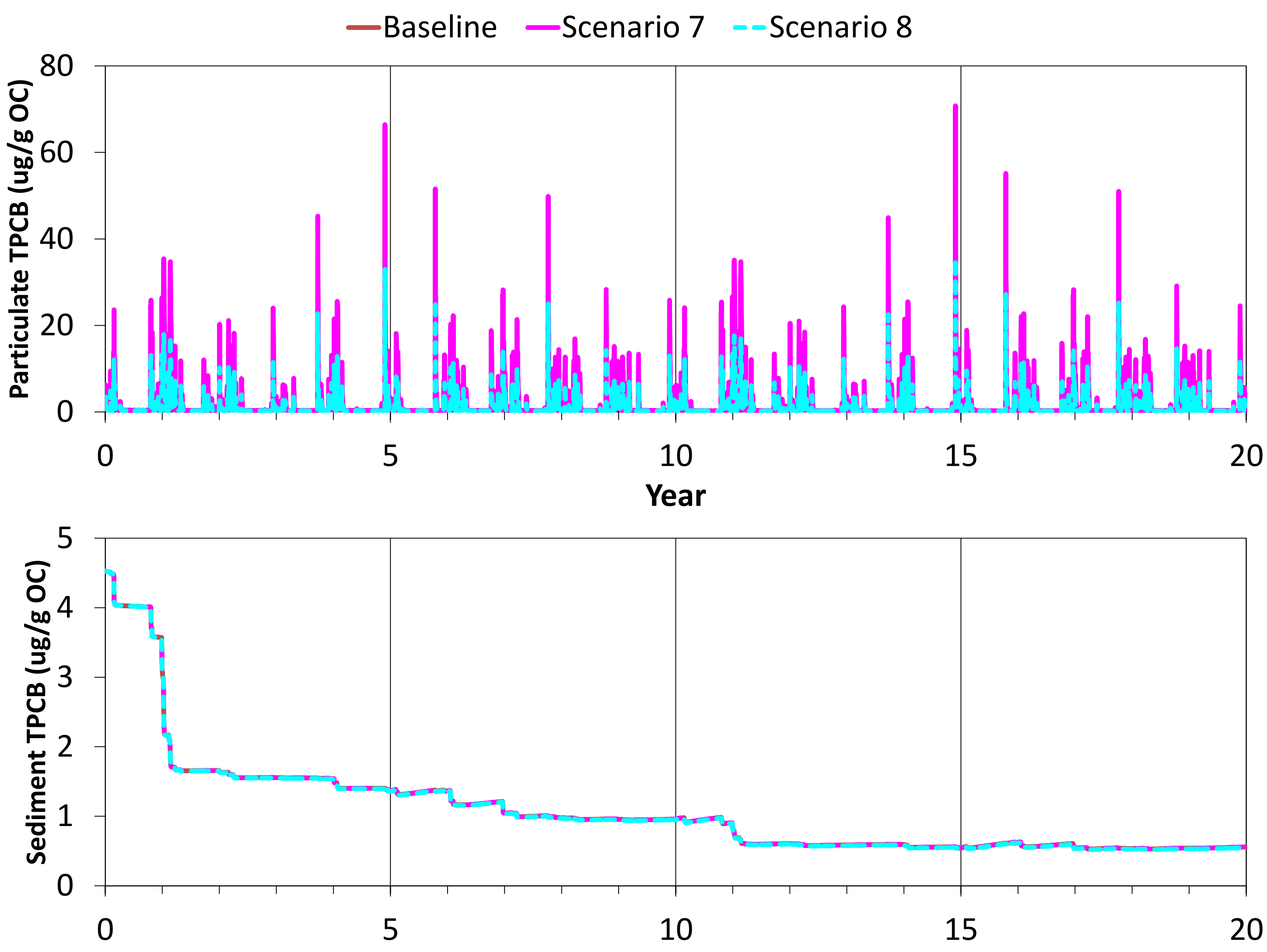


Figure 4.28j Scenario 7 and 8 TPCB Concentrations - Los Angeles River Estuary

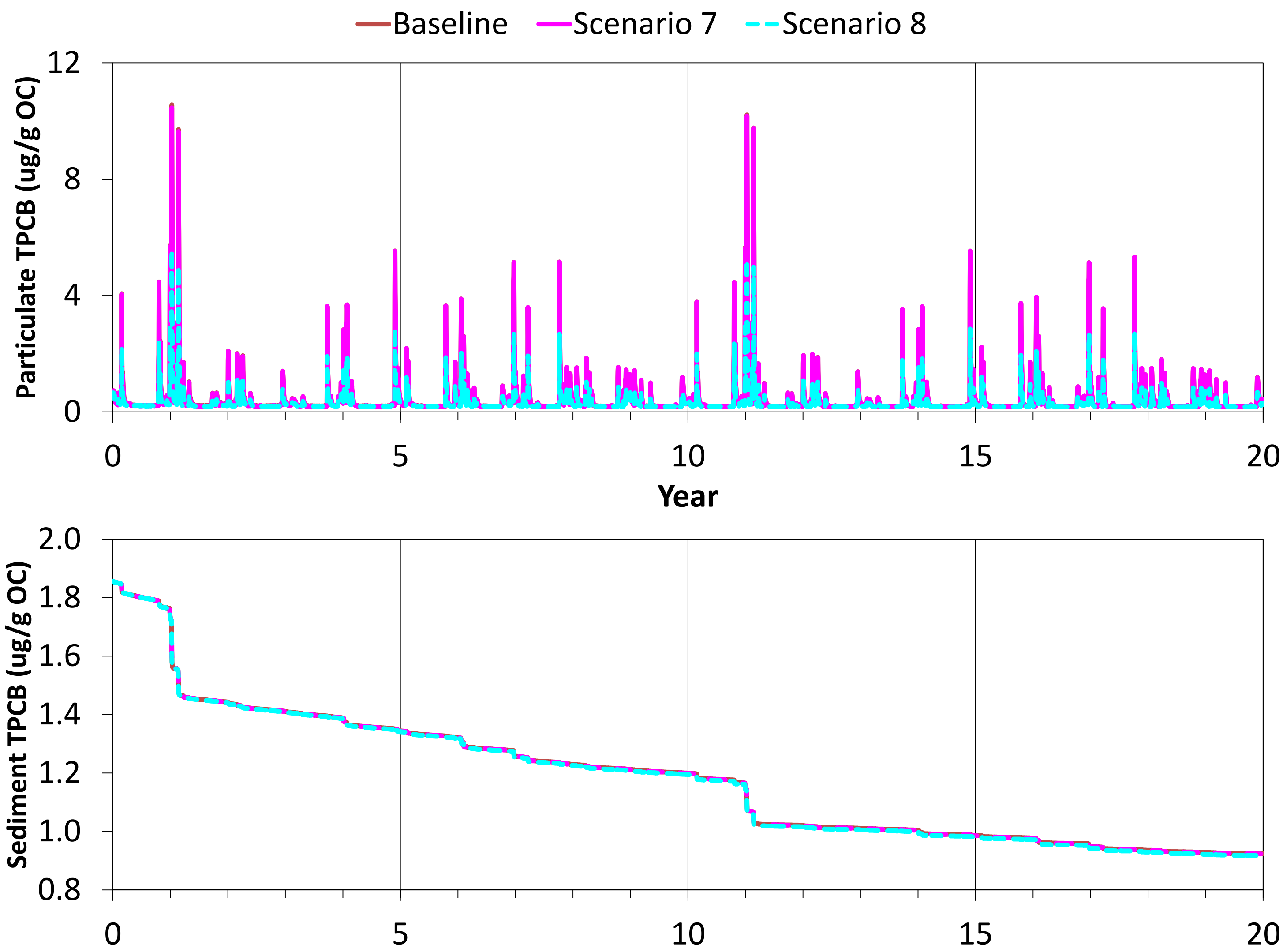


Figure 4.28k Scenario 7 and 8 TPCB Concentrations - Eastern San Pedro Bay

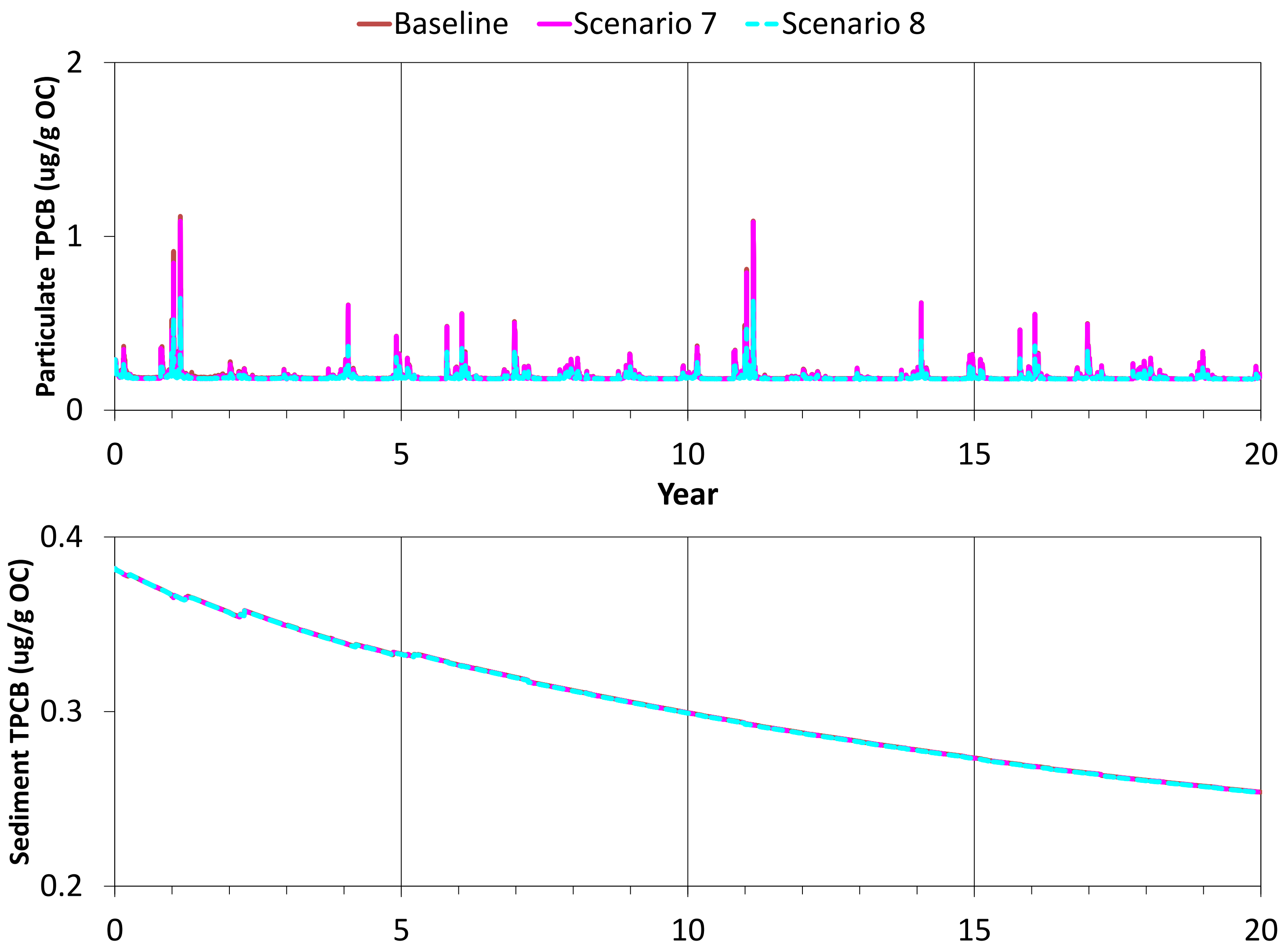


Figure 4.28l Scenario 7 and 8 TPCB Concentrations - Outside Harbor Exposure Area

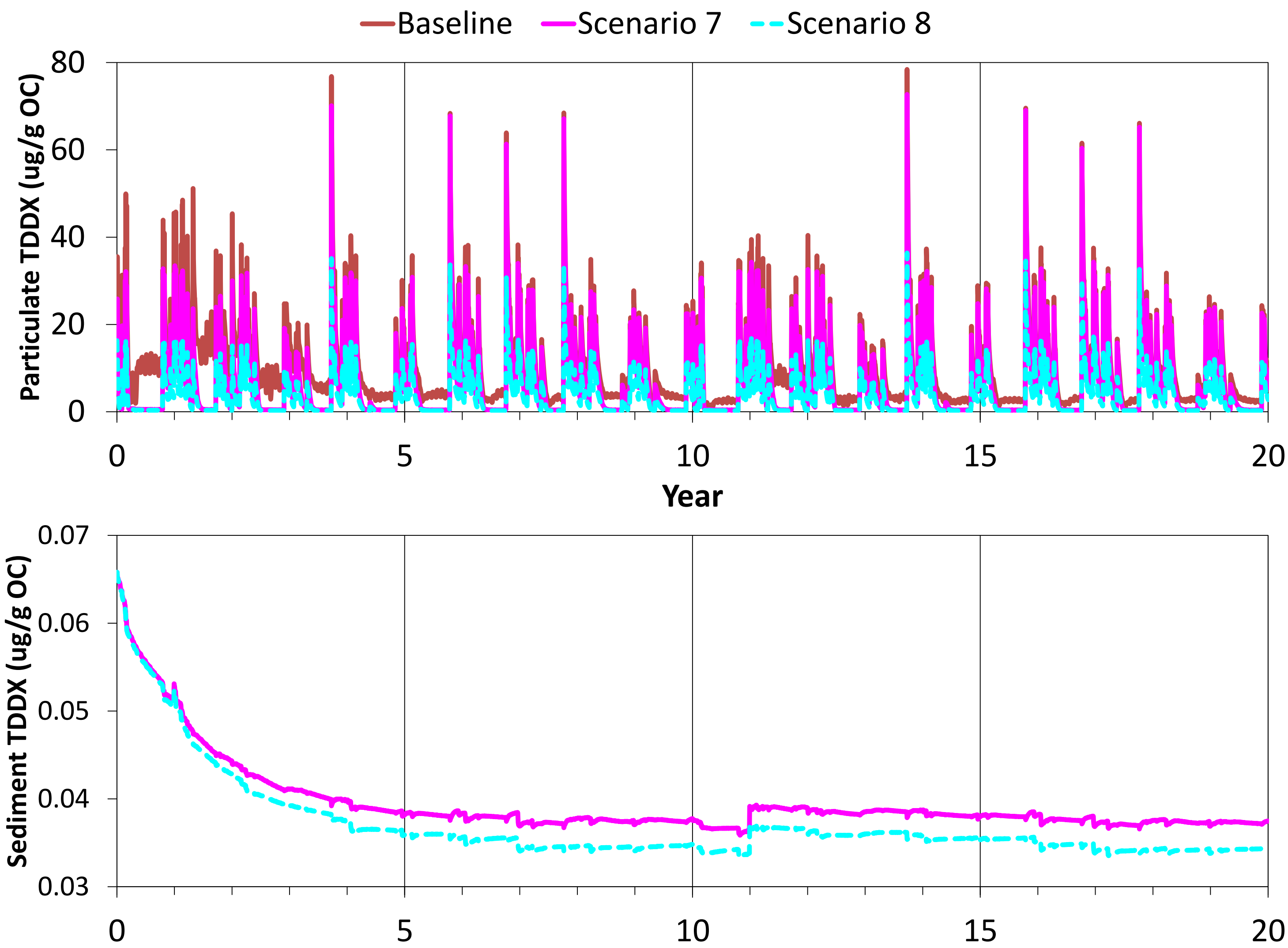


Figure 4.29a Scenario 7 and 8 TDDX Concentrations - Dominguez Channel Estuary

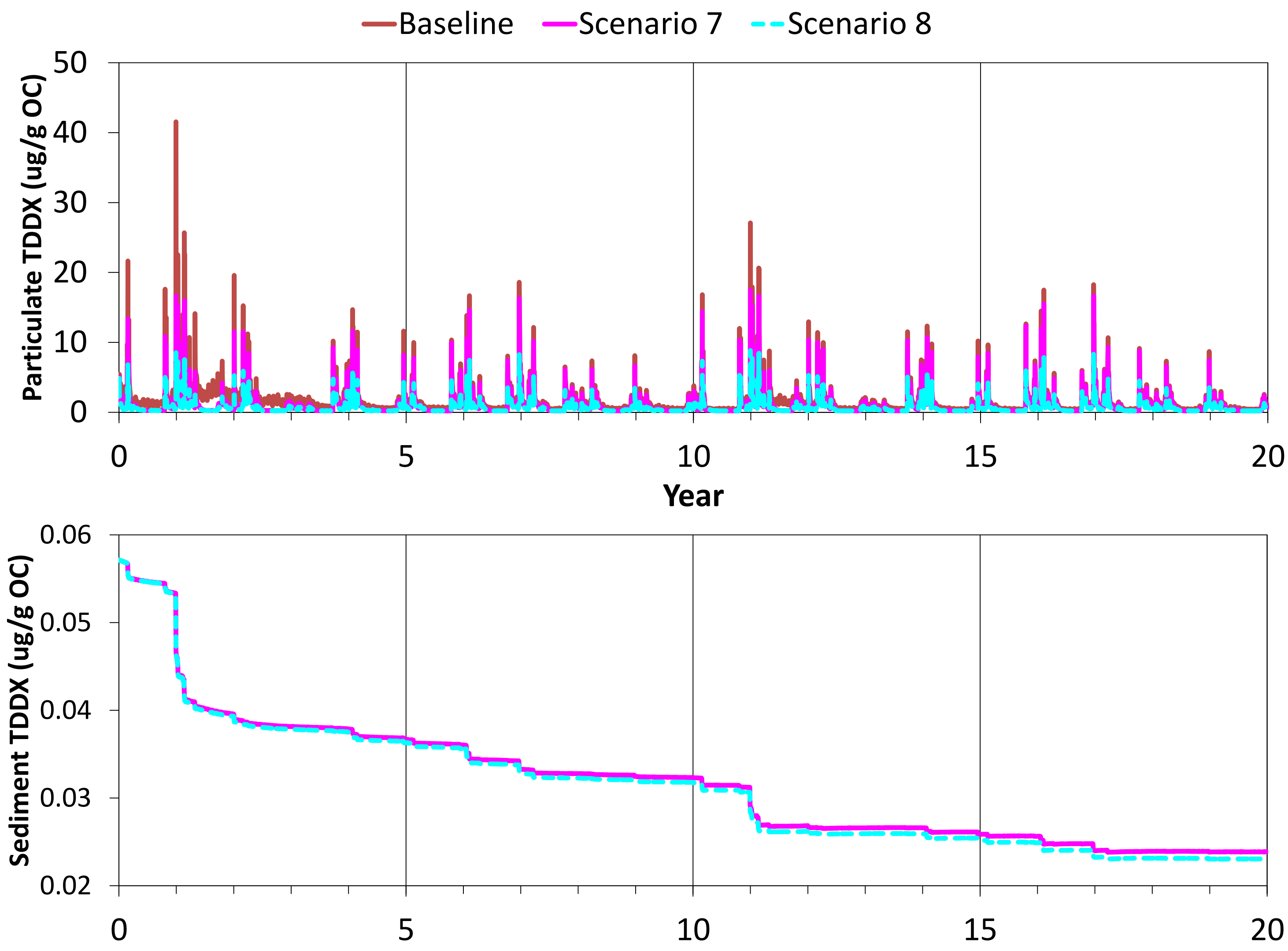


Figure 4.29b Scenario 7 and 8 TDDX Concentrations - Consolidated Slip

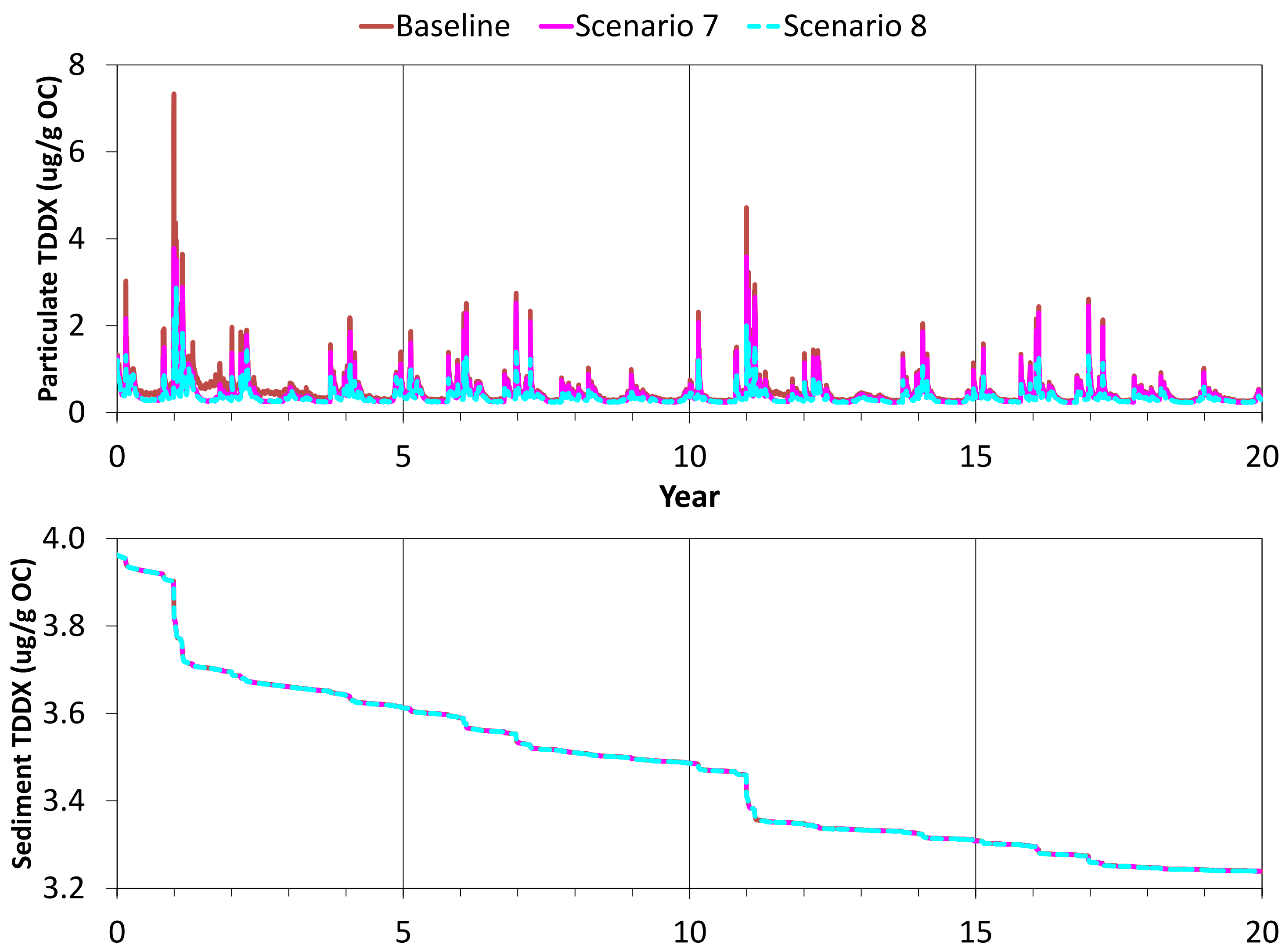


Figure 4.29c Scenario 7 and 8 TDDX Concentrations - LA Inner Harbor

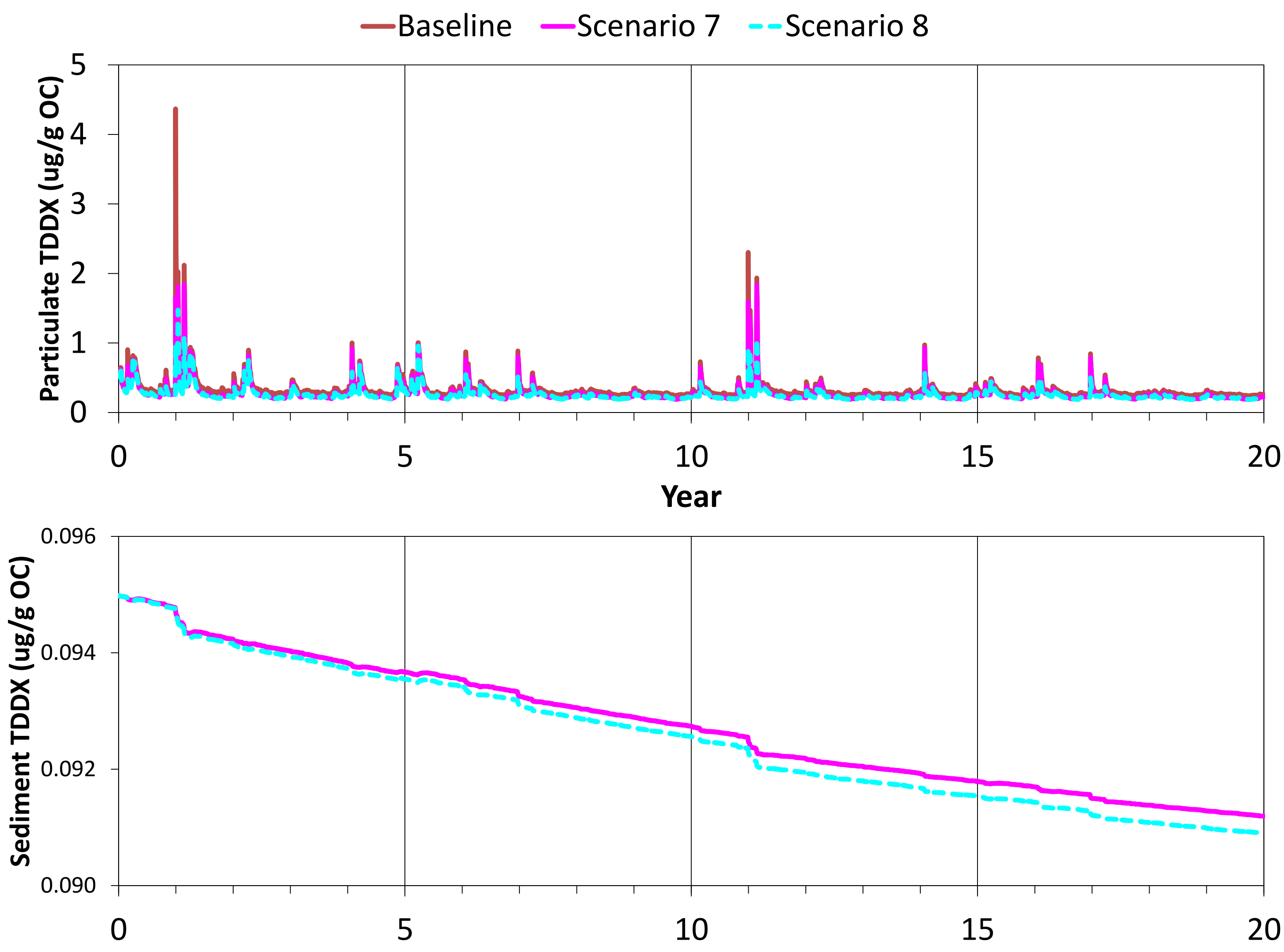


Figure 4.29d Scenario 7 and 8 TDDX Concentrations - Fish Harbor

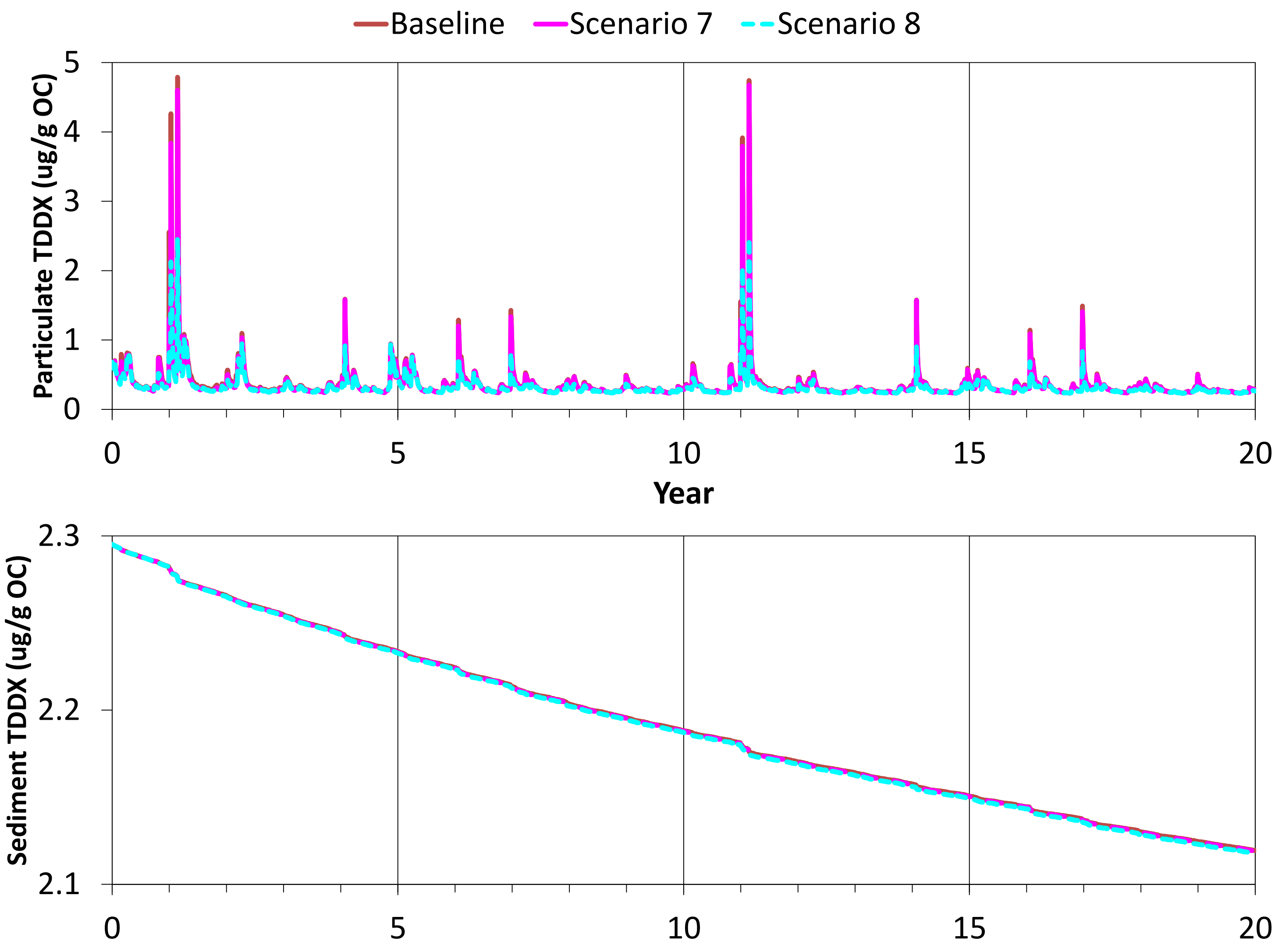


Figure 4.29e Scenario 7 and 8 TDDX Concentrations - Seaplane Lagoon

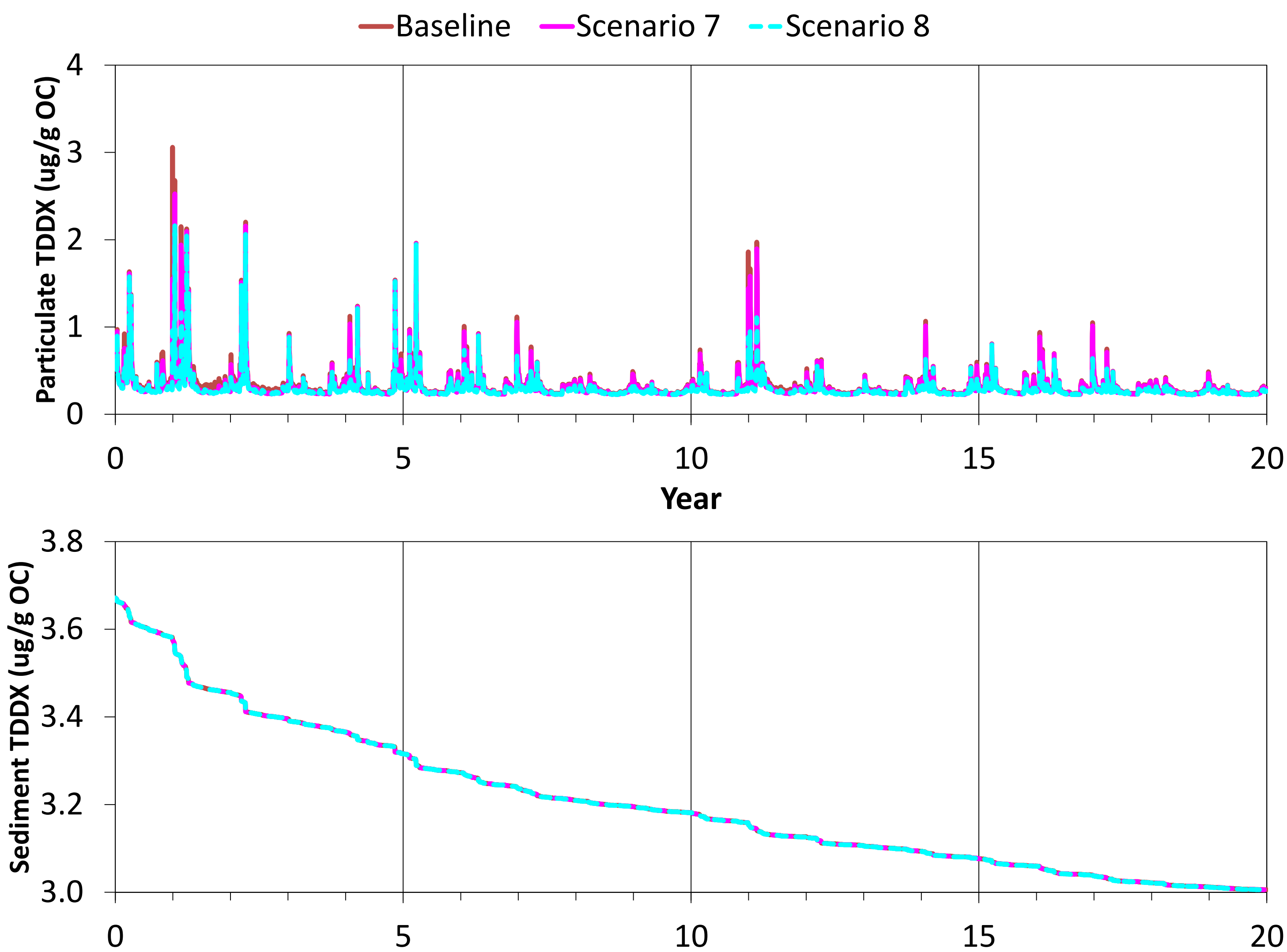


Figure 4.29f Scenario 7 and 8 TDDX Concentrations - LA Outer Harbor

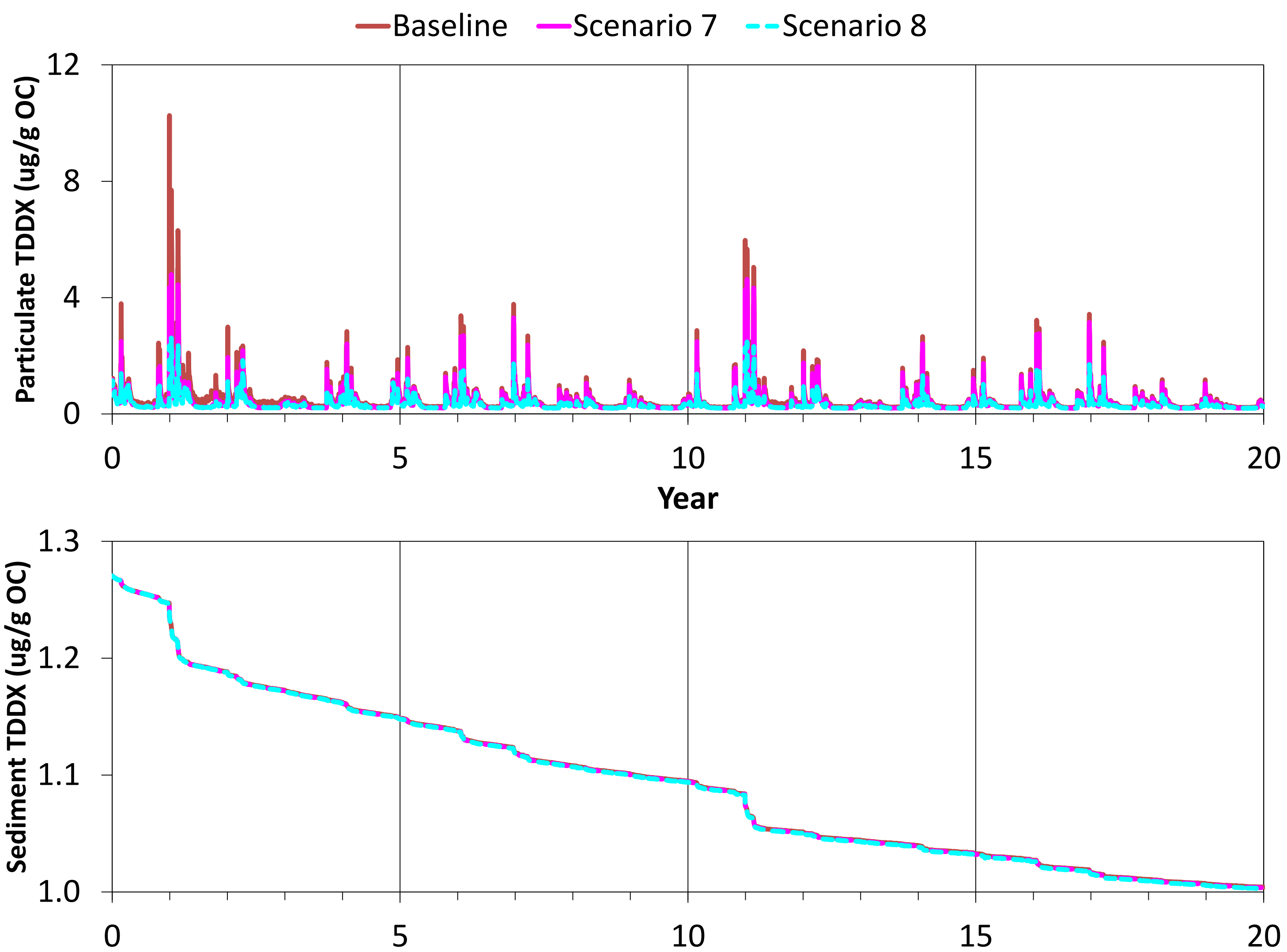


Figure 4.29g Scenario 7 and 8 TDDX Concentrations - LB Inner Harbor North

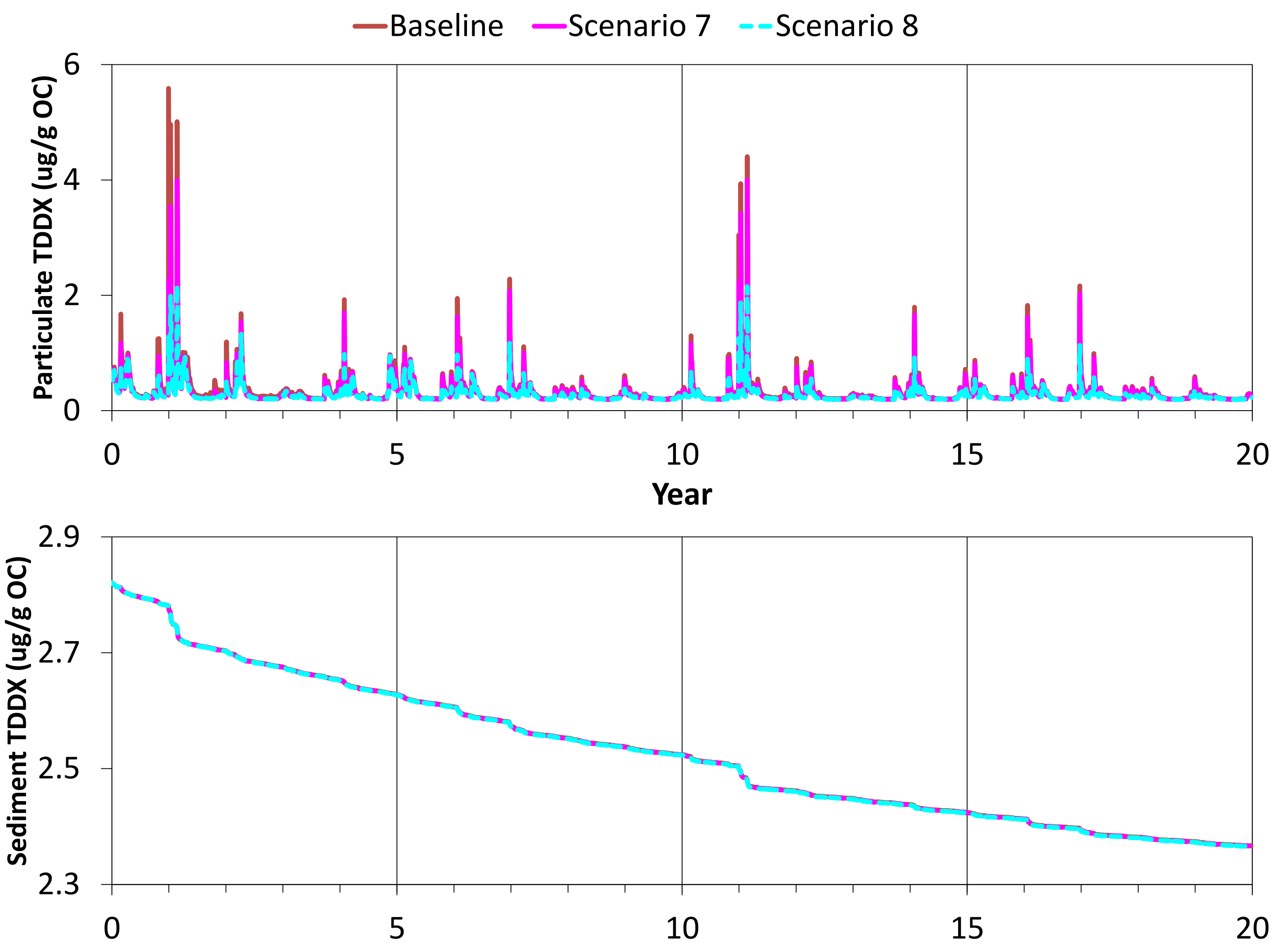


Figure 4.29h Scenario 7 and 8 TDDX Concentrations - LB Inner Harbor South

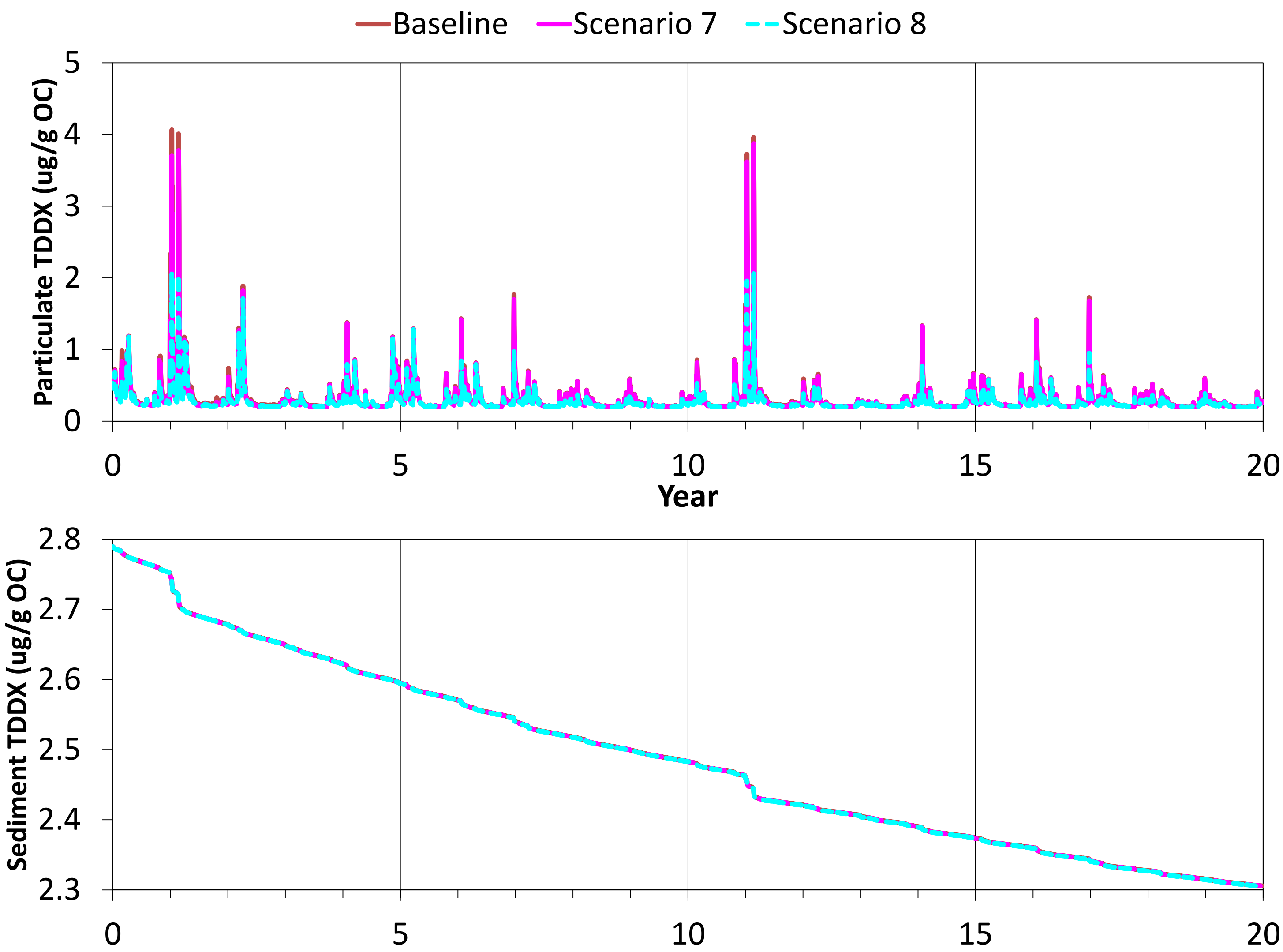


Figure 4.29i Scenario 7 and 8 TDDX Concentrations - LB Outer Harbor

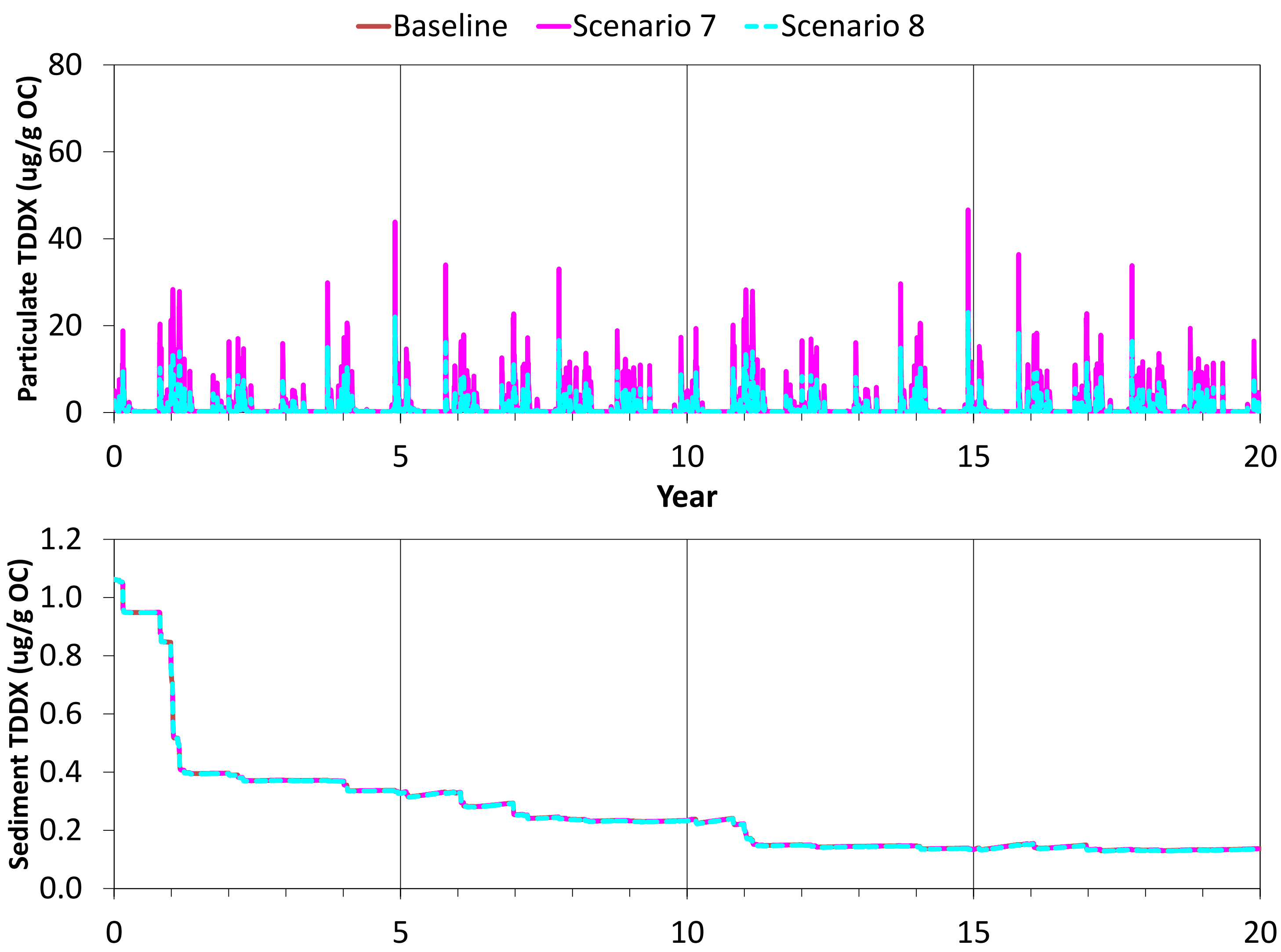


Figure 4.29j Scenario 7 and 8 TDDX Concentrations - Los Angeles River Estuary

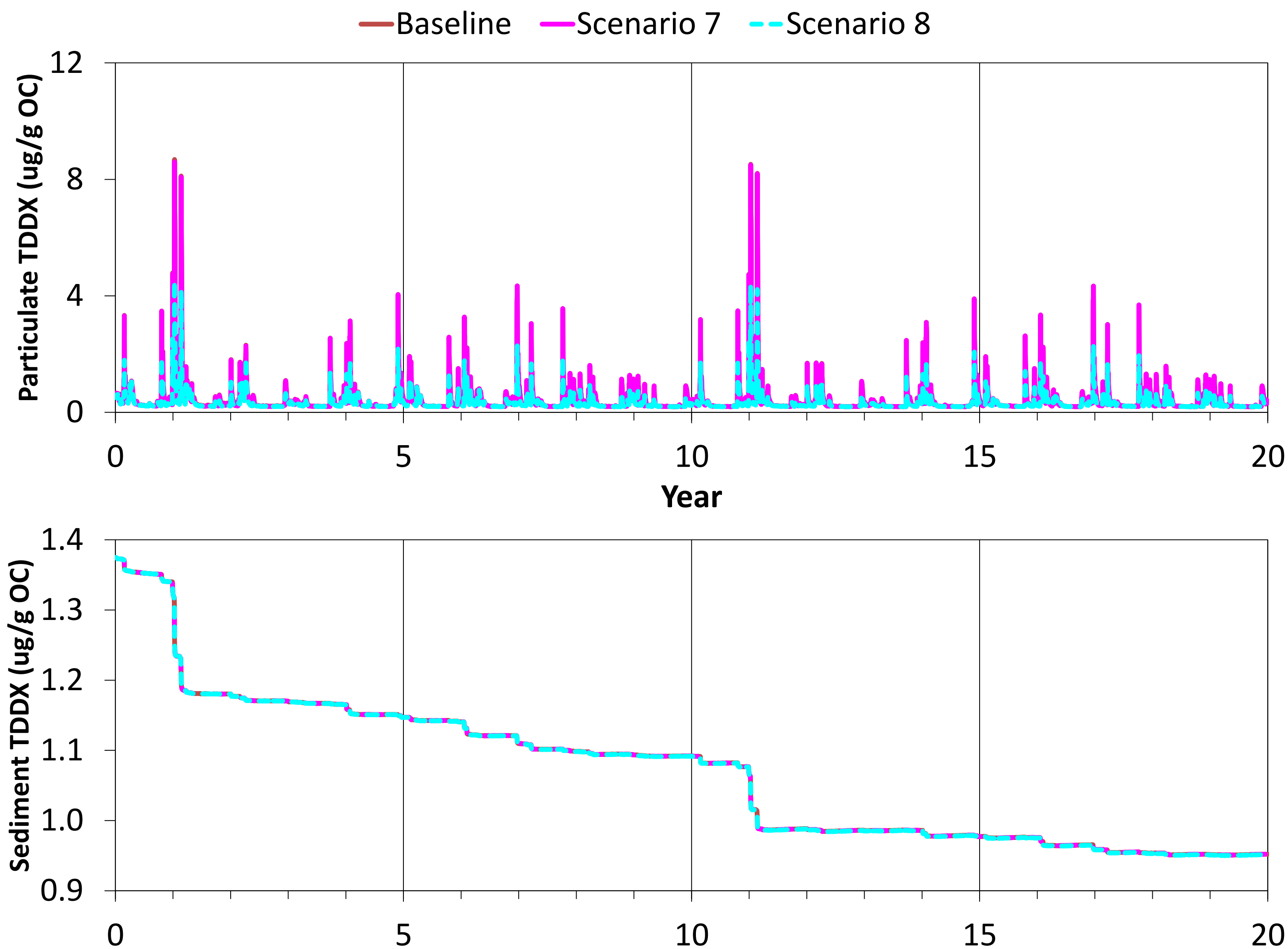


Figure 4.29k Scenario 7 and 8 TDDX Concentrations - Eastern San Pedro Bay

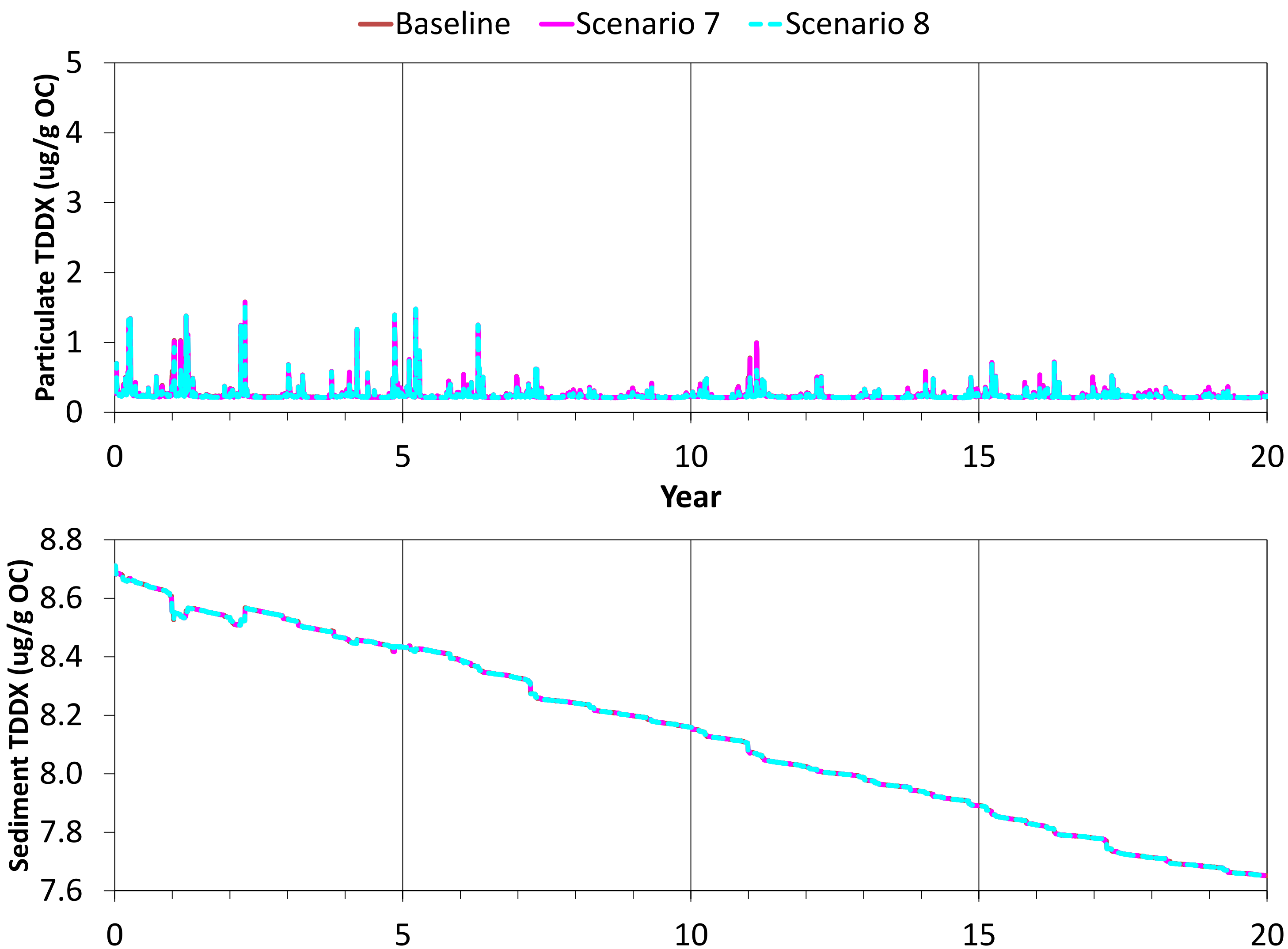


Figure 4.29l Scenario 7 and 8 TDDX Concentrations - Outside Harbor Exposure Area

The Scenario 7 annual TPCB and TDDX concentrations are compared among the fish movement zones in Figures 4.30 and 4.31, respectively. Under Scenario 7, the highest water TPCB and TDDX concentrations occur in the DC and LAR Estuary due to watershed loadings. With sediment loading reductions in the TMDL hot spots, the highest TPCB bed concentrations would occur in the Inner Harbor areas – LB Inner Harbor South, LA Inner Harbor, LB Inner Harbor North, and Seaplane Lagoon. For TDDX, the highest TDDX bed concentrations would be the LA Inner and Outer Harbors, followed by LB Inner Harbor South and LB Outer Harbor.

The annual TPCB and TDDX concentrations for Scenario 8 are shown in Figures 4.32 and 4.33, respectively. Comparisons among the fish movement zones for Scenario 8 are similar to those of Scenario 7. The highest water concentrations occur in the DC and LAR Estuary due to watershed loadings. For TPCB, the highest bed concentrations are found in the Inner Harbor areas. For TDDX, the highest TDDX bed concentrations are found in the LA Inner and Outer Harbors, LB Inner Harbor South, and LB Outer Harbor.

4.5.2 Scenarios 8 and 9

Scenarios 8 and 9 were conducted for a 30-year period to enable an evaluation of a phased approach in source reduction strategies. Both model scenarios included a 50% watershed loading reduction, but differed in the timing of the hot spot remediation. The hot spot remediation for Scenario 8 occurred in conjunction with the watershed loading reduction. Under Scenario 9, the hot spot remediation was delayed 20 years when watershed loading reductions are anticipated to be achieved. Daily water and sediment organics concentrations for Scenarios 8 and 9 are compared in Figures 4.34a-l for TPCB and Figures 4.35a-l for TDDX by fish movement zones. Differences in water and bed concentrations generally occur over the first 20 years in the hot spot remediation areas – DC Estuary, CS, and FH. Water concentrations are lower for Scenario 8 during dry weather conditions when the flux from the bed is reduced due to the sediment remediation. Over the last 10 years, the water and sediment concentrations are similar between Scenario 8 and Scenario 9. To allow a better comparison of the sediment concentrations over the last 10 years, water and sediment concentrations in the DC Estuary, CS, and FH are compared in Figures 4.36a-c and 4.37a-c for TPCB and TDDX, respectively. The figures show that Scenario 8 results in lower sediment concentrations than Scenario 9.

The annual TPCB and TDDX concentrations over the 30-year period are provided in Figures 4.38 and 4.39 for Scenario 8, and in Figures 4.40 and 4.41 for Scenario 9. The figures show the drastic declines in water and bed concentrations in the DC Estuary that coincide with the sediment loading reduction.

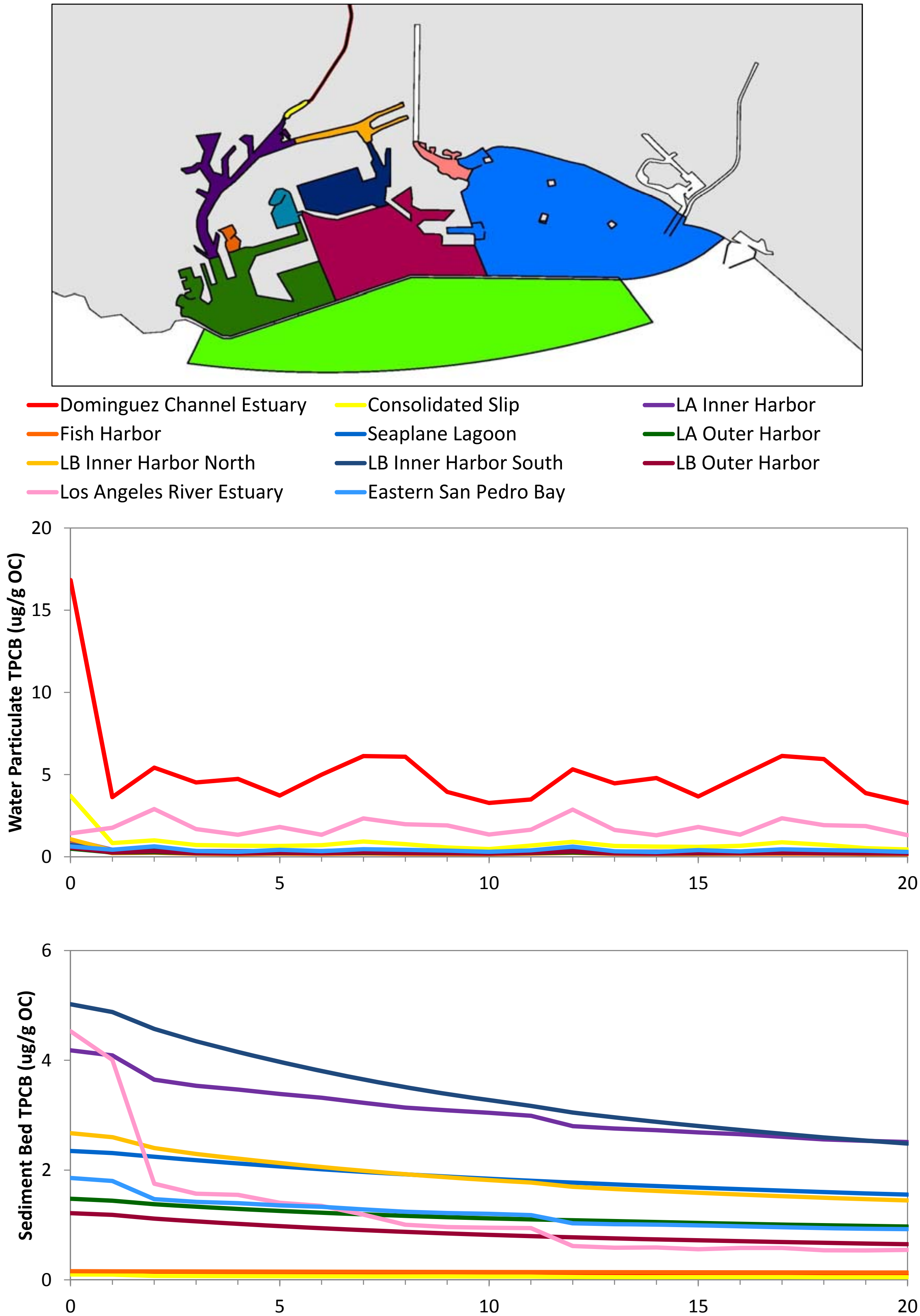
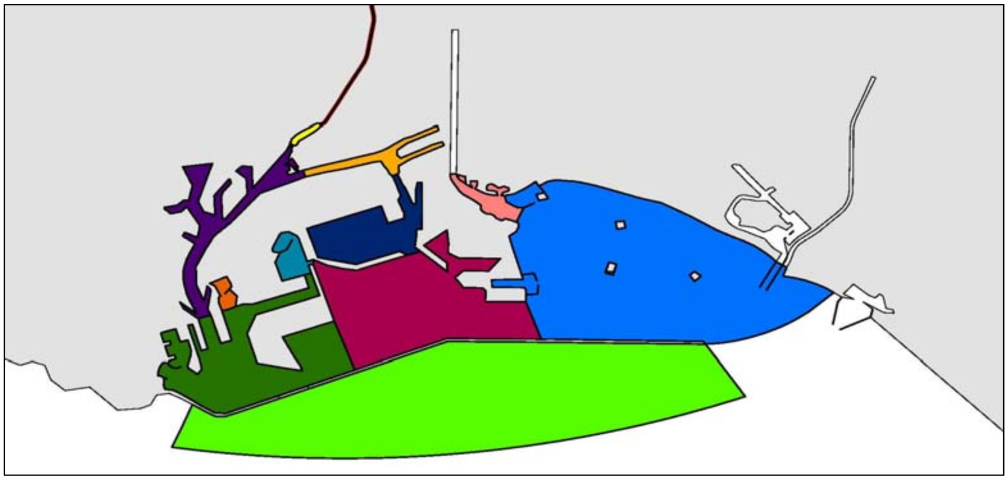
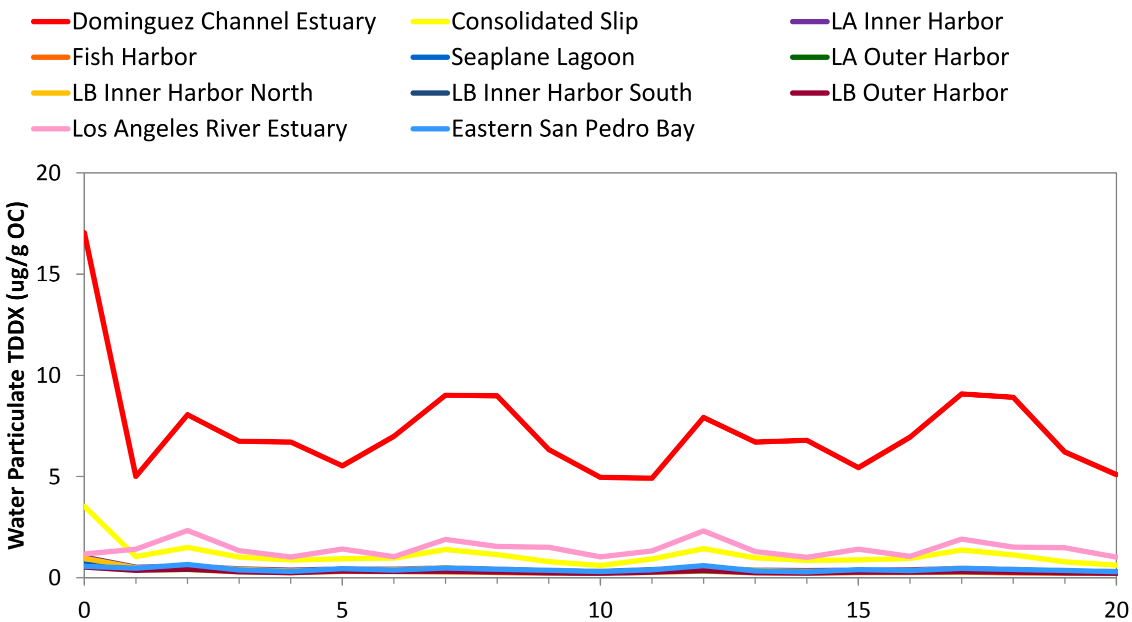


Figure 4.30 Scenario 7 Comparison of Annual TPCB Concentrations





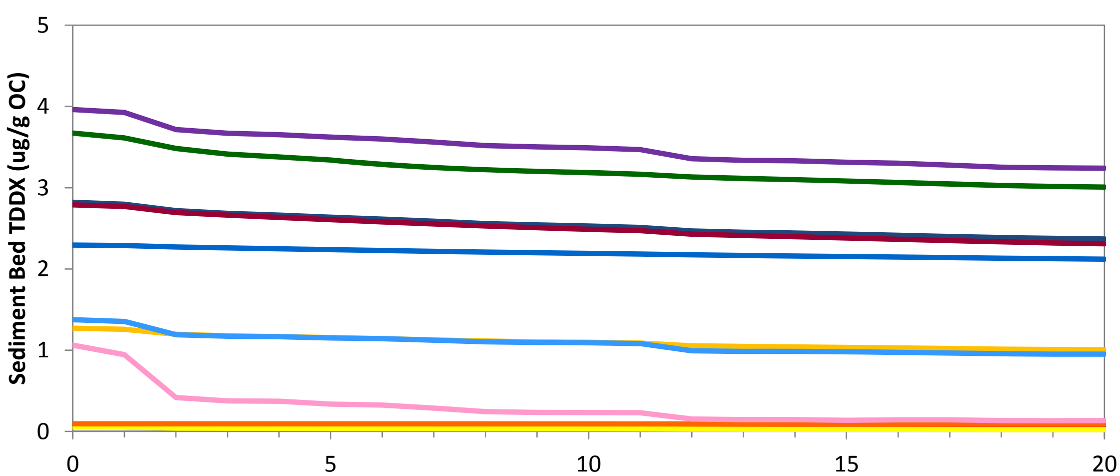


Figure 4.31 Scenario 7 Comparison of Annual TDDX Concentrations

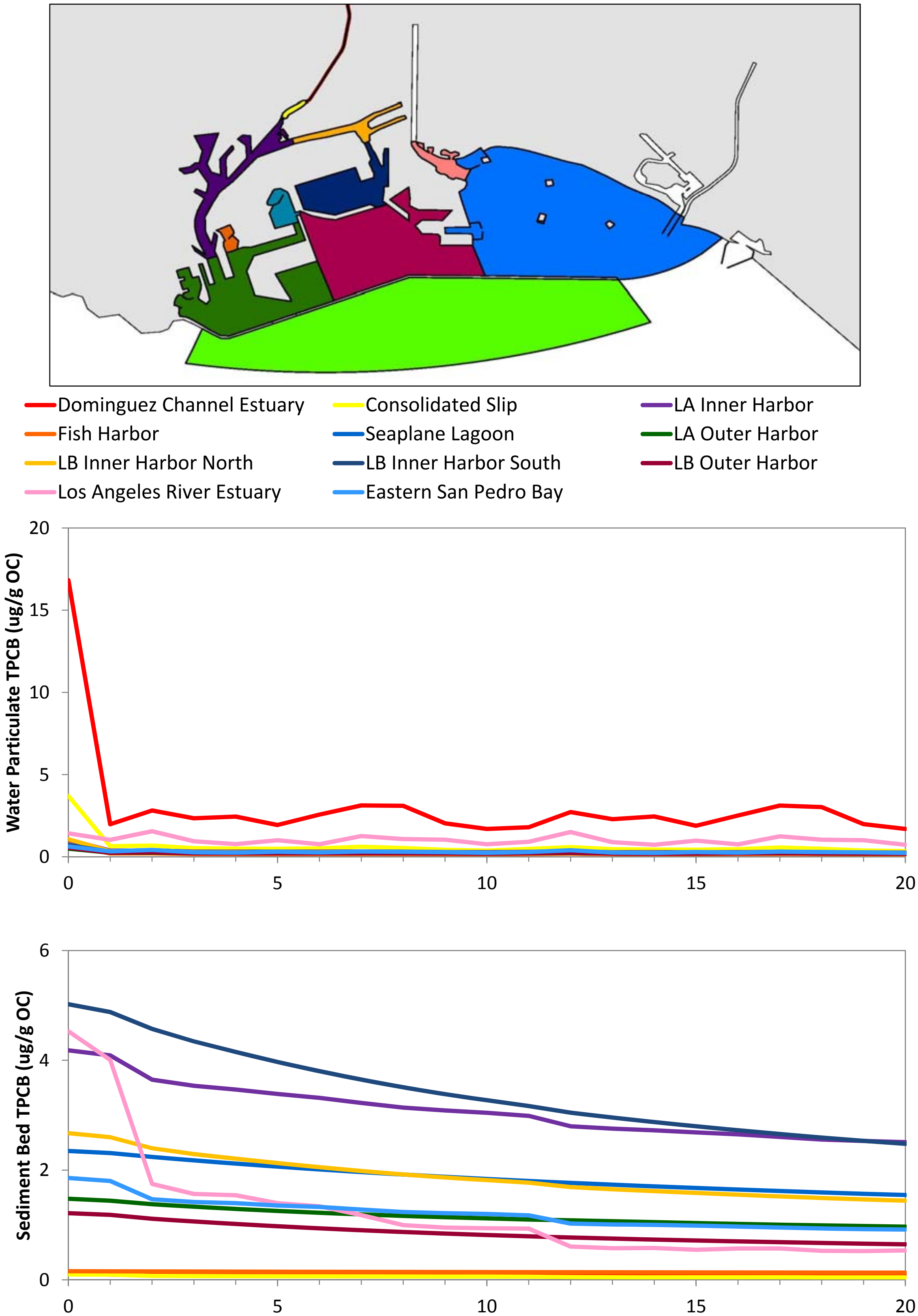


Figure 4.32 Scenario 8 Comparison of Annual TPCB Concentrations

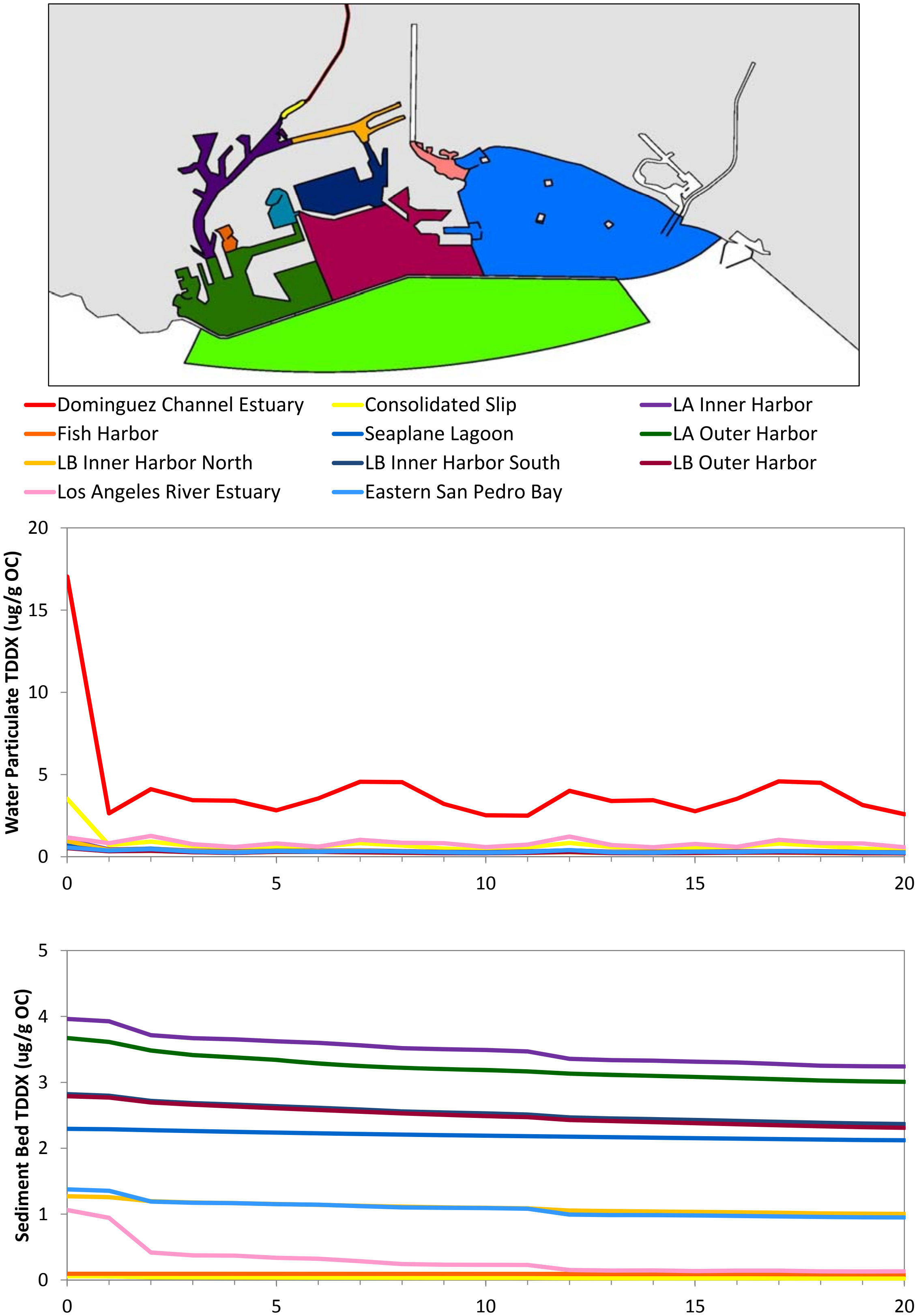


Figure 4.33 Scenario 8 Comparison of Annual TDDX Concentrations

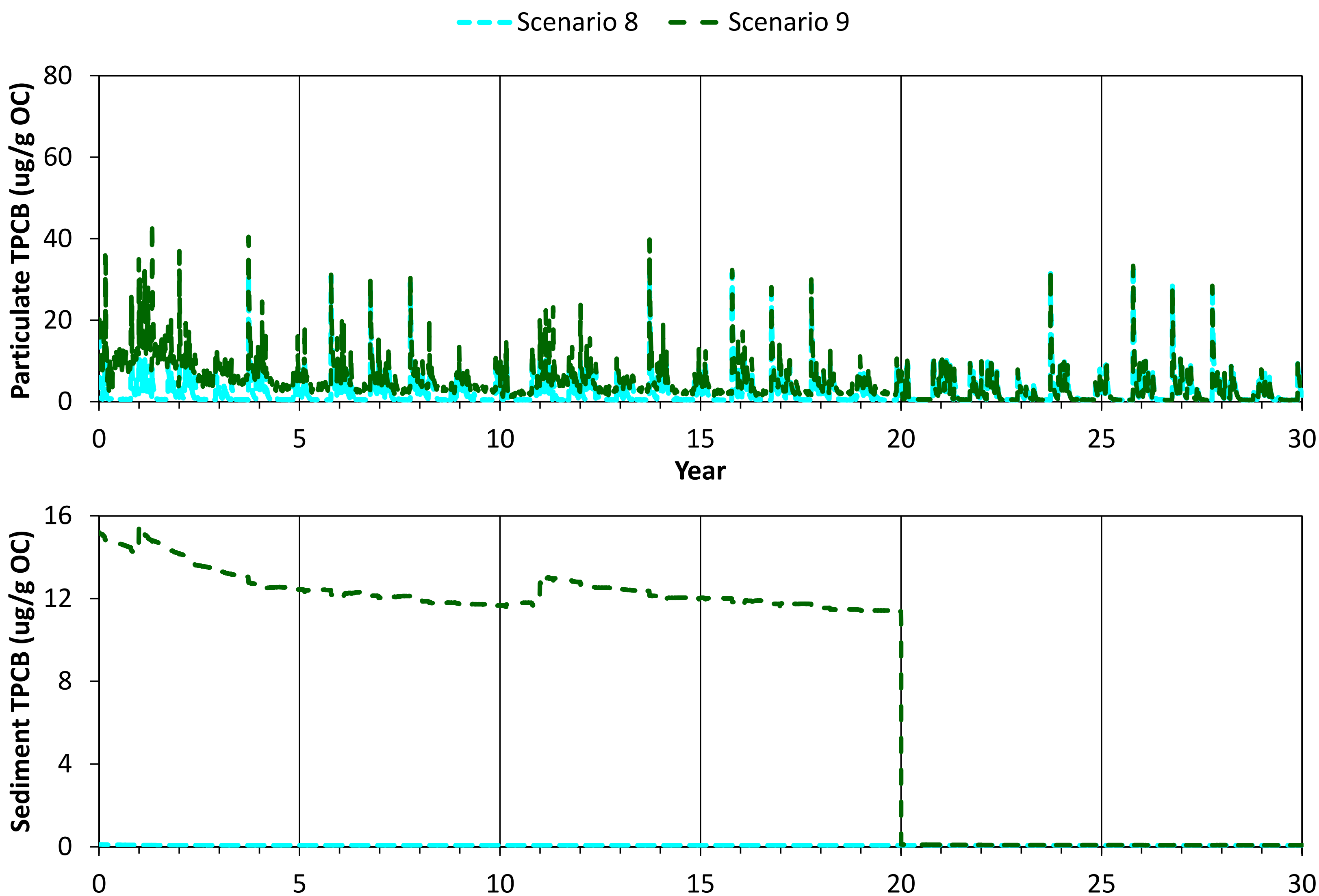


Figure 4.34a Scenario 8 and 9 TPCB Concentrations - Dominguez Channel Estuary

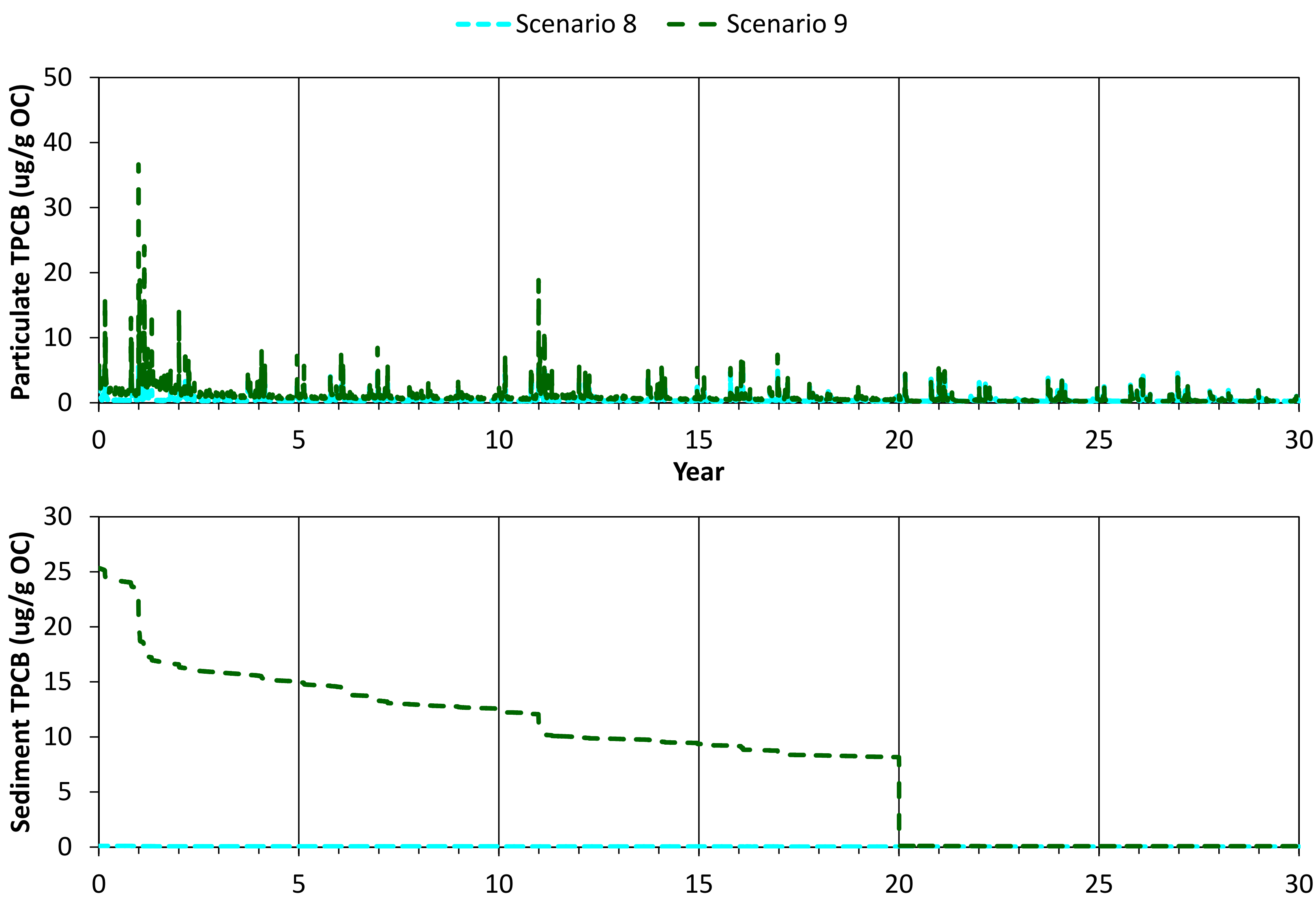


Figure 4.34b Scenario 8 and 9 TPCB Concentrations - Consolidated Slip

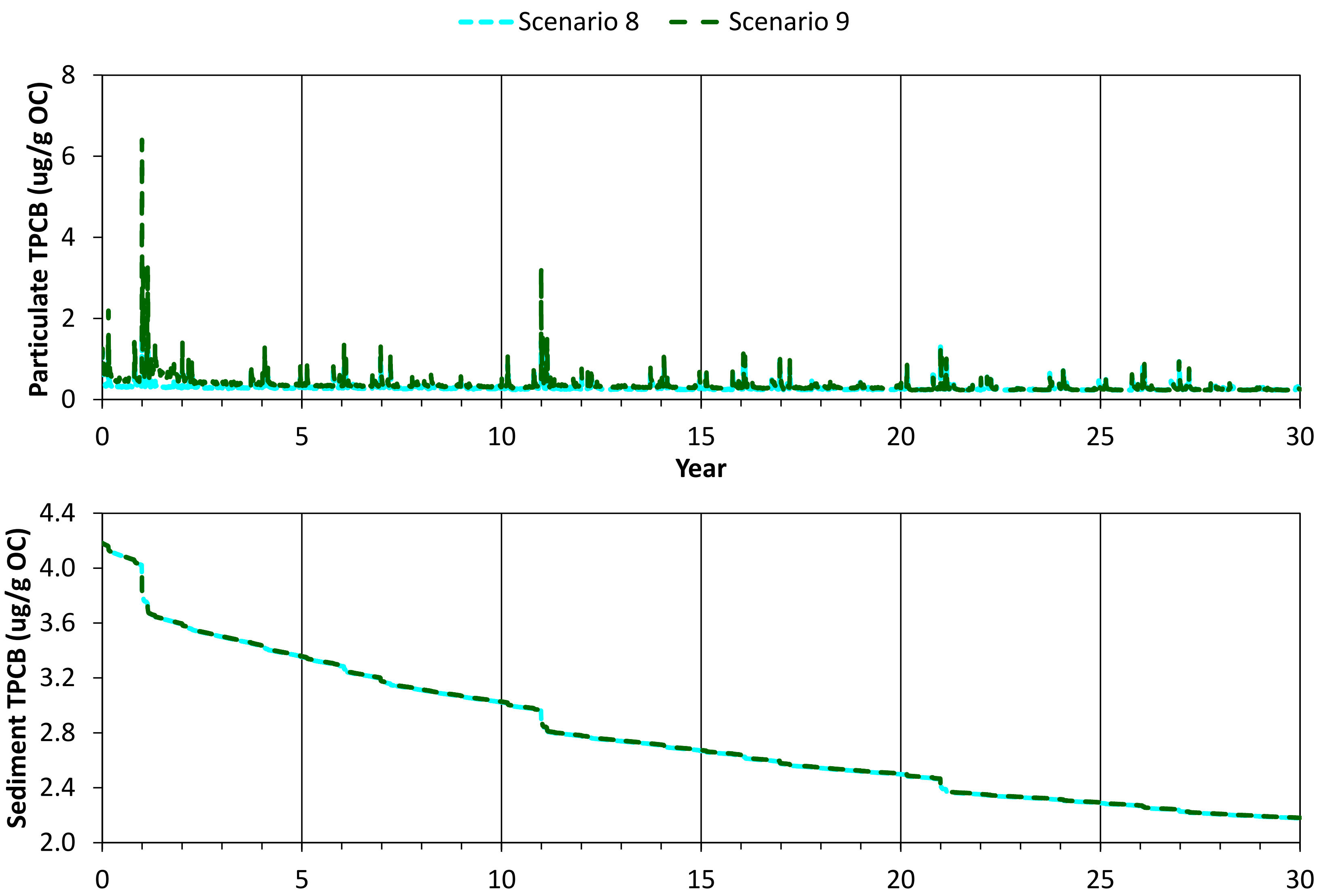


Figure 4.34c Scenario 8 and 9 TPCB Concentrations - LA Inner Harbor

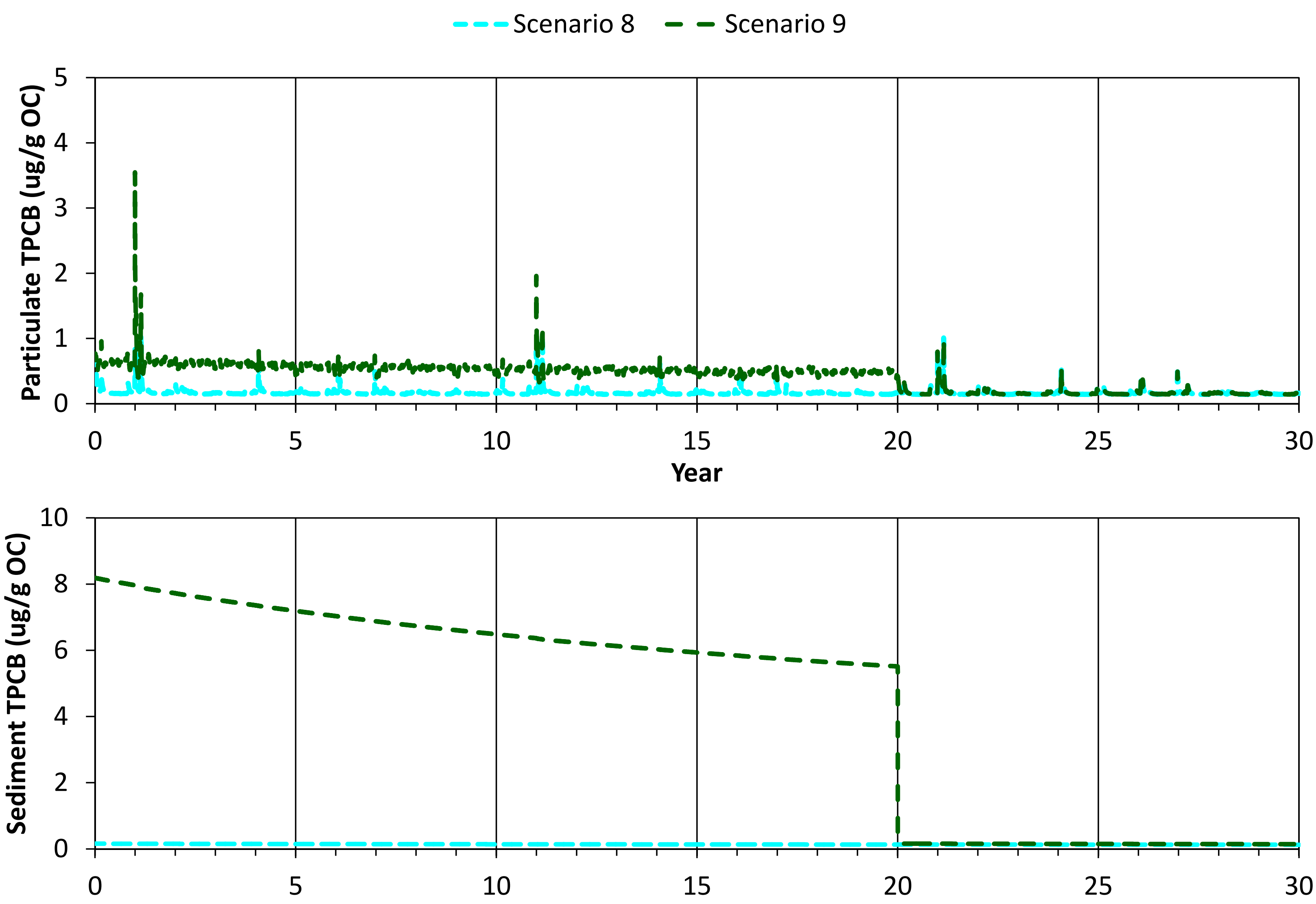


Figure 4.34d Scenario 8 and 9 TPCB Concentrations - Fish Harbor

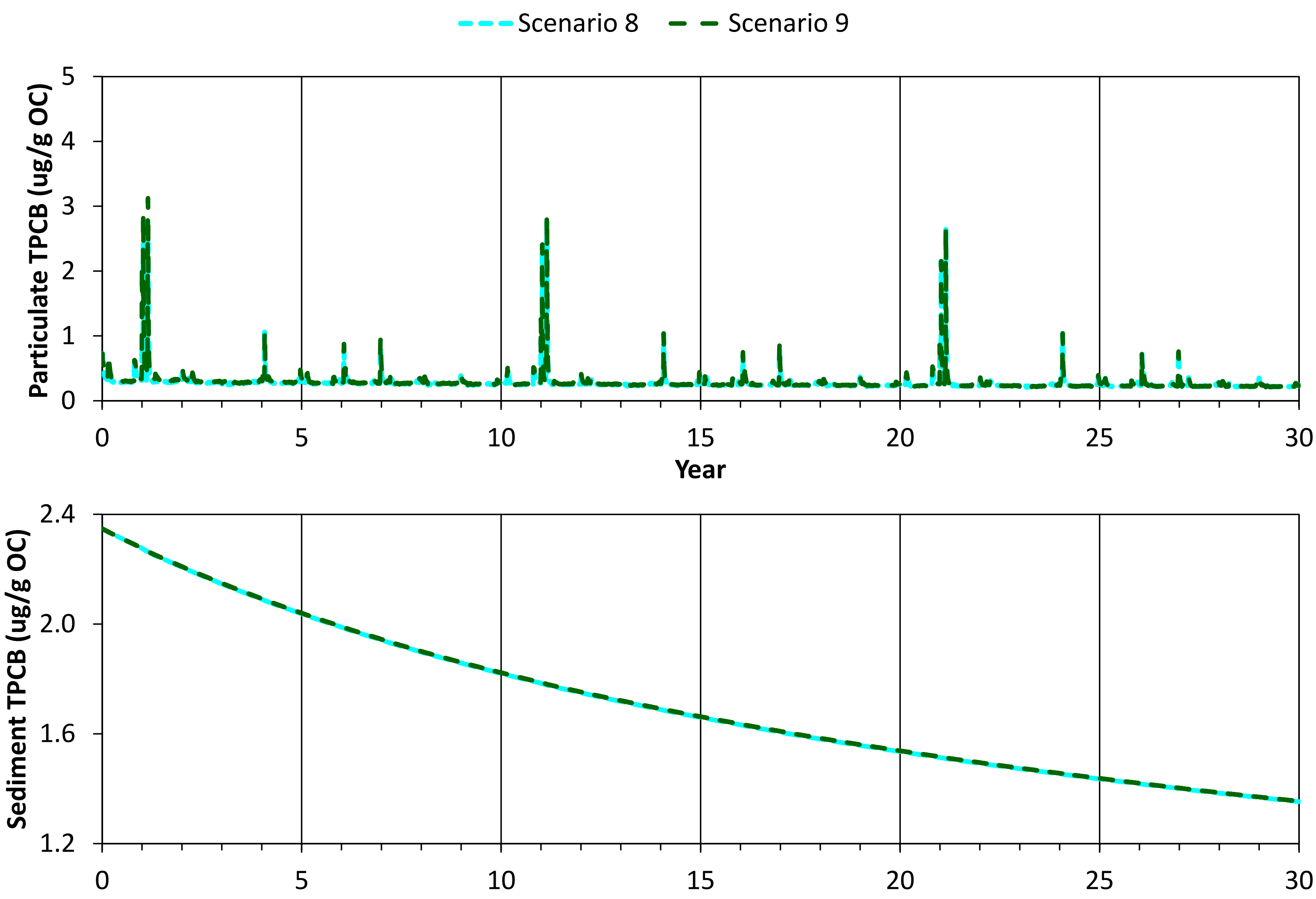


Figure 4.34e Scenario 8 and 9 TPCB Concentrations - Seaplane Lagoon

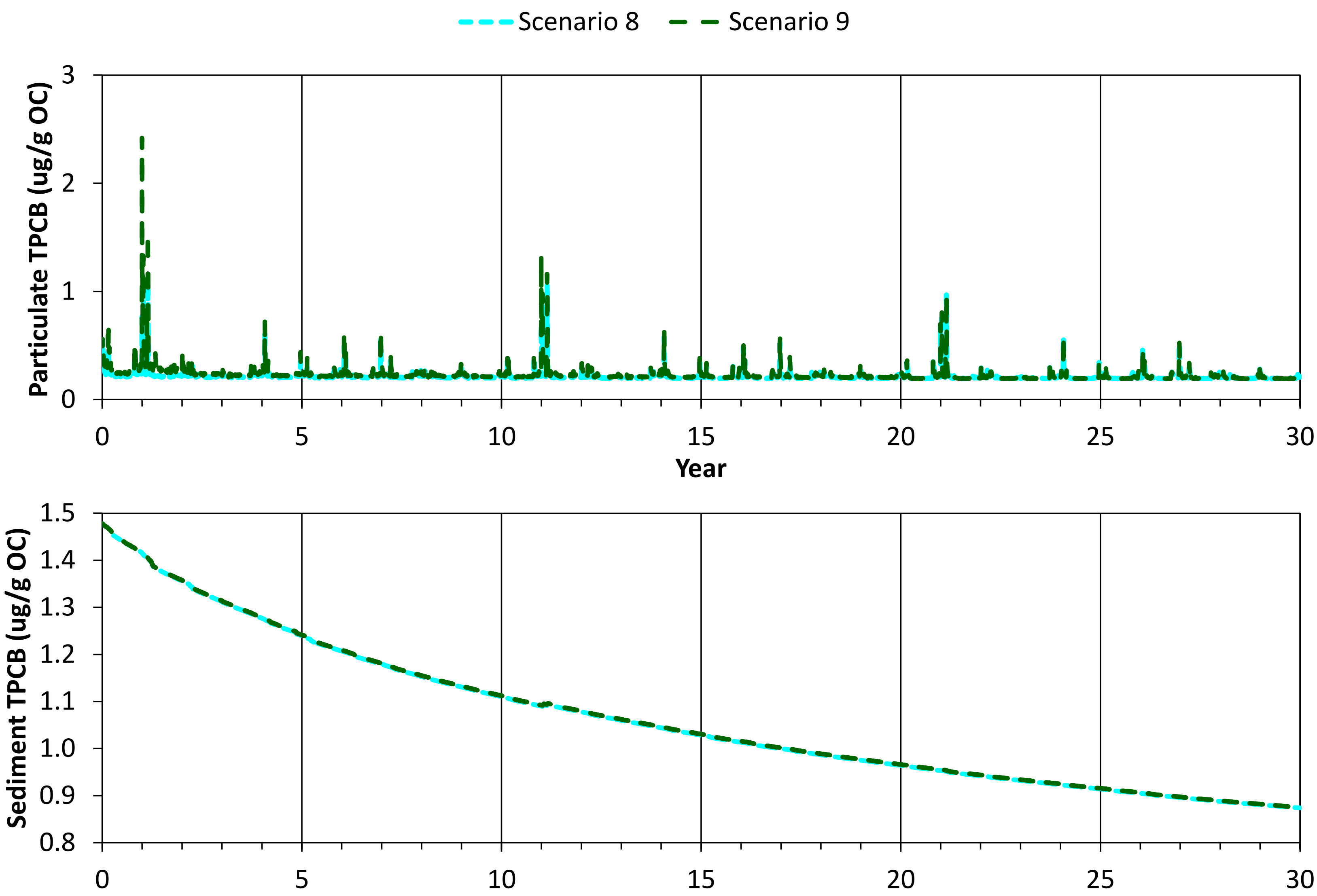


Figure 4.34f Scenario 8 and 9 TPCB Concentrations - LA Outer Harbor

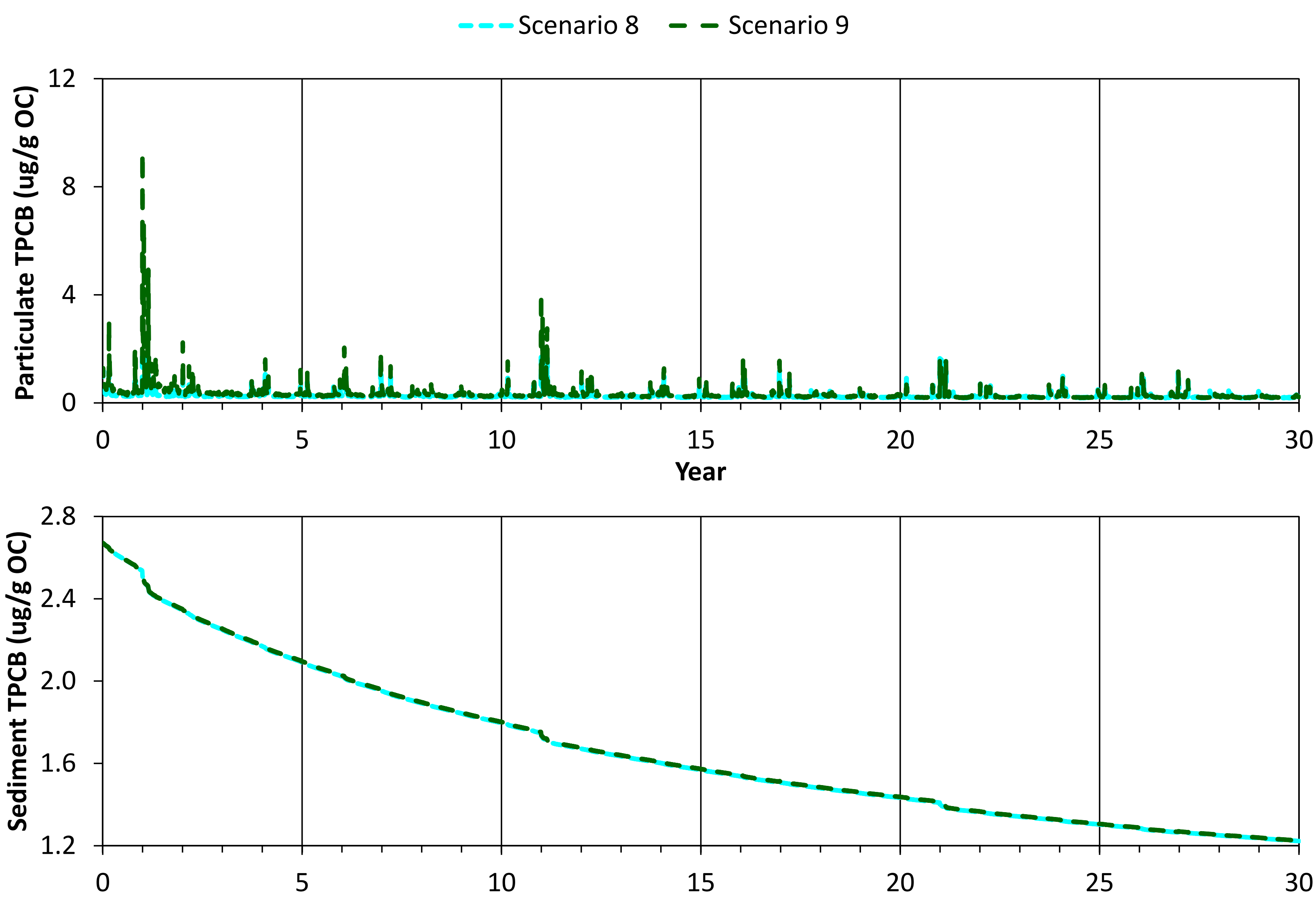


Figure 4.34g Scenario 8 and 9 TPCB Concentrations - LB Inner Harbor North

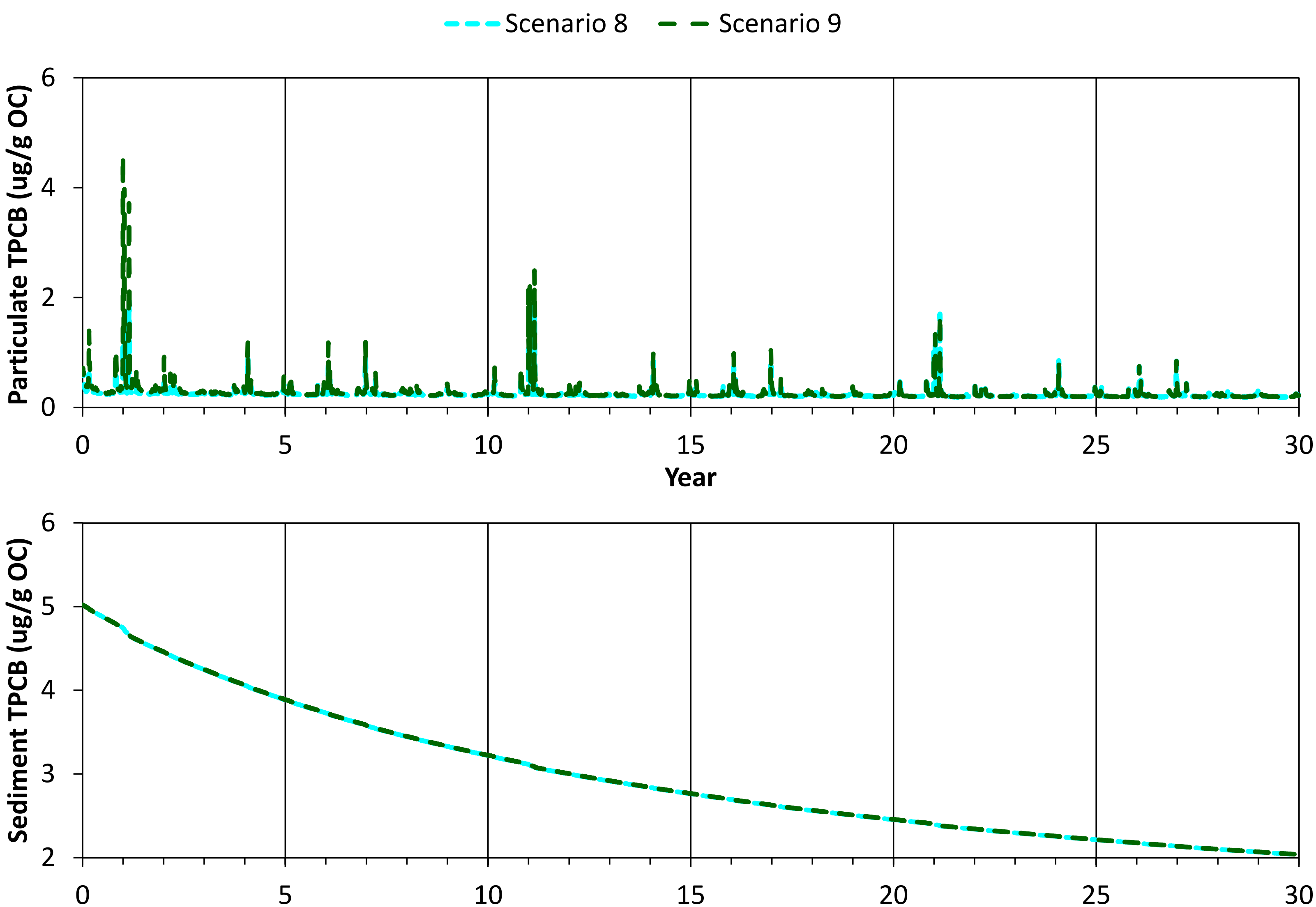


Figure 4.34h Scenario 8 and 9 TPCB Concentrations - LB Inner Harbor South

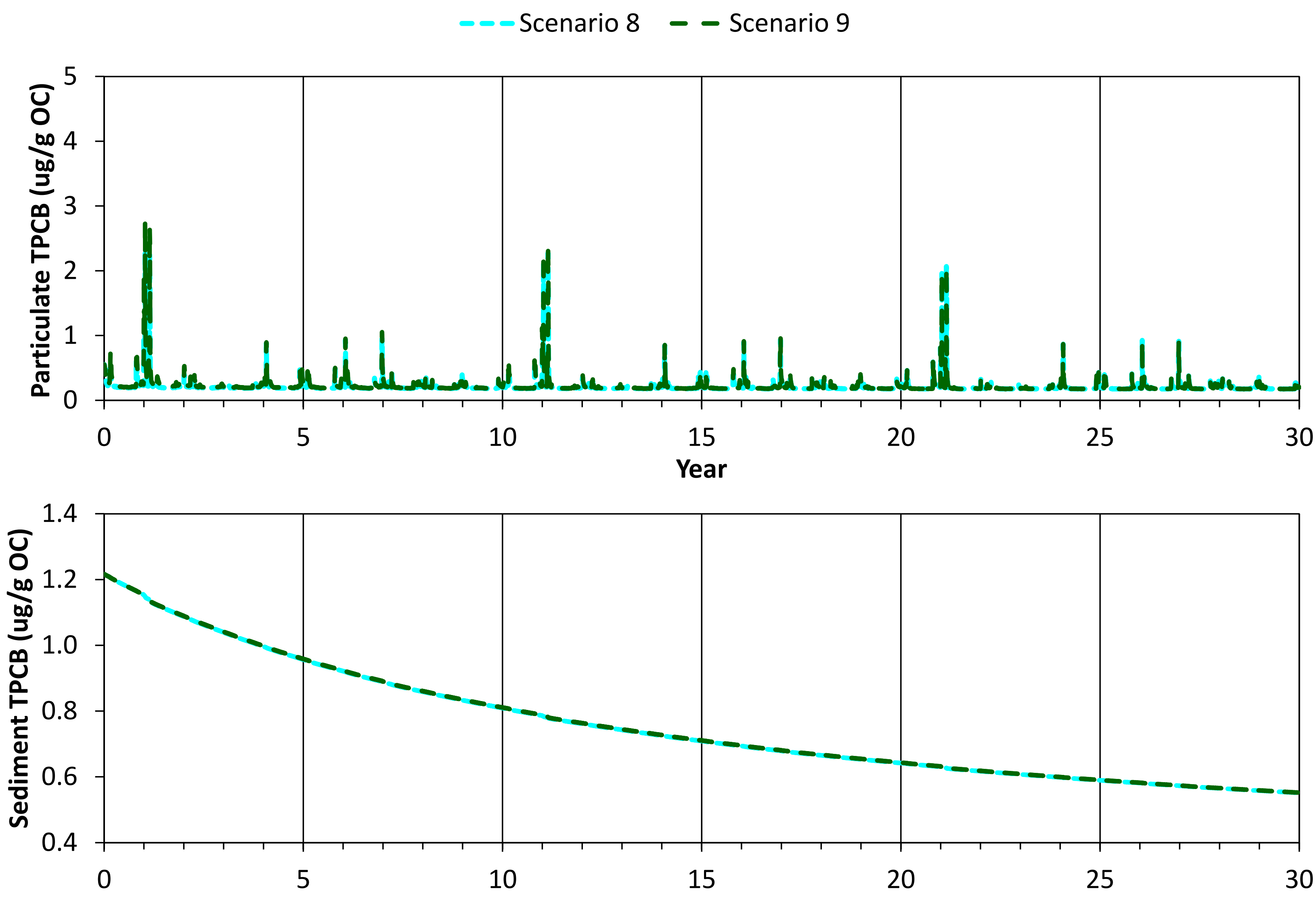


Figure 4.34i Scenario 8 and 9 TPCB Concentrations - LB Outer Harbor

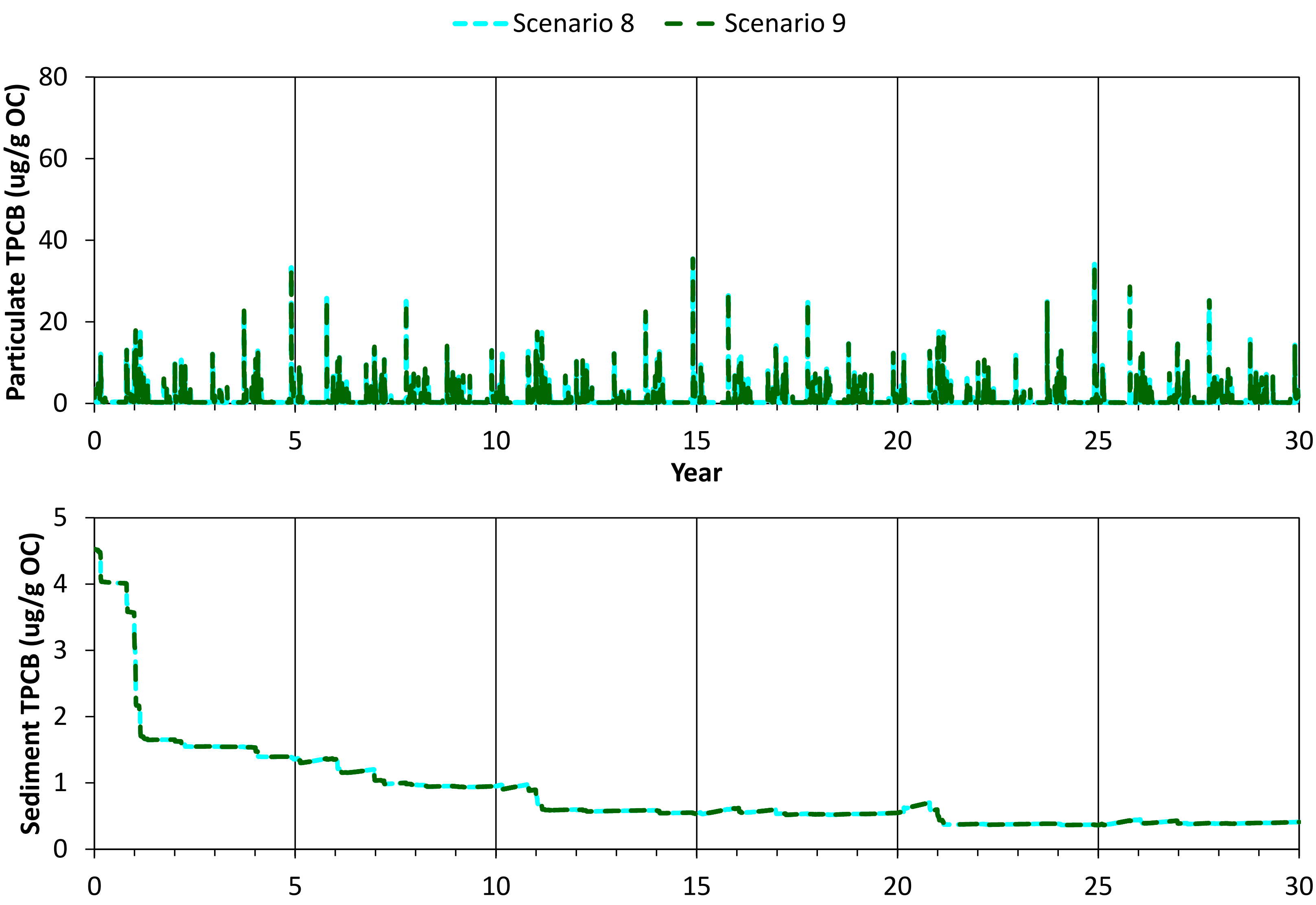


Figure 4.34j Scenario 8 and 9 TPCB Concentrations - Los Angeles River Estuary

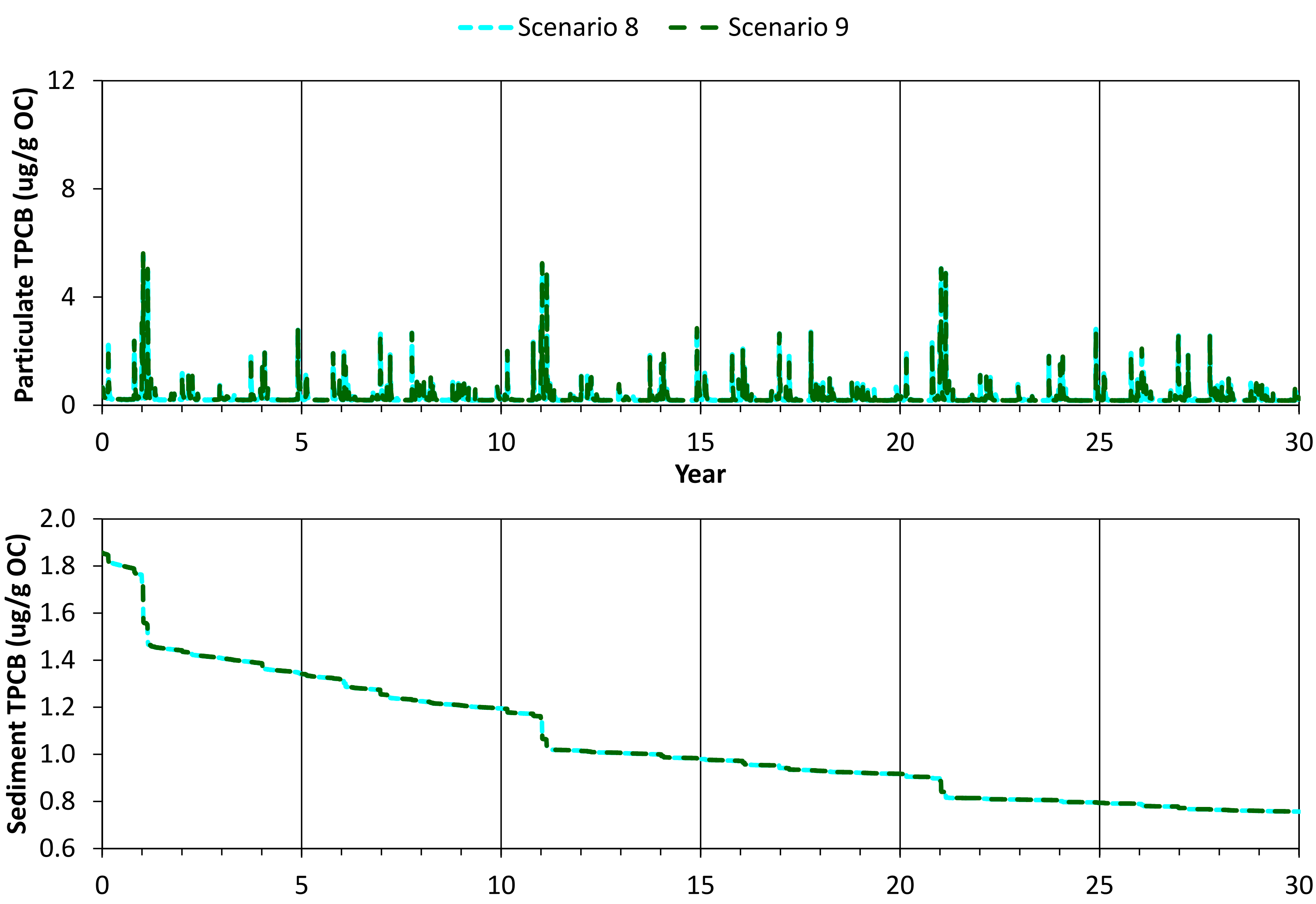


Figure 4.34k Scenario 8 and 9 TPCB Concentrations - Eastern San Pedro Bay

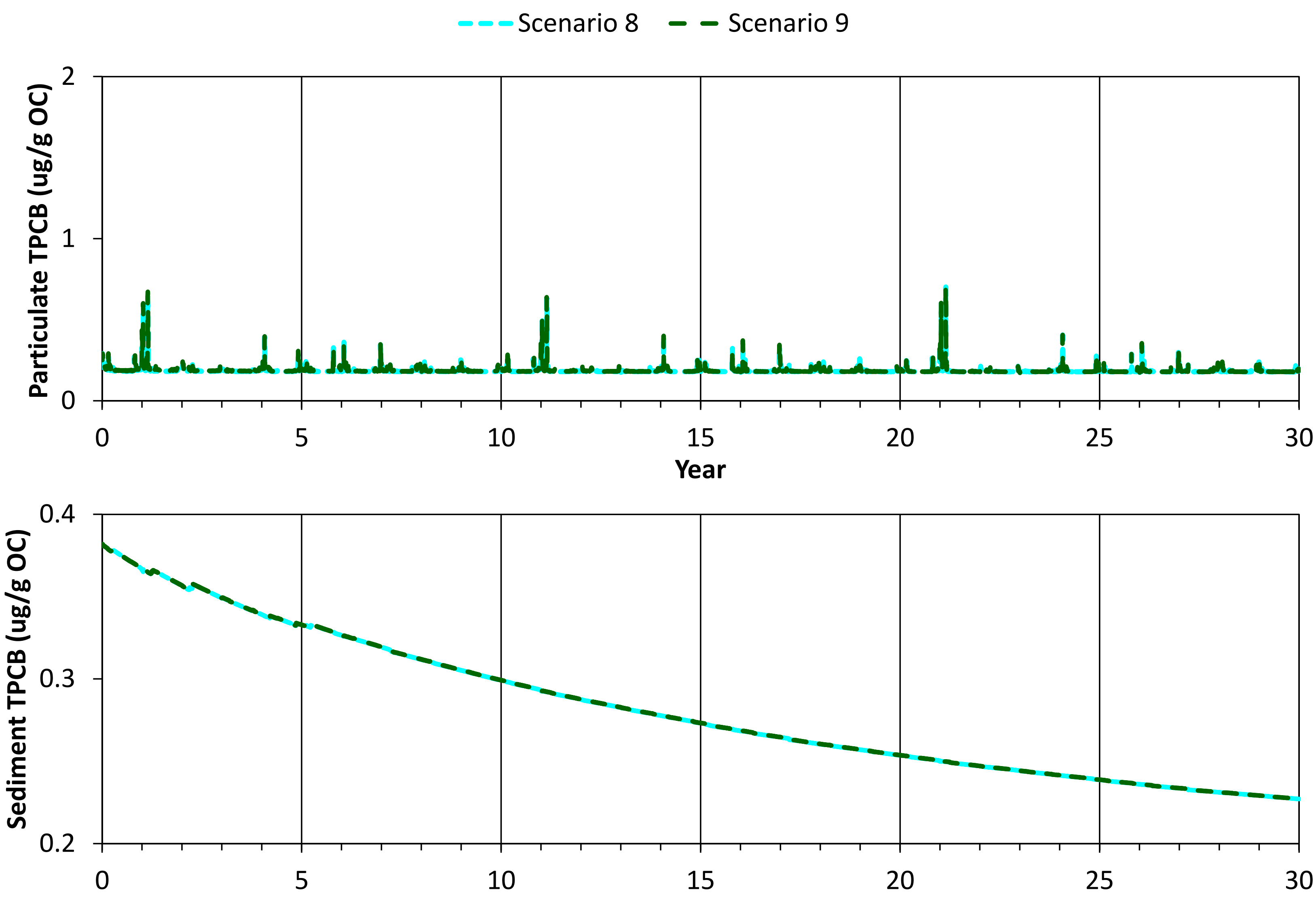


Figure 4.34l Scenario 8 and 9 TPCB Concentrations - Outside Harbor Exposure Area

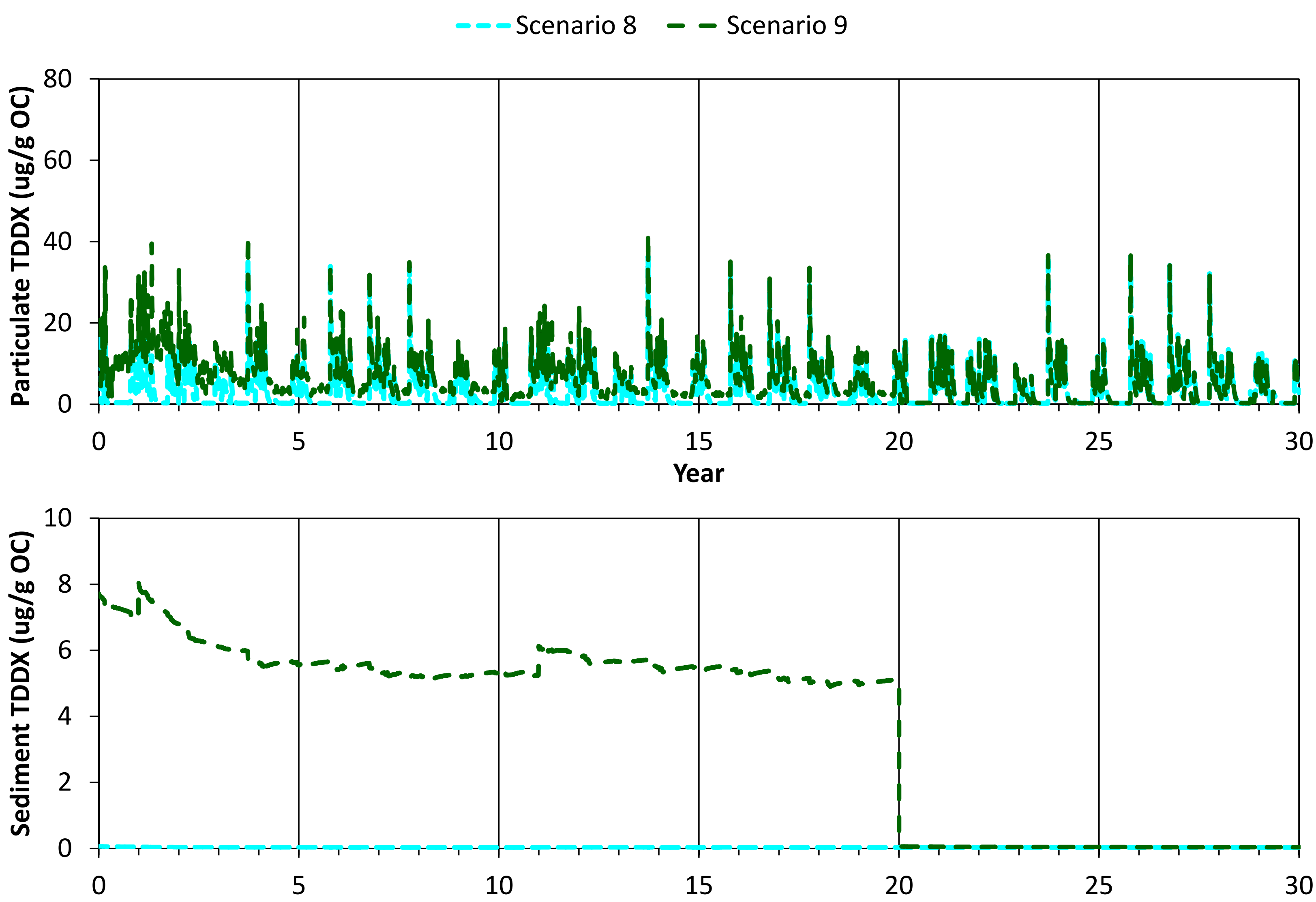


Figure 4.35a Scenario 8 and 9 TDDX Concentrations - Dominguez Channel Estuary

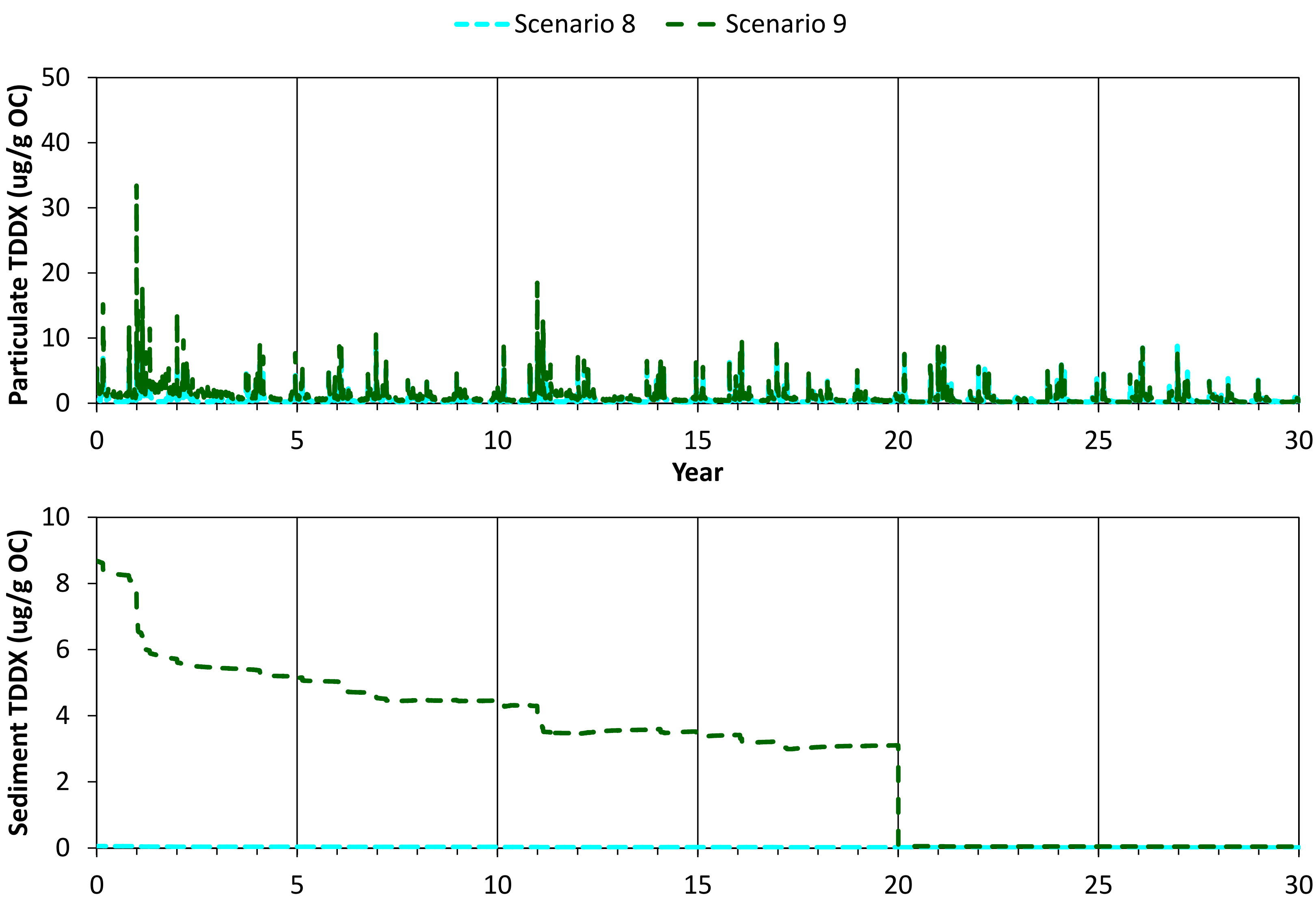


Figure 4.35b Scenario 8 and 9 TDDX Concentrations - Consolidated Slip

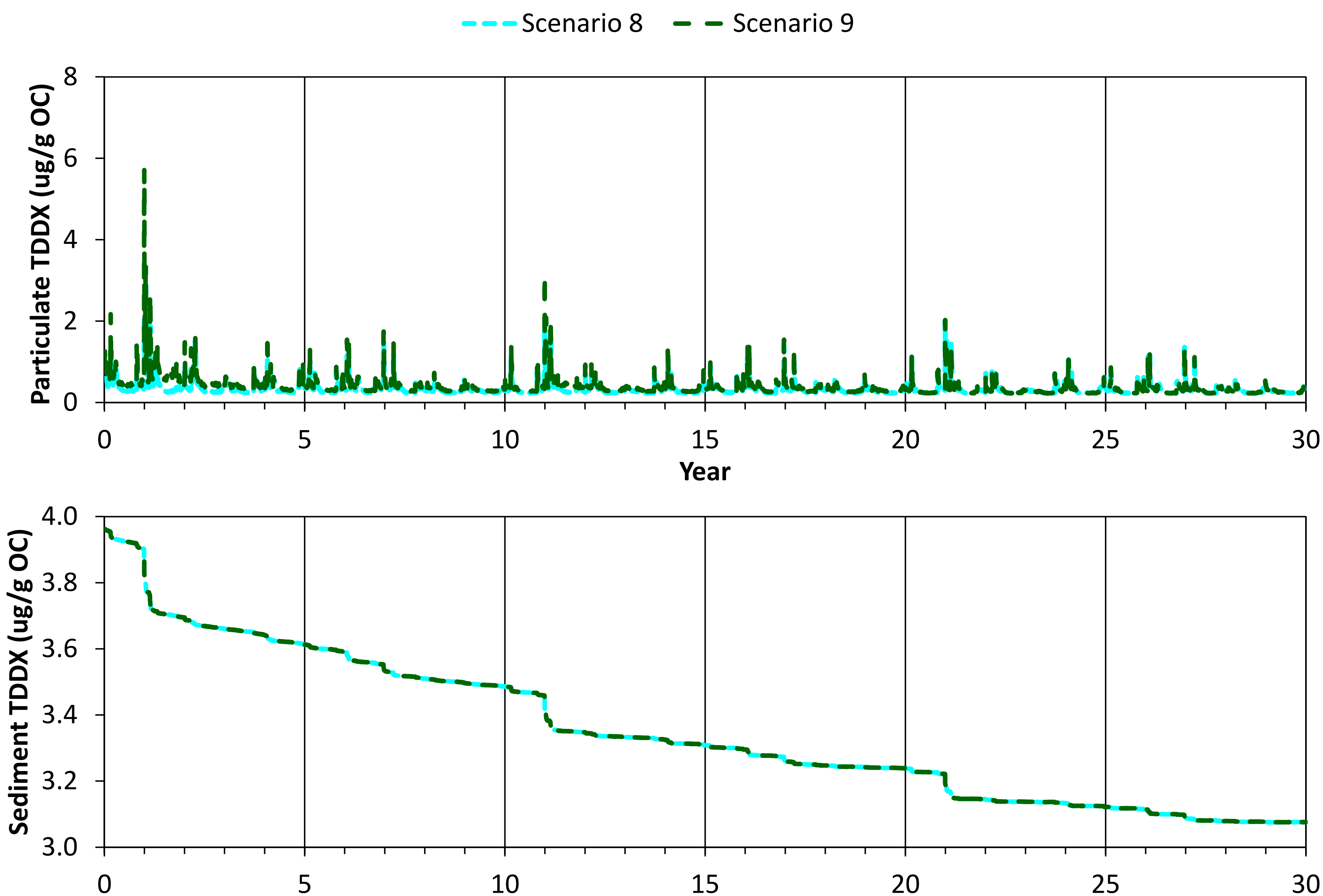


Figure 4.35c Scenario 8 and 9 TDDX Concentrations - LA Inner Harbor

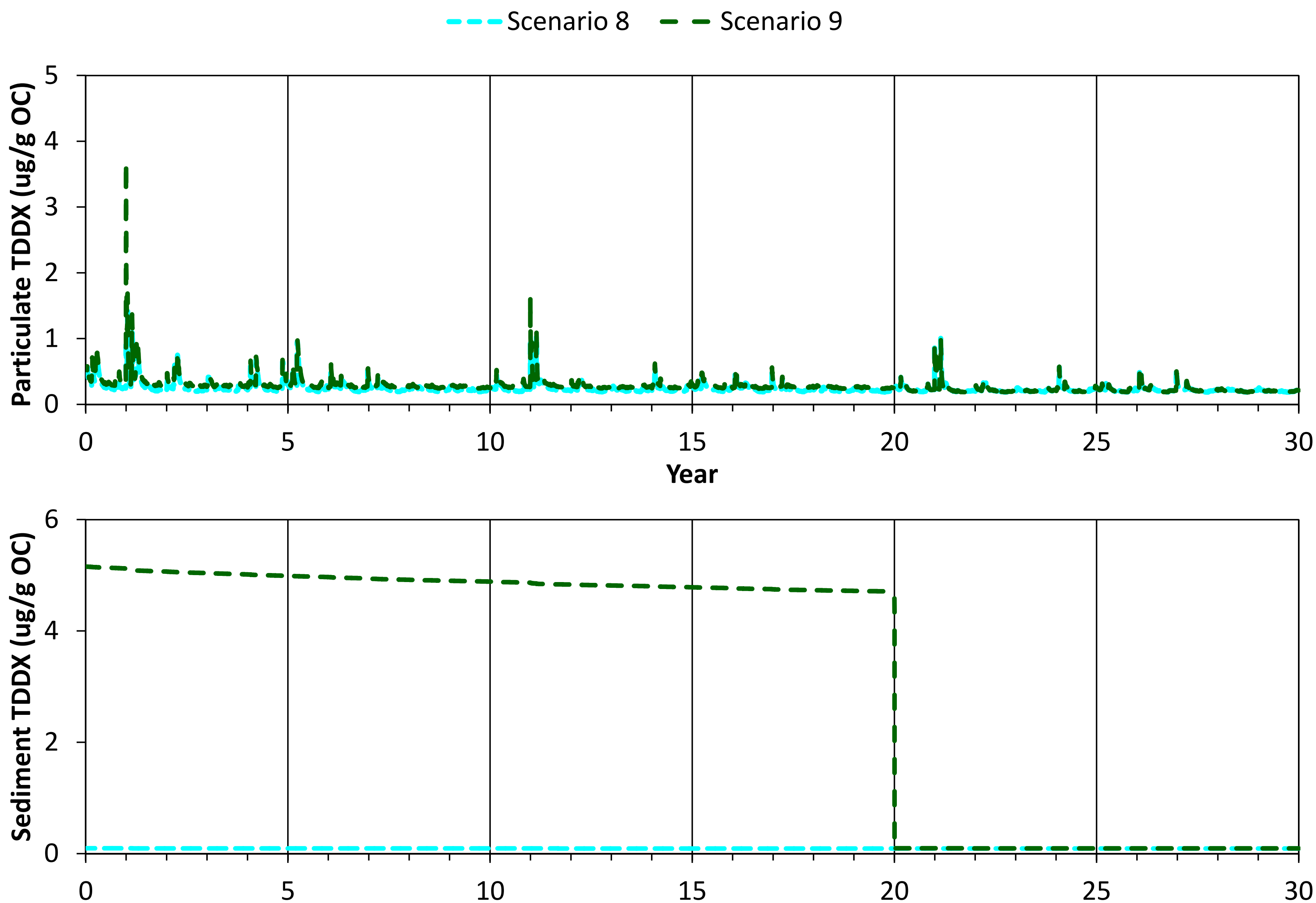


Figure 4.35d Scenario 8 and 9 TDDX Concentrations - Fish Harbor

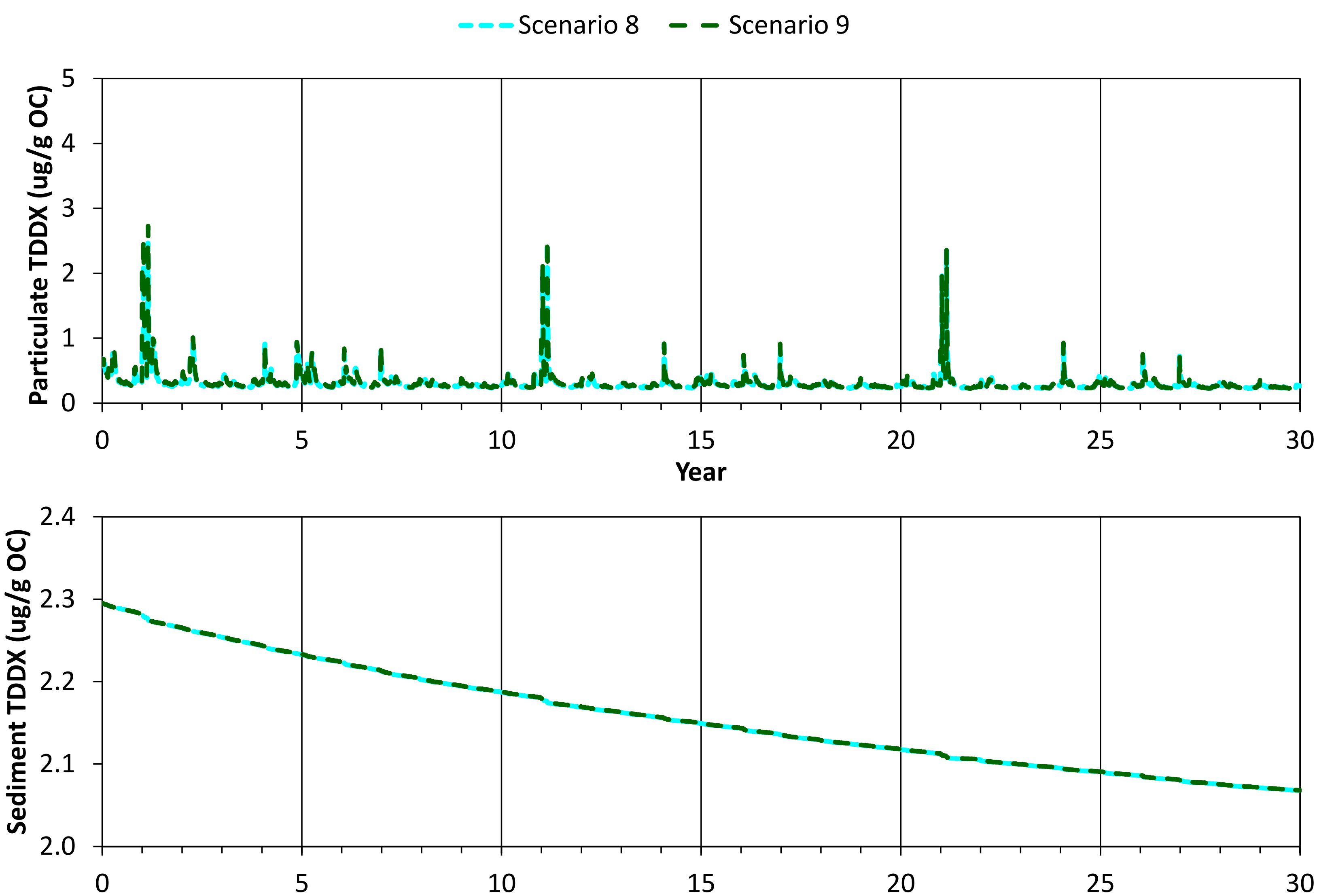


Figure 4.35e Scenario 8 and 9 TDDX Concentrations - Seaplane Lagoon

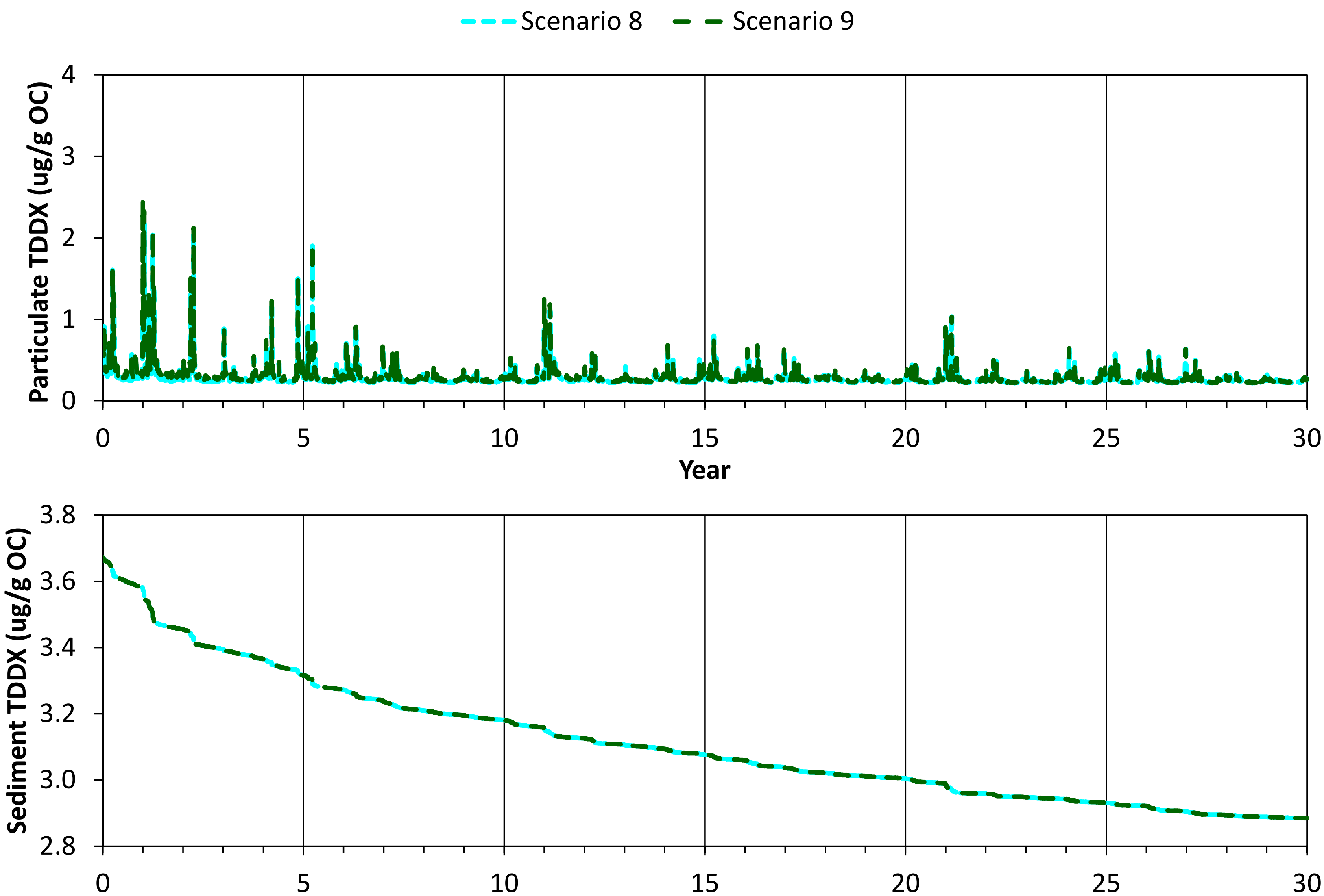


Figure 4.35f Scenario 8 and 9 TDDX Concentrations - LA Outer Harbor

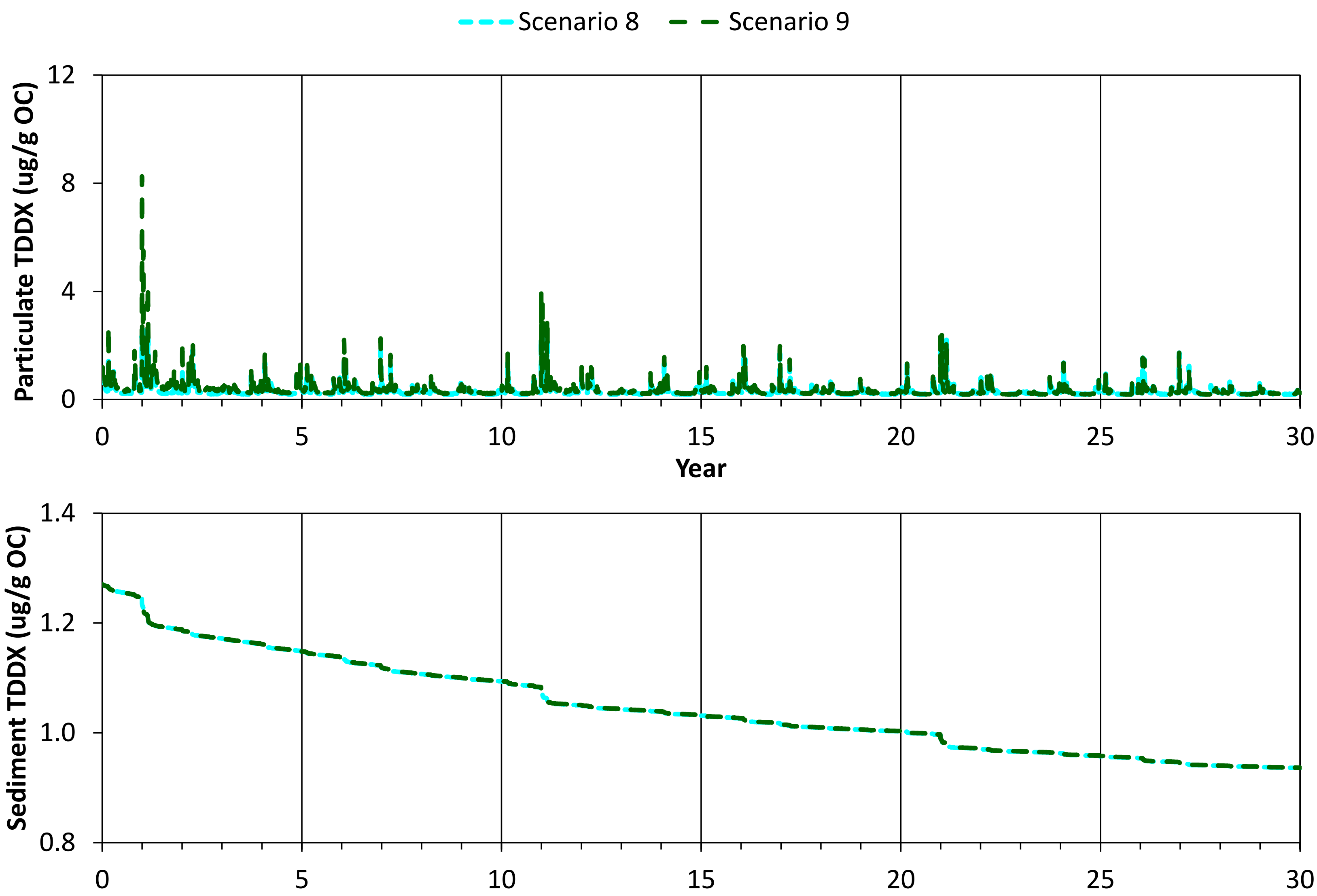


Figure 4.35g Scenario 8 and 9 TDDX Concentrations - LB Inner Harbor North

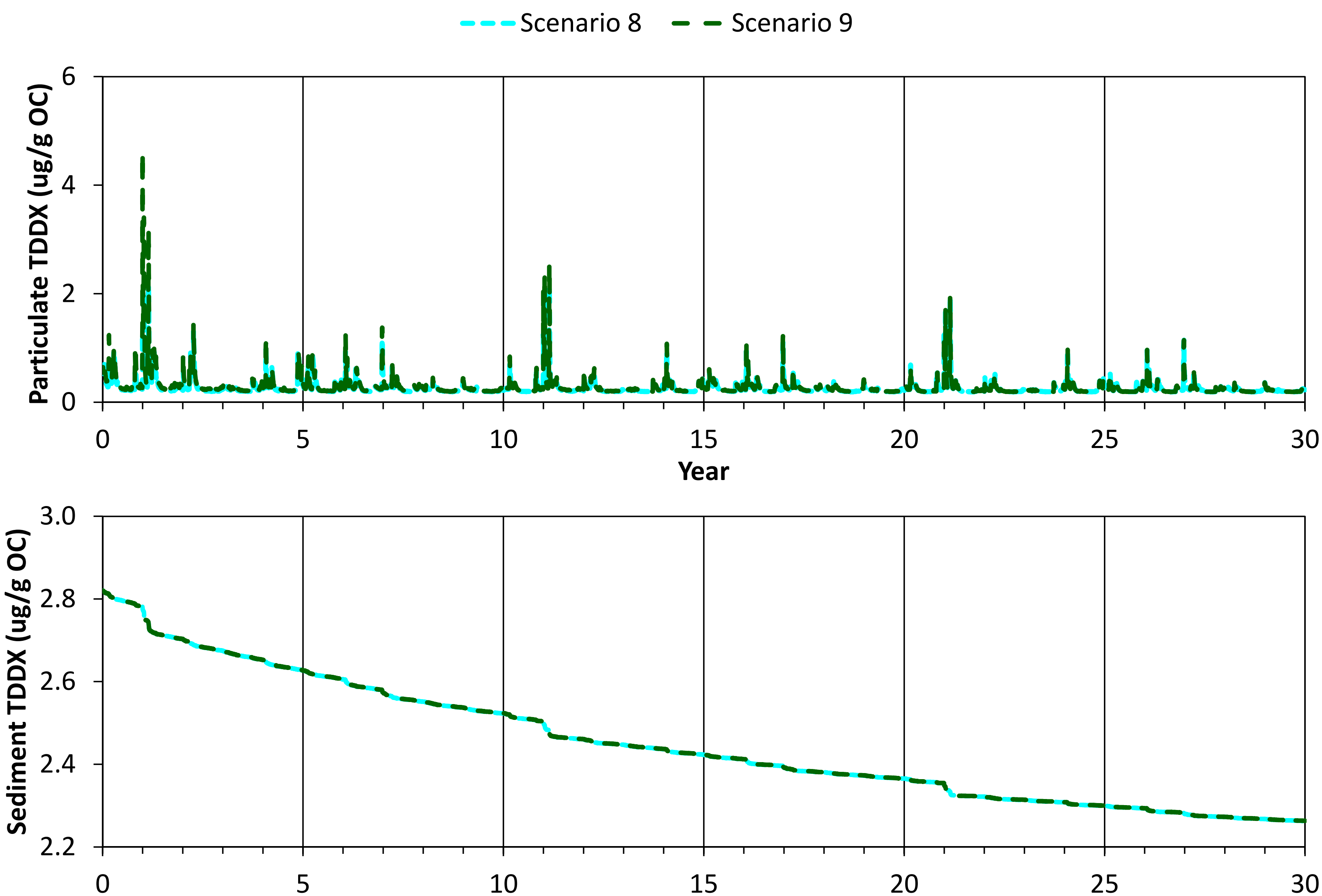


Figure 4.35h Scenario 8 and 9 TDDX Concentrations - LB Inner Harbor South

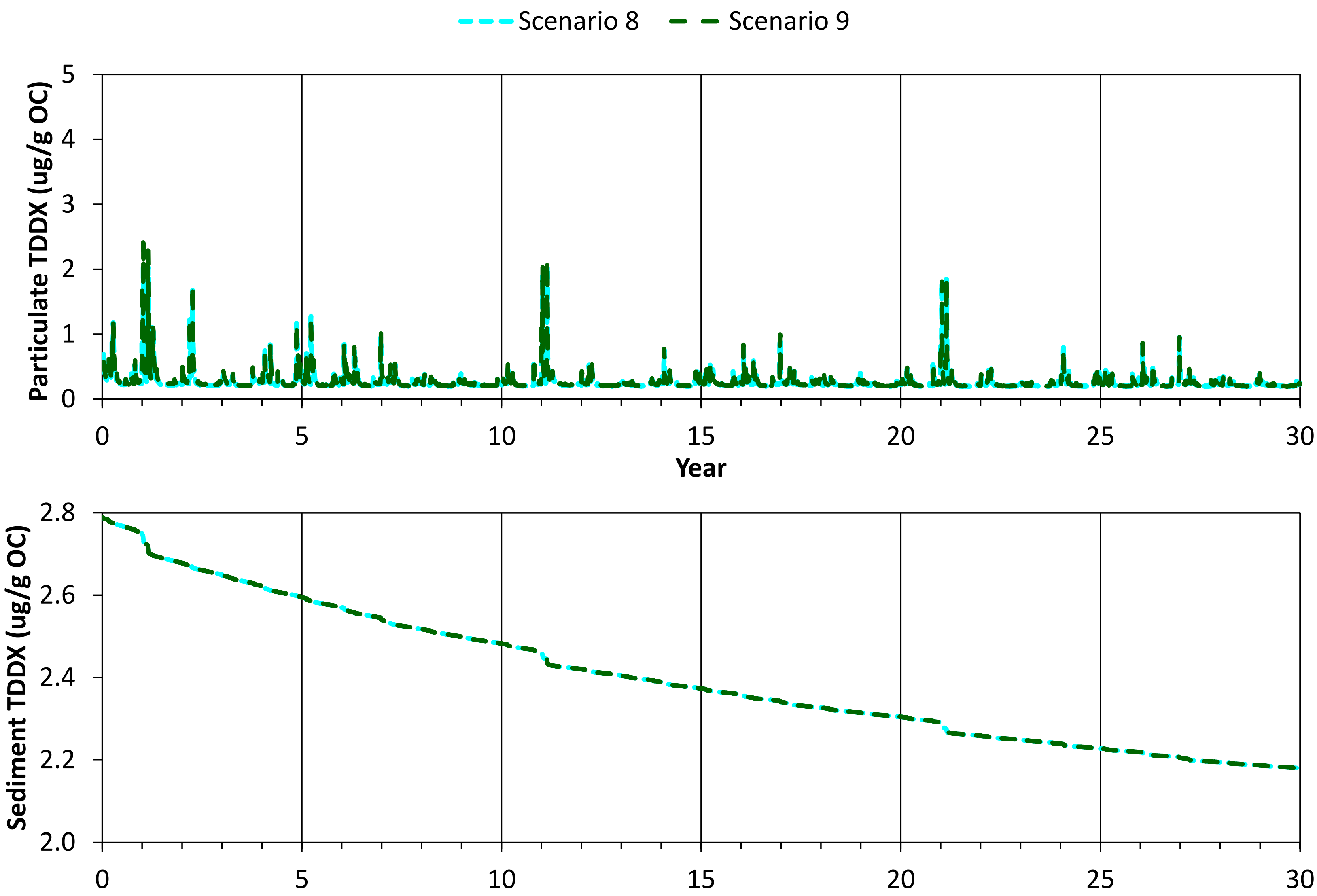


Figure 4.35i Scenario 8 and 9 TDDX Concentrations - LB Outer Harbor

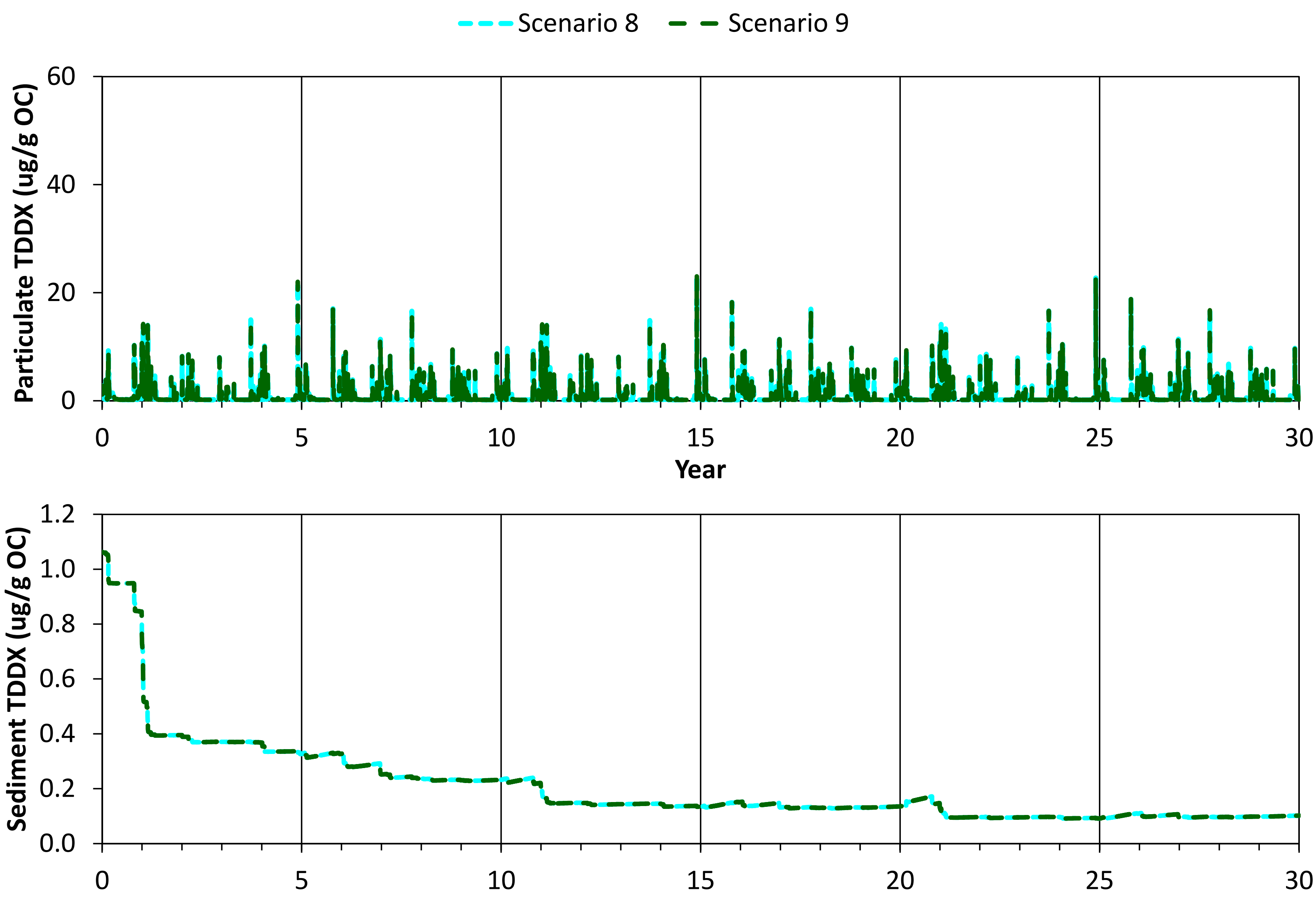


Figure 4.35j Scenario 8 and 9 TDDX Concentrations - Los Angeles River Estuary

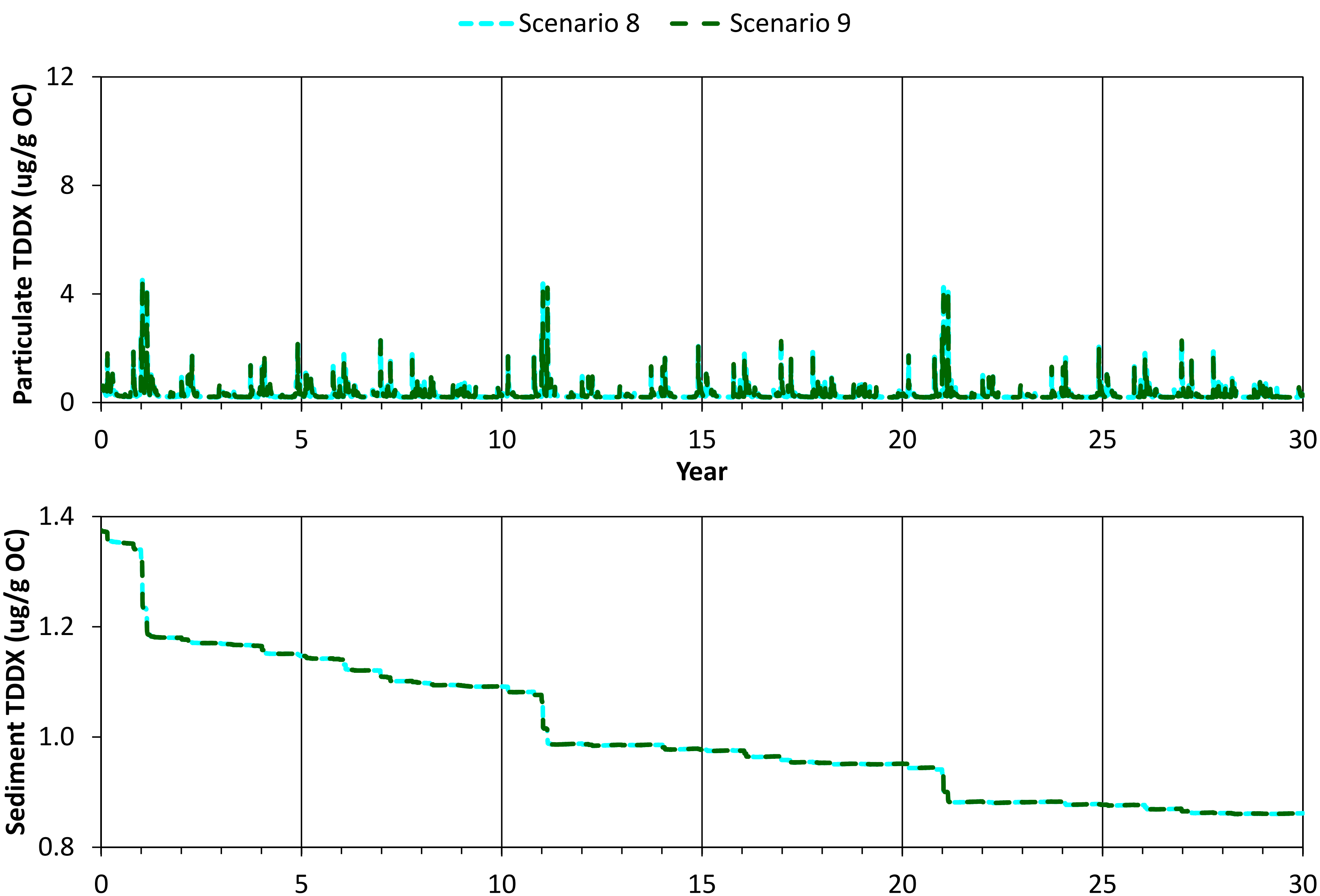


Figure 4.35k Scenario 8 and 9 TDDX Concentrations - Eastern San Pedro Bay

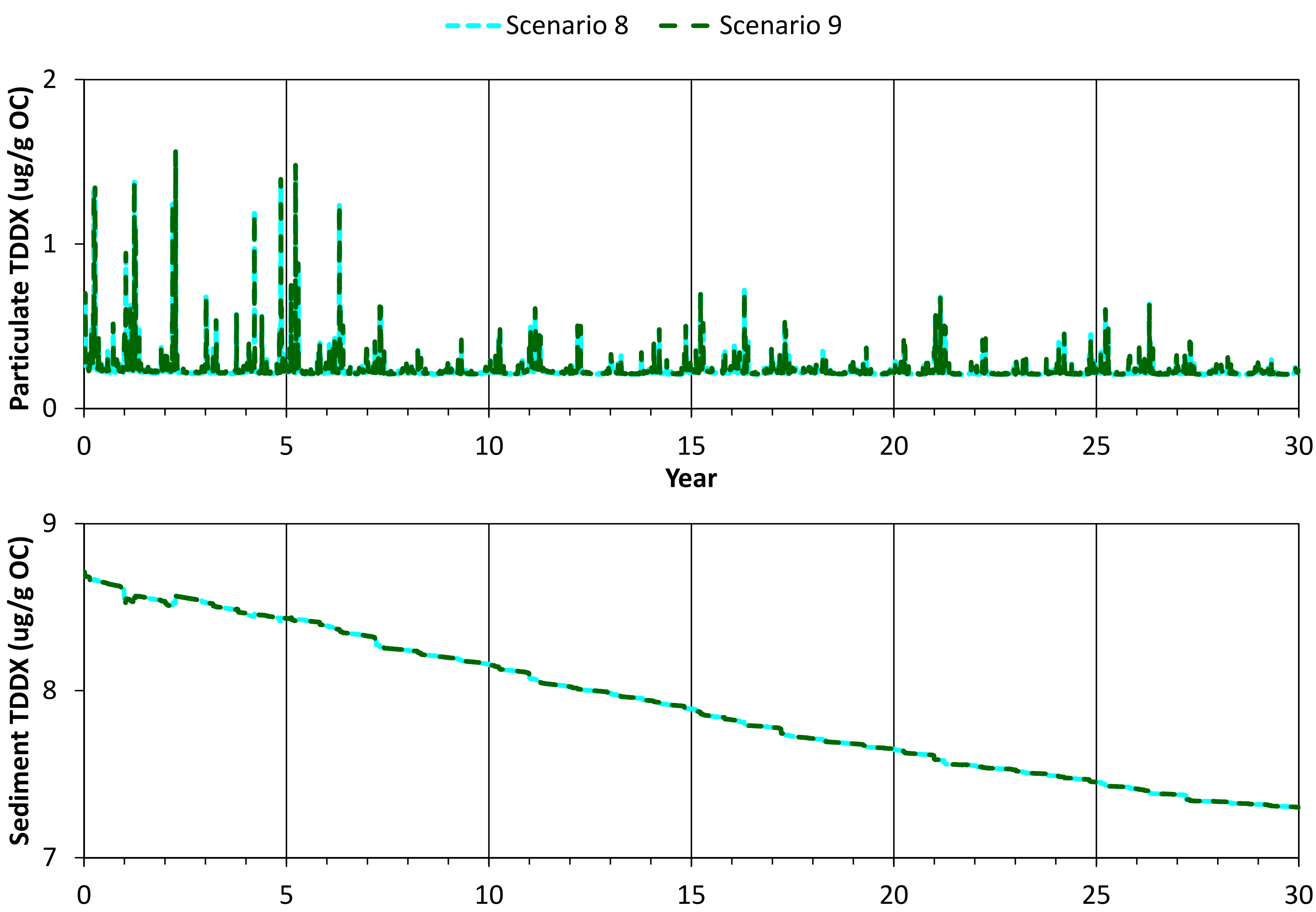


Figure 4.35l Scenario 8 and 9 TDDX Concentrations - Outside Harbor Exposure Area

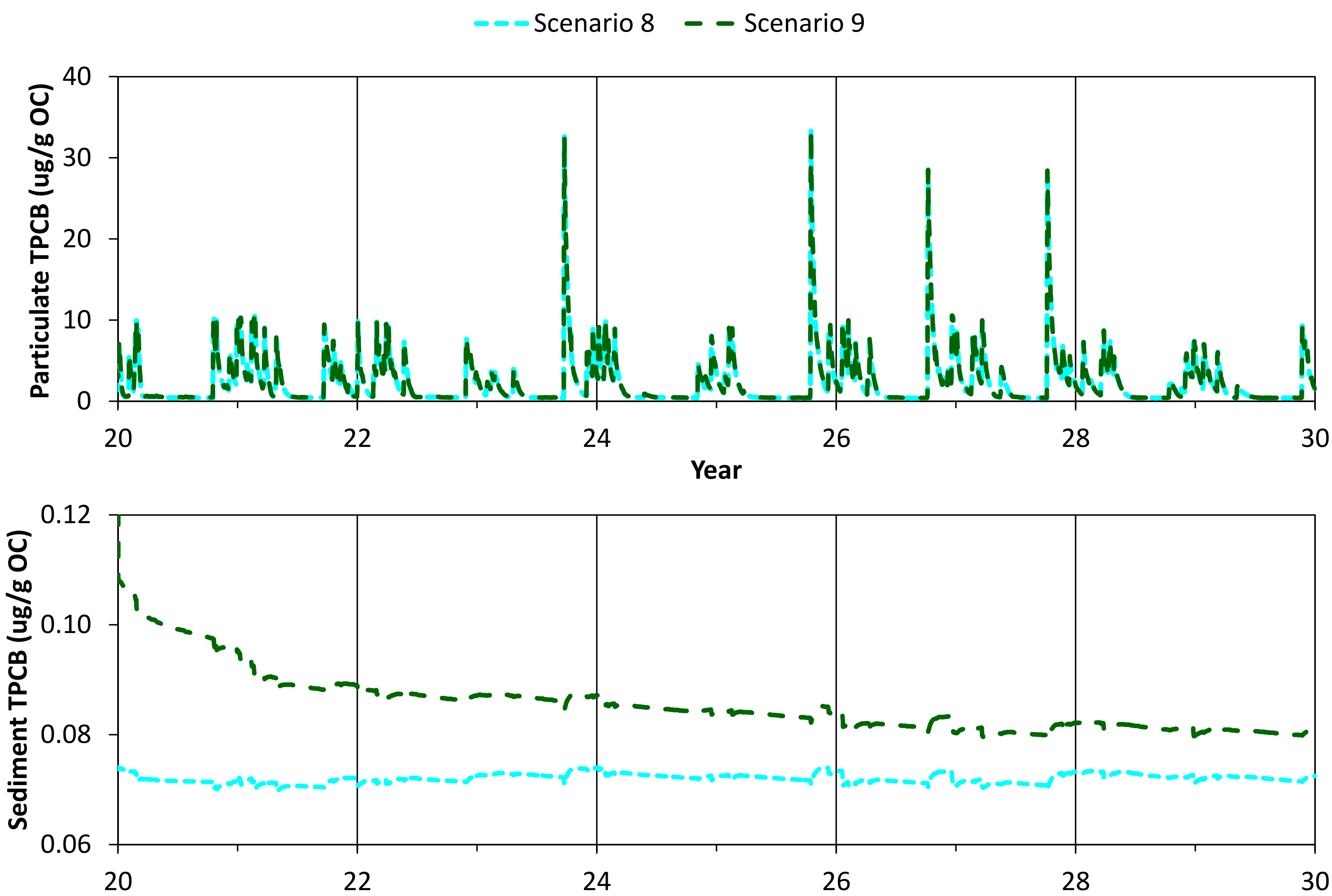


Figure 4.36a Scenario 8 and 9 Year 20-30 TPCB Concentrations - Dominguez Channel Estuary

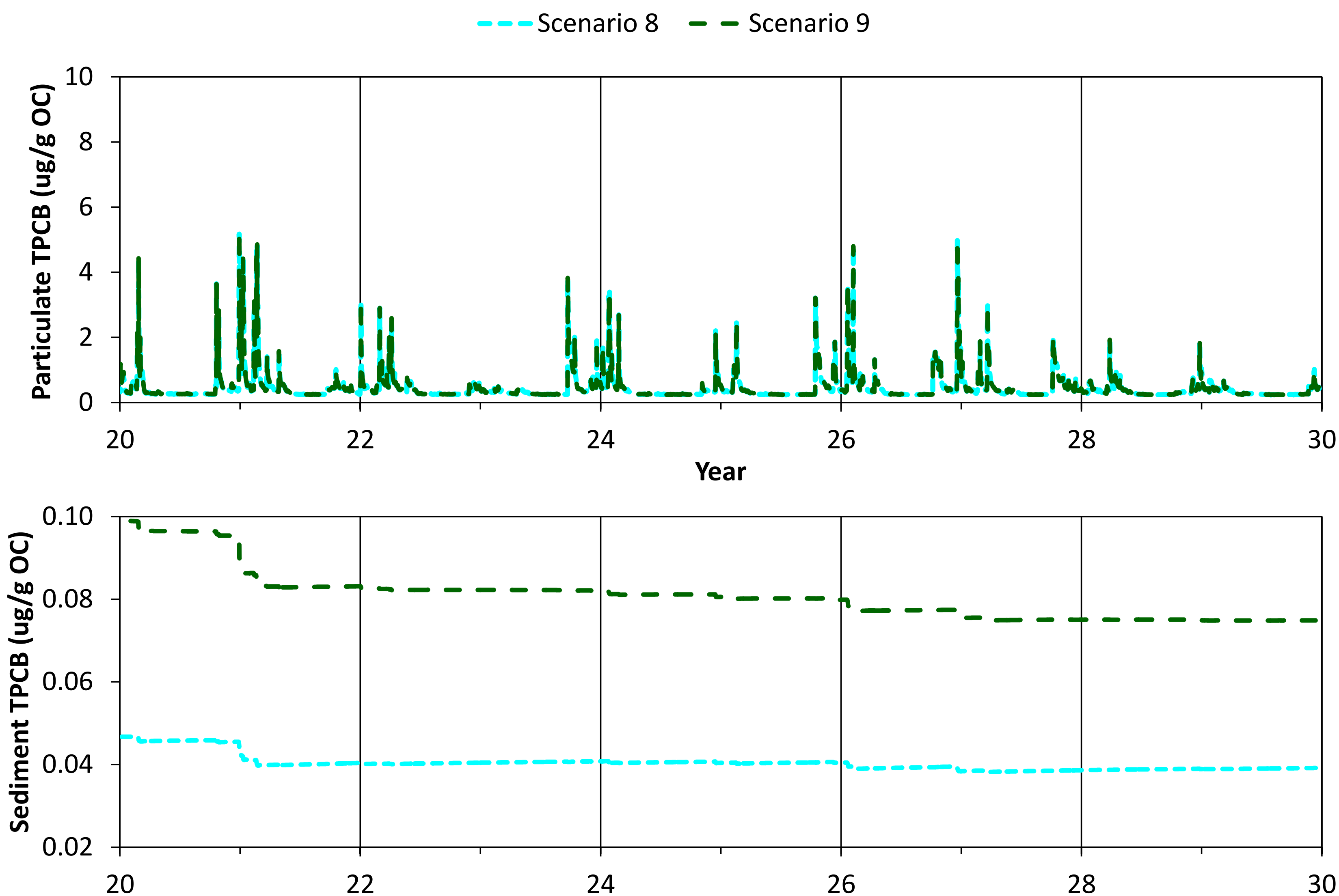


Figure 4.36b Scenario 8 and 9 Year 20-30 TPCB Concentrations - Consolidated Slip

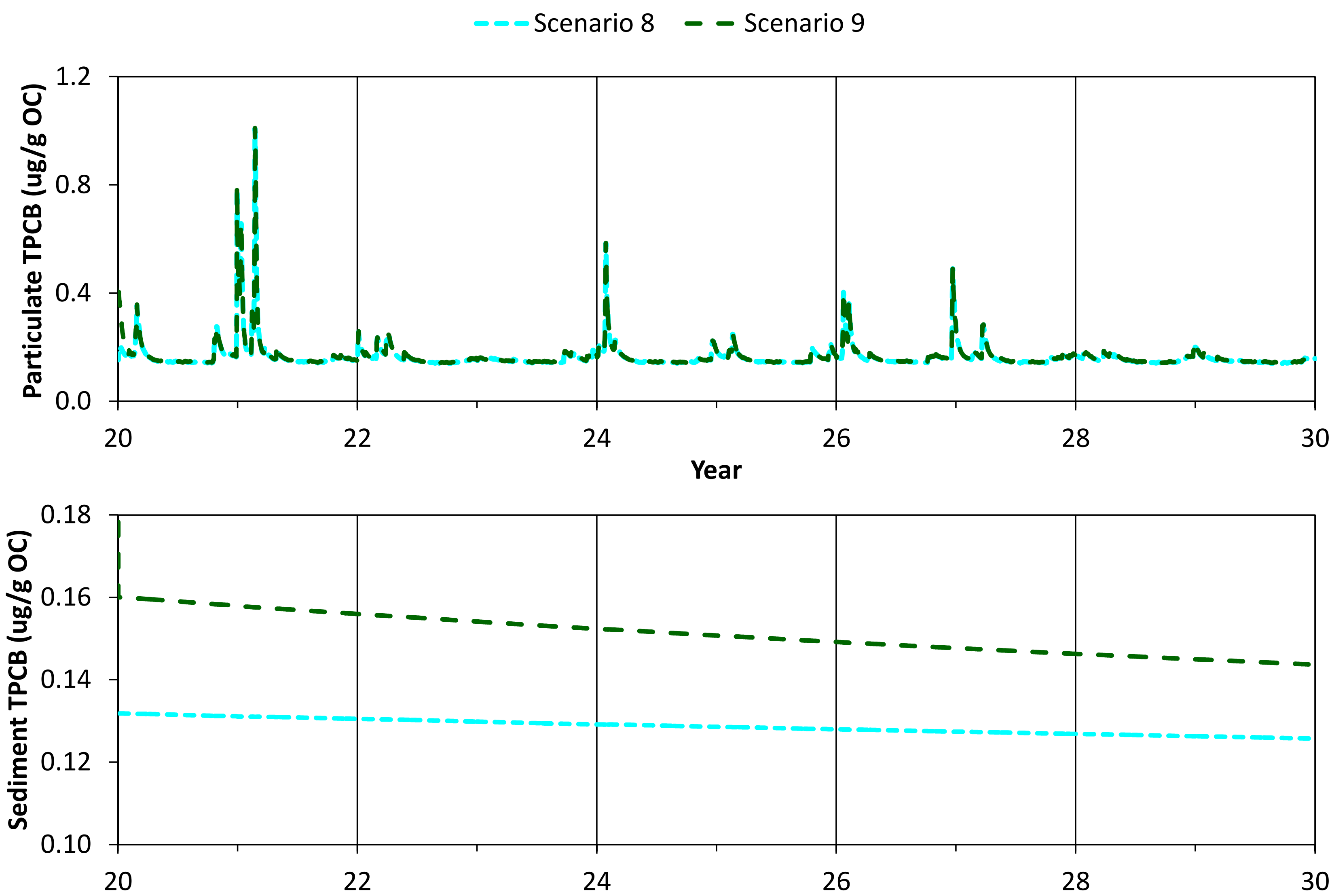


Figure 4.36c Scenario 8 and 9 Year 20-30 TPCB Concentrations - Fish Harbor

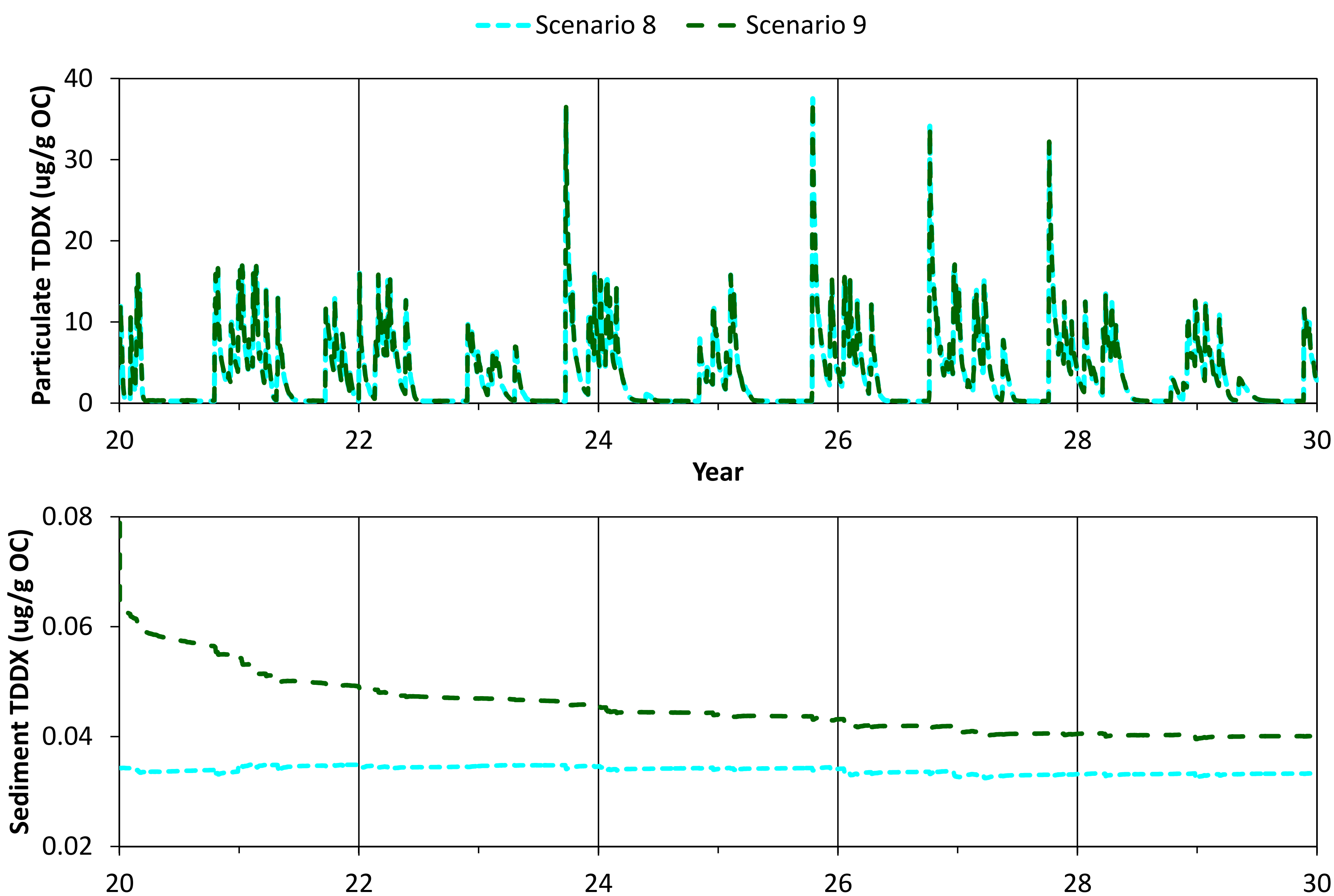


Figure 4.37a Scenario 8 and 9 Year 20-30 TDDX Concentrations - Dominguez Channel Estuary

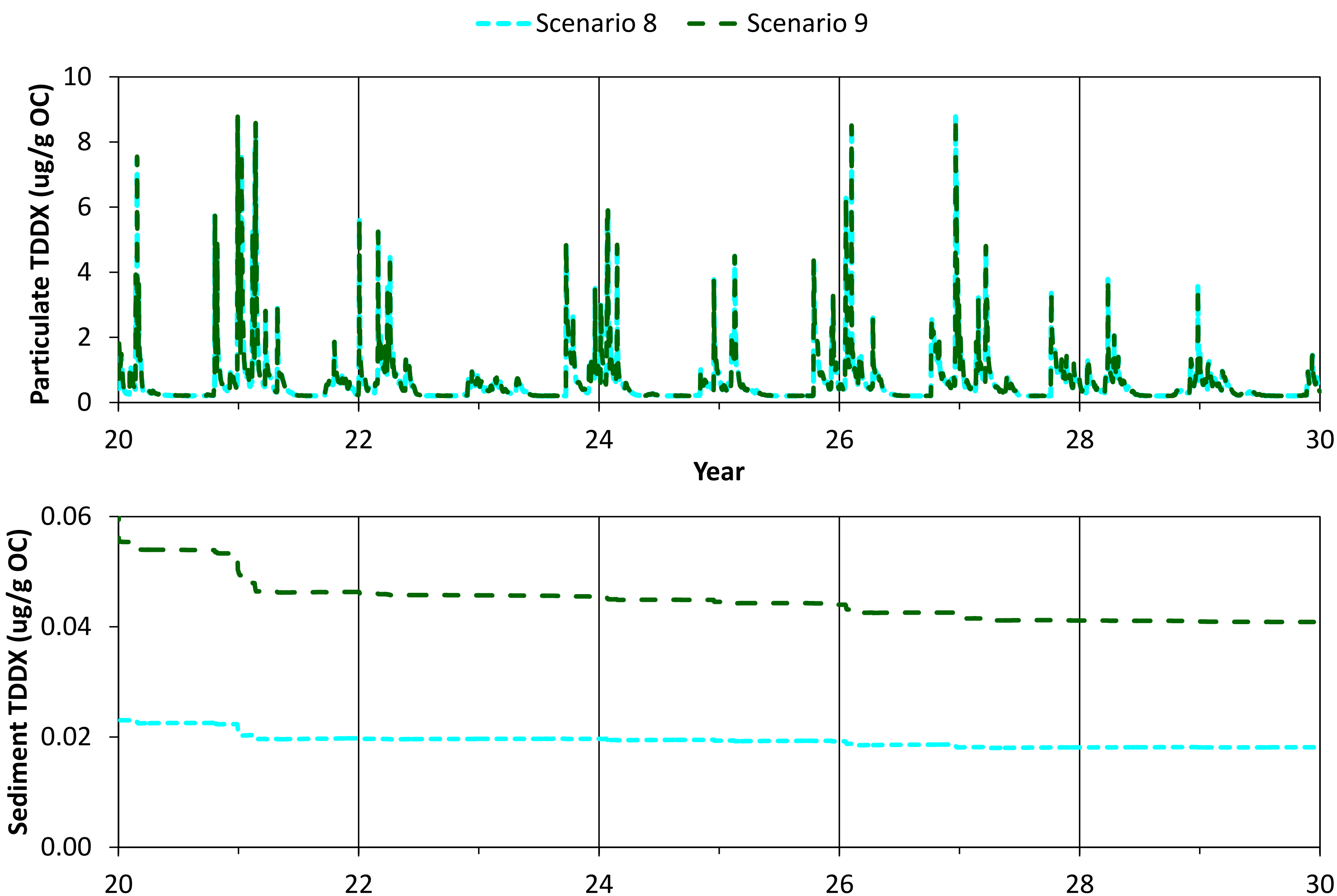


Figure 4.37b Scenario 8 and 9 Year 20-30 TDDX Concentrations - Consolidated Slip

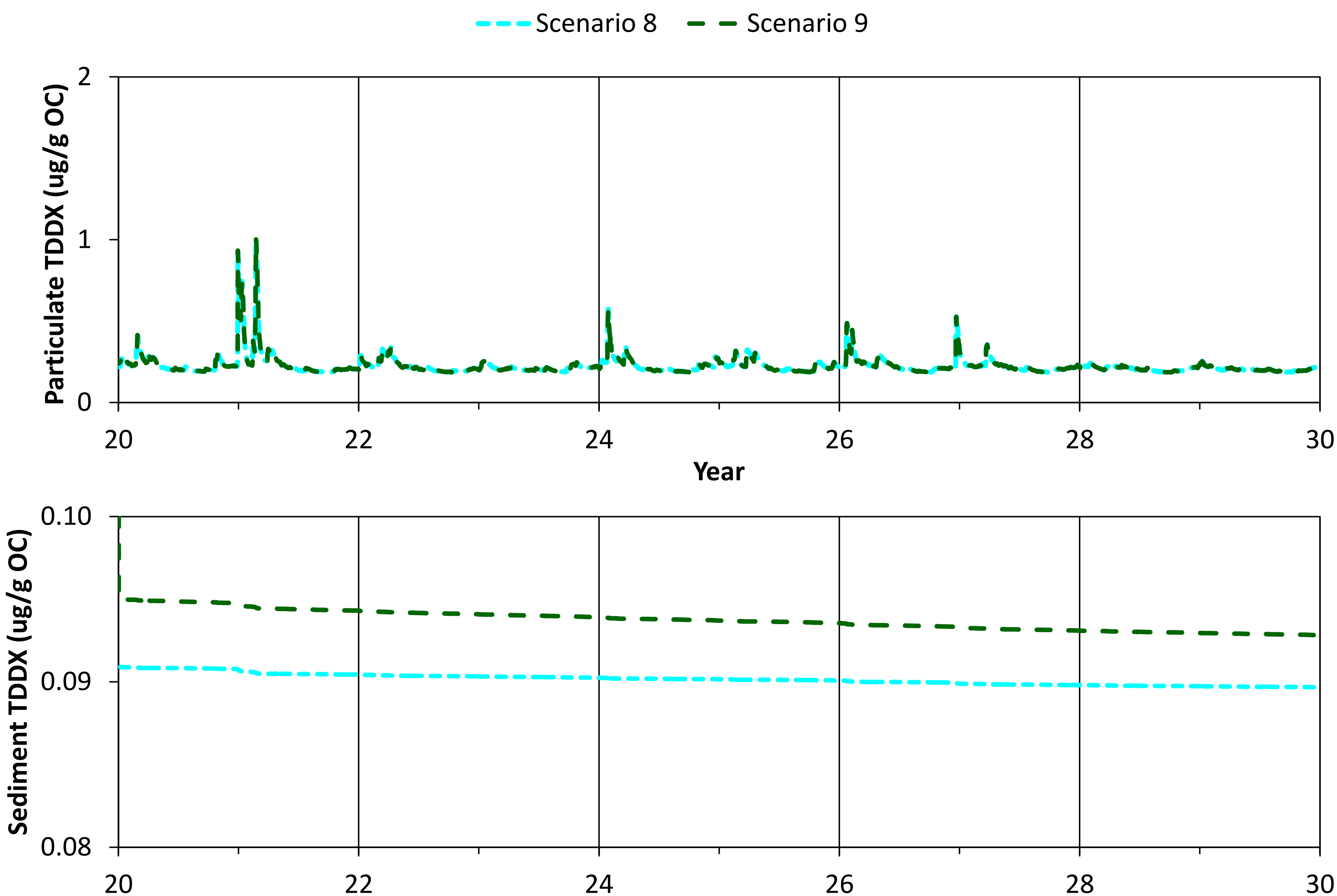


Figure 4.37c Scenario 8 and 9 Year 20-30 TDDX Concentrations - Fish Harbor

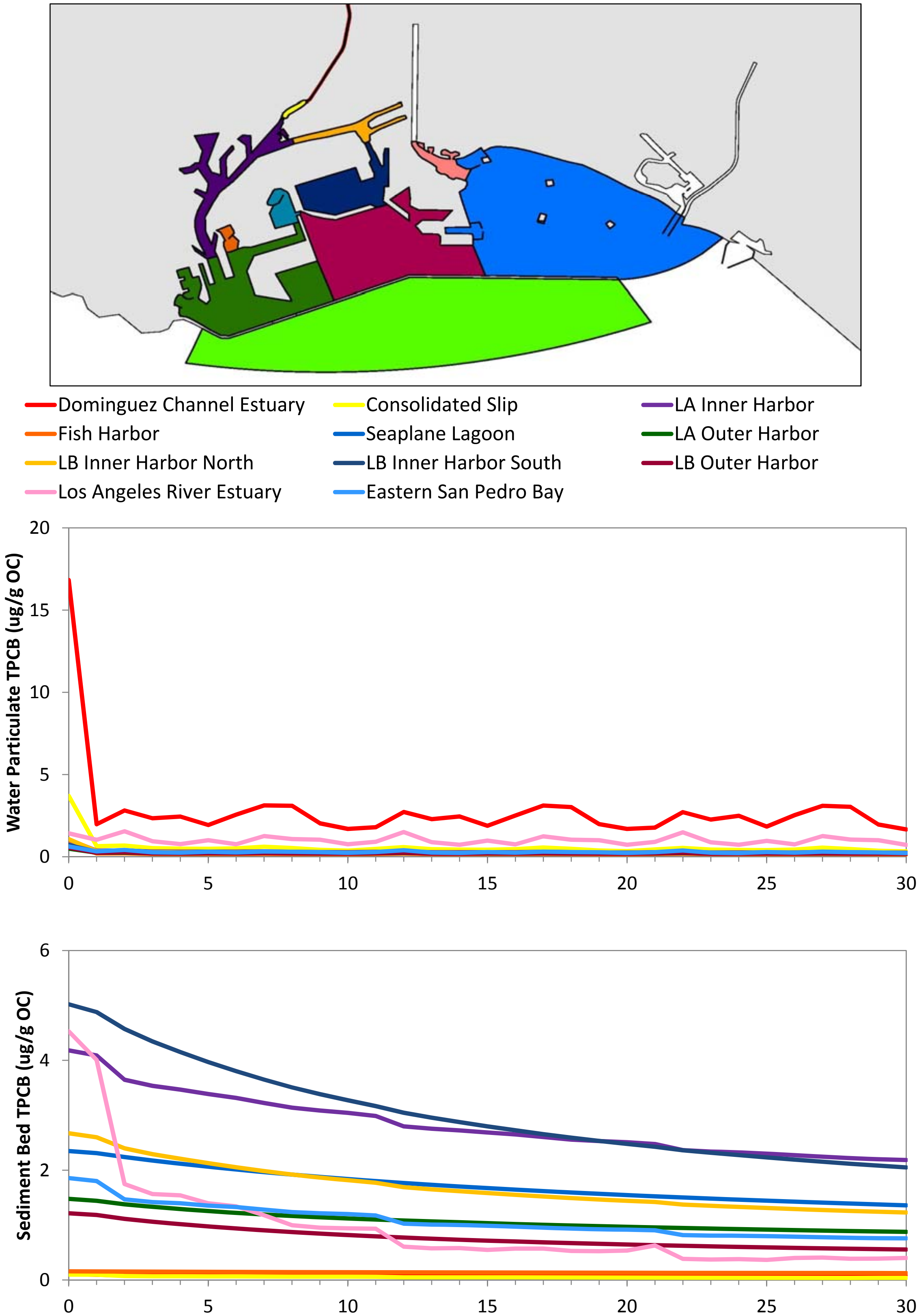


Figure 4.38 Scenario 8 Comparison of Annual TPCB Concentrations

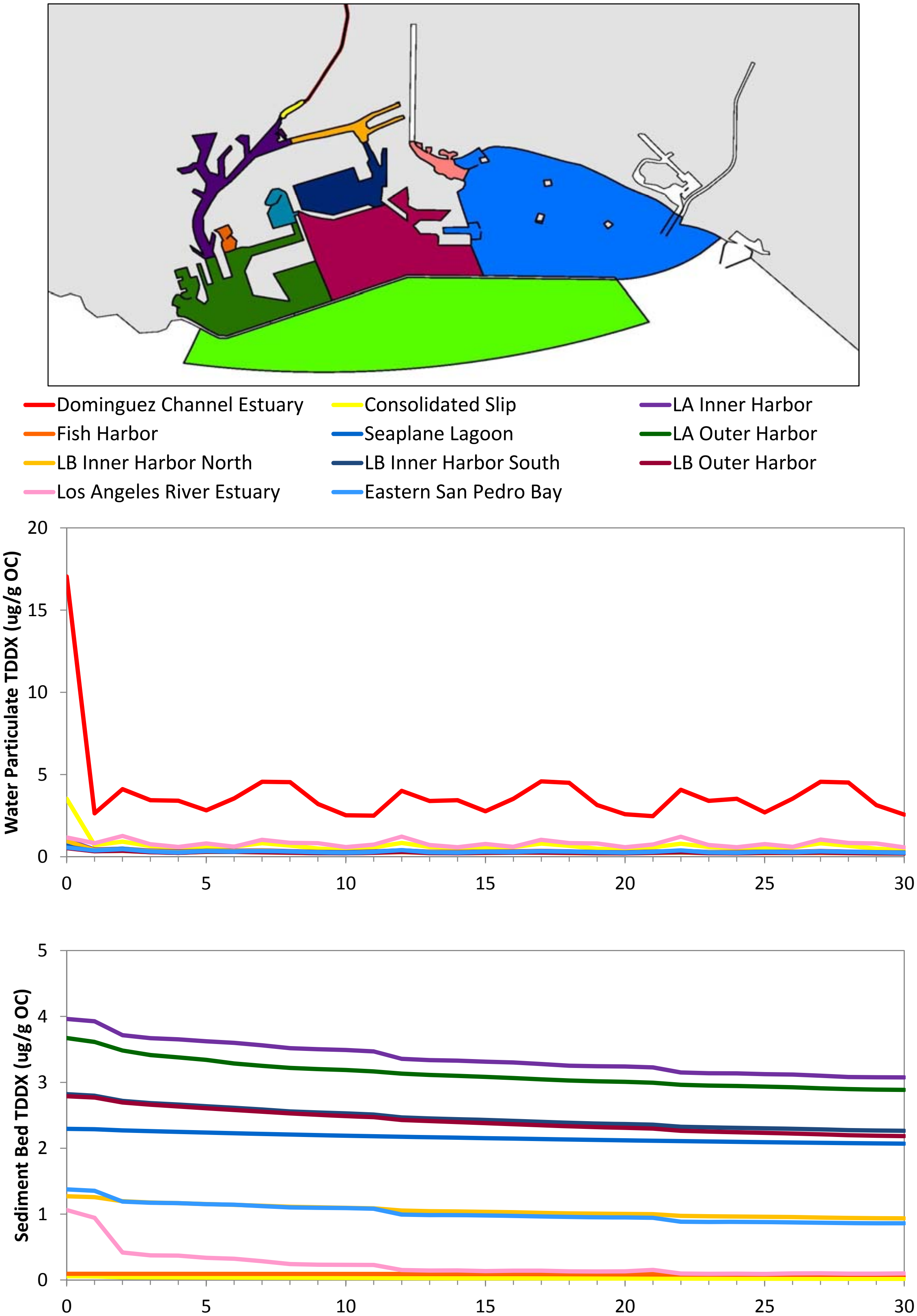


Figure 4.39 Scenario 8 Comparison of Annual TDDX Concentrations

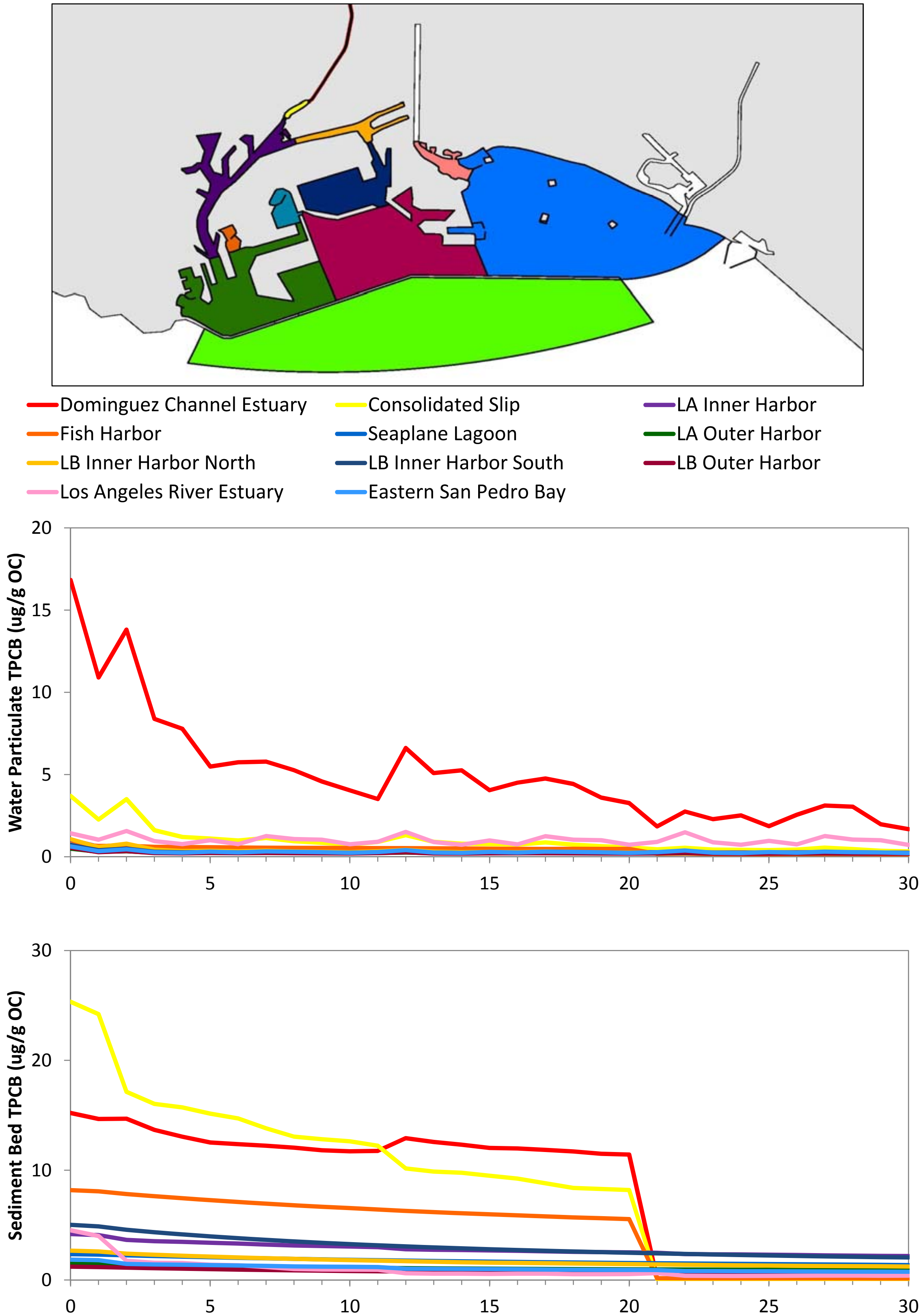


Figure 4.40 Scenario 9 Comparison of Annual TPCB Concentrations

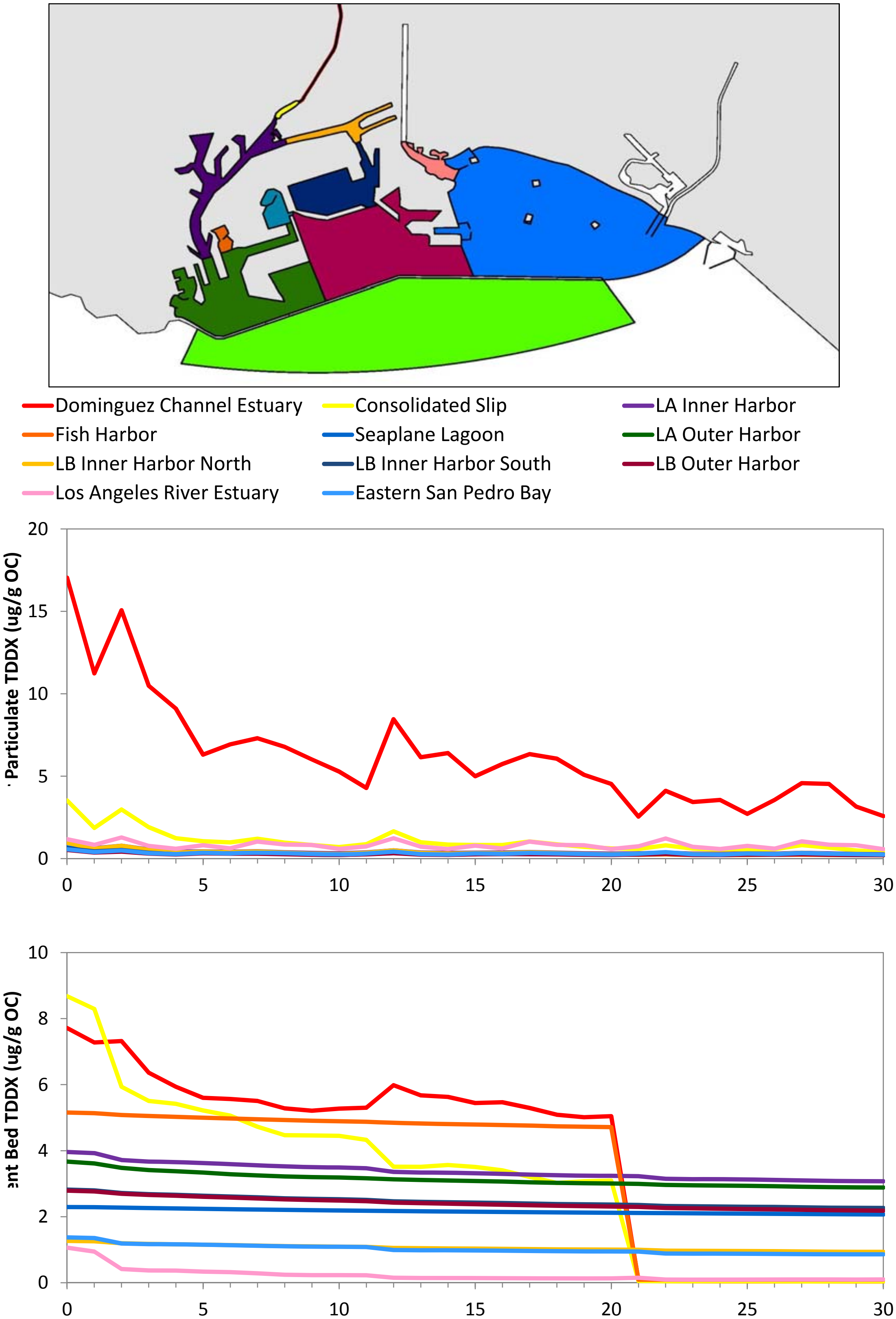


Figure 4.41 Scenario 9 Comparison of Annual TDDX Concentrations

4.6 SUMMARY

Water concentrations fluctuate, with increases typically being associated with wet weather events, due to the increases that occur in watershed loadings and/or resuspension from the bed during such periods. Higher water concentrations occur in proximity to watershed loadings. In general, bed concentrations gradually decline over time, particularly in response to wet weather events. Greater fluctuations in bed concentrations occur in hydrodynamically active areas nearest to watershed loadings.

Water and bed concentrations were determined for the Baseline Scenario and nine TMDL management scenarios. Strategies for source reduction included watershed loadings and/or sediment loading reductions. In general, watershed loading reductions resulted in decreases in water concentrations, which corresponded with proximity to watershed loadings; the greatest decreases in such concentrations occurred in the DC Estuary, CS, and LAR Estuary. Watershed loading reductions resulted in slight decreases in bed concentrations. Overall, sediment loading reductions resulted in decreases in water and bed concentrations, which corresponded to the locations of the sediment loading reductions. Additional details regarding reductions in water and bed concentrations for the TMDL management scenarios are discussed by fish movement zone in Section 5.

The Baseline Scenario Year 1 average concentrations are provided in Table 4.4. These concentrations are based on the daily concentrations during the first year (i.e., time 0 to year 1), which are representative of initial concentrations. Tables 4.5 - 4.13 summarize results of the model scenarios based on the average concentration over the last year (e.g., Year 20). Results of the model scenarios may be compared to the Baseline Scenario Year 1 concentrations to understand reductions in water and bed concentrations that could be achieved under each management scenario. The Baseline Scenario Year 20 average concentrations are shown in Table 4.5, which, when compared with the Baseline Scenario Year 1 average concentrations would indicate reductions in water and bed concentrations due to natural recovery. Comparisons of Baseline Scenario Year 20 average concentrations with the Year 20 concentrations of the TMDL model scenarios would show additional reductions in water and bed concentrations associated with the source reductions. The Year 30 average concentrations for Scenarios 8 and 9 are provided in Tables 4.14 and 4.15, respectively. In general, water concentrations are similar for Scenarios 8 and 9, but bed concentrations are lower for Scenario 8.

Table 4.4 Baseline Scenario Year 1 Average TPCB and TDDX Concentrations

Fish Movement Zone	TPCB			TDDX		
	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)
DC Estuary	14.665	12.556	10.918	7.277	13.599	9.378
Consolidated Slip (CS)	24.209	2.461	2.140	8.293	2.207	1.522
LA Inner Harbor	4.091	0.659	0.573	3.927	0.700	0.483
Fish Harbor (FH)	8.072	0.682	0.593	5.137	0.448	0.309
Seaplane Lagoon	2.312	0.412	0.358	2.288	0.472	0.326
LA Outer Harbor	1.444	0.322	0.280	3.613	0.429	0.296
LB Inner Harbor North	2.599	0.645	0.561	1.256	0.684	0.472
LB Inner Harbor South	4.880	0.435	0.378	2.797	0.480	0.331
LB Outer Harbor	1.184	0.314	0.273	2.769	0.402	0.277
LAR Estuary	4.007	1.778	1.546	0.945	1.417	0.977
Eastern San Pedro Bay	1.803	0.448	0.389	1.354	0.490	0.338
Outside Harbor Exposure Area	0.374	0.208	0.181	8.648	0.289	0.199

Year 1 average concentrations determined as average over first year

Table 4.5 Baseline Scenario Year 20 Average TPCB and TDDX Concentrations

Fish Movement Zone	TPCB			TDDX		
	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)
DC Estuary	11.439	4.857	4.224	5.050	7.037	4.853
Consolidated Slip (CS)	8.196	0.681	0.592	3.094	0.830	0.572
LA Inner Harbor	2.515	0.313	0.272	3.241	0.338	0.233
Fish Harbor (FH)	5.552	0.486	0.422	4.714	0.261	0.180
Seaplane Lagoon	1.556	0.258	0.224	2.122	0.273	0.188
LA Outer Harbor	0.974	0.218	0.190	3.008	0.261	0.180
LB Inner Harbor North	1.451	0.271	0.236	1.005	0.296	0.204
LB Inner Harbor South	2.487	0.231	0.201	2.369	0.237	0.164
LB Outer Harbor	0.652	0.205	0.178	2.310	0.235	0.162
LAR Estuary	0.547	1.322	1.149	0.135	1.021	0.704
Eastern San Pedro Bay	0.925	0.301	0.262	0.951	0.303	0.209
Outside Harbor Exposure Area	0.256	0.185	0.161	8.145	0.221	0.153

Year 20 average concentrations determined as average over last year

Table 4.6 Scenario 1 Year 20 Average TPCB and TDDX Concentrations

Fish Movement Zone	TPCB			TDDX		
	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)
DC Estuary	11.397	1.678	1.459	5.044	2.037	1.405
Consolidated Slip (CS)	8.189	0.477	0.415	3.092	0.412	0.284
LA Inner Harbor	2.510	0.273	0.237	3.240	0.272	0.187
Fish Harbor (FH)	5.546	0.473	0.411	4.714	0.250	0.173
Seaplane Lagoon	1.542	0.236	0.206	2.119	0.252	0.174
LA Outer Harbor	0.970	0.205	0.178	3.008	0.243	0.168
LB Inner Harbor North	1.444	0.232	0.202	1.004	0.233	0.161
LB Inner Harbor South	2.478	0.211	0.184	2.368	0.210	0.145
LB Outer Harbor	0.646	0.183	0.159	2.309	0.212	0.146
LAR Estuary	0.526	0.154	0.134	0.131	0.147	0.101
Eastern San Pedro Bay	0.913	0.176	0.153	0.950	0.200	0.138
Outside Harbor Exposure Area	0.255	0.180	0.157	7.664	0.216	0.149

Year 20 average concentrations determined as average over last year

Table 4.7 Scenario 2 Year 20 Average TPCB and TDDX Concentrations

Fish Movement Zone	TPCB			TDDX		
	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)
DC Estuary	11.418	3.267	2.841	5.047	4.536	3.128
Consolidated Slip (CS)	8.195	0.579	0.503	3.093	0.620	0.427
LA Inner Harbor	2.513	0.293	0.255	3.240	0.305	0.210
Fish Harbor (FH)	5.549	0.479	0.417	4.714	0.256	0.176
Seaplane Lagoon	1.549	0.247	0.215	2.121	0.263	0.181
LA Outer Harbor	0.972	0.211	0.184	3.008	0.252	0.174
LB Inner Harbor North	1.448	0.251	0.219	1.005	0.265	0.182
LB Inner Harbor South	2.483	0.221	0.192	2.369	0.224	0.154
LB Outer Harbor	0.649	0.194	0.169	2.309	0.224	0.154
LAR Estuary	0.537	0.737	0.641	0.133	0.583	0.402
Eastern San Pedro Bay	0.919	0.238	0.207	0.951	0.252	0.174
Outside Harbor Exposure Area	0.255	0.183	0.159	7.664	0.218	0.151

Year 20 average concentrations determined as average over last year

Table 4.8 Scenario 3 Year 20 Average TPCB and TDDX Concentrations

Fish Movement Zone	TPCB			TDDX		
	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)
DC Estuary	11.439	4.757	4.136	5.050	7.001	4.828
Consolidated Slip (CS)	0.0511	0.467	0.406	0.0246	0.778	0.537
LA Inner Harbor	0.121	0.224	0.195	0.0782	0.308	0.212
Fish Harbor (FH)	0.134	0.151	0.131	0.0909	0.201	0.138
Seaplane Lagoon	0.307	0.175	0.153	0.255	0.236	0.163
LA Outer Harbor	0.134	0.193	0.168	0.118	0.248	0.171
LB Inner Harbor North	0.117	0.205	0.178	0.0983	0.277	0.191
LB Inner Harbor South	0.216	0.177	0.154	0.217	0.225	0.155
LB Outer Harbor	0.138	0.184	0.160	0.206	0.226	0.156
LAR Estuary	0.0344	1.286	1.118	0.0123	1.015	0.700
Eastern San Pedro Bay	0.128	0.281	0.244	0.0870	0.297	0.205
Outside Harbor Exposure Area	0.255	0.183	0.159	7.664	0.220	0.152

Year 20 average concentrations determined as average over last year

Table 4.9 Scenario 4 Year 20 Average TPCB and TDDX Concentrations

Fish Movement Zone	TPCB			TDDX		
	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)
DC Estuary	0.0528	0.172	0.150	0.0312	0.124	0.0858
Consolidated Slip (CS)	8.186	0.365	0.318	3.092	0.242	0.167
LA Inner Harbor	2.508	0.259	0.225	3.240	0.249	0.172
Fish Harbor	5.545	0.471	0.410	4.714	0.248	0.171
Seaplane Lagoon	1.540	0.235	0.204	2.118	0.250	0.172
LA Outer Harbor	0.969	0.202	0.176	3.008	0.239	0.165
LB Inner Harbor North	1.441	0.219	0.191	1.003	0.214	0.147
LB Inner Harbor South	2.476	0.207	0.180	2.368	0.205	0.141
LB Outer Harbor	0.645	0.181	0.158	2.309	0.210	0.145
LAR Estuary	0.526	0.154	0.134	0.131	0.146	0.101
Eastern San Pedro Bay	0.913	0.175	0.152	0.950	0.199	0.137
Outside Harbor Exposure Area	0.255	0.180	0.156	7.664	0.215	0.148

Year 20 average concentrations determined as average over last year

Table 4.10 Scenario 5 Year 20 Average TPCB and TDDX Concentrations

Fish Movement Zone	TPCB			TDDX		
	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)
DC Estuary	0.0526	0.109	0.0946	0.0312	0.0963	0.0664
Consolidated Slip (CS)	0.0436	0.249	0.216	0.0222	0.211	0.145
LA Inner Harbor	2.506	0.242	0.210	3.240	0.245	0.169
Fish Harbor (FH)	0.130	0.147	0.128	0.0906	0.204	0.141
Seaplane Lagoon	1.539	0.231	0.201	2.118	0.249	0.172
LA Outer Harbor	0.968	0.197	0.171	3.008	0.238	0.164
LB Inner Harbor North	1.440	0.207	0.180	1.003	0.209	0.144
LB Inner Harbor South	2.475	0.204	0.178	2.367	0.204	0.141
LB Outer Harbor	0.644	0.179	0.156	2.309	0.209	0.144
LAR Estuary	0.526	0.153	0.133	0.131	0.146	0.100
Eastern San Pedro Bay	0.913	0.174	0.151	0.950	0.199	0.137
Outside Harbor Exposure Area	0.255	0.179	0.156	7.664	0.215	0.148

Year 20 average concentrations determined as average over last year

Table 4.11 Scenario 6 Year 20 Average TPCB and TDDX Concentrations

Fish Movement Zone	TPCB			TDDX		
	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)
DC Estuary	0.000106	0.0573	0.0498	0.000018	0.0795	0.0548
Consolidated Slip (CS)	0.0044	0.143	0.124	0.00067	0.187	0.129
LA Inner Harbor	0.016	0.164	0.143	0.0026	0.217	0.150
Fish Harbor (FH)	0.022	0.130	0.113	0.0041	0.187	0.129
Seaplane Lagoon	0.033	0.136	0.119	0.0071	0.209	0.144
LA Outer Harbor	0.028	0.175	0.153	0.0047	0.225	0.155
LB Inner Harbor North	0.019	0.149	0.129	0.0035	0.192	0.132
LB Inner Harbor South	0.032	0.150	0.130	0.0064	0.191	0.132
LB Outer Harbor	0.035	0.158	0.138	0.0076	0.200	0.138
LAR Estuary	0.0024	0.111	0.0962	0.00033	0.136	0.0939
Eastern San Pedro Bay	0.018	0.153	0.133	0.0028	0.192	0.132
Outside Harbor Exposure Area	0.255	0.177	0.154	7.664	0.214	0.147

Year 20 average concentrations determined as average over last year

Table 4.12 Scenario 7 Year 20 Average TPCB and TDDX Concentrations

Fish Movement Zone	TPCB			TDDX		
	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)
DC Estuary	0.0946	3.286	2.858	0.0373	5.093	3.512
Consolidated Slip (CS)	0.0497	0.450	0.391	0.0239	0.625	0.431
LA Inner Harbor	2.511	0.281	0.245	3.240	0.311	0.214
Fish Harbor (FH)	0.135	0.159	0.139	0.0912	0.215	0.148
Seaplane Lagoon	1.553	0.253	0.220	2.122	0.270	0.186
LA Outer Harbor	0.971	0.210	0.182	3.008	0.255	0.176
LB Inner Harbor North	1.447	0.246	0.213	1.005	0.273	0.188
LB Inner Harbor South	2.484	0.224	0.195	2.369	0.231	0.159
LB Outer Harbor	0.651	0.201	0.175	2.310	0.232	0.160
LAR Estuary	0.547	1.320	1.148	0.135	1.020	0.704
Eastern San Pedro Bay	0.925	0.299	0.260	0.951	0.302	0.208
Outside Harbor Exposure Area	0.255	0.185	0.161	7.664	0.220	0.152

Year 20 average concentrations determined as average over last year

Table 4.13 Scenario 8 Year 20 Average TPCB and TDDX Concentrations

Fish Movement Zone	TPCB			TDDX		
	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)
DC Estuary	0.0736	1.696	1.475	0.0342	2.593	1.788
Consolidated Slip (CS)	0.0466	0.348	0.303	0.0231	0.416	0.287
LA Inner Harbor	2.508	0.261	0.227	3.240	0.277	0.191
Fish Harbor (FH)	0.132	0.153	0.133	0.0909	0.209	0.144
Seaplane Lagoon	1.546	0.242	0.210	2.120	0.260	0.179
LA Outer Harbor	0.970	0.203	0.177	3.008	0.247	0.170
LB Inner Harbor North	1.444	0.226	0.197	1.004	0.241	0.166
LB Inner Harbor South	2.480	0.214	0.186	2.368	0.218	0.150
LB Outer Harbor	0.647	0.190	0.166	2.309	0.221	0.152
LAR Estuary	0.537	0.736	0.640	0.133	0.582	0.402
Eastern San Pedro Bay	0.919	0.236	0.205	0.951	0.250	0.173
Outside Harbor Exposure Area	0.255	0.182	0.158	7.664	0.218	0.150

Year 20 average concentrations determined as average over Year 20

Table 4.14 Scenario 8 Year 30 Average TPCB and TDDX Concentrations

Fish Movement Zone	TPCB			TDDX		
	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)
DC Estuary	0.0721	1.669	1.451	0.0332	2.569	1.772
Consolidated Slip (CS)	0.0390	0.328	0.285	0.0181	0.403	0.278
LA Inner Harbor	2.184	0.249	0.216	3.076	0.269	0.186
Fish Harbor (FH)	0.126	0.151	0.132	0.0897	0.204	0.141
Seaplane Lagoon	1.360	0.228	0.198	2.069	0.251	0.173
LA Outer Harbor	0.877	0.200	0.173	2.886	0.241	0.167
LB Inner Harbor North	1.229	0.216	0.188	0.937	0.235	0.162
LB Inner Harbor South	2.051	0.204	0.178	2.265	0.213	0.147
LB Outer Harbor	0.555	0.187	0.162	2.183	0.217	0.149
LAR Estuary	0.401	0.722	0.628	0.0997	0.574	0.396
Eastern San Pedro Bay	0.758	0.231	0.201	0.861	0.245	0.169
Outside Harbor Exposure Area	0.228	0.182	0.158	7.309	0.216	0.149

Year 30 average concentrations determined as average over last year

Table 4.15 Scenario 9 Year 30 Average TPCB and TDDX Concentrations

Fish Movement Zone	TPCB			TDDX		
	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)	Sediment (ug/g OC)	Water Particulate (ug/g OC)	Water Dissolved (ng/L)
DC Estuary	0.0805	1.682	1.462	0.0400	2.582	1.781
Consolidated Slip (CS)	0.0749	0.329	0.286	0.0409	0.404	0.279
LA Inner Harbor	2.187	0.249	0.217	3.076	0.270	0.186
Fish Harbor (FH)	0.144	0.152	0.133	0.0929	0.204	0.141
Seaplane Lagoon	1.362	0.228	0.198	2.070	0.251	0.173
LA Outer Harbor	0.878	0.200	0.174	2.886	0.242	0.167
LB Inner Harbor North	1.232	0.216	0.188	0.937	0.236	0.162
LB Inner Harbor South	2.052	0.204	0.178	2.265	0.213	0.147
LB Outer Harbor	0.555	0.187	0.162	2.183	0.217	0.149
LAR Estuary	0.401	0.722	0.628	0.100	0.574	0.396
Eastern San Pedro Bay	0.758	0.231	0.201	0.861	0.245	0.169
Outside Harbor Exposure Area	0.228	0.182	0.158	7.310	0.216	0.149

Year 30 average concentrations determined as average over last year

5. INTERPRETATION OF WRAP MODEL RESULTS

5.1 OVERVIEW

Figure 5.1 shows a schematic of watershed loadings (solid magenta arrows) and tidal exchange (outlined magenta arrows) between fish movement zones. As illustrated in the figure, the dominant processes for transport of organics varied for each fish movement zone. In this section, transport conditions for organics were evaluated to determine the most important sources of organics in each fish movement zone by comparing changes in water and sediment bed concentrations for organics under different model scenarios.

5.2 DOMINGUEZ CHANNEL ESTUARY

The DC Watershed is highly urbanized, with watershed flows routed through the storm drain system that empties into the DC. The freshwater portion of the DC, a rectangular concrete channel, extends from 116th Street to Vermont Avenue – where tidal influence begins. The DC Estuary extends 13.3 km (8.26 mi) from Vermont Avenue to Henry Ford Avenue, and discharges into the CS. The estuary portion of the DC is a clay-lined, trapezoidal channel with riprap sides. The Montrose Superfund Site at a former DDX manufacturing plant is located within the DC Estuary Watershed; runoff from this area discharges into the DC via the Torrance Lateral. However, initial bed concentrations are higher for TPCB than for TDDX in the DC Estuary.

The upstream watershed (above Vermont Ave) accounts for about 56% of the watershed loadings into the DC Estuary. Continual sediment loadings have left deposits along the DC, effectively making it an earth bottom channel. The sediment bed is highly dynamic, eroding and accreting from watershed and tidal flows. Annual watershed loadings and sediment bed fluxes of sediment, TPCB, and TDDX are shown in Figures 5.2a - 5.2c, respectively. For sediment, shown in Figure 5.2a, resuspension and deposition from the sediment bed (middle panel) varies depending on the watershed loadings (top panel). Generally, higher resuspension occurs during wet years, though there is an overall net deposition along the channel, as illustrated in the lower panel. For organics, shown in Figures 5.2b and 5.2c, a small portion of watershed loadings settle in the bed, though there is an overall net resuspension from the sediment bed due to high sediment bed concentrations. Comparisons of the TPCB and TDDX sources are provided in Figure 5.3. TPCB sources are primarily from the watershed (54%) and sediment bed (46%), with minimal contributions from tidal exchange. In comparison, a greater amount of TDDX comes from the watershed (70%) rather than the sediment bed (30%), due to higher TDDX loading from the Torrance Lateral.

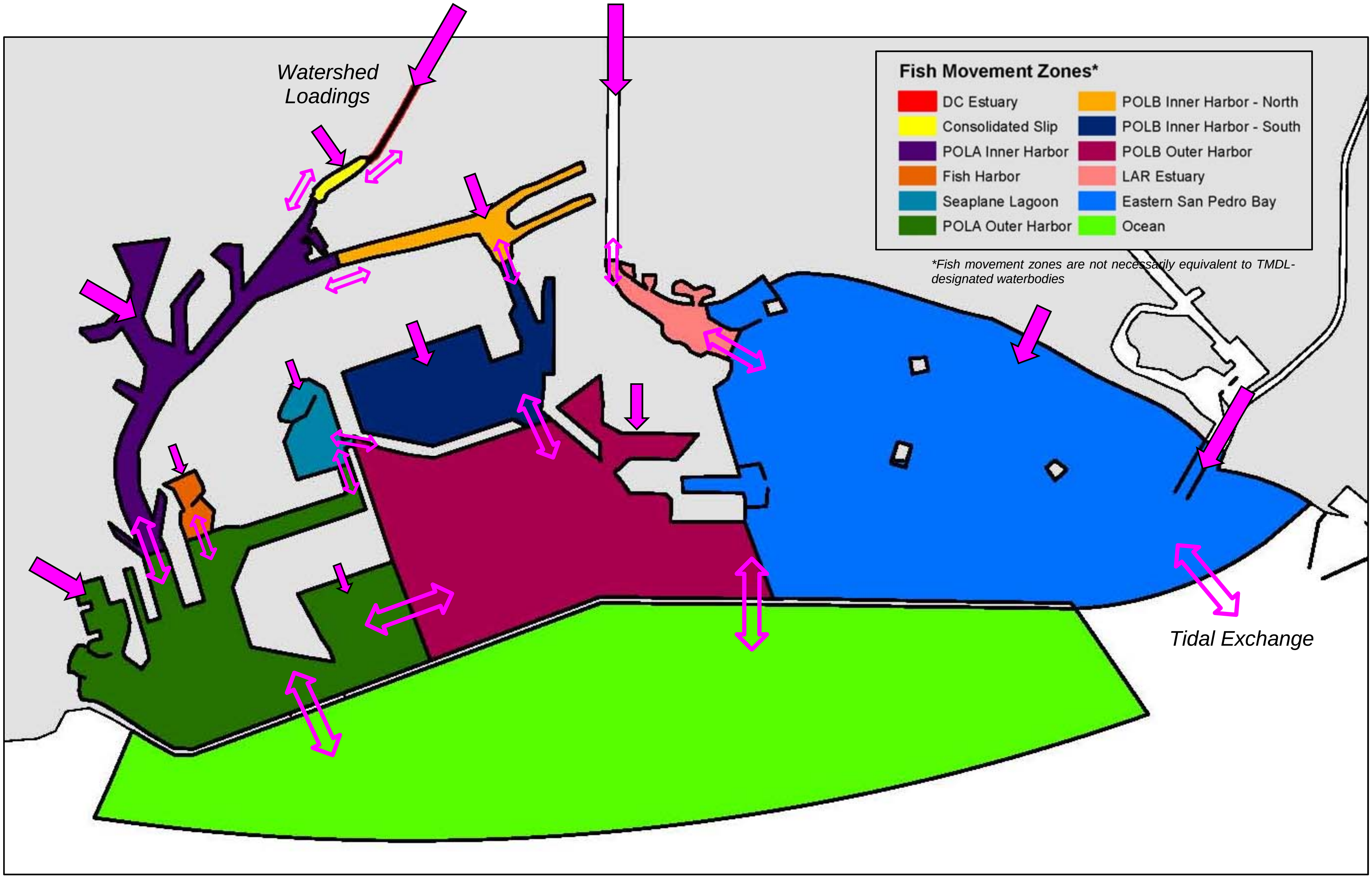


Figure 5.1 Interactions between Fish Movement Zones

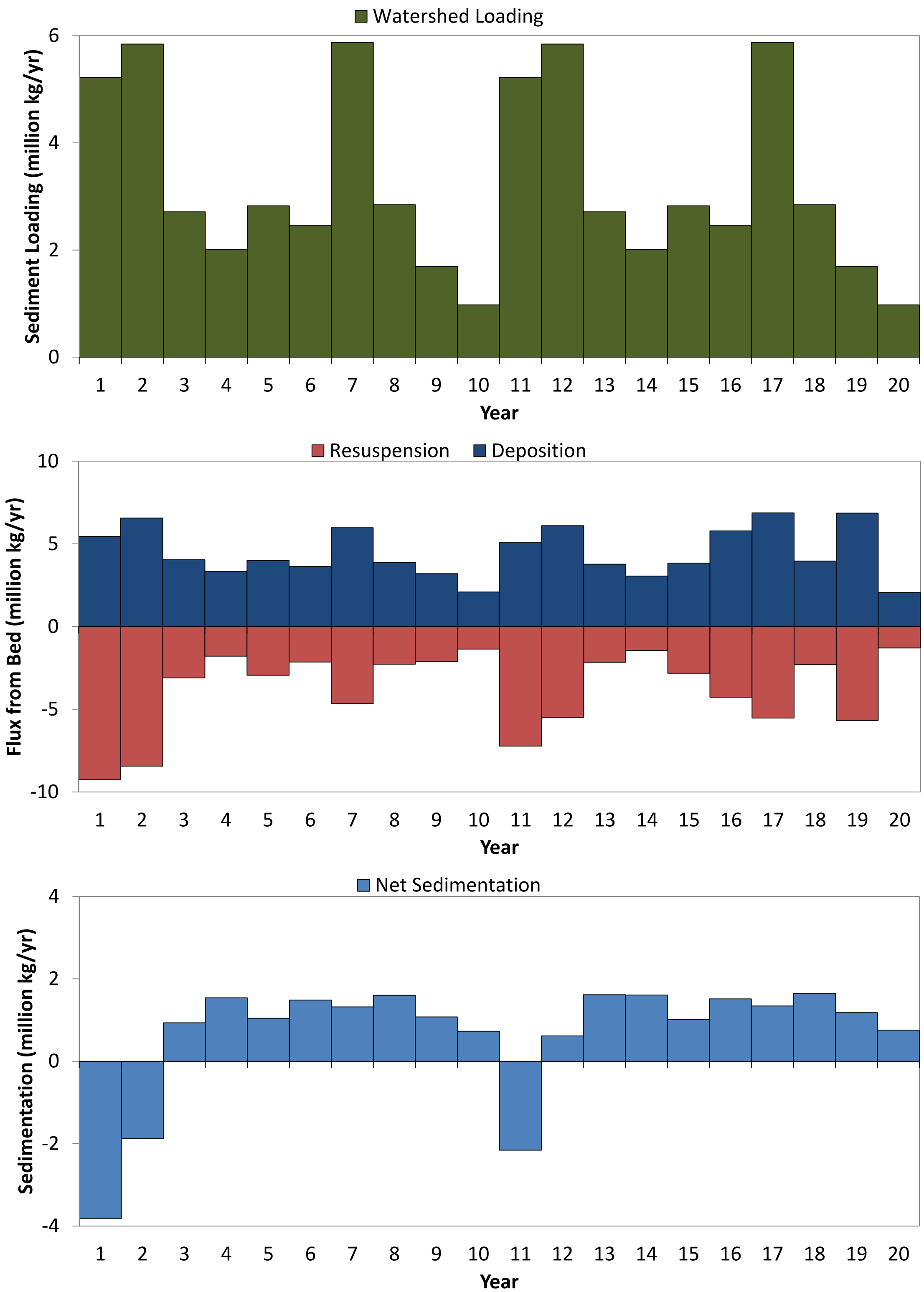


Figure 5.2a Dominguez Channel Estuary Annual Sediment Loadings

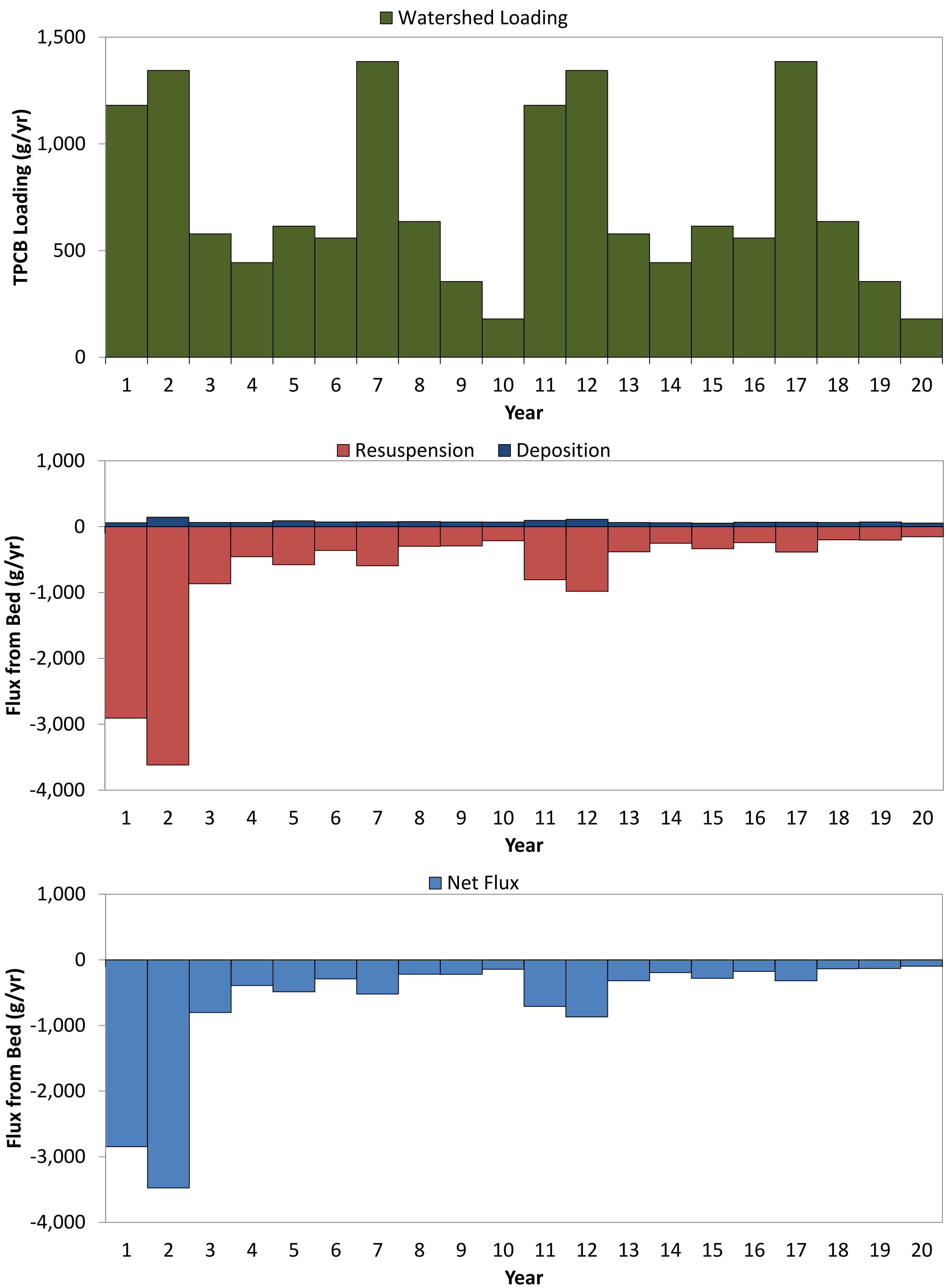


Figure 5.2b Dominguez Channel Estuary Annual TPCB Loadings

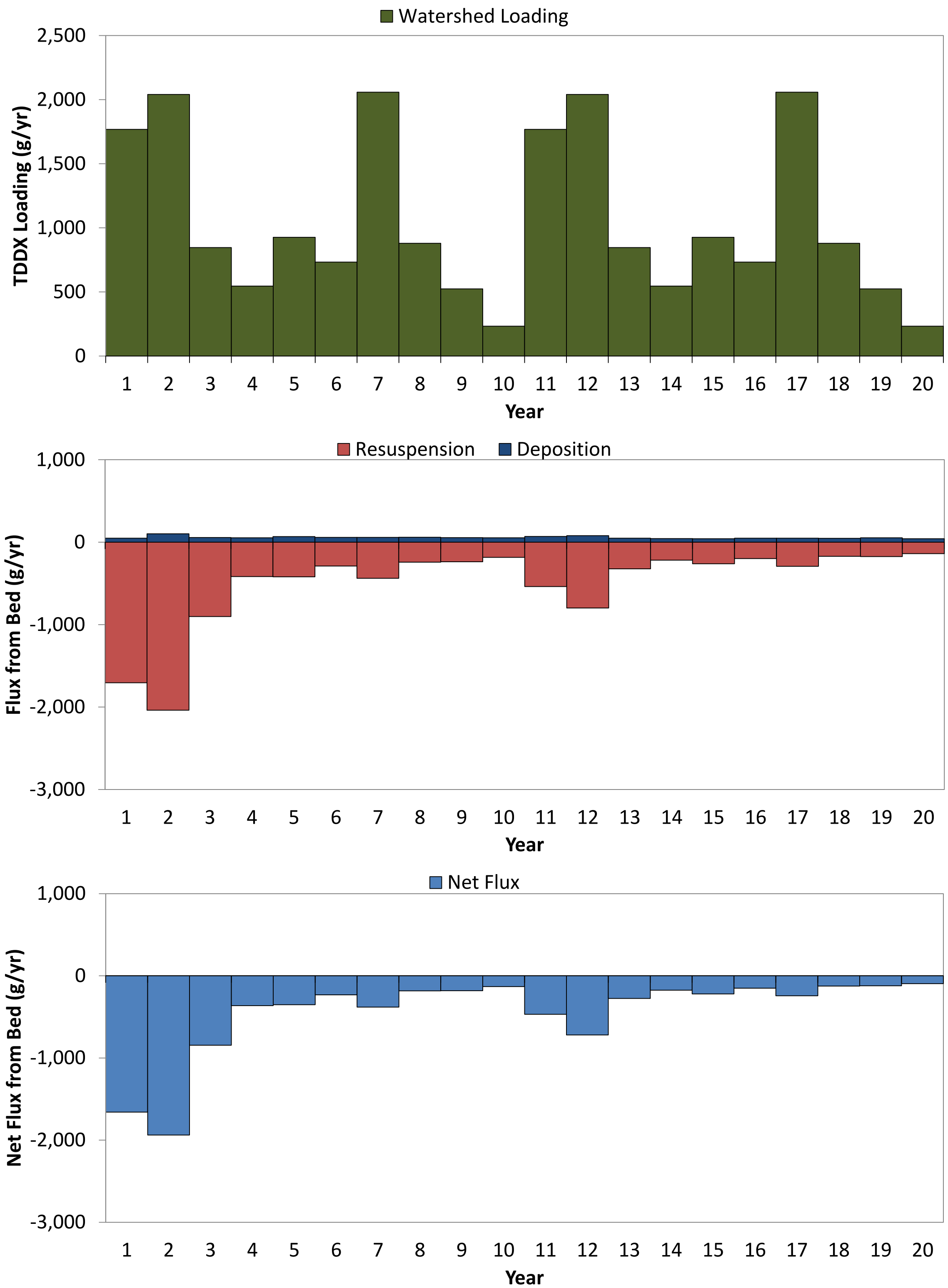
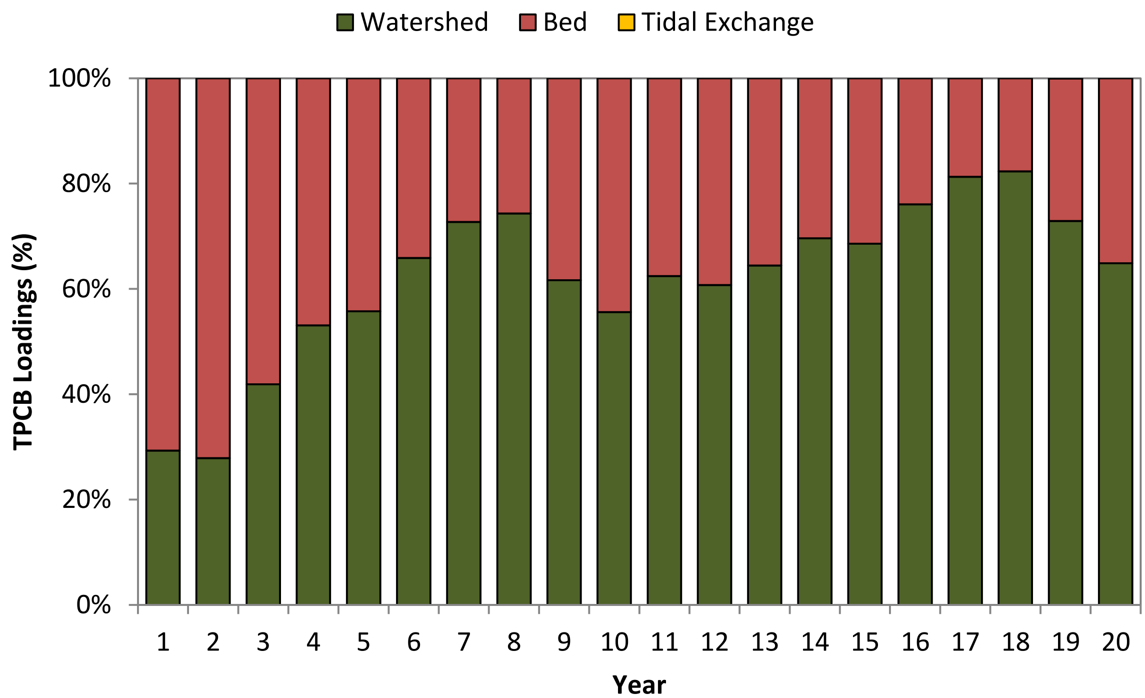


Figure 5.2c Dominguez Channel Estuary Annual TDDX Loadings



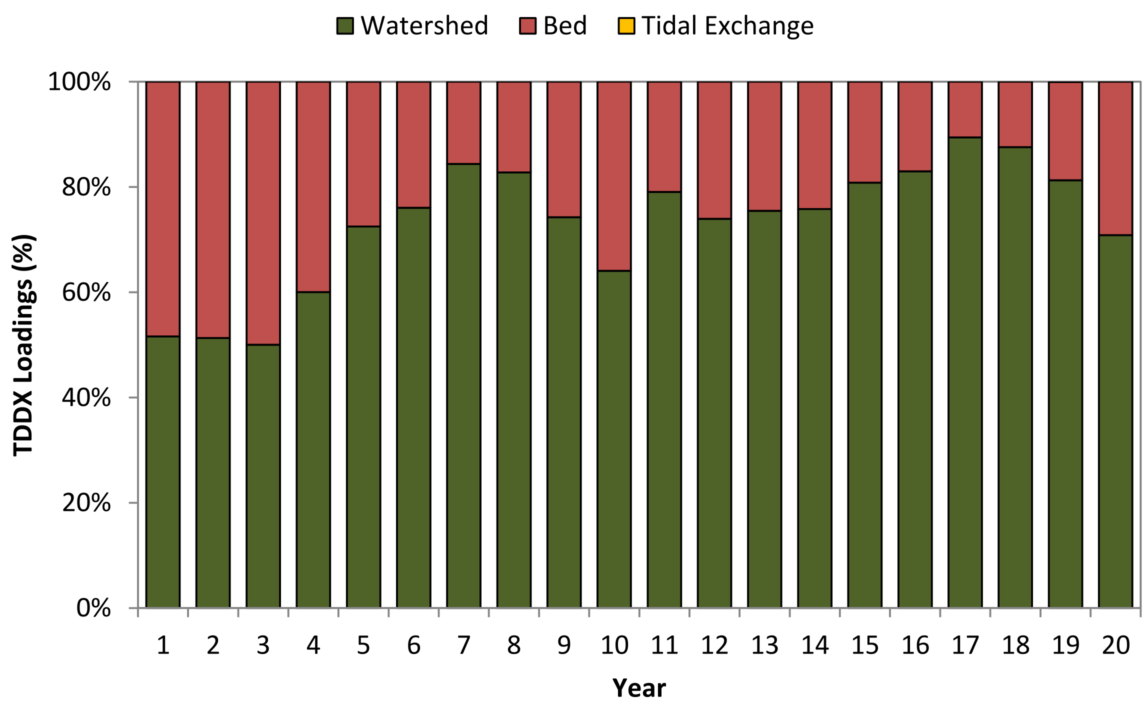


Figure 5.3 Dominguez Channel Estuary TPCB and TDDX Sources

Daily and annual concentrations for model scenarios in the DC Estuary are shown in Figures 5.4a and 5.4b for TPCB and TDDX, respectively. The daily water and sediment bed concentrations are shown in the left upper and lower panels, respectively. For both TPCB and TDDX, the daily water and bed concentrations indicate the presence of highly dynamic conditions in the DC Estuary. Organic chemical concentrations vary due to watershed loadings and resuspension and deposition from the bed. The corresponding annual concentrations are located in the panels to the right in Figures 5.4a and 5.4b. The annual concentrations show a general decline in water and bed concentrations, attributed to a decrease in bed resuspension over time. The greatest fluctuations occur within the first five years, with erosion and deposition from the sediment bed. After the first five years, the Baseline Scenario and Scenario 3 show similar water concentrations. Reductions in water concentrations occur for Scenarios 2 (and 9) and 7, followed by Scenarios 1 and 8. The lowest water concentrations are shown for the scenarios with full watershed and sediment loading reductions (Scenarios 4, 5, and 6). Bed conditions change over time due to less resuspension and decreases in the overall bed concentrations. At the end of the 20-year simulation period, bed concentrations in the DC Estuary are similar for the Baseline Scenario and Scenarios 1, 2, and 3, all of which are scenarios without sediment loading reductions. The lowest bed concentrations occur under scenarios with sediment loading reductions in the DC Estuary.

To compare Scenarios 8 and 9 over the 30-year simulation period, annual water and bed concentrations are shown in Figures 5.5a and 5.5b. In the panels to the right, annual concentrations are shown for the 30-year simulation period. Organics concentrations are lower for Scenario 8 over the first 20 years, and become similar between the two scenarios after the hot spot remediation of Scenario 9. To better illustrate the differences between Scenarios 8 and 9, the annual concentrations over the last 10 years are provided in the panels to the left. Daily concentrations are not shown, since they were previously shown in Figures 4.34 - 4.37. Over the last 10 years of their simulations, Scenarios 8 and 9 result in similar water concentrations, while bed concentrations are slightly lower for Scenario 8.

To compare the model scenarios, the Year 20 average water particulate and bed concentrations in the DC Estuary are summarized in Table 5.1. In this table, the TPCB and TDDX water and bed concentrations for the model scenarios are shown as the average over Year 20, for the Baseline Scenario and other nine scenarios. At the end of the table, the Year 30 average concentrations are also compared for Scenarios 8 and 9. Under both Scenario 1 (100% WLR) and Scenario 2 (50% WLR), there are substantial reductions in TPCB and TDDX water concentrations, indicating the importance of watershed loadings to the DC Estuary. Bed concentrations under Scenarios 1 - 3 are similar to those under the Baseline Scenario. Under Scenario 3, water concentrations decrease slightly compared to those under the Baseline, since no changes were made within the DC Estuary. Greater declines in water and bed concentrations occur for the combined management scenarios with both watershed and sediment loading reductions in the DC Estuary (Scenarios 4, 5, and

8). Among those scenarios, water and bed concentrations decrease significantly under Scenario 4. Scenario 5 water concentrations are lower than those under Scenario 4, indicating some effect between the sediment reductions in the CS. Water concentrations for Scenario 7 are similar to those of Scenario 2, while water concentrations for Scenario 8 are similar to those of Scenario 1. At Year 20, Scenario 9 water and bed concentrations are the same as for Scenario 2. Scenario 6 has the lowest water and bed concentrations. Comparison of Scenarios 8 and 9 at Year 30 shows that Scenario 8 will result in slightly lower water and bed concentrations than Scenario 9.

Table 5.1 Dominguez Channel Estuary Year 20 Average Organics Concentrations

MODEL SCENARIO	TPCB (UG/G OC)		TDDX (UG/G OC)	
	WATER	BED	WATER	BED
Baseline Scenario	4.857	11.439	7.037	5.050
Scenario 1 100% WLR	1.678	11.397	2.037	5.044
Scenario 2 50% WLR	3.267	11.418	4.536	5.047
Scenario 3 SedLR to TMDL Target	4.757	11.439	7.001	5.050
Scenario 4 100% WLR + DC Estuary SedLR	0.172	0.0528	0.124	0.0312
Scenario 5 100% WLR + Hot Spot SedLR	0.109	0.0526	0.0963	0.0312
Scenario 6 100% WLR + 100% SedLR	0.0573	0.000106	0.0795	0.000018
Scenario 7 Hot Spot SedLR	3.286	0.0946	5.093	0.0373
Scenario 8 50% WLR + Hot Spot SedLR	1.696	0.0736	2.593	0.0342
Scenario 9 50% WLR + Year 20 Hot Spot SedLR	3.267	11.418	4.536	5.047
Scenario 8 (Year 30) 50% WLR + Hot Spot SedLR	1.669	0.0721	2.569	0.0332
Scenario 9 (Year 30) 50% WLR + Year 20 Hot Spot SedLR	1.682	0.0805	2.582	0.0400

Average concentrations determined as average over Year 20 or Year 30 as indicated

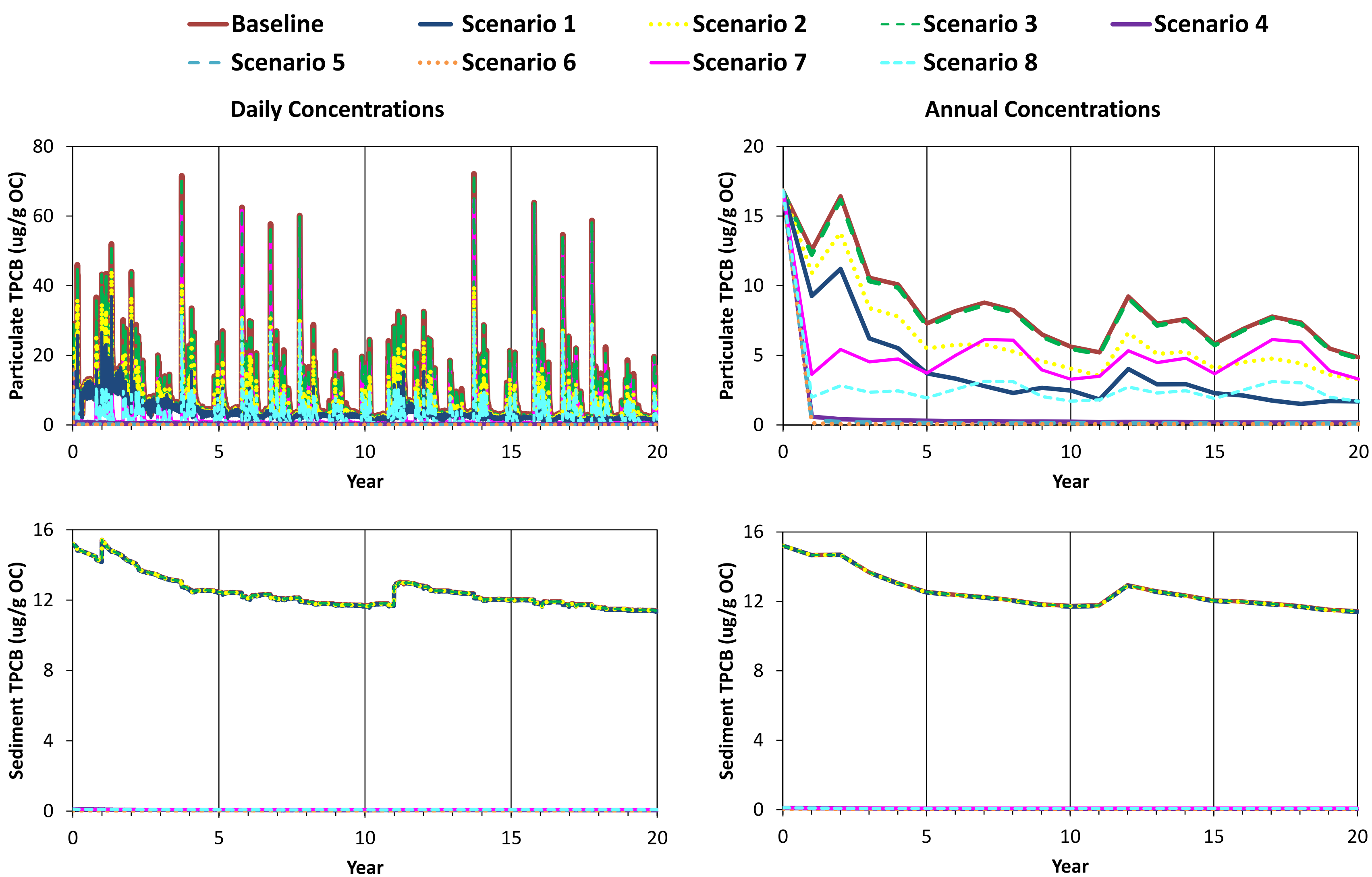


Figure 5.4a Dominguez Channel Estuary TPCB Concentrations

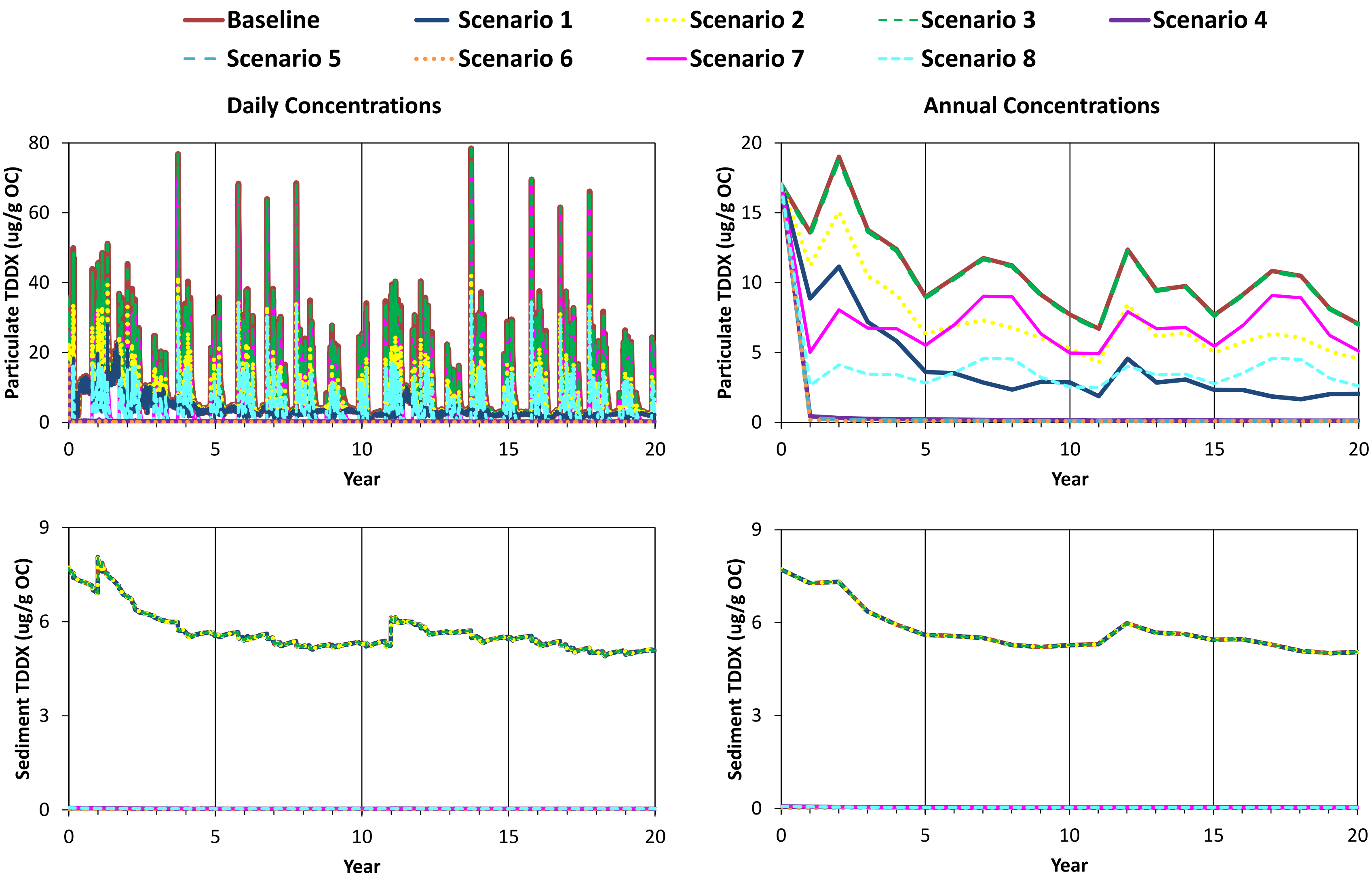


Figure 5.4b Dominguez Channel Estuary TDDX Concentrations

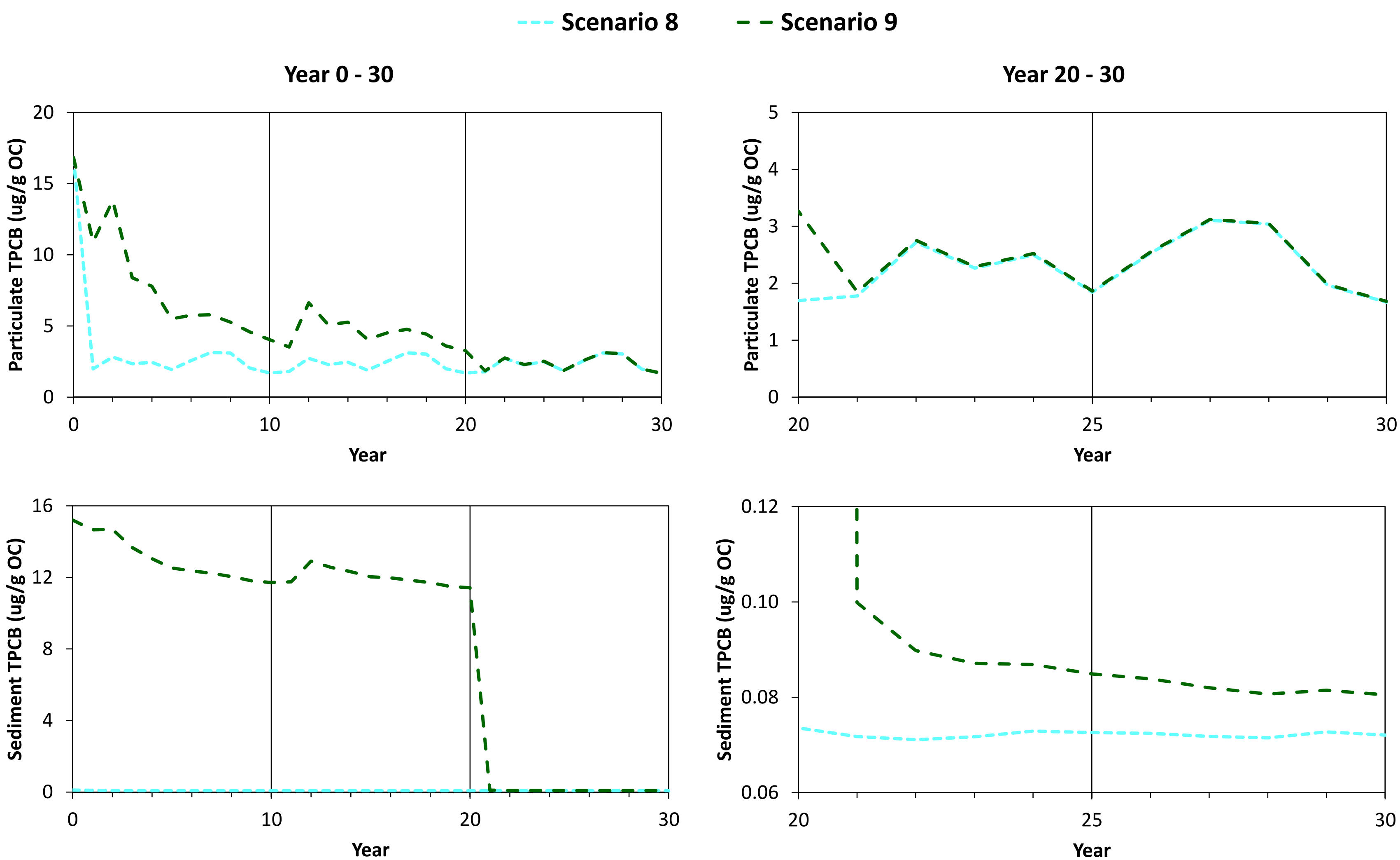


Figure 5.5a Dominguez Channel Estuary Scenario 8 and 9 TPCB Concentrations

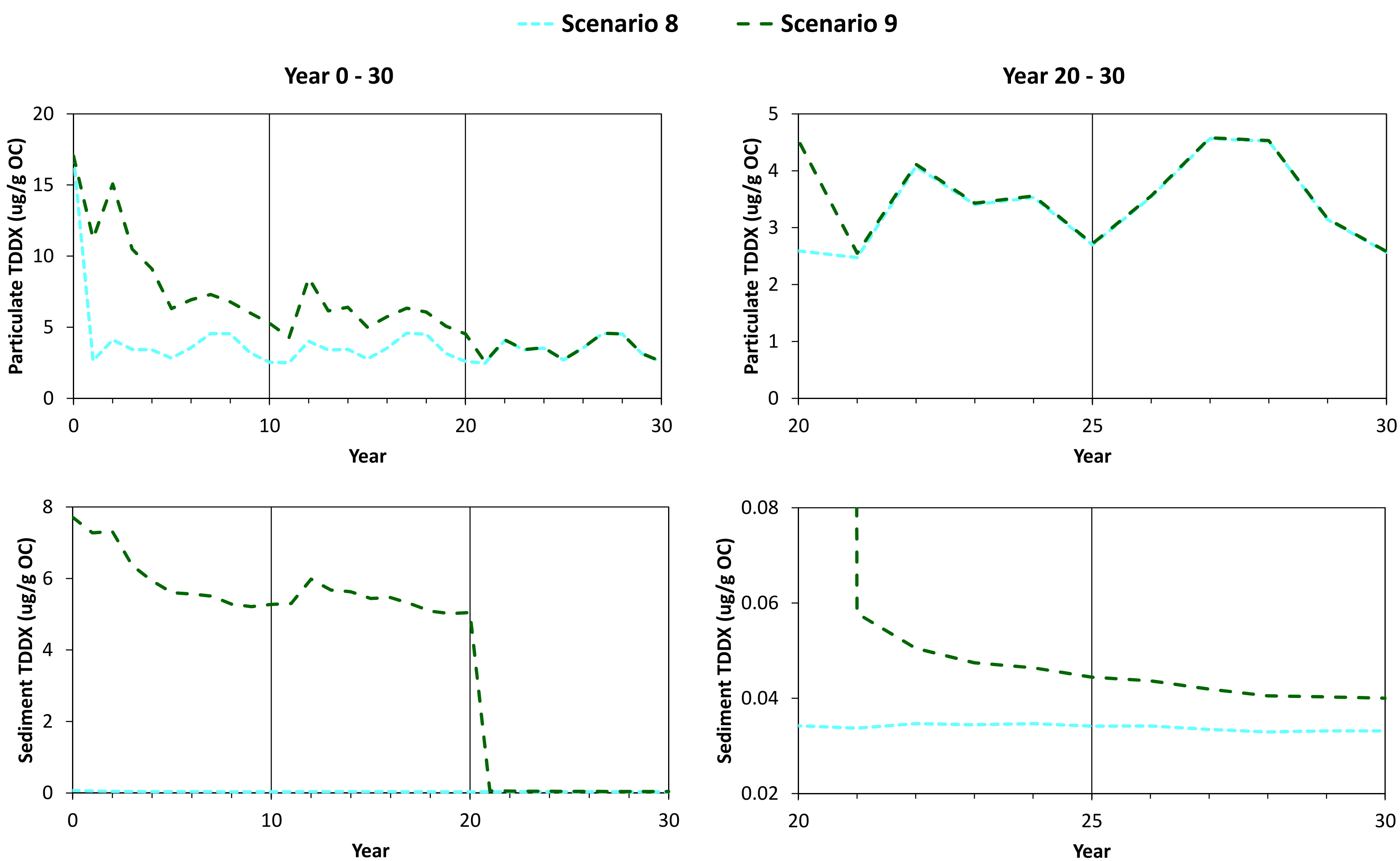


Figure 5.5b Dominguez Channel Estuary Scenario 8 and 9 TDDX Concentrations

5.3 CONSOLIDATED SLIP

The DC discharges into the CS, which connects to the POLA East Basin, as shown previously in Figure 5.1. The CS contains recreational marinas, including Leeward Bay Marina and Island Yacht Anchorage #2. It is a part of the surface water drainage pathway from the Montrose Superfund Site in the DC Watershed. Similar to the DC Estuary, initial bed concentrations in the CS are higher for TPCB than for TDDX.

The CS receives the majority of its loadings from the DC Estuary. Annual watershed loadings and sediment bed fluxes of sediment, TPCB, and TDDX are shown in Figures 5.6a - 5.6c, respectively. For sediment, watershed loadings are made up of a combination of direct watershed discharges and upstream discharges from the DC Estuary. The CS is highly depositional, as indicated by the sediment deposition results (middle panel). Generally, higher resuspension occurs during wet years. For organics, a small portion of watershed loadings settle in the bed, though there is an overall net resuspension from the sediment bed – due to high sediment bed concentrations. Sources of TPCB and TDDX to the CS are compared in Figure 5.7, and are similar to those for the DC Estuary. TPCB sources are primarily from the sediment bed (53%) and watershed (47%), with minimal contributions from tidal exchange. For TDDX, a greater portion of the sources comes from the watershed (68%) than from the sediment bed (32%).

Similar to the DC Estuary, the CS is hydrodynamically active, as indicated by the daily and annual organics concentrations shown in Figures 5.8a and 5.8b for TPCB and TDDX, respectively. The daily water concentrations illustrate the fluctuations due to watershed loadings mainly from the DC Estuary. The annual concentrations show a general decline in water and bed concentrations over time. The greatest difference in water concentrations among the model scenarios are shown for the first five years. Scenarios with 100% watershed loading reductions (Scenarios 1, 4, 5, and 6) show more consistent water concentrations, whereas the other scenarios show greater fluctuations. Sediment bed concentrations in the CS are similar between the Baseline Scenario and Scenarios 1, 2, and 4. Sediment bed concentrations are lower for scenarios with sediment loading reductions (Scenarios 3, 5, 6, 7, and 8). Annual organics concentrations in the CS under Scenarios 8 and 9 are compared over the 30-year simulation period in Figure 5.9a for TPCB and Figure 5.9b for TDDX. Over the first 20 years, Scenario 9 has higher concentrations than Scenario 8 and then becomes similar to Scenario 8 after the hot spot remediation.

Table 5.2 compares the Year 20 average water and bed concentrations in the CS for all model scenarios. Overall, the source reduction strategies reduce water concentrations from the Baseline Scenario, while significant reductions in bed concentrations occur for sediment loading reductions in the CS. Water concentrations for Scenario 1 and Scenario 2 are reduced, due to reductions in watershed loadings, while bed concentrations for Scenarios 1 and 2 are similar to those under the Baseline Scenario. For Scenario 3, water concentrations are also reduced compared with those under the Baseline, due to the sediment load reduction. TPCB water concentrations for Scenario 3 are similar to those under Scenario 1. Since roughly half of TPCB sources are from the bed and half from watershed loadings, the sediment loading reduction under Scenario 3 results in a similar reduction in water concentration as the watershed loading reduction of Scenario 1. Whereas, TDDX water concentrations under Scenario 3 are similar to those under the Baseline Scenario, due to the greater contribution from watershed loadings. As such, Scenario 1 has a greater reduction in TDDX water concentrations compared to Scenario 3. Scenario 3 bed concentrations are significantly lower than those under the other scenarios, due to the sediment loading reduction. Water concentrations in the CS are significantly decreased under Scenario 4, indicating that the DC Estuary bed is a significant source; however, bed concentrations under Scenario 4 are similar to those under the Baseline Scenario. Scenario 5 water concentrations are lower than those under Scenario 4 due to the reduction in bed concentrations. Water concentrations for Scenario 7 are similar to those of Scenario 2, while water concentrations for Scenario 8 are similar to those of Scenario 1. At Year 20, Scenario 9 water and bed concentrations are the same as those of Scenario 2. Scenario 6 has the lowest water and bed concentrations of all the scenarios. At Year 30, Scenario 8 results in slightly lower water and bed concentrations than Scenario 9.

Table 5.2 Consolidated Slip Year 20 Average Organics Concentrations

Model Scenario	TPCB (ug/g OC)		TDDX (ug/g OC)	
	Water	Bed	Water	Bed
Baseline Scenario	0.681	8.196	0.830	3.094
Scenario 1 100% WLR	0.477	8.189	0.412	3.092
Scenario 2 50% WLR	0.579	8.195	0.620	3.093
Scenario 3 SedLR to TMDL Target	0.467	0.0511	0.778	0.0246
Scenario 4 100% WLR + DC Estuary SedLR	0.365	8.186	0.242	3.092
Scenario 5 100% WLR + Hot Spot SedLR	0.249	0.0436	0.211	0.0222
Scenario 6 100% WLR + 100% SedLR	0.143	0.0044	0.187	0.00067
Scenario 7 Hot Spot SedLR	0.450	0.0497	0.625	0.0239
Scenario 8 50% WLR + Hot Spot SedLR	0.348	0.0466	0.416	0.0231
Scenario 9 50% WLR + Year 20 Hot Spot SedLR	0.579	8.195	0.620	3.093
Scenario 8 (Year 30) 50% WLR + Hot Spot SedLR	0.328	0.0390	0.403	0.0181
Scenario 9 (Year 30) 50% WLR + Year 20 Hot Spot SedLR	0.329	0.0749	0.404	0.0409

Average concentrations determined as average over Year 20 or Year 30 as indicated

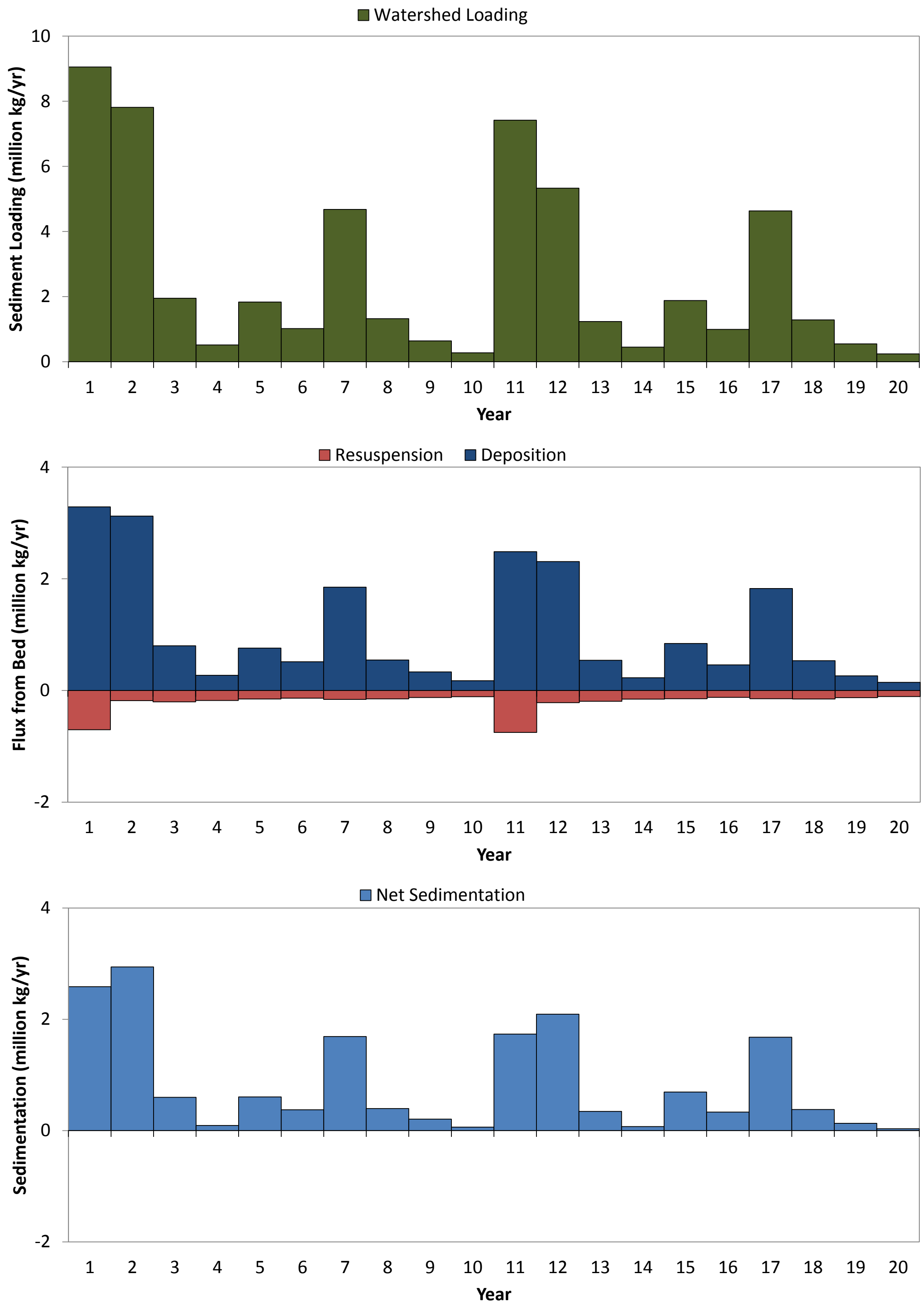


Figure 5.6a Consolidated Slip Annual Sediment Loadings

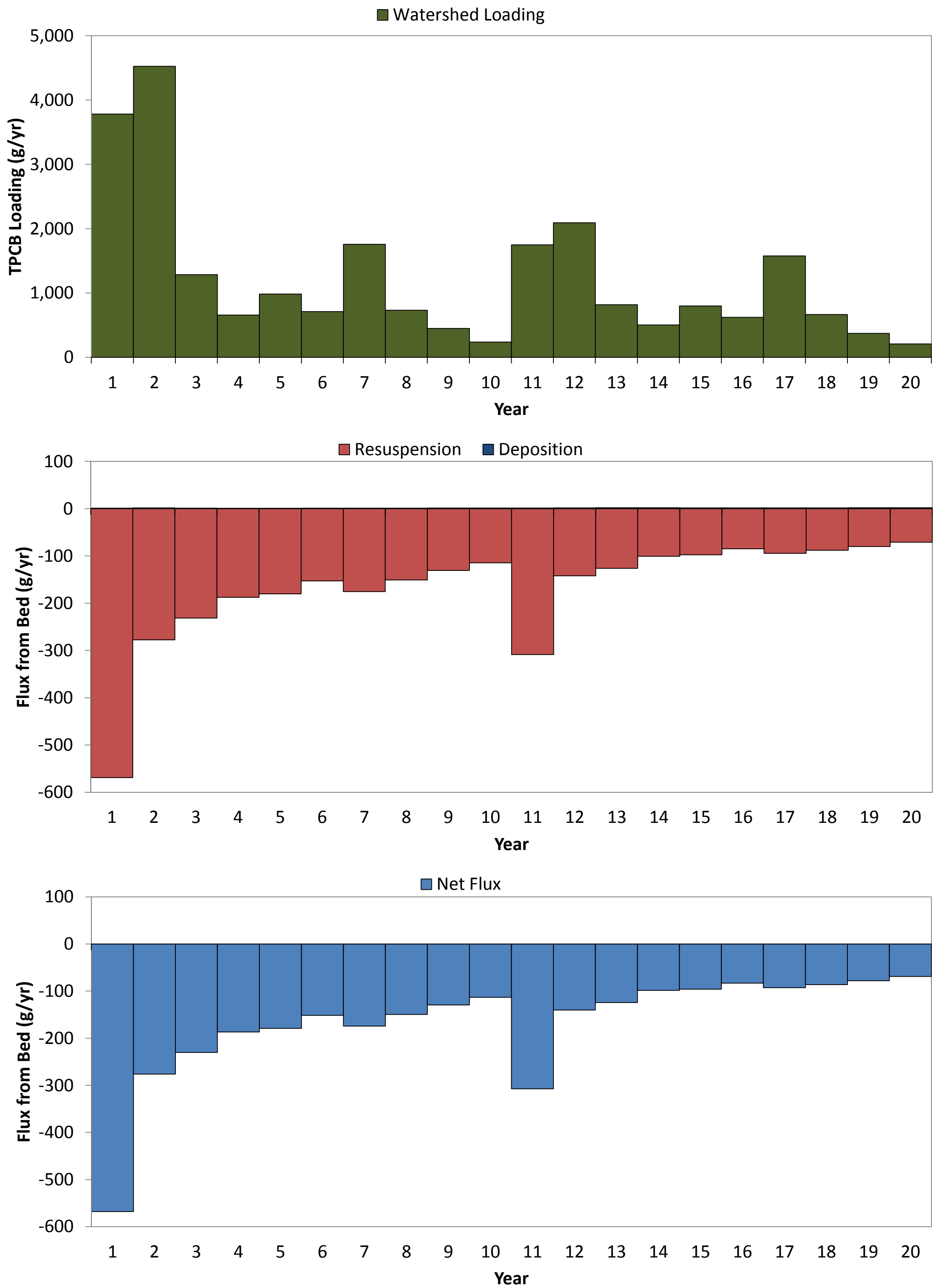


Figure 5.6b Consolidated Slip Annual TPCB Loadings

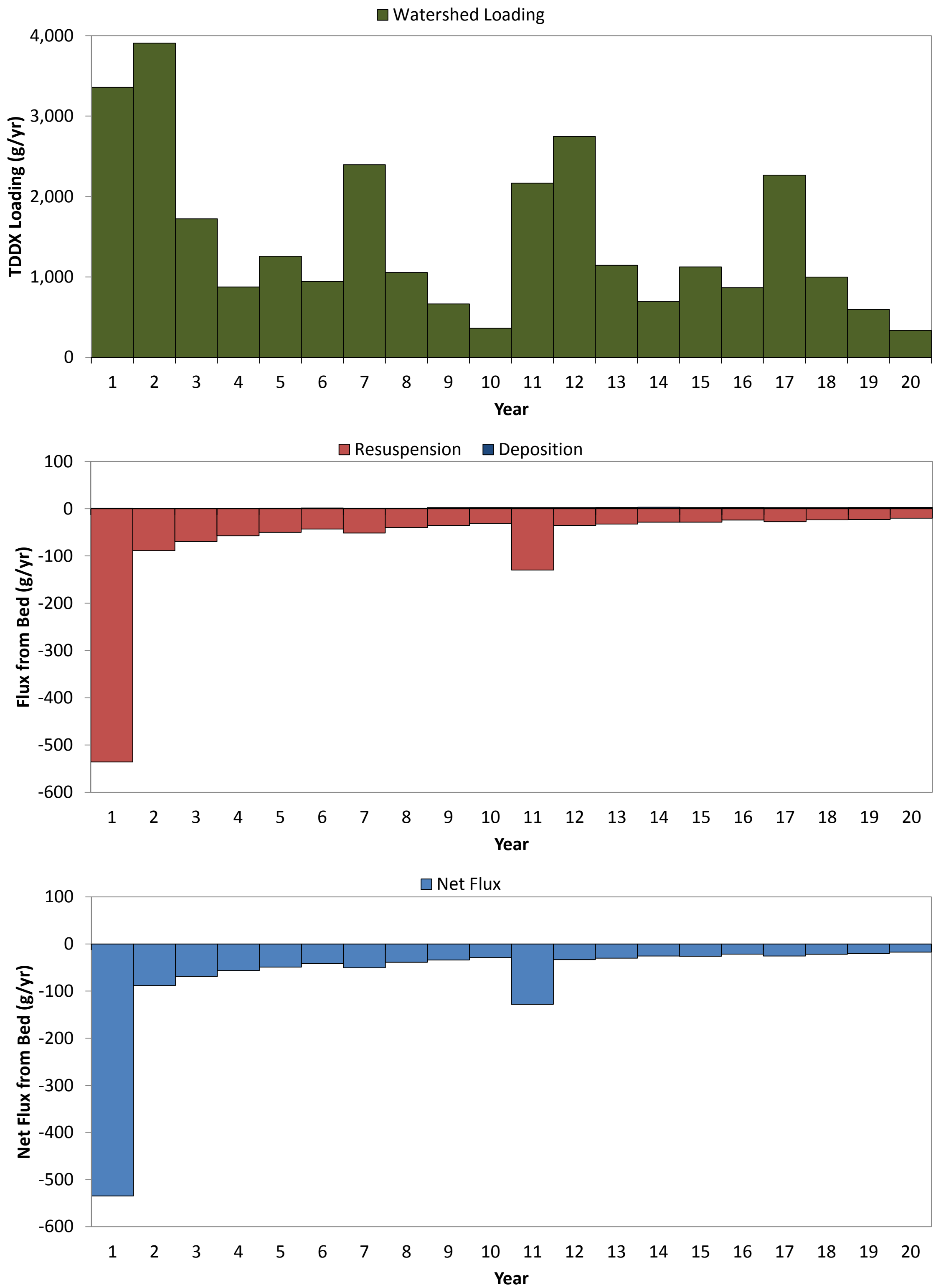
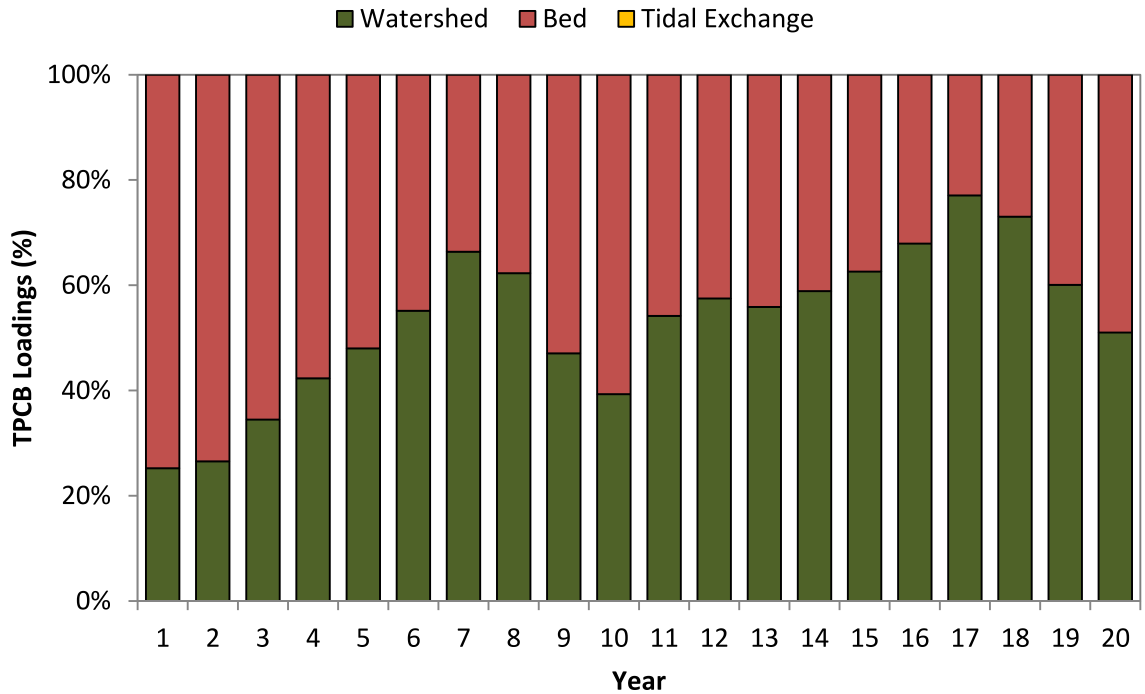


Figure 5.6c Consolidated Slip Annual TDDX Loadings



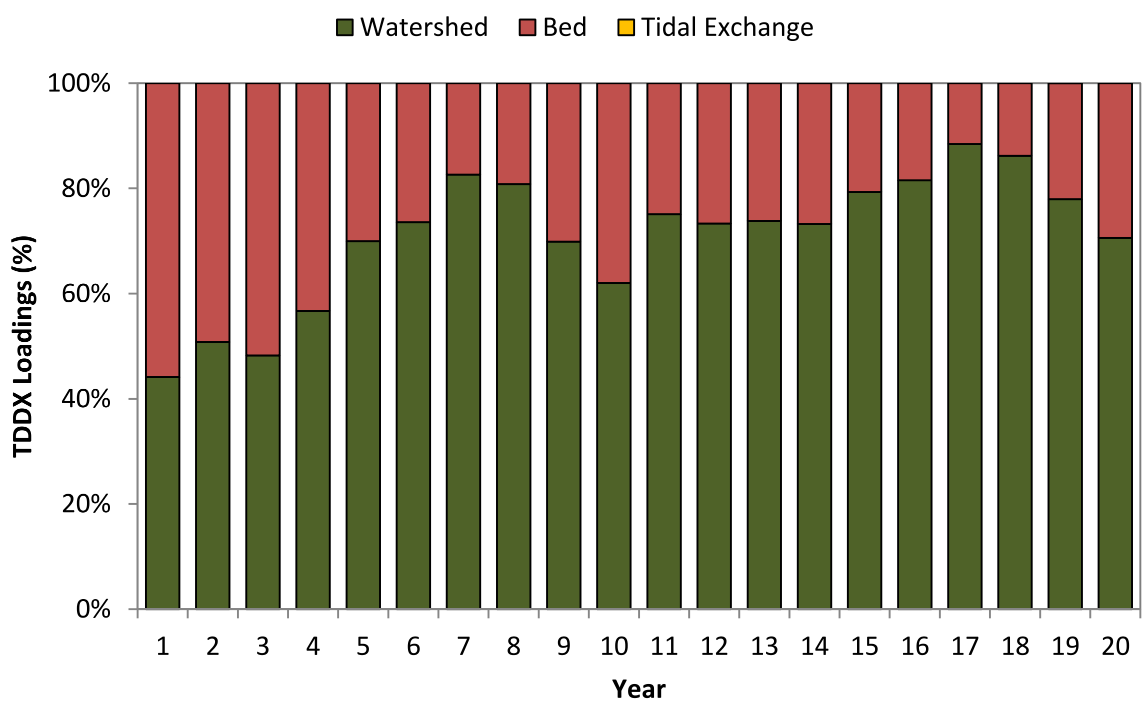


Figure 5.7 Consolidated Slip TPCB and TDDX Sources

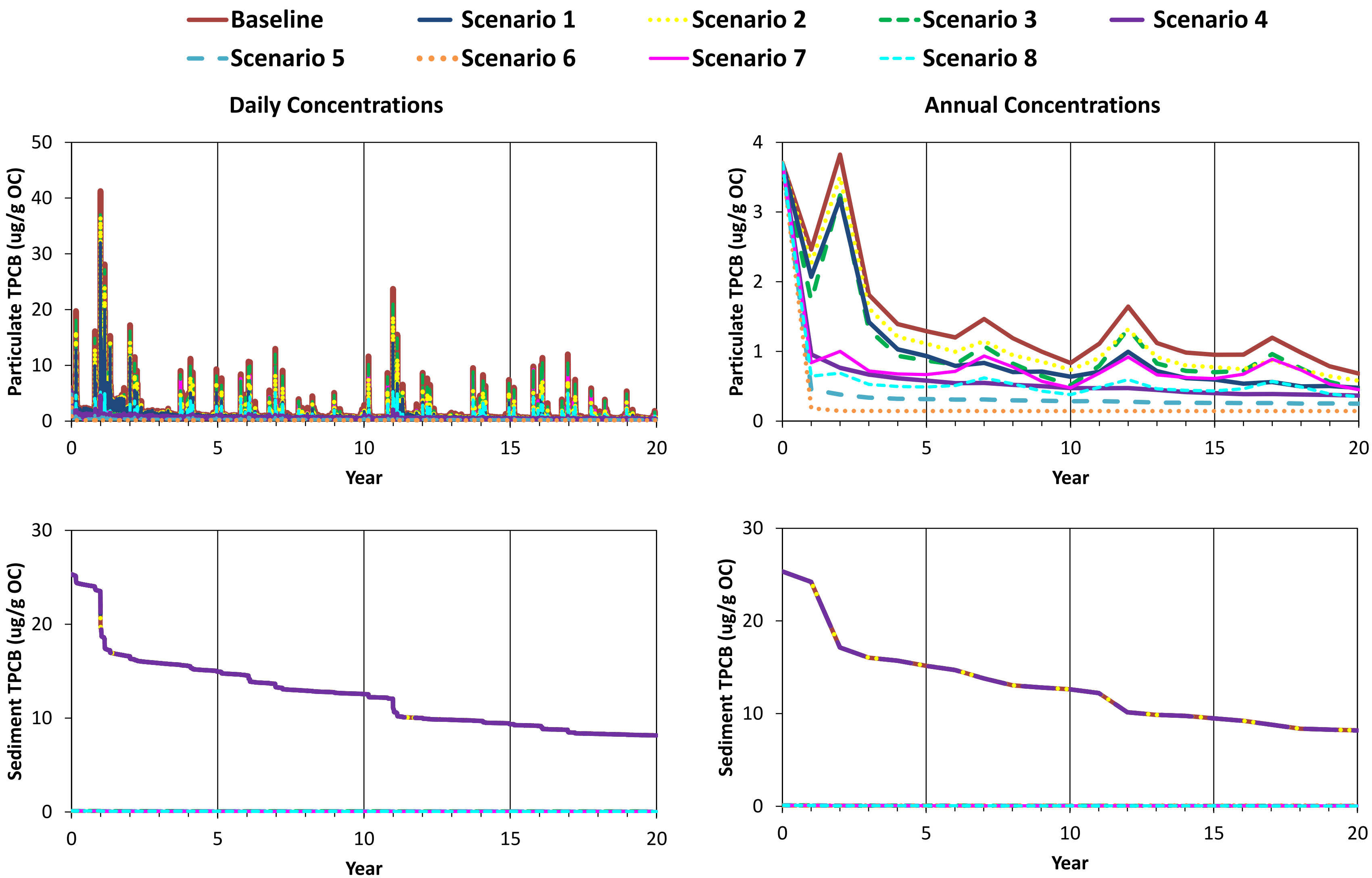


Figure 5.8a Consolidated Slip TPCB Concentrations

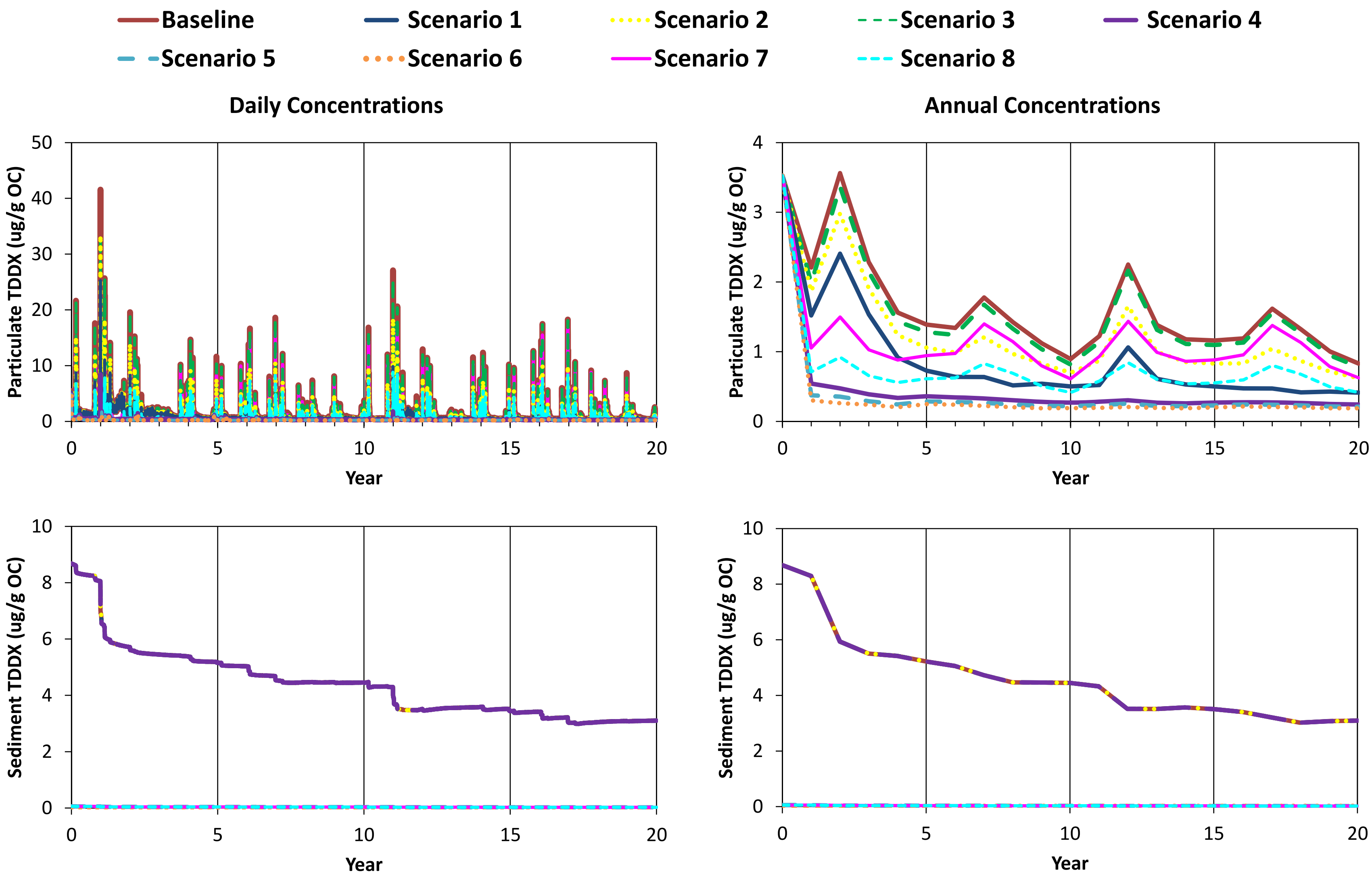


Figure 5.8b Consolidated Slip TDDX Concentrations

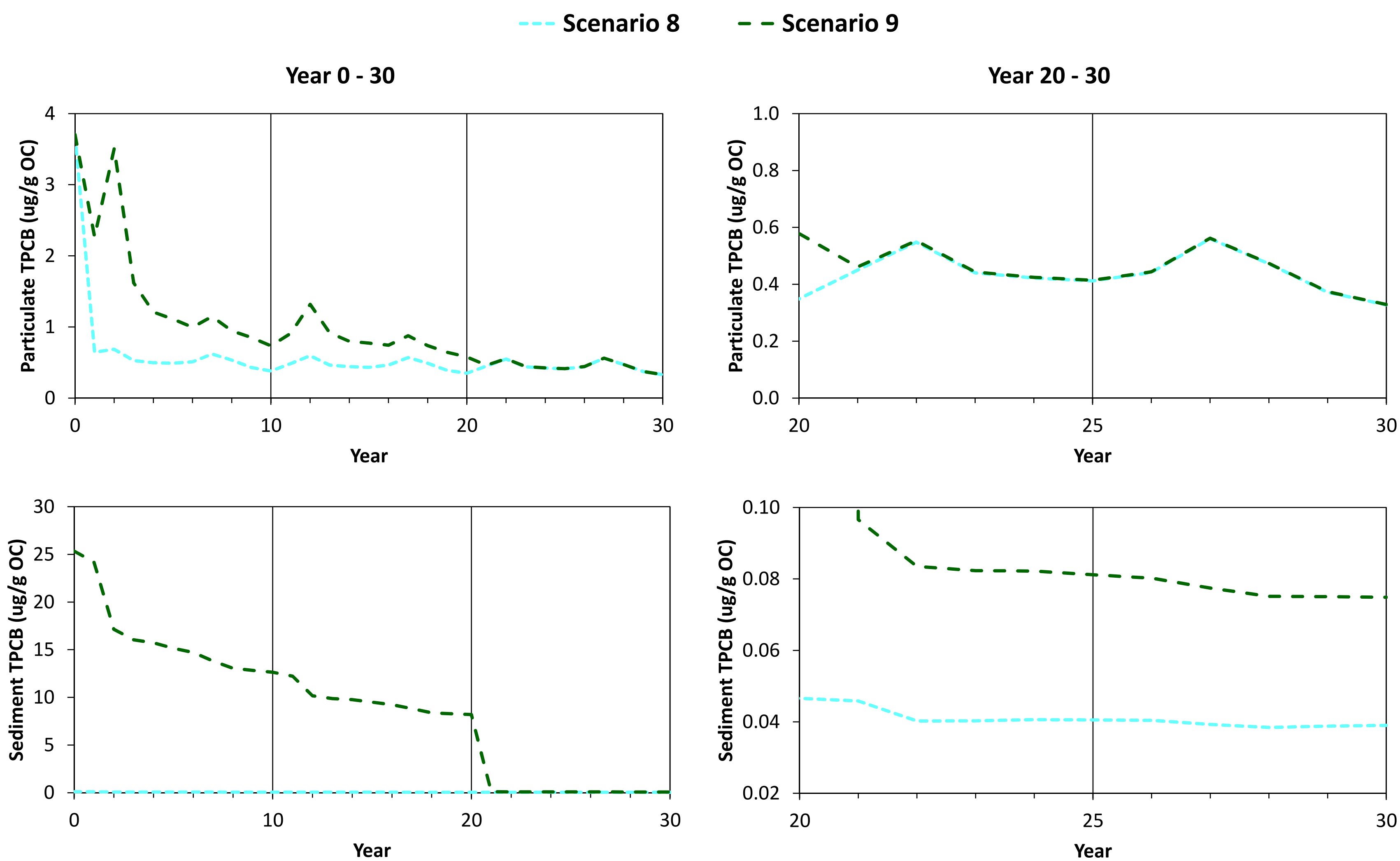


Figure 5.9a Consolidated Slip Scenario 8 and 9 TPCB Concentrations

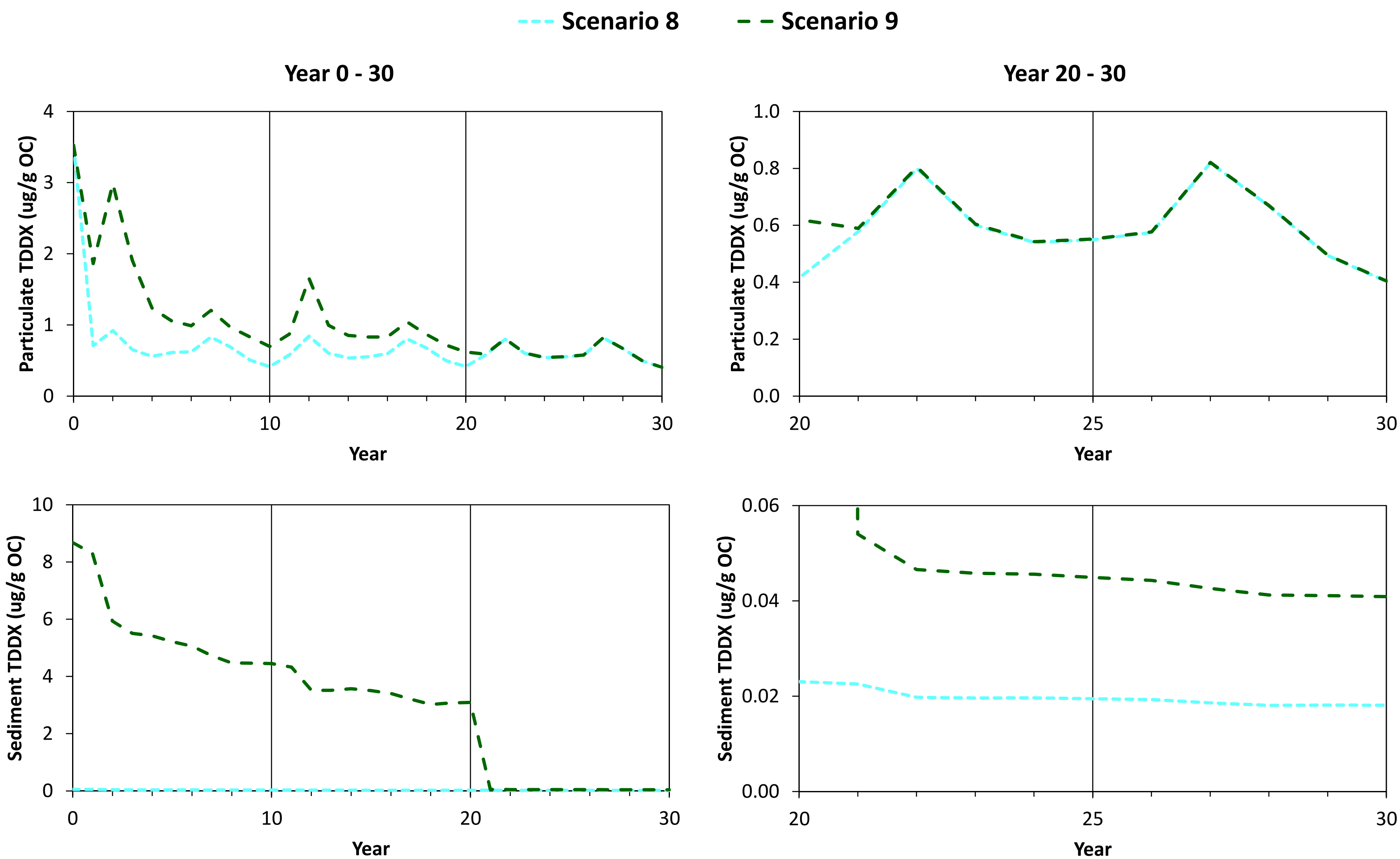


Figure 5.9b Consolidated Slip Scenario 8 and 9 TDDX Concentrations

5.4 LA INNER HARBOR

The LA Inner Harbor fish movement zone extends from the East Basin into the POLA West Basin and Main Channel. It receives loadings from the CS and the Nearshore Watershed, including Machado Lake. Tidal exchange occurs at the Cerritos Channel connection with the LB Inner Harbor North fish movement zone, and along the Main Channel adjacent to the LA Outer Harbor fish movement zone. Initial water and bed concentrations under the Baseline Scenario are similar for TPCB and TDDX in LA Inner Harbor.

Annual watershed loadings and bed fluxes for sediment, TPCB, and TDDX are illustrated in Figures 5.10a - 5.10c. Most of the watershed loadings are from upstream in the DC Estuary and CS. Sediment has a net deposition to the sediment bed, while organics have a net flux out of the bed. TPCB and TDDX sources to the LA Inner Harbor are compared in Figure 5.11. TPCB sources are primarily from the sediment bed (55%) and watershed (44%). In comparison, a greater amount of TDDX comes from the watershed (67%) rather than the sediment bed (33%).

Daily and annual organics concentrations are shown in Figures 5.12a and 5.12b for TPCB and TDDX, respectively, and are similar for TPCB and TDDX. The daily water concentrations show fluctuations in concentrations that correspond to watershed loadings. Daily bed concentrations show more of a steady decrease in concentration over time. The annual concentrations depict an overall decline in water and bed concentrations over the 20-year simulation period. Reductions in water concentrations from the Baseline Scenario are similar for TPCB and TDDX under all scenarios, except Scenario 3. Under Scenario 3, TPCB water concentrations are further reduced, since TPCB has a higher contribution from bed sources. The two sediment loading reduction scenarios, Scenarios 3 and 6, result in the lowest sediment bed concentrations.

Annual TPCB and TDDX concentrations for Scenario 8 and 9 are compared in Figures 5.13a and 5.13b, respectively. Water concentrations are lower for Scenario 8 over the first 20 years. After 20 years, Scenario 9 water concentrations become similar to those of Scenario 8. Bed concentrations are similar over the entire 30-year simulation period.

The Year 20 average water particulate and sediment bed concentrations in the LA Inner Harbor are compared among all the model scenarios in Table 5.3. In general, water concentrations are similar for all model scenarios over the last year. Greater differences between model scenarios occur during wetter years, as illustrated previously in Figure 5.12. The reductions in water concentrations under the model scenarios differ between TPCB and TDDX. For TPCB, the smallest reductions in water concentrations occur for Scenario 2 (and 9) followed by Scenario 7, 1, and 8. Lower TPCB concentrations are shown for Scenario 4, 5, and 3. For TDDX, the smallest reductions from the Baseline Scenario occur for Scenarios 7, 3, and 8, followed by Scenarios 1, 4, and 5. Overall, TDDX shows less reductions water concentrations due to sediment loading reductions compared to watershed loading reductions. The lowest water concentrations for organics occur under Scenario 6. Bed concentrations are reduced from the Baseline Scenario for the sediment loading reduction scenarios (Scenarios 3 and 6).

Table 5.3 LA Inner Harbor Year 20 Average Organics Concentrations

Model Scenario	TPCB (ug/g OC)		TDDX (ug/g OC)	
	Water	Bed	Water	Bed
Baseline Scenario	0.313	2.515	0.338	3.241
Scenario 1 100% WLR	0.273	2.510	0.272	3.240
Scenario 2 50% WLR	0.293	2.513	0.305	3.240
Scenario 3 SedLR to TMDL Target	0.224	0.121	0.308	0.0782
Scenario 4 100% WLR + DC Estuary SedLR	0.259	2.508	0.249	3.240
Scenario 5 100% WLR + Hot Spot SedLR	0.242	2.506	0.245	3.240
Scenario 6 100% WLR + 100% SedLR	0.164	0.016	0.217	0.0026
Scenario 7 Hot Spot SedLR	0.281	2.511	0.311	3.240
Scenario 8 50% WLR + Hot Spot SedLR	0.261	2.508	0.277	3.240
Scenario 9 50% WLR + Year 20 Hot Spot SedLR	0.293	2.513	0.305	3.240
Scenario 8 (Year 30) 50% WLR + Hot Spot SedLR	0.249	2.184	0.269	3.076
Scenario 9 (Year 30) 50% WLR + Year 20 Hot Spot SedLR	0.249	2.187	0.270	3.076

Average concentrations determined as average over Year 20 or Year 30 as indicated

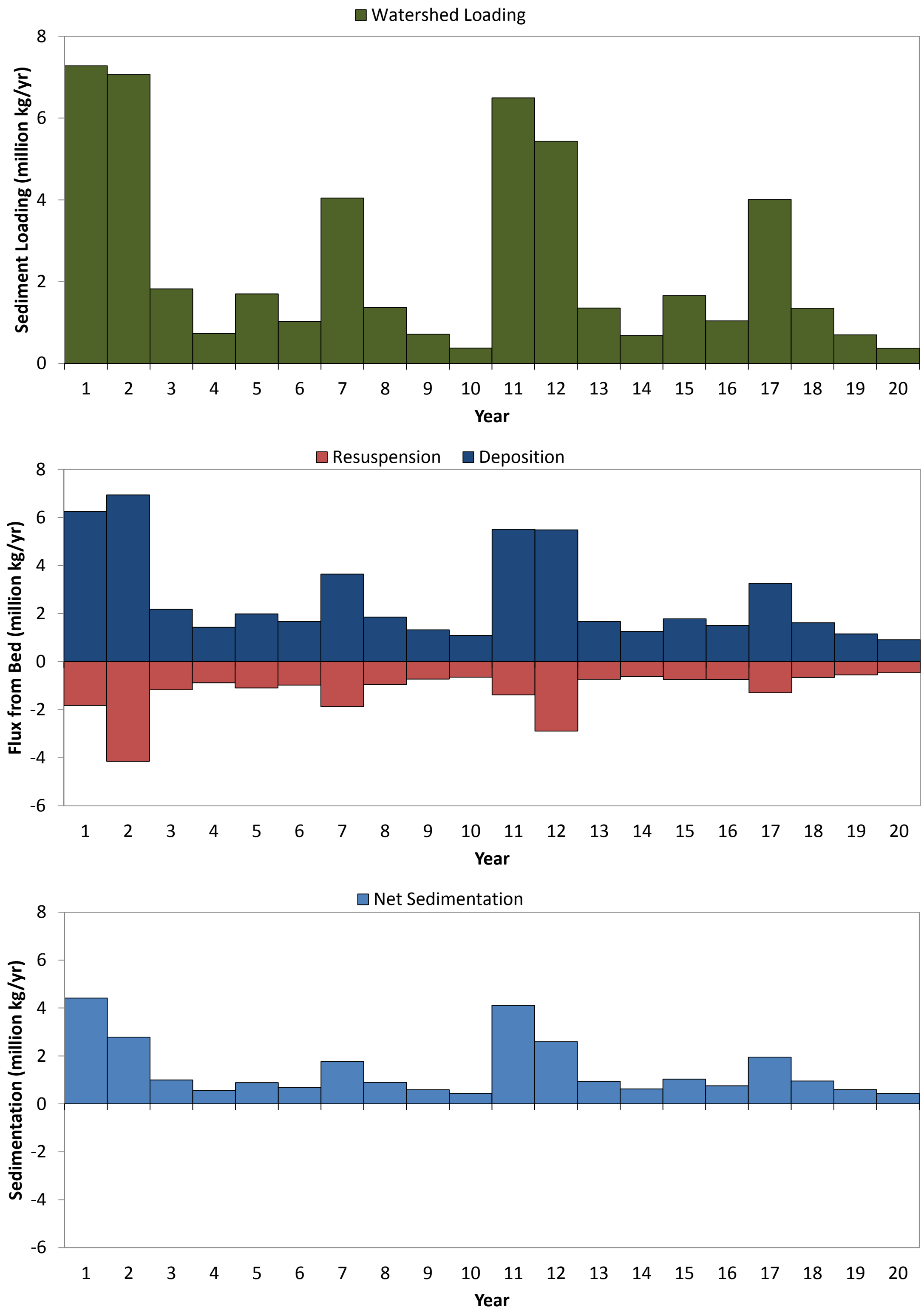


Figure 5.10a LA Inner Harbor Annual Sediment Loadings

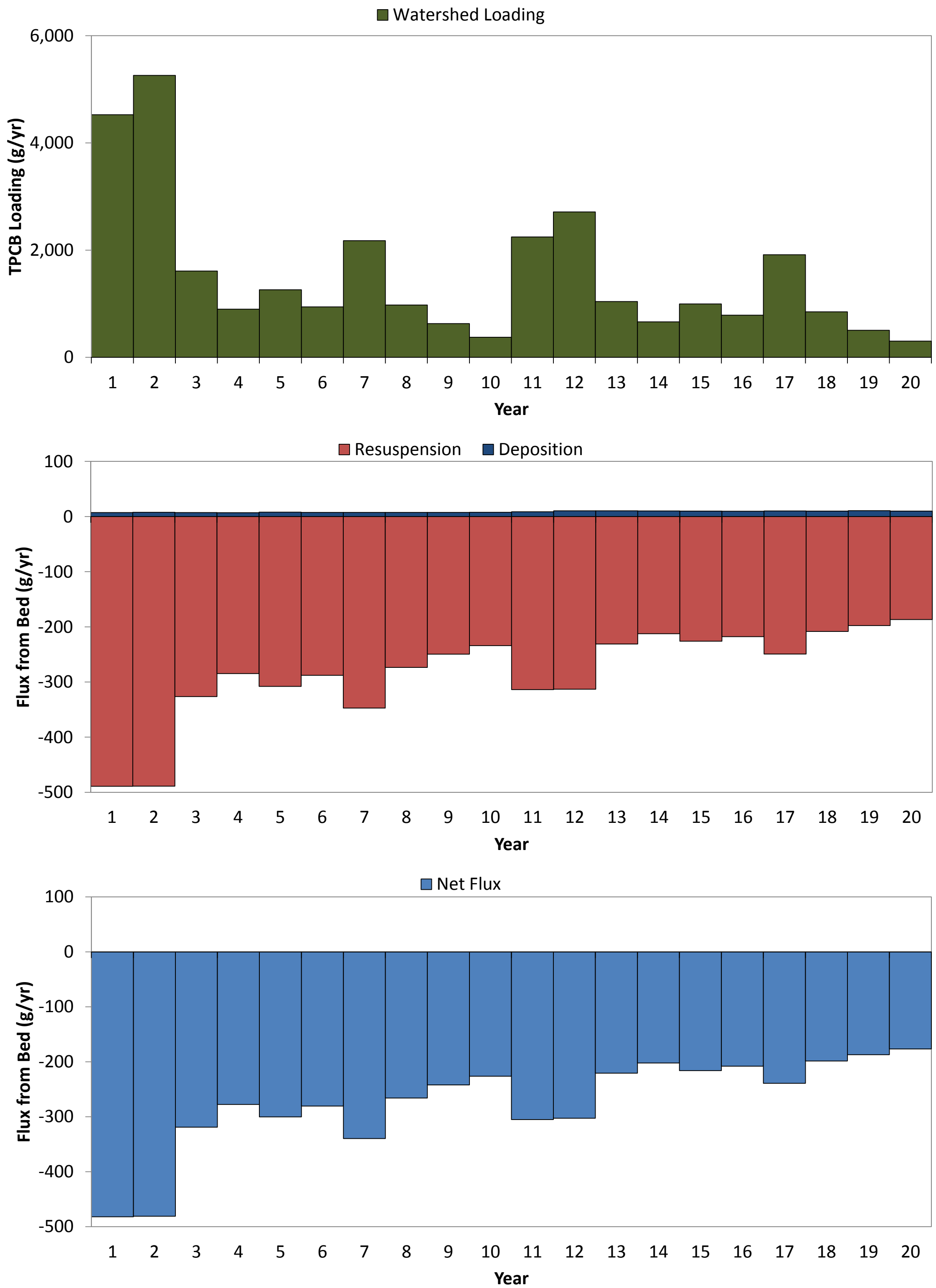


Figure 5.10b LA Inner Harbor Annual TPCB Loadings

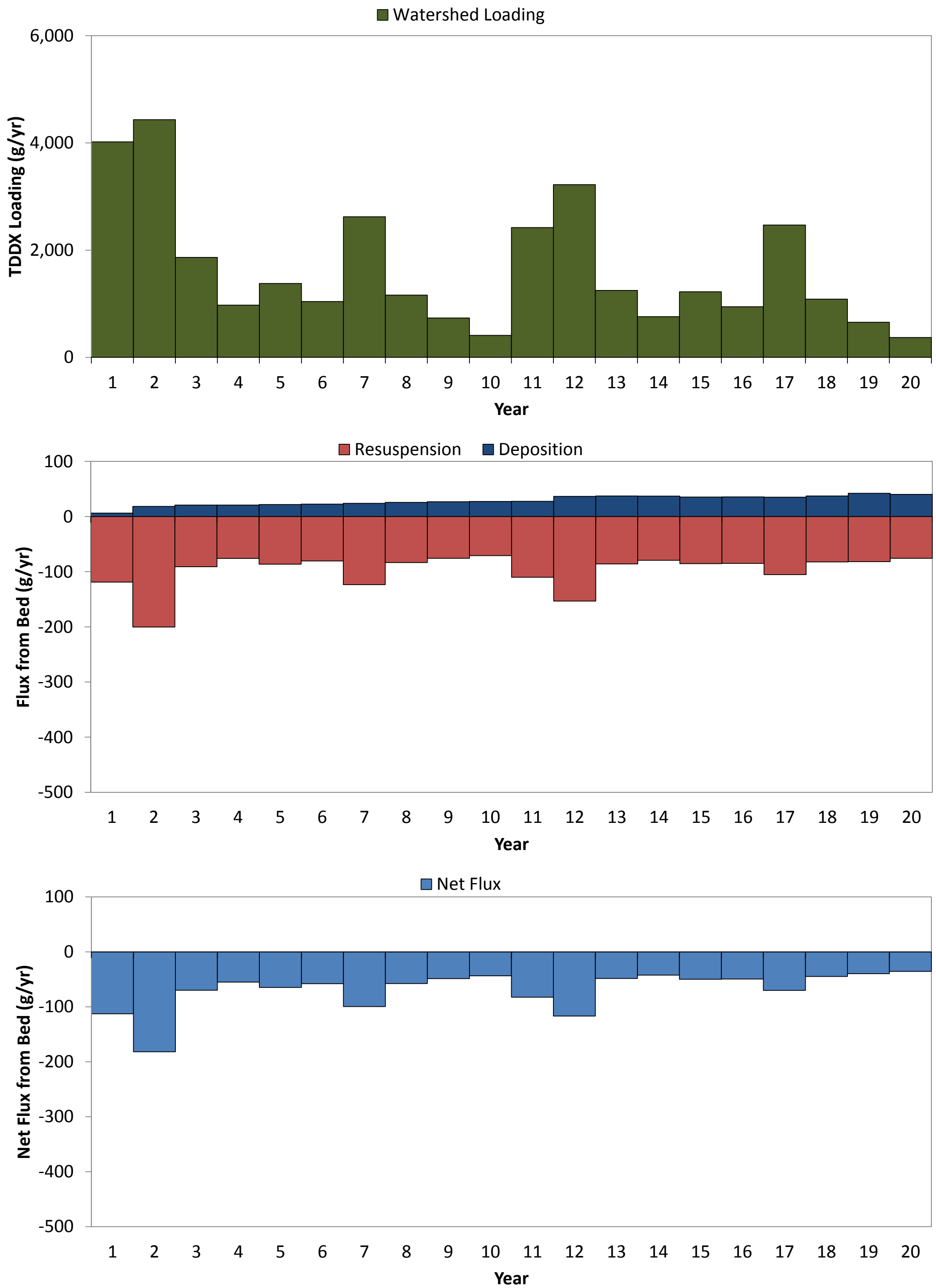
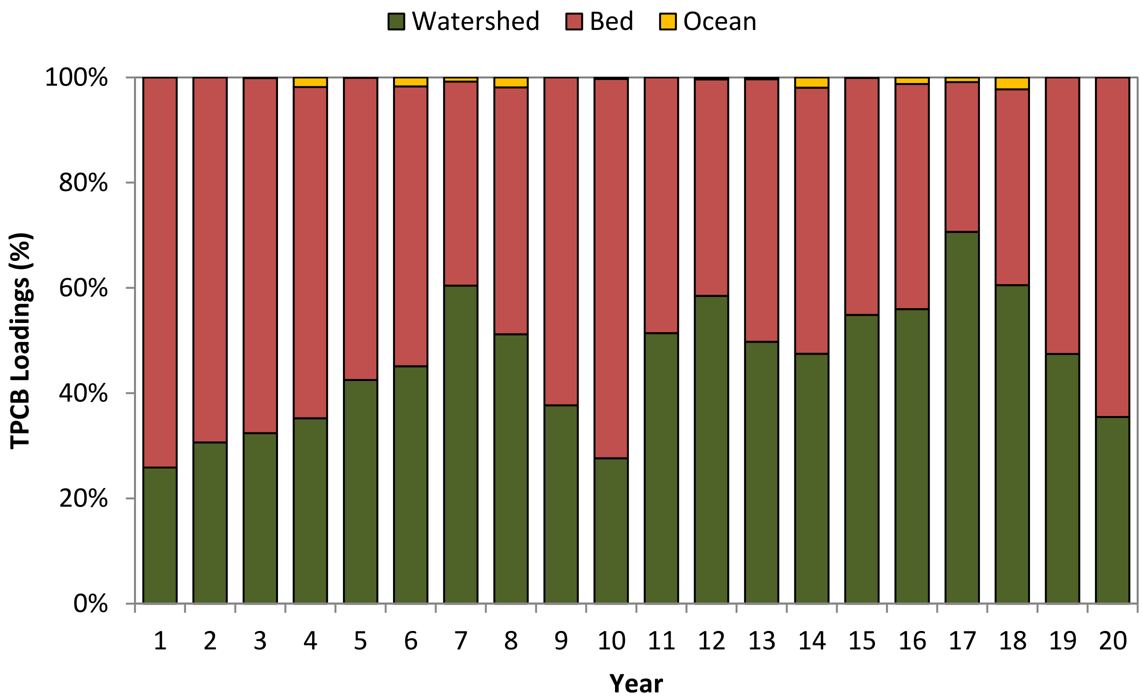


Figure 5.10c LA Inner Harbor Annual TDDX Loadings



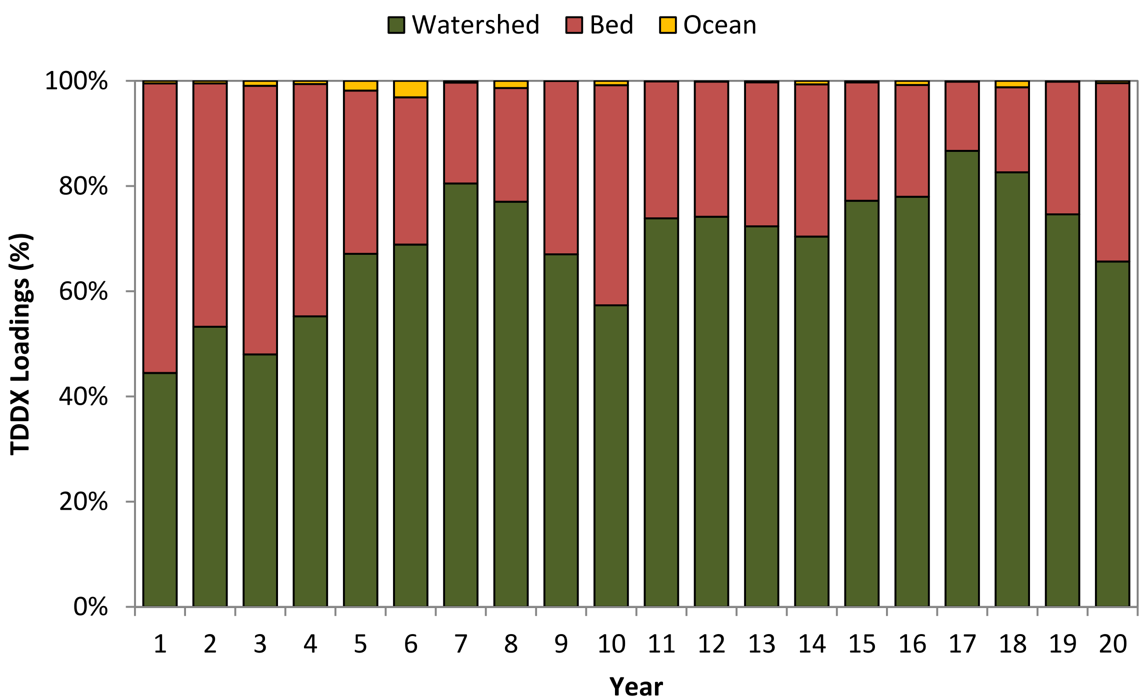


Figure 5.11 LA Inner Harbor TPCB and TDDX Sources

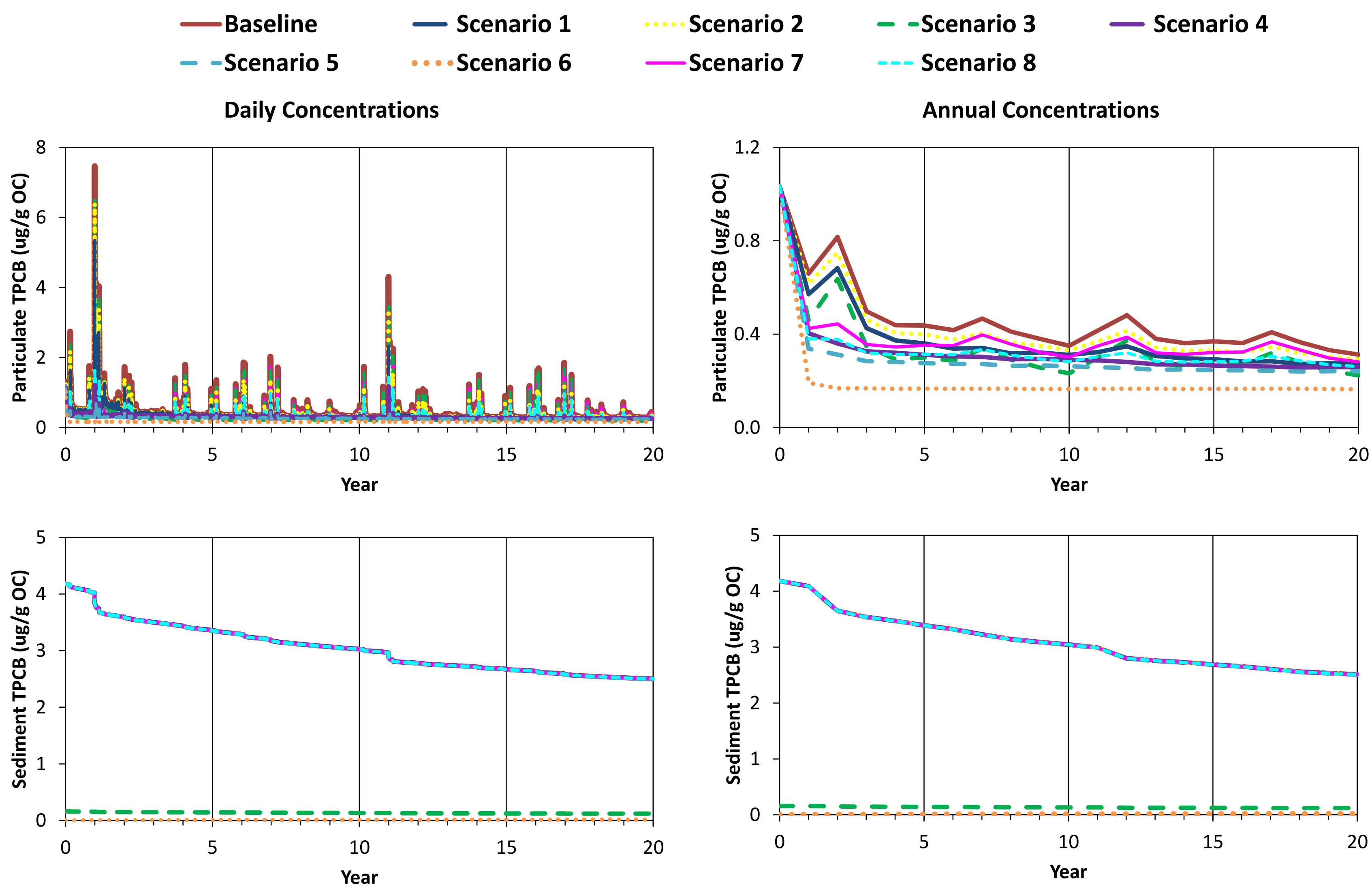


Figure 5.12a LA Inner Harbor TPCB Concentrations

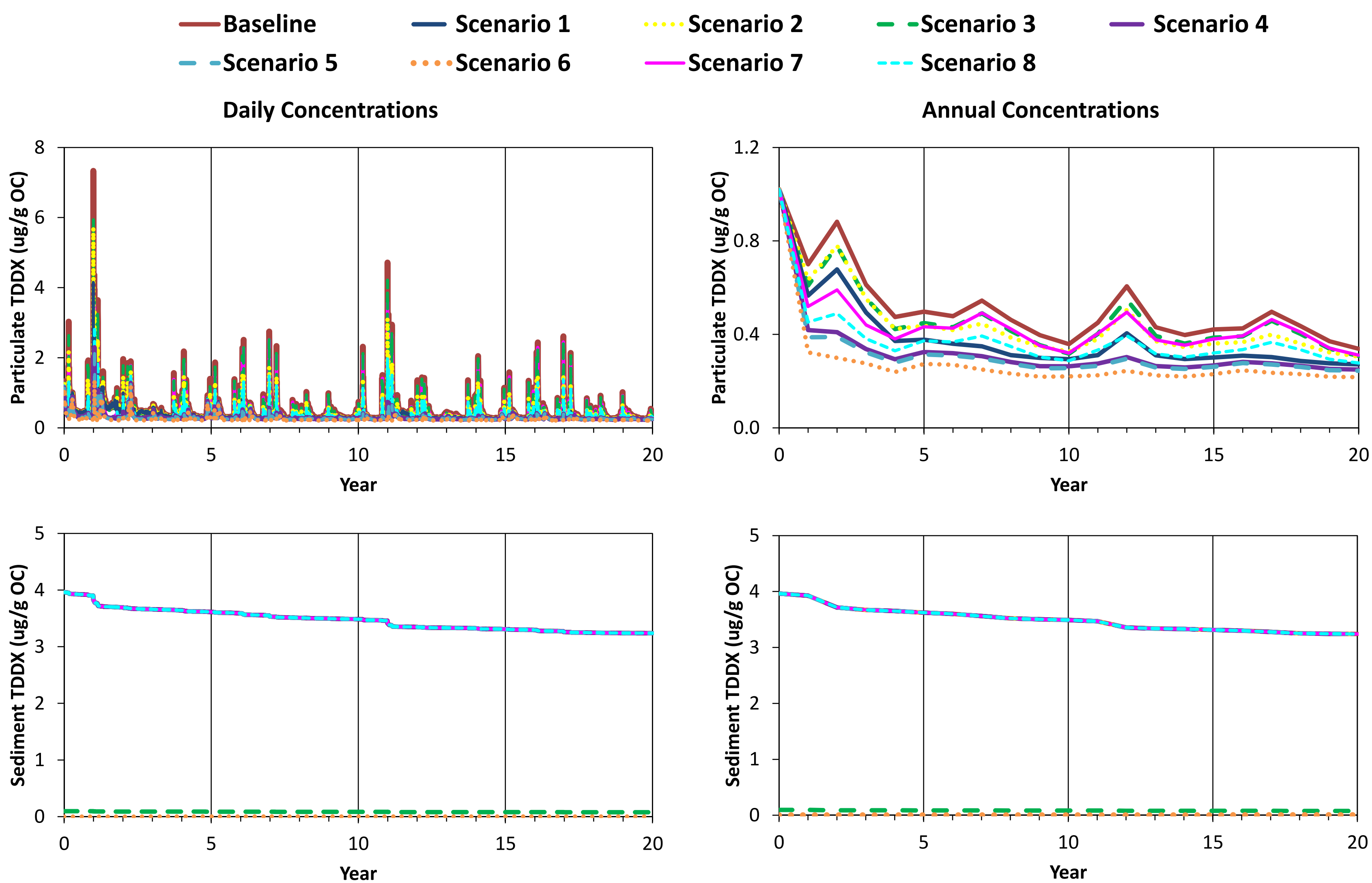


Figure 5.12b LA Inner Harbor TDDX Concentrations

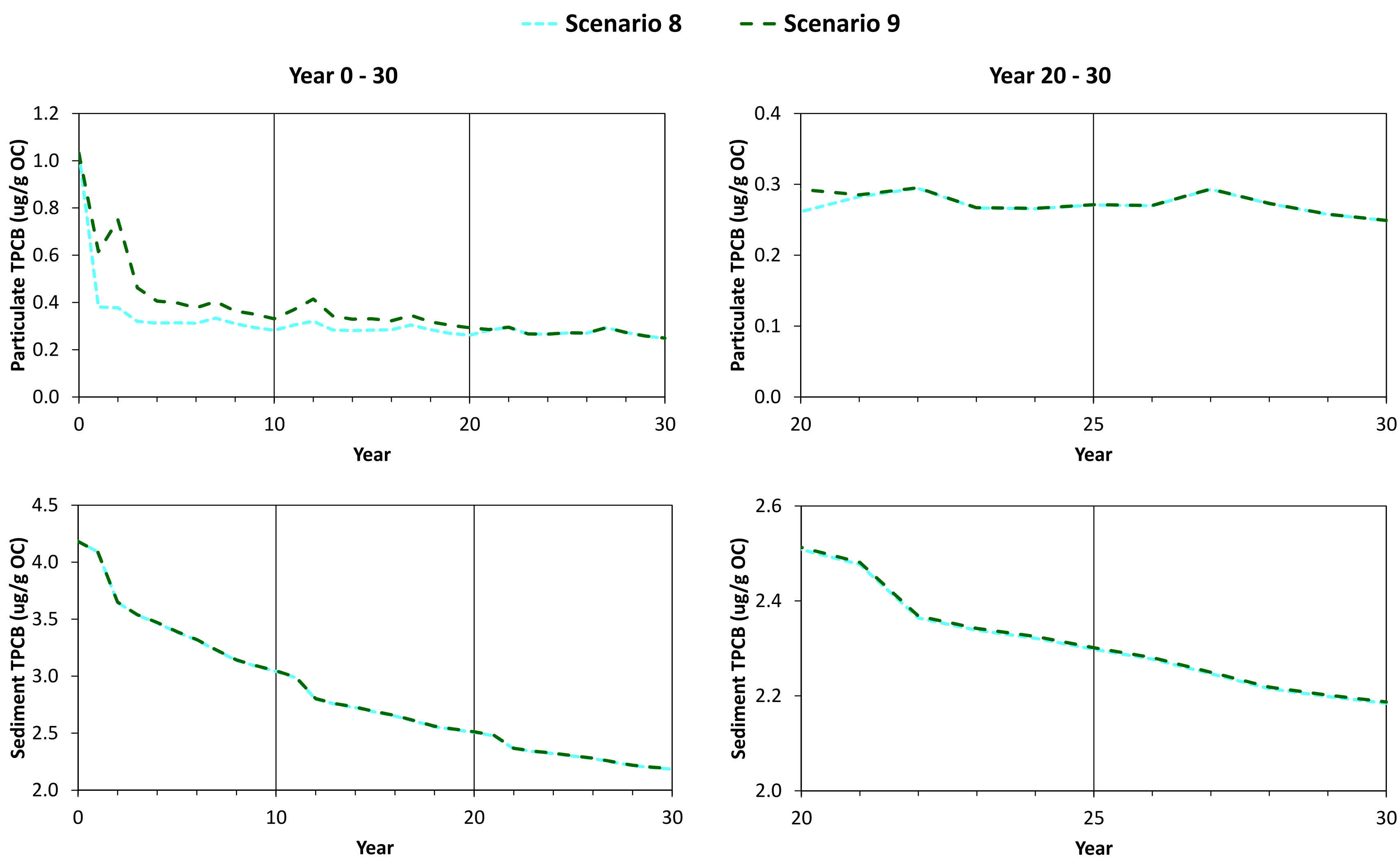


Figure 5.13a LA Inner Harbor Scenario 8 and 9 TPCB Concentrations

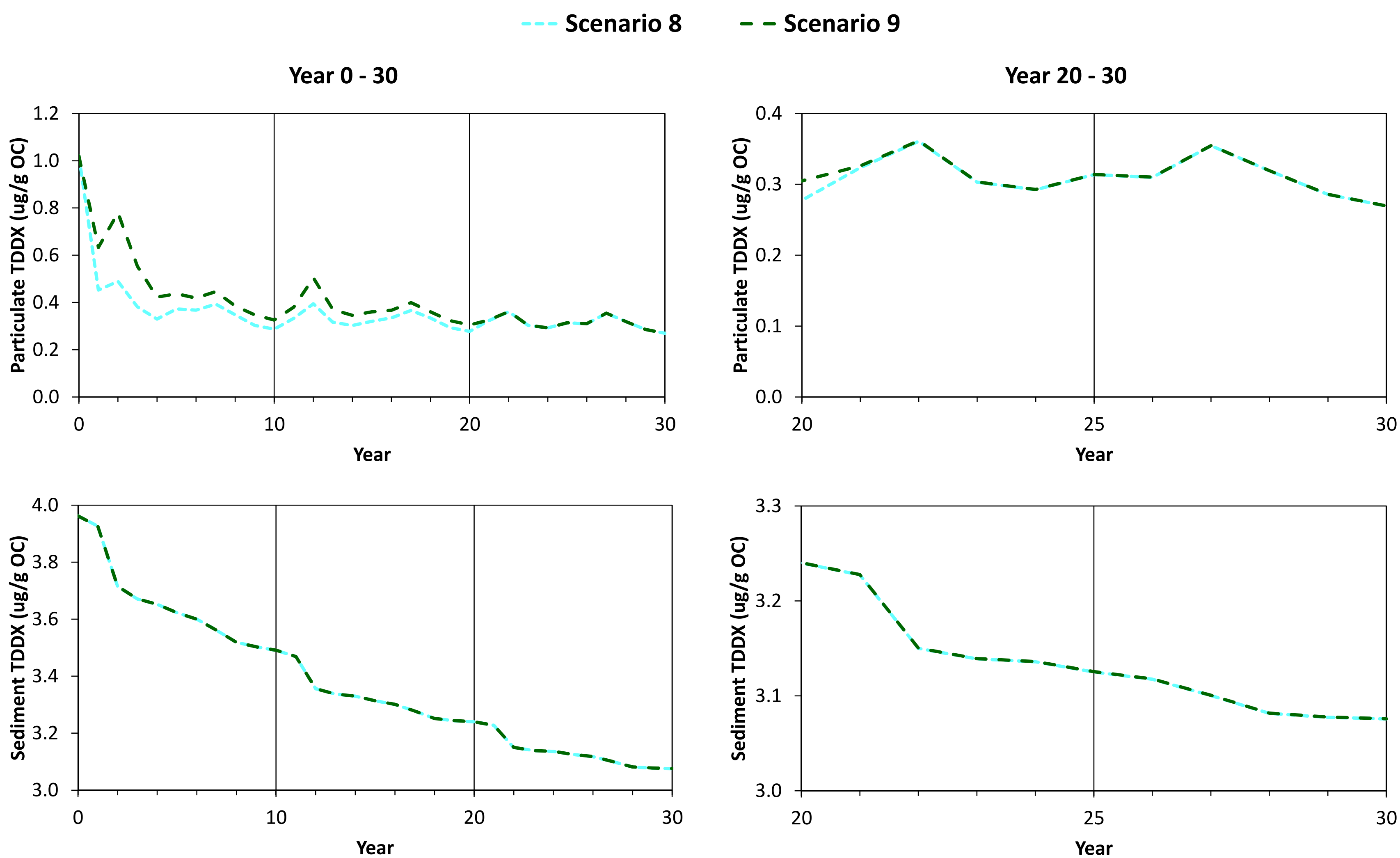


Figure 5.13b LA Inner Harbor Scenario 8 and 9 TDDX Concentrations

5.5 FISH HARBOR

The FH fish movement zone is located between the LA Inner and Outer Harbor. The FH is a small, isolated waterbody that receives watershed loadings from port areas on Terminal Island. It experiences tidal exchange with the LA Outer Harbor along the POLA North Channel, between Pier 300 and Pier 400. In general, initial bed concentrations for TPCB are slightly higher than for TDDX in FH.

Hydrodynamic conditions in FH are different than in most other fish movement zones, since it is relatively small and isolated from the harbor. Annual watershed loadings and bed fluxes for FH are shown in Figures 5.14a – 5.14c for sediment, TPCB, and TDDX. The sediment deposition is about five times greater than the sediment watershed loadings. The sediment flux from the bed indicates a highly depositional environment with minimal resuspension. Sediment loadings from the watershed are relatively small compared to sediment from tidal exchange. Hence, nearly all the deposition occurring in FH is from sediment sources in the harbor. For TPCB, the net flux from the bed is significantly higher than watershed loadings. In FH, sediment-water diffusion is the dominant process for organics, particularly TPCB. Comparisons of the TDDX loadings also show that the flux from the bed is greater than the watershed loadings. Watershed, bed, and tidal exchange sources of TPCB and TDDX are illustrated in Figure 5.15. For TPCB, the dominant source is from the sediment bed, or more specifically, due to mass transfer from the bed to water. TPCB sources from the watershed and tidal exchange are similar in magnitude. In FH, the dominant process for TDDX differs from that for TPCB. The primary TDDX source is tidal exchange with the outer harbor, followed by diffusion from the sediment bed. Both the mass transfer coefficient and bed concentrations for TDDX are lower than for TPCB.

Daily and annual TPCB concentrations in FH are shown in Figure 5.16a. The daily fluctuations in water concentrations are due to watershed loadings. An overall drop in water concentration during dry weather occurs under scenarios with sediment loading reductions in FH (Scenarios 3, 5, 6, 7, and 8). Comparison of the annual TPCB concentrations, rather than that of the daily concentrations, better illustrates the differences in water concentrations for each scenario. Water concentrations under the Baseline Scenario and Scenarios 1, 2, and 4 are similar. Since the dominant source of TPCB is the sediment bed, only the sediment loading reduction scenarios (Scenarios 3, 5, 6, 7, and 8) result in a substantial decrease in water concentrations. For TPCB bed concentrations, there is a gradual decline over time due to flux from the bed. Annual TPCB concentrations for Scenario 8 and 9 are compared in Figure 5.17a, which shows higher concentrations for Scenario 9. The Year 20 average TPCB concentrations are compared in Table 5.4. Overall, sediment loading reductions in FH are needed in order to cause decreases in TPCB water and bed concentrations.

Daily and annual TDDX concentrations in FH are shown in Figure 5.16b. The TDDX water concentrations are relatively consistent among the model scenarios. The sediment loading reduction scenarios (Scenarios 3, 5, 6, 7, and 8) result in slightly larger decreases in water concentrations compared to other scenarios, relative to the Baseline Scenario. The TDDX sediment concentrations gradually decline over time. Lower bed concentrations occur under Scenarios 3, 5, 6, 7, and 8 due to the sediment loading reduction. The Scenario 8 and 9 annual TDDX concentrations are compared in Figure 5.17b. Water concentrations are higher for Scenario 9 over the first 20 years and then become similar to Scenario 8. Over the last 10 years, Scenario 8 has slightly lower bed concentrations than Scenario 9. The Year 20 average TDDX concentrations are presented in Table 5.4. In general, TDDX water concentrations for all model scenarios are similar to those under Scenario 6 – which represent the minimum achievable concentration. For TDDX bed concentrations, significant reductions only occur under the scenarios that include sediment loading reductions.

Table 5.4 Fish Harbor Year 20 Average Organics Concentrations

Model Scenario	TPCB (ug/g OC)		TDDX (ug/g OC)	
	Water	Bed	Water	Bed
Baseline Scenario	0.486	5.552	0.261	4.714
Scenario 1 100% WLR	0.473	5.546	0.250	4.714
Scenario 2 50% WLR	0.479	5.549	0.256	4.714
Scenario 3 SedLR to TMDL Target	0.151	0.134	0.201	0.0909
Scenario 4 100% WLR + DC Estuary SedLR	0.471	5.545	0.248	4.714
Scenario 5 100% WLR + Hot Spot SedLR	0.147	0.130	0.204	0.0906
Scenario 6 100% WLR + 100% SedLR	0.130	0.022	0.187	0.0041
Scenario 7 Hot Spot SedLR	0.159	0.135	0.215	0.0912
Scenario 8 50% WLR + Hot Spot SedLR	0.153	0.132	0.209	0.0909
Scenario 9 50% WLR + Year 20 Hot Spot SedLR	0.479	5.549	0.256	4.714
Scenario 8 (Year 30) 50% WLR + Hot Spot SedLR	0.151	0.126	0.204	0.0897
Scenario 9 (Year 30) 50% WLR + Year 20 Hot Spot SedLR	0.152	0.144	0.204	0.0929

Average concentrations determined as average over Year 20 or Year 30 as indicated

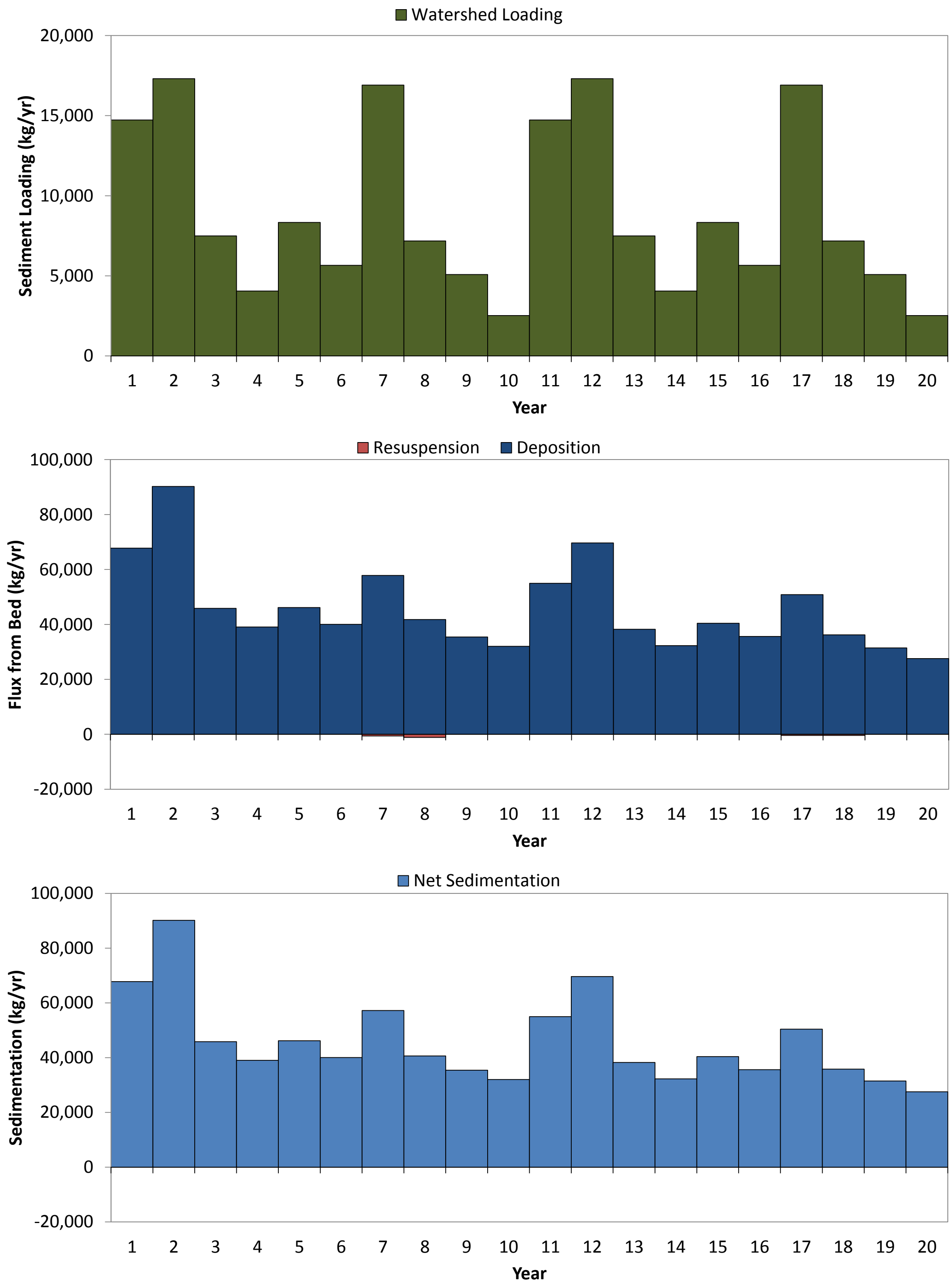


Figure 5.14a Fish Harbor Annual Sediment Loadings

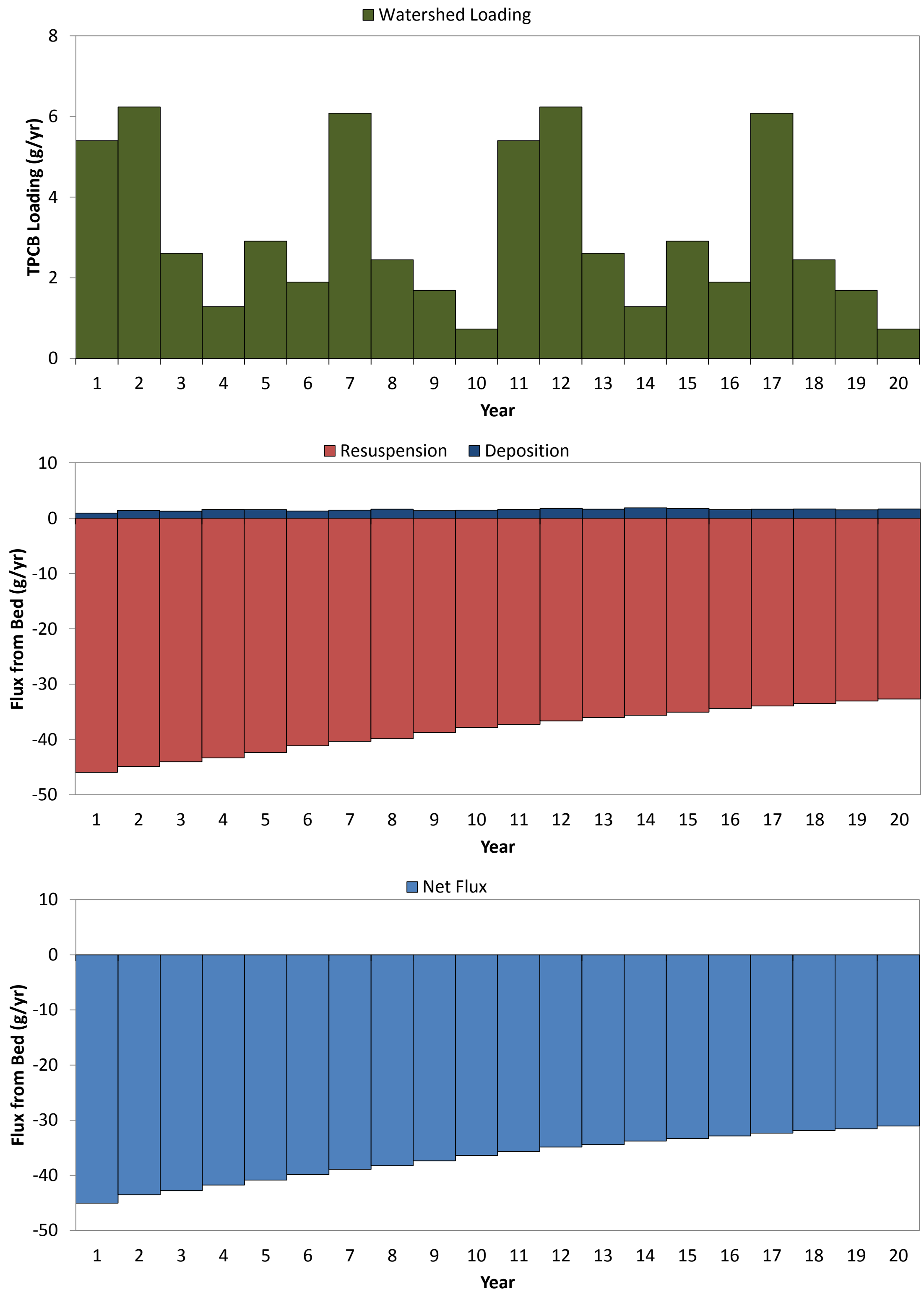


Figure 5.14b Fish Harbor Annual TPCB Loadings

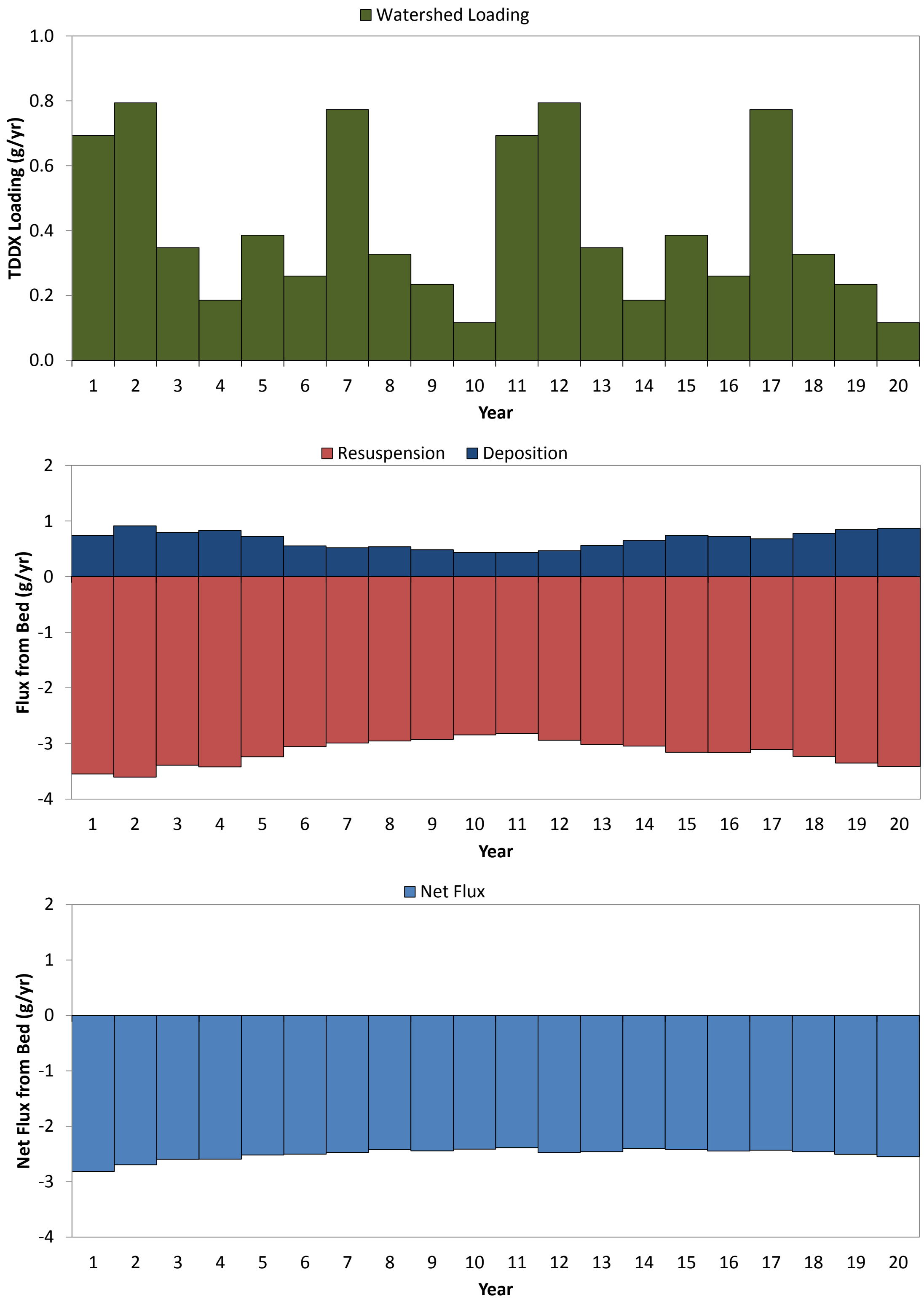
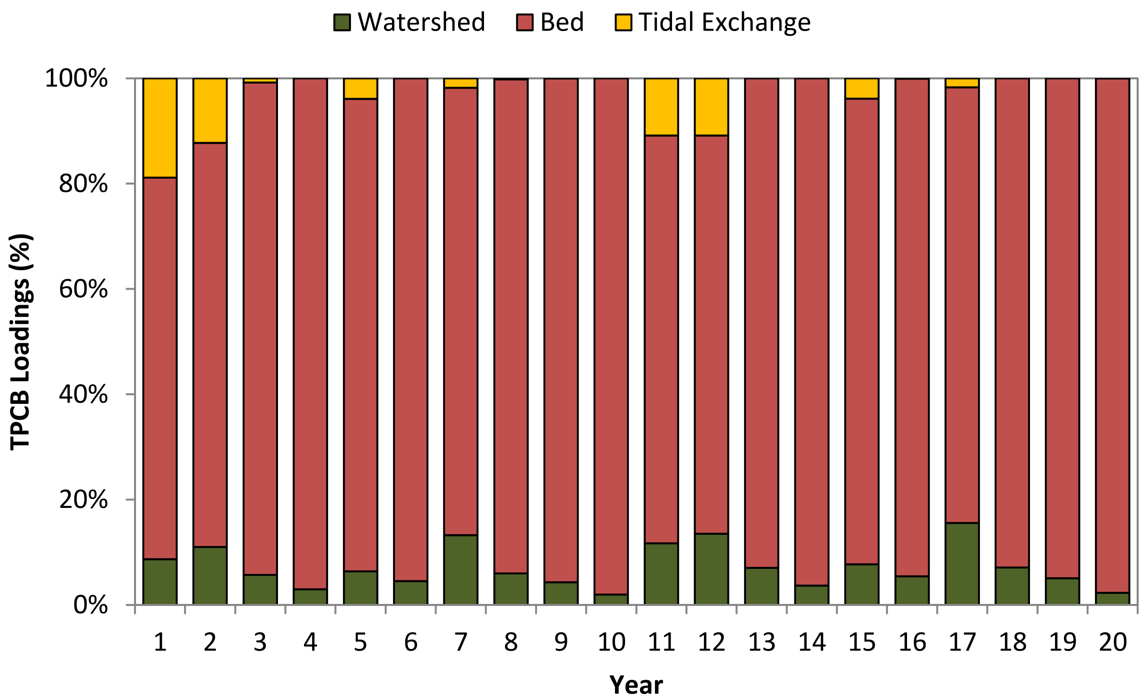


Figure 5.14c Fish Harbor Annual TDDX Loadings



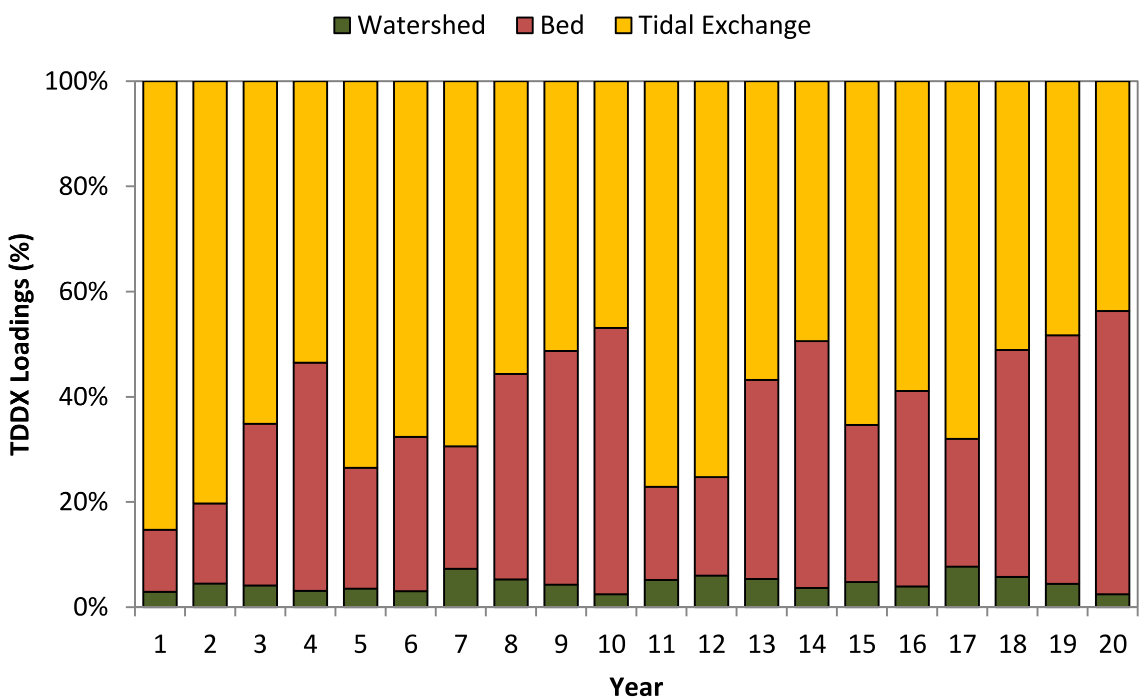


Figure 5.15 Fish Harbor TPCB and TDDX Sources

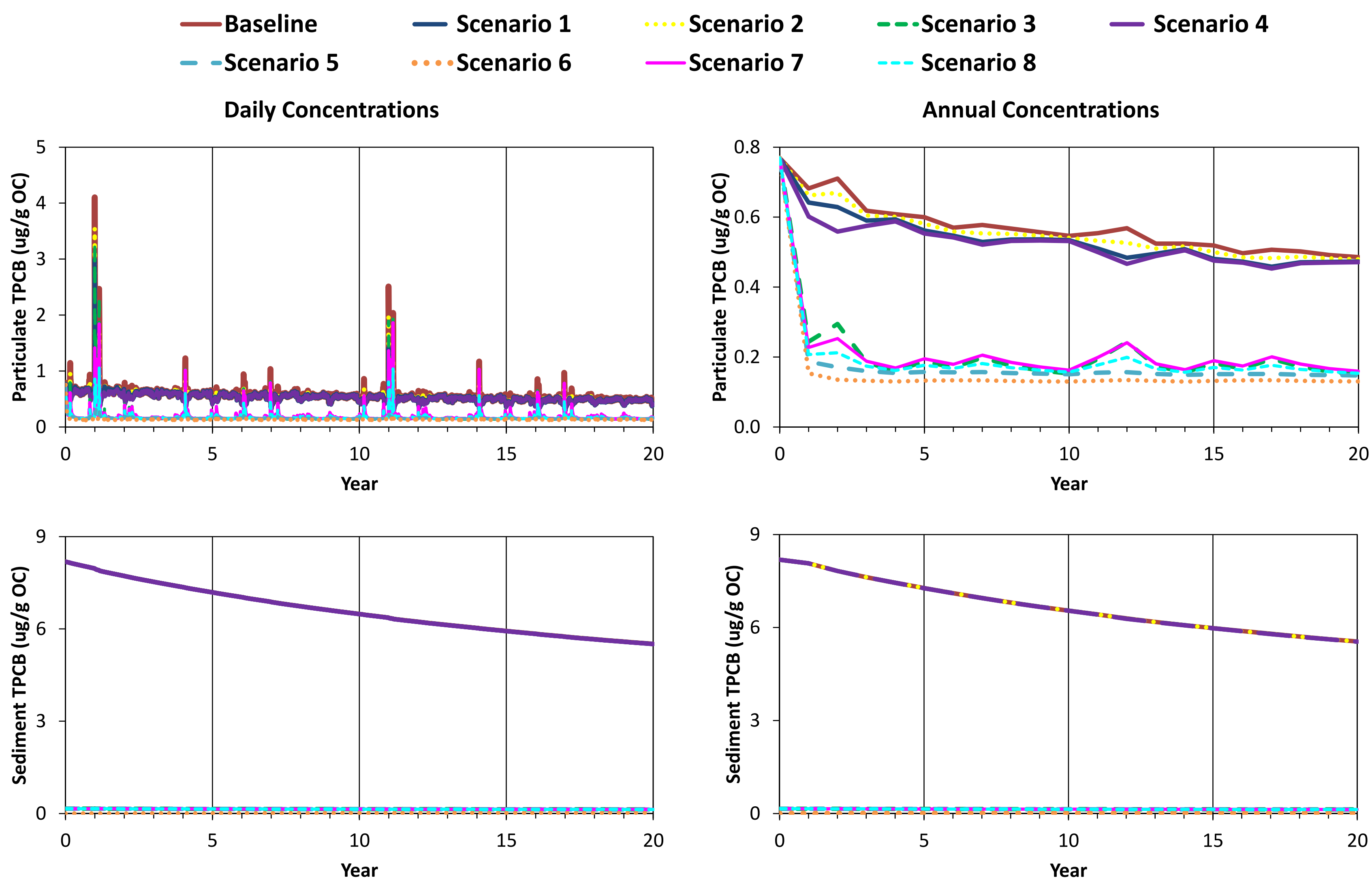


Figure 5.16a Fish Harbor TPCB Concentrations

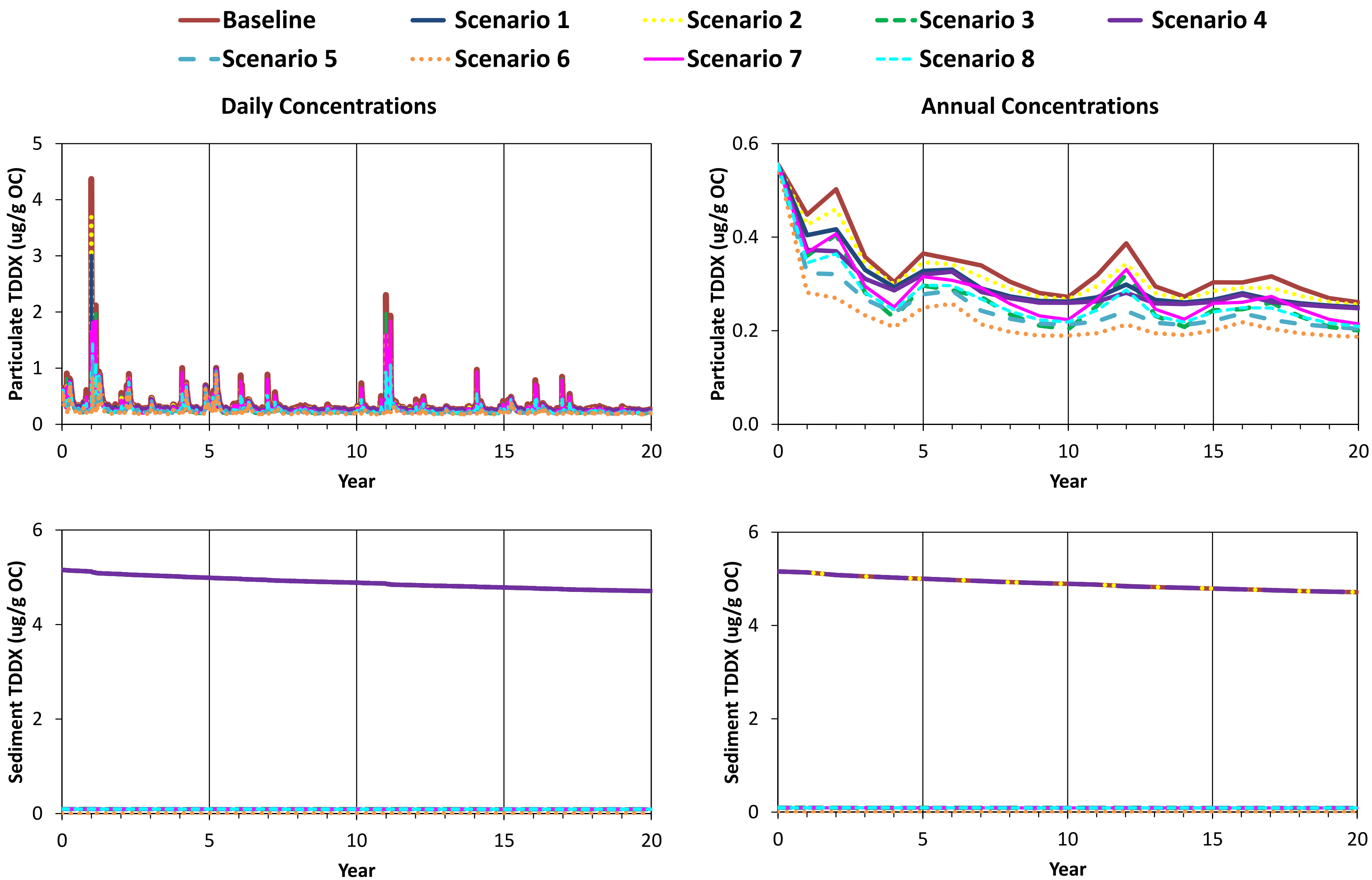


Figure 5.16b Fish Harbor TDDX Concentrations

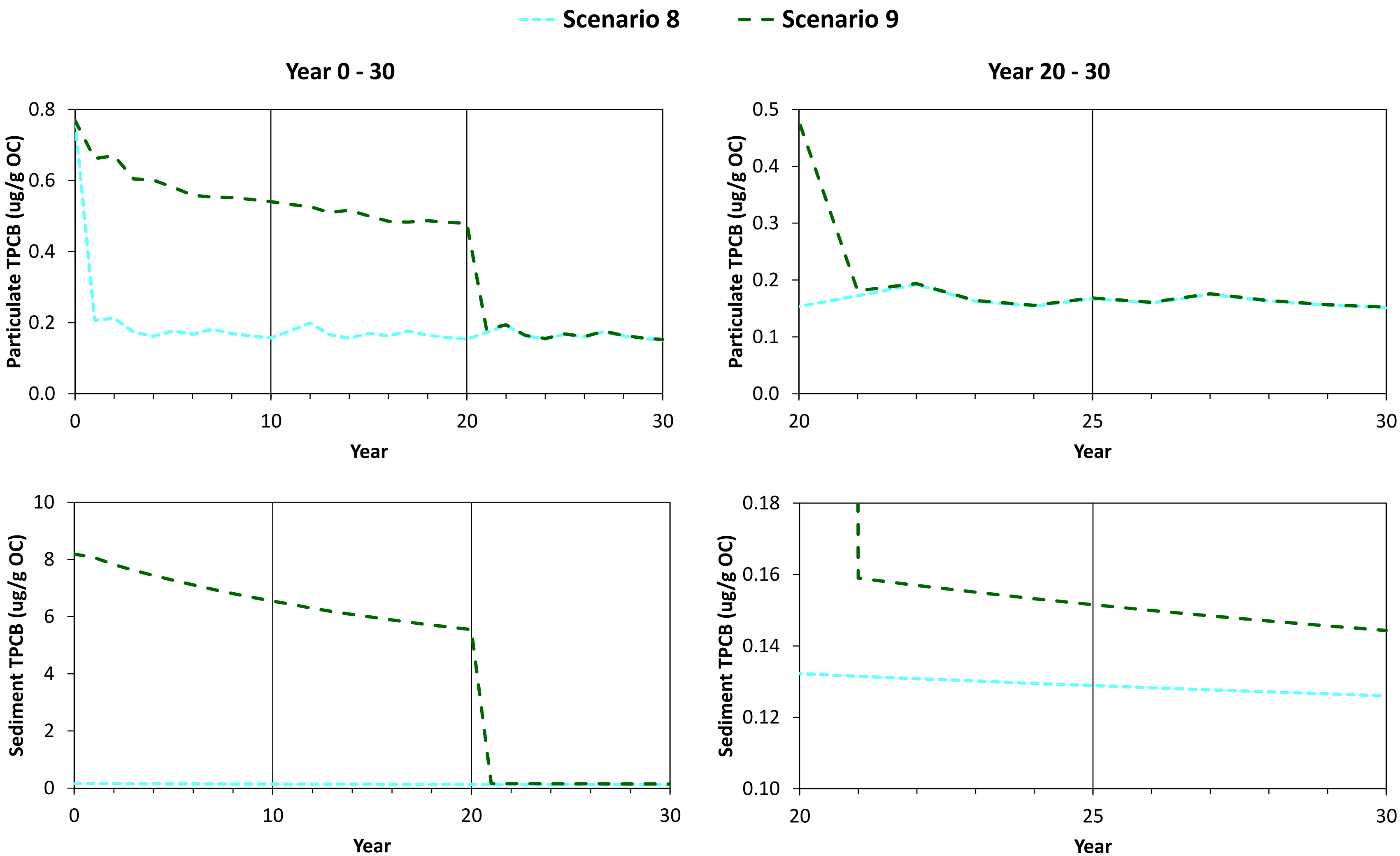


Figure 5.17a Fish Harbor Scenario 8 and 9 TPCB Concentrations

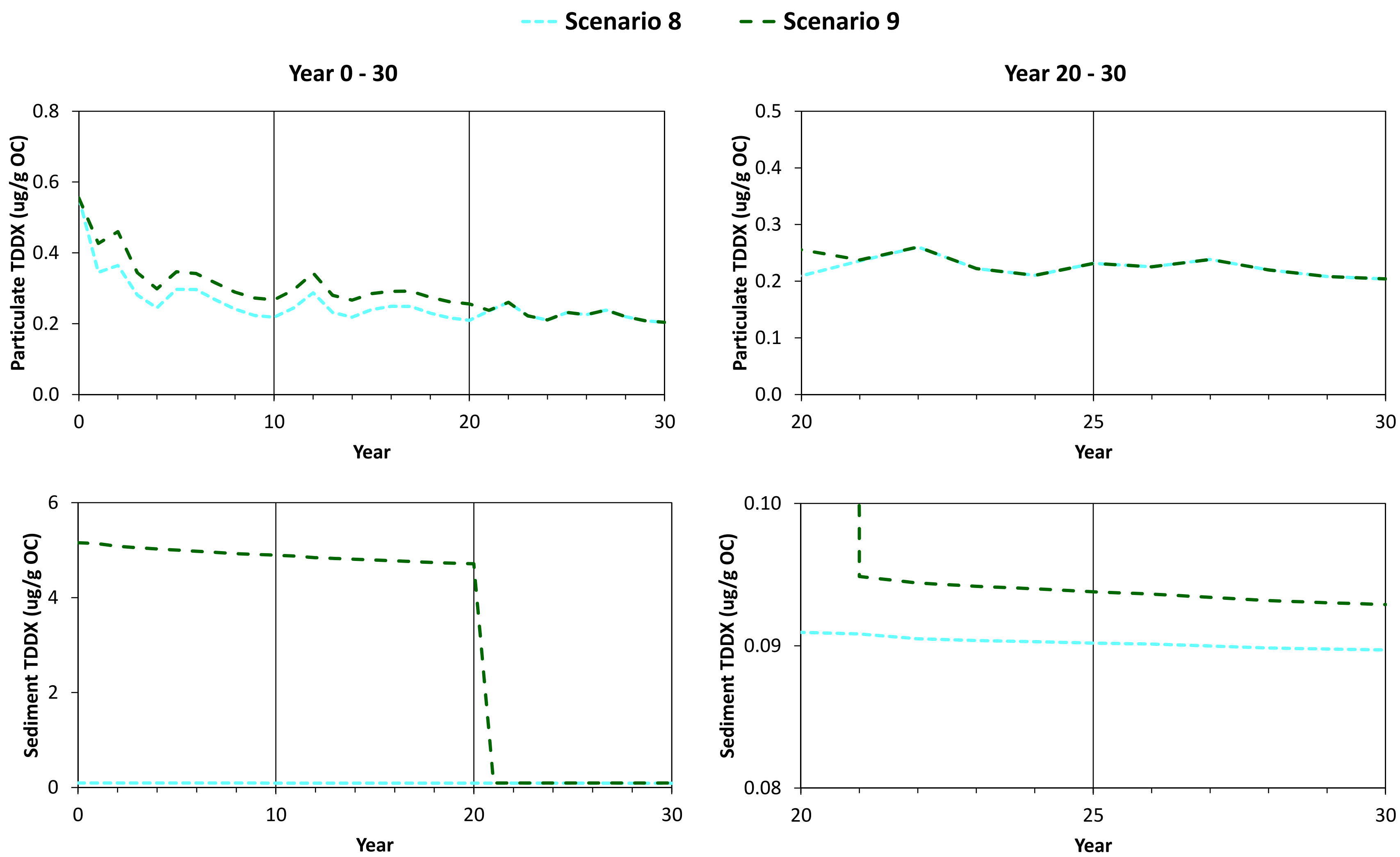


Figure 5.17b Fish Harbor Scenario 8 and 9 TDDX Concentrations

5.6 SEAPLANE LAGOON

Seaplane Lagoon is another isolated waterbody adjacent to Pier 300. It is hydrodynamically connected to both the LA Outer Harbor, through the North Channel, and the LB Outer Harbor. It receives watershed loadings from surrounding port area on Pier 300. The initial bed concentrations under the Baseline Scenario are similar for TPCB and TDDX in the Seaplane Lagoon.

The Seaplane Lagoon is most similar to the FH fish movement zone. The annual sediment, TPCB, and TDDX watershed loadings and bed fluxes for Seaplane Lagoon are shown in Figures 5.18a - 5.18c, respectively. Sediment watershed loadings are significantly less than sediment deposition, which indicates the presence of an additional sediment source – tidal exchange. For both TPCB and TDDX, fluxes from the bed are greater than watershed loadings. Sources of TPCB and TDDX to Seaplane Lagoon are compared in Figure 5.19. For TPCB, the dominant source is the sediment bed (56%), followed by tidal exchange (38%). For TDDX, tidal exchange is the primary source (79%), followed by the sediment bed (19%).

Daily and annual concentrations for Seaplane Lagoon are provided in Figures 5.20a and 5.20b for TPCB and TDDX, respectively. Similar to FH, TPCB and TDDX show different responses to source reductions due to differences in the dominant sources. In general, greater reductions in TPCB water and bed concentrations occur for sediment loading reductions in Seaplane Lagoon (Scenarios 3 and 6). Fluctuations in daily TPCB water concentrations are due to watershed loadings, and in contrast, the watershed loading reduction scenarios (Scenarios 1, 4, 5, and 6) show more constant water concentrations, which is better illustrated by the annual TPCB water concentrations. Scenario 7 water concentrations are similar to those of the Baseline Scenario, while those of Scenarios 1, 2, 4, 5, 6, and 8 are slightly lower. For TDDX, all scenarios show fluctuations in response to wet weather. This happens as a result of resuspension occurring outside the harbor, which is then transported into the harbor. Outside of the harbor, TDDX bed concentrations are higher than those of TPCB. The similarity in water concentrations for all scenarios reflects the importance of tidal exchange as the dominant source of TDDX. Scenario 3 shows less of a TDDX reduction relative to the Baseline Scenario, compared to the TPCB reduction. TDDX bed concentrations are lower for Scenarios 3 and 6 due to the sediment loading reduction in Seaplane Lagoon. Comparisons of annual concentrations in Seaplane Lagoon for Scenarios 8 and 9 are shown in Figure 5.21a for TPCB and Figure 5.21b for TDDX. Differences are shown for Scenario 9 over the first 20 years.

The Year 20 average TPCB and TDDX concentrations for each scenario are provided in Table 5.5. TPCB and TDDX water concentrations are similar to those of the Baseline Scenario and Scenario 7. Some reductions in TPCB water concentrations occur for model scenarios with watershed loading reductions. The lowest TPCB water concentrations are shown for Scenarios 3 and 6. For TDDX, reductions in water concentrations are similar for Scenarios 1 - 5 and 8, with Scenario 6 having the lowest water concentrations. TPCB concentrations in the sediment bed show the same gradual decline for most scenarios. Bed concentrations are reduced for the sediment loading reductions scenarios (Scenarios 3 and 6).

Table 5.5 Seaplane Lagoon Year 20 Average Organics Concentrations

Model Scenario	TPCB (ug/g OC)		TDDX (ug/g OC)	
	Water	Bed	Water	Bed
Baseline Scenario	0.258	1.556	0.273	2.122
Scenario 1 100% WLR	0.236	1.542	0.252	2.119
Scenario 2 50% WLR	0.247	1.549	0.263	2.121
Scenario 3 SedLR to TMDL Target	0.175	0.307	0.236	0.255
Scenario 4 100% WLR + DC Estuary SedLR	0.235	1.540	0.250	2.118
Scenario 5 100% WLR + Hot Spot SedLR	0.231	1.539	0.249	2.118
Scenario 6 100% WLR + 100% SedLR	0.136	0.033	0.209	0.0071
Scenario 7 Hot Spot SedLR	0.253	1.553	0.270	2.122
Scenario 8 50% WLR + Hot Spot SedLR	0.242	1.546	0.260	2.120
Scenario 9 50% WLR + Year 20 Hot Spot SedLR	0.247	1.549	0.263	2.121
Scenario 8 (Year 30) 50% WLR + Hot Spot SedLR	0.228	1.360	0.251	2.069
Scenario 9 (Year 30) 50% WLR + Year 20 Hot Spot SedLR	0.228	1.362	0.251	2.070

Average concentrations determined as average over Year 20 or Year 30 as indicated

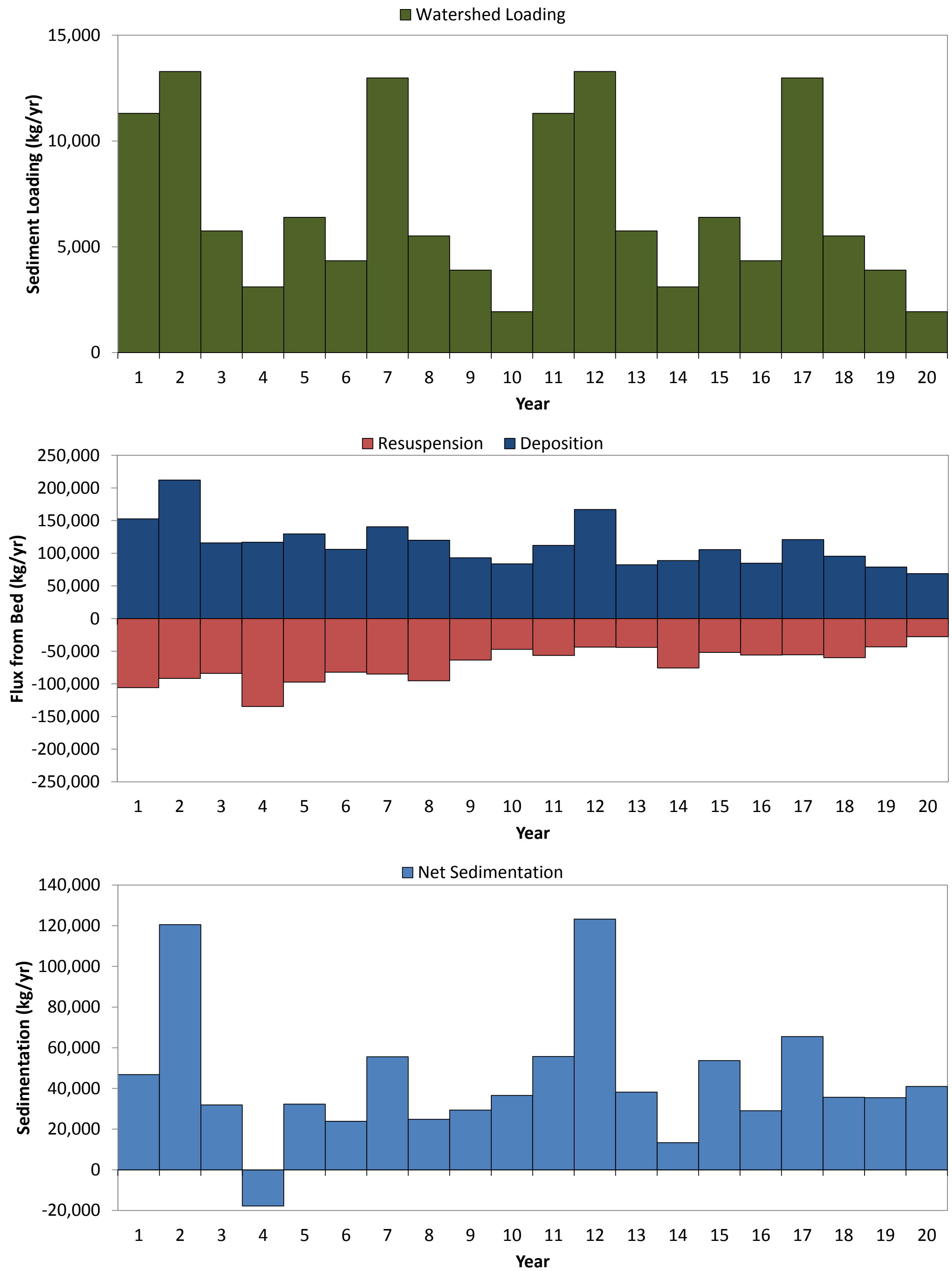


Figure 5.18a Seaplane Lagoon Annual Sediment Loadings

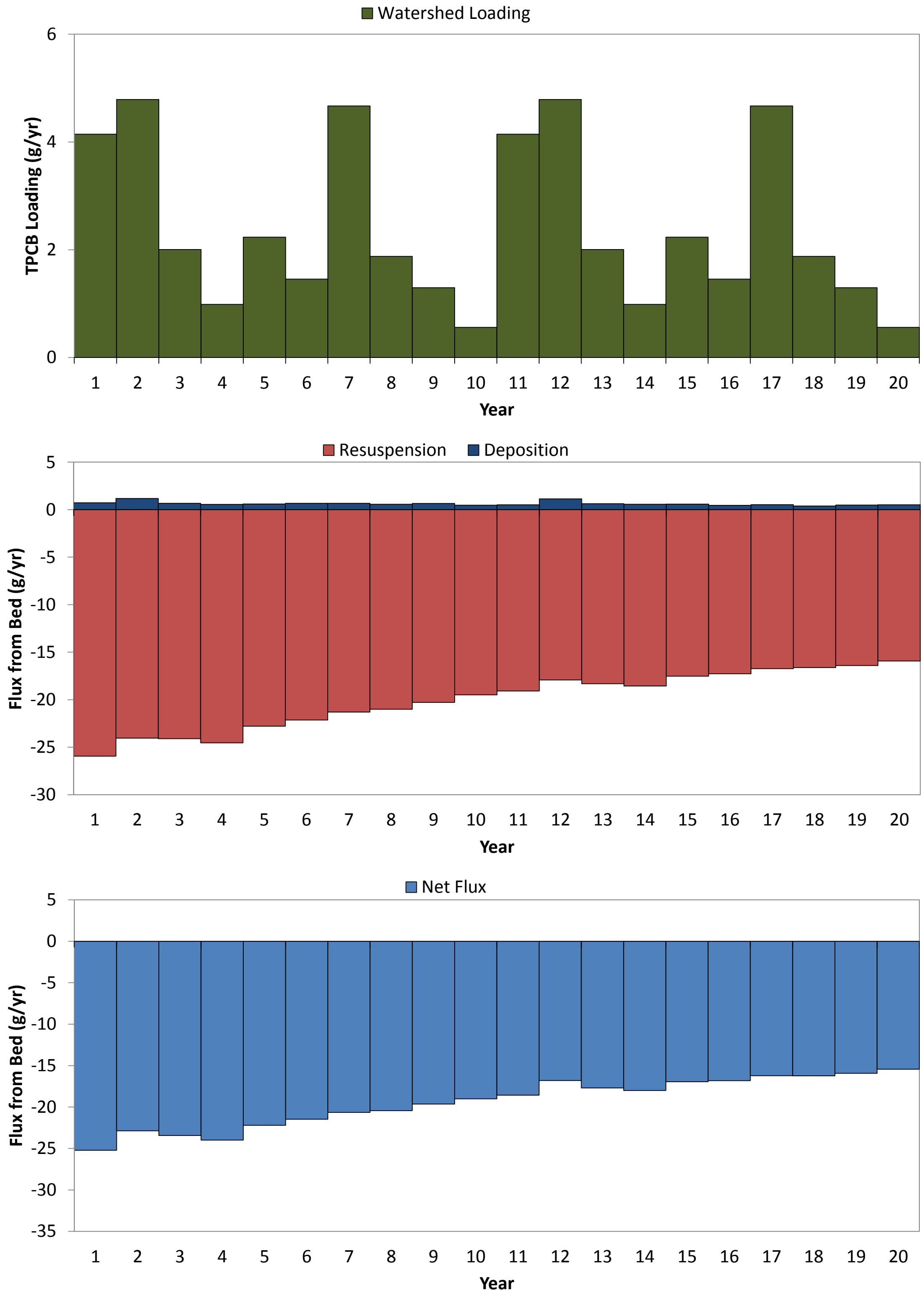


Figure 5.18b Seaplane Lagoon Annual TPCB Loadings

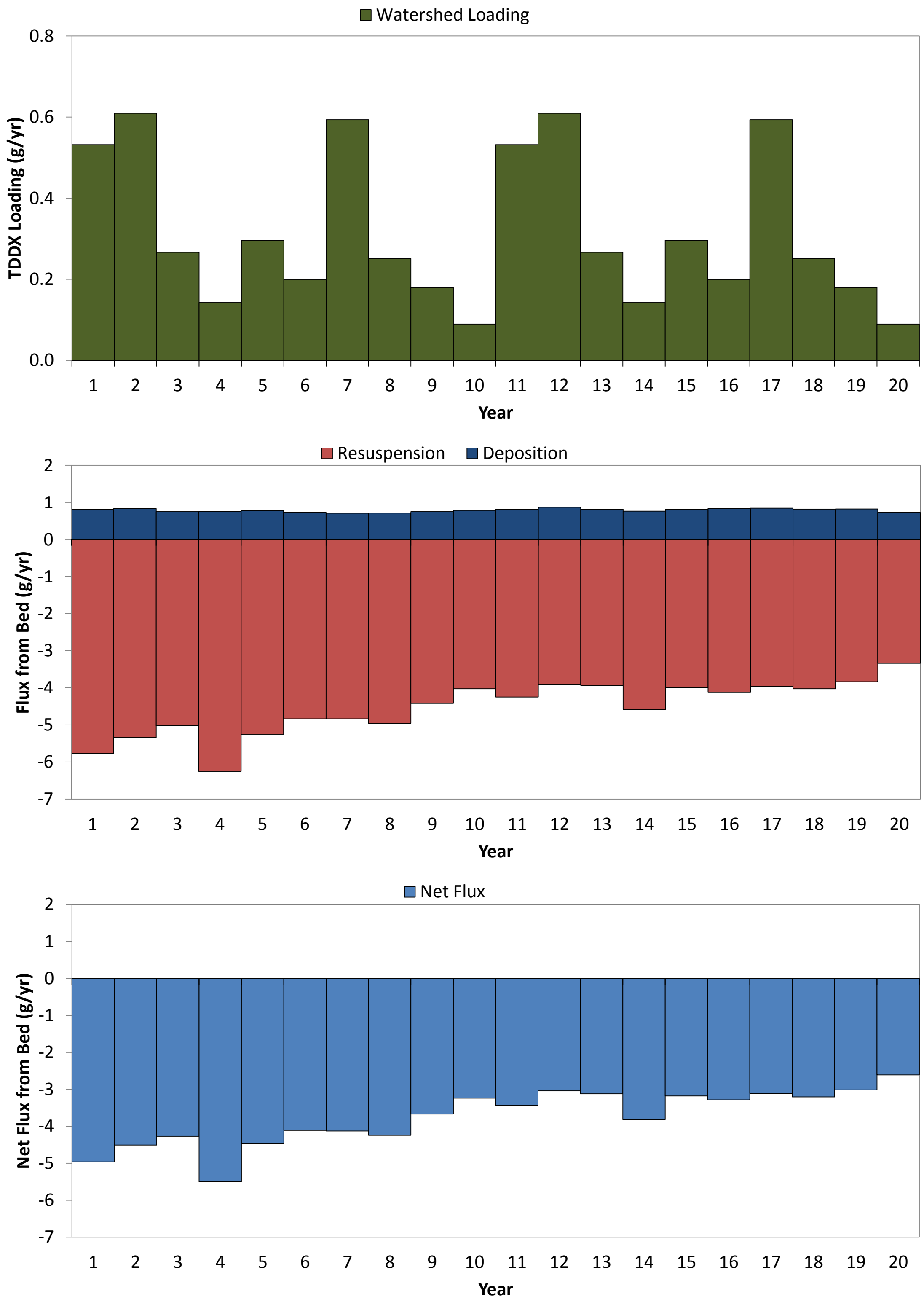
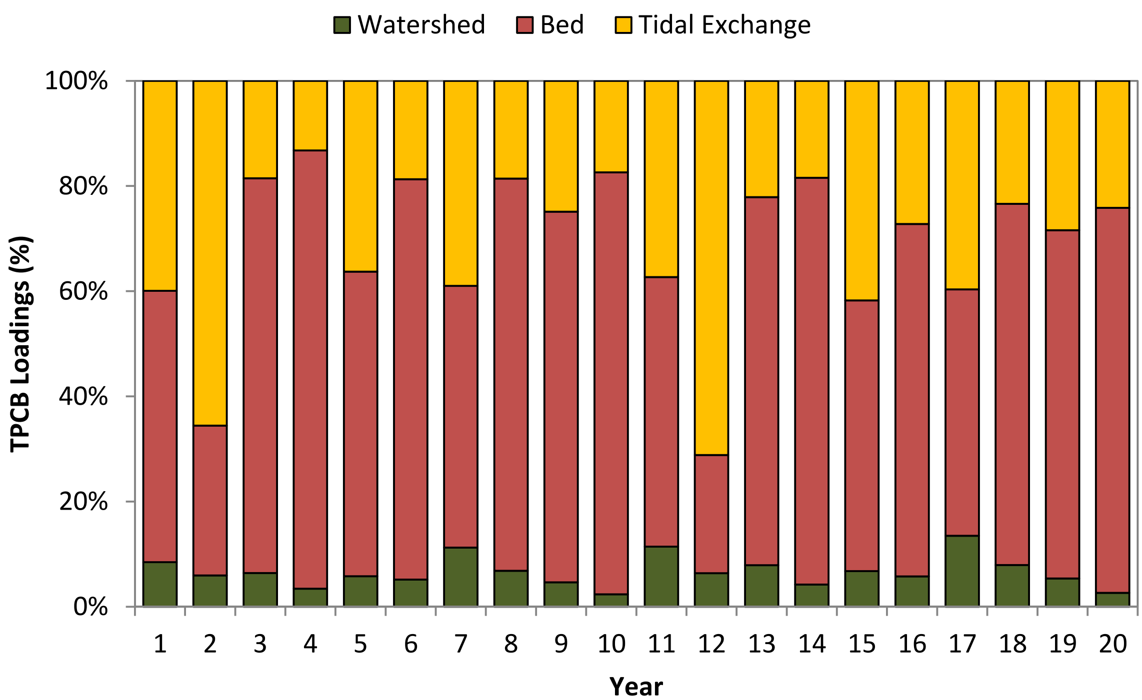


Figure 5.18c Seaplane Lagoon Annual TDDX Loadings



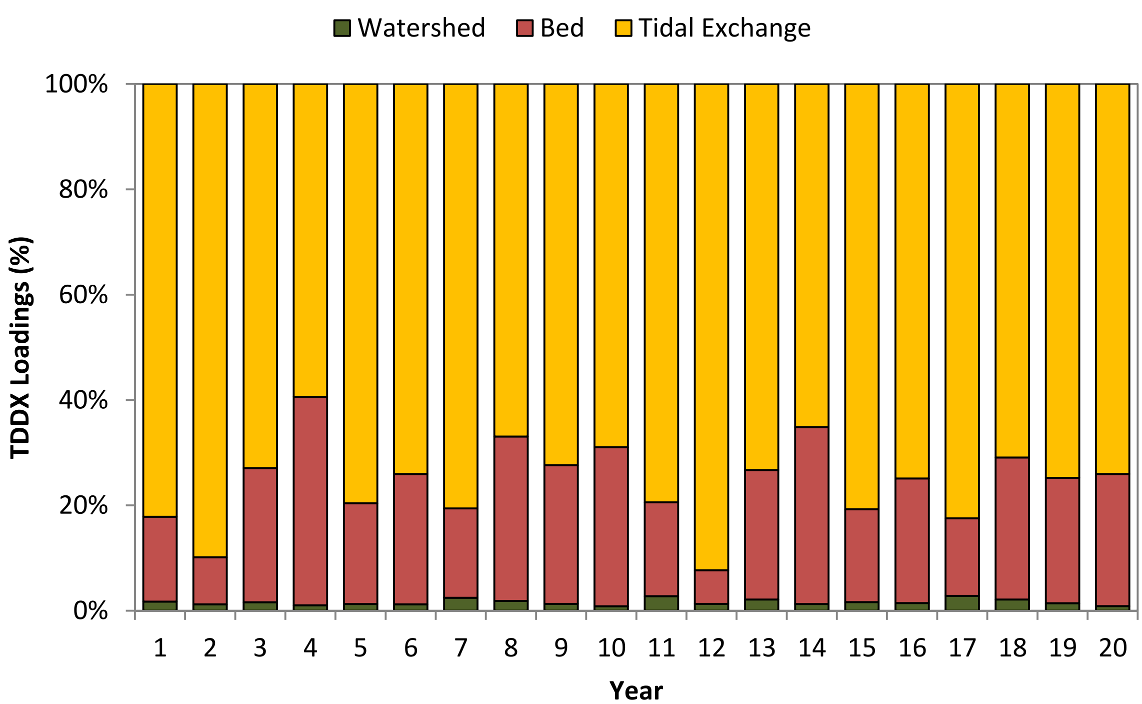


Figure 5.19 Seaplane Lagoon TPCB and TDDX Sources

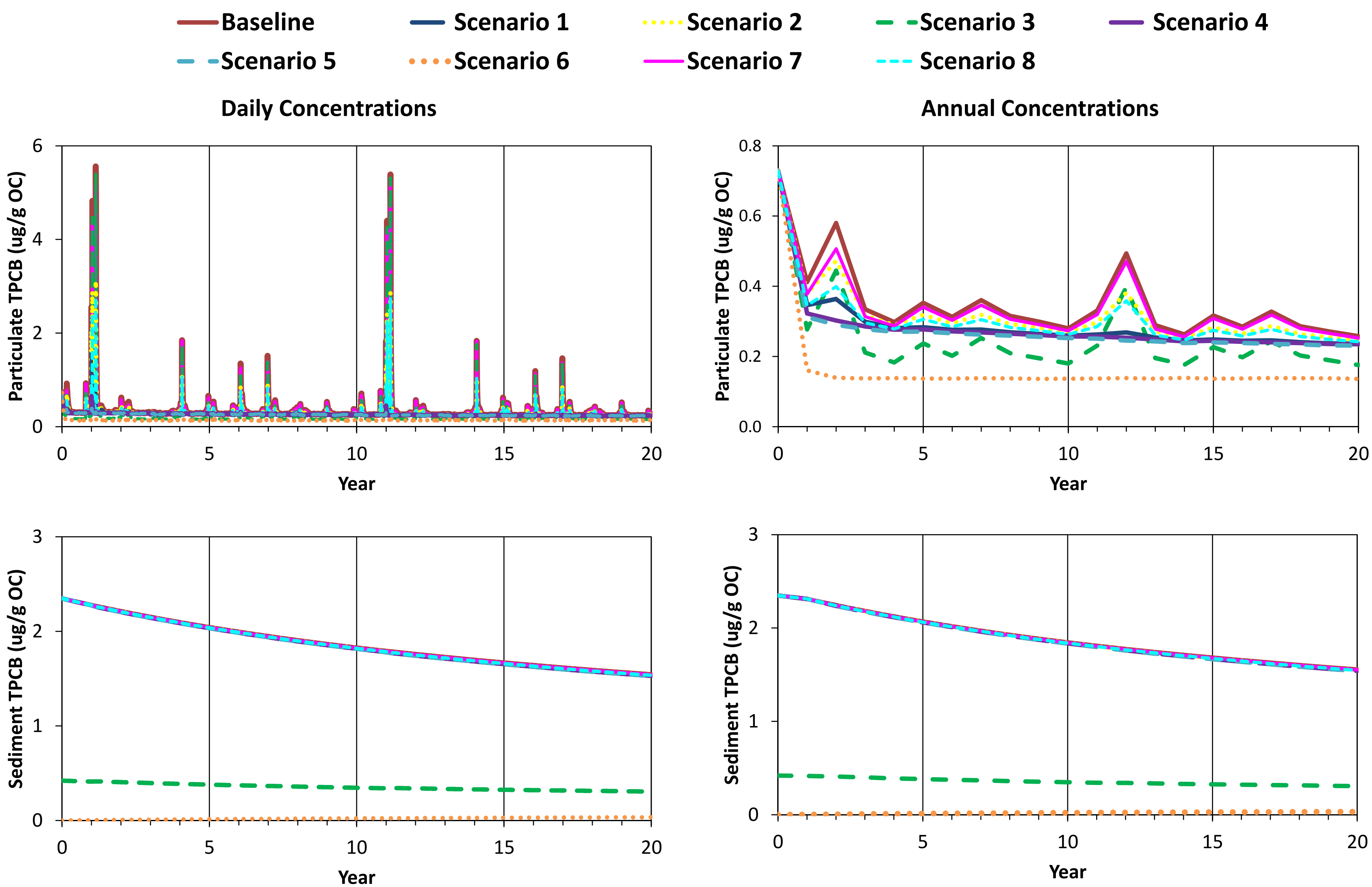


Figure 5.20a Seaplane Lagoon TPCB Concentrations

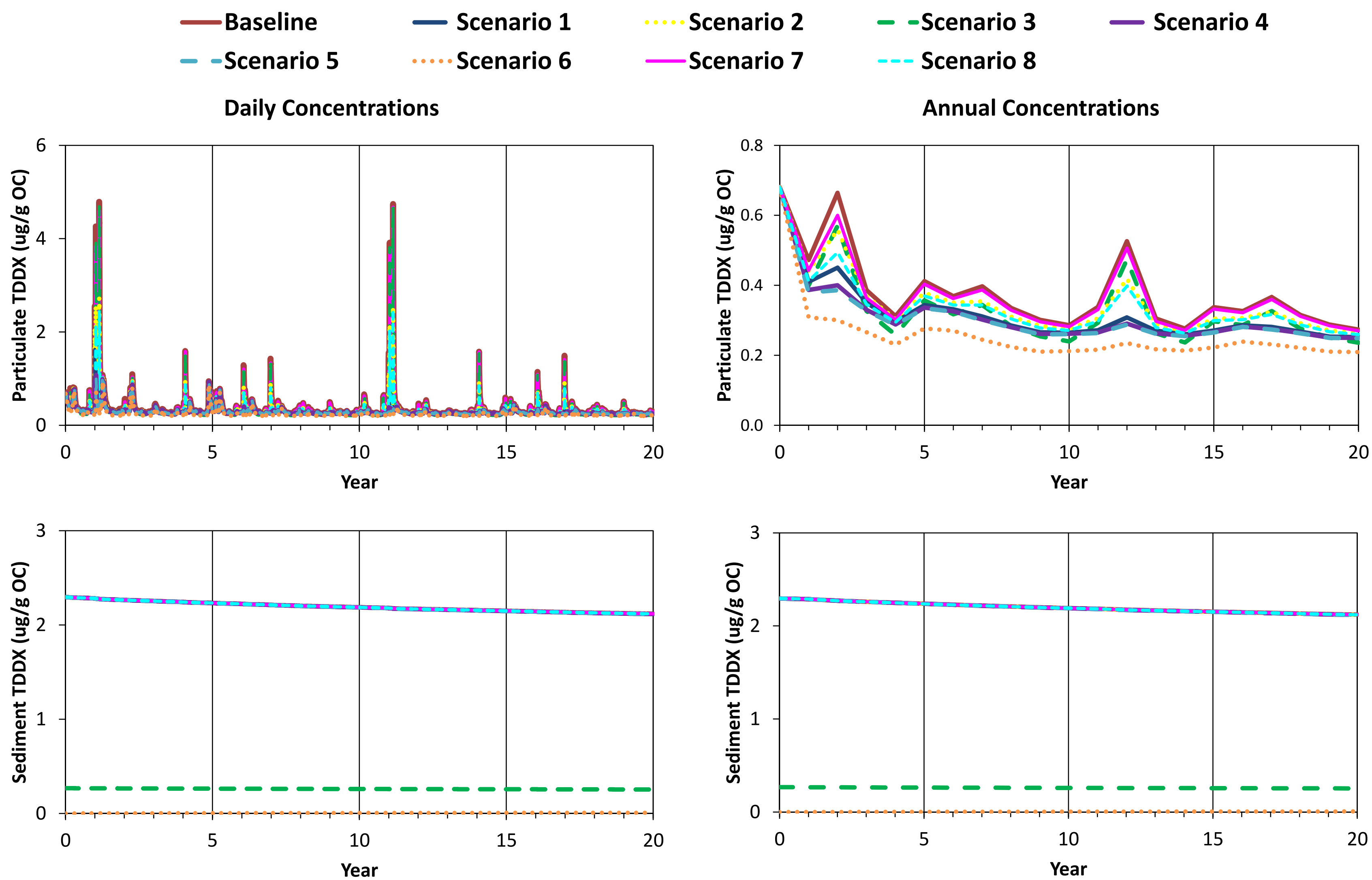


Figure 5.20b Seaplane Lagoon TDDX Concentrations

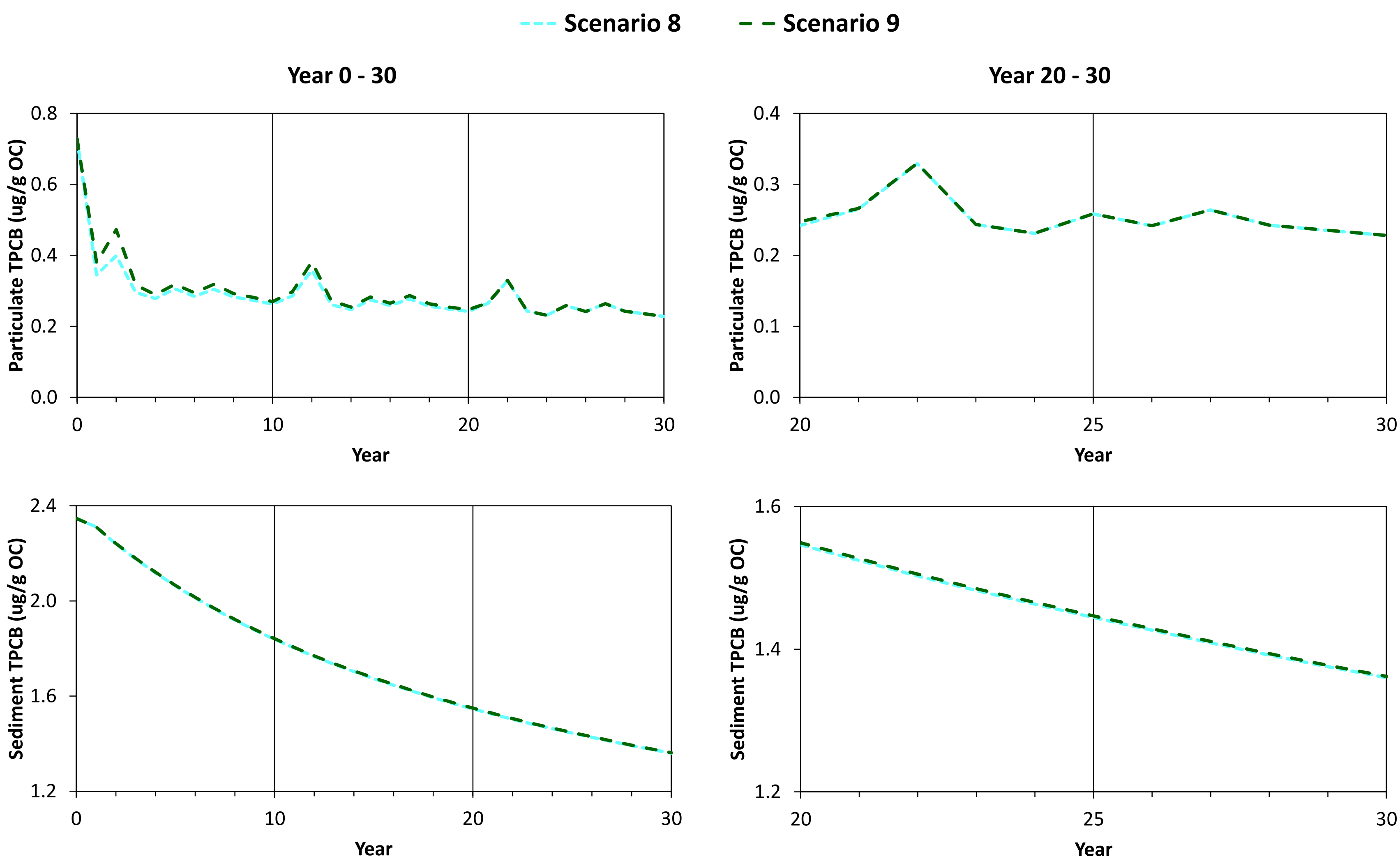


Figure 5.21a Seaplane Lagoon Scenario 8 and 9 TPCB Concentrations

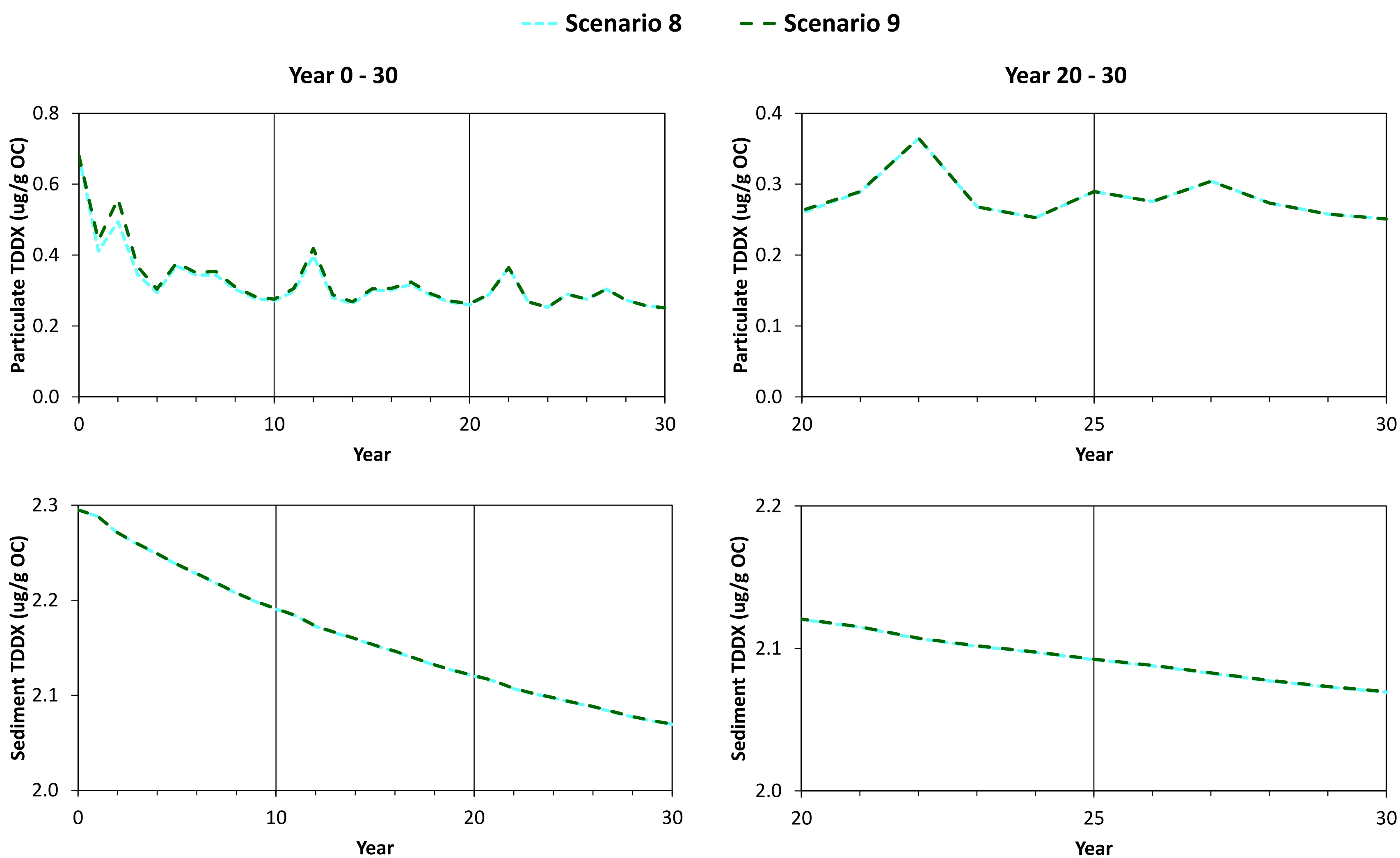


Figure 5.21b Seaplane Lagoon Scenario 8 and 9 TDDX Concentrations

5.7 LA OUTER HARBOR

The LA Outer Harbor extends from Inner Cabrillo Beach to Pier 400. This area is hydrodynamically connected to the LA Inner Harbor along the Main Channel, FH, Seaplane Lagoon, LB Outer Harbor, and the ocean via Angels Gate. The watershed for LA Outer Harbor includes portions of the Nearshore Watershed and port areas. Bed concentrations in the LA Outer Harbor are higher for TDDX than for TPCB.

Annual watershed loadings and bed fluxes for sediment, TPCB, and TDDX are shown in Figures 5.22a - 5.22c. In general, the fluxes of sediment are greater than those of the direct watershed loadings. The sediment bed fluxes show both resuspension and deposition, with a net deposition. Both TPCB and TDDX have a net flux from the bed to the water. The TDDX bed flux is greater than that of TPCB, since the bed concentrations are greater for TDDX. TPCB and TDDX sources to the LA Outer Harbor are compared in Figure 5.23. Tidal exchange is the dominant source, which includes exchange with other fish movement zones and the ocean. The sediment bed is the next largest source. For TPCB sources, tidal exchange comprises 47%, the sediment bed comprises about 35%, and the watershed 18%. The greater source of TDDX is tidal exchange, which comprises 67%. Sediment bed and watershed TDDX sources account for 27% and 6%, respectively.

TPCB and TDDX water and bed concentrations for the LA Outer Harbor are depicted in Figures 5.24a and 5.24b, respectively, while comparisons of Scenarios 8 and 9 are provided in Figures 5.25a and 5.25b. The daily water concentrations show fluctuations attributed to wet weather conditions, although overall water concentrations in the LA Outer Harbor are not greatly reduced under the model scenarios. Overall, the responses of water and bed concentrations are similar to those of the Seaplane Lagoon. Unlike TPCB water concentrations, those for TDDX show fluctuations during wet weather due to sources outside of the harbor, as illustrated by Scenario 6. Both TPCB and TDDX bed concentrations are significantly reduced only for Scenarios 3 and 6. In general, Scenarios 8 and 9 show similar water and bed concentrations, with slightly higher water concentrations for Scenario 9 during the first 20 years.

The Year 20 average concentrations for the LA Outer Harbor are summarized in Table 5.6. Overall, the water concentrations are similar for all scenarios, while bed concentrations show a gradual reduction over time. For TPCB, fluctuations in water concentrations are dependent on wet weather watershed loadings. However, for TDDX, wet weather fluctuations are observed for all scenarios, due to the effects of sources from outside the harbor.

Table 5.6 LA Outer Harbor Year 20 Average Organics Concentrations

Model Scenario	TPCB (ug/g OC)		TDDX (ug/g OC)	
	Water	Bed	Water	Bed
Baseline Scenario	0.218	0.974	0.261	3.008
Scenario 1 100% WLR	0.205	0.970	0.243	3.008
Scenario 2 50% WLR	0.211	0.972	0.252	3.008
Scenario 3 SedLR to TMDL Target	0.193	0.134	0.248	0.118
Scenario 4 100% WLR + DC Estuary SedLR	0.202	0.969	0.239	3.008
Scenario 5 100% WLR + Hot Spot SedLR	0.197	0.968	0.238	3.008
Scenario 6 100% WLR + 100% SedLR	0.175	0.028	0.225	0.0047
Scenario 7 Hot Spot SedLR	0.210	0.971	0.255	3.008
Scenario 8 50% WLR + Hot Spot SedLR	0.203	0.970	0.247	3.008
Scenario 9 50% WLR + Year 20 Hot Spot SedLR	0.211	0.972	0.252	3.008
Scenario 8 (Year 30) 50% WLR + Hot Spot SedLR	0.200	0.877	0.241	2.886
Scenario 9 (Year 30) 50% WLR + Year 20 Hot Spot SedLR	0.200	0.878	0.242	2.886

Average concentrations determined as average over Year 20 or Year 30 as indicated

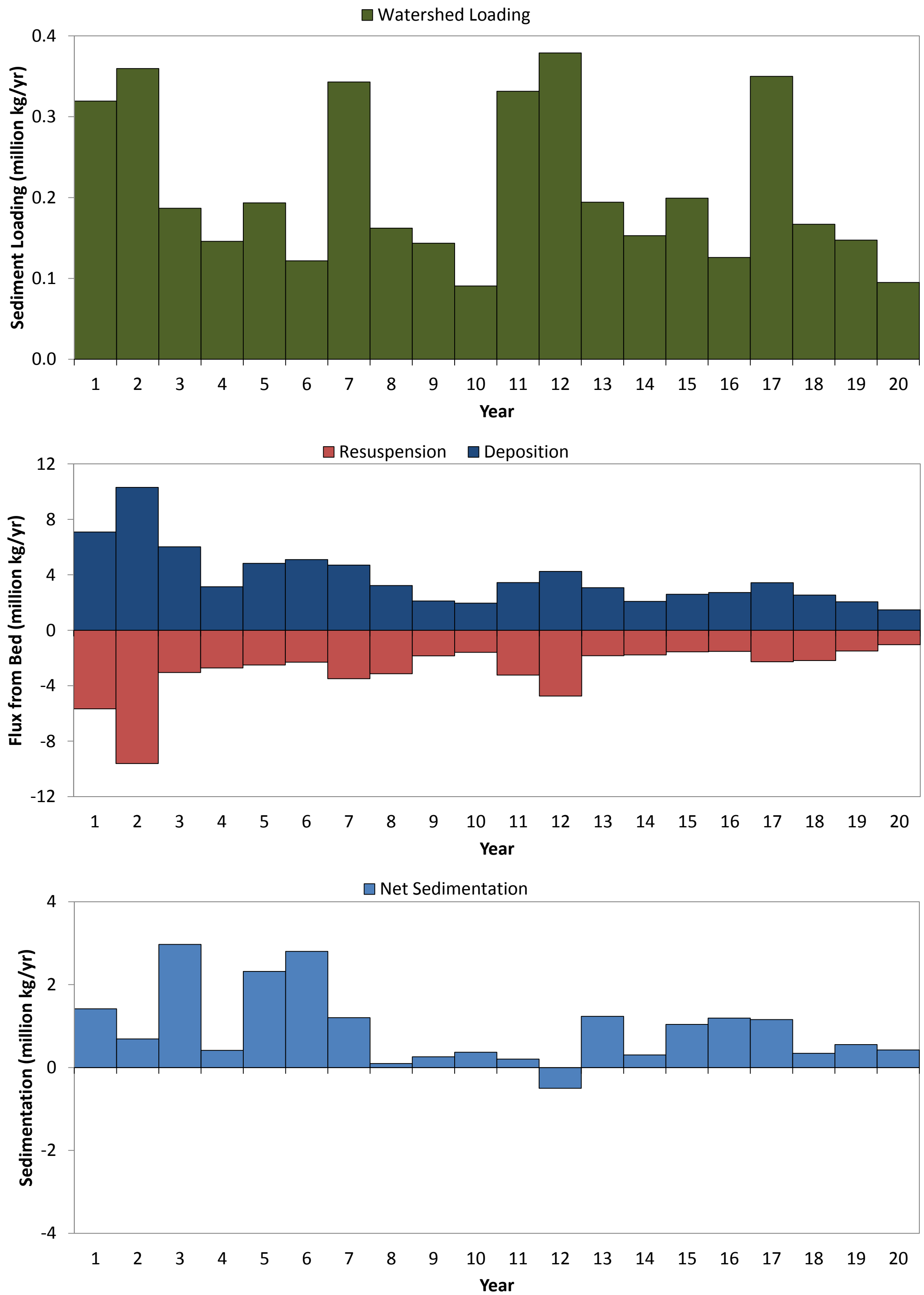


Figure 5.22a LA Outer Harbor Annual Sediment Loadings

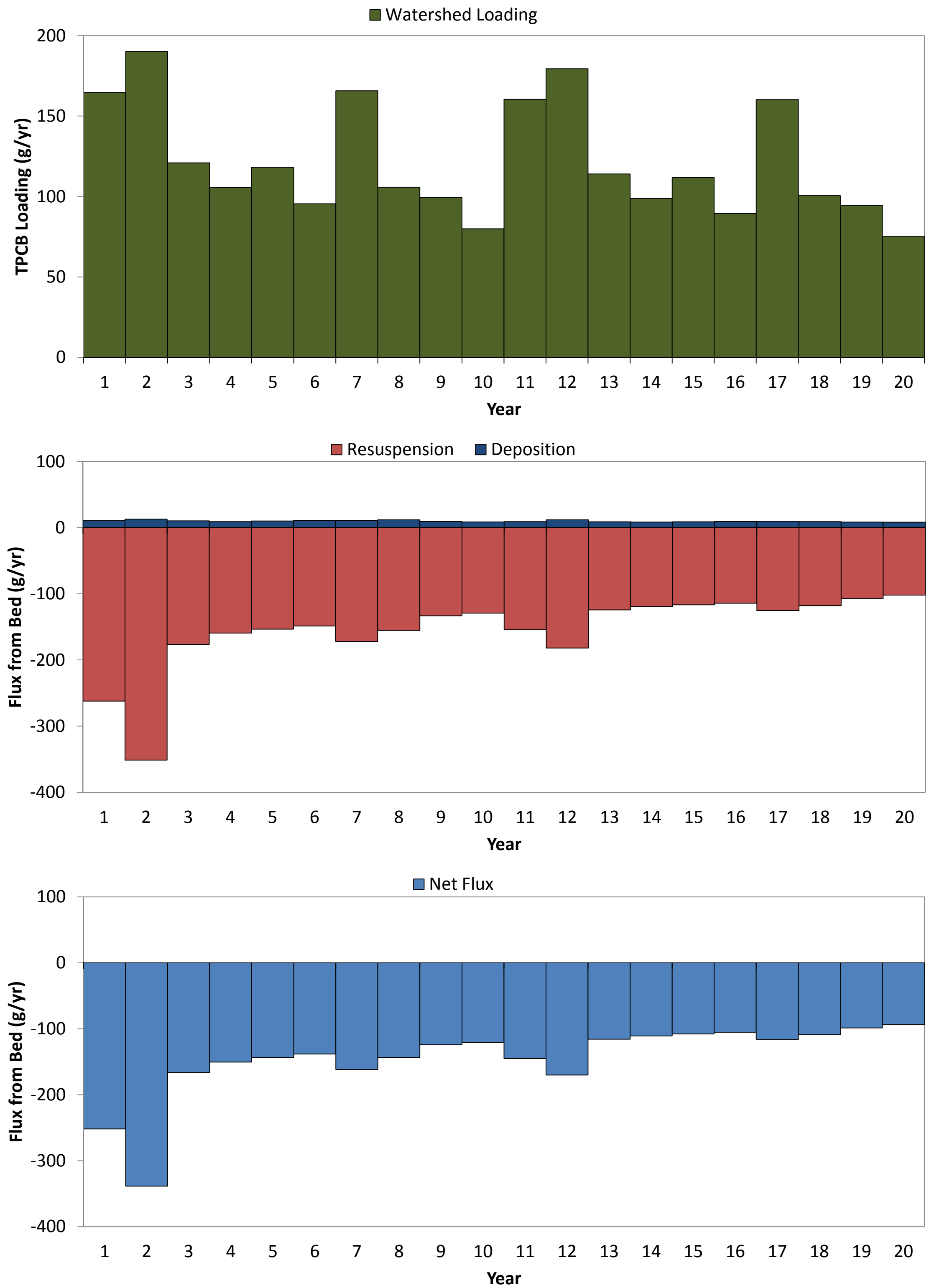


Figure 5.22b LA Outer Harbor Annual TPCB Loadings

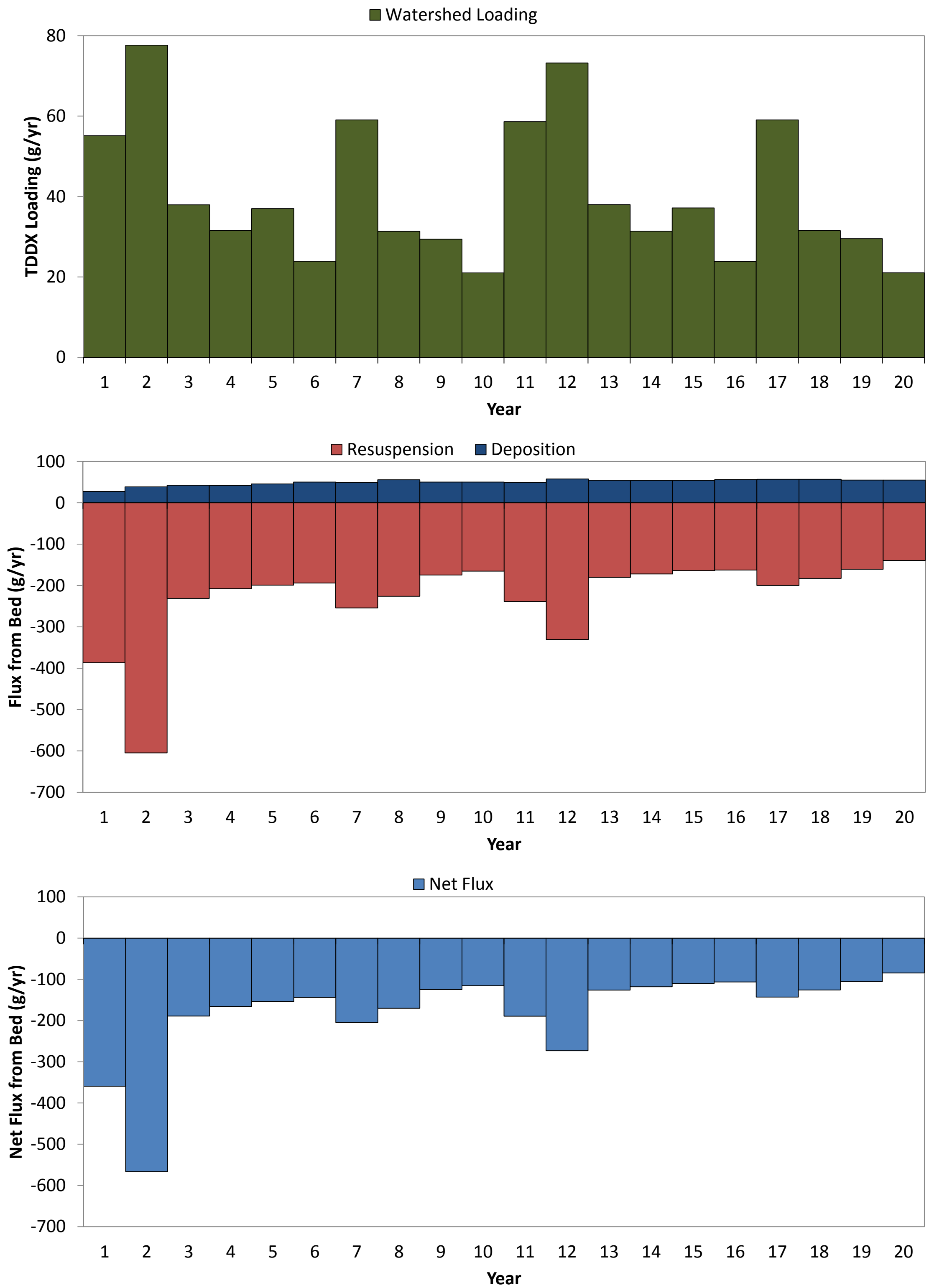
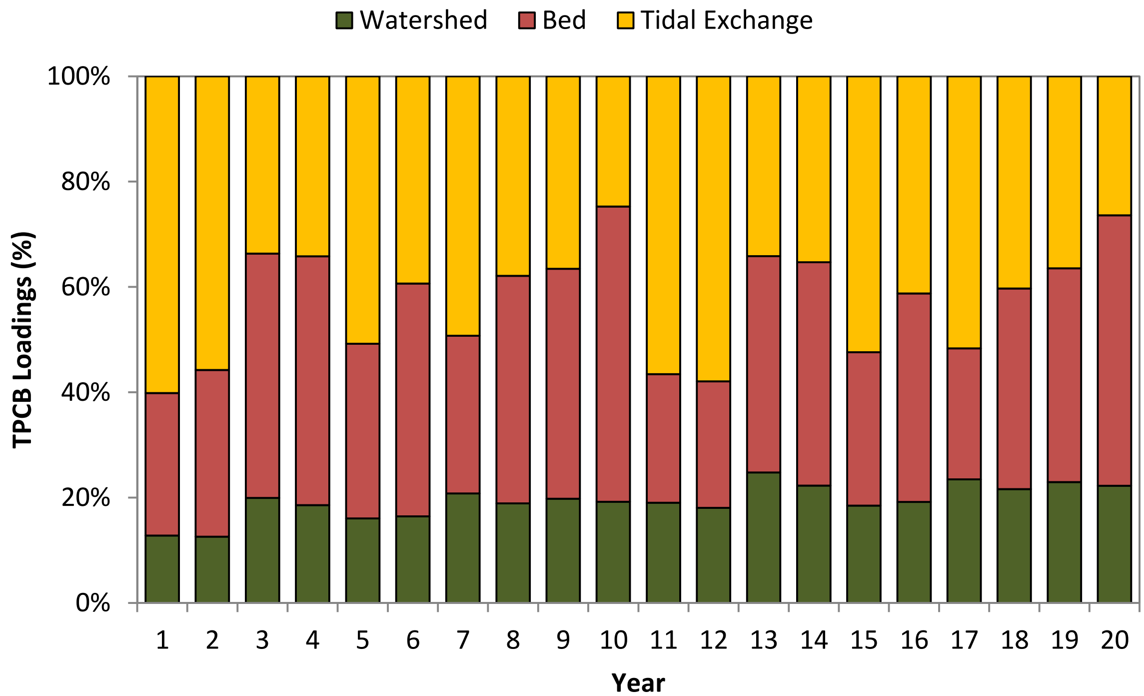


Figure 5.22c LA Outer Harbor Annual TDDX Loadings



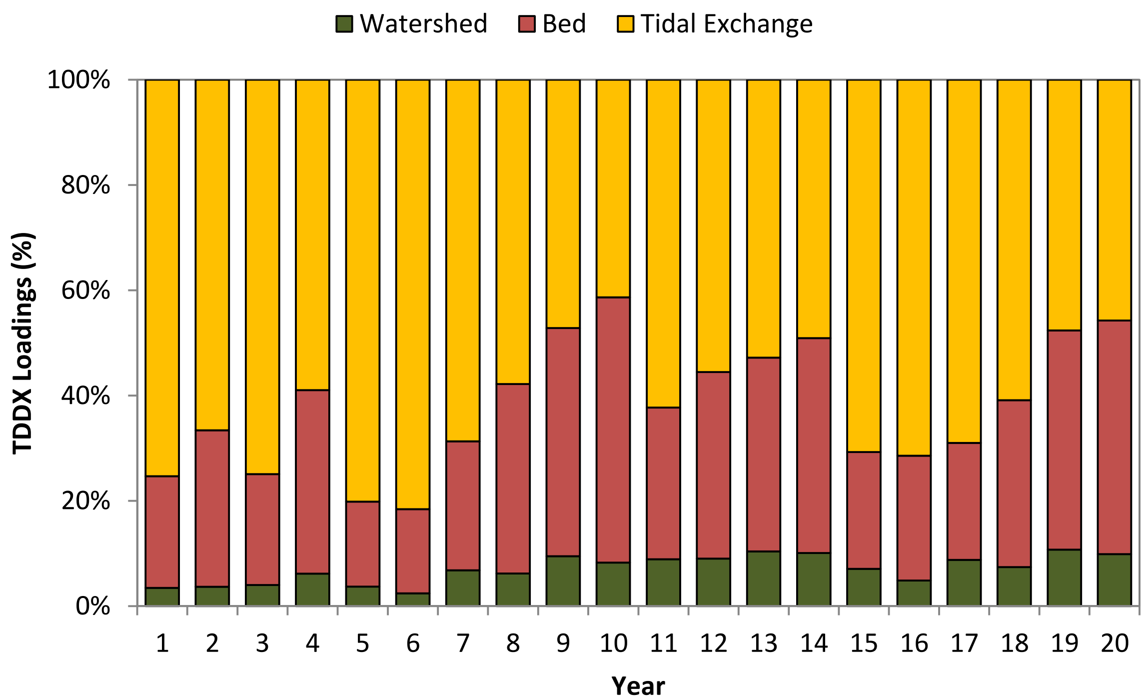


Figure 5.23 LA Outer Harbor TPCB and TDDX Sources

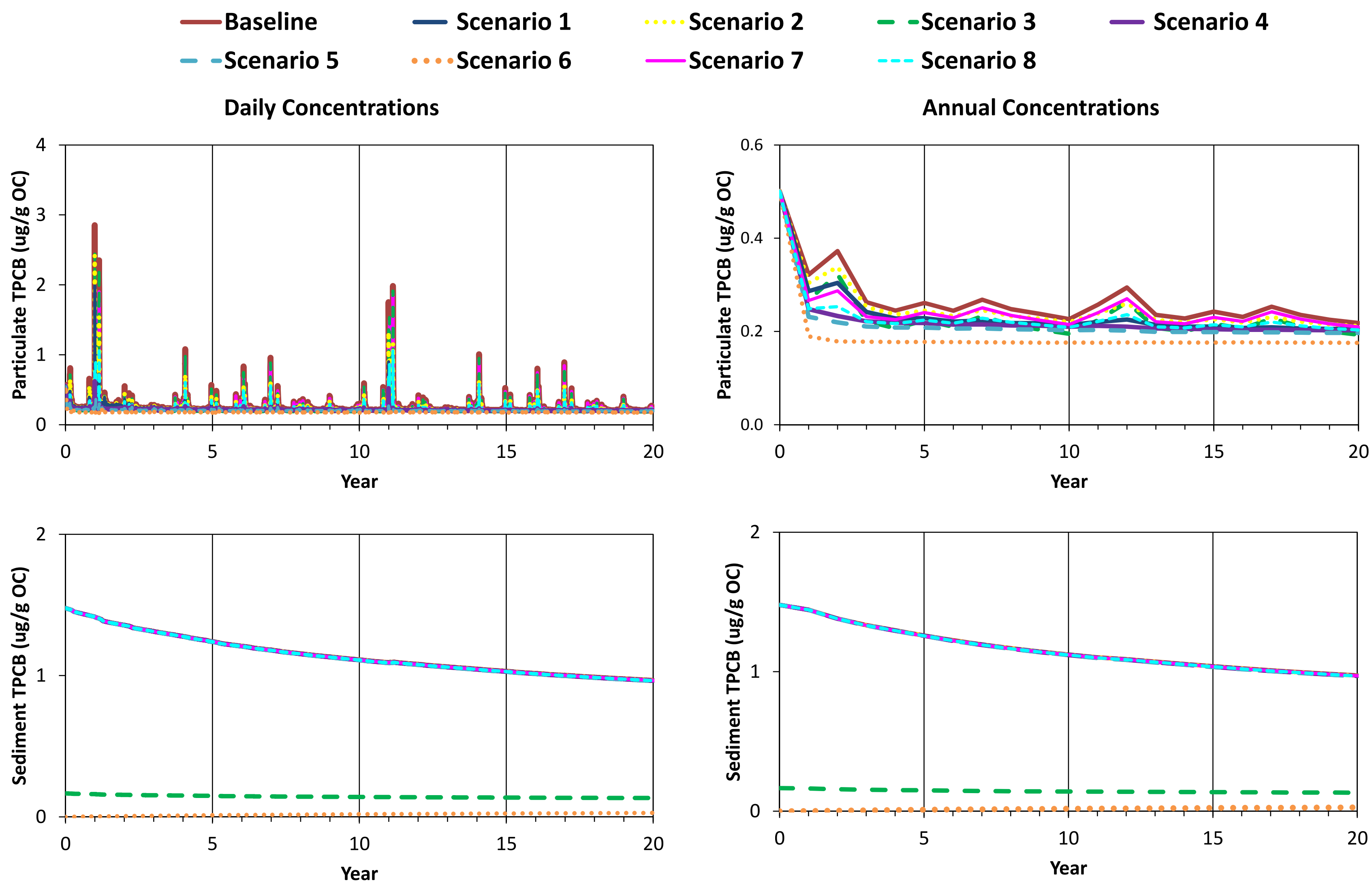


Figure 5.24a LA Outer Harbor TPCB Concentrations

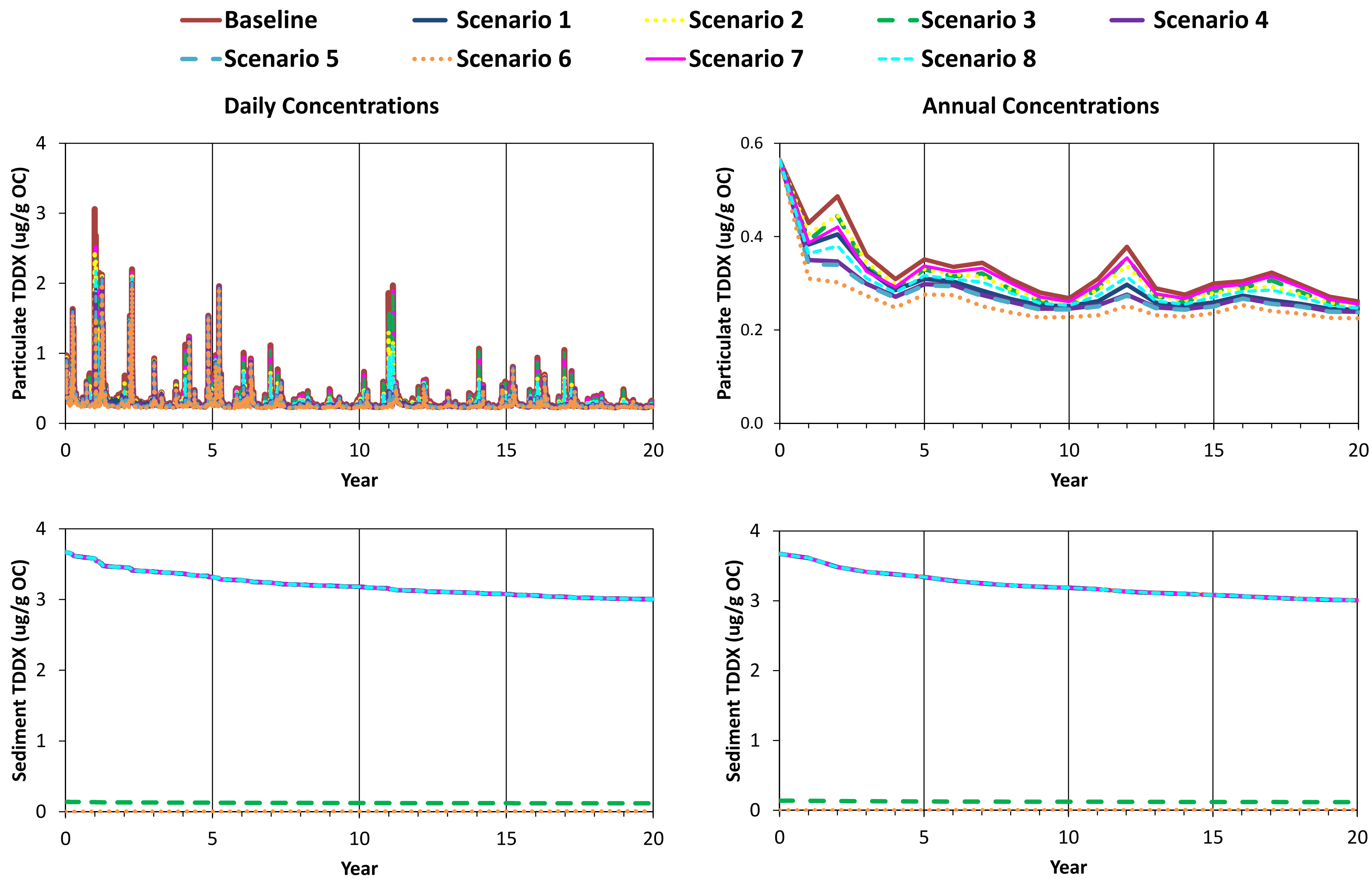


Figure 5.24b LA Outer Harbor TDDX Concentrations

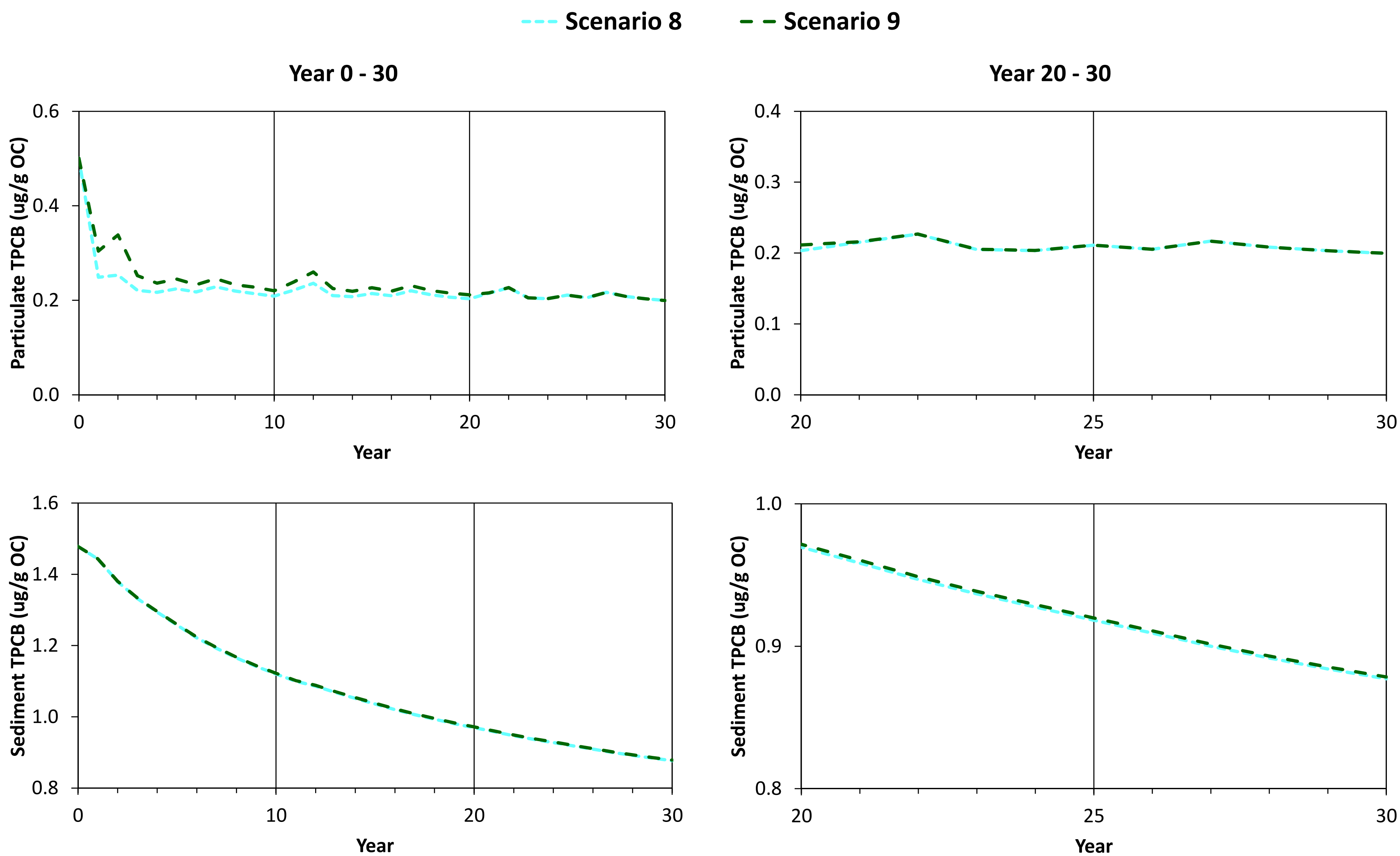


Figure 5.25a LA Outer Harbor Scenario 8 and 9 TPCB Concentrations

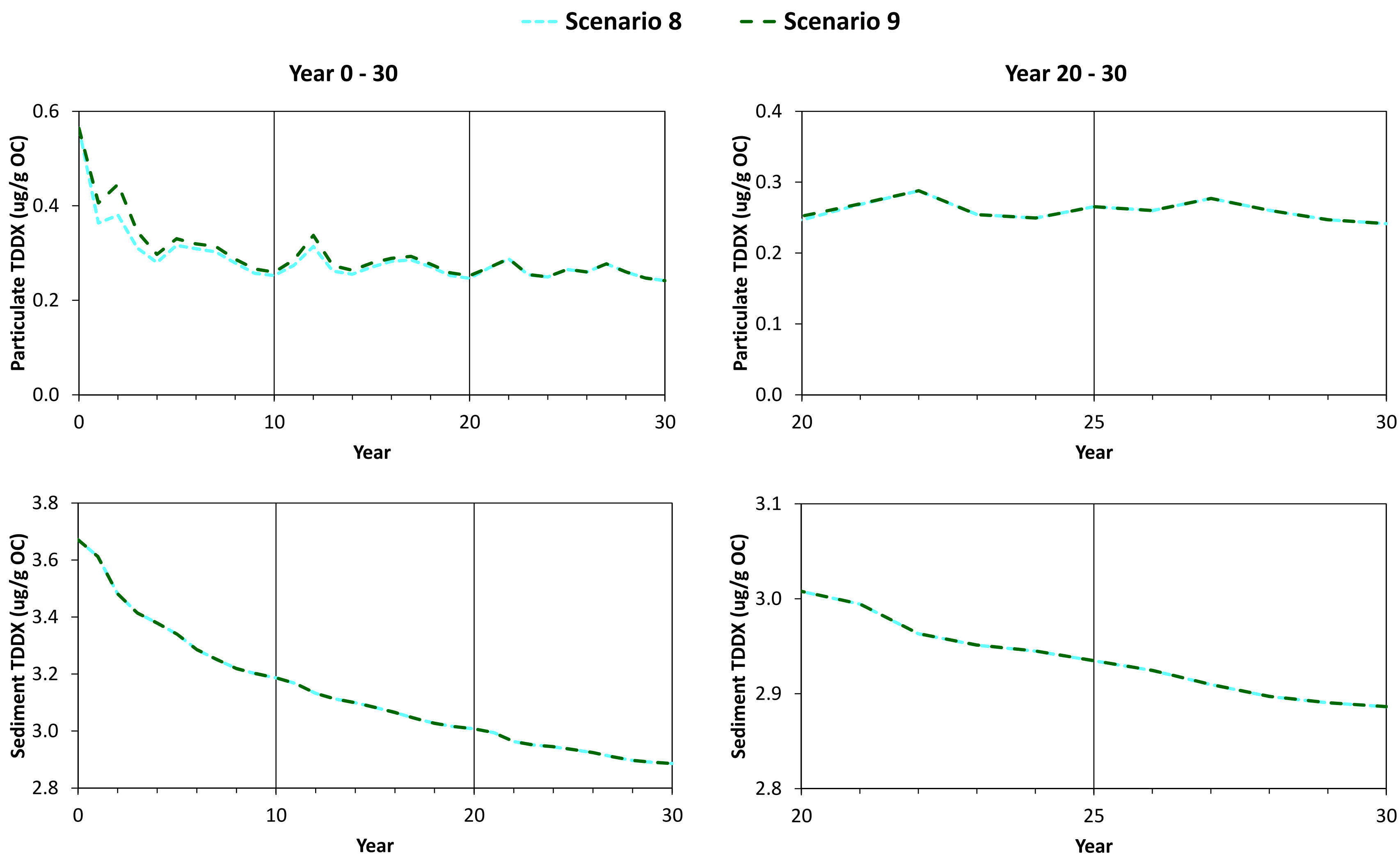


Figure 5.25b LA Outer Harbor Scenario 8 and 9 TDDX Concentrations

5.8 LB Inner Harbor North

The LB Inner Harbor North fish movement zone extends eastward from the Cerritos Channel and into the LB Inner Harbor Turning Basin, Channel No. 2, and Channel No.3. Tidal exchange occurs with the LA Inner Harbor and LB Inner Harbor South. Watershed loadings only come from the surrounding port area. Bed concentrations in LB Inner Harbor North are higher for TPCB than for TDDX.

Figures 5.26a - 5.26c compare the annual watershed loadings and bed fluxes for sediment, TPCB, and TDDX, respectively. The LB Inner Harbor North sediment loadings from the watershed are significantly less than those for the bed fluxes. For TPCB and TDDX, watershed loadings are less than loadings from the bed. Comparisons of organics sources from the watershed, sediment bed, and tidal exchange are shown in Figure 5.27. Tidal exchange is the dominant source for both TPCB and TDDX. For TPCB, tidal exchange accounts for 70% of the sources, while the sediment bed accounts for 22%. Tidal exchange makes up about 95% of TDDX sources, which includes loadings from the LA Inner Harbor. For both TPCB and TDDX, tidal exchange can include watershed loadings from other fish movement zones.

Daily and annual TPCB and TDDX concentrations for the LB Inner Harbor North are shown in Figures 5.28a and 5.28b, respectively. In general, water concentrations show fluctuations due to wet weather, while the sediment bed concentrations show a relatively gradual decline. Comparisons of Scenarios 1, 4, and 5 suggest that loadings from the DC Estuary and CS are likely contributing to water concentrations at the LB Inner Harbor North. Responses under Scenario 3 differ between TPCB and TDDX, which illustrates differences in sources. For TPCB, Scenario 3 shows a greater reduction from the Baseline Scenario compared with TDDX, which illustrates that the bed source of TPCB is greater. Scenarios 3 and 7 shows similar water concentrations, particularly for TDDX, despite sediment loading reductions only in the hot spots for Scenario 7. For bed concentrations, the sediment loading reductions in the LB Inner Harbor North result in lower bed concentrations under Scenarios 3 and 6.

Annual concentrations for Scenarios 8 and 9 are compared over the 30-year simulation period in Figures 5.29a for TPCB and 5.29b for TDDX. Water concentrations are lower for Scenario 8 over the first 20 years due to the hot spot remediation. After 20 years, Scenario 9 water concentrations become similar to those of Scenario 8. Bed concentrations are similar over the entire 30-year simulation period, although TPCB bed concentrations show a greater difference between Scenarios 8 and 9 than TDDX bed concentrations.

The Year 20 average water and bed concentrations are summarized in Table 5.7. In general, the model scenarios show some reduction water concentrations compared to the Baseline Scenario. Depending on the scenario, these responses differ for TPCB and TDDX.

Reductions in bed concentrations are greatest for the sediment loading reductions under Scenarios 3 and 6.

Table 5.7 LB Inner Harbor North Year 20 Average Organics Concentrations

Model Scenario	TPCB (ug/g OC)		TDDX (ug/g OC)	
	Water	Bed	Water	Bed
Baseline Scenario	0.271	1.451	0.296	1.005
Scenario 1 100% WLR	0.232	1.444	0.233	1.004
Scenario 2 50% WLR	0.251	1.448	0.265	1.005
Scenario 3 SedLR to TMDL Target	0.205	0.117	0.277	0.0983
Scenario 4 100% WLR + DC Estuary SedLR	0.219	1.441	0.214	1.003
Scenario 5 100% WLR + Hot Spot SedLR	0.207	1.440	0.209	1.003
Scenario 6 100% WLR + 100% SedLR	0.149	0.019	0.192	0.0035
Scenario 7 Hot Spot SedLR	0.246	1.447	0.273	1.005
Scenario 8 50% WLR + Hot Spot SedLR	0.203	1.444	0.241	1.004
Scenario 9 50% WLR + Year 20 Hot Spot SedLR	0.251	1.448	0.265	1.005
Scenario 8 (Year 30) 50% WLR + Hot Spot SedLR	0.216	1.229	0.235	0.937
Scenario 9 (Year 30) 50% WLR + Year 20 Hot Spot SedLR	0.216	1.232	0.236	0.937

Average concentrations determined as average over Year 20 or Year 30 as indicated

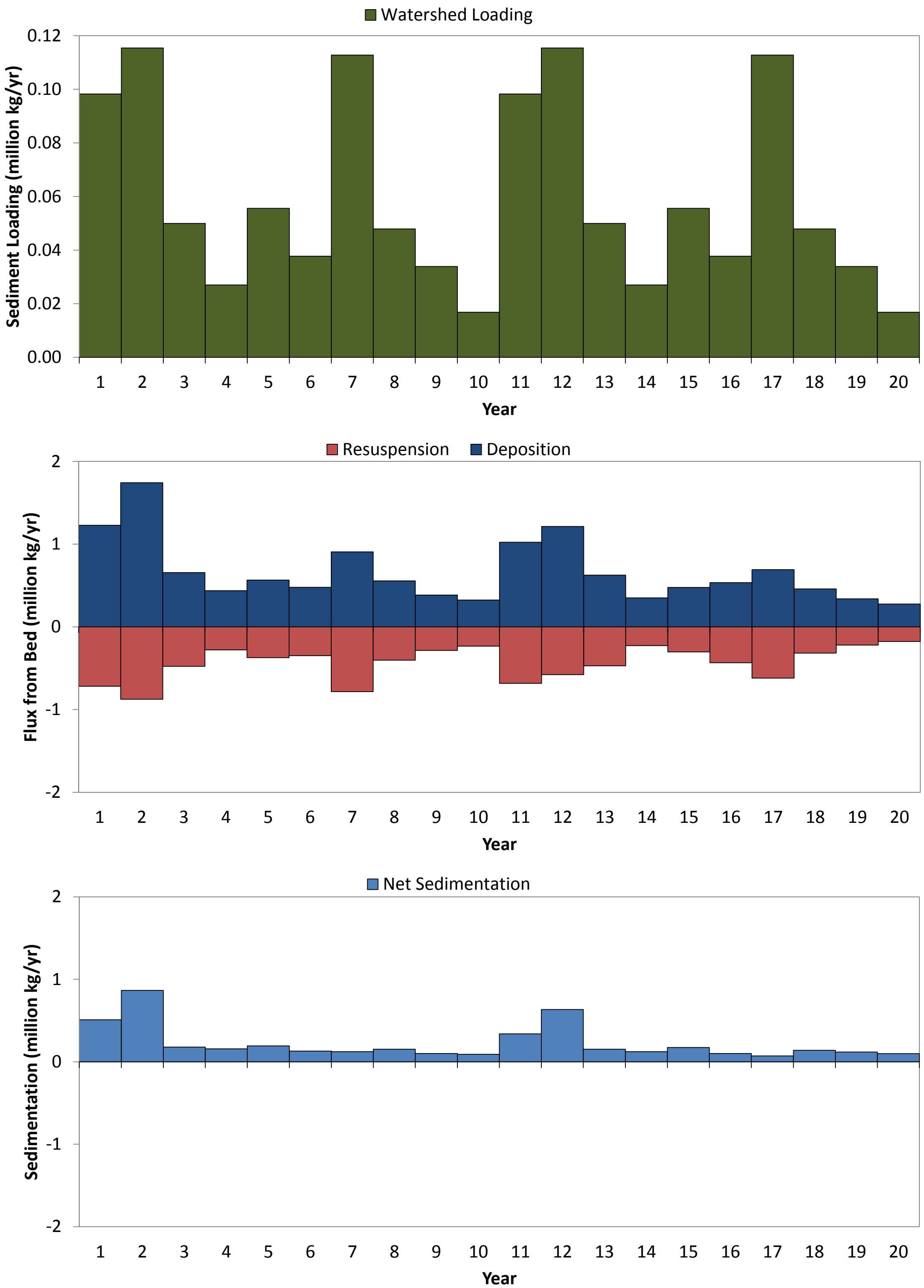


Figure 5.26a LB Inner Harbor North Annual Sediment Loadings

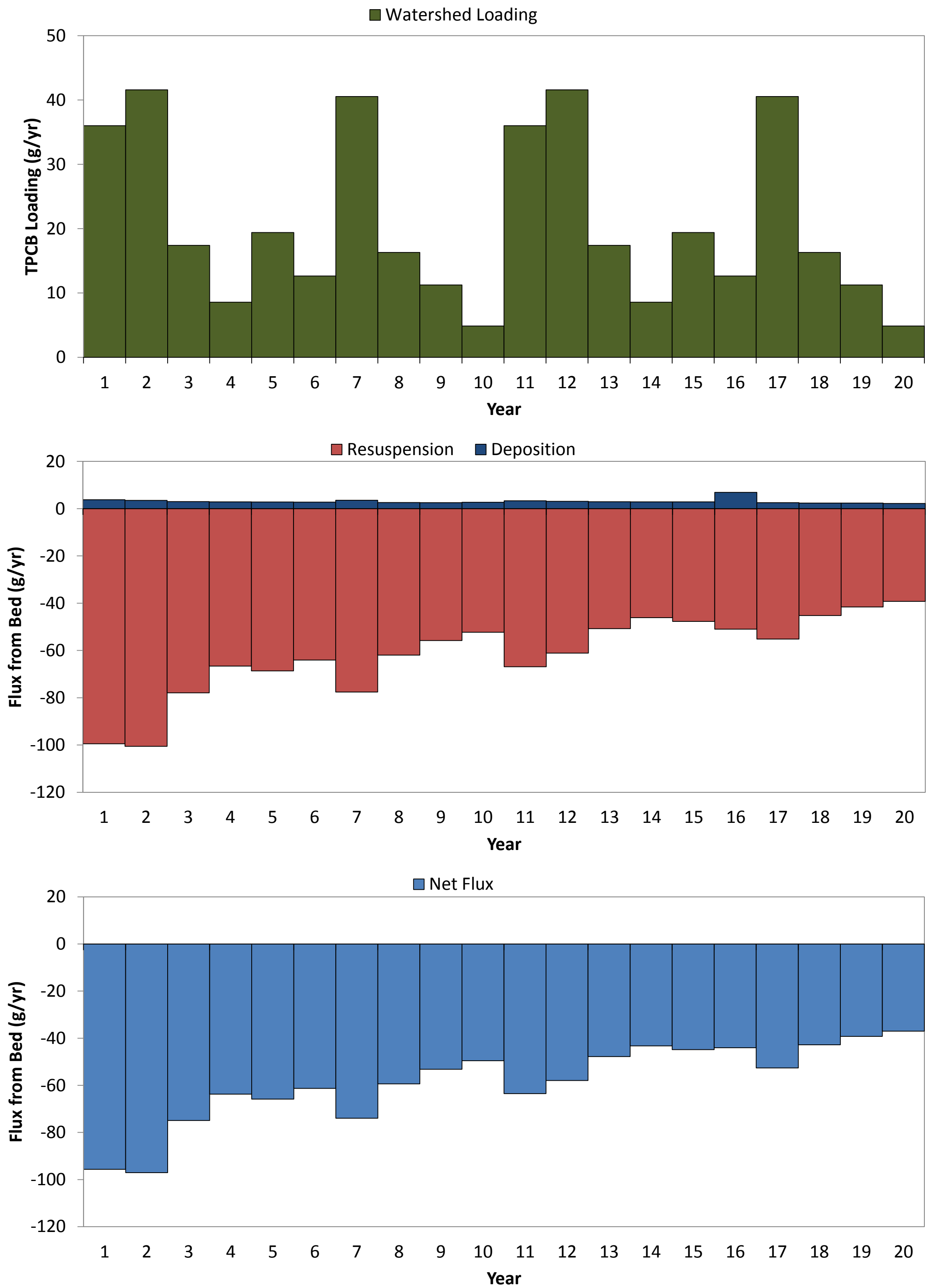


Figure 5.26b LB Inner Harbor North Annual TPCB Loadings

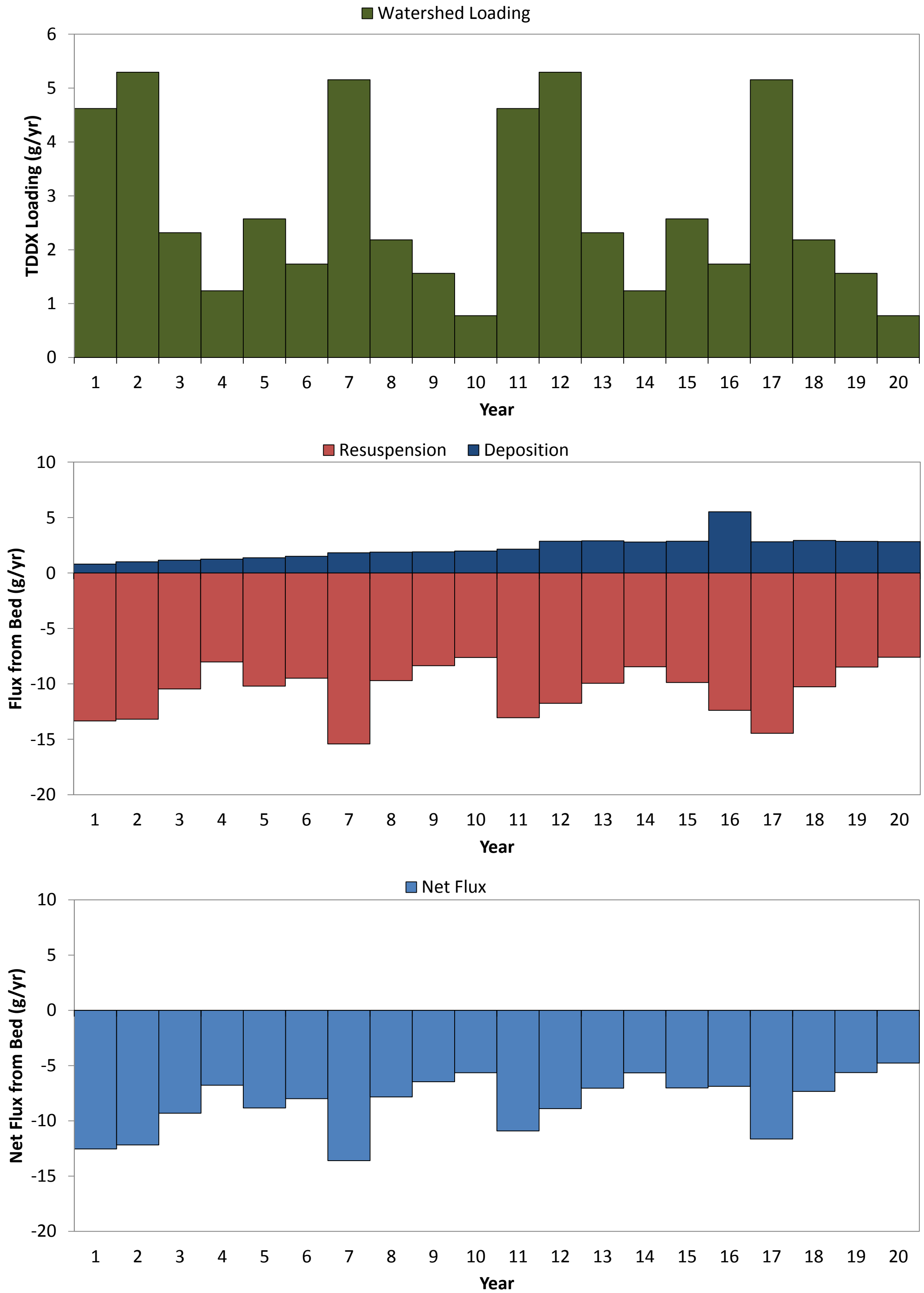
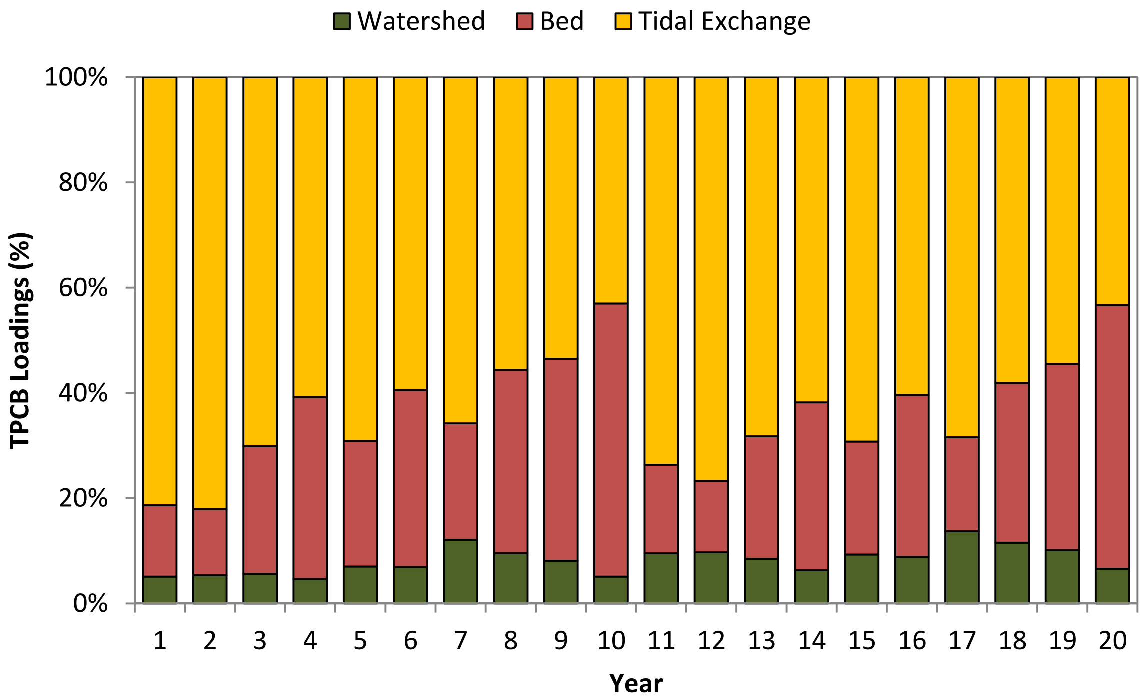


Figure 5.26c LB Inner Harbor North Annual TDDX Loadings



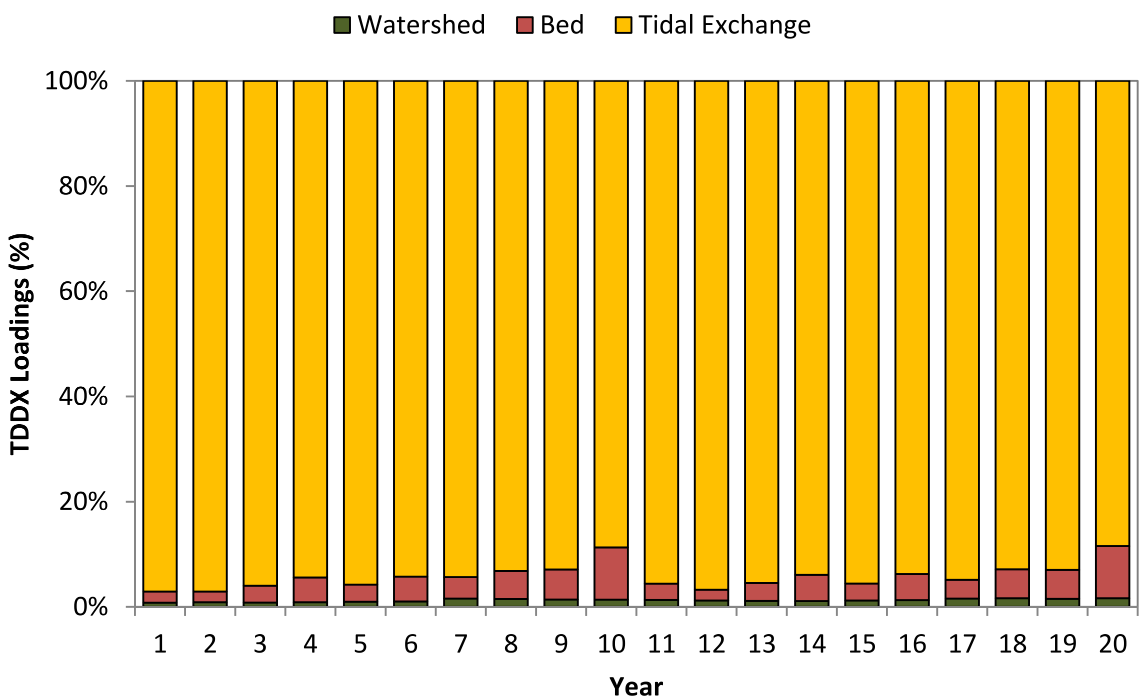


Figure 5.27 LB Inner Harbor North TPCB and TDDX Sources

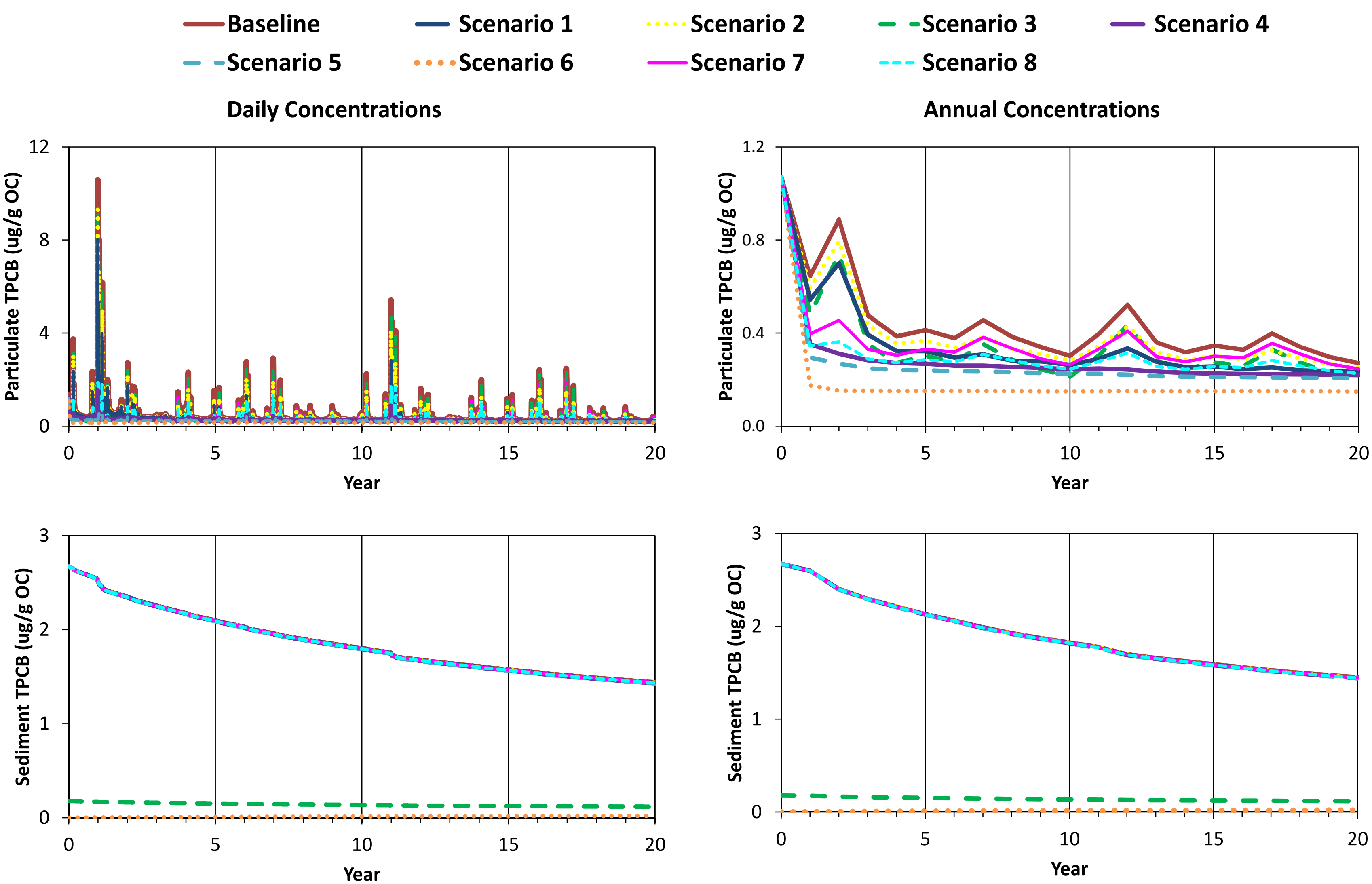


Figure 5.28a LB Inner Harbor North TPCB Concentrations

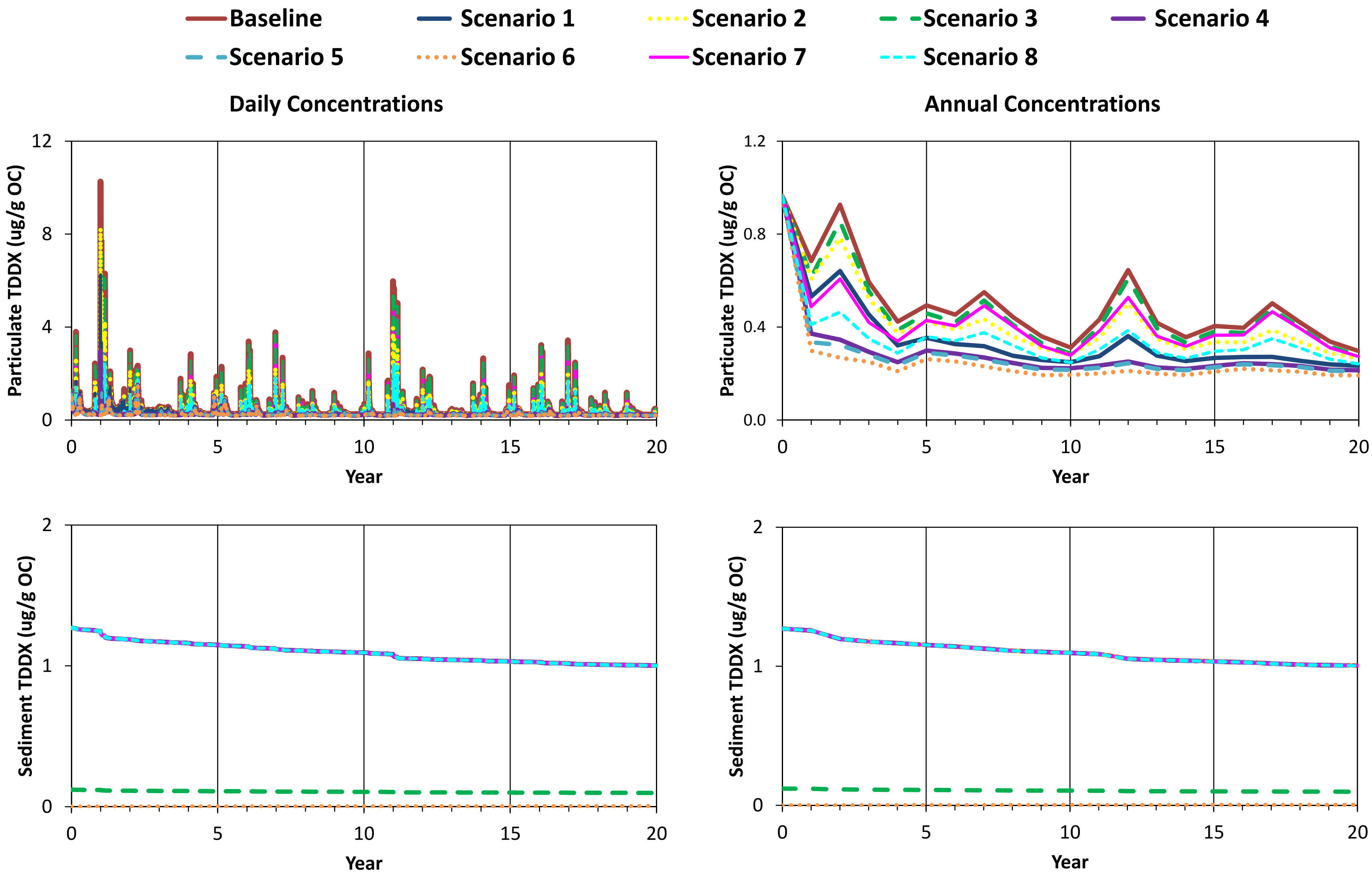


Figure 5.28b LB Inner Harbor North TDDX Concentrations

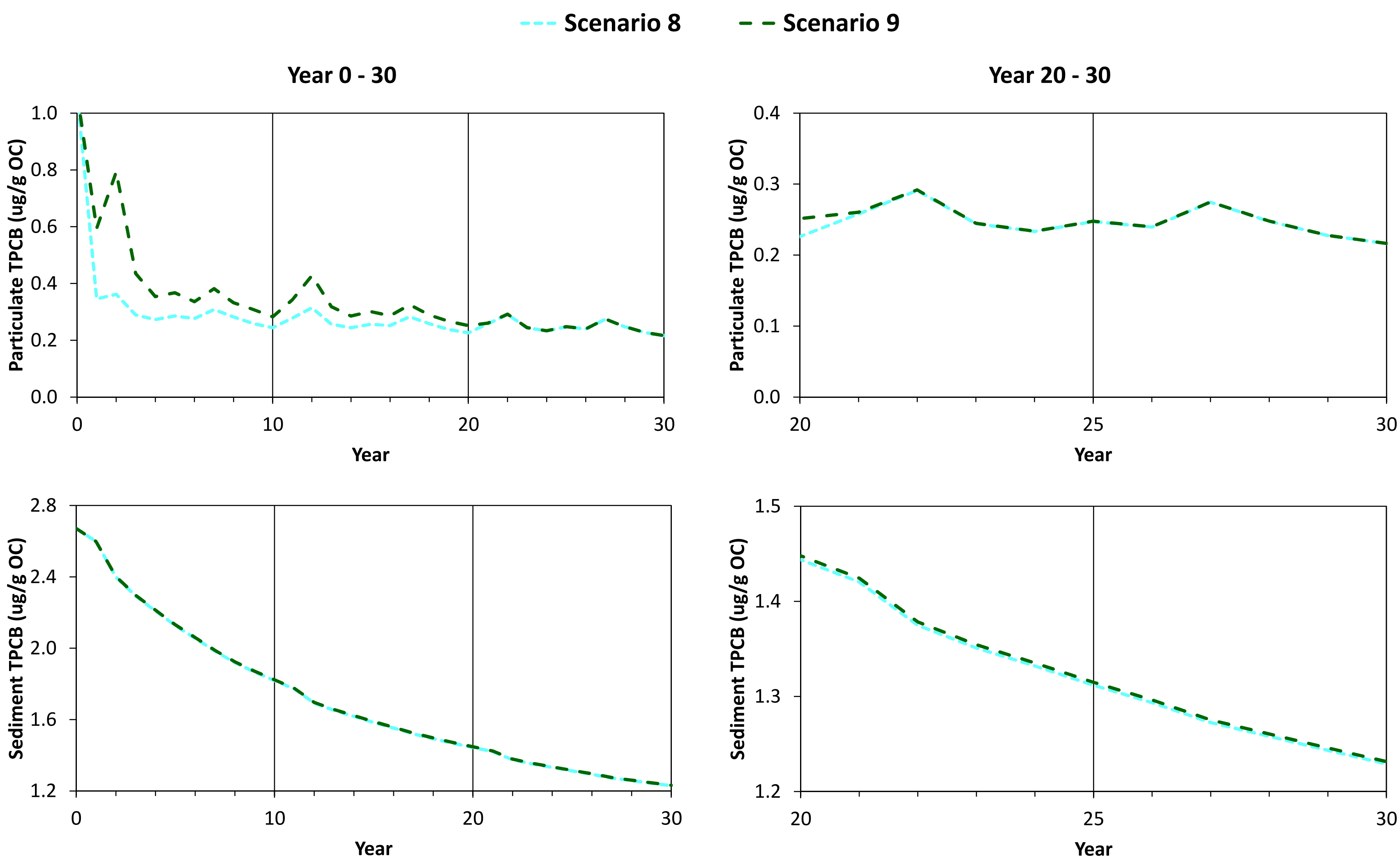


Figure 5.29a LB Inner Harbor North Scenario 8 and 9 TPCB Concentrations

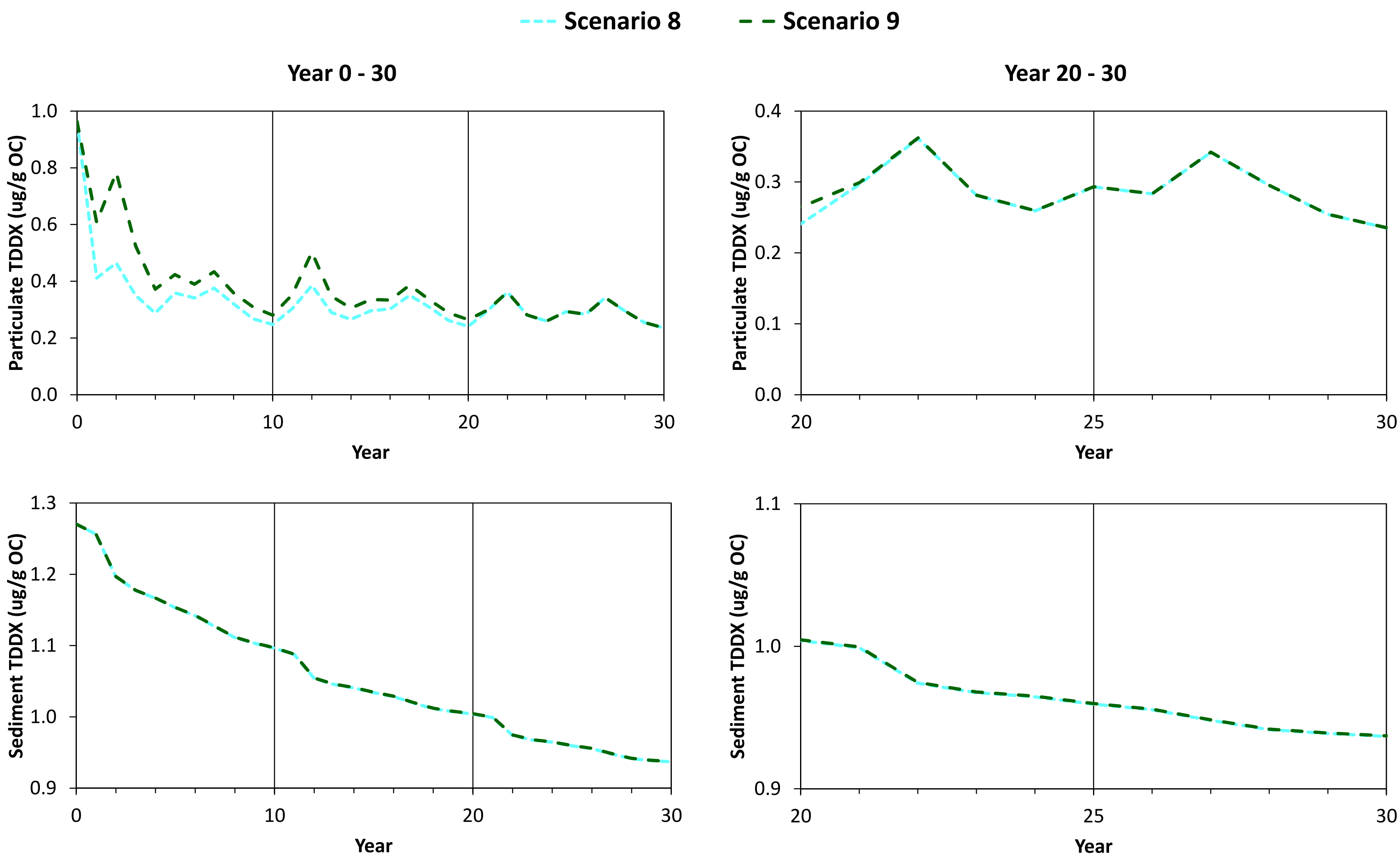


Figure 5.29b LB Inner Harbor North Scenario 8 and 9 TDDX Concentrations

5.9 LB INNER HARBOR SOUTH

The LB Inner Harbor South fish movement zone covers the West and East Basins, which are also collectively known as the Middle Harbor. To the north, tidal exchange occurs with the LB Inner Harbor North. At the south end, tidal exchange occurs with the LB Outer Harbor. The surrounding watershed is comprised of the port area surrounding the fish movement zone. Initial bed concentrations for LB Inner Harbor South are similar to those for LB Inner Harbor North, which has higher bed concentrations for TPCB than TDDX.

For the LB Inner Harbor South, direct watershed loadings are less than the loadings from bed fluxes, as shown in Figures 5.30a - 5.30c. Sediment results show net sedimentation, though organics show a net resuspension from the sediment bed. The TPCB net flux shows a gradual decline over time, which indicate that the bed is a more important source for TPCB than TDDX. Sources of TPCB and TDDX are compared in Figure 5.31. Dominant sources of TPCB include tidal exchange and the sediment bed, comprising 55% and 42% of the loadings, respectively. Tidal exchange accounts for about 91% of the TDDX sources, while the bed accounts for 9% of the loadings. For both TPCB and TDDX, tidal exchange can include watershed loadings from other fish movement zones.

TPCB and TDDX water and bed concentrations in the LB Inner Harbor South are provided in Figures 5.32a and 5.32b. The Year 20 average concentrations are compared in Table 5.8. Typically, water concentrations show fluctuations corresponding to wet weather, while bed concentrations show a more gradual decline over time. Scenarios 4 and 5 have slightly lower water concentrations compared with Scenario 1, which indicates that loadings from the DC Estuary and CS are likely contributing to water concentrations at the LB Inner Harbor South. Under Scenario 3, TPCB results show a greater reduction from the Baseline Scenario than TDDX. Similarly, Scenario 7 shows a greater reduction in concentrations for TPCB than for TDDX. Bed concentrations for LB Inner Harbor South are lower than those of the Baseline Scenario for the sediment loading reduction scenarios (Scenario 3 and 6).

Annual concentrations for Scenarios 8 and 9 are compared over the 30-year simulation period in Figures 5.33a for TPCB and 5.33b for TDDX. Water concentrations are lower for Scenario 8 over the first 20 years, and then are similar over the last 10 years. Bed concentrations are similar over the entire 30-year simulation period. Comparisons of the Year 30 concentrations show nearly the same concentrations for Scenarios 8 and 9.

Table 5.8 LB Inner Harbor South Year 20 Average Organics Concentrations

Model Scenario	TPCB (ug/g OC)		TDDX (ug/g OC)	
	Water	Bed	Water	Bed
Baseline Scenario	0.231	2.487	0.237	2.369
Scenario 1 100% WLR	0.211	2.478	0.210	2.368
Scenario 2 50% WLR	0.221	2.483	0.224	2.369
Scenario 3 SedLR to TMDL Target	0.177	0.216	0.225	0.217
Scenario 4 100% WLR + DC Estuary SedLR	0.207	2.476	0.205	2.368
Scenario 5 100% WLR + Hot Spot SedLR	0.204	2.475	0.204	2.367
Scenario 6 100% WLR + 100% SedLR	0.150	0.032	0.191	0.0064
Scenario 7 Hot Spot SedLR	0.224	2.484	0.231	2.369
Scenario 8 50% WLR + Hot Spot SedLR	0.214	2.480	0.218	2.368
Scenario 9 50% WLR + Year 20 Hot Spot SedLR	0.221	2.483	0.224	2.369
Scenario 8 (Year 30) 50% WLR + Hot Spot SedLR	0.204	2.051	0.213	2.265
Scenario 9 (Year 30) 50% WLR + Year 20 Hot Spot SedLR	0.204	2.052	0.213	2.265

Average concentrations determined as average over Year 20 or Year 30 as indicated

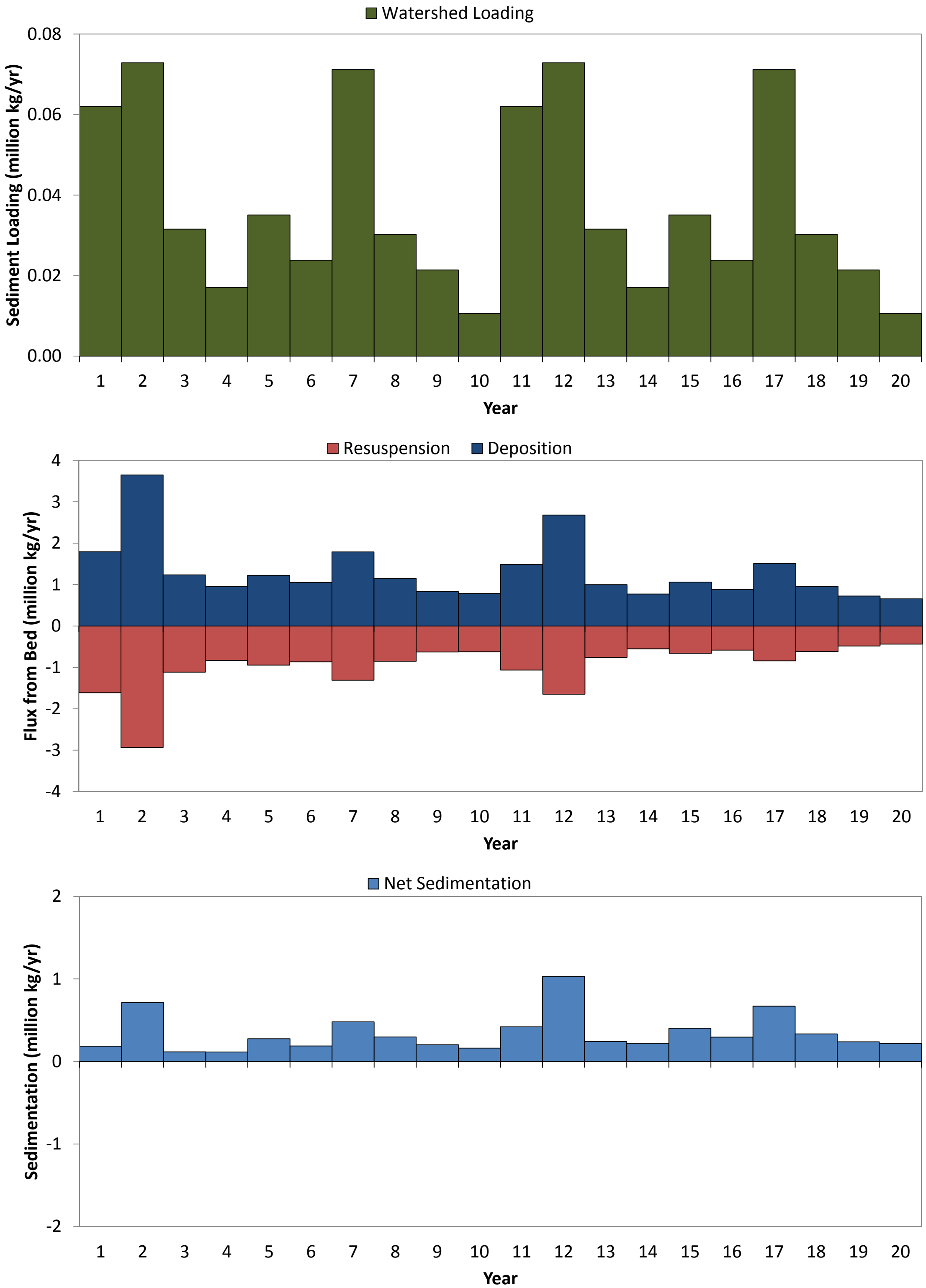


Figure 5.30a LB Inner Harbor South Annual Sediment Loadings

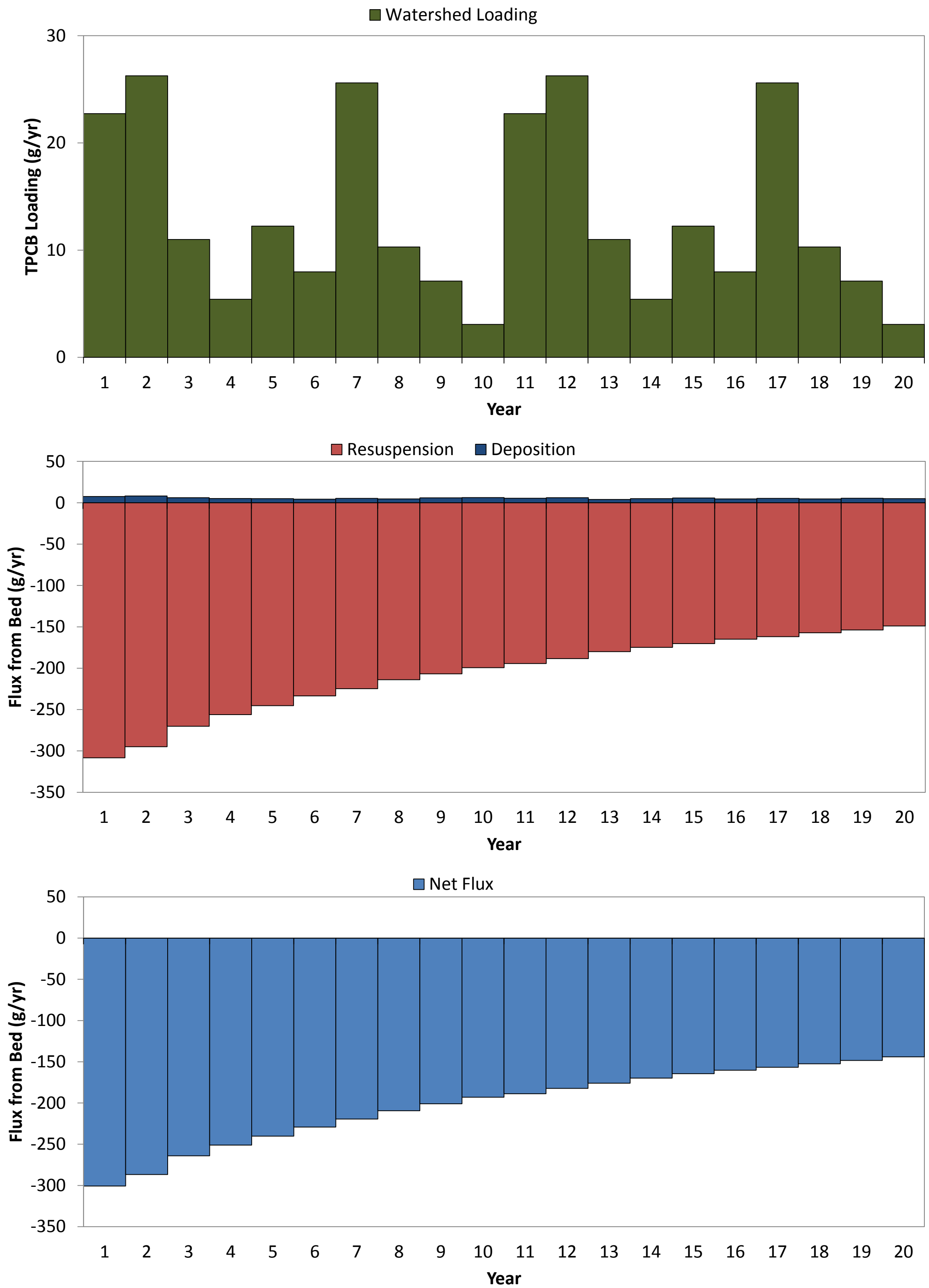


Figure 5.30b LB Inner Harbor South Annual TPCB Loadings

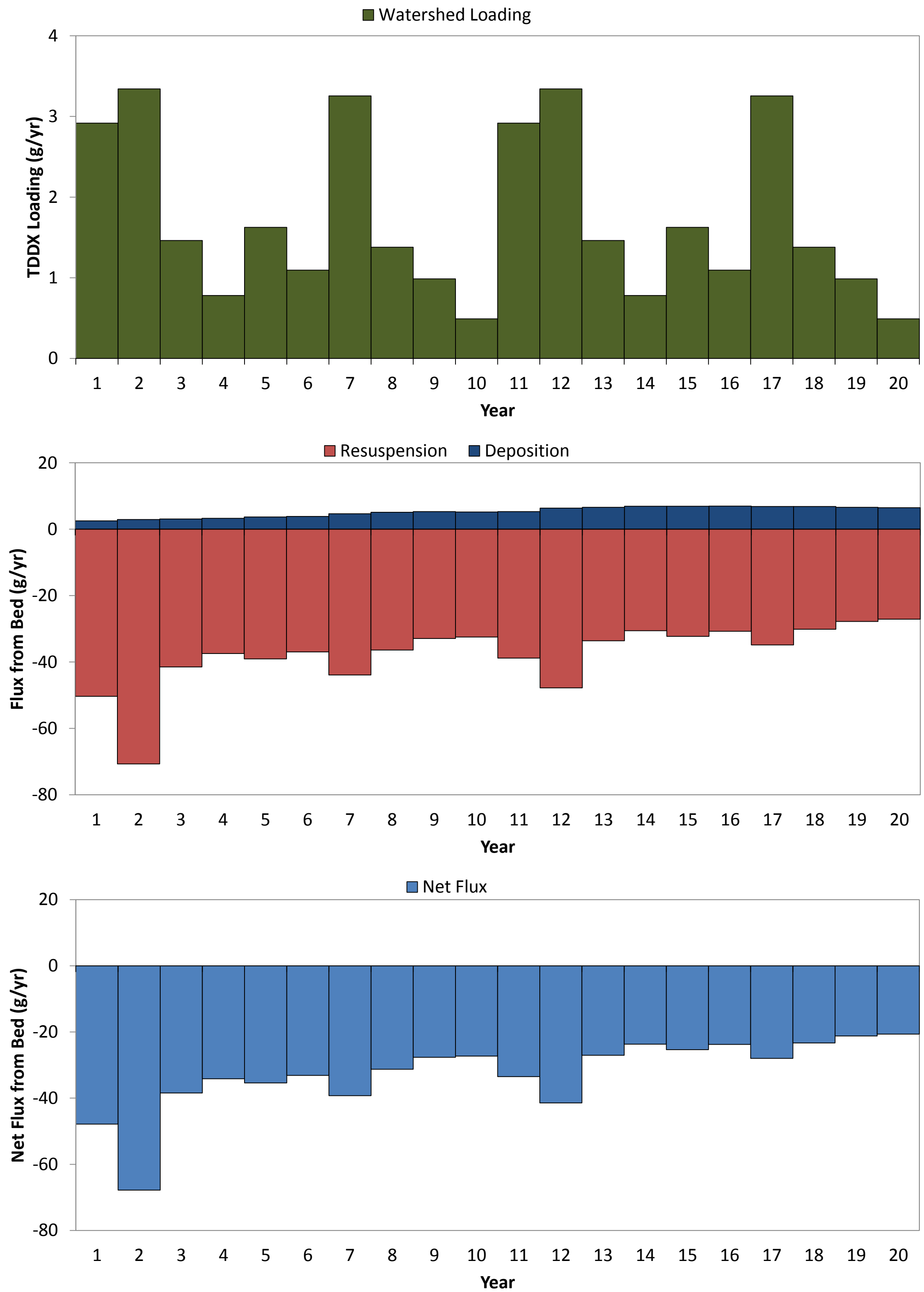
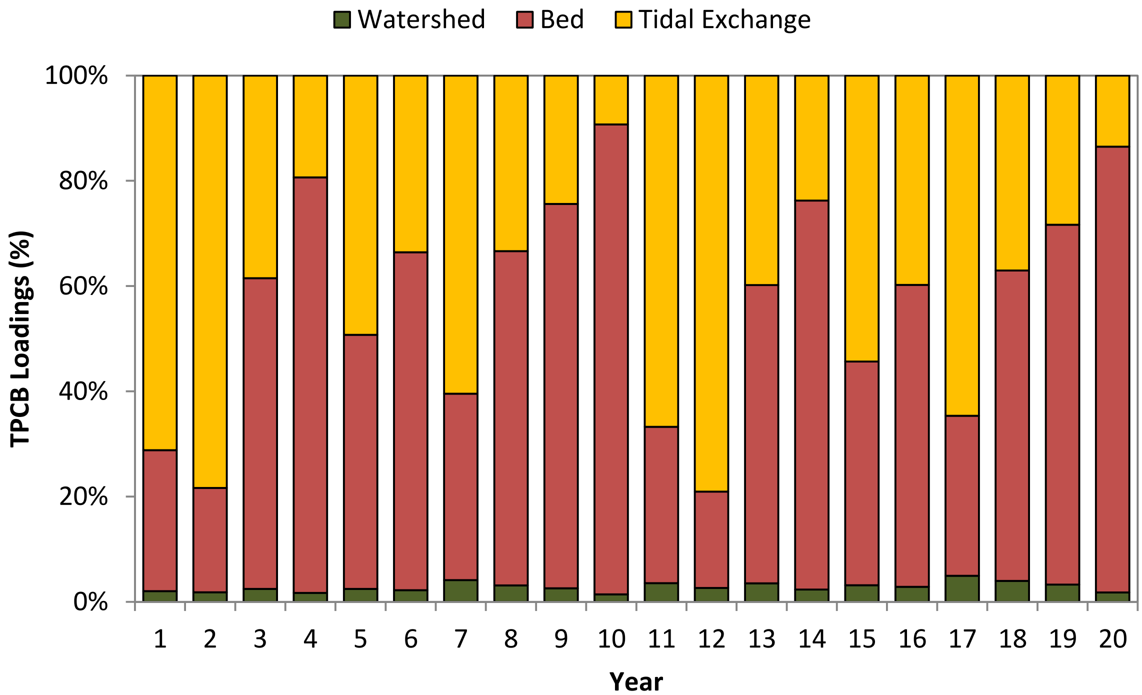


Figure 5.30c LB Inner Harbor South Annual TDDX Loadings



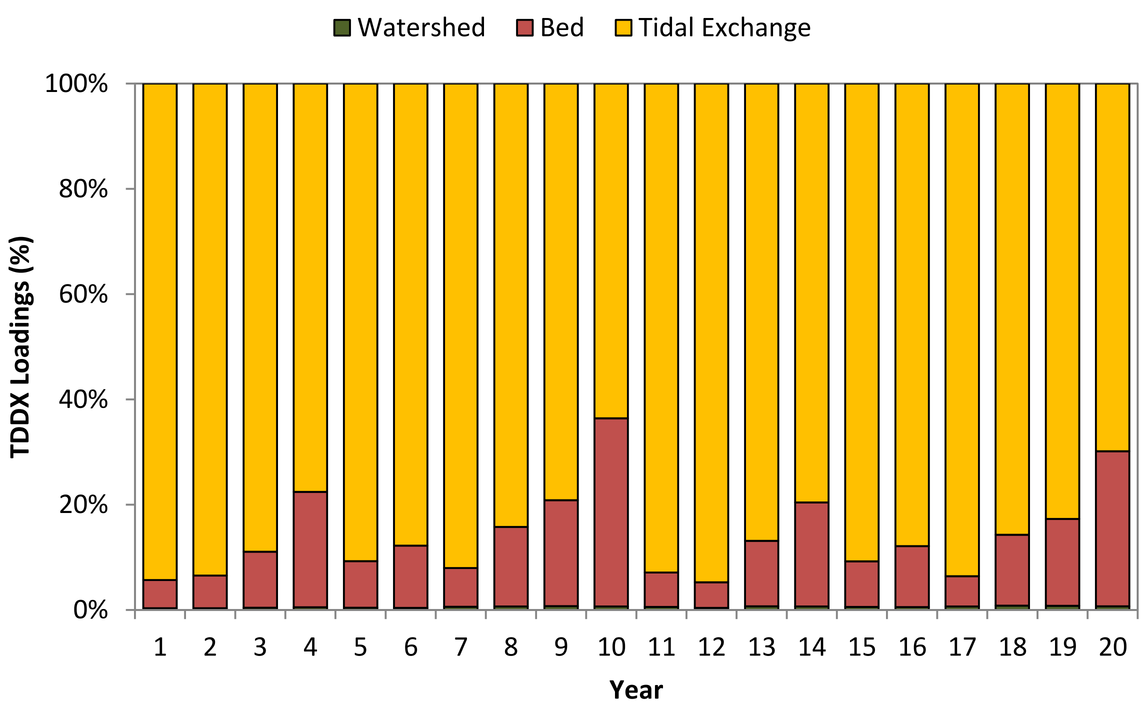


Figure 5.31 LB Inner Harbor South TPCB and TDDX Sources

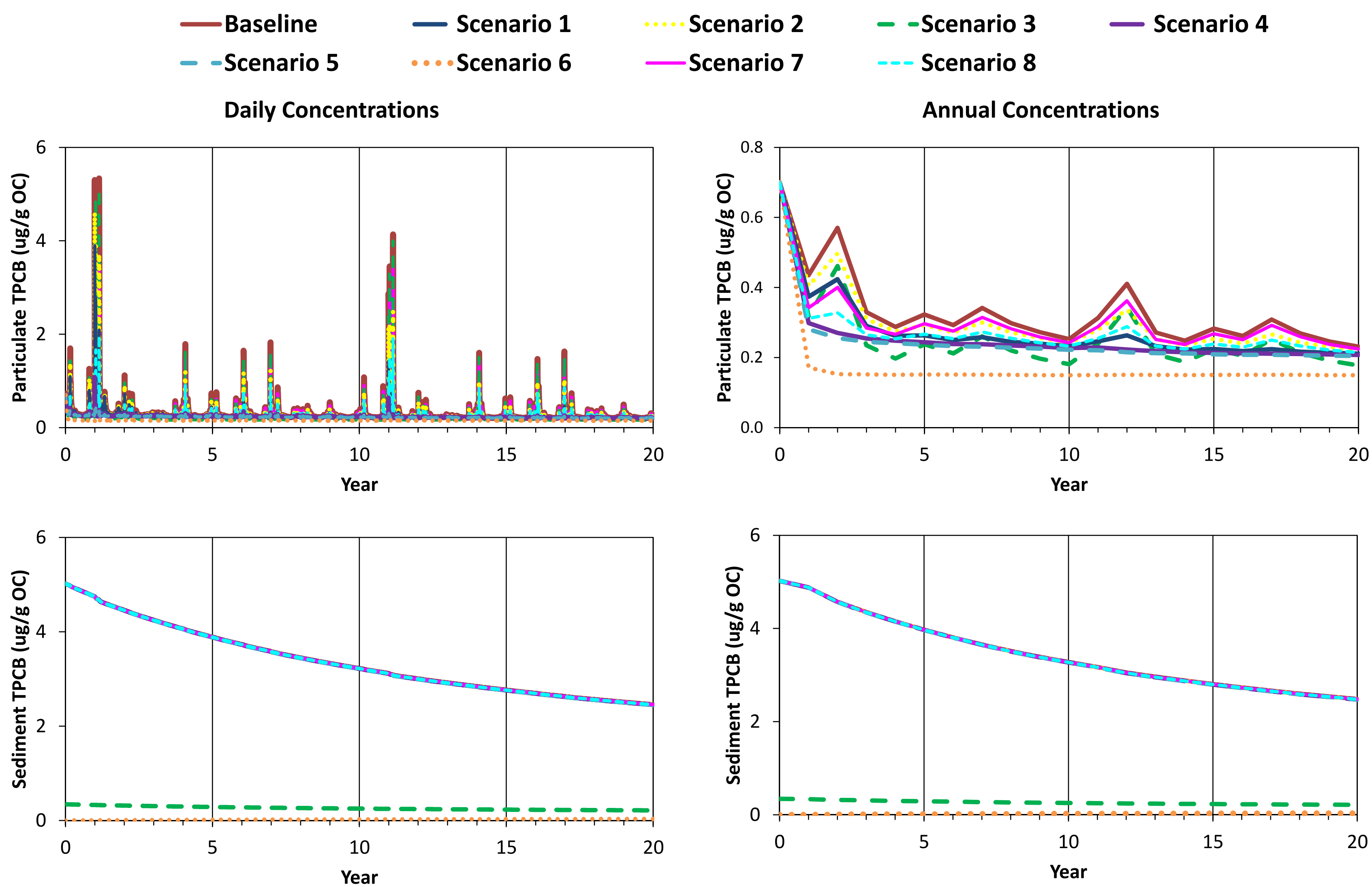


Figure 5.32a LB Inner Harbor South TPCB Concentrations

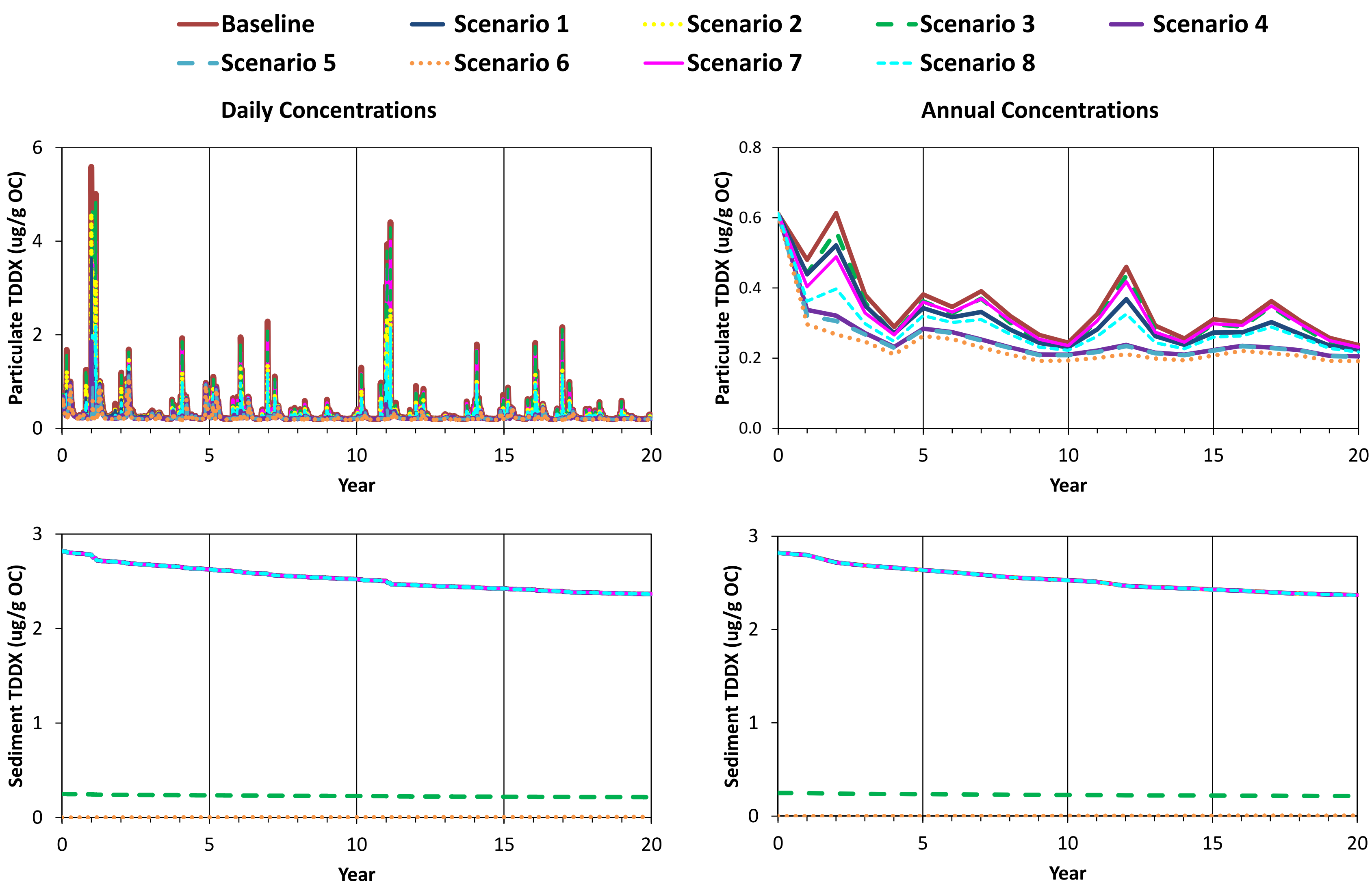


Figure 5.32b LB Inner Harbor South TDDX Concentrations

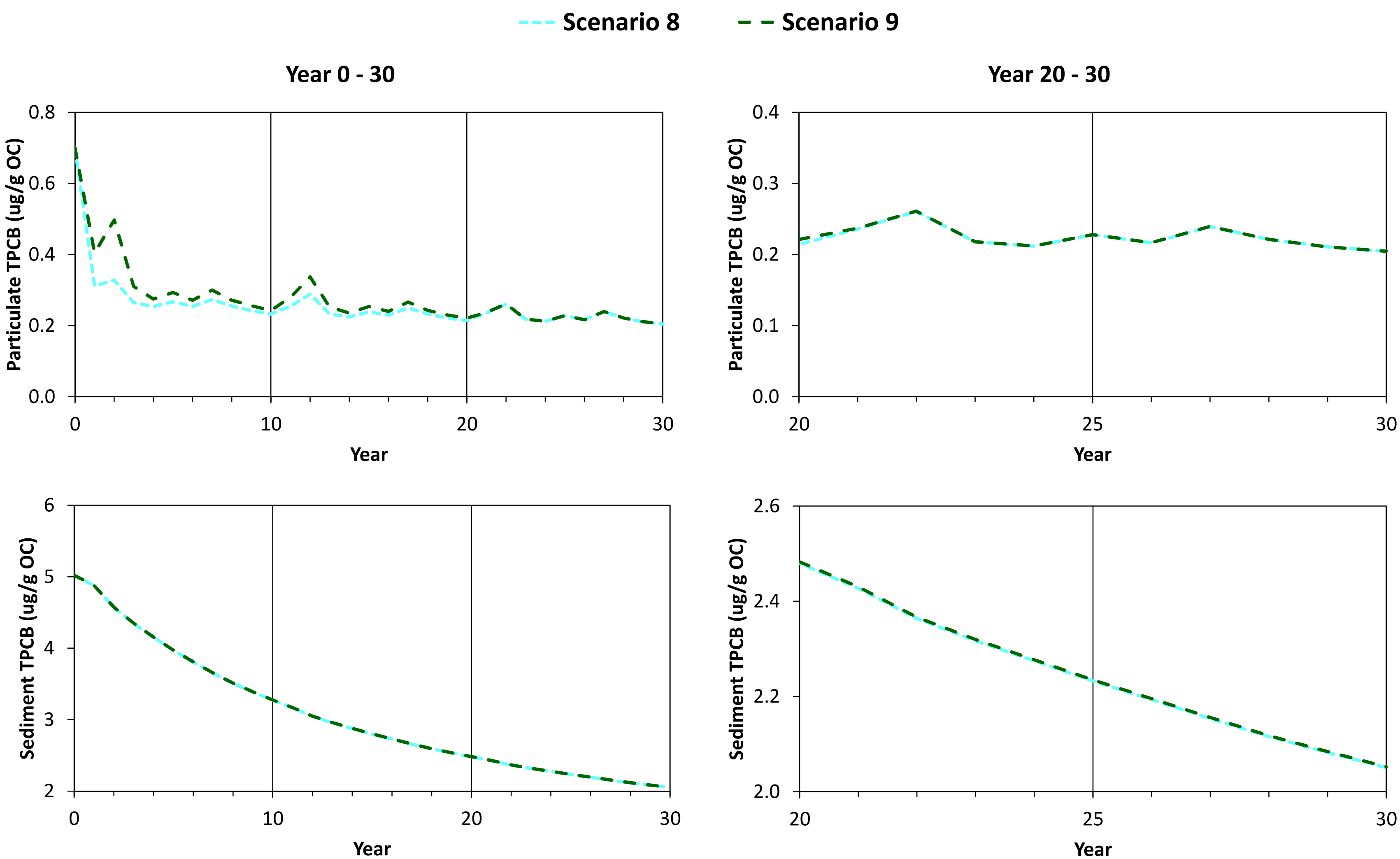


Figure 5.33a LB Inner Harbor South Scenario 8 and 9 TPCB Concentrations

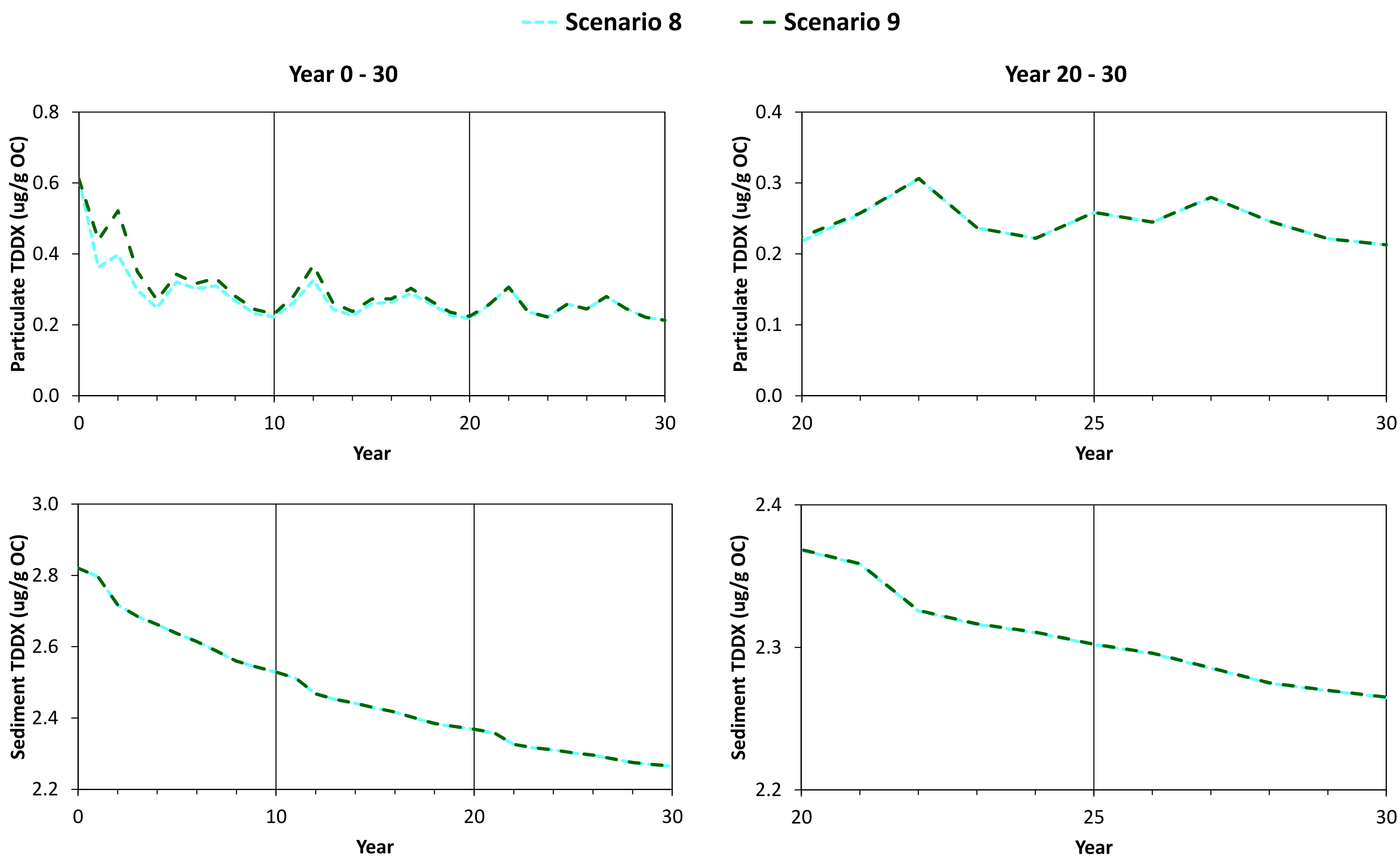


Figure 5.33b LB Inner Harbor South Scenario 8 and 9 TDDX Concentrations

5.10 LB OUTER HARBOR

The LB Outer Harbor is hydrodynamically connected with the LA Outer Harbor to the west, and LB Inner Harbor South to the north. At its southeast corner, tidal exchange occurs with Eastern San Pedro Bay and outside the harbor via Queens Gate. Only a small portion of the port area directly discharges to the LB Outer Harbor. Initial bed concentrations in LB Outer Harbor are higher for TDDX than for TPCB.

Loadings from the watershed and bed fluxes are compared in Figures 5.34a - 5.34c for sediment, TPCB, and TDDX, respectively. Direct watershed loadings are minimal compared to the bed fluxes. Sources of TPCB and TDDX are compared in Figure 5.35. In the LB Outer Harbor, tidal exchange is the primary source of TPCB (83%) and TDDX (88%). Tidal exchange occurs with both the inner harbor and ocean, and includes watershed loadings from other fish movement zones.

Water and bed concentrations for the LB Outer Harbor are shown in Figure 5.36a for TPCB and Figure 5.36b for TDDX. Responses in water and bed concentrations for the model scenarios are similar to the LA Outer Harbor, including fluctuations in TDDX water concentrations during wet weather conditions from sources outside of the harbor. This is illustrated by the TDDX concentrations under Scenario 6. Both TPCB and TDDX bed concentrations are only significantly reduced for Scenarios 3 and 6 due to the sediment loading reductions in the LB Outer Harbor.

Annual TPCB and TDDX concentrations under Scenarios 8 and 9 are compared in Figures 5.37a and 5.37b, respectively. Scenario 8 water concentrations over the first 20 years are lower than those for Scenario 9. Over the last 10 years, water and bed concentrations are the same for Scenarios 8 and 9.

The Year 20 average concentrations for all model scenarios are compared in Table 5.9. For TPCB and TDDX, water concentrations for all model scenarios are reduced from those of the Baseline Scenario. The watershed loading reduction scenarios (Scenarios 1, 4, and 5) have similar water concentrations that are lower than those of Scenario 3. This indicates that watershed loadings from other fish movement zones are included in the tidal exchange. Bed concentrations are reduced for sediment loading reductions under Scenarios 3 and 6.

Table 5.9 LB Outer Harbor Year 20 Average Organics Concentrations

Model Scenario	TPCB (ug/g OC)		TDDX (ug/g OC)	
	Water	Bed	Water	Bed
Baseline Scenario	0.205	0.652	0.235	2.310
Scenario 1 100% WLR	0.183	0.646	0.212	2.309
Scenario 2 50% WLR	0.194	0.649	0.224	2.309
Scenario 3 SedLR to TMDL Target	0.184	0.138	0.226	0.206
Scenario 4 100% WLR + DC Estuary SedLR	0.181	0.645	0.210	2.309
Scenario 5 100% WLR + Hot Spot SedLR	0.179	0.644	0.209	2.309
Scenario 6 100% WLR + 100% SedLR	0.158	0.035	0.200	0.0076
Scenario 7 Hot Spot SedLR	0.201	0.651	0.232	2.310
Scenario 8 50% WLR + Hot Spot SedLR	0.190	0.647	0.221	2.309
Scenario 9 50% WLR + Year 20 Hot Spot SedLR	0.194	0.649	0.224	2.309
Scenario 8 (Year 30) 50% WLR + Hot Spot SedLR	0.187	0.555	0.217	2.183
Scenario 9 (Year 30) 50% WLR + Year 20 Hot Spot SedLR	0.187	0.555	0.217	2.183

Average concentrations determined as average over Year 20 or Year 30 as indicated

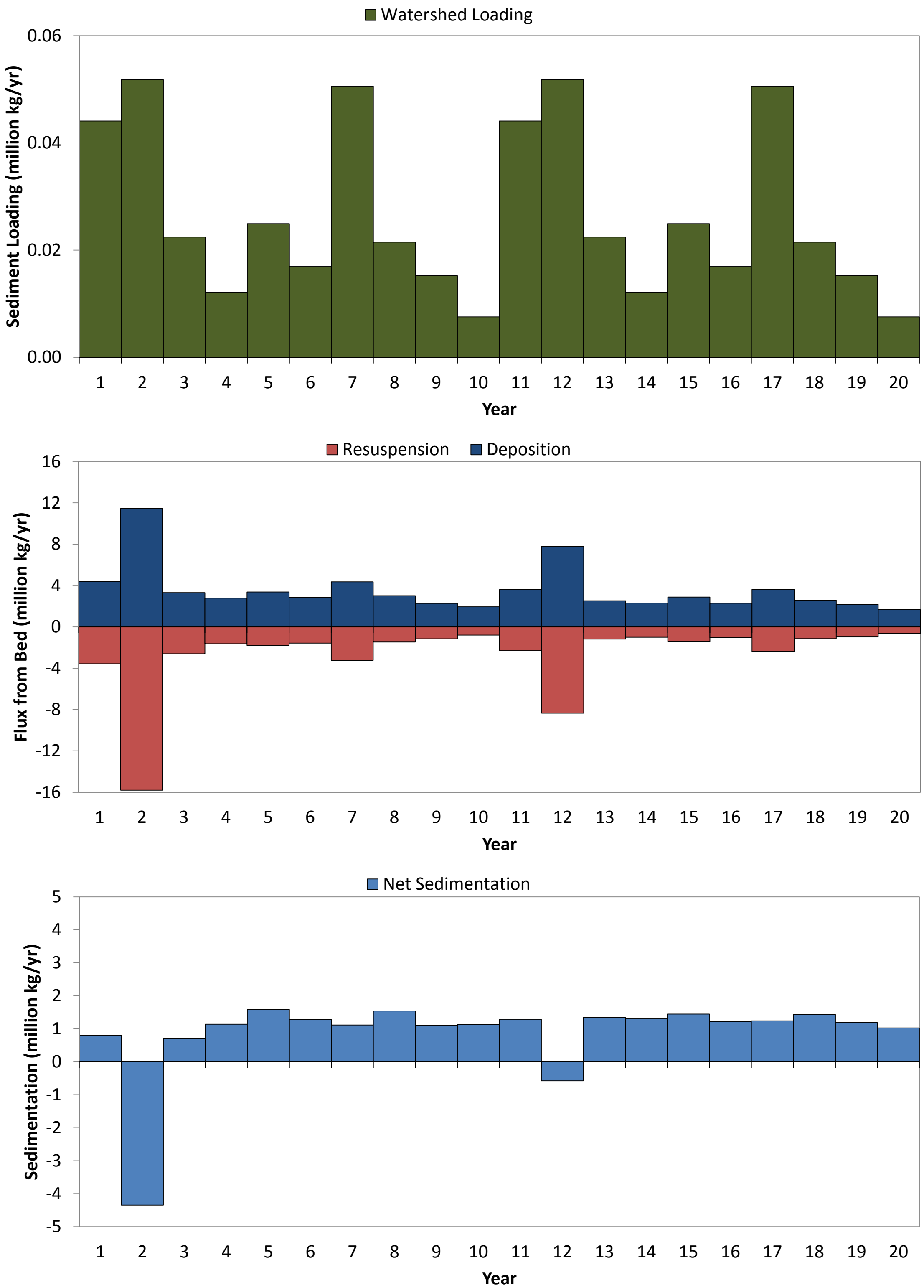


Figure 5.34a LB Outer Harbor Annual Sediment Loadings

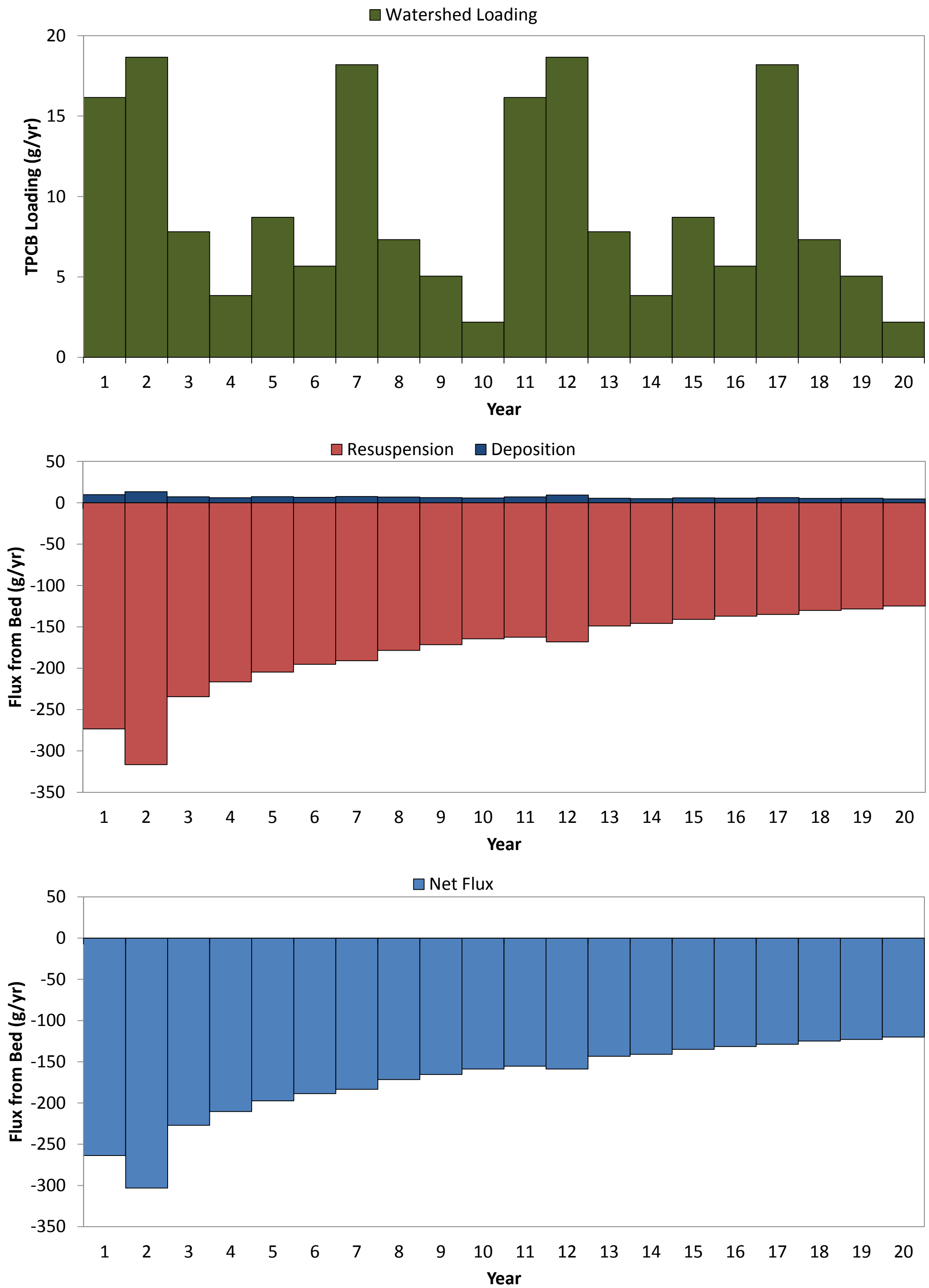


Figure 5.34b LB Outer Harbor Annual TPCB Loadings

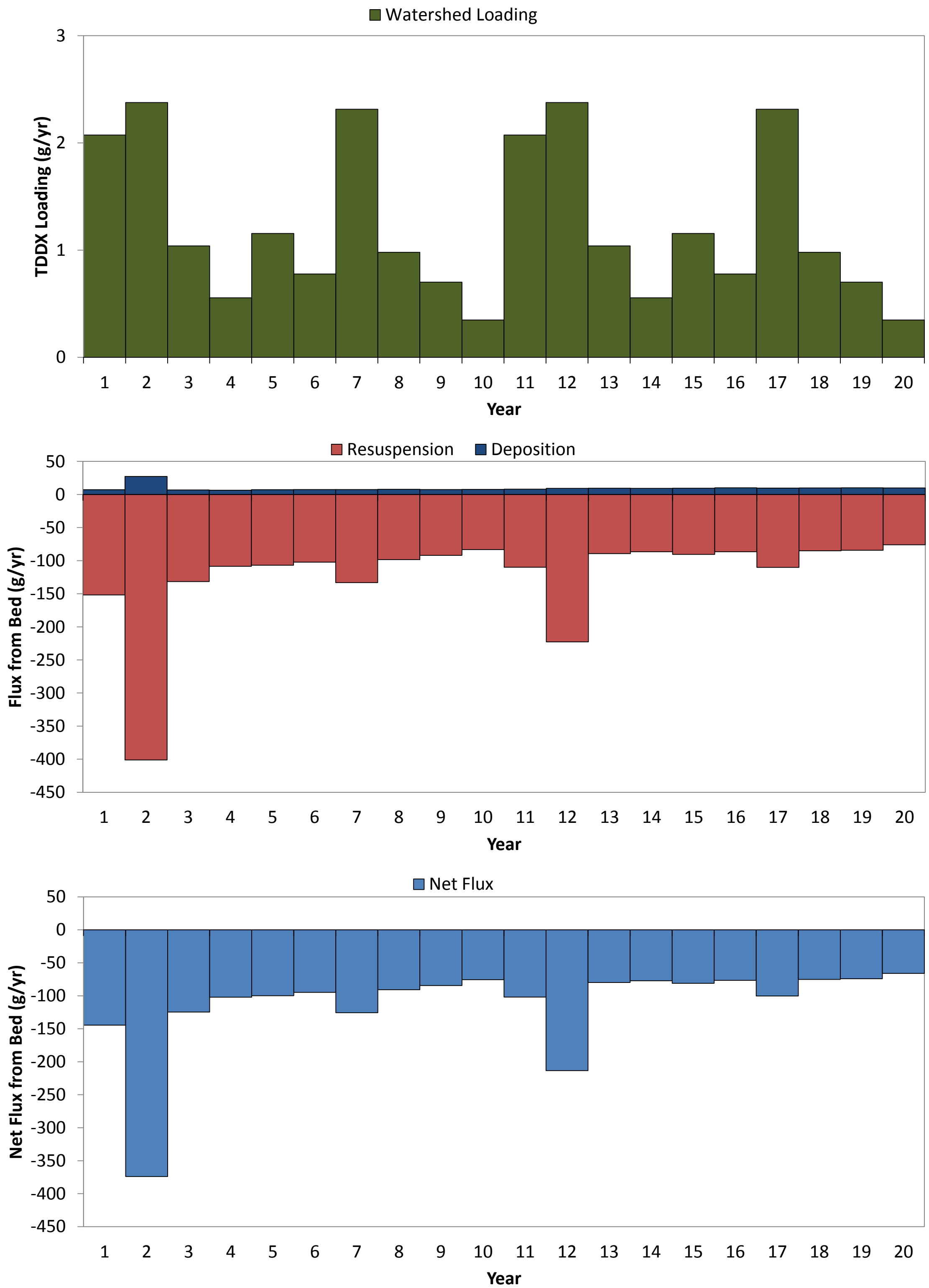


Figure 5.34c LB Outer Harbor Annual TDDX Loadings

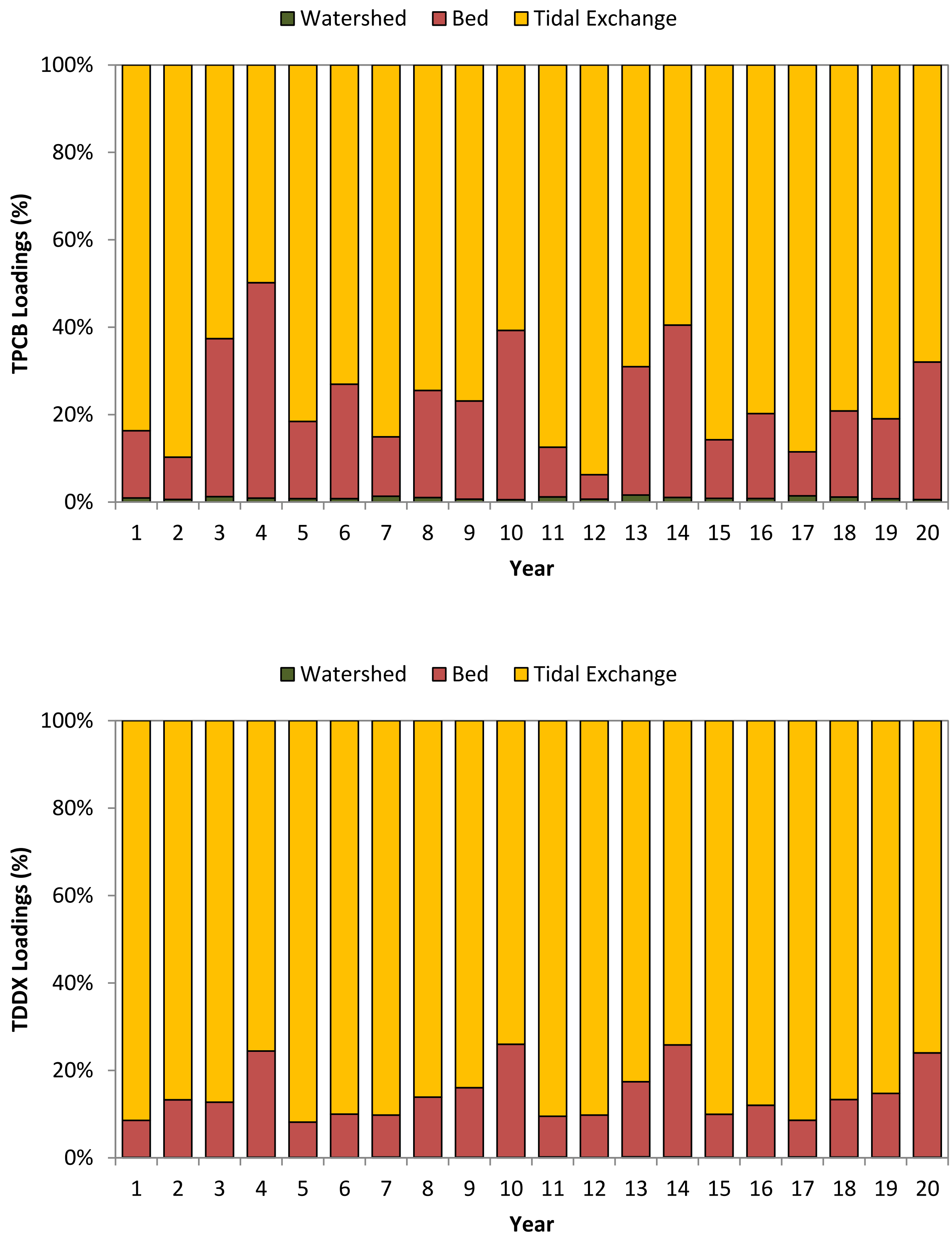


Figure 5.35 LB Outer Harbor TPCB and TDDX Sources

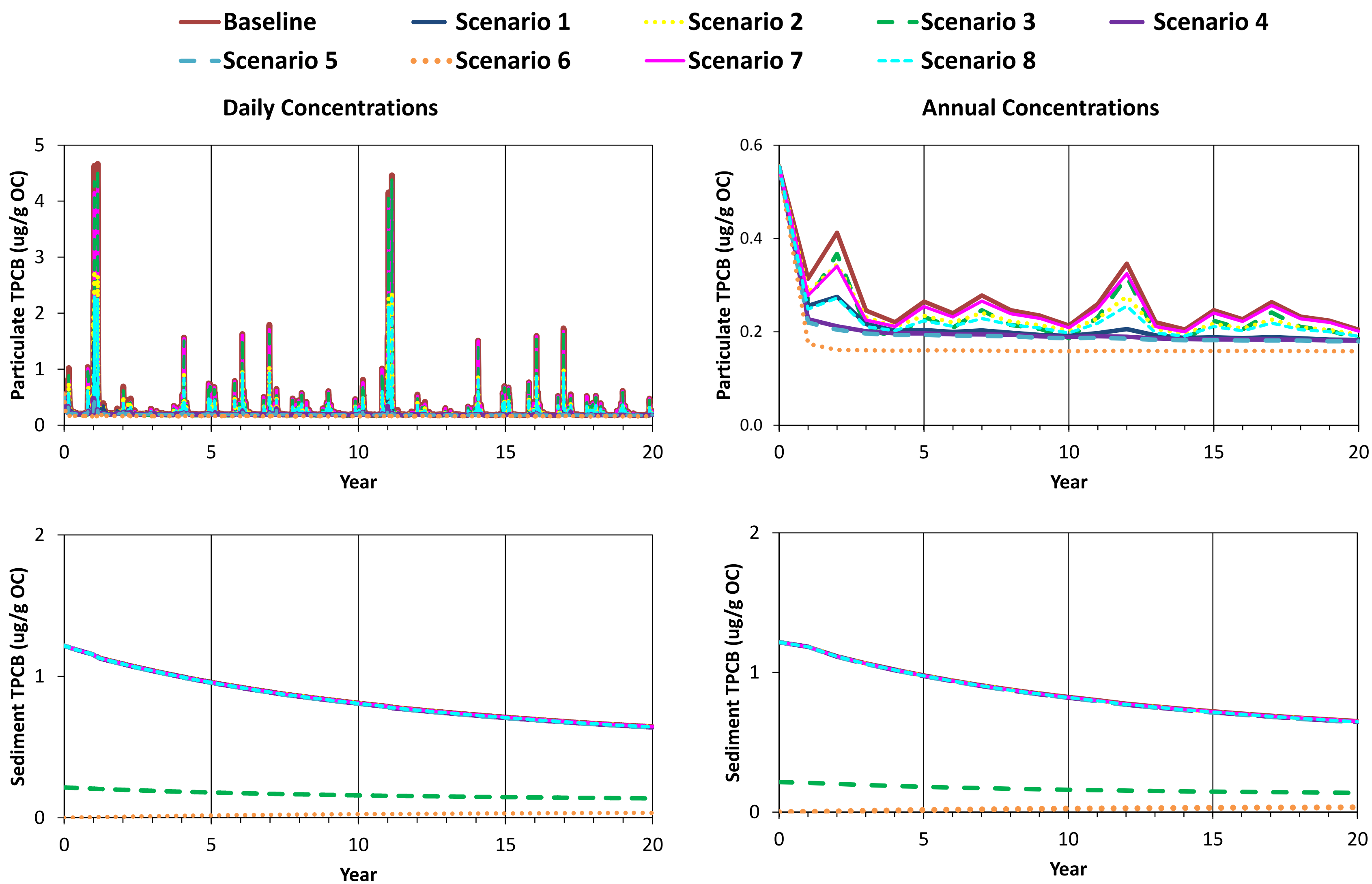


Figure 5.36a LB Outer Harbor TPCB Concentrations

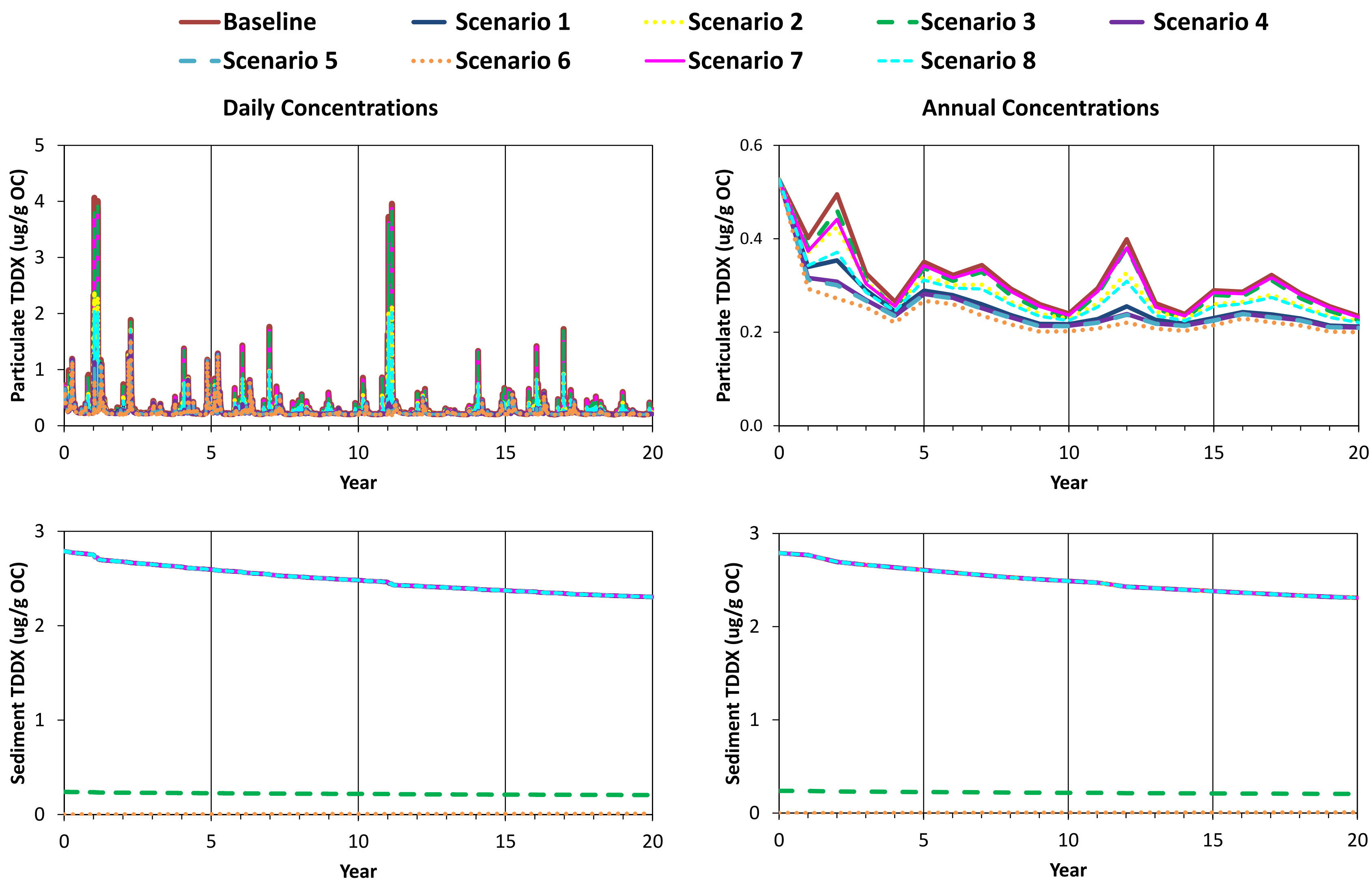


Figure 5.36b LB Outer Harbor TDDX Concentrations

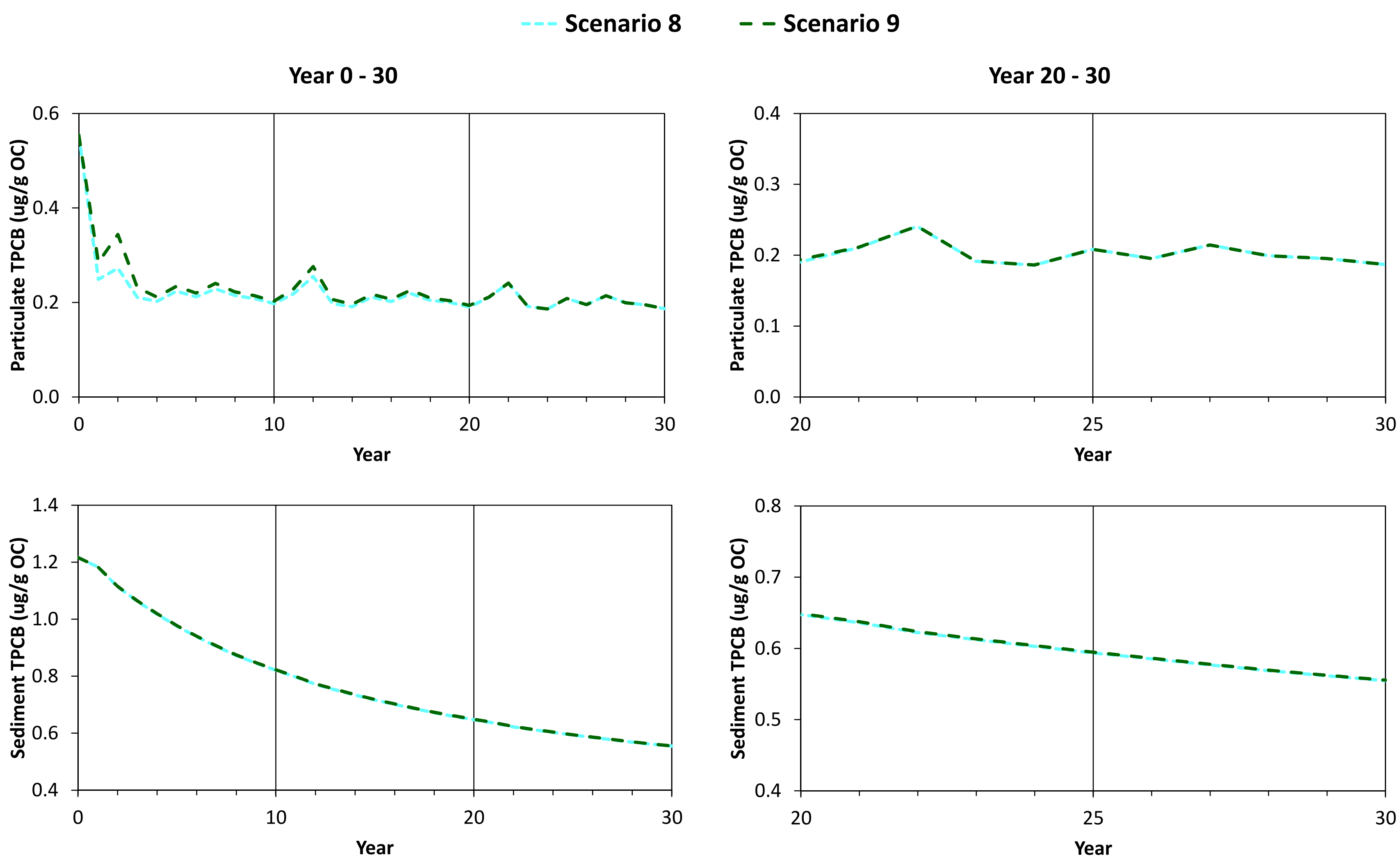


Figure 5.37a LB Outer Harbor Scenario 8 and 9 TPCB Concentrations

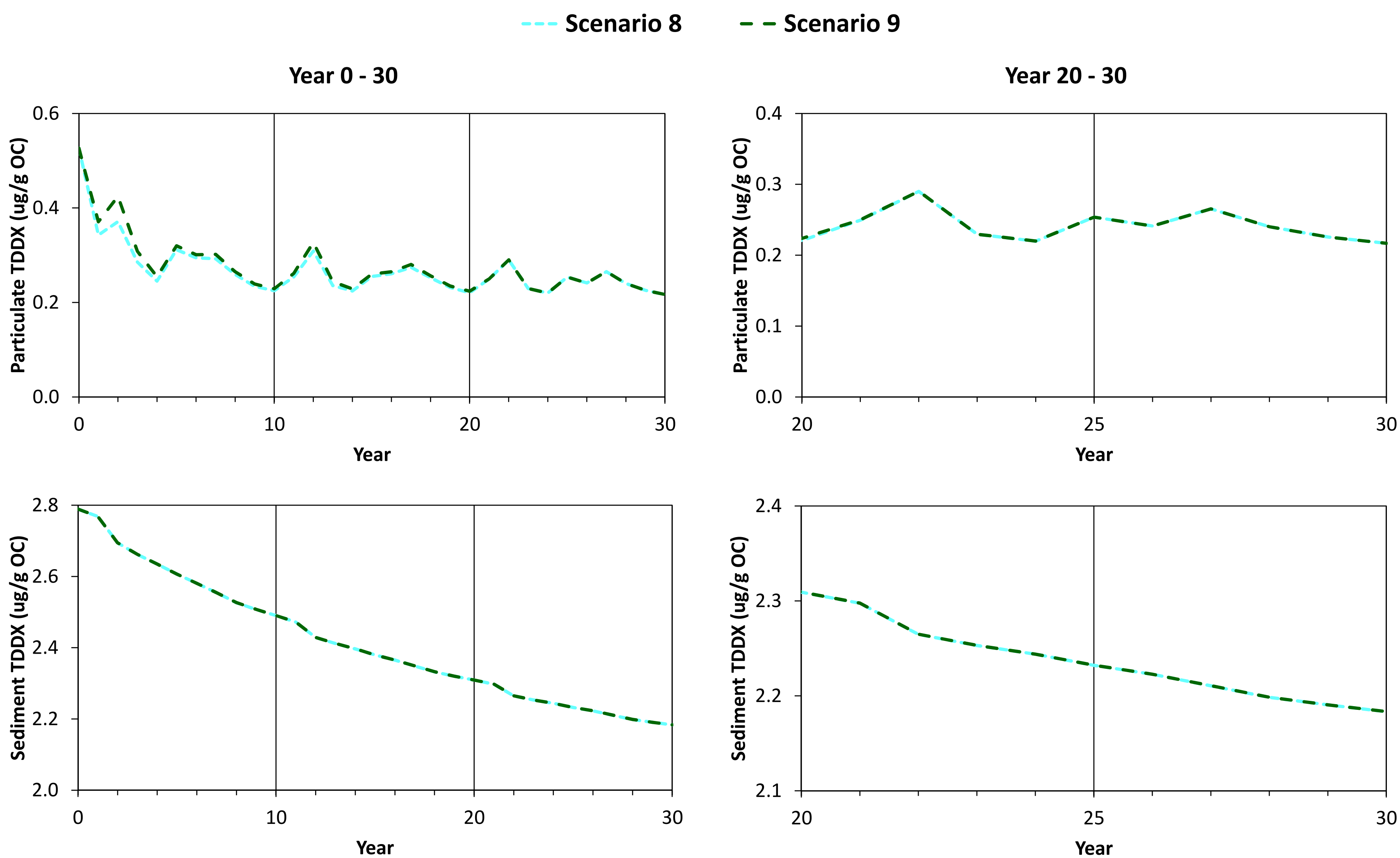


Figure 5.37b LB Outer Harbor Scenario 8 and 9 TDDX Concentrations

5.11 Los Angeles River Estuary

The LAR Estuary fish movement zone is located between the LAR and Eastern San Pedro Bay. This area receives upstream loadings from the LAR and surrounding Nearshore watershed. Tidal exchange occurs with Eastern San Pedro Bay. Initial bed concentrations in the LAR Estuary are higher for TPCB than for TDDX.

Annual sediment, TPCB, and TDDX watershed loadings and bed fluxes for the LAR Estuary are shown in Figures 5.38a - 5.38c. For sediment, watershed loadings – including those from sources upstream of the LAR – are greater than the quantities of resuspension from the bed. A portion of the watershed loading deposits in the bed, resulting in a net sedimentation. For TPCB and TDDX, watershed loadings are also greater than the resuspension from the bed, with a portion of the loadings depositing to the bed. However, there is net flux of TPCB and TDDX from the bed to the water. TPCB and TDDX sources are compared in Figure 5.39. In the LAR Estuary, the primary source of TPCB and TDDX is watershed loadings, which are mostly from the upstream LAR. Approximately 93% of the TPCB loadings are from the watershed, and 7% from tidal exchange. Similarly, about 94% of the TDDX loadings are from the watershed, and 6% from tidal exchange.

Water and bed concentrations in the LAR Estuary are shown in Figure 5.40a for TPCB and Figure 5.40b for TDDX, with a comparison of the Year 20 concentrations provided in Table 5.10. Both TPCB and TDDX show similar trends in water and bed concentrations among all the model scenarios. Fluctuations in water concentrations correspond to watershed loadings. Since watershed loadings account for more than 90% of the loadings, reductions in water concentrations occur for the scenarios with watershed loading reductions (Scenarios 1, 2, 4, 5, and 6). Sediment loading reductions (Scenarios 3 and 7) show minimal difference from those of the Baseline Scenario. Water concentrations under Scenarios 2 and 8 are in between those of the watershed and sediment loading reduction scenarios. Under the Baseline Scenario, bed concentrations show decreases that coincide with wet weather. Scenarios 1, 2, 4, and 5 have similar bed concentrations as the Baseline Scenario. Scenarios 3 and 6 have reduced bed concentrations due to the sediment loading reductions.

Annual TPCB and TDDX concentration in the LAR Estuary for Scenarios 8 and 9 are compared in Figures 5.41a and 5.41b, respectively. The comparisons show no difference in water or bed concentrations, which indicates that there are no impacts of the hot spot remediation on conditions in the LAR Estuary.

Table 5.10 Los Angeles River Estuary Year 20 Average Organics Concentrations

MODEL SCENARIO	TPCB (UG/G OC)		TDDX (UG/G OC)	
	WATER	BED	WATER	BED
Baseline Scenario	1.322	0.547	1.021	0.135
Scenario 1 100% WLR	0.154	0.526	0.147	0.131
Scenario 2 50% WLR	0.737	0.537	0.583	0.133
Scenario 3 SedLR to TMDL Target	1.286	0.0344	1.015	0.0123
Scenario 4 100% WLR + DC Estuary SedLR	0.154	0.526	0.146	0.131
Scenario 5 100% WLR + Hot Spot SedLR	0.174	0.526	0.199	0.131
Scenario 6 100% WLR + 100% SedLR	0.111	0.0024	0.136	0.00033
Scenario 7 Hot Spot SedLR	1.320	0.547	1.020	0.135
Scenario 8 50% WLR + Hot Spot SedLR	0.736	0.537	0.582	0.133
Scenario 9 50% WLR + Year 20 Hot Spot SedLR	0.737	0.537	0.583	0.133
Scenario 8 (Year 30) 50% WLR + Hot Spot SedLR	0.722	0.401	0.574	0.0997
Scenario 9 (Year 30) 50% WLR + Year 20 Hot Spot SedLR	0.722	0.401	0.574	0.0998

Average concentrations determined as average over Year 20 or Year 30 as indicated

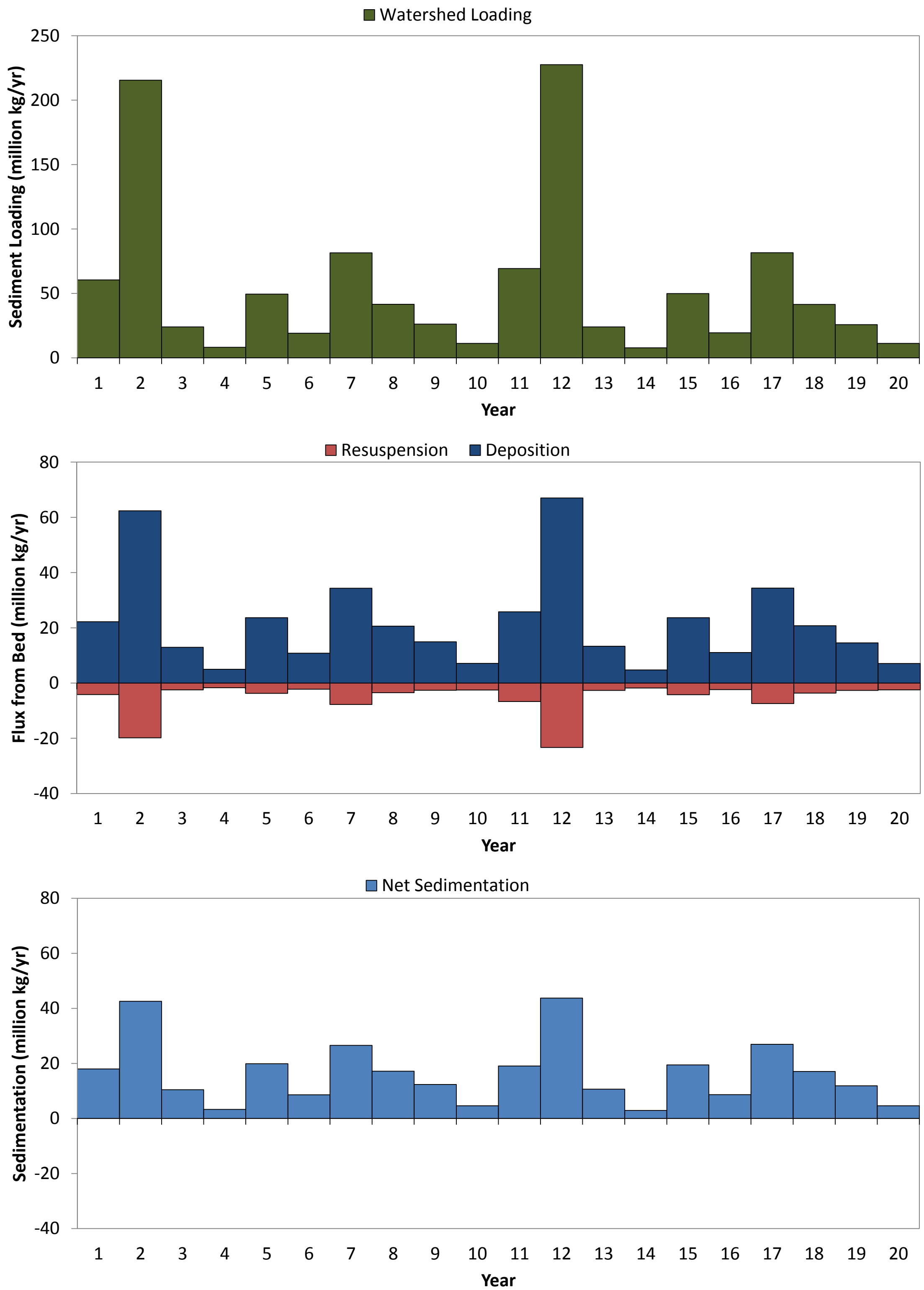


Figure 5.38a Los Angeles River Estuary Annual Sediment Loadings

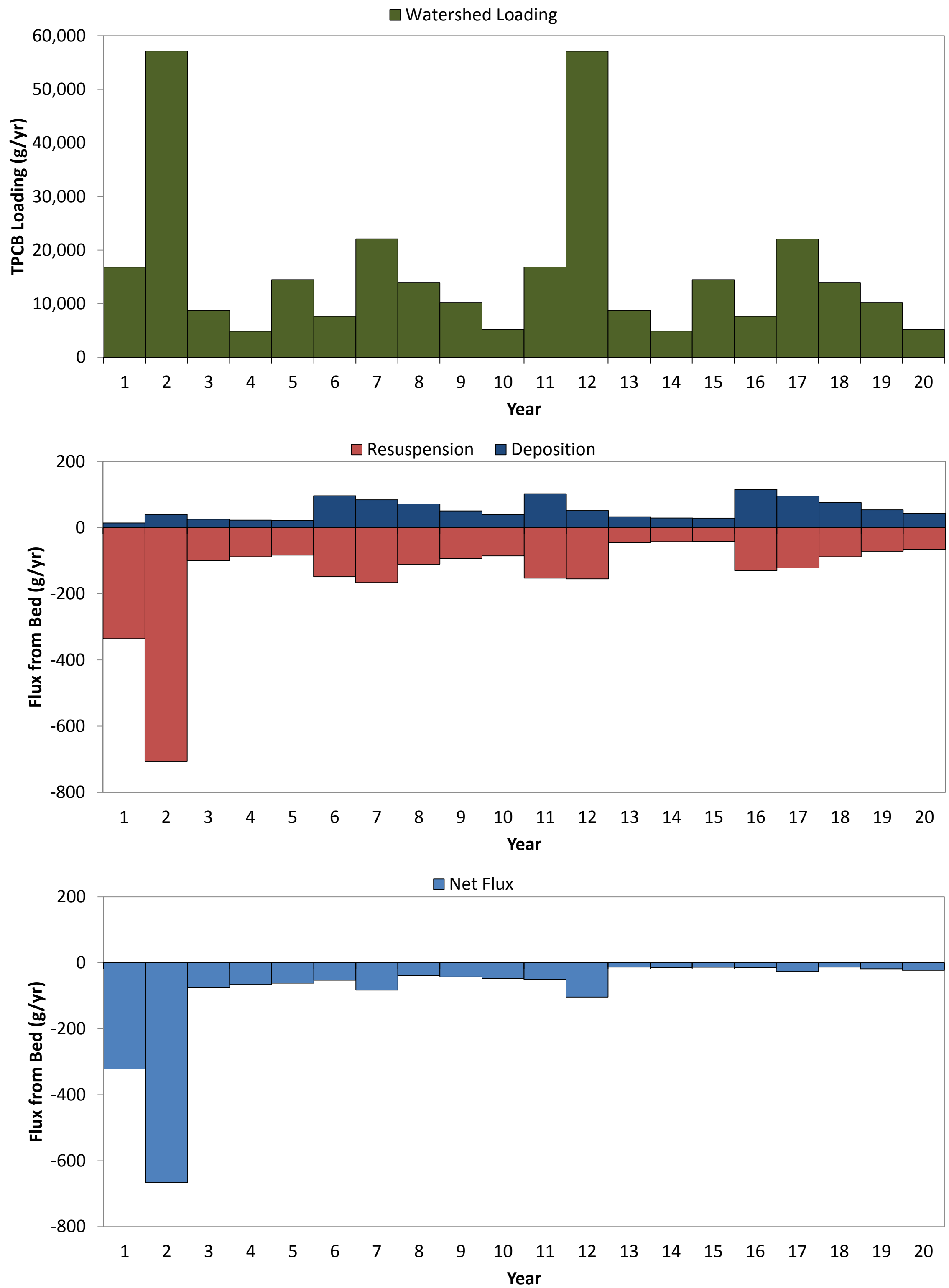


Figure 5.38b Los Angeles River Estuary Annual TPCB Loadings

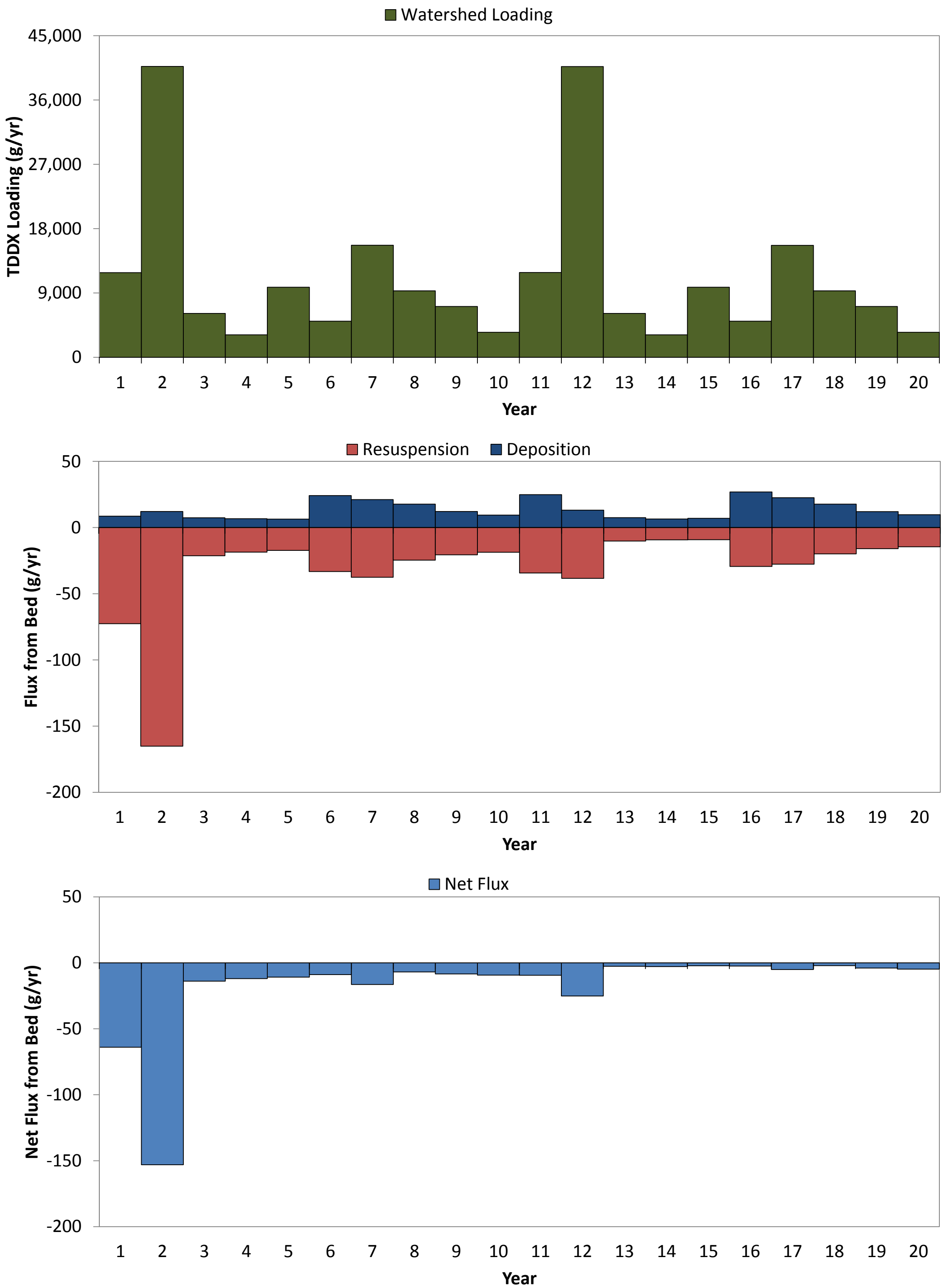


Figure 5.38c Los Angeles River Estuary Annual TDDX Loadings

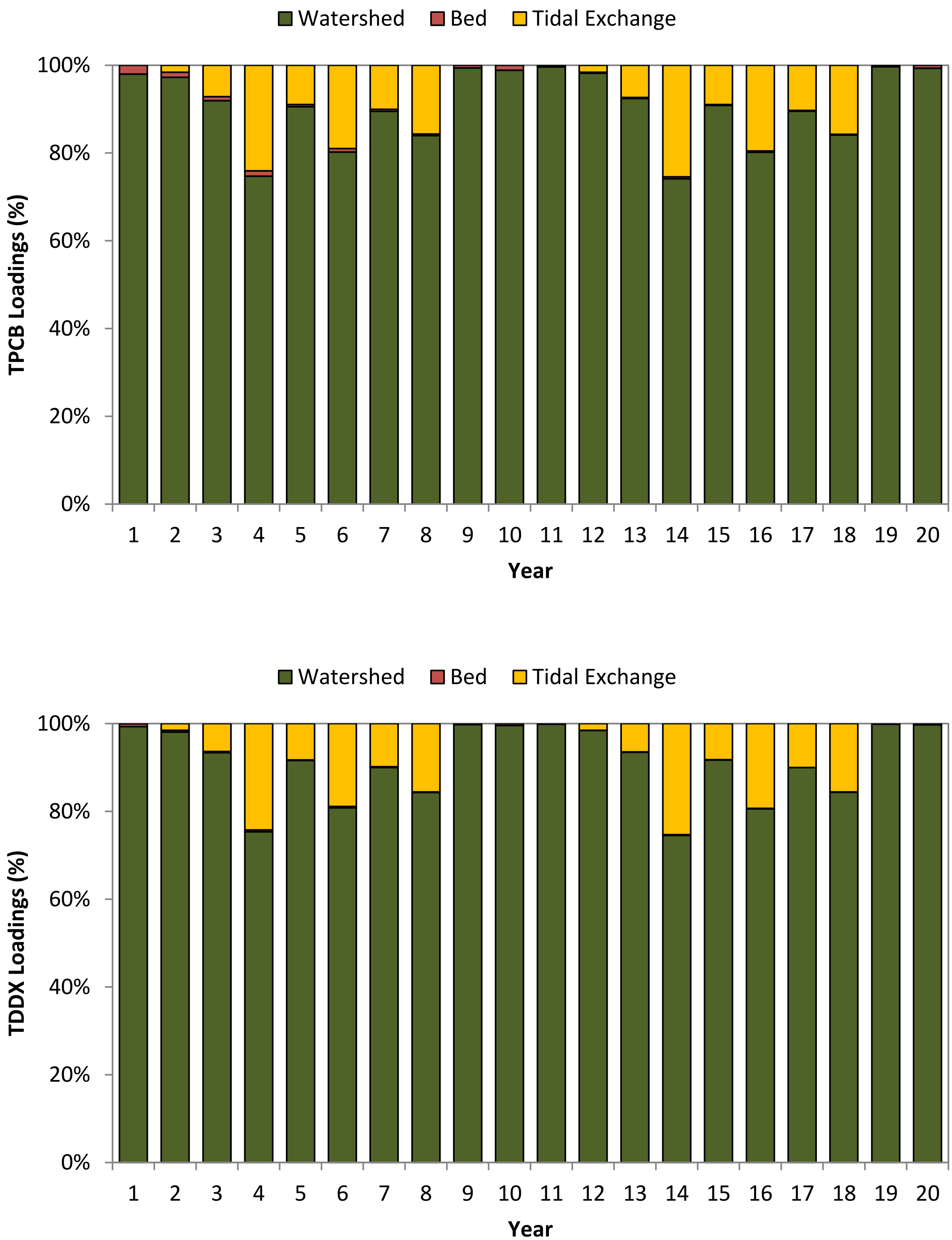


Figure 5.39 Los Angeles River Estuary TPCB and TDDX Sources

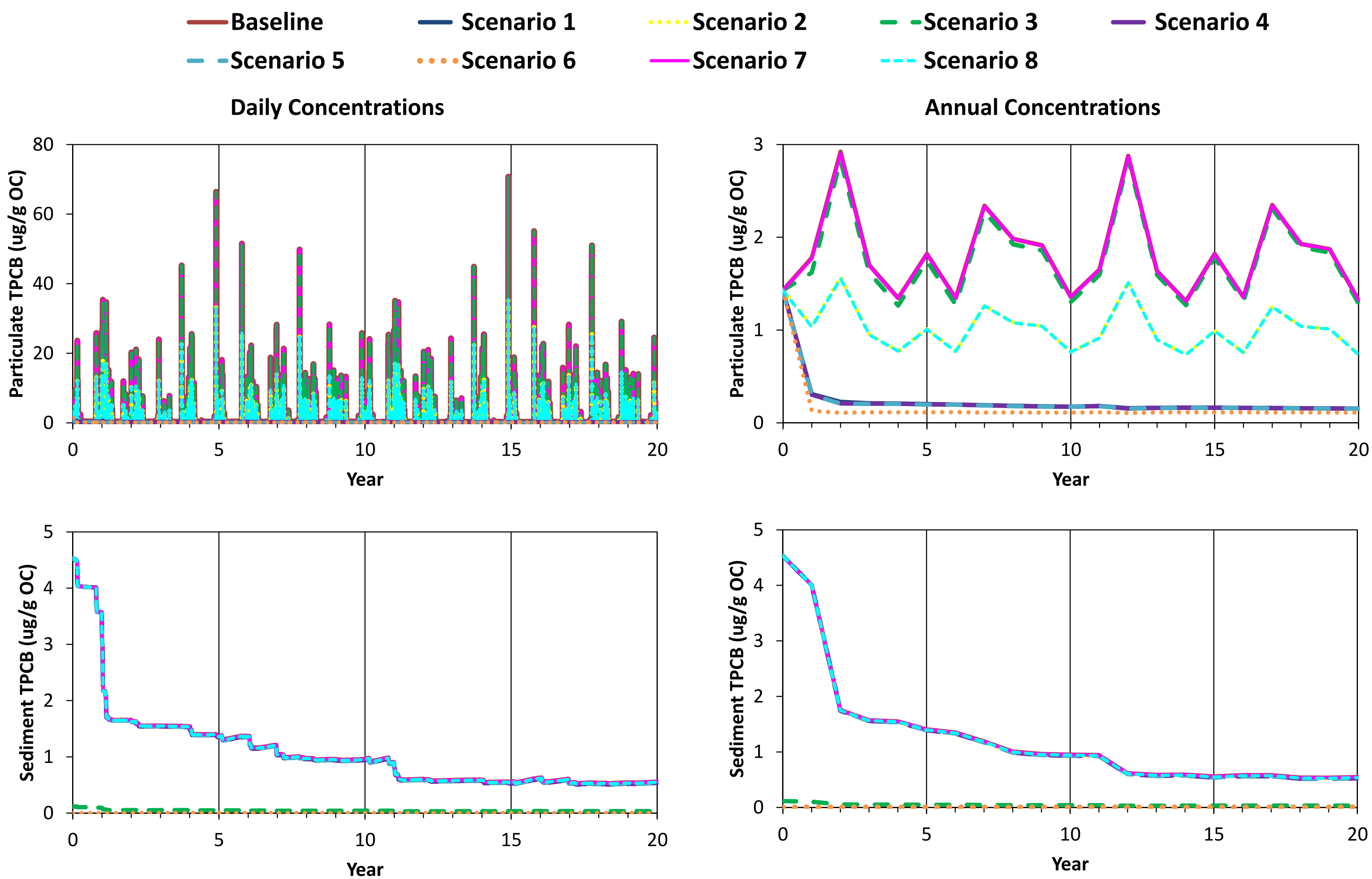


Figure 5.40a Los Angeles River Estuary TPCB Concentrations

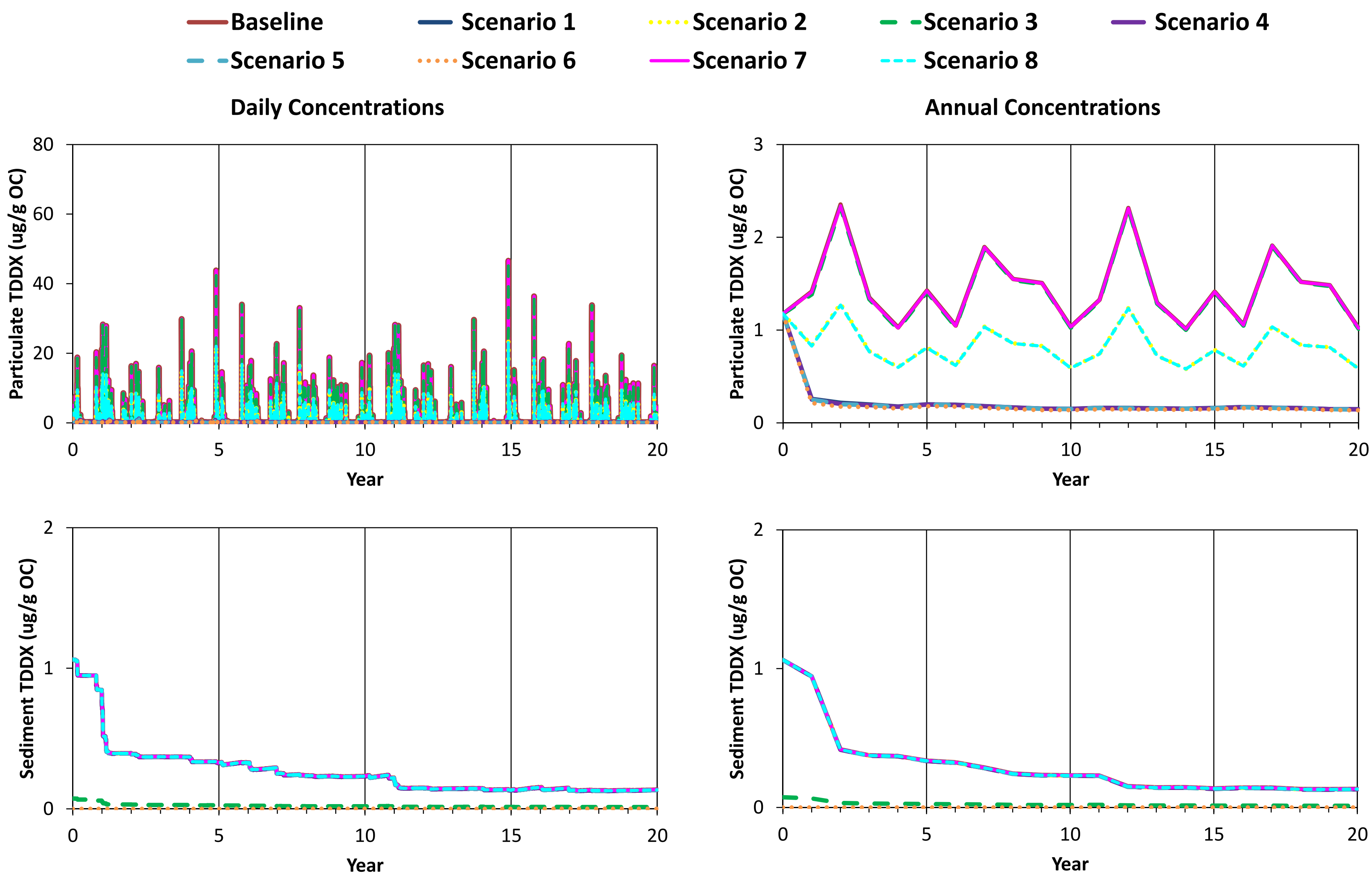


Figure 5.40b Los Angeles River Estuary TDDX Concentrations

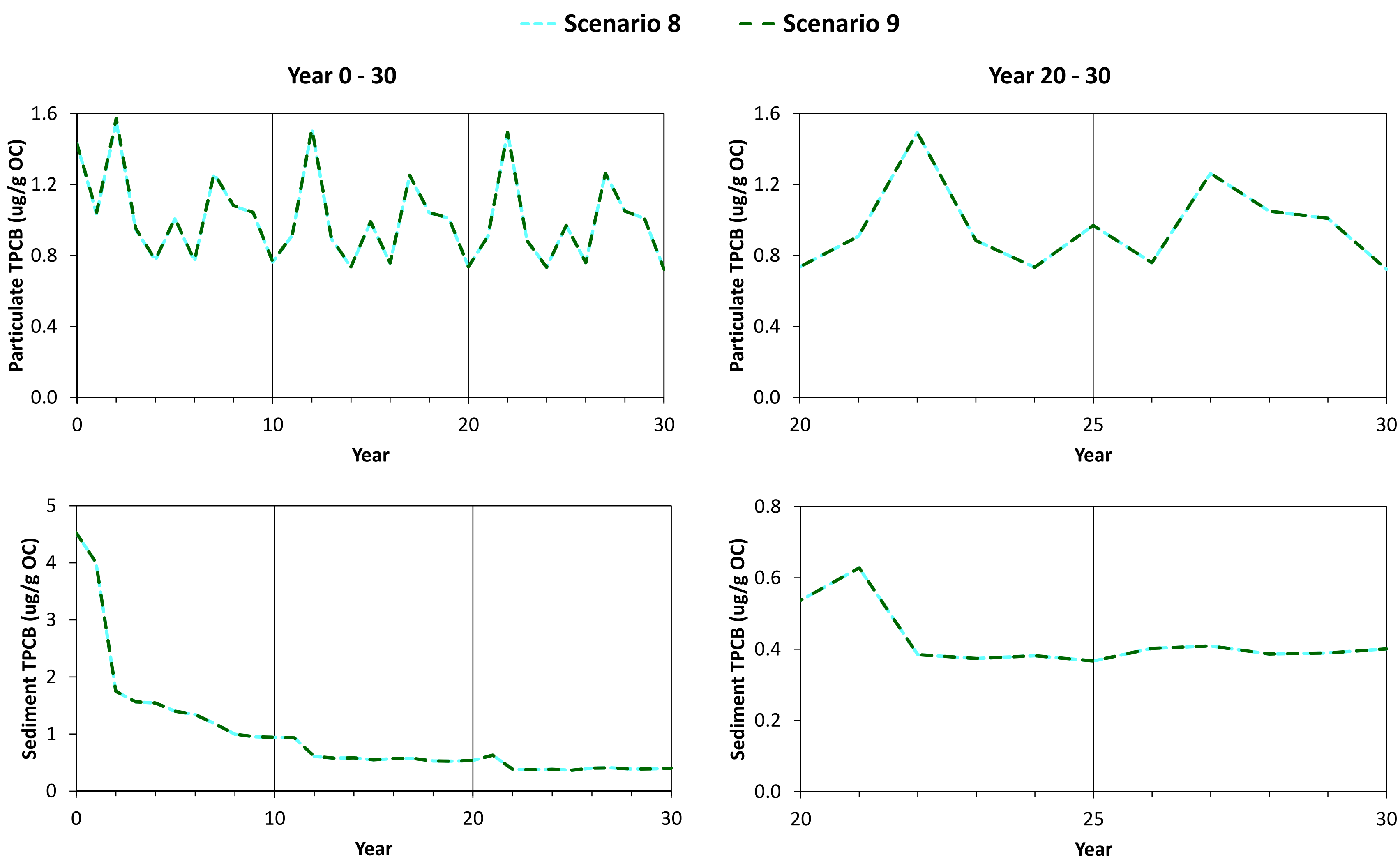


Figure 5.41a Los Angeles River Estuary Scenario 8 and 9 TPCB Concentrations

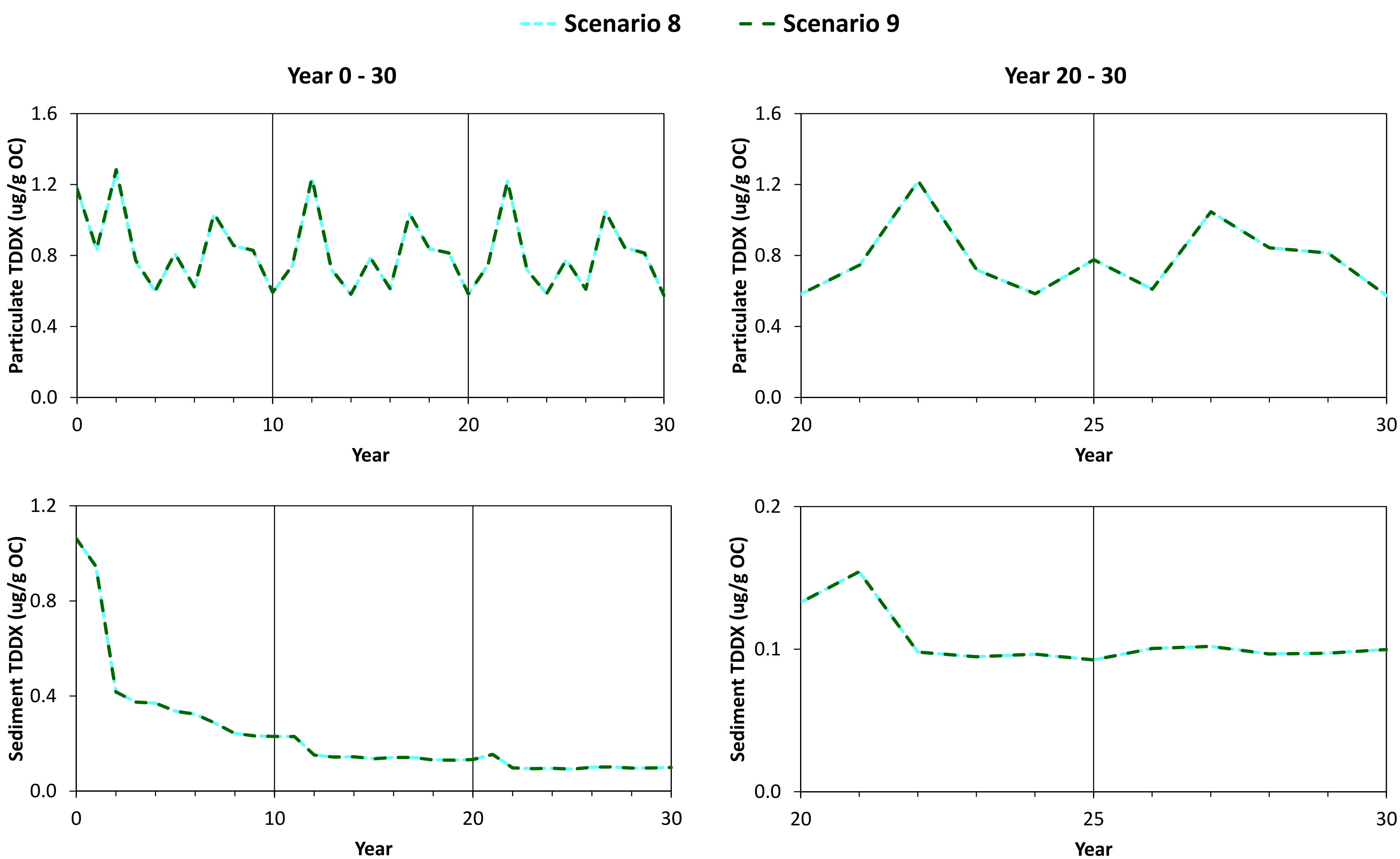


Figure 5.41b Los Angeles River Estuary Scenario 8 and 9 TDDX Concentrations

5.12 EASTERN SAN PEDRO BAY

Eastern San Pedro Bay extends from the harbor and LAR to the SGR. This fish movement zone receives upstream loadings from the LAR Estuary, Alamitos Bay, and SGR, as well as direct watershed loadings from the Nearshore watershed and port area. Tidal exchange occurs with the LB Outer Harbor and ocean. Initial bed concentrations in Eastern San Pedro Bay are similar for TPCB and TDDX.

Annual watershed loadings and bed fluxes for Eastern San Pedro Bay are provided in Figures 5.42a - 5.42c for sediment, TPCB, and TDDX, respectively. Sediments in Eastern San Pedro Bay have a net deposition in the bed, which corresponds to watershed loadings from upstream sources including the LAR Estuary, Alamitos Bay, and SGR. TPCB and TDDX watershed loadings are greater than resuspension, and show a net flux from the bed. The relative contributions of TPCB and TDDX sources to Eastern San Pedro Bay are illustrated in Figure 5.43. Approximately 80% of TPCB loadings come from watershed sources, followed by 16% from tidal exchange. Similarly, 82% and 16% of TDDX loadings are from watershed sources and tidal exchange, respectively

Daily and annual TPCB and TDDX concentrations in Eastern San Pedro Bay are shown in Figures 5.44a and 5.44b, respectively. Table 5.11 compares the Year 20 average water and bed concentrations for all the model scenarios. Overall, changes in water concentrations correspond to watershed loading reductions. The greatest reductions in water concentrations occur under the 100% watershed loading reduction scenarios (Scenarios 1, 4, 5, and 6). The 50% watershed loading reductions scenarios (Scenarios 2 and 8) have proportionally lower water concentrations. The smallest reductions in water concentrations occur under the sediment loading reduction scenarios (Scenarios 3 and 7). For bed concentrations, Scenarios 3 and 6 both have lower concentrations than the Baseline Scenario. The other model scenarios have slightly lower bed concentrations than the Baseline Scenario.

Similar to the LAR Estuary, Eastern San Pedro Bay shows no differences between Scenarios 8 and 9 over the 30-year simulation period, as illustrated in Figure 5.45a for TPCB and Figure 5.46b for TDDX.

Table 5.11 Eastern San Pedro Bay Year 20 Average Organics Concentrations

Model Scenario	TPCB (ug/g OC)		TDDX (ug/g OC)	
	Water	Bed	Water	Bed
Baseline Scenario	0.301	0.925	0.303	0.951
Scenario 1 100% WLR	0.176	0.913	0.200	0.950
Scenario 2 50% WLR	0.238	0.919	0.252	0.951
Scenario 3 SedLR to TMDL Target	0.281	0.128	0.297	0.0870
Scenario 4 100% WLR + DC Estuary SedLR	0.175	0.913	0.199	0.950
Scenario 5 100% WLR + Hot Spot SedLR	0.174	0.913	0.199	0.950
Scenario 6 100% WLR + 100% SedLR	0.153	0.018	0.192	0.0028
Scenario 7 Hot Spot SedLR	0.299	0.925	0.302	0.951
Scenario 8 50% WLR + Hot Spot SedLR	0.236	0.919	0.250	0.951
Scenario 9 50% WLR + Year 20 Hot Spot SedLR	0.238	0.919	0.252	0.951
Scenario 8 (Year 30) 50% WLR + Hot Spot SedLR	0.231	0.758	0.245	0.861
Scenario 9 (Year 30) 50% WLR + Year 20 Hot Spot SedLR	0.231	0.758	0.245	0.861

Average concentrations determined as average over Year 20 or Year 30 as indicated

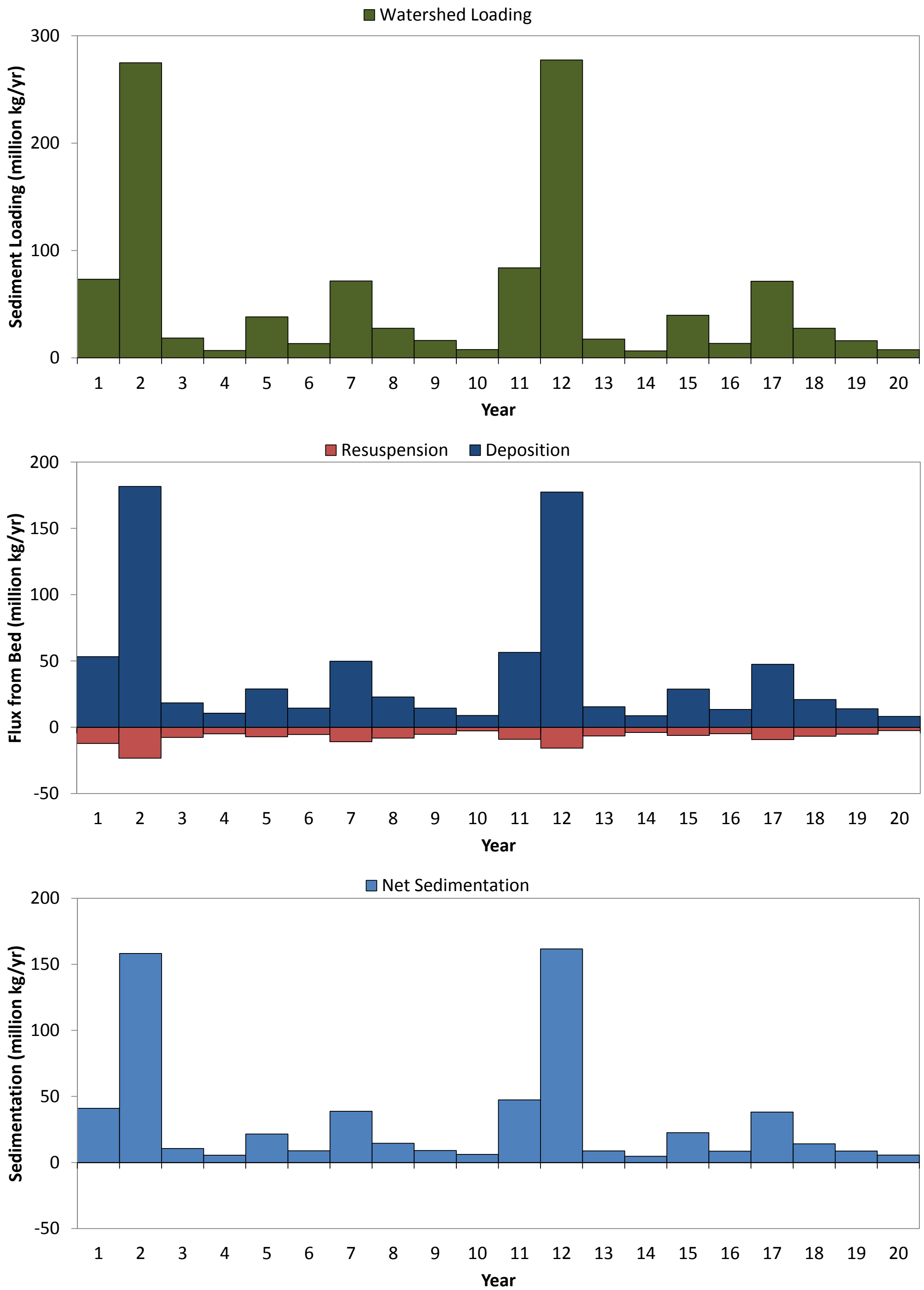


Figure 5.42a Eastern San Pedro Bay Annual Sediment Loadings

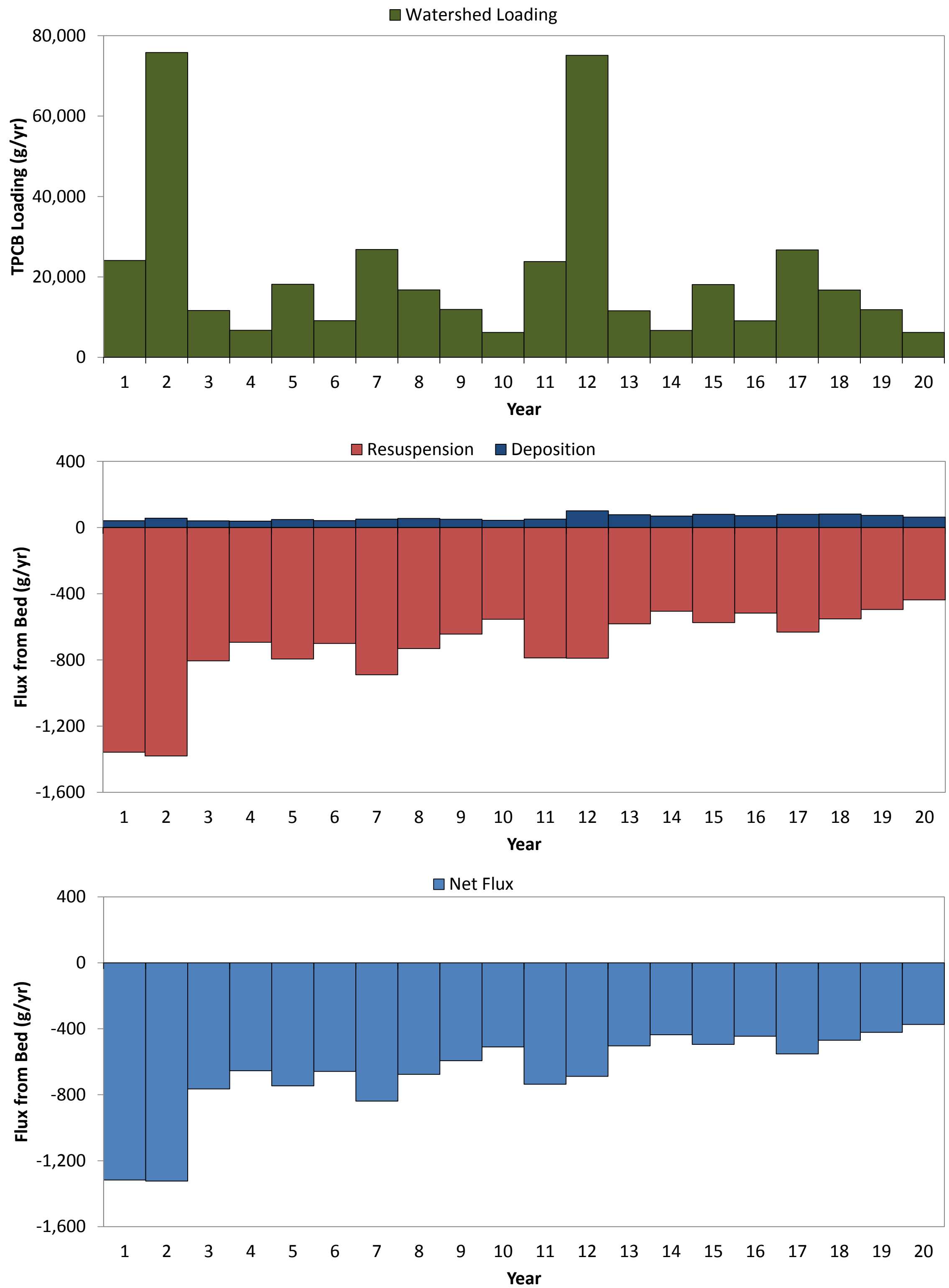


Figure 5.42b Eastern San Pedro Bay Annual TPCB Loadings

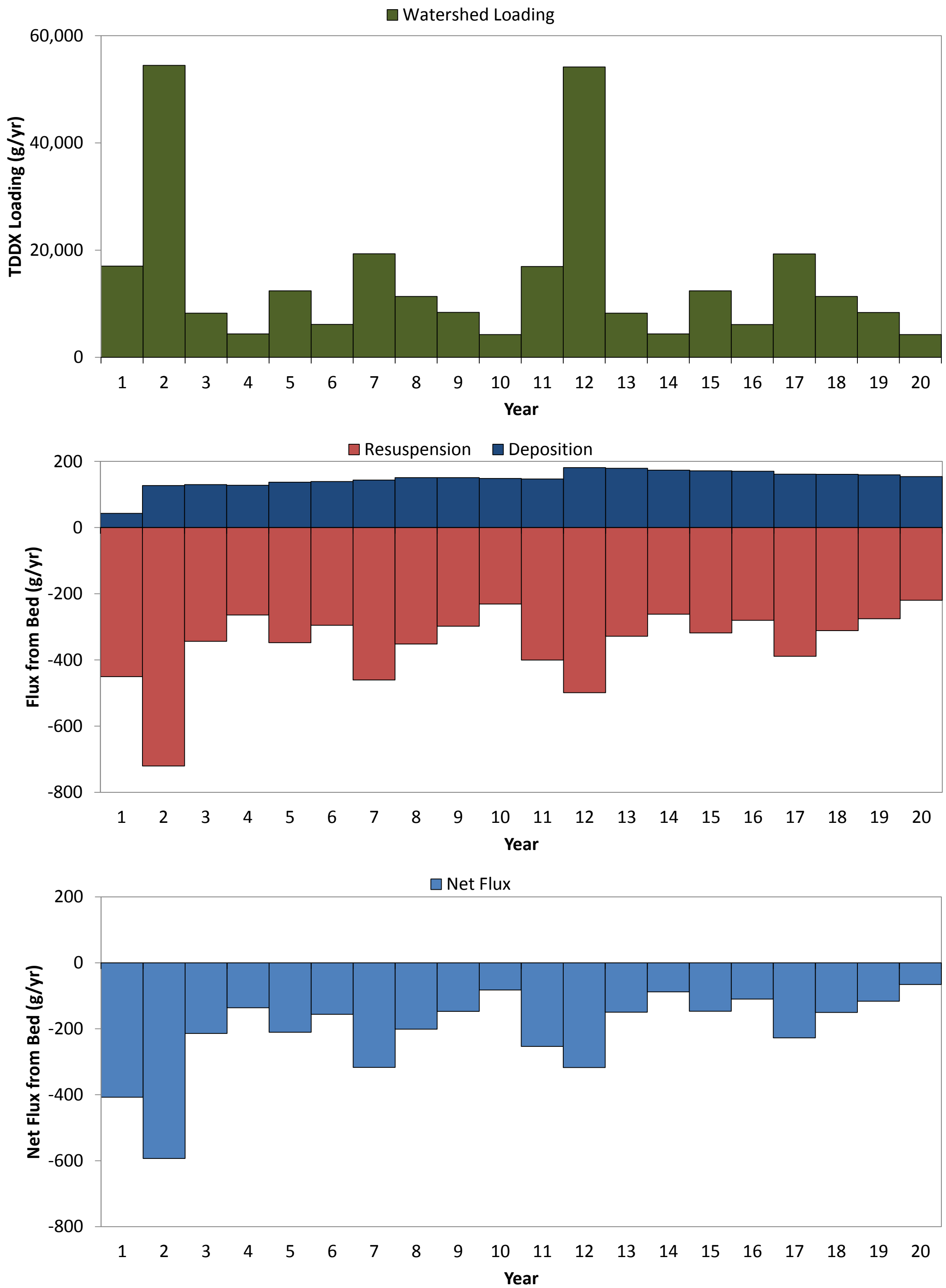


Figure 5.42c Eastern San Pedro Bay Annual TDDX Loadings

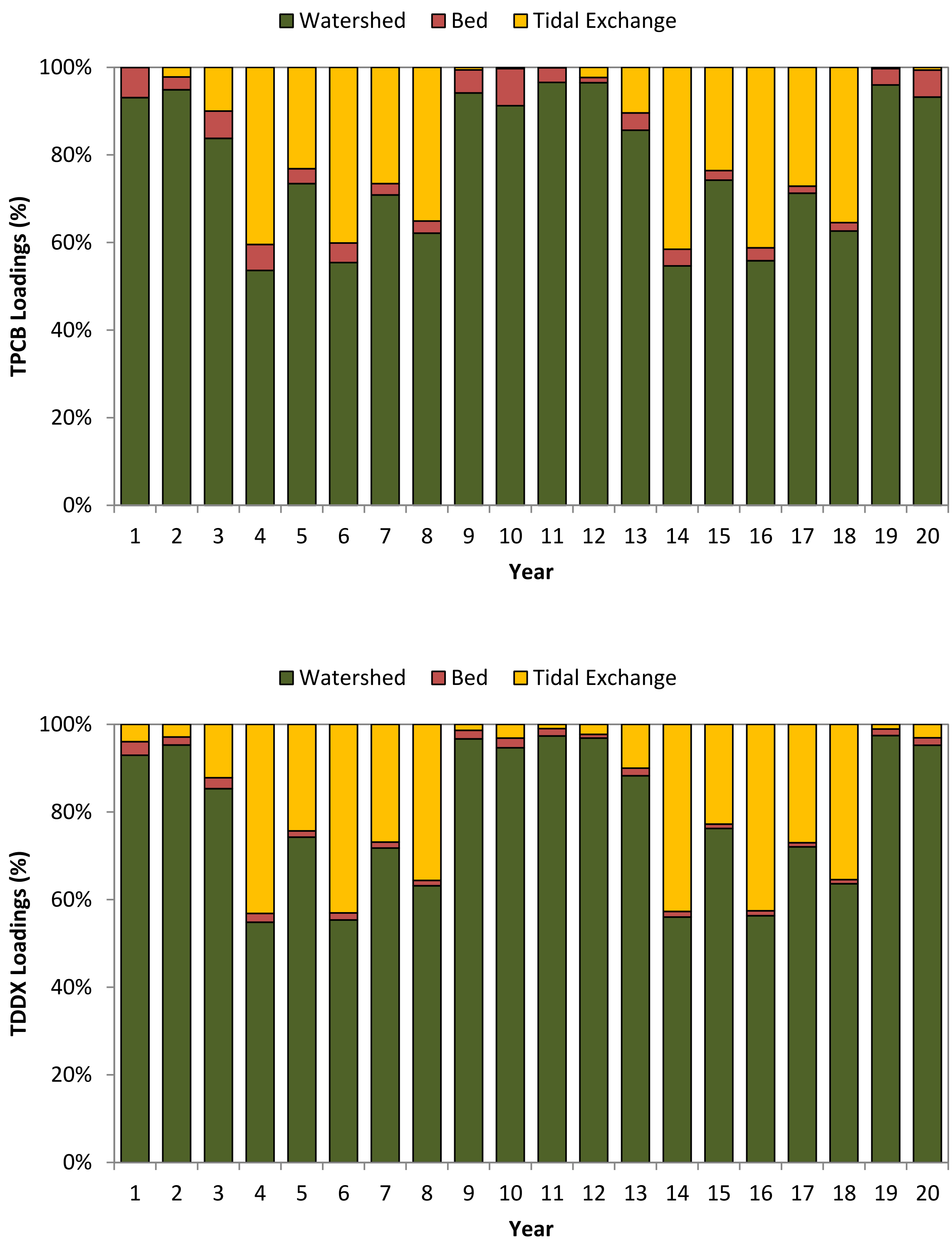


Figure 5.43 East San Pedro Bay TPCB and TDDX Sources

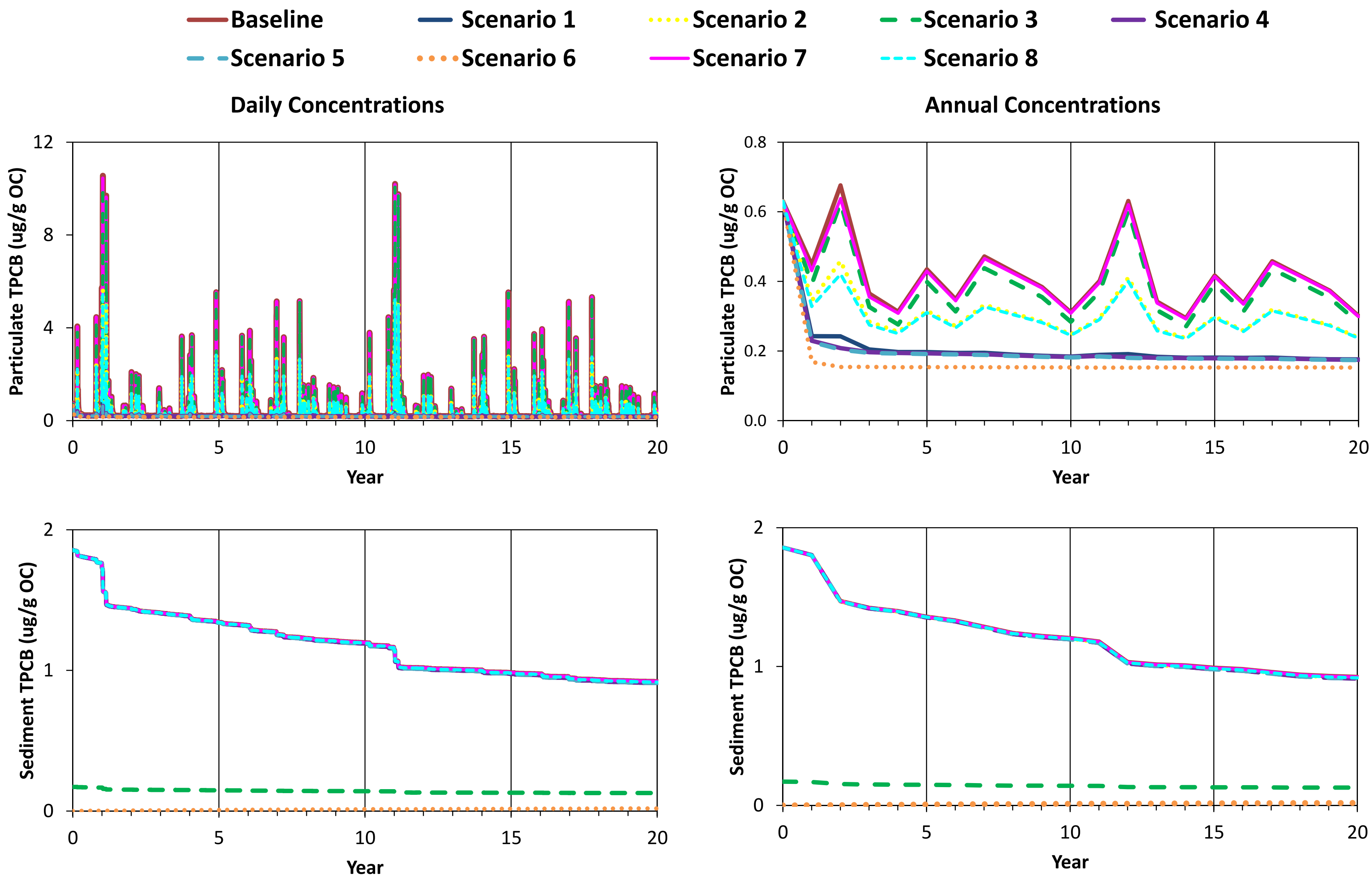


Figure 5.44a Eastern San Pedro Bay TPCB Concentrations

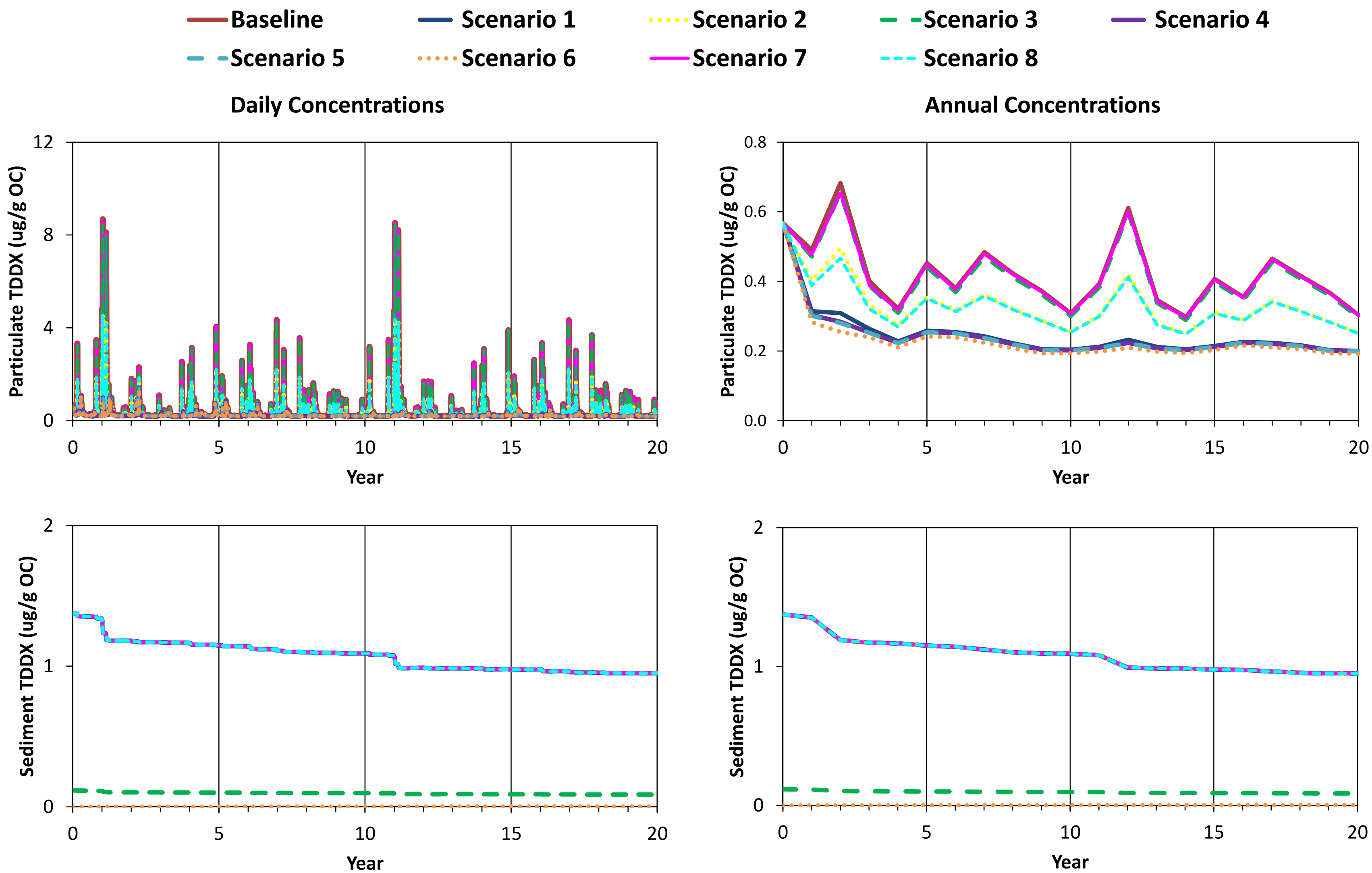


Figure 5.44b Eastern San Pedro Bay TDDX Concentrations

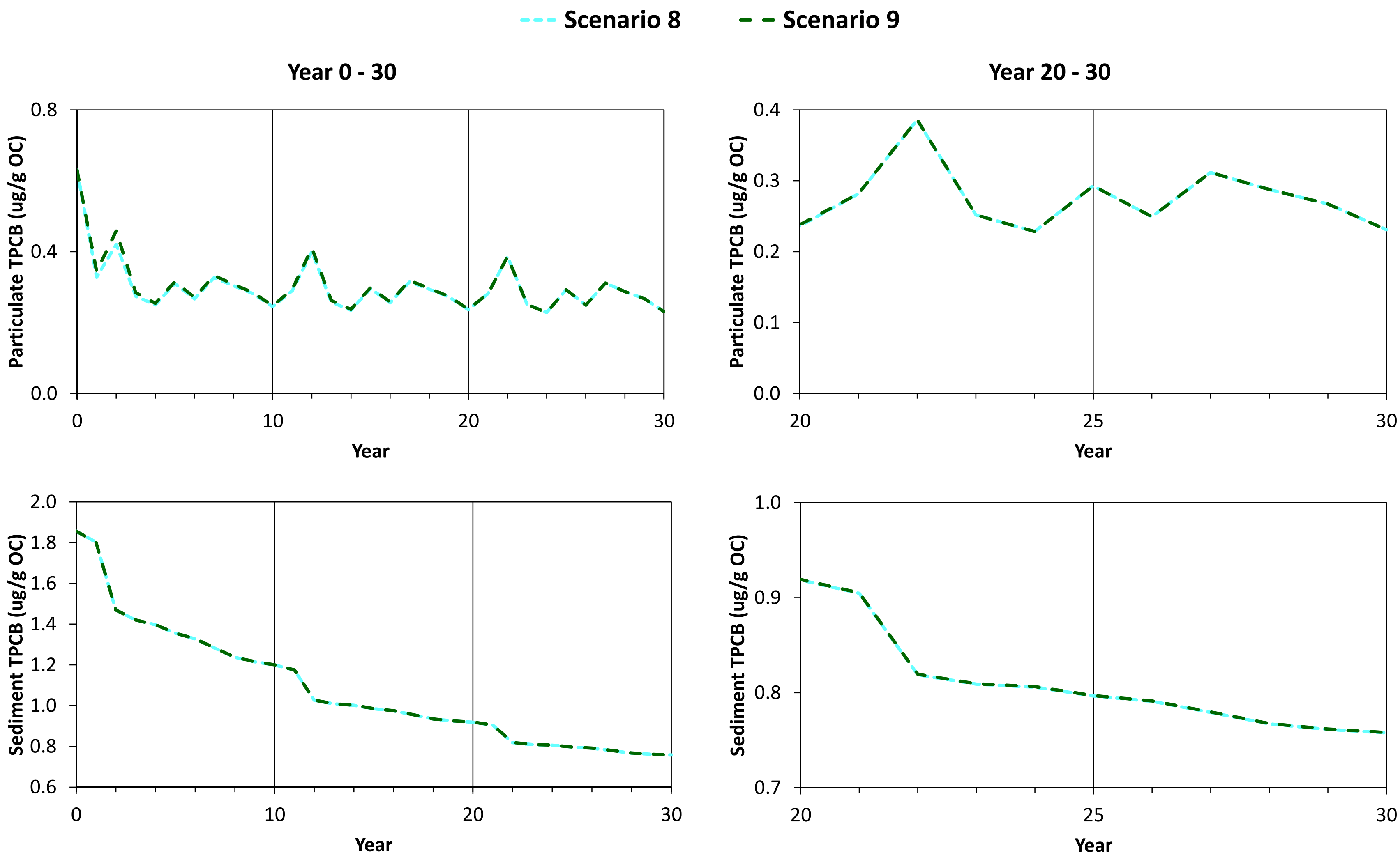


Figure 5.45a Eastern San Pedro Bay Scenario 8 and 9 TPCB Concentrations

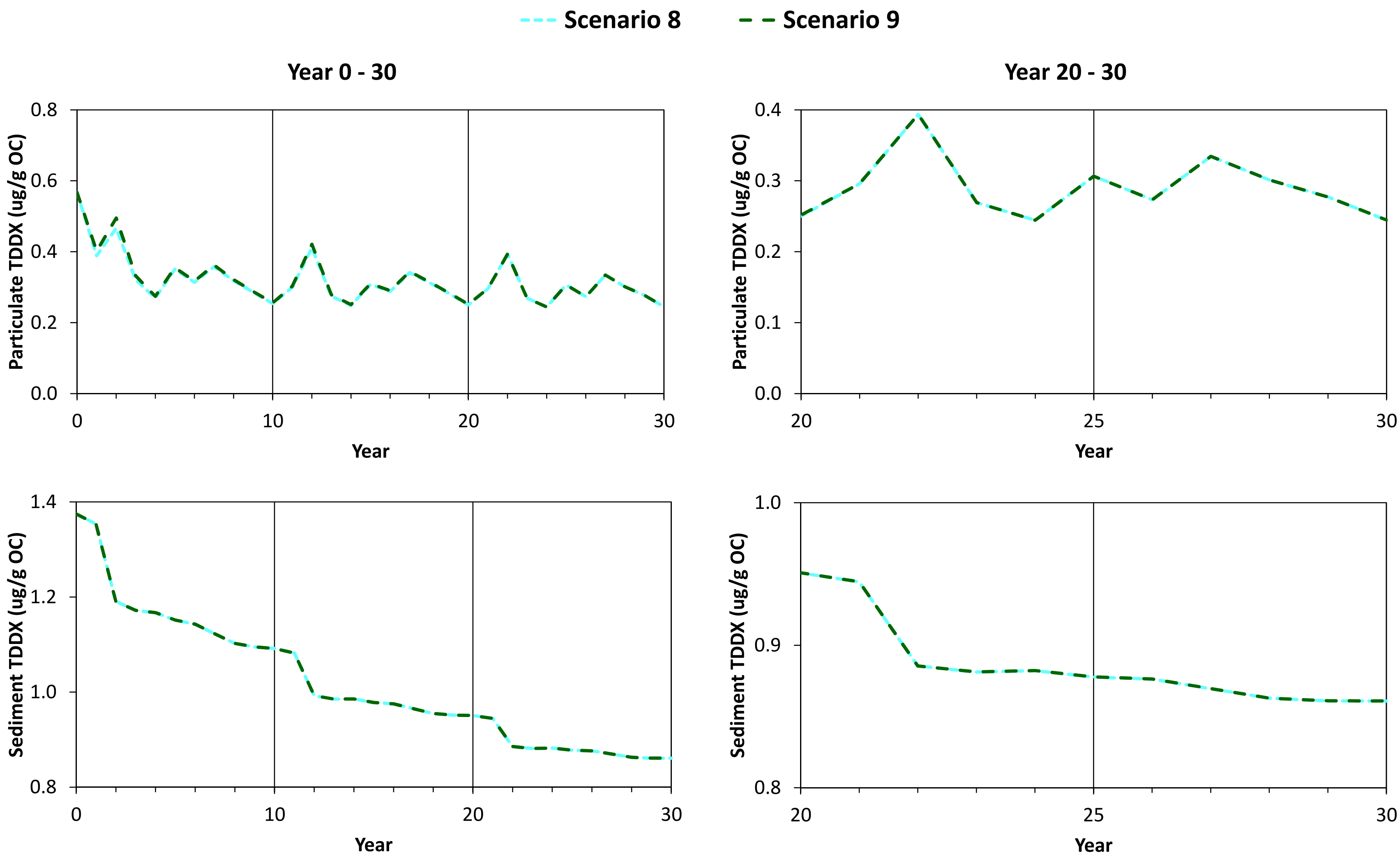


Figure 5.45b Eastern San Pedro Bay Scenario 8 and 9 TDDX Concentrations

5.13 COMPARISONS OF FISH MOVEMENT ZONES

The Baseline Scenario average water concentrations for the different fish movement zones are compared in Figure 5.46. The upper panel shows TPCB water concentrations averaged over the 20-year simulation period, and the lower panel shows average TDDX water concentrations. The maximums in the vertical scale have been truncated for the DC Estuary, to allow a better overall comparison among the fish movement zones, though these maximums are still provided as numerical values. In both panels, the green line indicates the average water concentration in the Outside Harbor Exposure Area. In general, water concentrations are the highest near major watershed sources such as the DC Estuary, CS, and LAR Estuary.

Average bed concentrations over the 20-year simulation period under the Baseline Scenario are compared in Figure 5.47 for all the fish movement zones. In the figure, the green line indicates the average bed concentration in the Outside Harbor Exposure Area. The highest TPCB bed concentrations are located in the DC Estuary, CS, and FH. For TDDX, the bed concentrations inside the harbor are lower than those of the outside harbor. In the harbor, the highest bed concentrations are found in the DC Estuary, FH, and CS, and then LA Inner and Outer Harbors.

TPCB and TDDX sources under the Baseline Scenario for the fish movement zones are compared in Figure 5.48. For TPCB, dominant sources of watershed and bed loadings are located in the DC Estuary, CS, LA Inner Harbor, and FH. Sediment bed and tidal exchange are the major contributing sources in the Seaplane Lagoon, LA Outer, and LB Harbors. Watershed loadings are the primary source for the LAR Estuary and Eastern San Pedro Bay. TDDX shows similar trends in sources, except with FH, where the sediment bed and tidal exchange are the dominant sources.

The Year 20 average water and bed concentrations are compared among all model scenarios in Figures 5.49 and 5.50, respectively. Reductions in water concentrations are most apparent in the DC Estuary, CS, and LAR Estuary. These areas correspond to fish movement zones with the highest water concentrations and where watershed loadings are a major source. For bed concentrations, decreased bed concentrations correspond to sediment loading reductions made under the model scenarios.

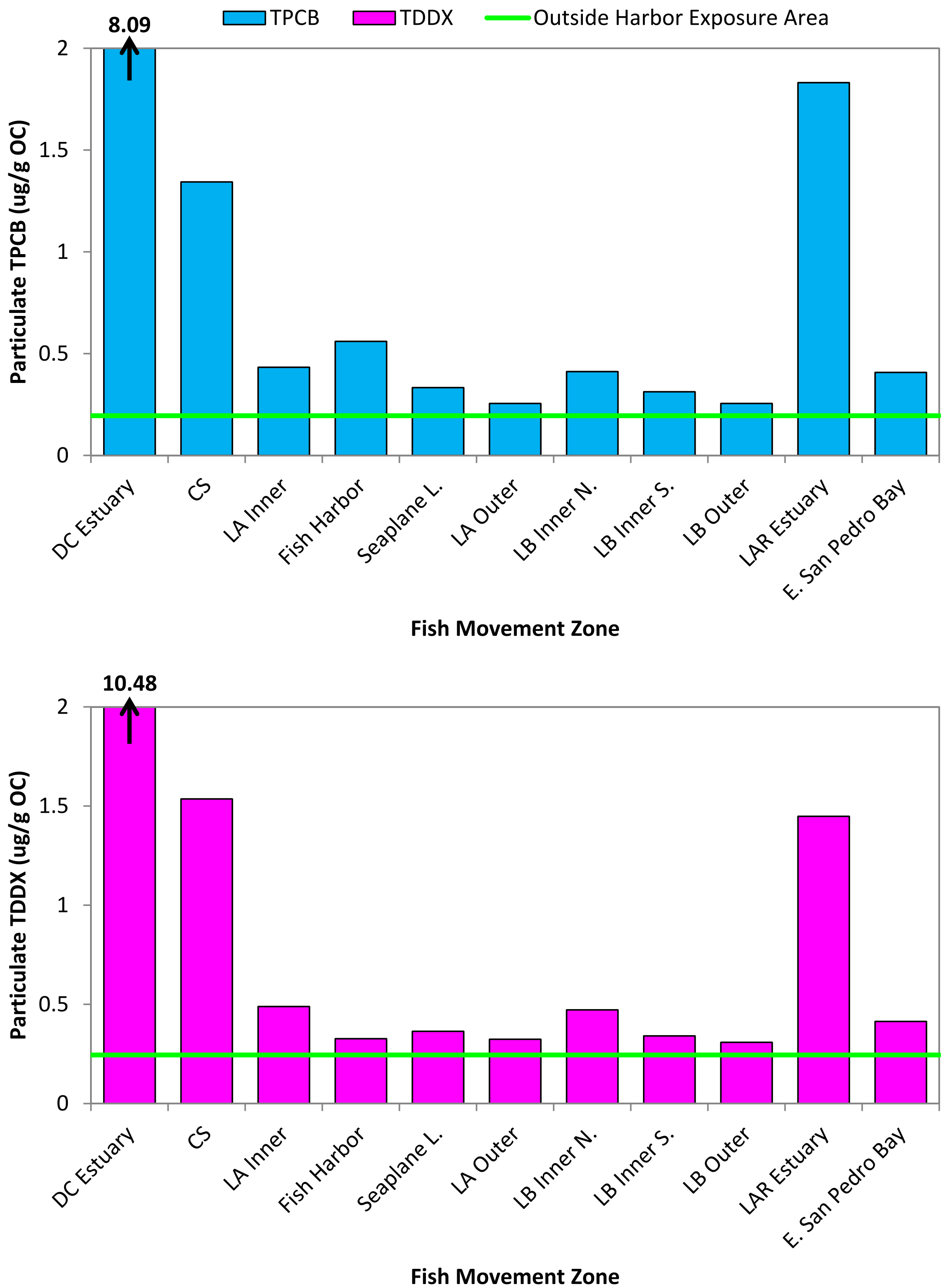


Figure 5.46 Baseline Scenario TPCB and TDDX Water Concentrations by Fish Movement Zone

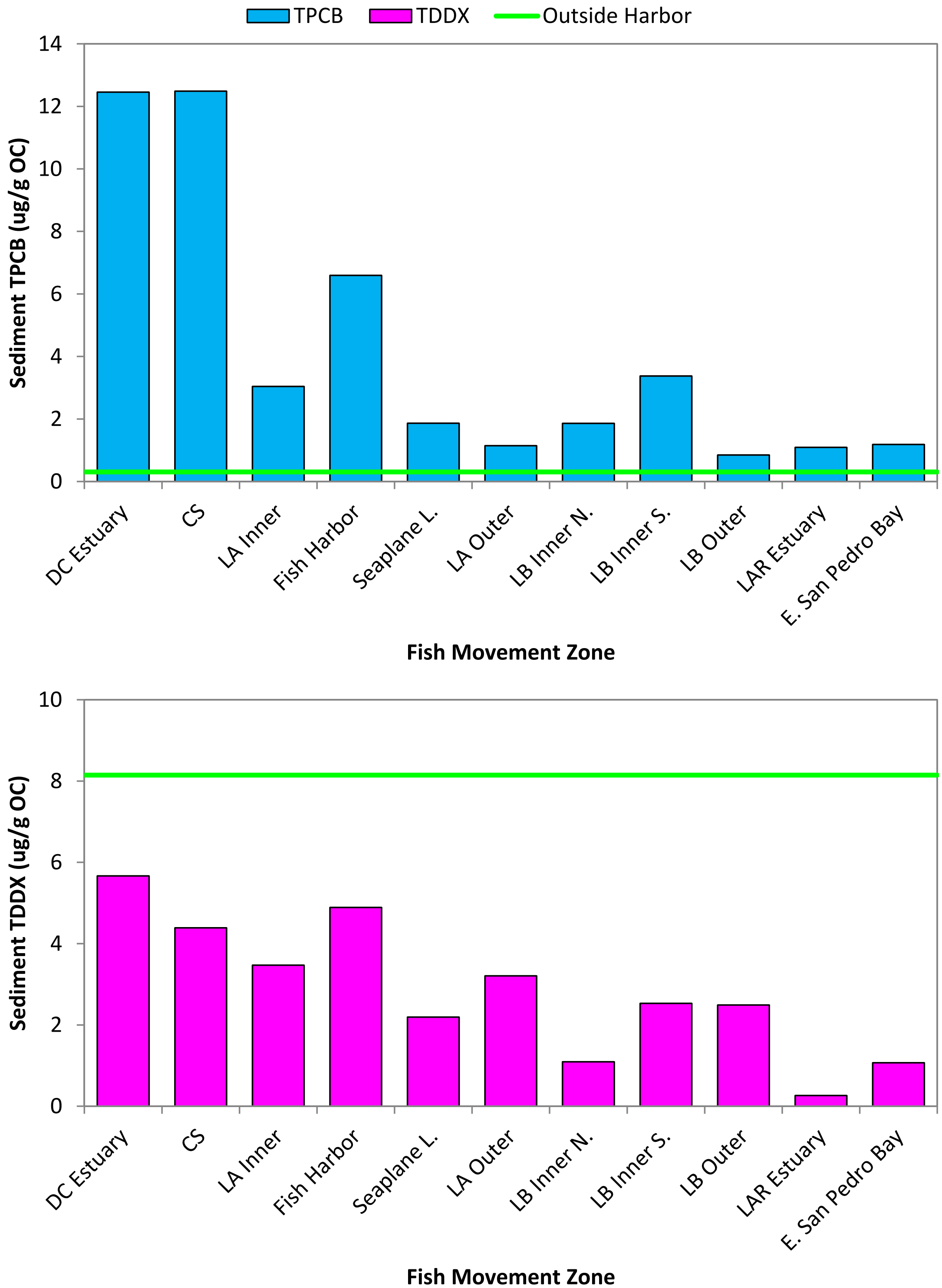


Figure 5.47 Baseline Scenario TPCB and TDDX Bed Concentrations by Fish Movement Zone

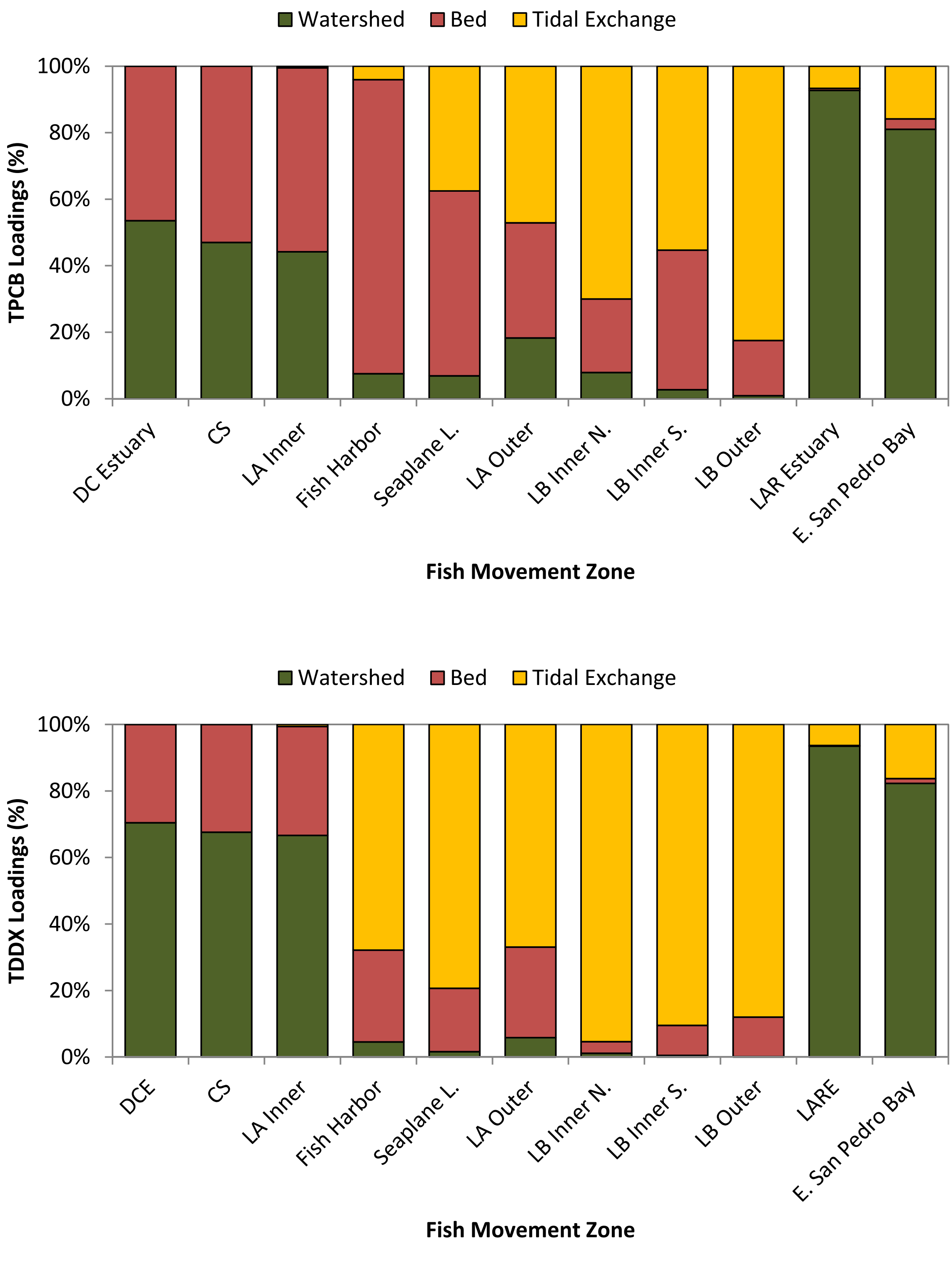


Figure 5.48 Baseline Scenario TPCB and TDDX Sources by Fish Movement Zone

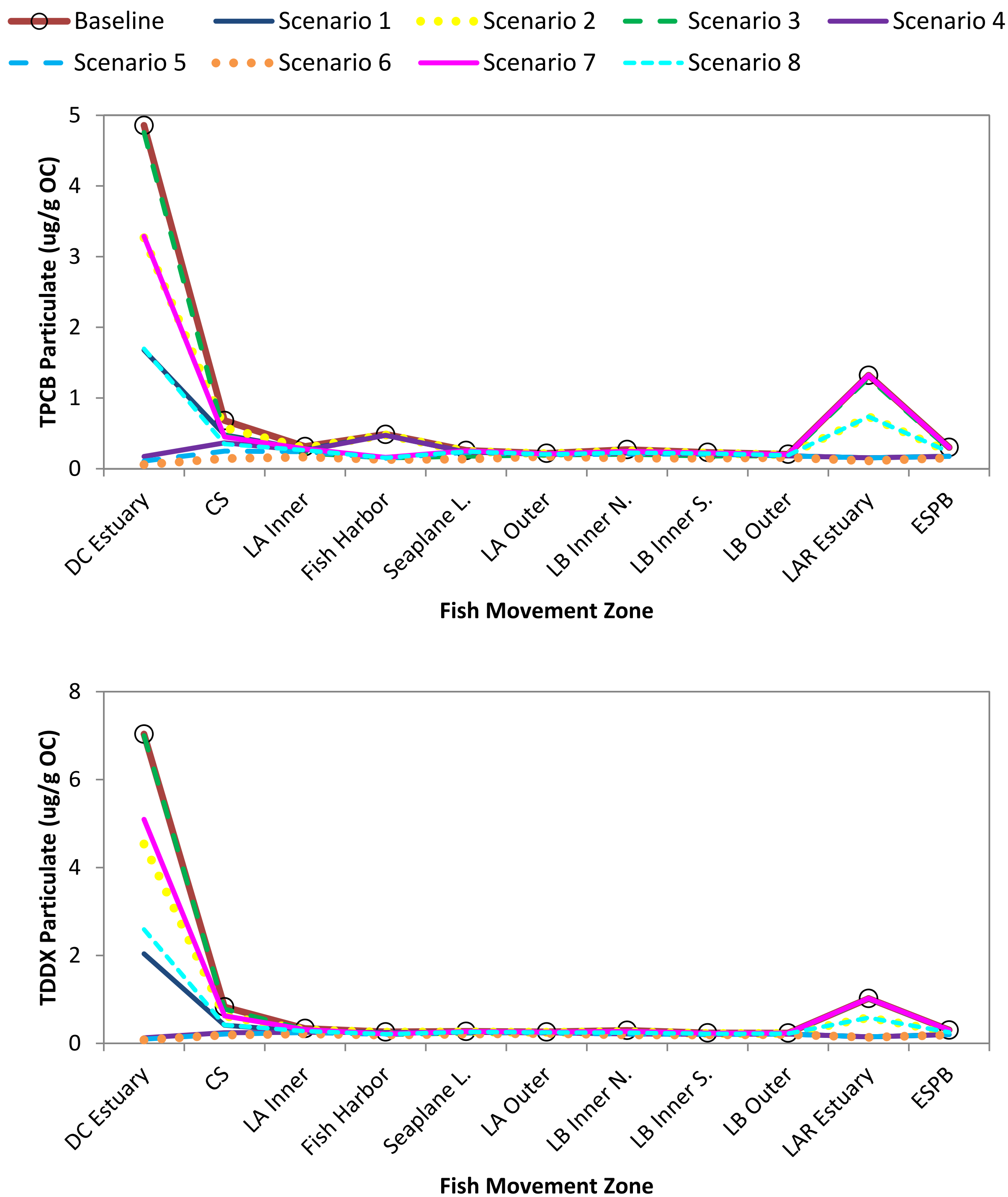


Figure 5.49 Model Scenario TPCB and TDDX Year 20 Average Water Concentrations by Fish Movement Zone

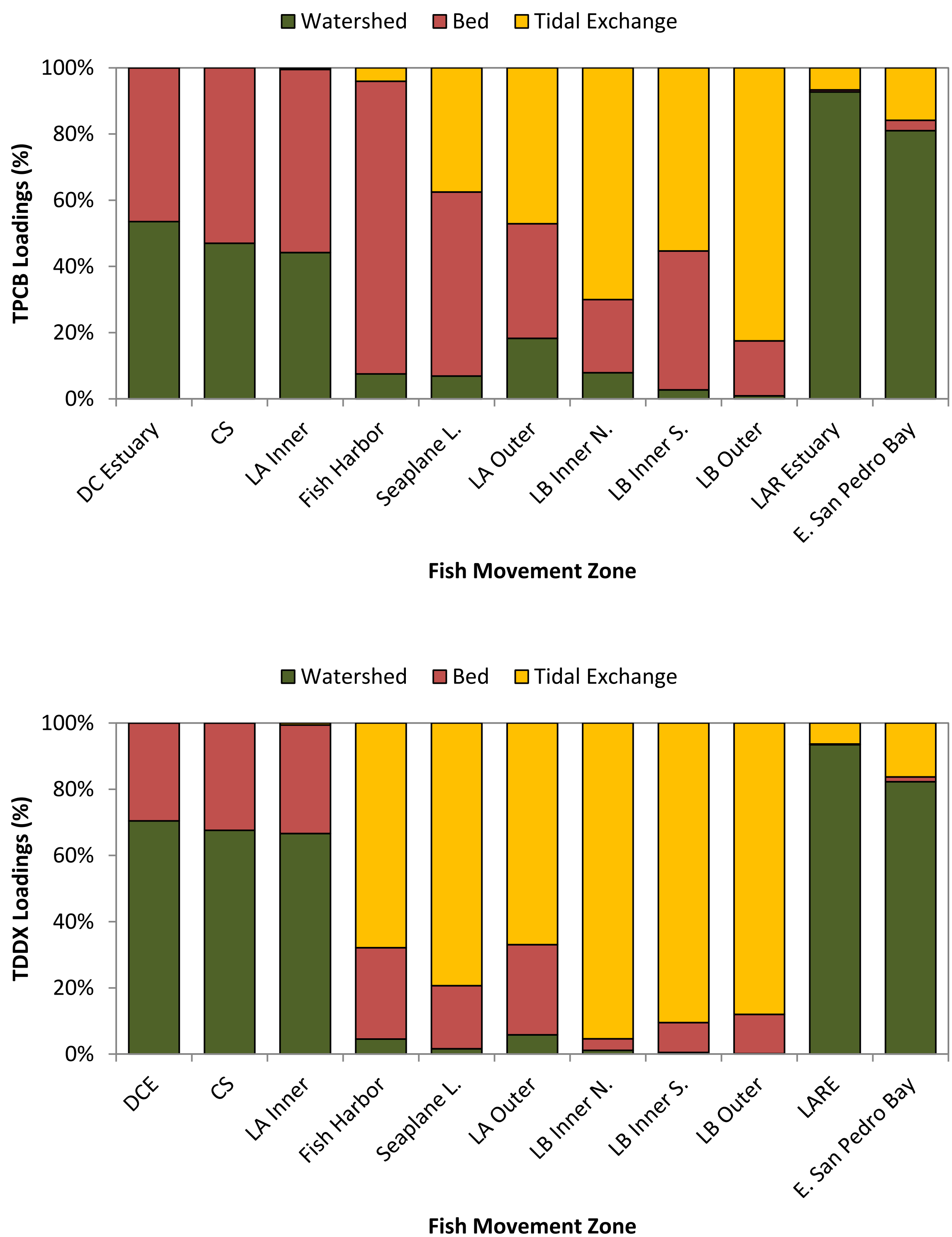


Figure 5.48 Baseline Scenario TPCB and TDDX Sources by Fish Movement Zone

6. SUMMARY

The LA/LB Harbor and San Pedro Bay form an extremely complex system that is comprised of estuarine and coastal waters with ongoing port operations, urban runoff, and widespread distribution of legacy pollutants. A site-specific Linked-Model was developed and calibrated to simulate organic chemicals (TPCB and TDDX) in the greater harbor. The Linked Model consists of the WRAP Model, for simulating physical and chemical transport of organics, the results of which are then transferred to a food chain Bioaccumulation Model to determine the corresponding fish tissue concentrations. Using the Linked Model, nine TMDL model scenarios were developed to evaluate the effectiveness of different source reduction strategies compared with a Baseline Scenario. Each scenario was developed to address a specific source reduction strategy that included reductions in watershed loadings and/or sediment loadings.

This report summarized results from the WRAP Model, which is a three-dimensional hydrodynamic, sediment transport, and chemical fate model of the greater harbor. The WRAP Model was used to simulate water and bed concentrations for the various management scenarios, which were then transferred to the Bioaccumulation Model. The transfer of organics concentrations included total, freely dissolved, and carbon normalized concentrations. Sediment bed concentrations were limited to the top 5 cm of the bed. Ultimately, the Bioaccumulation Model was used to determine responses in fish tissue concentrations and to evaluate the management scenarios for attaining TMDL targets (Anchor QEA 2018). The Linked Model will also be used to support the proposed SQO Tier III site assessment.

7. REFERENCES

Anchor QEA 2017. Bioaccumulation Model Report Greater Los Angeles and Long Beach Harbor Waters In Support of Final Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants Total Maximum Daily Load. Prepared by Anchor QEA, LLC. Prepared for Port of Long Beach and Port of Los Angeles. April 2017.

Anchor QEA 2018. Appendix B Bioaccumulation Model Simulation Results. Prepared by Anchor QEA, LLC. Prepared for Port of Long Beach and Port of Los Angeles. March 2018.

EPA 2007. The Environmental Fluid Dynamics Code User Manual US EPA Version 1.01. Prepared for U.S. Environmental Protection Agency. Prepared by Tetra Tech, Inc. June 2007.

Everest 2017. WRAP Model Development: In Support of Final Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants Total Maximum Daily Load Final Report. Prepared for Port of Long Beach and Port of Los Angeles. Prepared by Everest International Consultants, Inc. February 2017.

RWQCB 2011. Final Basin Plan Amendment: Attachment A to Resolution No. R11-008. Amendment to the Water Quality Control Plan – Los Angeles Region to Incorporate the Total Maximum Daily Load for Toxic Pollutants in Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters. California Regional Water Quality Control Board, Los Angeles Region. Adopted May 5, 2011.

Stein and Ackerman 2007. Dry Weather Water Quality Loadings in Arid, Urban Watersheds of the Los Angeles Basin, California, USA. Prepared by Stein, E. and Ackerman, D. *Journal of American Water Resources Association*, 43(2), pp 398-413.

Appendix B
Bioaccumulation Model Simulation Results

TABLE OF CONTENTS

TABLES

FIGURES

ABBREVIATIONS

DDX	dichlorodiphenyltrichloroethane and its derivatives
FMZ	fish movement zone
Harbor Toxics TMDL	Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants Total Maximum Daily Load
PCB	polychlorinated biphenyl
WRAP	Water Resources Action Plan

1 Introduction

The Ports of Long Beach and Los Angeles (together termed the Ports) have developed a linked model to better understand how compliance with the Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants Total Maximum Daily Load (Harbor Toxics TMDL) may be achieved. The model provides the Ports with a tool for evaluating the effectiveness of different sediment management alternatives at reducing fish tissue concentrations and can be used to evaluate the link between sources and fish tissue concentrations of total polychlorinated biphenyls (PCBs) and/or total dichlorodiphenyltrichloroethane and its derivatives (DDX). The linked model includes: 1) the Water Resources Action Plan (WRAP) model that simulates hydrodynamic, sediment transport, and chemical fate processes; and 2) a bioaccumulation model (AQFDCHN) that is based on a bioenergetic, mechanistic, dynamic modeling framework (Thomann and Connolly 1984) that simulates contaminant bioaccumulation from water column and sediment exposure, and accounts for site-specific growth rates of organisms throughout their lives, as well as seasonal and annual changes in diet and lipid content.

1.1 Appendix Overview

This appendix provides the approach and results for the bioaccumulation component of the Ports TMDL management scenario linked model application. A description of each TMDL model scenario is shown in Table 3-1 of the main report; WRAP model results are described in Appendix A. For the bioaccumulation component, Anchor QEA, LLC, has applied AQFDCHN. Development and application of AQFDCHN to the Harbor have been described in detail in the *Bioaccumulation Model Report* (Anchor QEA 2017), and the final bioaccumulation model incorporates recommendations provided during peer review (Arnot 2016).

2 Approach

The calibrated, peer-reviewed bioaccumulation model was used for the simulations of the model scenarios. The bioaccumulation model calibration, including how exposure concentrations were developed, is described in detail in the *Bioaccumulation Model Report* (Anchor QEA 2017). Prior to running the 20-year model simulations, the initial fish total PCB and total DDX concentrations were estimated by the bioaccumulation model by exposing the fish to the initial baseline scenario concentrations for a period of 5 years. The 20- or 30-year simulations for all model scenarios were run through the calibrated bioaccumulation model, with the initial conditions set by the initial concentrations of the baseline scenario to enable evaluation of recovery in standing fish populations. The WRAP model-computed exposure concentrations reflecting changes in sediment and water total PCB and total DDX concentrations, specific to each model scenario, were used to evaluate the response of the model fish.

2.1 Fish Movement Zones

To support the division into subpopulations, the Harbor was divided into fish subpopulation areas, or fish movement zones (FMZs). These zones were developed with data and information regarding habitat quality, including aquatic habitat data, benthic infauna abundance data, and Harbor bathymetry (Anchor QEA 2014). Additionally, the movement of two species, white croaker and California halibut—evaluated as part of regional fish tracking studies conducted by California State University, Long Beach (Lowe et al. 2015a, 2015b)—was also considered. A detailed description of FMZ development is provided in the *Data Gaps Analysis for Bioaccumulation Model Development* (Anchor QEA 2014) with updates described in Appendix A of the *Bioaccumulation Model Report* (Anchor QEA 2017). The FMZs developed for the Harbor are shown in Figure B-1.

2.2 Harbor Sediment and Water Exposure Concentration

The sediment and water exposure concentrations for each model scenario described in Appendix A were provided by the WRAP model for each Harbor FMZ. The outputs include freely dissolved water-column concentrations and water-column and surface sediment particulate concentrations on a carbon-normalized basis. Daily WRAP model-computed total PCB and total DDX concentrations in the surface sediment and water column for each model FMZ over the 20- or 30-year simulation period were averaged annually and served as exposure concentrations for the fish; these annual exposure concentrations are provided in Tables B-1 through B-10. Given that the WRAP model domain does not include the Palos Verdes Shelf, exposure concentrations from this area were based on the data inputs developed for the bioaccumulation model calibration and were assumed to remain constant throughout the simulation. A description of how the Palos Verdes Shelf exposure concentrations were developed is provided in Section 4.3.4 of the *Bioaccumulation Model Report* (Anchor QEA 2017).

2.3 Bioaccumulation Model Initial Conditions and Setup

The calibrated bioaccumulation model was used for the 20-year model scenario simulations; inputs are described in detail in the *Bioaccumulation Model Report* (Anchor QEA 2017). The only difference between the bioaccumulation model calibration and the 20- or 30-year simulation is the length of the simulation and the initial concentration. For these longer-term simulations, the initial fish concentrations in the bioaccumulation model were set to the concentrations in the fish estimated by the beginning of the baseline scenario (i.e., the model-estimated total PCB and DDX concentrations in each fish species prior to any source reductions); these initial concentrations are provided for each species and age class in Tables B-11, B-12, and B-13. The exposure concentrations estimated by the WRAP model for each scenario simulated (described in Table 3-1 of the main report) were then applied as inputs to the bioaccumulation model. The bioaccumulation model was run for each model scenario for the 20- or 30-year period.

3 Bioaccumulation Model Scenario Results

Figures B-2 through B-11 show the total PCB and total DDX concentrations in shiner and white surfperches, white croaker, California halibut, and the market basket[1] on a wet-weight fillet basis estimated by the 20- or 30-year linked WRAP and bioaccumulation model simulations for each scenario. Presented results represent the average concentration of the model results for each age class that were weighted by the age class proportions listed in Tables 5-1, 5-2, and 5-3 for surfperches, white croaker, and California halibut, respectively, of the *Bioaccumulation Model Report* (Anchor QEA 2017).

[1] Market basket is the weighted-average of three representative fish species: white croaker, California halibut, and surfperches.

4 References

Anchor QEA (Anchor QEA, LLC), 2017. *Bioaccumulation Model Report*. Greater Los Angeles and Long Beach Harbor Waters. In Support of Final Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants Total Maximum Daily Load. Prepared for Ports of Long Beach and Los Angeles. April 2017.

Anchor QEA, 2014. *Data Gaps Analysis for Bioaccumulation Model Development*. Prepared for Ports of Long Beach and Los Angeles. August 2014.

Arnot, J., 2016. Concluding Comments on the Peer Review of Draft Bioaccumulation Model Report Greater Los Angeles and Long Beach Harbor Waters. December 16, 2016.

Lowe, C.G., B. Ahr, M. Farris, and A. Barilloti, 2015a. *Data Report for Special Study: White Croaker Fish Tracking Study Phase 1*. California State University Long Beach. Prepared for the Ports of Long Beach and Los Angeles. March 2015.

Lowe, C.G., B. Ahr, M. Farris, and A. Barilloti, 2015b. *Data Report for Fish Tracking Special Study: White Croaker and California Halibut Study – Phase 2*. California State University Long Beach. Prepared for the Ports of Long Beach and Los Angeles. April 2015

Thomann, R.V. and J.P. Connolly, 1984. “Model of PCB in the Lake Michigan lake trout food chain.” *Environmental Science and Technology* 18:65–71.

Tables

Table B-1

Annual Average WRAP Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline Model Scenario

Table No.	FMZs	Model Years	Total DDX: Water Column Dissolved (ng/L)	Total DDX: Water Column Particulate (µg/g OC)	Total DDX: Sediment Bed Dissolved (ng/L)	Total DDX: Surface Sediment Bed Concentration (µg/g OC)	Total PCB: Water Column Dissolved (ng/L)	Total PCB: Water Column Particulate (µg/g OC)	Total PCB: Sediment Bed Dissolved (ng/L)	Total PCB: Surface Sediment Bed Concentration (µg/g OC)
B-1a	Dominguez Channel Estuary	1	9.38	13.60	5.02	7.28	10.92	12.56	12.75	14.67
	Dominguez Channel Estuary	2	13.11	19.01	5.05	7.32	14.28	16.42	12.78	14.69
	Dominguez Channel Estuary	3	9.51	13.79	4.39	6.36	9.19	10.57	11.90	13.68
	Dominguez Channel Estuary	4	8.55	12.39	4.09	5.94	8.77	10.08	11.35	13.05
	Dominguez Channel Estuary	5	6.21	9.00	3.86	5.60	6.34	7.29	10.91	12.54
	Dominguez Channel Estuary	6	7.15	10.36	3.84	5.57	7.11	8.18	10.77	12.38
	Dominguez Channel Estuary	7	8.11	11.76	3.80	5.51	7.64	8.79	10.65	12.25
	Dominguez Channel Estuary	8	7.74	11.22	3.64	5.29	7.17	8.25	10.49	12.07
	Dominguez Channel Estuary	9	6.30	9.13	3.60	5.22	5.64	6.49	10.29	11.83
	Dominguez Channel Estuary	10	5.32	7.71	3.64	5.28	4.89	5.62	10.21	11.74
	Dominguez Channel Estuary	11	4.62	6.70	3.66	5.30	4.53	5.21	10.23	11.77
	Dominguez Channel Estuary	12	8.52	12.36	4.13	5.98	8.02	9.23	11.24	12.93
	Dominguez Channel Estuary	13	6.53	9.46	3.92	5.68	6.32	7.27	10.94	12.58
	Dominguez Channel Estuary	14	6.72	9.75	3.89	5.63	6.61	7.60	10.73	12.34
	Dominguez Channel Estuary	15	5.29	7.67	3.76	5.45	5.07	5.83	10.48	12.05
	Dominguez Channel Estuary	16	6.32	9.16	3.77	5.47	6.01	6.91	10.43	11.99
	Dominguez Channel Estuary	17	7.47	10.83	3.65	5.30	6.76	7.78	10.32	11.86
	Dominguez Channel Estuary	18	7.23	10.48	3.51	5.09	6.39	7.35	10.20	11.73
	Dominguez Channel Estuary	19	5.62	8.15	3.46	5.02	4.77	5.48	10.01	11.52
	Dominguez Channel Estuary	20	4.85	7.04	3.48	5.05	4.22	4.86	9.95	11.44
B-1b	Consolidated Slip	1	1.52	2.21	5.72	8.29	2.14	2.46	21.05	24.21
	Consolidated Slip	2	2.46	3.56	4.09	5.94	3.32	3.82	14.90	17.14
	Consolidated Slip	3	1.57	2.28	3.80	5.51	1.58	1.81	13.94	16.04
	Consolidated Slip	4	1.08	1.56	3.74	5.42	1.21	1.39	13.67	15.72
	Consolidated Slip	5	0.96	1.39	3.60	5.22	1.12	1.29	13.18	15.16
	Consolidated Slip	6	0.92	1.34	3.49	5.06	1.04	1.20	12.79	14.71
	Consolidated Slip	7	1.23	1.78	3.26	4.73	1.27	1.46	12.01	13.81
	Consolidated Slip	8	0.98	1.42	3.08	4.47	1.03	1.19	11.35	13.05
	Consolidated Slip	9	0.77	1.12	3.08	4.46	0.87	1.00	11.15	12.83
	Consolidated Slip	10	0.62	0.89	3.07	4.45	0.72	0.83	10.98	12.63
	Consolidated Slip	11	0.84	1.22	2.98	4.33	0.97	1.11	10.63	12.23
	Consolidated Slip	12	1.55	2.25	2.43	3.52	1.43	1.64	8.83	10.16
	Consolidated Slip	13	0.95	1.38	2.42	3.51	0.97	1.12	8.58	9.87
	Consolidated Slip	14	0.81	1.18	2.46	3.57	0.85	0.98	8.49	9.77
	Consolidated Slip	15	0.80	1.16	2.42	3.51	0.83	0.95	8.26	9.50
	Consolidated Slip	16	0.82	1.19	2.35	3.41	0.83	0.95	8.03	9.24
	Consolidated Slip	17	1.11	1.62	2.21	3.21	1.04	1.20	7.67	8.82
	Consolidated Slip	18	0.91	1.32	2.08	3.02	0.85	0.98	7.29	8.38
	Consolidated Slip	19	0.69	1.00	2.12	3.07	0.68	0.79	7.20	8.29
	Consolidated Slip	20	0.57	0.83	2.13	3.09	0.59	0.68	7.13	8.20

Table B-1

Annual Average WRAP Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-1c	Los Angeles Inner Harbor	1	0.48	0.70	2.71	3.93	0.57	0.66	3.56	4.09
	Los Angeles Inner Harbor	2	0.61	0.88	2.56	3.72	0.71	0.82	3.17	3.65
	Los Angeles Inner Harbor	3	0.42	0.61	2.53	3.67	0.43	0.50	3.08	3.54
	Los Angeles Inner Harbor	4	0.33	0.47	2.52	3.65	0.38	0.44	3.02	3.47
	Los Angeles Inner Harbor	5	0.34	0.50	2.50	3.62	0.38	0.44	2.95	3.39
	Los Angeles Inner Harbor	6	0.33	0.48	2.48	3.60	0.36	0.42	2.89	3.32
	Los Angeles Inner Harbor	7	0.38	0.54	2.46	3.56	0.41	0.47	2.81	3.23
	Los Angeles Inner Harbor	8	0.32	0.46	2.43	3.52	0.36	0.41	2.73	3.14
	Los Angeles Inner Harbor	9	0.27	0.40	2.42	3.50	0.33	0.38	2.69	3.09
	Los Angeles Inner Harbor	10	0.25	0.36	2.41	3.49	0.30	0.35	2.65	3.05
	Los Angeles Inner Harbor	11	0.31	0.45	2.39	3.47	0.36	0.42	2.60	2.99
	Los Angeles Inner Harbor	12	0.42	0.61	2.31	3.36	0.42	0.48	2.44	2.81
	Los Angeles Inner Harbor	13	0.30	0.43	2.30	3.34	0.33	0.38	2.40	2.76
	Los Angeles Inner Harbor	14	0.27	0.40	2.30	3.33	0.31	0.36	2.37	2.73
	Los Angeles Inner Harbor	15	0.29	0.42	2.29	3.31	0.32	0.37	2.34	2.69
	Los Angeles Inner Harbor	16	0.29	0.43	2.28	3.30	0.31	0.36	2.31	2.66
	Los Angeles Inner Harbor	17	0.34	0.50	2.26	3.28	0.35	0.41	2.27	2.61
	Los Angeles Inner Harbor	18	0.30	0.44	2.24	3.25	0.32	0.36	2.23	2.56
	Los Angeles Inner Harbor	19	0.26	0.37	2.24	3.24	0.29	0.33	2.21	2.54
	Los Angeles Inner Harbor	20	0.23	0.34	2.23	3.24	0.27	0.31	2.19	2.52
B-1d	Fish Harbor	1	0.31	0.45	3.54	5.14	0.59	0.68	7.02	8.07
	Fish Harbor	2	0.35	0.50	3.50	5.08	0.62	0.71	6.80	7.82
	Fish Harbor	3	0.25	0.36	3.48	5.05	0.54	0.62	6.63	7.62
	Fish Harbor	4	0.21	0.30	3.47	5.03	0.53	0.61	6.47	7.44
	Fish Harbor	5	0.25	0.37	3.45	5.00	0.52	0.60	6.32	7.27
	Fish Harbor	6	0.24	0.35	3.43	4.98	0.50	0.57	6.18	7.11
	Fish Harbor	7	0.23	0.34	3.42	4.95	0.50	0.58	6.05	6.96
	Fish Harbor	8	0.21	0.30	3.40	4.93	0.49	0.57	5.92	6.81
	Fish Harbor	9	0.19	0.28	3.39	4.91	0.48	0.56	5.80	6.67
	Fish Harbor	10	0.19	0.27	3.37	4.89	0.48	0.55	5.69	6.55
	Fish Harbor	11	0.22	0.32	3.36	4.88	0.48	0.55	5.59	6.43
	Fish Harbor	12	0.27	0.39	3.34	4.84	0.49	0.57	5.47	6.29
	Fish Harbor	13	0.20	0.29	3.33	4.82	0.46	0.52	5.37	6.18
	Fish Harbor	14	0.19	0.27	3.32	4.81	0.46	0.52	5.29	6.08
	Fish Harbor	15	0.21	0.30	3.30	4.79	0.45	0.52	5.20	5.98
	Fish Harbor	16	0.21	0.30	3.29	4.78	0.43	0.50	5.12	5.89
	Fish Harbor	17	0.22	0.32	3.28	4.76	0.44	0.51	5.04	5.80
	Fish Harbor	18	0.20	0.29	3.27	4.74	0.44	0.50	4.96	5.71
	Fish Harbor	19	0.19	0.27	3.26	4.73	0.43	0.49	4.89	5.63
	Fish Harbor	20	0.18	0.26	3.25	4.71	0.42	0.49	4.83	5.55

Table B-1

Annual Average WRAP Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-1e	Seaplane Lagoon	1	0.33	0.47	1.58	2.29	0.36	0.41	2.01	2.31
	Seaplane Lagoon	2	0.46	0.66	1.57	2.27	0.50	0.58	1.95	2.24
	Seaplane Lagoon	3	0.27	0.39	1.56	2.26	0.29	0.33	1.90	2.18
	Seaplane Lagoon	4	0.21	0.31	1.55	2.25	0.26	0.30	1.85	2.12
	Seaplane Lagoon	5	0.28	0.41	1.54	2.24	0.31	0.35	1.80	2.07
	Seaplane Lagoon	6	0.25	0.37	1.54	2.23	0.27	0.31	1.75	2.02
	Seaplane Lagoon	7	0.27	0.40	1.53	2.22	0.31	0.36	1.71	1.97
	Seaplane Lagoon	8	0.23	0.34	1.52	2.21	0.27	0.32	1.67	1.93
	Seaplane Lagoon	9	0.21	0.30	1.52	2.20	0.26	0.30	1.64	1.88
	Seaplane Lagoon	10	0.20	0.29	1.51	2.19	0.24	0.28	1.60	1.85
	Seaplane Lagoon	11	0.23	0.34	1.51	2.18	0.29	0.33	1.57	1.81
	Seaplane Lagoon	12	0.36	0.53	1.50	2.17	0.43	0.49	1.54	1.78
	Seaplane Lagoon	13	0.21	0.31	1.49	2.17	0.25	0.29	1.52	1.74
	Seaplane Lagoon	14	0.19	0.28	1.49	2.16	0.23	0.26	1.49	1.71
	Seaplane Lagoon	15	0.23	0.34	1.49	2.15	0.28	0.32	1.46	1.68
	Seaplane Lagoon	16	0.23	0.33	1.48	2.15	0.25	0.28	1.44	1.66
	Seaplane Lagoon	17	0.25	0.37	1.48	2.14	0.28	0.33	1.42	1.63
	Seaplane Lagoon	18	0.22	0.32	1.47	2.13	0.25	0.29	1.39	1.60
	Seaplane Lagoon	19	0.20	0.29	1.47	2.13	0.24	0.27	1.37	1.58
	Seaplane Lagoon	20	0.19	0.27	1.46	2.12	0.22	0.26	1.35	1.56
B-1f	Los Angeles Outer Harbor	1	0.30	0.43	2.49	3.61	0.28	0.32	1.26	1.44
	Los Angeles Outer Harbor	2	0.34	0.49	2.40	3.48	0.32	0.37	1.20	1.38
	Los Angeles Outer Harbor	3	0.25	0.36	2.35	3.41	0.23	0.26	1.16	1.33
	Los Angeles Outer Harbor	4	0.21	0.31	2.33	3.38	0.21	0.24	1.13	1.30
	Los Angeles Outer Harbor	5	0.24	0.35	2.30	3.34	0.23	0.26	1.10	1.26
	Los Angeles Outer Harbor	6	0.23	0.33	2.27	3.29	0.21	0.24	1.06	1.22
	Los Angeles Outer Harbor	7	0.24	0.34	2.24	3.25	0.23	0.27	1.04	1.20
	Los Angeles Outer Harbor	8	0.21	0.31	2.22	3.22	0.22	0.25	1.02	1.17
	Los Angeles Outer Harbor	9	0.19	0.28	2.21	3.20	0.21	0.24	1.00	1.14
	Los Angeles Outer Harbor	10	0.18	0.27	2.20	3.19	0.20	0.23	0.98	1.12
	Los Angeles Outer Harbor	11	0.21	0.31	2.18	3.17	0.22	0.26	0.96	1.10
	Los Angeles Outer Harbor	12	0.26	0.38	2.16	3.13	0.26	0.29	0.95	1.09
	Los Angeles Outer Harbor	13	0.20	0.29	2.15	3.11	0.20	0.24	0.93	1.07
	Los Angeles Outer Harbor	14	0.19	0.28	2.14	3.10	0.20	0.23	0.92	1.06
	Los Angeles Outer Harbor	15	0.21	0.30	2.13	3.08	0.21	0.24	0.90	1.04
	Los Angeles Outer Harbor	16	0.21	0.30	2.11	3.07	0.20	0.23	0.89	1.02
	Los Angeles Outer Harbor	17	0.22	0.32	2.10	3.04	0.22	0.25	0.88	1.01
	Los Angeles Outer Harbor	18	0.21	0.30	2.09	3.03	0.20	0.24	0.87	1.00
	Los Angeles Outer Harbor	19	0.19	0.27	2.08	3.02	0.20	0.23	0.86	0.98
	Los Angeles Outer Harbor	20	0.18	0.26	2.07	3.01	0.19	0.22	0.85	0.97

Table B-1

Annual Average WRAP Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline Model Scenario

Table No.	FMZs	Model Years	Total DDX				Total PCB			
			Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-1g	Long Beach Inner Harbor North	1	0.47	0.68	0.87	1.26	0.56	0.64	2.26	2.60
	Long Beach Inner Harbor North	2	0.64	0.93	0.83	1.20	0.77	0.89	2.09	2.40
	Long Beach Inner Harbor North	3	0.41	0.59	0.81	1.18	0.41	0.48	2.00	2.30
	Long Beach Inner Harbor North	4	0.29	0.42	0.80	1.17	0.34	0.39	1.92	2.21
	Long Beach Inner Harbor North	5	0.34	0.49	0.80	1.15	0.36	0.41	1.85	2.13
	Long Beach Inner Harbor North	6	0.31	0.45	0.79	1.14	0.33	0.38	1.79	2.06
	Long Beach Inner Harbor North	7	0.38	0.55	0.78	1.13	0.40	0.46	1.73	1.99
	Long Beach Inner Harbor North	8	0.31	0.44	0.77	1.11	0.33	0.38	1.67	1.93
	Long Beach Inner Harbor North	9	0.25	0.36	0.76	1.10	0.30	0.34	1.63	1.87
	Long Beach Inner Harbor North	10	0.21	0.31	0.76	1.10	0.26	0.30	1.59	1.83
	Long Beach Inner Harbor North	11	0.30	0.43	0.75	1.09	0.34	0.40	1.55	1.78
	Long Beach Inner Harbor North	12	0.44	0.65	0.73	1.06	0.45	0.52	1.48	1.70
	Long Beach Inner Harbor North	13	0.29	0.42	0.72	1.05	0.31	0.36	1.44	1.66
	Long Beach Inner Harbor North	14	0.25	0.36	0.72	1.04	0.28	0.32	1.41	1.63
	Long Beach Inner Harbor North	15	0.28	0.40	0.71	1.04	0.30	0.35	1.38	1.59
	Long Beach Inner Harbor North	16	0.27	0.40	0.71	1.03	0.29	0.33	1.36	1.56
	Long Beach Inner Harbor North	17	0.35	0.50	0.70	1.02	0.35	0.40	1.33	1.53
	Long Beach Inner Harbor North	18	0.29	0.42	0.70	1.01	0.30	0.34	1.30	1.50
	Long Beach Inner Harbor North	19	0.23	0.34	0.70	1.01	0.26	0.30	1.28	1.47
	Long Beach Inner Harbor North	20	0.20	0.30	0.69	1.01	0.24	0.27	1.26	1.45
B-1h	Long Beach Inner Harbor South	1	0.33	0.48	1.93	2.80	0.38	0.44	4.24	4.88
	Long Beach Inner Harbor South	2	0.42	0.61	1.87	2.72	0.50	0.57	3.98	4.58
	Long Beach Inner Harbor South	3	0.26	0.38	1.85	2.69	0.29	0.33	3.78	4.35
	Long Beach Inner Harbor South	4	0.20	0.29	1.84	2.66	0.25	0.29	3.61	4.16
	Long Beach Inner Harbor South	5	0.26	0.38	1.82	2.64	0.28	0.32	3.45	3.97
	Long Beach Inner Harbor South	6	0.24	0.35	1.80	2.61	0.25	0.29	3.31	3.81
	Long Beach Inner Harbor South	7	0.27	0.39	1.78	2.59	0.30	0.34	3.18	3.66
	Long Beach Inner Harbor South	8	0.22	0.32	1.77	2.56	0.26	0.30	3.06	3.51
	Long Beach Inner Harbor South	9	0.18	0.27	1.75	2.54	0.24	0.27	2.95	3.39
	Long Beach Inner Harbor South	10	0.17	0.24	1.74	2.53	0.22	0.25	2.85	3.28
	Long Beach Inner Harbor South	11	0.22	0.33	1.73	2.51	0.27	0.31	2.76	3.17
	Long Beach Inner Harbor South	12	0.32	0.46	1.70	2.47	0.36	0.41	2.65	3.05
	Long Beach Inner Harbor South	13	0.20	0.29	1.69	2.45	0.24	0.27	2.58	2.96
	Long Beach Inner Harbor South	14	0.18	0.26	1.68	2.44	0.22	0.25	2.51	2.88
	Long Beach Inner Harbor South	15	0.21	0.31	1.67	2.43	0.25	0.28	2.44	2.81
	Long Beach Inner Harbor South	16	0.21	0.30	1.67	2.42	0.23	0.26	2.38	2.73
	Long Beach Inner Harbor South	17	0.25	0.36	1.66	2.40	0.27	0.31	2.32	2.66
	Long Beach Inner Harbor South	18	0.21	0.31	1.64	2.39	0.23	0.27	2.26	2.60
	Long Beach Inner Harbor South	19	0.18	0.26	1.64	2.38	0.21	0.25	2.21	2.54
	Long Beach Inner Harbor South	20	0.16	0.24	1.63	2.37	0.20	0.23	2.16	2.49

Table B-1

Annual Average WRAP Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline Model Scenario

Table No.	FMZs	Model Years	Total DDX: Water Column Dissolved (ng/L)	Total DDX: Water Column Particulate (µg/g OC)	Total DDX: Sediment Bed Dissolved (ng/L)	Total DDX: Surface Sediment Bed Concentration (µg/g OC)	Total PCB: Water Column Dissolved (ng/L)	Total PCB: Water Column Particulate (µg/g OC)	Total PCB: Sediment Bed Dissolved (ng/L)	Total PCB: Surface Sediment Bed Concentration (µg/g OC)
B-1i	Long Beach Outer Harbor	1	0.28	0.40	1.91	2.77	0.27	0.31	1.03	1.18
	Long Beach Outer Harbor	2	0.34	0.50	1.86	2.69	0.36	0.41	0.97	1.12
	Long Beach Outer Harbor	3	0.23	0.33	1.84	2.66	0.21	0.25	0.93	1.07
	Long Beach Outer Harbor	4	0.18	0.27	1.82	2.64	0.19	0.22	0.89	1.02
	Long Beach Outer Harbor	5	0.24	0.35	1.80	2.61	0.23	0.26	0.85	0.98
	Long Beach Outer Harbor	6	0.22	0.32	1.78	2.58	0.21	0.24	0.82	0.94
	Long Beach Outer Harbor	7	0.24	0.34	1.76	2.55	0.24	0.28	0.79	0.91
	Long Beach Outer Harbor	8	0.20	0.29	1.74	2.53	0.21	0.25	0.76	0.88
	Long Beach Outer Harbor	9	0.18	0.26	1.73	2.51	0.20	0.23	0.74	0.85
	Long Beach Outer Harbor	10	0.17	0.24	1.72	2.49	0.19	0.21	0.72	0.82
	Long Beach Outer Harbor	11	0.20	0.29	1.70	2.47	0.23	0.26	0.70	0.80
	Long Beach Outer Harbor	12	0.28	0.40	1.67	2.43	0.30	0.35	0.68	0.78
	Long Beach Outer Harbor	13	0.18	0.26	1.66	2.41	0.19	0.22	0.66	0.76
	Long Beach Outer Harbor	14	0.16	0.24	1.65	2.40	0.18	0.20	0.64	0.74
	Long Beach Outer Harbor	15	0.20	0.29	1.64	2.38	0.21	0.25	0.63	0.72
	Long Beach Outer Harbor	16	0.20	0.29	1.63	2.37	0.20	0.23	0.61	0.71
	Long Beach Outer Harbor	17	0.22	0.32	1.62	2.35	0.23	0.26	0.60	0.69
	Long Beach Outer Harbor	18	0.20	0.28	1.61	2.33	0.20	0.23	0.59	0.68
	Long Beach Outer Harbor	19	0.18	0.26	1.60	2.32	0.19	0.22	0.58	0.66
	Long Beach Outer Harbor	20	0.16	0.23	1.59	2.31	0.18	0.20	0.57	0.65
B-1j	Los Angeles River Estuary	1	0.98	1.42	0.65	0.95	1.55	1.78	3.48	4.01
	Los Angeles River Estuary	2	1.62	2.35	0.29	0.42	2.54	2.92	1.52	1.75
	Los Angeles River Estuary	3	0.93	1.35	0.26	0.38	1.48	1.70	1.37	1.57
	Los Angeles River Estuary	4	0.71	1.03	0.26	0.37	1.17	1.34	1.35	1.55
	Los Angeles River Estuary	5	0.98	1.43	0.23	0.34	1.58	1.82	1.22	1.41
	Los Angeles River Estuary	6	0.72	1.05	0.22	0.33	1.17	1.34	1.17	1.35
	Los Angeles River Estuary	7	1.31	1.89	0.20	0.29	2.03	2.34	1.03	1.19
	Los Angeles River Estuary	8	1.07	1.55	0.17	0.24	1.72	1.98	0.87	1.01
	Los Angeles River Estuary	9	1.04	1.51	0.16	0.23	1.66	1.91	0.84	0.96
	Los Angeles River Estuary	10	0.71	1.04	0.16	0.23	1.18	1.36	0.83	0.95
	Los Angeles River Estuary	11	0.91	1.33	0.16	0.23	1.44	1.65	0.82	0.94
	Los Angeles River Estuary	12	1.60	2.32	0.11	0.15	2.50	2.88	0.54	0.62
	Los Angeles River Estuary	13	0.89	1.29	0.10	0.15	1.42	1.63	0.51	0.59
	Los Angeles River Estuary	14	0.70	1.01	0.10	0.15	1.14	1.31	0.51	0.59
	Los Angeles River Estuary	15	0.98	1.41	0.10	0.14	1.58	1.82	0.48	0.56
	Los Angeles River Estuary	16	0.73	1.06	0.10	0.14	1.18	1.35	0.51	0.58
	Los Angeles River Estuary	17	1.32	1.91	0.10	0.14	2.04	2.35	0.51	0.58
	Los Angeles River Estuary	18	1.05	1.52	0.09	0.13	1.68	1.93	0.47	0.54
	Los Angeles River Estuary	19	1.02	1.48	0.09	0.13	1.63	1.87	0.47	0.54
	Los Angeles River Estuary	20	0.70	1.02	0.09	0.13	1.15	1.32	0.48	0.55

Table B-1
Annual Average WRAP Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline Model Scenario

Table No.	FMZs	Model Years	Total DDX Water Column Dissolved (ng/L)	Total DDX Water Column Particulate (µg/g OC)	Total DDX Sediment Bed Dissolved (ng/L)	Total DDX Surface Sediment Bed Concentration (µg/g OC)	Total PCB Water Column Dissolved (ng/L)	Total PCB Water Column Particulate (µg/g OC)	Total PCB Sediment Bed Dissolved (ng/L)	Total PCB Surface Sediment Bed Concentration (µg/g OC)
B-1k	Eastern San Pedro Bay	1	0.34	0.49	0.93	1.35	0.39	0.45	1.57	1.80
	Eastern San Pedro Bay	2	0.47	0.68	0.82	1.19	0.59	0.68	1.28	1.47
	Eastern San Pedro Bay	3	0.28	0.40	0.81	1.17	0.32	0.37	1.24	1.42
	Eastern San Pedro Bay	4	0.22	0.32	0.80	1.17	0.27	0.31	1.22	1.40
	Eastern San Pedro Bay	5	0.31	0.45	0.79	1.15	0.38	0.43	1.18	1.36
	Eastern San Pedro Bay	6	0.26	0.38	0.79	1.14	0.30	0.35	1.16	1.33
	Eastern San Pedro Bay	7	0.33	0.48	0.77	1.12	0.41	0.47	1.12	1.29
	Eastern San Pedro Bay	8	0.29	0.42	0.76	1.10	0.37	0.43	1.08	1.24
	Eastern San Pedro Bay	9	0.26	0.37	0.76	1.10	0.33	0.38	1.06	1.22
	Eastern San Pedro Bay	10	0.21	0.31	0.75	1.09	0.27	0.31	1.05	1.20
	Eastern San Pedro Bay	11	0.27	0.39	0.75	1.08	0.35	0.40	1.03	1.18
	Eastern San Pedro Bay	12	0.42	0.61	0.68	0.99	0.55	0.63	0.90	1.03
	Eastern San Pedro Bay	13	0.24	0.35	0.68	0.99	0.30	0.34	0.88	1.01
	Eastern San Pedro Bay	14	0.21	0.30	0.68	0.99	0.26	0.29	0.88	1.01
	Eastern San Pedro Bay	15	0.28	0.41	0.67	0.98	0.36	0.42	0.86	0.99
	Eastern San Pedro Bay	16	0.24	0.35	0.67	0.98	0.29	0.34	0.85	0.98
	Eastern San Pedro Bay	17	0.32	0.47	0.67	0.97	0.40	0.46	0.84	0.96
	Eastern San Pedro Bay	18	0.29	0.41	0.66	0.96	0.36	0.42	0.82	0.94
	Eastern San Pedro Bay	19	0.25	0.37	0.66	0.95	0.32	0.37	0.81	0.93
	Eastern San Pedro Bay	20	0.21	0.30	0.66	0.95	0.26	0.30	0.80	0.93
B-1l	Outside Harbor	1	0.20	0.29	5.96	8.65	0.18	0.21	0.33	0.37
	Outside Harbor	2	0.20	0.29	5.89	8.55	0.19	0.22	0.32	0.36
	Outside Harbor	3	0.17	0.25	5.89	8.54	0.17	0.19	0.31	0.35
	Outside Harbor	4	0.17	0.24	5.86	8.49	0.16	0.19	0.30	0.34
	Outside Harbor	5	0.18	0.27	5.82	8.45	0.17	0.20	0.29	0.34
	Outside Harbor	6	0.18	0.26	5.80	8.42	0.17	0.19	0.29	0.33
	Outside Harbor	7	0.18	0.26	5.76	8.35	0.17	0.20	0.28	0.32
	Outside Harbor	8	0.17	0.24	5.70	8.27	0.17	0.19	0.27	0.32
	Outside Harbor	9	0.16	0.23	5.67	8.22	0.17	0.19	0.27	0.31
	Outside Harbor	10	0.15	0.22	5.64	8.18	0.16	0.19	0.26	0.30
	Outside Harbor	11	0.16	0.24	5.60	8.13	0.17	0.20	0.26	0.30
	Outside Harbor	12	0.18	0.25	5.55	8.04	0.18	0.21	0.25	0.29
	Outside Harbor	13	0.16	0.23	5.52	8.00	0.16	0.19	0.25	0.29
	Outside Harbor	14	0.15	0.22	5.49	7.96	0.16	0.19	0.24	0.28
	Outside Harbor	15	0.16	0.24	5.46	7.91	0.17	0.20	0.24	0.28
	Outside Harbor	16	0.17	0.24	5.41	7.85	0.17	0.19	0.24	0.27
	Outside Harbor	17	0.17	0.24	5.38	7.80	0.17	0.20	0.23	0.27
	Outside Harbor	18	0.17	0.24	5.33	7.74	0.17	0.19	0.23	0.26
	Outside Harbor	19	0.16	0.23	5.31	7.70	0.17	0.19	0.23	0.26
	Outside Harbor	20	0.15	0.22	5.28	7.66	0.16	0.19	0.22	0.26

Notes:
µg/g: microgram per gram
DDX: dichlorodiphenyltrichloroethane-related compounds (4,4'-DDT, 4,4'-DDE, 4,4'-DDD, 2,4'-DDT, 2,4'-DDE, and 2,4'-DDD)
FMZ: fish movement zone
ng/L: nanogram per liter
OC: organic carbon
PCB: polychlorinated biphenyl
WRAP: Water Resources Action Plan

Table B-2

Annual Average WRAP Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 100% WLR Model Scenario

			Total DDX				Total PCB			
Table No.	**FMZs**	**Model Years**	**Water Column Dissolved (ng/L)**	**Water Column Particulate (µg/g OC)**	**Sediment Bed Dissolved (ng/L)**	**Surface Sediment Bed Concentration (µg/g OC)**	**Water Column Dissolved (ng/L)**	**Water Column Particulate (µg/g OC)**	**Sediment Bed Dissolved (ng/L)**	**Surface Sediment Bed Concentration (µg/g OC)**
B-2a	Dominguez Channel Estuary	1	6.12	8.87	5.02	7.28	8.05	9.26	12.75	14.66
	Dominguez Channel Estuary	2	7.68	11.14	5.05	7.32	9.74	11.21	12.77	14.68
	Dominguez Channel Estuary	3	4.96	7.19	4.39	6.36	5.40	6.21	11.88	13.66
	Dominguez Channel Estuary	4	4.01	5.82	4.09	5.93	4.79	5.50	11.33	13.03
	Dominguez Channel Estuary	5	2.49	3.61	3.86	5.60	3.22	3.70	10.88	12.51
	Dominguez Channel Estuary	6	2.42	3.50	3.84	5.57	2.89	3.33	10.74	12.35
	Dominguez Channel Estuary	7	1.96	2.85	3.80	5.50	2.42	2.79	10.62	12.21
	Dominguez Channel Estuary	8	1.61	2.34	3.64	5.28	1.99	2.29	10.46	12.03
	Dominguez Channel Estuary	9	2.00	2.90	3.59	5.21	2.32	2.67	10.25	11.79
	Dominguez Channel Estuary	10	1.97	2.86	3.64	5.27	2.15	2.47	10.17	11.70
	Dominguez Channel Estuary	11	1.29	1.87	3.65	5.30	1.59	1.83	10.20	11.73
	Dominguez Channel Estuary	12	3.14	4.55	4.12	5.98	3.50	4.02	11.22	12.90
	Dominguez Channel Estuary	13	1.96	2.85	3.91	5.67	2.53	2.91	10.91	12.55
	Dominguez Channel Estuary	14	2.11	3.06	3.88	5.63	2.54	2.92	10.70	12.31
	Dominguez Channel Estuary	15	1.60	2.33	3.75	5.44	1.98	2.27	10.45	12.01
	Dominguez Channel Estuary	16	1.60	2.32	3.77	5.46	1.83	2.11	10.40	11.96
	Dominguez Channel Estuary	17	1.28	1.85	3.65	5.29	1.52	1.75	10.28	11.82
	Dominguez Channel Estuary	18	1.14	1.66	3.51	5.09	1.31	1.51	10.16	11.69
	Dominguez Channel Estuary	19	1.39	2.02	3.46	5.01	1.49	1.71	9.98	11.47
	Dominguez Channel Estuary	20	1.41	2.04	3.48	5.04	1.46	1.68	9.91	11.40
B-2b	Consolidated Slip	1	1.05	1.52	5.72	8.29	1.80	2.07	21.05	24.21
	Consolidated Slip	2	1.66	2.41	4.09	5.94	2.78	3.19	14.90	17.14
	Consolidated Slip	3	1.06	1.53	3.80	5.51	1.24	1.42	13.94	16.04
	Consolidated Slip	4	0.63	0.92	3.74	5.42	0.89	1.03	13.67	15.72
	Consolidated Slip	5	0.50	0.73	3.60	5.22	0.81	0.93	13.18	15.15
	Consolidated Slip	6	0.44	0.64	3.49	5.06	0.69	0.79	12.79	14.71
	Consolidated Slip	7	0.44	0.64	3.26	4.73	0.73	0.83	12.01	13.81
	Consolidated Slip	8	0.36	0.52	3.08	4.47	0.61	0.70	11.35	13.05
	Consolidated Slip	9	0.37	0.54	3.08	4.46	0.62	0.71	11.15	12.82
	Consolidated Slip	10	0.35	0.50	3.07	4.45	0.55	0.64	10.98	12.63
	Consolidated Slip	11	0.36	0.52	2.98	4.33	0.61	0.71	10.62	12.22
	Consolidated Slip	12	0.73	1.06	2.43	3.52	0.86	0.99	8.83	10.15
	Consolidated Slip	13	0.42	0.61	2.42	3.51	0.62	0.72	8.58	9.87
	Consolidated Slip	14	0.36	0.53	2.46	3.57	0.54	0.62	8.49	9.76
	Consolidated Slip	15	0.35	0.50	2.42	3.51	0.52	0.60	8.25	9.49
	Consolidated Slip	16	0.33	0.47	2.35	3.41	0.47	0.54	8.03	9.23
	Consolidated Slip	17	0.33	0.47	2.21	3.21	0.49	0.56	7.66	8.81
	Consolidated Slip	18	0.29	0.42	2.08	3.02	0.43	0.50	7.28	8.37
	Consolidated Slip	19	0.30	0.43	2.12	3.07	0.44	0.50	7.20	8.28
	Consolidated Slip	20	0.28	0.41	2.13	3.09	0.42	0.48	7.12	8.19

Table B-2

Annual Average WRAP Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 100% WLR Model Scenario

Table No.	FMZs	Model Years	Total DDX Water Column Dissolved (ng/L)	Total DDX Water Column Particulate (µg/g OC)	Total DDX Sediment Bed Dissolved (ng/L)	Total DDX Surface Sediment Bed Concentration (µg/g OC)	Total PCB Water Column Dissolved (ng/L)	Total PCB Water Column Particulate (µg/g OC)	Total PCB Sediment Bed Dissolved (ng/L)	Total PCB Surface Sediment Bed Concentration (µg/g OC)
B-2c	Los Angeles Inner Harbor	1	0.39	0.57	2.71	3.93	0.50	0.57	3.56	4.09
	Los Angeles Inner Harbor	2	0.47	0.68	2.56	3.72	0.59	0.68	3.17	3.65
	Los Angeles Inner Harbor	3	0.34	0.49	2.53	3.67	0.37	0.43	3.08	3.54
	Los Angeles Inner Harbor	4	0.26	0.37	2.52	3.65	0.32	0.37	3.02	3.47
	Los Angeles Inner Harbor	5	0.26	0.38	2.50	3.62	0.31	0.36	2.95	3.39
	Los Angeles Inner Harbor	6	0.25	0.36	2.48	3.60	0.29	0.34	2.89	3.32
	Los Angeles Inner Harbor	7	0.24	0.35	2.46	3.56	0.30	0.34	2.81	3.23
	Los Angeles Inner Harbor	8	0.21	0.31	2.43	3.52	0.28	0.32	2.73	3.14
	Los Angeles Inner Harbor	9	0.21	0.30	2.42	3.50	0.28	0.32	2.69	3.09
	Los Angeles Inner Harbor	10	0.20	0.29	2.41	3.49	0.27	0.31	2.65	3.05
	Los Angeles Inner Harbor	11	0.21	0.31	2.39	3.47	0.28	0.32	2.60	2.99
	Los Angeles Inner Harbor	12	0.28	0.40	2.31	3.36	0.30	0.35	2.44	2.80
	Los Angeles Inner Harbor	13	0.21	0.31	2.30	3.34	0.27	0.31	2.40	2.76
	Los Angeles Inner Harbor	14	0.20	0.29	2.30	3.33	0.26	0.30	2.37	2.73
	Los Angeles Inner Harbor	15	0.21	0.30	2.29	3.31	0.25	0.29	2.34	2.69
	Los Angeles Inner Harbor	16	0.21	0.31	2.28	3.30	0.25	0.28	2.31	2.65
	Los Angeles Inner Harbor	17	0.21	0.30	2.26	3.28	0.25	0.28	2.27	2.61
	Los Angeles Inner Harbor	18	0.20	0.29	2.24	3.25	0.24	0.27	2.22	2.56
	Los Angeles Inner Harbor	19	0.19	0.28	2.24	3.24	0.24	0.28	2.20	2.53
	Los Angeles Inner Harbor	20	0.19	0.27	2.23	3.24	0.24	0.27	2.18	2.51
B-2d	Fish Harbor	1	0.28	0.40	3.54	5.14	0.56	0.64	7.02	8.07
	Fish Harbor	2	0.29	0.42	3.50	5.08	0.55	0.63	6.80	7.82
	Fish Harbor	3	0.23	0.33	3.48	5.05	0.51	0.59	6.63	7.62
	Fish Harbor	4	0.20	0.29	3.47	5.03	0.52	0.59	6.47	7.44
	Fish Harbor	5	0.23	0.33	3.45	5.00	0.49	0.56	6.32	7.27
	Fish Harbor	6	0.23	0.33	3.43	4.98	0.48	0.55	6.18	7.11
	Fish Harbor	7	0.20	0.29	3.42	4.95	0.46	0.53	6.04	6.95
	Fish Harbor	8	0.19	0.27	3.40	4.93	0.47	0.54	5.91	6.80
	Fish Harbor	9	0.18	0.26	3.39	4.91	0.47	0.54	5.80	6.67
	Fish Harbor	10	0.18	0.26	3.37	4.89	0.46	0.53	5.69	6.54
	Fish Harbor	11	0.19	0.27	3.36	4.88	0.44	0.51	5.58	6.42
	Fish Harbor	12	0.21	0.30	3.34	4.84	0.42	0.48	5.46	6.29
	Fish Harbor	13	0.18	0.27	3.33	4.82	0.43	0.50	5.37	6.18
	Fish Harbor	14	0.18	0.26	3.32	4.81	0.44	0.51	5.28	6.08
	Fish Harbor	15	0.18	0.27	3.30	4.79	0.42	0.48	5.20	5.98
	Fish Harbor	16	0.19	0.28	3.29	4.78	0.41	0.47	5.12	5.88
	Fish Harbor	17	0.18	0.27	3.28	4.76	0.40	0.46	5.04	5.79
	Fish Harbor	18	0.18	0.26	3.27	4.74	0.41	0.47	4.96	5.70
	Fish Harbor	19	0.17	0.25	3.26	4.73	0.41	0.47	4.89	5.62
	Fish Harbor	20	0.17	0.25	3.25	4.71	0.41	0.47	4.82	5.55

Table B-2

Annual Average WRAP Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 100% WLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-2e	Seaplane Lagoon	1	0.28	0.41	1.58	2.29	0.30	0.35	2.01	2.31
	Seaplane Lagoon	2	0.31	0.45	1.57	2.27	0.32	0.36	1.95	2.24
	Seaplane Lagoon	3	0.24	0.35	1.56	2.26	0.26	0.30	1.89	2.18
	Seaplane Lagoon	4	0.20	0.30	1.55	2.25	0.24	0.28	1.84	2.12
	Seaplane Lagoon	5	0.24	0.34	1.54	2.24	0.25	0.28	1.79	2.06
	Seaplane Lagoon	6	0.23	0.33	1.54	2.23	0.24	0.28	1.75	2.01
	Seaplane Lagoon	7	0.21	0.31	1.53	2.22	0.24	0.28	1.71	1.96
	Seaplane Lagoon	8	0.20	0.29	1.52	2.21	0.23	0.27	1.67	1.92
	Seaplane Lagoon	9	0.18	0.27	1.52	2.20	0.23	0.26	1.63	1.88
	Seaplane Lagoon	10	0.18	0.26	1.51	2.19	0.23	0.26	1.60	1.84
	Seaplane Lagoon	11	0.19	0.27	1.51	2.18	0.23	0.26	1.57	1.80
	Seaplane Lagoon	12	0.21	0.31	1.50	2.17	0.23	0.27	1.53	1.76
	Seaplane Lagoon	13	0.19	0.27	1.49	2.16	0.22	0.25	1.50	1.73
	Seaplane Lagoon	14	0.18	0.26	1.49	2.16	0.21	0.25	1.48	1.70
	Seaplane Lagoon	15	0.19	0.27	1.48	2.15	0.22	0.25	1.45	1.67
	Seaplane Lagoon	16	0.20	0.29	1.48	2.14	0.21	0.24	1.43	1.64
	Seaplane Lagoon	17	0.19	0.28	1.47	2.14	0.21	0.25	1.40	1.62
	Seaplane Lagoon	18	0.18	0.27	1.47	2.13	0.21	0.24	1.38	1.59
	Seaplane Lagoon	19	0.17	0.25	1.46	2.12	0.21	0.24	1.36	1.56
	Seaplane Lagoon	20	0.17	0.25	1.46	2.12	0.21	0.24	1.34	1.54
B-2f	Los Angeles Outer Harbor	1	0.26	0.38	2.49	3.61	0.25	0.29	1.26	1.44
	Los Angeles Outer Harbor	2	0.28	0.40	2.40	3.48	0.26	0.30	1.20	1.38
	Los Angeles Outer Harbor	3	0.23	0.33	2.35	3.41	0.21	0.24	1.16	1.33
	Los Angeles Outer Harbor	4	0.20	0.29	2.33	3.38	0.20	0.23	1.13	1.30
	Los Angeles Outer Harbor	5	0.21	0.31	2.30	3.34	0.20	0.23	1.09	1.26
	Los Angeles Outer Harbor	6	0.21	0.30	2.27	3.29	0.19	0.22	1.06	1.22
	Los Angeles Outer Harbor	7	0.20	0.28	2.24	3.25	0.19	0.22	1.04	1.19
	Los Angeles Outer Harbor	8	0.18	0.27	2.22	3.22	0.19	0.22	1.01	1.17
	Los Angeles Outer Harbor	9	0.17	0.25	2.21	3.20	0.19	0.22	0.99	1.14
	Los Angeles Outer Harbor	10	0.17	0.25	2.20	3.19	0.19	0.21	0.97	1.12
	Los Angeles Outer Harbor	11	0.18	0.26	2.18	3.17	0.19	0.22	0.96	1.10
	Los Angeles Outer Harbor	12	0.20	0.30	2.16	3.13	0.20	0.23	0.94	1.09
	Los Angeles Outer Harbor	13	0.18	0.26	2.15	3.11	0.19	0.21	0.93	1.07
	Los Angeles Outer Harbor	14	0.17	0.25	2.14	3.10	0.18	0.21	0.92	1.05
	Los Angeles Outer Harbor	15	0.18	0.26	2.13	3.08	0.18	0.21	0.90	1.04
	Los Angeles Outer Harbor	16	0.19	0.27	2.11	3.07	0.18	0.21	0.89	1.02
	Los Angeles Outer Harbor	17	0.18	0.26	2.10	3.04	0.18	0.21	0.87	1.01
	Los Angeles Outer Harbor	18	0.18	0.26	2.09	3.03	0.18	0.21	0.86	0.99
	Los Angeles Outer Harbor	19	0.17	0.24	2.08	3.02	0.18	0.21	0.85	0.98
	Los Angeles Outer Harbor	20	0.17	0.24	2.07	3.01	0.18	0.21	0.84	0.97

Table B-2

Annual Average WRAP Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 100% WLR Model Scenario

Table No.	FMZs	Model Years	Total DDX Water Column Dissolved (ng/L)	Total DDX Water Column Particulate (µg/g OC)	Total DDX Sediment Bed Dissolved (ng/L)	Total DDX Surface Sediment Bed Concentration (µg/g OC)	Total PCB Water Column Dissolved (ng/L)	Total PCB Water Column Particulate (µg/g OC)	Total PCB Sediment Bed Dissolved (ng/L)	Total PCB Surface Sediment Bed Concentration (µg/g OC)
B-2g	Long Beach Inner Harbor North	1	0.37	0.53	0.87	1.26	0.47	0.54	2.26	2.60
	Long Beach Inner Harbor North	2	0.44	0.64	0.83	1.20	0.61	0.70	2.09	2.40
	Long Beach Inner Harbor North	3	0.31	0.45	0.81	1.18	0.34	0.39	2.00	2.30
	Long Beach Inner Harbor North	4	0.22	0.32	0.80	1.17	0.28	0.32	1.92	2.21
	Long Beach Inner Harbor North	5	0.24	0.35	0.80	1.15	0.28	0.32	1.85	2.13
	Long Beach Inner Harbor North	6	0.23	0.33	0.79	1.14	0.26	0.29	1.79	2.06
	Long Beach Inner Harbor North	7	0.22	0.32	0.78	1.13	0.27	0.31	1.73	1.99
	Long Beach Inner Harbor North	8	0.19	0.28	0.77	1.11	0.24	0.28	1.67	1.92
	Long Beach Inner Harbor North	9	0.18	0.26	0.76	1.10	0.24	0.28	1.62	1.87
	Long Beach Inner Harbor North	10	0.17	0.25	0.76	1.10	0.23	0.26	1.58	1.82
	Long Beach Inner Harbor North	11	0.19	0.27	0.75	1.09	0.25	0.29	1.54	1.77
	Long Beach Inner Harbor North	12	0.25	0.36	0.73	1.05	0.29	0.33	1.47	1.69
	Long Beach Inner Harbor North	13	0.19	0.28	0.72	1.05	0.24	0.28	1.44	1.65
	Long Beach Inner Harbor North	14	0.18	0.25	0.72	1.04	0.22	0.25	1.41	1.62
	Long Beach Inner Harbor North	15	0.18	0.27	0.71	1.03	0.22	0.26	1.38	1.59
	Long Beach Inner Harbor North	16	0.19	0.27	0.71	1.03	0.21	0.25	1.35	1.55
	Long Beach Inner Harbor North	17	0.19	0.27	0.70	1.02	0.22	0.25	1.32	1.52
	Long Beach Inner Harbor North	18	0.18	0.25	0.70	1.01	0.21	0.24	1.30	1.49
	Long Beach Inner Harbor North	19	0.16	0.24	0.69	1.01	0.21	0.24	1.28	1.47
	Long Beach Inner Harbor North	20	0.16	0.23	0.69	1.00	0.20	0.23	1.26	1.44
B-2h	Long Beach Inner Harbor South	1	0.27	0.40	1.93	2.80	0.33	0.37	4.24	4.88
	Long Beach Inner Harbor South	2	0.30	0.43	1.87	2.72	0.37	0.42	3.98	4.57
	Long Beach Inner Harbor South	3	0.22	0.32	1.85	2.69	0.25	0.29	3.78	4.35
	Long Beach Inner Harbor South	4	0.17	0.25	1.84	2.66	0.23	0.26	3.61	4.15
	Long Beach Inner Harbor South	5	0.21	0.30	1.82	2.64	0.23	0.26	3.45	3.97
	Long Beach Inner Harbor South	6	0.20	0.29	1.80	2.61	0.22	0.25	3.31	3.81
	Long Beach Inner Harbor South	7	0.19	0.27	1.78	2.59	0.22	0.26	3.17	3.65
	Long Beach Inner Harbor South	8	0.17	0.24	1.76	2.56	0.21	0.24	3.05	3.51
	Long Beach Inner Harbor South	9	0.15	0.22	1.75	2.54	0.21	0.24	2.94	3.39
	Long Beach Inner Harbor South	10	0.15	0.22	1.74	2.53	0.20	0.23	2.85	3.27
	Long Beach Inner Harbor South	11	0.16	0.24	1.73	2.51	0.21	0.25	2.75	3.17
	Long Beach Inner Harbor South	12	0.19	0.28	1.70	2.47	0.23	0.26	2.65	3.05
	Long Beach Inner Harbor South	13	0.16	0.23	1.69	2.45	0.20	0.23	2.57	2.96
	Long Beach Inner Harbor South	14	0.15	0.22	1.68	2.44	0.19	0.22	2.50	2.88
	Long Beach Inner Harbor South	15	0.16	0.23	1.67	2.43	0.19	0.22	2.43	2.80
	Long Beach Inner Harbor South	16	0.17	0.24	1.67	2.42	0.19	0.22	2.37	2.73
	Long Beach Inner Harbor South	17	0.17	0.24	1.65	2.40	0.19	0.22	2.31	2.66
	Long Beach Inner Harbor South	18	0.16	0.23	1.64	2.38	0.19	0.22	2.25	2.59
	Long Beach Inner Harbor South	19	0.15	0.21	1.64	2.38	0.19	0.21	2.20	2.53
	Long Beach Inner Harbor South	20	0.15	0.21	1.63	2.37	0.18	0.21	2.15	2.48

Table B-2

Annual Average WRAP Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 100% WLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-2i	Long Beach Outer Harbor	1	0.23	0.34	1.91	2.77	0.22	0.26	1.03	1.18
	Long Beach Outer Harbor	2	0.24	0.35	1.86	2.69	0.24	0.28	0.97	1.11
	Long Beach Outer Harbor	3	0.20	0.29	1.84	2.66	0.19	0.22	0.92	1.06
	Long Beach Outer Harbor	4	0.17	0.24	1.82	2.63	0.18	0.20	0.88	1.02
	Long Beach Outer Harbor	5	0.20	0.29	1.80	2.61	0.18	0.20	0.85	0.98
	Long Beach Outer Harbor	6	0.19	0.28	1.78	2.58	0.17	0.20	0.82	0.94
	Long Beach Outer Harbor	7	0.18	0.26	1.76	2.55	0.18	0.20	0.79	0.90
	Long Beach Outer Harbor	8	0.16	0.24	1.74	2.53	0.17	0.20	0.76	0.87
	Long Beach Outer Harbor	9	0.15	0.22	1.73	2.51	0.17	0.19	0.73	0.85
	Long Beach Outer Harbor	10	0.15	0.22	1.72	2.49	0.17	0.19	0.71	0.82
	Long Beach Outer Harbor	11	0.16	0.23	1.70	2.47	0.17	0.20	0.69	0.80
	Long Beach Outer Harbor	12	0.18	0.26	1.67	2.43	0.18	0.21	0.67	0.77
	Long Beach Outer Harbor	13	0.16	0.23	1.66	2.41	0.17	0.19	0.65	0.75
	Long Beach Outer Harbor	14	0.15	0.22	1.65	2.40	0.16	0.19	0.64	0.73
	Long Beach Outer Harbor	15	0.16	0.23	1.64	2.38	0.16	0.19	0.62	0.72
	Long Beach Outer Harbor	16	0.17	0.24	1.63	2.36	0.16	0.19	0.61	0.70
	Long Beach Outer Harbor	17	0.16	0.24	1.62	2.35	0.16	0.19	0.60	0.68
	Long Beach Outer Harbor	18	0.16	0.23	1.61	2.33	0.16	0.19	0.58	0.67
	Long Beach Outer Harbor	19	0.15	0.21	1.60	2.32	0.16	0.18	0.57	0.66
	Long Beach Outer Harbor	20	0.15	0.21	1.59	2.31	0.16	0.18	0.56	0.65
B-2j	Los Angeles River Estuary	1	0.18	0.26	0.65	0.94	0.27	0.31	3.48	4.00
	Los Angeles River Estuary	2	0.15	0.22	0.29	0.42	0.20	0.23	1.52	1.74
	Los Angeles River Estuary	3	0.14	0.20	0.26	0.37	0.18	0.21	1.36	1.56
	Los Angeles River Estuary	4	0.12	0.18	0.25	0.37	0.18	0.21	1.34	1.54
	Los Angeles River Estuary	5	0.14	0.20	0.23	0.33	0.17	0.20	1.21	1.39
	Los Angeles River Estuary	6	0.13	0.20	0.22	0.32	0.17	0.20	1.16	1.33
	Los Angeles River Estuary	7	0.12	0.18	0.20	0.28	0.17	0.19	1.02	1.17
	Los Angeles River Estuary	8	0.11	0.17	0.17	0.24	0.16	0.18	0.86	0.99
	Los Angeles River Estuary	9	0.11	0.15	0.16	0.23	0.15	0.18	0.82	0.94
	Los Angeles River Estuary	10	0.10	0.15	0.16	0.23	0.15	0.17	0.81	0.93
	Los Angeles River Estuary	11	0.11	0.16	0.16	0.23	0.16	0.18	0.80	0.92
	Los Angeles River Estuary	12	0.11	0.16	0.10	0.15	0.14	0.16	0.52	0.60
	Los Angeles River Estuary	13	0.11	0.16	0.10	0.14	0.14	0.16	0.49	0.57
	Los Angeles River Estuary	14	0.11	0.15	0.10	0.14	0.14	0.16	0.50	0.57
	Los Angeles River Estuary	15	0.11	0.16	0.09	0.13	0.14	0.16	0.47	0.54
	Los Angeles River Estuary	16	0.12	0.17	0.10	0.14	0.14	0.16	0.49	0.56
	Los Angeles River Estuary	17	0.11	0.16	0.10	0.14	0.14	0.16	0.49	0.56
	Los Angeles River Estuary	18	0.11	0.16	0.09	0.13	0.14	0.16	0.45	0.52
	Los Angeles River Estuary	19	0.10	0.15	0.09	0.13	0.13	0.16	0.45	0.52
	Los Angeles River Estuary	20	0.10	0.15	0.09	0.13	0.13	0.15	0.46	0.53

Table B-2

Annual Average WRAP Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 100% WLR Model Scenario

Table No.	FMZs	Model Years	Total DDX Water Column Dissolved (ng/L)	Total DDX Water Column Particulate (µg/g OC)	Total DDX Sediment Bed Dissolved (ng/L)	Total DDX Surface Sediment Bed Concentration (µg/g OC)	Total PCB Water Column Dissolved (ng/L)	Total PCB Water Column Particulate (µg/g OC)	Total PCB Sediment Bed Dissolved (ng/L)	Total PCB Surface Sediment Bed Concentration (µg/g OC)
B-2k	Eastern San Pedro Bay	1	0.22	0.31	0.93	1.35	0.21	0.24	1.57	1.80
	Eastern San Pedro Bay	2	0.21	0.31	0.82	1.19	0.21	0.24	1.28	1.47
	Eastern San Pedro Bay	3	0.18	0.26	0.81	1.17	0.18	0.20	1.23	1.42
	Eastern San Pedro Bay	4	0.16	0.23	0.80	1.17	0.17	0.20	1.21	1.40
	Eastern San Pedro Bay	5	0.18	0.26	0.79	1.15	0.17	0.20	1.18	1.35
	Eastern San Pedro Bay	6	0.18	0.25	0.79	1.14	0.17	0.19	1.15	1.33
	Eastern San Pedro Bay	7	0.17	0.24	0.77	1.12	0.17	0.19	1.11	1.28
	Eastern San Pedro Bay	8	0.15	0.22	0.76	1.10	0.16	0.19	1.07	1.23
	Eastern San Pedro Bay	9	0.14	0.21	0.75	1.09	0.16	0.19	1.05	1.21
	Eastern San Pedro Bay	10	0.14	0.20	0.75	1.09	0.16	0.18	1.04	1.20
	Eastern San Pedro Bay	11	0.15	0.21	0.75	1.08	0.16	0.19	1.02	1.17
	Eastern San Pedro Bay	12	0.16	0.23	0.68	0.99	0.17	0.19	0.89	1.02
	Eastern San Pedro Bay	13	0.15	0.21	0.68	0.98	0.16	0.18	0.87	1.00
	Eastern San Pedro Bay	14	0.14	0.20	0.68	0.99	0.16	0.18	0.87	1.00
	Eastern San Pedro Bay	15	0.15	0.21	0.67	0.98	0.16	0.18	0.85	0.98
	Eastern San Pedro Bay	16	0.16	0.23	0.67	0.97	0.16	0.18	0.84	0.97
	Eastern San Pedro Bay	17	0.15	0.22	0.67	0.96	0.16	0.18	0.83	0.95
	Eastern San Pedro Bay	18	0.15	0.22	0.66	0.95	0.15	0.18	0.81	0.93
	Eastern San Pedro Bay	19	0.14	0.20	0.66	0.95	0.15	0.18	0.80	0.92
	Eastern San Pedro Bay	20	0.14	0.20	0.66	0.95	0.15	0.18	0.79	0.91
B-2l	Outside Harbor	1	0.19	0.27	5.96	8.65	0.17	0.20	0.33	0.37
	Outside Harbor	2	0.18	0.26	5.89	8.55	0.17	0.19	0.32	0.36
	Outside Harbor	3	0.17	0.24	5.89	8.54	0.16	0.19	0.31	0.35
	Outside Harbor	4	0.16	0.24	5.86	8.49	0.16	0.18	0.30	0.34
	Outside Harbor	5	0.17	0.25	5.82	8.45	0.16	0.18	0.29	0.34
	Outside Harbor	6	0.17	0.25	5.80	8.42	0.16	0.18	0.29	0.33
	Outside Harbor	7	0.16	0.24	5.76	8.35	0.16	0.18	0.28	0.32
	Outside Harbor	8	0.16	0.23	5.70	8.27	0.16	0.18	0.27	0.32
	Outside Harbor	9	0.15	0.22	5.67	8.22	0.16	0.18	0.27	0.31
	Outside Harbor	10	0.15	0.22	5.64	8.18	0.16	0.18	0.26	0.30
	Outside Harbor	11	0.15	0.22	5.60	8.13	0.16	0.18	0.26	0.30
	Outside Harbor	12	0.16	0.23	5.55	8.04	0.16	0.18	0.25	0.29
	Outside Harbor	13	0.15	0.22	5.52	8.00	0.16	0.18	0.25	0.29
	Outside Harbor	14	0.15	0.22	5.49	7.96	0.16	0.18	0.24	0.28
	Outside Harbor	15	0.15	0.22	5.46	7.91	0.16	0.18	0.24	0.28
	Outside Harbor	16	0.16	0.23	5.41	7.85	0.16	0.18	0.24	0.27
	Outside Harbor	17	0.16	0.23	5.38	7.80	0.16	0.18	0.23	0.27
	Outside Harbor	18	0.16	0.23	5.33	7.74	0.16	0.18	0.23	0.26
	Outside Harbor	19	0.15	0.22	5.31	7.69	0.16	0.18	0.22	0.26
	Outside Harbor	20	0.15	0.22	5.28	7.66	0.16	0.18	0.22	0.26

Notes:

µg/g: microgram per gram

DDX: dichlorodiphenyltrichloroethane-related compounds (4,4'-DDT, 4,4'-DDE, 4,4'-DDD, 2,4'-DDT, 2,4'-DDE, and 2,4'-DDD)

FMZ: fish movement zone

ng/L: nanogram per liter

OC: organic carbon

PCB: polychlorinated biphenyl

WLR: Watershed Load Reduction

WRAP: Water Resources Action Plan

Table B-3

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 50% WLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-3a	Dominguez Channel Estuary	1	7.75	11.23	5.02	7.28	9.48	10.91	12.75	14.66
	Dominguez Channel Estuary	2	10.39	15.07	5.05	7.32	12.01	13.81	12.77	14.69
	Dominguez Channel Estuary	3	7.23	10.49	4.39	6.36	7.29	8.39	11.89	13.67
	Dominguez Channel Estuary	4	6.28	9.10	4.09	5.94	6.77	7.79	11.34	13.04
	Dominguez Channel Estuary	5	4.35	6.31	3.86	5.60	4.77	5.49	10.89	12.53
	Dominguez Channel Estuary	6	4.78	6.93	3.84	5.57	5.00	5.75	10.75	12.36
	Dominguez Channel Estuary	7	5.03	7.30	3.80	5.51	5.03	5.79	10.63	12.23
	Dominguez Channel Estuary	8	4.68	6.78	3.64	5.28	4.58	5.27	10.48	12.05
	Dominguez Channel Estuary	9	4.15	6.02	3.59	5.21	3.98	4.58	10.27	11.81
	Dominguez Channel Estuary	10	3.64	5.28	3.64	5.27	3.52	4.04	10.19	11.72
	Dominguez Channel Estuary	11	2.95	4.28	3.66	5.30	3.06	3.52	10.22	11.75
	Dominguez Channel Estuary	12	5.83	8.45	4.13	5.98	5.76	6.62	11.23	12.91
	Dominguez Channel Estuary	13	4.24	6.15	3.91	5.68	4.43	5.09	10.93	12.57
	Dominguez Channel Estuary	14	4.42	6.40	3.88	5.63	4.57	5.26	10.72	12.32
	Dominguez Channel Estuary	15	3.45	5.00	3.75	5.44	3.52	4.05	10.46	12.03
	Dominguez Channel Estuary	16	3.96	5.74	3.77	5.47	3.92	4.51	10.41	11.98
	Dominguez Channel Estuary	17	4.37	6.34	3.65	5.29	4.14	4.76	10.30	11.84
	Dominguez Channel Estuary	18	4.18	6.07	3.51	5.09	3.85	4.43	10.18	11.71
	Dominguez Channel Estuary	19	3.50	5.08	3.46	5.02	3.13	3.60	9.99	11.49
	Dominguez Channel Estuary	20	3.13	4.54	3.48	5.05	2.84	3.27	9.93	11.42
B-3b	Consolidated Slip	1	1.28	1.86	5.72	8.29	1.97	2.27	21.05	24.21
	Consolidated Slip	2	2.06	2.98	4.09	5.94	3.05	3.51	14.90	17.14
	Consolidated Slip	3	1.32	1.91	3.80	5.51	1.41	1.62	13.94	16.04
	Consolidated Slip	4	0.85	1.24	3.74	5.42	1.05	1.21	13.67	15.72
	Consolidated Slip	5	0.73	1.06	3.60	5.22	0.97	1.11	13.18	15.15
	Consolidated Slip	6	0.68	0.99	3.49	5.06	0.87	0.99	12.79	14.71
	Consolidated Slip	7	0.83	1.21	3.26	4.73	1.00	1.15	12.01	13.81
	Consolidated Slip	8	0.67	0.97	3.08	4.47	0.82	0.94	11.35	13.05
	Consolidated Slip	9	0.57	0.83	3.08	4.46	0.74	0.85	11.15	12.83
	Consolidated Slip	10	0.48	0.70	3.07	4.45	0.64	0.73	10.98	12.63
	Consolidated Slip	11	0.60	0.87	2.98	4.33	0.79	0.91	10.63	12.22
	Consolidated Slip	12	1.14	1.65	2.43	3.52	1.15	1.32	8.83	10.16
	Consolidated Slip	13	0.69	1.00	2.42	3.51	0.80	0.92	8.58	9.87
	Consolidated Slip	14	0.59	0.85	2.46	3.57	0.69	0.80	8.49	9.76
	Consolidated Slip	15	0.57	0.83	2.42	3.51	0.67	0.77	8.26	9.49
	Consolidated Slip	16	0.57	0.83	2.35	3.41	0.65	0.74	8.03	9.24
	Consolidated Slip	17	0.72	1.04	2.21	3.21	0.76	0.88	7.66	8.81
	Consolidated Slip	18	0.60	0.87	2.08	3.02	0.64	0.74	7.28	8.38
	Consolidated Slip	19	0.49	0.71	2.12	3.07	0.56	0.64	7.20	8.28
	Consolidated Slip	20	0.43	0.62	2.13	3.09	0.50	0.58	7.13	8.20

Table B-3

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 50% WLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-3c	Los Angeles Inner Harbor	1	0.44	0.63	2.71	3.93	0.53	0.62	3.56	4.09
	Los Angeles Inner Harbor	2	0.54	0.78	2.56	3.72	0.65	0.75	3.17	3.65
	Los Angeles Inner Harbor	3	0.38	0.55	2.53	3.67	0.40	0.46	3.08	3.54
	Los Angeles Inner Harbor	4	0.29	0.42	2.52	3.65	0.35	0.41	3.02	3.47
	Los Angeles Inner Harbor	5	0.30	0.44	2.50	3.62	0.35	0.40	2.95	3.39
	Los Angeles Inner Harbor	6	0.29	0.42	2.48	3.60	0.33	0.38	2.89	3.32
	Los Angeles Inner Harbor	7	0.31	0.45	2.46	3.56	0.35	0.40	2.81	3.23
	Los Angeles Inner Harbor	8	0.27	0.39	2.43	3.52	0.32	0.36	2.73	3.14
	Los Angeles Inner Harbor	9	0.24	0.35	2.42	3.50	0.30	0.35	2.69	3.09
	Los Angeles Inner Harbor	10	0.22	0.33	2.41	3.49	0.29	0.33	2.65	3.05
	Los Angeles Inner Harbor	11	0.26	0.38	2.39	3.47	0.32	0.37	2.60	2.99
	Los Angeles Inner Harbor	12	0.35	0.50	2.31	3.36	0.36	0.41	2.44	2.80
	Los Angeles Inner Harbor	13	0.26	0.37	2.30	3.34	0.30	0.34	2.40	2.76
	Los Angeles Inner Harbor	14	0.24	0.35	2.30	3.33	0.29	0.33	2.37	2.73
	Los Angeles Inner Harbor	15	0.25	0.36	2.29	3.31	0.29	0.33	2.34	2.69
	Los Angeles Inner Harbor	16	0.25	0.37	2.28	3.30	0.28	0.32	2.31	2.66
	Los Angeles Inner Harbor	17	0.28	0.40	2.26	3.28	0.30	0.35	2.27	2.61
	Los Angeles Inner Harbor	18	0.25	0.36	2.24	3.25	0.28	0.32	2.23	2.56
	Los Angeles Inner Harbor	19	0.22	0.32	2.24	3.24	0.26	0.30	2.20	2.54
	Los Angeles Inner Harbor	20	0.21	0.30	2.23	3.24	0.25	0.29	2.18	2.51
B-3d	Fish Harbor	1	0.29	0.43	3.54	5.14	0.58	0.66	7.02	8.07
	Fish Harbor	2	0.32	0.46	3.50	5.08	0.58	0.67	6.80	7.82
	Fish Harbor	3	0.24	0.34	3.48	5.05	0.53	0.60	6.63	7.62
	Fish Harbor	4	0.21	0.30	3.47	5.03	0.52	0.60	6.47	7.44
	Fish Harbor	5	0.24	0.35	3.45	5.00	0.51	0.58	6.32	7.27
	Fish Harbor	6	0.24	0.34	3.43	4.98	0.49	0.56	6.18	7.11
	Fish Harbor	7	0.22	0.32	3.42	4.95	0.48	0.55	6.05	6.95
	Fish Harbor	8	0.20	0.29	3.40	4.93	0.48	0.55	5.92	6.80
	Fish Harbor	9	0.19	0.27	3.39	4.91	0.48	0.55	5.80	6.67
	Fish Harbor	10	0.18	0.27	3.37	4.89	0.47	0.54	5.69	6.55
	Fish Harbor	11	0.20	0.30	3.36	4.88	0.46	0.53	5.59	6.42
	Fish Harbor	12	0.24	0.34	3.34	4.84	0.46	0.53	5.47	6.29
	Fish Harbor	13	0.19	0.28	3.33	4.82	0.44	0.51	5.37	6.18
	Fish Harbor	14	0.18	0.27	3.32	4.81	0.45	0.52	5.29	6.08
	Fish Harbor	15	0.20	0.28	3.30	4.79	0.43	0.50	5.20	5.98
	Fish Harbor	16	0.20	0.29	3.29	4.78	0.42	0.48	5.12	5.89
	Fish Harbor	17	0.20	0.29	3.28	4.76	0.42	0.48	5.04	5.79
	Fish Harbor	18	0.19	0.27	3.27	4.74	0.42	0.49	4.96	5.70
	Fish Harbor	19	0.18	0.26	3.26	4.73	0.42	0.48	4.89	5.62
	Fish Harbor	20	0.18	0.26	3.25	4.71	0.42	0.48	4.82	5.55

Table B-3

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 50% WLR Model Scenario

Table No.	FMZs	Model Years	Total DDX: Water Column Dissolved (ng/L)	Total DDX: Water Column Particulate (µg/g OC)	Total DDX: Sediment Bed Dissolved (ng/L)	Total DDX: Surface Sediment Bed Concentration (µg/g OC)	Total PCB: Water Column Dissolved (ng/L)	Total PCB: Water Column Particulate (µg/g OC)	Total PCB: Sediment Bed Dissolved (ng/L)	Total PCB: Surface Sediment Bed Concentration (µg/g OC)
B-3e	Seaplane Lagoon	1	0.30	0.44	1.58	2.29	0.33	0.38	2.01	2.31
	Seaplane Lagoon	2	0.39	0.56	1.57	2.27	0.41	0.47	1.95	2.24
	Seaplane Lagoon	3	0.25	0.37	1.56	2.26	0.28	0.32	1.89	2.18
	Seaplane Lagoon	4	0.21	0.30	1.55	2.25	0.25	0.29	1.84	2.12
	Seaplane Lagoon	5	0.26	0.38	1.54	2.24	0.28	0.32	1.80	2.07
	Seaplane Lagoon	6	0.24	0.35	1.54	2.23	0.26	0.29	1.75	2.02
	Seaplane Lagoon	7	0.24	0.35	1.53	2.22	0.28	0.32	1.71	1.97
	Seaplane Lagoon	8	0.21	0.31	1.52	2.21	0.25	0.29	1.67	1.92
	Seaplane Lagoon	9	0.20	0.28	1.52	2.20	0.24	0.28	1.63	1.88
	Seaplane Lagoon	10	0.19	0.28	1.51	2.19	0.23	0.27	1.60	1.84
	Seaplane Lagoon	11	0.21	0.31	1.51	2.18	0.26	0.30	1.57	1.80
	Seaplane Lagoon	12	0.29	0.42	1.50	2.17	0.33	0.38	1.54	1.77
	Seaplane Lagoon	13	0.20	0.29	1.49	2.17	0.24	0.27	1.51	1.74
	Seaplane Lagoon	14	0.18	0.27	1.49	2.16	0.22	0.25	1.48	1.71
	Seaplane Lagoon	15	0.21	0.30	1.48	2.15	0.25	0.28	1.46	1.68
	Seaplane Lagoon	16	0.21	0.31	1.48	2.15	0.23	0.26	1.43	1.65
	Seaplane Lagoon	17	0.22	0.32	1.48	2.14	0.25	0.29	1.41	1.62
	Seaplane Lagoon	18	0.20	0.29	1.47	2.13	0.23	0.26	1.39	1.60
	Seaplane Lagoon	19	0.19	0.27	1.47	2.13	0.22	0.25	1.37	1.57
	Seaplane Lagoon	20	0.18	0.26	1.46	2.12	0.22	0.25	1.35	1.55
B-3f	Los Angeles Outer Harbor	1	0.28	0.41	2.49	3.61	0.26	0.30	1.26	1.44
	Los Angeles Outer Harbor	2	0.31	0.45	2.40	3.48	0.29	0.34	1.20	1.38
	Los Angeles Outer Harbor	3	0.24	0.34	2.35	3.41	0.22	0.25	1.16	1.33
	Los Angeles Outer Harbor	4	0.20	0.30	2.33	3.38	0.21	0.24	1.13	1.30
	Los Angeles Outer Harbor	5	0.23	0.33	2.30	3.34	0.21	0.24	1.10	1.26
	Los Angeles Outer Harbor	6	0.22	0.32	2.27	3.29	0.20	0.23	1.06	1.22
	Los Angeles Outer Harbor	7	0.22	0.31	2.24	3.25	0.21	0.25	1.04	1.19
	Los Angeles Outer Harbor	8	0.20	0.29	2.22	3.22	0.20	0.23	1.01	1.17
	Los Angeles Outer Harbor	9	0.18	0.27	2.21	3.20	0.20	0.23	0.99	1.14
	Los Angeles Outer Harbor	10	0.18	0.26	2.20	3.19	0.19	0.22	0.98	1.12
	Los Angeles Outer Harbor	11	0.20	0.29	2.18	3.17	0.21	0.24	0.96	1.10
	Los Angeles Outer Harbor	12	0.23	0.34	2.16	3.13	0.23	0.26	0.95	1.09
	Los Angeles Outer Harbor	13	0.19	0.27	2.15	3.11	0.20	0.22	0.93	1.07
	Los Angeles Outer Harbor	14	0.18	0.26	2.14	3.10	0.19	0.22	0.92	1.05
	Los Angeles Outer Harbor	15	0.19	0.28	2.13	3.08	0.20	0.23	0.90	1.04
	Los Angeles Outer Harbor	16	0.20	0.29	2.11	3.07	0.19	0.22	0.89	1.02
	Los Angeles Outer Harbor	17	0.20	0.29	2.10	3.04	0.20	0.23	0.88	1.01
	Los Angeles Outer Harbor	18	0.19	0.28	2.09	3.03	0.19	0.22	0.87	1.00
	Los Angeles Outer Harbor	19	0.18	0.26	2.08	3.02	0.19	0.22	0.85	0.98
	Los Angeles Outer Harbor	20	0.17	0.25	2.07	3.01	0.18	0.21	0.84	0.97

Table B-3

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 50% WLR Model Scenario

Table No.	FMZs	Model Years	Total DDX Water Column Dissolved (ng/L)	Total DDX Water Column Particulate (µg/g OC)	Total DDX Sediment Bed Dissolved (ng/L)	Total DDX Surface Sediment Bed Concentration (µg/g OC)	Total PCB Water Column Dissolved (ng/L)	Total PCB Water Column Particulate (µg/g OC)	Total PCB Sediment Bed Dissolved (ng/L)	Total PCB Surface Sediment Bed Concentration (µg/g OC)
B-3g	Long Beach Inner Harbor North	1	0.42	0.61	0.87	1.26	0.52	0.59	2.26	2.60
	Long Beach Inner Harbor North	2	0.54	0.78	0.83	1.20	0.69	0.79	2.09	2.40
	Long Beach Inner Harbor North	3	0.36	0.52	0.81	1.18	0.38	0.43	2.00	2.30
	Long Beach Inner Harbor North	4	0.26	0.37	0.80	1.17	0.31	0.35	1.92	2.21
	Long Beach Inner Harbor North	5	0.29	0.42	0.80	1.15	0.32	0.37	1.85	2.13
	Long Beach Inner Harbor North	6	0.27	0.39	0.79	1.14	0.29	0.34	1.79	2.06
	Long Beach Inner Harbor North	7	0.30	0.43	0.78	1.13	0.33	0.38	1.73	1.99
	Long Beach Inner Harbor North	8	0.25	0.36	0.77	1.11	0.29	0.33	1.67	1.92
	Long Beach Inner Harbor North	9	0.21	0.31	0.76	1.10	0.27	0.31	1.63	1.87
	Long Beach Inner Harbor North	10	0.19	0.28	0.76	1.10	0.25	0.28	1.58	1.82
	Long Beach Inner Harbor North	11	0.24	0.35	0.75	1.09	0.30	0.34	1.54	1.78
	Long Beach Inner Harbor North	12	0.35	0.50	0.73	1.05	0.37	0.43	1.47	1.70
	Long Beach Inner Harbor North	13	0.24	0.35	0.72	1.05	0.28	0.32	1.44	1.66
	Long Beach Inner Harbor North	14	0.21	0.30	0.72	1.04	0.25	0.29	1.41	1.62
	Long Beach Inner Harbor North	15	0.23	0.34	0.71	1.03	0.26	0.30	1.38	1.59
	Long Beach Inner Harbor North	16	0.23	0.33	0.71	1.03	0.25	0.29	1.35	1.56
	Long Beach Inner Harbor North	17	0.27	0.39	0.70	1.02	0.28	0.33	1.33	1.52
	Long Beach Inner Harbor North	18	0.23	0.34	0.70	1.01	0.25	0.29	1.30	1.50
	Long Beach Inner Harbor North	19	0.20	0.29	0.69	1.01	0.23	0.27	1.28	1.47
	Long Beach Inner Harbor North	20	0.18	0.26	0.69	1.00	0.22	0.25	1.26	1.45
B-3h	Long Beach Inner Harbor South	1	0.30	0.44	1.93	2.80	0.35	0.40	4.24	4.88
	Long Beach Inner Harbor South	2	0.36	0.52	1.87	2.72	0.43	0.50	3.98	4.57
	Long Beach Inner Harbor South	3	0.24	0.35	1.85	2.69	0.27	0.31	3.78	4.35
	Long Beach Inner Harbor South	4	0.19	0.27	1.84	2.66	0.24	0.27	3.61	4.15
	Long Beach Inner Harbor South	5	0.24	0.34	1.82	2.64	0.25	0.29	3.45	3.97
	Long Beach Inner Harbor South	6	0.22	0.32	1.80	2.61	0.24	0.27	3.31	3.81
	Long Beach Inner Harbor South	7	0.23	0.33	1.78	2.59	0.26	0.30	3.18	3.65
	Long Beach Inner Harbor South	8	0.19	0.28	1.76	2.56	0.24	0.27	3.05	3.51
	Long Beach Inner Harbor South	9	0.17	0.24	1.75	2.54	0.22	0.26	2.95	3.39
	Long Beach Inner Harbor South	10	0.16	0.23	1.74	2.53	0.21	0.24	2.85	3.28
	Long Beach Inner Harbor South	11	0.19	0.28	1.73	2.51	0.24	0.28	2.76	3.17
	Long Beach Inner Harbor South	12	0.25	0.37	1.70	2.47	0.29	0.34	2.65	3.05
	Long Beach Inner Harbor South	13	0.18	0.26	1.69	2.45	0.22	0.25	2.57	2.96
	Long Beach Inner Harbor South	14	0.16	0.24	1.68	2.44	0.20	0.24	2.50	2.88
	Long Beach Inner Harbor South	15	0.19	0.27	1.67	2.43	0.22	0.25	2.44	2.80
	Long Beach Inner Harbor South	16	0.19	0.27	1.67	2.42	0.21	0.24	2.37	2.73
	Long Beach Inner Harbor South	17	0.21	0.30	1.65	2.40	0.23	0.27	2.31	2.66
	Long Beach Inner Harbor South	18	0.18	0.27	1.64	2.38	0.21	0.24	2.26	2.59
	Long Beach Inner Harbor South	19	0.16	0.24	1.64	2.38	0.20	0.23	2.21	2.54
	Long Beach Inner Harbor South	20	0.15	0.22	1.63	2.37	0.19	0.22	2.16	2.48

Table B-3

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 50% WLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-3i	Long Beach Outer Harbor	1	0.26	0.37	1.91	2.77	0.25	0.28	1.03	1.18
	Long Beach Outer Harbor	2	0.29	0.42	1.86	2.69	0.30	0.34	0.97	1.12
	Long Beach Outer Harbor	3	0.21	0.31	1.84	2.66	0.20	0.23	0.93	1.06
	Long Beach Outer Harbor	4	0.18	0.25	1.82	2.63	0.18	0.21	0.89	1.02
	Long Beach Outer Harbor	5	0.22	0.32	1.80	2.61	0.20	0.23	0.85	0.98
	Long Beach Outer Harbor	6	0.21	0.30	1.78	2.58	0.19	0.22	0.82	0.94
	Long Beach Outer Harbor	7	0.21	0.30	1.76	2.55	0.21	0.24	0.79	0.91
	Long Beach Outer Harbor	8	0.18	0.27	1.74	2.53	0.19	0.22	0.76	0.87
	Long Beach Outer Harbor	9	0.16	0.24	1.73	2.51	0.19	0.21	0.74	0.85
	Long Beach Outer Harbor	10	0.16	0.23	1.72	2.49	0.18	0.20	0.72	0.82
	Long Beach Outer Harbor	11	0.18	0.26	1.70	2.47	0.20	0.23	0.69	0.80
	Long Beach Outer Harbor	12	0.23	0.33	1.67	2.43	0.24	0.28	0.67	0.77
	Long Beach Outer Harbor	13	0.17	0.24	1.66	2.41	0.18	0.21	0.66	0.75
	Long Beach Outer Harbor	14	0.16	0.23	1.65	2.40	0.17	0.20	0.64	0.74
	Long Beach Outer Harbor	15	0.18	0.26	1.64	2.38	0.19	0.22	0.62	0.72
	Long Beach Outer Harbor	16	0.18	0.26	1.63	2.37	0.18	0.21	0.61	0.70
	Long Beach Outer Harbor	17	0.19	0.28	1.62	2.35	0.20	0.23	0.60	0.69
	Long Beach Outer Harbor	18	0.18	0.26	1.61	2.33	0.18	0.21	0.59	0.67
	Long Beach Outer Harbor	19	0.16	0.23	1.60	2.32	0.18	0.20	0.57	0.66
	Long Beach Outer Harbor	20	0.15	0.22	1.59	2.31	0.17	0.19	0.56	0.65
B-3j	Los Angeles River Estuary	1	0.58	0.84	0.65	0.94	0.91	1.04	3.48	4.01
	Los Angeles River Estuary	2	0.89	1.28	0.29	0.42	1.37	1.57	1.52	1.75
	Los Angeles River Estuary	3	0.53	0.77	0.26	0.37	0.83	0.95	1.36	1.57
	Los Angeles River Estuary	4	0.41	0.60	0.26	0.37	0.67	0.78	1.34	1.54
	Los Angeles River Estuary	5	0.56	0.81	0.23	0.34	0.88	1.01	1.22	1.40
	Los Angeles River Estuary	6	0.43	0.62	0.22	0.32	0.67	0.77	1.17	1.34
	Los Angeles River Estuary	7	0.71	1.04	0.20	0.29	1.10	1.26	1.03	1.18
	Los Angeles River Estuary	8	0.59	0.86	0.17	0.24	0.94	1.08	0.87	1.00
	Los Angeles River Estuary	9	0.57	0.83	0.16	0.23	0.91	1.04	0.83	0.95
	Los Angeles River Estuary	10	0.41	0.59	0.16	0.23	0.67	0.76	0.82	0.94
	Los Angeles River Estuary	11	0.51	0.74	0.16	0.23	0.80	0.92	0.81	0.93
	Los Angeles River Estuary	12	0.85	1.24	0.10	0.15	1.32	1.52	0.53	0.61
	Los Angeles River Estuary	13	0.50	0.72	0.10	0.14	0.78	0.90	0.50	0.58
	Los Angeles River Estuary	14	0.40	0.58	0.10	0.14	0.64	0.74	0.51	0.58
	Los Angeles River Estuary	15	0.54	0.79	0.09	0.14	0.86	0.99	0.48	0.55
	Los Angeles River Estuary	16	0.42	0.61	0.10	0.14	0.66	0.76	0.50	0.57
	Los Angeles River Estuary	17	0.71	1.04	0.10	0.14	1.09	1.25	0.50	0.57
	Los Angeles River Estuary	18	0.58	0.84	0.09	0.13	0.91	1.04	0.46	0.53
	Los Angeles River Estuary	19	0.56	0.81	0.09	0.13	0.88	1.01	0.46	0.53
	Los Angeles River Estuary	20	0.40	0.58	0.09	0.13	0.64	0.74	0.47	0.54

Table B-3

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 50% WLR Model Scenario

Table No.	FMZs	Model Years	Total DDX Water Column Dissolved (ng/L)	Total DDX Water Column Particulate (µg/g OC)	Total DDX Sediment Bed Dissolved (ng/L)	Total DDX Surface Sediment Bed Concentration (µg/g OC)	Total PCB Water Column Dissolved (ng/L)	Total PCB Water Column Particulate (µg/g OC)	Total PCB Sediment Bed Dissolved (ng/L)	Total PCB Surface Sediment Bed Concentration (µg/g OC)
B-3k	Eastern San Pedro Bay	1	0.28	0.40	0.93	1.35	0.30	0.34	1.57	1.80
	Eastern San Pedro Bay	2	0.34	0.50	0.82	1.19	0.40	0.46	1.28	1.47
	Eastern San Pedro Bay	3	0.23	0.33	0.81	1.17	0.25	0.28	1.23	1.42
	Eastern San Pedro Bay	4	0.19	0.27	0.80	1.17	0.22	0.25	1.21	1.40
	Eastern San Pedro Bay	5	0.24	0.36	0.79	1.15	0.27	0.32	1.18	1.36
	Eastern San Pedro Bay	6	0.22	0.32	0.79	1.14	0.24	0.27	1.16	1.33
	Eastern San Pedro Bay	7	0.25	0.36	0.77	1.12	0.29	0.33	1.11	1.28
	Eastern San Pedro Bay	8	0.22	0.32	0.76	1.10	0.27	0.31	1.08	1.24
	Eastern San Pedro Bay	9	0.20	0.29	0.76	1.10	0.25	0.28	1.06	1.22
	Eastern San Pedro Bay	10	0.18	0.26	0.75	1.09	0.22	0.25	1.04	1.20
	Eastern San Pedro Bay	11	0.21	0.30	0.75	1.08	0.26	0.29	1.02	1.18
	Eastern San Pedro Bay	12	0.29	0.42	0.68	0.99	0.36	0.41	0.89	1.03
	Eastern San Pedro Bay	13	0.19	0.28	0.68	0.99	0.23	0.26	0.88	1.01
	Eastern San Pedro Bay	14	0.17	0.25	0.68	0.99	0.21	0.24	0.87	1.00
	Eastern San Pedro Bay	15	0.21	0.31	0.67	0.98	0.26	0.30	0.86	0.99
	Eastern San Pedro Bay	16	0.20	0.29	0.67	0.98	0.22	0.26	0.85	0.98
	Eastern San Pedro Bay	17	0.24	0.34	0.67	0.96	0.28	0.32	0.83	0.96
	Eastern San Pedro Bay	18	0.22	0.31	0.66	0.95	0.26	0.30	0.81	0.94
	Eastern San Pedro Bay	19	0.20	0.28	0.66	0.95	0.24	0.27	0.80	0.93
	Eastern San Pedro Bay	20	0.17	0.25	0.66	0.95	0.21	0.24	0.80	0.92
B-3l	Outside Harbor	1	0.19	0.28	5.96	8.65	0.18	0.20	0.33	0.37
	Outside Harbor	2	0.19	0.28	5.89	8.55	0.18	0.21	0.32	0.36
	Outside Harbor	3	0.17	0.25	5.89	8.54	0.16	0.19	0.31	0.35
	Outside Harbor	4	0.17	0.24	5.86	8.49	0.16	0.19	0.30	0.34
	Outside Harbor	5	0.18	0.26	5.82	8.45	0.17	0.19	0.29	0.34
	Outside Harbor	6	0.17	0.25	5.80	8.42	0.16	0.19	0.29	0.33
	Outside Harbor	7	0.17	0.25	5.76	8.35	0.17	0.19	0.28	0.32
	Outside Harbor	8	0.16	0.23	5.70	8.27	0.16	0.19	0.27	0.32
	Outside Harbor	9	0.15	0.22	5.67	8.22	0.16	0.19	0.27	0.31
	Outside Harbor	10	0.15	0.22	5.64	8.18	0.16	0.18	0.26	0.30
	Outside Harbor	11	0.16	0.23	5.60	8.13	0.17	0.19	0.26	0.30
	Outside Harbor	12	0.17	0.24	5.55	8.04	0.17	0.20	0.25	0.29
	Outside Harbor	13	0.15	0.22	5.52	8.00	0.16	0.18	0.25	0.29
	Outside Harbor	14	0.15	0.22	5.49	7.96	0.16	0.18	0.24	0.28
	Outside Harbor	15	0.16	0.23	5.46	7.91	0.16	0.19	0.24	0.28
	Outside Harbor	16	0.16	0.24	5.41	7.85	0.16	0.19	0.24	0.27
	Outside Harbor	17	0.16	0.23	5.38	7.80	0.16	0.19	0.23	0.27
	Outside Harbor	18	0.16	0.24	5.33	7.74	0.16	0.19	0.23	0.26
	Outside Harbor	19	0.15	0.22	5.31	7.70	0.16	0.19	0.22	0.26
	Outside Harbor	20	0.15	0.22	5.28	7.66	0.16	0.18	0.22	0.26

Notes:

µg/g: microgram per gram

DDX: dichlorodiphenyltrichloroethane-related compounds (4,4'-DDT, 4,4'-DDE, 4,4'-DDD, 2,4'-DDT, 2,4'-DDE, and 2,4'-DDD)

FMZ: fish movement zone

ng/L: nanogram per liter

OC: organic carbon

PCB: polychlorinated biphenyl

WLR: Watershed Load Reduction

WRAP: Water Resources Action Plan

Table B-4

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + Greater Harbor Waters SedLR Model Scenario

Table No.	FMZs	Model Years	Total DDX				Total PCB			
			Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-4a	Dominguez Channel Estuary	1	9.26	13.43	5.02	7.28	10.63	12.23	12.75	14.67
	Dominguez Channel Estuary	2	13.01	18.86	5.05	7.32	14.05	16.15	12.78	14.69
	Dominguez Channel Estuary	3	9.43	13.67	4.39	6.36	8.98	10.33	11.90	13.68
	Dominguez Channel Estuary	4	8.47	12.28	4.09	5.94	8.57	9.85	11.35	13.05
	Dominguez Channel Estuary	5	6.15	8.92	3.86	5.60	6.16	7.09	10.90	12.54
	Dominguez Channel Estuary	6	7.09	10.29	3.84	5.57	6.95	7.99	10.77	12.38
	Dominguez Channel Estuary	7	8.06	11.69	3.80	5.51	7.49	8.61	10.65	12.25
	Dominguez Channel Estuary	8	7.69	11.16	3.64	5.29	7.03	8.08	10.49	12.07
	Dominguez Channel Estuary	9	6.26	9.07	3.60	5.22	5.50	6.33	10.29	11.83
	Dominguez Channel Estuary	10	5.28	7.65	3.64	5.28	4.75	5.46	10.21	11.74
	Dominguez Channel Estuary	11	4.59	6.65	3.66	5.30	4.42	5.08	10.23	11.77
	Dominguez Channel Estuary	12	8.49	12.31	4.13	5.98	7.90	9.09	11.24	12.93
	Dominguez Channel Estuary	13	6.49	9.42	3.92	5.68	6.21	7.14	10.94	12.58
	Dominguez Channel Estuary	14	6.69	9.70	3.89	5.63	6.50	7.47	10.73	12.34
	Dominguez Channel Estuary	15	5.26	7.63	3.76	5.45	4.97	5.72	10.48	12.05
	Dominguez Channel Estuary	16	6.29	9.12	3.77	5.47	5.91	6.80	10.43	11.99
	Dominguez Channel Estuary	17	7.44	10.79	3.65	5.30	6.68	7.68	10.32	11.86
	Dominguez Channel Estuary	18	7.20	10.44	3.51	5.09	6.30	7.24	10.20	11.73
	Dominguez Channel Estuary	19	5.59	8.11	3.46	5.02	4.68	5.38	10.01	11.52
	Dominguez Channel Estuary	20	4.83	7.00	3.48	5.05	4.14	4.76	9.95	11.44
B-4b	Consolidated Slip	1	1.37	1.98	0.04	0.05	1.50	1.72	0.08	0.10
	Consolidated Slip	2	2.33	3.37	0.03	0.04	2.82	3.24	0.07	0.08
	Consolidated Slip	3	1.48	2.14	0.03	0.04	1.14	1.31	0.06	0.07
	Consolidated Slip	4	0.99	1.43	0.03	0.04	0.81	0.94	0.06	0.07
	Consolidated Slip	5	0.88	1.28	0.03	0.04	0.75	0.87	0.06	0.07
	Consolidated Slip	6	0.86	1.24	0.03	0.04	0.71	0.81	0.06	0.07
	Consolidated Slip	7	1.15	1.67	0.02	0.04	0.93	1.07	0.06	0.07
	Consolidated Slip	8	0.92	1.33	0.02	0.03	0.72	0.82	0.06	0.07
	Consolidated Slip	9	0.71	1.04	0.02	0.03	0.56	0.65	0.06	0.07
	Consolidated Slip	10	0.56	0.82	0.02	0.03	0.44	0.51	0.06	0.06
	Consolidated Slip	11	0.79	1.14	0.02	0.03	0.69	0.79	0.06	0.06
	Consolidated Slip	12	1.49	2.16	0.02	0.03	1.15	1.33	0.05	0.05
	Consolidated Slip	13	0.91	1.31	0.02	0.03	0.72	0.83	0.05	0.05
	Consolidated Slip	14	0.77	1.11	0.02	0.03	0.63	0.72	0.05	0.05
	Consolidated Slip	15	0.76	1.10	0.02	0.03	0.61	0.70	0.05	0.05
	Consolidated Slip	16	0.78	1.13	0.02	0.03	0.63	0.72	0.05	0.05
	Consolidated Slip	17	1.07	1.55	0.02	0.03	0.84	0.96	0.05	0.05
	Consolidated Slip	18	0.87	1.26	0.02	0.02	0.66	0.75	0.04	0.05
	Consolidated Slip	19	0.65	0.95	0.02	0.02	0.49	0.56	0.04	0.05
	Consolidated Slip	20	0.54	0.78	0.02	0.02	0.41	0.47	0.04	0.05

Table B-4

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + Greater Harbor Waters SedLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-4c	Los Angeles Inner Harbor	1	0.42	0.61	0.07	0.10	0.40	0.46	0.14	0.16
	Los Angeles Inner Harbor	2	0.54	0.78	0.06	0.09	0.55	0.64	0.13	0.15
	Los Angeles Inner Harbor	3	0.38	0.55	0.06	0.09	0.30	0.35	0.13	0.15
	Los Angeles Inner Harbor	4	0.29	0.42	0.06	0.09	0.25	0.29	0.13	0.15
	Los Angeles Inner Harbor	5	0.31	0.45	0.06	0.09	0.26	0.30	0.13	0.15
	Los Angeles Inner Harbor	6	0.30	0.43	0.06	0.09	0.25	0.29	0.13	0.15
	Los Angeles Inner Harbor	7	0.34	0.49	0.06	0.09	0.29	0.34	0.12	0.14
	Los Angeles Inner Harbor	8	0.29	0.41	0.06	0.09	0.25	0.29	0.12	0.14
	Los Angeles Inner Harbor	9	0.24	0.35	0.06	0.08	0.22	0.26	0.12	0.14
	Los Angeles Inner Harbor	10	0.22	0.32	0.06	0.08	0.20	0.23	0.12	0.14
	Los Angeles Inner Harbor	11	0.28	0.40	0.06	0.08	0.26	0.30	0.12	0.14
	Los Angeles Inner Harbor	12	0.38	0.55	0.06	0.08	0.32	0.37	0.11	0.13
	Los Angeles Inner Harbor	13	0.27	0.39	0.06	0.08	0.24	0.28	0.11	0.13
	Los Angeles Inner Harbor	14	0.25	0.36	0.06	0.08	0.23	0.26	0.11	0.13
	Los Angeles Inner Harbor	15	0.27	0.39	0.06	0.08	0.24	0.28	0.11	0.13
	Los Angeles Inner Harbor	16	0.27	0.39	0.05	0.08	0.23	0.27	0.11	0.13
	Los Angeles Inner Harbor	17	0.32	0.46	0.05	0.08	0.28	0.32	0.11	0.13
	Los Angeles Inner Harbor	18	0.28	0.40	0.05	0.08	0.24	0.28	0.11	0.13
	Los Angeles Inner Harbor	19	0.23	0.34	0.05	0.08	0.21	0.24	0.11	0.13
	Los Angeles Inner Harbor	20	0.21	0.31	0.05	0.08	0.19	0.22	0.11	0.12
B-4d	Fish Harbor	1	0.25	0.36	0.07	0.09	0.21	0.24	0.14	0.16
	Fish Harbor	2	0.28	0.41	0.07	0.09	0.26	0.29	0.14	0.16
	Fish Harbor	3	0.19	0.28	0.06	0.09	0.16	0.19	0.13	0.15
	Fish Harbor	4	0.16	0.23	0.06	0.09	0.14	0.16	0.13	0.15
	Fish Harbor	5	0.20	0.30	0.06	0.09	0.16	0.19	0.13	0.15
	Fish Harbor	6	0.20	0.29	0.06	0.09	0.15	0.17	0.13	0.15
	Fish Harbor	7	0.19	0.27	0.06	0.09	0.17	0.20	0.13	0.15
	Fish Harbor	8	0.16	0.23	0.06	0.09	0.15	0.18	0.13	0.15
	Fish Harbor	9	0.15	0.21	0.06	0.09	0.14	0.16	0.13	0.14
	Fish Harbor	10	0.14	0.20	0.06	0.09	0.13	0.15	0.12	0.14
	Fish Harbor	11	0.17	0.25	0.06	0.09	0.17	0.19	0.12	0.14
	Fish Harbor	12	0.22	0.32	0.06	0.09	0.21	0.24	0.12	0.14
	Fish Harbor	13	0.16	0.23	0.06	0.09	0.15	0.17	0.12	0.14
	Fish Harbor	14	0.14	0.21	0.06	0.09	0.14	0.16	0.12	0.14
	Fish Harbor	15	0.17	0.24	0.06	0.09	0.16	0.18	0.12	0.14
	Fish Harbor	16	0.17	0.25	0.06	0.09	0.14	0.17	0.12	0.14
	Fish Harbor	17	0.18	0.26	0.06	0.09	0.17	0.19	0.12	0.14
	Fish Harbor	18	0.16	0.23	0.06	0.09	0.15	0.17	0.12	0.14
	Fish Harbor	19	0.14	0.21	0.06	0.09	0.14	0.16	0.12	0.13
	Fish Harbor	20	0.14	0.20	0.06	0.09	0.13	0.15	0.12	0.13

Table B-4

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + Greater Harbor Waters SedLR Model Scenario

Table No.	FMZs	Model Years	Total DDX: Water Column Dissolved (ng/L)	Total DDX: Water Column Particulate (µg/g OC)	Total DDX: Sediment Bed Dissolved (ng/L)	Total DDX: Surface Sediment Bed Concentration (µg/g OC)	Total PCB: Water Column Dissolved (ng/L)	Total PCB: Water Column Particulate (µg/g OC)	Total PCB: Sediment Bed Dissolved (ng/L)	Total PCB: Surface Sediment Bed Concentration (µg/g OC)
B-4e	Seaplane Lagoon	1	0.28	0.40	0.18	0.27	0.24	0.28	0.36	0.42
	Seaplane Lagoon	2	0.39	0.57	0.18	0.27	0.39	0.44	0.36	0.41
	Seaplane Lagoon	3	0.23	0.33	0.18	0.27	0.18	0.21	0.35	0.40
	Seaplane Lagoon	4	0.18	0.26	0.18	0.26	0.16	0.18	0.34	0.39
	Seaplane Lagoon	5	0.25	0.36	0.18	0.26	0.21	0.24	0.33	0.38
	Seaplane Lagoon	6	0.22	0.32	0.18	0.26	0.18	0.20	0.33	0.37
	Seaplane Lagoon	7	0.24	0.34	0.18	0.26	0.22	0.25	0.32	0.37
	Seaplane Lagoon	8	0.20	0.28	0.18	0.26	0.18	0.21	0.31	0.36
	Seaplane Lagoon	9	0.18	0.25	0.18	0.26	0.17	0.19	0.31	0.36
	Seaplane Lagoon	10	0.17	0.24	0.18	0.26	0.16	0.18	0.30	0.35
	Seaplane Lagoon	11	0.20	0.29	0.18	0.26	0.20	0.23	0.30	0.34
	Seaplane Lagoon	12	0.33	0.47	0.18	0.26	0.35	0.40	0.30	0.34
	Seaplane Lagoon	13	0.18	0.26	0.18	0.26	0.17	0.20	0.29	0.34
	Seaplane Lagoon	14	0.16	0.24	0.18	0.26	0.15	0.18	0.29	0.33
	Seaplane Lagoon	15	0.20	0.30	0.18	0.26	0.20	0.23	0.28	0.33
	Seaplane Lagoon	16	0.20	0.29	0.18	0.26	0.17	0.20	0.28	0.32
	Seaplane Lagoon	17	0.22	0.33	0.18	0.26	0.21	0.24	0.28	0.32
	Seaplane Lagoon	18	0.19	0.28	0.18	0.26	0.18	0.20	0.27	0.32
	Seaplane Lagoon	19	0.17	0.25	0.18	0.26	0.16	0.19	0.27	0.31
	Seaplane Lagoon	20	0.16	0.24	0.18	0.25	0.15	0.18	0.27	0.31
B-4f	Los Angeles Outer Harbor	1	0.27	0.39	0.09	0.14	0.23	0.27	0.14	0.16
	Los Angeles Outer Harbor	2	0.31	0.44	0.09	0.13	0.28	0.32	0.14	0.16
	Los Angeles Outer Harbor	3	0.23	0.34	0.09	0.13	0.19	0.22	0.13	0.15
	Los Angeles Outer Harbor	4	0.20	0.29	0.09	0.13	0.18	0.21	0.13	0.15
	Los Angeles Outer Harbor	5	0.23	0.33	0.09	0.13	0.19	0.22	0.13	0.15
	Los Angeles Outer Harbor	6	0.22	0.31	0.09	0.13	0.18	0.21	0.13	0.15
	Los Angeles Outer Harbor	7	0.22	0.32	0.09	0.12	0.20	0.23	0.13	0.15
	Los Angeles Outer Harbor	8	0.20	0.29	0.09	0.12	0.19	0.21	0.12	0.14
	Los Angeles Outer Harbor	9	0.18	0.26	0.09	0.12	0.18	0.20	0.12	0.14
	Los Angeles Outer Harbor	10	0.17	0.25	0.08	0.12	0.17	0.19	0.12	0.14
	Los Angeles Outer Harbor	11	0.20	0.29	0.08	0.12	0.19	0.22	0.12	0.14
	Los Angeles Outer Harbor	12	0.25	0.36	0.08	0.12	0.23	0.26	0.12	0.14
	Los Angeles Outer Harbor	13	0.19	0.27	0.08	0.12	0.18	0.21	0.12	0.14
	Los Angeles Outer Harbor	14	0.18	0.26	0.08	0.12	0.17	0.20	0.12	0.14
	Los Angeles Outer Harbor	15	0.20	0.28	0.08	0.12	0.19	0.22	0.12	0.14
	Los Angeles Outer Harbor	16	0.20	0.29	0.08	0.12	0.18	0.21	0.12	0.14
	Los Angeles Outer Harbor	17	0.21	0.31	0.08	0.12	0.20	0.23	0.12	0.14
	Los Angeles Outer Harbor	18	0.19	0.28	0.08	0.12	0.18	0.21	0.12	0.13
	Los Angeles Outer Harbor	19	0.18	0.26	0.08	0.12	0.17	0.20	0.12	0.13
	Los Angeles Outer Harbor	20	0.17	0.25	0.08	0.12	0.17	0.19	0.12	0.13

Table B-4

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + Greater Harbor Waters SedLR Model Scenario

Table No.	FMZs	Model Years	Total DDX Water Column Dissolved (ng/L)	Total DDX Water Column Particulate (µg/g OC)	Total DDX Sediment Bed Dissolved (ng/L)	Total DDX Surface Sediment Bed Concentration (µg/g OC)	Total PCB Water Column Dissolved (ng/L)	Total PCB Water Column Particulate (µg/g OC)	Total PCB Sediment Bed Dissolved (ng/L)	Total PCB Surface Sediment Bed Concentration (µg/g OC)
B-4g	Long Beach Inner Harbor North	1	0.42	0.61	0.08	0.12	0.42	0.48	0.15	0.17
	Long Beach Inner Harbor North	2	0.59	0.85	0.08	0.11	0.64	0.74	0.14	0.17
	Long Beach Inner Harbor North	3	0.38	0.55	0.08	0.11	0.31	0.35	0.14	0.16
	Long Beach Inner Harbor North	4	0.27	0.39	0.08	0.11	0.24	0.27	0.14	0.16
	Long Beach Inner Harbor North	5	0.32	0.46	0.08	0.11	0.26	0.30	0.13	0.15
	Long Beach Inner Harbor North	6	0.29	0.42	0.08	0.11	0.24	0.27	0.13	0.15
	Long Beach Inner Harbor North	7	0.35	0.51	0.07	0.11	0.31	0.35	0.13	0.14
	Long Beach Inner Harbor North	8	0.28	0.41	0.07	0.11	0.25	0.29	0.12	0.14
	Long Beach Inner Harbor North	9	0.23	0.33	0.07	0.11	0.21	0.24	0.12	0.14
	Long Beach Inner Harbor North	10	0.20	0.29	0.07	0.11	0.18	0.21	0.12	0.14
	Long Beach Inner Harbor North	11	0.28	0.40	0.07	0.10	0.26	0.30	0.12	0.13
	Long Beach Inner Harbor North	12	0.42	0.61	0.07	0.10	0.38	0.43	0.11	0.13
	Long Beach Inner Harbor North	13	0.27	0.39	0.07	0.10	0.24	0.28	0.11	0.13
	Long Beach Inner Harbor North	14	0.23	0.33	0.07	0.10	0.21	0.24	0.11	0.13
	Long Beach Inner Harbor North	15	0.26	0.38	0.07	0.10	0.24	0.27	0.11	0.12
	Long Beach Inner Harbor North	16	0.26	0.37	0.07	0.10	0.22	0.26	0.11	0.12
	Long Beach Inner Harbor North	17	0.33	0.48	0.07	0.10	0.29	0.33	0.11	0.12
	Long Beach Inner Harbor North	18	0.27	0.39	0.07	0.10	0.24	0.27	0.10	0.12
	Long Beach Inner Harbor North	19	0.22	0.32	0.07	0.10	0.20	0.23	0.10	0.12
	Long Beach Inner Harbor North	20	0.19	0.28	0.07	0.10	0.18	0.21	0.10	0.12
B-4h	Long Beach Inner Harbor South	1	0.30	0.44	0.17	0.25	0.28	0.32	0.29	0.34
	Long Beach Inner Harbor South	2	0.39	0.56	0.17	0.24	0.40	0.46	0.28	0.32
	Long Beach Inner Harbor South	3	0.25	0.36	0.17	0.24	0.20	0.23	0.27	0.31
	Long Beach Inner Harbor South	4	0.19	0.27	0.16	0.24	0.17	0.20	0.26	0.30
	Long Beach Inner Harbor South	5	0.25	0.36	0.16	0.24	0.21	0.24	0.25	0.29
	Long Beach Inner Harbor South	6	0.23	0.33	0.16	0.23	0.18	0.21	0.24	0.28
	Long Beach Inner Harbor South	7	0.26	0.37	0.16	0.23	0.23	0.26	0.24	0.27
	Long Beach Inner Harbor South	8	0.21	0.30	0.16	0.23	0.19	0.22	0.23	0.27
	Long Beach Inner Harbor South	9	0.17	0.25	0.16	0.23	0.17	0.20	0.23	0.26
	Long Beach Inner Harbor South	10	0.16	0.23	0.16	0.23	0.16	0.18	0.22	0.25
	Long Beach Inner Harbor South	11	0.21	0.31	0.16	0.23	0.21	0.24	0.22	0.25
	Long Beach Inner Harbor South	12	0.30	0.44	0.15	0.22	0.30	0.34	0.21	0.24
	Long Beach Inner Harbor South	13	0.19	0.28	0.15	0.22	0.18	0.21	0.21	0.24
	Long Beach Inner Harbor South	14	0.17	0.24	0.15	0.22	0.16	0.19	0.20	0.24
	Long Beach Inner Harbor South	15	0.20	0.30	0.15	0.22	0.20	0.22	0.20	0.23
	Long Beach Inner Harbor South	16	0.20	0.29	0.15	0.22	0.18	0.21	0.20	0.23
	Long Beach Inner Harbor South	17	0.24	0.35	0.15	0.22	0.22	0.25	0.20	0.22
	Long Beach Inner Harbor South	18	0.20	0.29	0.15	0.22	0.19	0.21	0.19	0.22
	Long Beach Inner Harbor South	19	0.17	0.24	0.15	0.22	0.17	0.19	0.19	0.22
	Long Beach Inner Harbor South	20	0.16	0.23	0.15	0.22	0.15	0.18	0.19	0.22

Table B-4

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + Greater Harbor Waters SedLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-4i	Long Beach Outer Harbor	1	0.26	0.38	0.16	0.24	0.23	0.27	0.18	0.21
	Long Beach Outer Harbor	2	0.32	0.46	0.16	0.23	0.32	0.37	0.18	0.20
	Long Beach Outer Harbor	3	0.21	0.31	0.16	0.23	0.18	0.21	0.17	0.19
	Long Beach Outer Harbor	4	0.17	0.25	0.16	0.23	0.16	0.19	0.16	0.19
	Long Beach Outer Harbor	5	0.23	0.34	0.16	0.23	0.20	0.23	0.16	0.18
	Long Beach Outer Harbor	6	0.21	0.31	0.15	0.22	0.18	0.21	0.15	0.18
	Long Beach Outer Harbor	7	0.23	0.33	0.15	0.22	0.21	0.25	0.15	0.17
	Long Beach Outer Harbor	8	0.19	0.28	0.15	0.22	0.19	0.21	0.15	0.17
	Long Beach Outer Harbor	9	0.17	0.25	0.15	0.22	0.18	0.21	0.14	0.16
	Long Beach Outer Harbor	10	0.16	0.23	0.15	0.22	0.16	0.19	0.14	0.16
	Long Beach Outer Harbor	11	0.19	0.28	0.15	0.22	0.20	0.23	0.14	0.16
	Long Beach Outer Harbor	12	0.26	0.38	0.15	0.21	0.28	0.32	0.13	0.15
	Long Beach Outer Harbor	13	0.17	0.25	0.15	0.21	0.17	0.20	0.13	0.15
	Long Beach Outer Harbor	14	0.16	0.23	0.15	0.21	0.16	0.18	0.13	0.15
	Long Beach Outer Harbor	15	0.19	0.28	0.15	0.21	0.19	0.22	0.13	0.15
	Long Beach Outer Harbor	16	0.19	0.28	0.14	0.21	0.18	0.21	0.13	0.14
	Long Beach Outer Harbor	17	0.21	0.31	0.14	0.21	0.21	0.24	0.12	0.14
	Long Beach Outer Harbor	18	0.19	0.27	0.14	0.21	0.18	0.21	0.12	0.14
	Long Beach Outer Harbor	19	0.17	0.25	0.14	0.21	0.18	0.20	0.12	0.14
	Long Beach Outer Harbor	20	0.16	0.23	0.14	0.21	0.16	0.18	0.12	0.14
B-4j	Los Angeles River Estuary	1	0.96	1.39	0.05	0.07	1.41	1.62	0.09	0.10
	Los Angeles River Estuary	2	1.61	2.33	0.02	0.03	2.46	2.83	0.05	0.05
	Los Angeles River Estuary	3	0.92	1.33	0.02	0.03	1.41	1.62	0.04	0.05
	Los Angeles River Estuary	4	0.70	1.01	0.02	0.03	1.10	1.26	0.05	0.05
	Los Angeles River Estuary	5	0.97	1.41	0.02	0.03	1.52	1.75	0.04	0.05
	Los Angeles River Estuary	6	0.71	1.03	0.02	0.02	1.11	1.27	0.04	0.05
	Los Angeles River Estuary	7	1.30	1.88	0.01	0.02	1.98	2.27	0.04	0.04
	Los Angeles River Estuary	8	1.06	1.54	0.01	0.02	1.67	1.92	0.04	0.04
	Los Angeles River Estuary	9	1.03	1.50	0.01	0.02	1.61	1.86	0.04	0.04
	Los Angeles River Estuary	10	0.71	1.03	0.01	0.02	1.13	1.30	0.04	0.04
	Los Angeles River Estuary	11	0.91	1.32	0.01	0.02	1.39	1.60	0.04	0.04
	Los Angeles River Estuary	12	1.59	2.31	0.01	0.02	2.47	2.84	0.03	0.03
	Los Angeles River Estuary	13	0.89	1.29	0.01	0.01	1.39	1.59	0.03	0.03
	Los Angeles River Estuary	14	0.69	1.00	0.01	0.01	1.10	1.27	0.03	0.03
	Los Angeles River Estuary	15	0.97	1.41	0.01	0.01	1.55	1.78	0.03	0.03
	Los Angeles River Estuary	16	0.72	1.05	0.01	0.01	1.14	1.31	0.03	0.03
	Los Angeles River Estuary	17	1.31	1.90	0.01	0.01	2.01	2.31	0.03	0.03
	Los Angeles River Estuary	18	1.04	1.51	0.01	0.01	1.65	1.89	0.03	0.03
	Los Angeles River Estuary	19	1.02	1.48	0.01	0.01	1.60	1.84	0.03	0.03
	Los Angeles River Estuary	20	0.70	1.01	0.01	0.01	1.12	1.29	0.03	0.03

Table B-4

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + Greater Harbor Waters SedLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-4k	Eastern San Pedro Bay	1	0.33	0.47	0.08	0.11	0.34	0.39	0.15	0.17
	Eastern San Pedro Bay	2	0.45	0.66	0.07	0.10	0.55	0.63	0.13	0.15
	Eastern San Pedro Bay	3	0.27	0.39	0.07	0.10	0.28	0.33	0.13	0.15
	Eastern San Pedro Bay	4	0.21	0.31	0.07	0.10	0.24	0.28	0.13	0.15
	Eastern San Pedro Bay	5	0.30	0.44	0.07	0.10	0.35	0.40	0.13	0.15
	Eastern San Pedro Bay	6	0.25	0.37	0.07	0.10	0.27	0.31	0.13	0.15
	Eastern San Pedro Bay	7	0.32	0.47	0.07	0.10	0.38	0.44	0.13	0.14
	Eastern San Pedro Bay	8	0.28	0.41	0.07	0.10	0.35	0.40	0.12	0.14
	Eastern San Pedro Bay	9	0.25	0.36	0.07	0.10	0.31	0.35	0.12	0.14
	Eastern San Pedro Bay	10	0.21	0.30	0.07	0.10	0.25	0.28	0.12	0.14
	Eastern San Pedro Bay	11	0.26	0.38	0.07	0.10	0.32	0.37	0.12	0.14
	Eastern San Pedro Bay	12	0.41	0.60	0.06	0.09	0.53	0.60	0.11	0.13
	Eastern San Pedro Bay	13	0.23	0.34	0.06	0.09	0.28	0.32	0.11	0.13
	Eastern San Pedro Bay	14	0.20	0.29	0.06	0.09	0.24	0.27	0.11	0.13
	Eastern San Pedro Bay	15	0.28	0.40	0.06	0.09	0.34	0.39	0.11	0.13
	Eastern San Pedro Bay	16	0.24	0.35	0.06	0.09	0.27	0.31	0.11	0.13
	Eastern San Pedro Bay	17	0.31	0.46	0.06	0.09	0.38	0.43	0.11	0.13
	Eastern San Pedro Bay	18	0.28	0.41	0.06	0.09	0.34	0.39	0.11	0.13
	Eastern San Pedro Bay	19	0.25	0.36	0.06	0.09	0.31	0.35	0.11	0.13
	Eastern San Pedro Bay	20	0.20	0.30	0.06	0.09	0.24	0.28	0.11	0.13
B-4l	Outside Harbor	1	0.20	0.29	5.96	8.65	0.17	0.20	0.33	0.37
	Outside Harbor	2	0.20	0.28	5.89	8.55	0.18	0.21	0.32	0.36
	Outside Harbor	3	0.17	0.25	5.89	8.54	0.16	0.19	0.31	0.35
	Outside Harbor	4	0.17	0.24	5.86	8.49	0.16	0.18	0.30	0.34
	Outside Harbor	5	0.18	0.26	5.82	8.45	0.17	0.19	0.29	0.34
	Outside Harbor	6	0.18	0.25	5.80	8.42	0.16	0.19	0.29	0.33
	Outside Harbor	7	0.17	0.25	5.76	8.35	0.17	0.19	0.28	0.32
	Outside Harbor	8	0.16	0.24	5.70	8.27	0.17	0.19	0.27	0.32
	Outside Harbor	9	0.16	0.23	5.67	8.22	0.16	0.19	0.27	0.31
	Outside Harbor	10	0.15	0.22	5.64	8.18	0.16	0.18	0.26	0.30
	Outside Harbor	11	0.16	0.24	5.60	8.13	0.17	0.19	0.26	0.30
	Outside Harbor	12	0.17	0.25	5.55	8.04	0.18	0.20	0.25	0.29
	Outside Harbor	13	0.16	0.23	5.52	8.00	0.16	0.18	0.25	0.29
	Outside Harbor	14	0.15	0.22	5.49	7.96	0.16	0.18	0.24	0.28
	Outside Harbor	15	0.16	0.24	5.46	7.91	0.17	0.19	0.24	0.28
	Outside Harbor	16	0.17	0.24	5.41	7.85	0.16	0.19	0.24	0.27
	Outside Harbor	17	0.17	0.24	5.38	7.80	0.17	0.19	0.23	0.27
	Outside Harbor	18	0.17	0.24	5.33	7.74	0.17	0.19	0.23	0.26
	Outside Harbor	19	0.16	0.23	5.31	7.69	0.16	0.19	0.22	0.26
	Outside Harbor	20	0.15	0.22	5.28	7.66	0.16	0.18	0.22	0.26

Notes:

µg/g: microgram per gram

DDX: dichlorodiphenyltrichloroethane-related compounds (4,4'-DDT, 4,4'-DDE, 4,4'-DDD, 2,4'-DDT, 2,4'-DDE, and 2,4'-DDD)

FMZ: fish movement zone

ng/L: nanogram per liter

OC: organic carbon

PCB: polychlorinated biphenyl

SedLR: Sediment Load Reduction

WRAP: Water Resources Action Plan

Table B-5

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + WLR + DCE Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-5a	Dominguez Channel Estuary	1	0.30	0.43	0.04	0.06	0.52	0.59	0.08	0.09
	Dominguez Channel Estuary	2	0.21	0.31	0.03	0.04	0.36	0.41	0.07	0.08
	Dominguez Channel Estuary	3	0.17	0.25	0.03	0.04	0.31	0.35	0.06	0.07
	Dominguez Channel Estuary	4	0.16	0.23	0.03	0.04	0.29	0.34	0.05	0.06
	Dominguez Channel Estuary	5	0.14	0.20	0.02	0.03	0.25	0.29	0.05	0.06
	Dominguez Channel Estuary	6	0.14	0.20	0.02	0.03	0.24	0.28	0.05	0.06
	Dominguez Channel Estuary	7	0.12	0.17	0.02	0.03	0.22	0.25	0.05	0.06
	Dominguez Channel Estuary	8	0.11	0.16	0.02	0.03	0.21	0.24	0.05	0.05
	Dominguez Channel Estuary	9	0.11	0.16	0.02	0.03	0.21	0.24	0.05	0.05
	Dominguez Channel Estuary	10	0.11	0.15	0.02	0.03	0.20	0.23	0.05	0.05
	Dominguez Channel Estuary	11	0.09	0.13	0.02	0.03	0.17	0.20	0.05	0.05
	Dominguez Channel Estuary	12	0.10	0.15	0.02	0.03	0.19	0.22	0.05	0.06
	Dominguez Channel Estuary	13	0.09	0.13	0.02	0.03	0.18	0.21	0.05	0.06
	Dominguez Channel Estuary	14	0.10	0.14	0.02	0.03	0.18	0.21	0.05	0.06
	Dominguez Channel Estuary	15	0.09	0.13	0.02	0.03	0.16	0.19	0.05	0.06
	Dominguez Channel Estuary	16	0.10	0.14	0.02	0.03	0.16	0.19	0.05	0.06
	Dominguez Channel Estuary	17	0.09	0.13	0.02	0.03	0.15	0.17	0.05	0.05
	Dominguez Channel Estuary	18	0.09	0.13	0.02	0.03	0.15	0.18	0.05	0.05
	Dominguez Channel Estuary	19	0.09	0.13	0.02	0.03	0.15	0.18	0.05	0.05
	Dominguez Channel Estuary	20	0.09	0.12	0.02	0.03	0.15	0.17	0.05	0.05
B-5b	Consolidated Slip	1	0.37	0.54	5.72	8.29	0.83	0.96	21.05	24.21
	Consolidated Slip	2	0.33	0.47	4.09	5.94	0.67	0.77	14.90	17.13
	Consolidated Slip	3	0.27	0.39	3.80	5.50	0.58	0.67	13.94	16.03
	Consolidated Slip	4	0.23	0.34	3.74	5.42	0.53	0.61	13.66	15.71
	Consolidated Slip	5	0.25	0.36	3.60	5.22	0.51	0.58	13.17	15.15
	Consolidated Slip	6	0.24	0.34	3.49	5.06	0.47	0.54	12.78	14.70
	Consolidated Slip	7	0.23	0.33	3.26	4.73	0.48	0.55	12.00	13.80
	Consolidated Slip	8	0.21	0.30	3.08	4.47	0.45	0.52	11.34	13.04
	Consolidated Slip	9	0.19	0.28	3.08	4.46	0.44	0.50	11.14	12.82
	Consolidated Slip	10	0.19	0.27	3.07	4.45	0.41	0.47	10.97	12.62
	Consolidated Slip	11	0.20	0.28	2.98	4.33	0.41	0.47	10.62	12.22
	Consolidated Slip	12	0.21	0.30	2.43	3.52	0.41	0.47	8.82	10.15
	Consolidated Slip	13	0.18	0.27	2.42	3.51	0.39	0.45	8.57	9.86
	Consolidated Slip	14	0.18	0.26	2.46	3.57	0.36	0.42	8.48	9.75
	Consolidated Slip	15	0.19	0.27	2.42	3.51	0.35	0.40	8.25	9.49
	Consolidated Slip	16	0.19	0.28	2.35	3.40	0.34	0.39	8.02	9.23
	Consolidated Slip	17	0.19	0.27	2.21	3.21	0.34	0.39	7.66	8.81
	Consolidated Slip	18	0.18	0.26	2.08	3.02	0.33	0.38	7.28	8.37
	Consolidated Slip	19	0.17	0.25	2.12	3.07	0.33	0.38	7.19	8.28
	Consolidated Slip	20	0.17	0.24	2.13	3.09	0.32	0.37	7.12	8.19

Table B-5

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + WLR + DCE Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-5c	Los Angeles Inner Harbor	1	0.29	0.42	2.71	3.93	0.35	0.40	3.56	4.09
	Los Angeles Inner Harbor	2	0.28	0.41	2.56	3.72	0.31	0.36	3.17	3.65
	Los Angeles Inner Harbor	3	0.23	0.34	2.53	3.67	0.28	0.33	3.07	3.54
	Los Angeles Inner Harbor	4	0.20	0.29	2.52	3.65	0.28	0.32	3.01	3.47
	Los Angeles Inner Harbor	5	0.22	0.32	2.50	3.62	0.27	0.31	2.94	3.39
	Los Angeles Inner Harbor	6	0.22	0.32	2.48	3.60	0.27	0.30	2.88	3.32
	Los Angeles Inner Harbor	7	0.21	0.31	2.46	3.56	0.26	0.30	2.80	3.22
	Los Angeles Inner Harbor	8	0.19	0.28	2.43	3.52	0.25	0.29	2.73	3.14
	Los Angeles Inner Harbor	9	0.18	0.26	2.42	3.50	0.26	0.29	2.68	3.09
	Los Angeles Inner Harbor	10	0.18	0.26	2.41	3.49	0.25	0.29	2.65	3.04
	Los Angeles Inner Harbor	11	0.19	0.27	2.39	3.47	0.25	0.29	2.60	2.99
	Los Angeles Inner Harbor	12	0.21	0.30	2.31	3.36	0.24	0.28	2.43	2.80
	Los Angeles Inner Harbor	13	0.18	0.26	2.30	3.34	0.24	0.27	2.39	2.75
	Los Angeles Inner Harbor	14	0.18	0.26	2.30	3.33	0.24	0.27	2.37	2.72
	Los Angeles Inner Harbor	15	0.18	0.27	2.28	3.31	0.23	0.27	2.33	2.69
	Los Angeles Inner Harbor	16	0.19	0.28	2.28	3.30	0.23	0.26	2.30	2.65
	Los Angeles Inner Harbor	17	0.19	0.28	2.26	3.28	0.23	0.26	2.26	2.60
	Los Angeles Inner Harbor	18	0.18	0.27	2.24	3.25	0.22	0.26	2.22	2.56
	Los Angeles Inner Harbor	19	0.17	0.25	2.24	3.24	0.23	0.26	2.20	2.53
	Los Angeles Inner Harbor	20	0.17	0.25	2.23	3.24	0.23	0.26	2.18	2.51
B-5d	Fish Harbor	1	0.26	0.37	3.54	5.14	0.52	0.60	7.02	8.07
	Fish Harbor	2	0.26	0.37	3.50	5.08	0.49	0.56	6.80	7.82
	Fish Harbor	3	0.21	0.31	3.48	5.05	0.50	0.57	6.63	7.62
	Fish Harbor	4	0.20	0.29	3.47	5.03	0.51	0.59	6.47	7.44
	Fish Harbor	5	0.22	0.32	3.45	5.00	0.48	0.55	6.32	7.27
	Fish Harbor	6	0.22	0.33	3.43	4.98	0.47	0.54	6.18	7.11
	Fish Harbor	7	0.20	0.28	3.42	4.95	0.45	0.52	6.04	6.95
	Fish Harbor	8	0.19	0.27	3.40	4.93	0.46	0.53	5.91	6.80
	Fish Harbor	9	0.18	0.26	3.39	4.91	0.46	0.53	5.80	6.67
	Fish Harbor	10	0.18	0.26	3.37	4.89	0.46	0.53	5.69	6.54
	Fish Harbor	11	0.18	0.26	3.36	4.88	0.43	0.50	5.58	6.42
	Fish Harbor	12	0.19	0.28	3.34	4.84	0.41	0.47	5.46	6.28
	Fish Harbor	13	0.18	0.26	3.33	4.82	0.42	0.49	5.37	6.17
	Fish Harbor	14	0.18	0.26	3.32	4.81	0.44	0.51	5.28	6.07
	Fish Harbor	15	0.18	0.26	3.30	4.79	0.41	0.48	5.20	5.98
	Fish Harbor	16	0.19	0.28	3.29	4.78	0.41	0.47	5.11	5.88
	Fish Harbor	17	0.18	0.26	3.28	4.76	0.39	0.45	5.03	5.79
	Fish Harbor	18	0.18	0.26	3.27	4.74	0.41	0.47	4.96	5.70
	Fish Harbor	19	0.17	0.25	3.26	4.73	0.41	0.47	4.89	5.62
	Fish Harbor	20	0.17	0.25	3.25	4.71	0.41	0.47	4.82	5.54

Table B-5

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + WLR + DCE Model Scenario

Table No.	FMZs	Model Years	Total DDX: Water Column Dissolved (ng/L)	Total DDX: Water Column Particulate (µg/g OC)	Total DDX: Sediment Bed Dissolved (ng/L)	Total DDX: Surface Sediment Bed Concentration (µg/g OC)	Total PCB: Water Column Dissolved (ng/L)	Total PCB: Water Column Particulate (µg/g OC)	Total PCB: Sediment Bed Dissolved (ng/L)	Total PCB: Surface Sediment Bed Concentration (µg/g OC)
B-5e	Seaplane Lagoon	1	0.27	0.39	1.58	2.29	0.28	0.32	2.01	2.31
	Seaplane Lagoon	2	0.28	0.40	1.57	2.27	0.26	0.30	1.95	2.24
	Seaplane Lagoon	3	0.23	0.33	1.56	2.26	0.25	0.29	1.89	2.17
	Seaplane Lagoon	4	0.20	0.29	1.55	2.25	0.24	0.28	1.84	2.12
	Seaplane Lagoon	5	0.23	0.34	1.54	2.24	0.24	0.28	1.79	2.06
	Seaplane Lagoon	6	0.22	0.33	1.54	2.23	0.24	0.27	1.75	2.01
	Seaplane Lagoon	7	0.21	0.30	1.53	2.22	0.23	0.27	1.71	1.96
	Seaplane Lagoon	8	0.19	0.28	1.52	2.21	0.23	0.26	1.67	1.92
	Seaplane Lagoon	9	0.18	0.26	1.52	2.20	0.23	0.26	1.63	1.87
	Seaplane Lagoon	10	0.18	0.26	1.51	2.19	0.22	0.26	1.60	1.84
	Seaplane Lagoon	11	0.18	0.27	1.50	2.18	0.22	0.26	1.56	1.80
	Seaplane Lagoon	12	0.20	0.29	1.50	2.17	0.22	0.25	1.53	1.76
	Seaplane Lagoon	13	0.18	0.26	1.49	2.16	0.22	0.25	1.50	1.73
	Seaplane Lagoon	14	0.18	0.26	1.49	2.16	0.21	0.24	1.48	1.70
	Seaplane Lagoon	15	0.18	0.27	1.48	2.15	0.21	0.24	1.45	1.67
	Seaplane Lagoon	16	0.19	0.28	1.48	2.14	0.21	0.24	1.43	1.64
	Seaplane Lagoon	17	0.19	0.27	1.47	2.14	0.21	0.24	1.40	1.61
	Seaplane Lagoon	18	0.18	0.26	1.47	2.13	0.21	0.24	1.38	1.59
	Seaplane Lagoon	19	0.17	0.25	1.46	2.12	0.20	0.24	1.36	1.56
	Seaplane Lagoon	20	0.17	0.25	1.46	2.12	0.20	0.23	1.34	1.54
B-5f	Los Angeles Outer Harbor	1	0.24	0.35	2.49	3.61	0.22	0.25	1.25	1.44
	Los Angeles Outer Harbor	2	0.24	0.35	2.40	3.48	0.20	0.23	1.20	1.38
	Los Angeles Outer Harbor	3	0.21	0.30	2.35	3.41	0.19	0.22	1.16	1.33
	Los Angeles Outer Harbor	4	0.19	0.27	2.33	3.38	0.19	0.22	1.12	1.29
	Los Angeles Outer Harbor	5	0.21	0.30	2.30	3.34	0.19	0.22	1.09	1.26
	Los Angeles Outer Harbor	6	0.20	0.30	2.27	3.29	0.19	0.21	1.06	1.22
	Los Angeles Outer Harbor	7	0.19	0.27	2.24	3.25	0.19	0.22	1.04	1.19
	Los Angeles Outer Harbor	8	0.18	0.26	2.22	3.22	0.19	0.21	1.01	1.16
	Los Angeles Outer Harbor	9	0.17	0.25	2.21	3.20	0.18	0.21	0.99	1.14
	Los Angeles Outer Harbor	10	0.17	0.25	2.20	3.19	0.18	0.21	0.97	1.12
	Los Angeles Outer Harbor	11	0.17	0.25	2.18	3.17	0.18	0.21	0.96	1.10
	Los Angeles Outer Harbor	12	0.19	0.28	2.16	3.13	0.18	0.21	0.94	1.09
	Los Angeles Outer Harbor	13	0.17	0.25	2.15	3.11	0.18	0.21	0.93	1.07
	Los Angeles Outer Harbor	14	0.17	0.24	2.14	3.10	0.18	0.21	0.91	1.05
	Los Angeles Outer Harbor	15	0.17	0.25	2.13	3.08	0.18	0.20	0.90	1.04
	Los Angeles Outer Harbor	16	0.19	0.27	2.11	3.06	0.18	0.20	0.89	1.02
	Los Angeles Outer Harbor	17	0.18	0.26	2.10	3.04	0.18	0.20	0.87	1.01
	Los Angeles Outer Harbor	18	0.17	0.25	2.09	3.03	0.18	0.20	0.86	0.99
	Los Angeles Outer Harbor	19	0.17	0.24	2.08	3.02	0.18	0.20	0.85	0.98
	Los Angeles Outer Harbor	20	0.16	0.24	2.07	3.01	0.18	0.20	0.84	0.97

Table B-5

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + WLR + DCE Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-5g	Long Beach Inner Harbor North	1	0.26	0.37	0.87	1.26	0.31	0.35	2.26	2.60
	Long Beach Inner Harbor North	2	0.24	0.35	0.83	1.20	0.27	0.31	2.09	2.40
	Long Beach Inner Harbor North	3	0.20	0.29	0.81	1.18	0.25	0.28	1.99	2.29
	Long Beach Inner Harbor North	4	0.17	0.25	0.80	1.17	0.24	0.27	1.92	2.21
	Long Beach Inner Harbor North	5	0.21	0.30	0.79	1.15	0.23	0.27	1.85	2.13
	Long Beach Inner Harbor North	6	0.20	0.29	0.79	1.14	0.23	0.26	1.79	2.05
	Long Beach Inner Harbor North	7	0.19	0.27	0.78	1.13	0.23	0.26	1.72	1.98
	Long Beach Inner Harbor North	8	0.17	0.25	0.77	1.11	0.22	0.25	1.67	1.92
	Long Beach Inner Harbor North	9	0.15	0.22	0.76	1.10	0.22	0.25	1.62	1.87
	Long Beach Inner Harbor North	10	0.15	0.22	0.76	1.10	0.21	0.24	1.58	1.82
	Long Beach Inner Harbor North	11	0.16	0.23	0.75	1.09	0.22	0.25	1.54	1.77
	Long Beach Inner Harbor North	12	0.17	0.25	0.73	1.05	0.21	0.24	1.47	1.69
	Long Beach Inner Harbor North	13	0.16	0.23	0.72	1.04	0.20	0.23	1.43	1.65
	Long Beach Inner Harbor North	14	0.15	0.22	0.72	1.04	0.20	0.23	1.41	1.62
	Long Beach Inner Harbor North	15	0.16	0.23	0.71	1.03	0.20	0.23	1.38	1.58
	Long Beach Inner Harbor North	16	0.17	0.24	0.71	1.03	0.20	0.22	1.35	1.55
	Long Beach Inner Harbor North	17	0.17	0.24	0.70	1.02	0.19	0.22	1.32	1.52
	Long Beach Inner Harbor North	18	0.16	0.23	0.70	1.01	0.19	0.22	1.30	1.49
	Long Beach Inner Harbor North	19	0.15	0.22	0.69	1.01	0.19	0.22	1.27	1.46
	Long Beach Inner Harbor North	20	0.15	0.21	0.69	1.00	0.19	0.22	1.25	1.44
B-5h	Long Beach Inner Harbor South	1	0.23	0.34	1.93	2.80	0.26	0.30	4.24	4.88
	Long Beach Inner Harbor South	2	0.22	0.32	1.87	2.72	0.23	0.27	3.97	4.57
	Long Beach Inner Harbor South	3	0.19	0.27	1.85	2.68	0.22	0.25	3.78	4.34
	Long Beach Inner Harbor South	4	0.16	0.23	1.84	2.66	0.22	0.25	3.61	4.15
	Long Beach Inner Harbor South	5	0.20	0.28	1.82	2.64	0.21	0.24	3.45	3.97
	Long Beach Inner Harbor South	6	0.19	0.27	1.80	2.61	0.21	0.24	3.31	3.80
	Long Beach Inner Harbor South	7	0.17	0.25	1.78	2.59	0.21	0.24	3.17	3.65
	Long Beach Inner Harbor South	8	0.16	0.23	1.76	2.56	0.20	0.23	3.05	3.51
	Long Beach Inner Harbor South	9	0.15	0.21	1.75	2.54	0.20	0.23	2.94	3.38
	Long Beach Inner Harbor South	10	0.14	0.21	1.74	2.53	0.20	0.23	2.84	3.27
	Long Beach Inner Harbor South	11	0.15	0.22	1.73	2.51	0.20	0.23	2.75	3.16
	Long Beach Inner Harbor South	12	0.16	0.24	1.70	2.47	0.19	0.22	2.64	3.04
	Long Beach Inner Harbor South	13	0.15	0.22	1.69	2.45	0.19	0.22	2.57	2.95
	Long Beach Inner Harbor South	14	0.14	0.21	1.68	2.44	0.19	0.22	2.50	2.87
	Long Beach Inner Harbor South	15	0.15	0.22	1.67	2.43	0.19	0.21	2.43	2.80
	Long Beach Inner Harbor South	16	0.16	0.24	1.67	2.42	0.18	0.21	2.37	2.72
	Long Beach Inner Harbor South	17	0.16	0.23	1.65	2.40	0.18	0.21	2.31	2.65
	Long Beach Inner Harbor South	18	0.15	0.22	1.64	2.38	0.18	0.21	2.25	2.59
	Long Beach Inner Harbor South	19	0.14	0.21	1.64	2.38	0.18	0.21	2.20	2.53
	Long Beach Inner Harbor South	20	0.14	0.21	1.63	2.37	0.18	0.21	2.15	2.48

Table B-5

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + WLR + DCE Model Scenario

Table No.	FMZs	Model Years	Total DDX Water Column Dissolved (ng/L)	Total DDX Water Column Particulate (µg/g OC)	Total DDX Sediment Bed Dissolved (ng/L)	Total DDX Surface Sediment Bed Concentration (µg/g OC)	Total PCB Water Column Dissolved (ng/L)	Total PCB Water Column Particulate (µg/g OC)	Total PCB Sediment Bed Dissolved (ng/L)	Total PCB Surface Sediment Bed Concentration (µg/g OC)
B-5i	Long Beach Outer Harbor	1	0.22	0.32	1.91	2.77	0.20	0.23	1.03	1.18
	Long Beach Outer Harbor	2	0.21	0.31	1.86	2.69	0.18	0.21	0.97	1.11
	Long Beach Outer Harbor	3	0.19	0.27	1.84	2.66	0.17	0.20	0.92	1.06
	Long Beach Outer Harbor	4	0.16	0.24	1.82	2.63	0.17	0.20	0.88	1.02
	Long Beach Outer Harbor	5	0.19	0.28	1.80	2.61	0.17	0.20	0.85	0.97
	Long Beach Outer Harbor	6	0.19	0.27	1.78	2.58	0.17	0.19	0.81	0.94
	Long Beach Outer Harbor	7	0.17	0.25	1.76	2.55	0.17	0.19	0.78	0.90
	Long Beach Outer Harbor	8	0.16	0.23	1.74	2.53	0.17	0.19	0.76	0.87
	Long Beach Outer Harbor	9	0.15	0.21	1.73	2.51	0.17	0.19	0.73	0.84
	Long Beach Outer Harbor	10	0.15	0.21	1.72	2.49	0.16	0.19	0.71	0.82
	Long Beach Outer Harbor	11	0.15	0.22	1.70	2.47	0.17	0.19	0.69	0.80
	Long Beach Outer Harbor	12	0.16	0.24	1.67	2.43	0.16	0.19	0.67	0.77
	Long Beach Outer Harbor	13	0.15	0.22	1.66	2.41	0.16	0.19	0.65	0.75
	Long Beach Outer Harbor	14	0.15	0.21	1.65	2.40	0.16	0.18	0.64	0.73
	Long Beach Outer Harbor	15	0.16	0.23	1.64	2.38	0.16	0.18	0.62	0.71
	Long Beach Outer Harbor	16	0.17	0.24	1.63	2.36	0.16	0.18	0.61	0.70
	Long Beach Outer Harbor	17	0.16	0.23	1.62	2.35	0.16	0.18	0.59	0.68
	Long Beach Outer Harbor	18	0.16	0.23	1.61	2.33	0.16	0.18	0.58	0.67
	Long Beach Outer Harbor	19	0.15	0.21	1.60	2.32	0.16	0.18	0.57	0.66
	Long Beach Outer Harbor	20	0.14	0.21	1.59	2.31	0.16	0.18	0.56	0.64
B-5j	Los Angeles River Estuary	1	0.17	0.25	0.65	0.94	0.26	0.30	3.48	4.00
	Los Angeles River Estuary	2	0.14	0.20	0.29	0.42	0.18	0.21	1.52	1.74
	Los Angeles River Estuary	3	0.13	0.19	0.26	0.37	0.18	0.21	1.36	1.56
	Los Angeles River Estuary	4	0.12	0.17	0.25	0.37	0.18	0.21	1.34	1.54
	Los Angeles River Estuary	5	0.14	0.20	0.23	0.33	0.17	0.20	1.21	1.39
	Los Angeles River Estuary	6	0.13	0.19	0.22	0.32	0.17	0.20	1.16	1.33
	Los Angeles River Estuary	7	0.12	0.18	0.20	0.28	0.16	0.19	1.02	1.17
	Los Angeles River Estuary	8	0.11	0.16	0.17	0.24	0.16	0.18	0.86	0.99
	Los Angeles River Estuary	9	0.10	0.15	0.16	0.23	0.15	0.18	0.82	0.94
	Los Angeles River Estuary	10	0.10	0.15	0.16	0.23	0.15	0.17	0.81	0.93
	Los Angeles River Estuary	11	0.11	0.16	0.16	0.23	0.16	0.18	0.80	0.92
	Los Angeles River Estuary	12	0.11	0.16	0.10	0.15	0.13	0.15	0.52	0.60
	Los Angeles River Estuary	13	0.11	0.15	0.10	0.14	0.14	0.16	0.49	0.57
	Los Angeles River Estuary	14	0.11	0.15	0.10	0.14	0.14	0.16	0.50	0.57
	Los Angeles River Estuary	15	0.11	0.16	0.09	0.13	0.14	0.16	0.47	0.54
	Los Angeles River Estuary	16	0.12	0.17	0.10	0.14	0.14	0.16	0.49	0.56
	Los Angeles River Estuary	17	0.11	0.16	0.10	0.14	0.14	0.16	0.49	0.56
	Los Angeles River Estuary	18	0.11	0.16	0.09	0.13	0.14	0.16	0.45	0.52
	Los Angeles River Estuary	19	0.10	0.15	0.09	0.13	0.13	0.15	0.45	0.52
	Los Angeles River Estuary	20	0.10	0.15	0.09	0.13	0.13	0.15	0.46	0.53

Table B-5

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + WLR + DCE Model Scenario

Table No.	FMZs	Model Years	Total DDX: Water Column Dissolved (ng/L)	Total DDX: Water Column Particulate (µg/g OC)	Total DDX: Sediment Bed Dissolved (ng/L)	Total DDX: Surface Sediment Bed Concentration (µg/g OC)	Total PCB: Water Column Dissolved (ng/L)	Total PCB: Water Column Particulate (µg/g OC)	Total PCB: Sediment Bed Dissolved (ng/L)	Total PCB: Surface Sediment Bed Concentration (µg/g OC)
B-5k	Eastern San Pedro Bay	1	0.21	0.30	0.93	1.35	0.20	0.23	1.57	1.80
	Eastern San Pedro Bay	2	0.20	0.28	0.82	1.19	0.18	0.21	1.28	1.47
	Eastern San Pedro Bay	3	0.17	0.25	0.81	1.17	0.17	0.20	1.23	1.42
	Eastern San Pedro Bay	4	0.15	0.22	0.80	1.17	0.17	0.19	1.21	1.40
	Eastern San Pedro Bay	5	0.18	0.25	0.79	1.15	0.17	0.19	1.18	1.35
	Eastern San Pedro Bay	6	0.17	0.25	0.79	1.14	0.17	0.19	1.15	1.33
	Eastern San Pedro Bay	7	0.16	0.24	0.77	1.12	0.17	0.19	1.11	1.28
	Eastern San Pedro Bay	8	0.15	0.22	0.76	1.10	0.16	0.19	1.07	1.23
	Eastern San Pedro Bay	9	0.14	0.20	0.75	1.09	0.16	0.18	1.05	1.21
	Eastern San Pedro Bay	10	0.14	0.20	0.75	1.09	0.16	0.18	1.04	1.20
	Eastern San Pedro Bay	11	0.14	0.21	0.75	1.08	0.16	0.19	1.02	1.17
	Eastern San Pedro Bay	12	0.15	0.22	0.68	0.99	0.16	0.18	0.89	1.02
	Eastern San Pedro Bay	13	0.14	0.21	0.68	0.98	0.16	0.18	0.87	1.00
	Eastern San Pedro Bay	14	0.14	0.20	0.68	0.99	0.16	0.18	0.87	1.00
	Eastern San Pedro Bay	15	0.15	0.21	0.67	0.98	0.16	0.18	0.85	0.98
	Eastern San Pedro Bay	16	0.15	0.22	0.67	0.97	0.16	0.18	0.84	0.97
	Eastern San Pedro Bay	17	0.15	0.22	0.67	0.96	0.16	0.18	0.83	0.95
	Eastern San Pedro Bay	18	0.15	0.21	0.66	0.95	0.15	0.18	0.81	0.93
	Eastern San Pedro Bay	19	0.14	0.20	0.66	0.95	0.15	0.18	0.80	0.92
	Eastern San Pedro Bay	20	0.14	0.20	0.66	0.95	0.15	0.17	0.79	0.91
B-5l	Outside Harbor	1	0.19	0.27	5.96	8.65	0.17	0.19	0.33	0.37
	Outside Harbor	2	0.18	0.26	5.89	8.55	0.16	0.19	0.32	0.36
	Outside Harbor	3	0.17	0.24	5.89	8.54	0.16	0.18	0.31	0.35
	Outside Harbor	4	0.16	0.24	5.86	8.49	0.16	0.18	0.30	0.34
	Outside Harbor	5	0.17	0.25	5.82	8.45	0.16	0.18	0.29	0.34
	Outside Harbor	6	0.17	0.25	5.80	8.42	0.16	0.18	0.29	0.33
	Outside Harbor	7	0.16	0.24	5.76	8.35	0.16	0.18	0.28	0.32
	Outside Harbor	8	0.16	0.23	5.70	8.27	0.16	0.18	0.27	0.32
	Outside Harbor	9	0.15	0.22	5.66	8.22	0.16	0.18	0.27	0.31
	Outside Harbor	10	0.15	0.22	5.64	8.18	0.16	0.18	0.26	0.30
	Outside Harbor	11	0.15	0.22	5.60	8.13	0.16	0.18	0.26	0.30
	Outside Harbor	12	0.16	0.23	5.55	8.04	0.16	0.18	0.25	0.29
	Outside Harbor	13	0.15	0.22	5.52	8.00	0.16	0.18	0.25	0.28
	Outside Harbor	14	0.15	0.22	5.49	7.96	0.16	0.18	0.24	0.28
	Outside Harbor	15	0.15	0.22	5.46	7.91	0.16	0.18	0.24	0.28
	Outside Harbor	16	0.16	0.23	5.41	7.85	0.16	0.18	0.24	0.27
	Outside Harbor	17	0.16	0.23	5.38	7.80	0.16	0.18	0.23	0.27
	Outside Harbor	18	0.16	0.23	5.33	7.74	0.16	0.18	0.23	0.26
	Outside Harbor	19	0.15	0.22	5.31	7.69	0.16	0.18	0.22	0.26
	Outside Harbor	20	0.15	0.22	5.28	7.66	0.16	0.18	0.22	0.26

Notes:

µg/g: microgram per gram

DCE: Dominguez Channel Estuary (TMDL hot spot upstream of Consolidated Slip)

DDX: dichlorodiphenyltrichloroethane-related compounds (4,4'-DDT, 4,4'-DDE, 4,4'-DDD, 2,4'-DDT, 2,4'-DDE, and 2,4'-DDD)

FMZ: fish movement zone

ng/L: nanogram per liter

OC: organic carbon

PCB: polychlorinated biphenyl

WLR: Watershed Load Reduction

WRAP: Water Resources Action Plan

Table B-6

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + WLR + DCE + TMDL - named Hot Spots (CS + FH) Model Scenario

Table No.	FMZs	Model Years	Total DDX: Water Column Dissolved (ng/L)	Total DDX: Water Column Particulate (µg/g OC)	Total DDX: Sediment Bed Dissolved (ng/L)	Total DDX: Surface Sediment Bed Concentration (µg/g OC)	Total PCB: Water Column Dissolved (ng/L)	Total PCB: Water Column Particulate (µg/g OC)	Total PCB: Sediment Bed Dissolved (ng/L)	Total PCB: Surface Sediment Bed Concentration (µg/g OC)
B-6a	Dominguez Channel Estuary	1	0.19	0.28	0.04	0.06	0.29	0.34	0.08	0.09
	Dominguez Channel Estuary	2	0.13	0.19	0.03	0.04	0.19	0.21	0.07	0.08
	Dominguez Channel Estuary	3	0.10	0.14	0.03	0.04	0.15	0.17	0.06	0.07
	Dominguez Channel Estuary	4	0.09	0.13	0.03	0.04	0.14	0.16	0.05	0.06
	Dominguez Channel Estuary	5	0.09	0.13	0.02	0.03	0.12	0.14	0.05	0.06
	Dominguez Channel Estuary	6	0.09	0.13	0.02	0.03	0.13	0.15	0.05	0.06
	Dominguez Channel Estuary	7	0.08	0.11	0.02	0.03	0.11	0.13	0.05	0.06
	Dominguez Channel Estuary	8	0.07	0.10	0.02	0.03	0.11	0.13	0.05	0.05
	Dominguez Channel Estuary	9	0.07	0.10	0.02	0.03	0.11	0.13	0.05	0.05
	Dominguez Channel Estuary	10	0.07	0.10	0.02	0.03	0.11	0.13	0.05	0.05
	Dominguez Channel Estuary	11	0.06	0.09	0.02	0.03	0.10	0.11	0.05	0.05
	Dominguez Channel Estuary	12	0.08	0.11	0.02	0.03	0.11	0.12	0.05	0.06
	Dominguez Channel Estuary	13	0.07	0.10	0.02	0.03	0.10	0.11	0.05	0.06
	Dominguez Channel Estuary	14	0.07	0.10	0.02	0.03	0.10	0.12	0.05	0.06
	Dominguez Channel Estuary	15	0.07	0.10	0.02	0.03	0.10	0.11	0.05	0.06
	Dominguez Channel Estuary	16	0.08	0.11	0.02	0.03	0.10	0.12	0.05	0.06
	Dominguez Channel Estuary	17	0.07	0.10	0.02	0.03	0.09	0.10	0.05	0.05
	Dominguez Channel Estuary	18	0.07	0.10	0.02	0.03	0.09	0.11	0.05	0.05
	Dominguez Channel Estuary	19	0.07	0.10	0.02	0.03	0.10	0.11	0.05	0.05
	Dominguez Channel Estuary	20	0.07	0.10	0.02	0.03	0.09	0.11	0.05	0.05
B-6b	Consolidated Slip	1	0.26	0.37	0.04	0.05	0.40	0.46	0.08	0.10
	Consolidated Slip	2	0.24	0.35	0.03	0.04	0.33	0.38	0.06	0.07
	Consolidated Slip	3	0.20	0.29	0.03	0.04	0.29	0.34	0.06	0.07
	Consolidated Slip	4	0.17	0.24	0.03	0.04	0.28	0.32	0.06	0.07
	Consolidated Slip	5	0.20	0.29	0.03	0.04	0.27	0.32	0.06	0.07
	Consolidated Slip	6	0.19	0.28	0.02	0.04	0.27	0.31	0.06	0.06
	Consolidated Slip	7	0.18	0.27	0.02	0.03	0.27	0.31	0.05	0.06
	Consolidated Slip	8	0.17	0.24	0.02	0.03	0.26	0.30	0.05	0.06
	Consolidated Slip	9	0.15	0.22	0.02	0.03	0.25	0.29	0.05	0.06
	Consolidated Slip	10	0.15	0.22	0.02	0.03	0.25	0.29	0.05	0.06
	Consolidated Slip	11	0.16	0.23	0.02	0.03	0.25	0.29	0.05	0.06
	Consolidated Slip	12	0.18	0.26	0.02	0.03	0.24	0.28	0.04	0.05
	Consolidated Slip	13	0.15	0.22	0.02	0.03	0.23	0.27	0.04	0.05
	Consolidated Slip	14	0.15	0.22	0.02	0.03	0.23	0.26	0.04	0.05
	Consolidated Slip	15	0.16	0.23	0.02	0.02	0.23	0.26	0.04	0.05
	Consolidated Slip	16	0.17	0.24	0.02	0.02	0.22	0.26	0.04	0.05
	Consolidated Slip	17	0.16	0.24	0.02	0.02	0.22	0.26	0.04	0.04
	Consolidated Slip	18	0.16	0.23	0.02	0.02	0.22	0.25	0.04	0.04
	Consolidated Slip	19	0.15	0.21	0.02	0.02	0.22	0.25	0.04	0.04
	Consolidated Slip	20	0.15	0.21	0.02	0.02	0.22	0.25	0.04	0.04

Table B-6

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + WLR + DCE + TMDL - named Hot Spots (CS + FH) Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-6c	Los Angeles Inner Harbor	1	0.27	0.39	2.71	3.93	0.29	0.34	3.56	4.09
	Los Angeles Inner Harbor	2	0.27	0.39	2.56	3.72	0.27	0.31	3.17	3.65
	Los Angeles Inner Harbor	3	0.22	0.32	2.53	3.67	0.25	0.28	3.07	3.53
	Los Angeles Inner Harbor	4	0.19	0.28	2.52	3.65	0.24	0.28	3.01	3.47
	Los Angeles Inner Harbor	5	0.22	0.31	2.50	3.62	0.24	0.28	2.94	3.39
	Los Angeles Inner Harbor	6	0.21	0.31	2.48	3.60	0.24	0.27	2.88	3.32
	Los Angeles Inner Harbor	7	0.20	0.30	2.46	3.56	0.24	0.27	2.80	3.22
	Los Angeles Inner Harbor	8	0.19	0.27	2.43	3.52	0.23	0.26	2.73	3.14
	Los Angeles Inner Harbor	9	0.18	0.26	2.42	3.50	0.23	0.27	2.68	3.09
	Los Angeles Inner Harbor	10	0.18	0.26	2.41	3.49	0.23	0.26	2.64	3.04
	Los Angeles Inner Harbor	11	0.18	0.27	2.39	3.47	0.22	0.26	2.60	2.99
	Los Angeles Inner Harbor	12	0.20	0.30	2.31	3.36	0.22	0.26	2.43	2.80
	Los Angeles Inner Harbor	13	0.18	0.26	2.30	3.34	0.22	0.25	2.39	2.75
	Los Angeles Inner Harbor	14	0.17	0.25	2.30	3.33	0.22	0.25	2.37	2.72
	Los Angeles Inner Harbor	15	0.18	0.26	2.28	3.31	0.21	0.25	2.33	2.68
	Los Angeles Inner Harbor	16	0.19	0.28	2.28	3.30	0.21	0.25	2.30	2.65
	Los Angeles Inner Harbor	17	0.19	0.27	2.26	3.28	0.21	0.24	2.26	2.60
	Los Angeles Inner Harbor	18	0.18	0.26	2.24	3.25	0.21	0.24	2.22	2.55
	Los Angeles Inner Harbor	19	0.17	0.25	2.24	3.24	0.21	0.24	2.20	2.53
	Los Angeles Inner Harbor	20	0.17	0.24	2.23	3.24	0.21	0.24	2.18	2.51
B-6d	Fish Harbor	1	0.22	0.32	0.07	0.09	0.16	0.19	0.14	0.16
	Fish Harbor	2	0.22	0.32	0.06	0.09	0.15	0.17	0.13	0.15
	Fish Harbor	3	0.18	0.27	0.06	0.09	0.14	0.16	0.13	0.15
	Fish Harbor	4	0.16	0.24	0.06	0.09	0.13	0.15	0.13	0.15
	Fish Harbor	5	0.19	0.28	0.06	0.09	0.14	0.16	0.13	0.15
	Fish Harbor	6	0.20	0.29	0.06	0.09	0.14	0.16	0.13	0.15
	Fish Harbor	7	0.17	0.24	0.06	0.09	0.14	0.16	0.13	0.14
	Fish Harbor	8	0.16	0.23	0.06	0.09	0.13	0.15	0.12	0.14
	Fish Harbor	9	0.15	0.21	0.06	0.09	0.13	0.15	0.12	0.14
	Fish Harbor	10	0.15	0.21	0.06	0.09	0.13	0.15	0.12	0.14
	Fish Harbor	11	0.15	0.22	0.06	0.09	0.13	0.16	0.12	0.14
	Fish Harbor	12	0.17	0.24	0.06	0.09	0.14	0.16	0.12	0.14
	Fish Harbor	13	0.15	0.22	0.06	0.09	0.13	0.15	0.12	0.14
	Fish Harbor	14	0.15	0.21	0.06	0.09	0.13	0.15	0.12	0.14
	Fish Harbor	15	0.15	0.22	0.06	0.09	0.13	0.15	0.12	0.13
	Fish Harbor	16	0.16	0.24	0.06	0.09	0.13	0.15	0.12	0.13
	Fish Harbor	17	0.15	0.22	0.06	0.09	0.13	0.15	0.12	0.13
	Fish Harbor	18	0.15	0.21	0.06	0.09	0.13	0.15	0.11	0.13
	Fish Harbor	19	0.14	0.21	0.06	0.09	0.13	0.15	0.11	0.13
	Fish Harbor	20	0.14	0.20	0.06	0.09	0.13	0.15	0.11	0.13

Table B-6

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + WLR + DCE + TMDL - named Hot Spots (CS + FH) Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-6e	Seaplane Lagoon	1	0.26	0.38	1.58	2.29	0.27	0.31	2.01	2.31
	Seaplane Lagoon	2	0.27	0.39	1.57	2.27	0.25	0.29	1.94	2.24
	Seaplane Lagoon	3	0.23	0.33	1.56	2.26	0.24	0.28	1.89	2.17
	Seaplane Lagoon	4	0.20	0.29	1.55	2.25	0.23	0.27	1.84	2.12
	Seaplane Lagoon	5	0.23	0.33	1.54	2.24	0.24	0.27	1.79	2.06
	Seaplane Lagoon	6	0.22	0.32	1.54	2.23	0.23	0.27	1.75	2.01
	Seaplane Lagoon	7	0.21	0.30	1.53	2.22	0.23	0.26	1.70	1.96
	Seaplane Lagoon	8	0.19	0.28	1.52	2.21	0.23	0.26	1.67	1.92
	Seaplane Lagoon	9	0.18	0.26	1.52	2.20	0.22	0.26	1.63	1.87
	Seaplane Lagoon	10	0.18	0.26	1.51	2.19	0.22	0.25	1.59	1.83
	Seaplane Lagoon	11	0.18	0.26	1.50	2.18	0.22	0.25	1.56	1.80
	Seaplane Lagoon	12	0.20	0.29	1.50	2.17	0.21	0.25	1.53	1.76
	Seaplane Lagoon	13	0.18	0.26	1.49	2.16	0.21	0.24	1.50	1.73
	Seaplane Lagoon	14	0.18	0.25	1.49	2.16	0.21	0.24	1.47	1.70
	Seaplane Lagoon	15	0.18	0.27	1.48	2.15	0.21	0.24	1.45	1.67
	Seaplane Lagoon	16	0.19	0.28	1.48	2.14	0.21	0.24	1.42	1.64
	Seaplane Lagoon	17	0.19	0.27	1.47	2.14	0.21	0.24	1.40	1.61
	Seaplane Lagoon	18	0.18	0.26	1.47	2.13	0.20	0.23	1.38	1.59
	Seaplane Lagoon	19	0.17	0.25	1.46	2.12	0.20	0.23	1.36	1.56
	Seaplane Lagoon	20	0.17	0.25	1.46	2.12	0.20	0.23	1.34	1.54
B-6f	Los Angeles Outer Harbor	1	0.24	0.34	2.49	3.61	0.20	0.23	1.25	1.44
	Los Angeles Outer Harbor	2	0.23	0.34	2.40	3.48	0.19	0.22	1.20	1.38
	Los Angeles Outer Harbor	3	0.20	0.30	2.35	3.41	0.18	0.21	1.16	1.33
	Los Angeles Outer Harbor	4	0.19	0.27	2.33	3.38	0.18	0.21	1.12	1.29
	Los Angeles Outer Harbor	5	0.20	0.30	2.30	3.34	0.18	0.21	1.09	1.26
	Los Angeles Outer Harbor	6	0.20	0.29	2.27	3.29	0.18	0.21	1.06	1.22
	Los Angeles Outer Harbor	7	0.19	0.27	2.24	3.25	0.18	0.21	1.04	1.19
	Los Angeles Outer Harbor	8	0.18	0.26	2.22	3.22	0.18	0.20	1.01	1.16
	Los Angeles Outer Harbor	9	0.17	0.24	2.21	3.20	0.18	0.20	0.99	1.14
	Los Angeles Outer Harbor	10	0.17	0.24	2.20	3.19	0.18	0.20	0.97	1.12
	Los Angeles Outer Harbor	11	0.17	0.25	2.18	3.17	0.18	0.20	0.95	1.10
	Los Angeles Outer Harbor	12	0.19	0.27	2.16	3.13	0.18	0.20	0.94	1.08
	Los Angeles Outer Harbor	13	0.17	0.25	2.15	3.11	0.17	0.20	0.93	1.07
	Los Angeles Outer Harbor	14	0.17	0.24	2.14	3.10	0.17	0.20	0.91	1.05
	Los Angeles Outer Harbor	15	0.17	0.25	2.13	3.08	0.17	0.20	0.90	1.03
	Los Angeles Outer Harbor	16	0.18	0.27	2.11	3.06	0.17	0.20	0.89	1.02
	Los Angeles Outer Harbor	17	0.18	0.26	2.10	3.04	0.17	0.20	0.87	1.00
	Los Angeles Outer Harbor	18	0.17	0.25	2.09	3.03	0.17	0.20	0.86	0.99
	Los Angeles Outer Harbor	19	0.16	0.24	2.08	3.02	0.17	0.20	0.85	0.98
	Los Angeles Outer Harbor	20	0.16	0.24	2.07	3.01	0.17	0.20	0.84	0.97

Table B-6

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + WLR + DCE + TMDL - named Hot Spots (CS + FH) Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-6g	Long Beach Inner Harbor North	1	0.23	0.33	0.87	1.26	0.26	0.29	2.26	2.60
	Long Beach Inner Harbor North	2	0.22	0.32	0.82	1.20	0.23	0.27	2.09	2.40
	Long Beach Inner Harbor North	3	0.19	0.28	0.81	1.18	0.22	0.25	1.99	2.29
	Long Beach Inner Harbor North	4	0.16	0.24	0.80	1.17	0.21	0.24	1.92	2.21
	Long Beach Inner Harbor North	5	0.20	0.29	0.79	1.15	0.21	0.24	1.85	2.13
	Long Beach Inner Harbor North	6	0.19	0.28	0.79	1.14	0.20	0.24	1.79	2.05
	Long Beach Inner Harbor North	7	0.18	0.26	0.78	1.13	0.20	0.23	1.72	1.98
	Long Beach Inner Harbor North	8	0.16	0.24	0.77	1.11	0.20	0.23	1.67	1.92
	Long Beach Inner Harbor North	9	0.15	0.22	0.76	1.10	0.20	0.23	1.62	1.86
	Long Beach Inner Harbor North	10	0.15	0.22	0.76	1.10	0.20	0.22	1.58	1.82
	Long Beach Inner Harbor North	11	0.16	0.22	0.75	1.09	0.20	0.22	1.54	1.77
	Long Beach Inner Harbor North	12	0.17	0.24	0.73	1.05	0.19	0.22	1.47	1.69
	Long Beach Inner Harbor North	13	0.15	0.22	0.72	1.04	0.19	0.22	1.43	1.65
	Long Beach Inner Harbor North	14	0.15	0.21	0.72	1.04	0.18	0.21	1.40	1.61
	Long Beach Inner Harbor North	15	0.16	0.23	0.71	1.03	0.18	0.21	1.37	1.58
	Long Beach Inner Harbor North	16	0.17	0.24	0.71	1.03	0.18	0.21	1.35	1.55
	Long Beach Inner Harbor North	17	0.16	0.24	0.70	1.02	0.18	0.21	1.32	1.52
	Long Beach Inner Harbor North	18	0.16	0.23	0.70	1.01	0.18	0.21	1.29	1.49
	Long Beach Inner Harbor North	19	0.15	0.21	0.69	1.01	0.18	0.21	1.27	1.46
	Long Beach Inner Harbor North	20	0.14	0.21	0.69	1.00	0.18	0.21	1.25	1.44
B-6h	Long Beach Inner Harbor South	1	0.22	0.32	1.93	2.80	0.24	0.28	4.24	4.88
	Long Beach Inner Harbor South	2	0.21	0.31	1.87	2.72	0.22	0.26	3.97	4.57
	Long Beach Inner Harbor South	3	0.18	0.27	1.85	2.68	0.21	0.24	3.78	4.34
	Long Beach Inner Harbor South	4	0.16	0.23	1.84	2.66	0.21	0.24	3.61	4.15
	Long Beach Inner Harbor South	5	0.19	0.28	1.82	2.64	0.21	0.24	3.45	3.97
	Long Beach Inner Harbor South	6	0.19	0.27	1.80	2.61	0.20	0.23	3.31	3.80
	Long Beach Inner Harbor South	7	0.17	0.25	1.78	2.59	0.20	0.23	3.17	3.65
	Long Beach Inner Harbor South	8	0.16	0.23	1.76	2.56	0.20	0.23	3.05	3.51
	Long Beach Inner Harbor South	9	0.14	0.21	1.75	2.54	0.20	0.23	2.94	3.38
	Long Beach Inner Harbor South	10	0.14	0.21	1.74	2.53	0.19	0.22	2.84	3.27
	Long Beach Inner Harbor South	11	0.15	0.22	1.73	2.51	0.19	0.22	2.75	3.16
	Long Beach Inner Harbor South	12	0.16	0.23	1.70	2.47	0.19	0.22	2.64	3.04
	Long Beach Inner Harbor South	13	0.15	0.21	1.69	2.45	0.18	0.21	2.57	2.95
	Long Beach Inner Harbor South	14	0.14	0.21	1.68	2.44	0.18	0.21	2.50	2.87
	Long Beach Inner Harbor South	15	0.15	0.22	1.67	2.43	0.18	0.21	2.43	2.79
	Long Beach Inner Harbor South	16	0.16	0.23	1.67	2.42	0.18	0.21	2.37	2.72
	Long Beach Inner Harbor South	17	0.16	0.23	1.65	2.40	0.18	0.21	2.31	2.65
	Long Beach Inner Harbor South	18	0.15	0.22	1.64	2.38	0.18	0.21	2.25	2.59
	Long Beach Inner Harbor South	19	0.14	0.21	1.64	2.38	0.18	0.21	2.20	2.53
	Long Beach Inner Harbor South	20	0.14	0.20	1.63	2.37	0.18	0.20	2.15	2.48

Table B-6

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + WLR + DCE + TMDL - named Hot Spots (CS + FH) Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-6i	Long Beach Outer Harbor	1	0.21	0.31	1.91	2.77	0.19	0.22	1.03	1.18
	Long Beach Outer Harbor	2	0.21	0.30	1.86	2.69	0.18	0.20	0.97	1.11
	Long Beach Outer Harbor	3	0.18	0.27	1.84	2.66	0.17	0.20	0.92	1.06
	Long Beach Outer Harbor	4	0.16	0.23	1.82	2.63	0.17	0.19	0.88	1.02
	Long Beach Outer Harbor	5	0.19	0.28	1.80	2.61	0.17	0.19	0.85	0.97
	Long Beach Outer Harbor	6	0.19	0.27	1.78	2.58	0.17	0.19	0.81	0.94
	Long Beach Outer Harbor	7	0.17	0.25	1.76	2.55	0.17	0.19	0.78	0.90
	Long Beach Outer Harbor	8	0.16	0.23	1.74	2.53	0.17	0.19	0.76	0.87
	Long Beach Outer Harbor	9	0.15	0.21	1.73	2.51	0.16	0.19	0.73	0.84
	Long Beach Outer Harbor	10	0.15	0.21	1.72	2.49	0.16	0.19	0.71	0.82
	Long Beach Outer Harbor	11	0.15	0.22	1.70	2.47	0.16	0.19	0.69	0.79
	Long Beach Outer Harbor	12	0.16	0.24	1.67	2.43	0.16	0.19	0.67	0.77
	Long Beach Outer Harbor	13	0.15	0.22	1.66	2.41	0.16	0.18	0.65	0.75
	Long Beach Outer Harbor	14	0.15	0.21	1.65	2.40	0.16	0.18	0.64	0.73
	Long Beach Outer Harbor	15	0.16	0.23	1.64	2.38	0.16	0.18	0.62	0.71
	Long Beach Outer Harbor	16	0.16	0.24	1.63	2.36	0.16	0.18	0.61	0.70
	Long Beach Outer Harbor	17	0.16	0.23	1.62	2.35	0.16	0.18	0.59	0.68
	Long Beach Outer Harbor	18	0.16	0.23	1.61	2.33	0.16	0.18	0.58	0.67
	Long Beach Outer Harbor	19	0.15	0.21	1.60	2.32	0.16	0.18	0.57	0.66
	Long Beach Outer Harbor	20	0.14	0.21	1.59	2.31	0.16	0.18	0.56	0.64
B-6j	Los Angeles River Estuary	1	0.17	0.25	0.65	0.94	0.26	0.30	3.48	4.00
	Los Angeles River Estuary	2	0.14	0.20	0.29	0.42	0.18	0.21	1.52	1.74
	Los Angeles River Estuary	3	0.13	0.19	0.26	0.37	0.18	0.20	1.36	1.56
	Los Angeles River Estuary	4	0.12	0.17	0.25	0.37	0.18	0.20	1.34	1.54
	Los Angeles River Estuary	5	0.14	0.20	0.23	0.33	0.17	0.20	1.21	1.39
	Los Angeles River Estuary	6	0.13	0.19	0.22	0.32	0.17	0.20	1.16	1.33
	Los Angeles River Estuary	7	0.12	0.18	0.20	0.28	0.16	0.19	1.02	1.17
	Los Angeles River Estuary	8	0.11	0.16	0.17	0.24	0.16	0.18	0.86	0.99
	Los Angeles River Estuary	9	0.10	0.15	0.16	0.23	0.15	0.18	0.82	0.94
	Los Angeles River Estuary	10	0.10	0.15	0.16	0.23	0.15	0.17	0.81	0.93
	Los Angeles River Estuary	11	0.11	0.16	0.16	0.23	0.16	0.18	0.80	0.92
	Los Angeles River Estuary	12	0.11	0.16	0.10	0.15	0.13	0.15	0.52	0.60
	Los Angeles River Estuary	13	0.11	0.15	0.10	0.14	0.14	0.16	0.49	0.57
	Los Angeles River Estuary	14	0.11	0.15	0.10	0.14	0.14	0.16	0.50	0.57
	Los Angeles River Estuary	15	0.11	0.16	0.09	0.13	0.14	0.16	0.47	0.54
	Los Angeles River Estuary	16	0.12	0.17	0.10	0.14	0.14	0.16	0.49	0.56
	Los Angeles River Estuary	17	0.11	0.16	0.10	0.14	0.14	0.16	0.49	0.56
	Los Angeles River Estuary	18	0.11	0.16	0.09	0.13	0.14	0.16	0.45	0.52
	Los Angeles River Estuary	19	0.10	0.15	0.09	0.13	0.13	0.15	0.45	0.52
	Los Angeles River Estuary	20	0.10	0.15	0.09	0.13	0.13	0.15	0.46	0.53

Table B-6

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + WLR + DCE + TMDL - named Hot Spots (CS + FH) Model Scenario

Table No.	FMZs	Model Years	Total DDX Water Column Dissolved (ng/L)	Total DDX Water Column Particulate (µg/g OC)	Total DDX Sediment Bed Dissolved (ng/L)	Total DDX Surface Sediment Bed Concentration (µg/g OC)	Total PCB Water Column Dissolved (ng/L)	Total PCB Water Column Particulate (µg/g OC)	Total PCB Sediment Bed Dissolved (ng/L)	Total PCB Surface Sediment Bed Concentration (µg/g OC)
B-6k	Eastern San Pedro Bay	1	0.21	0.30	0.93	1.35	0.20	0.23	1.57	1.80
	Eastern San Pedro Bay	2	0.19	0.28	0.82	1.19	0.18	0.20	1.28	1.47
	Eastern San Pedro Bay	3	0.17	0.25	0.81	1.17	0.17	0.19	1.23	1.42
	Eastern San Pedro Bay	4	0.15	0.22	0.80	1.17	0.17	0.19	1.21	1.39
	Eastern San Pedro Bay	5	0.18	0.25	0.79	1.15	0.17	0.19	1.18	1.35
	Eastern San Pedro Bay	6	0.17	0.25	0.79	1.14	0.17	0.19	1.15	1.33
	Eastern San Pedro Bay	7	0.16	0.24	0.77	1.12	0.16	0.19	1.11	1.28
	Eastern San Pedro Bay	8	0.15	0.22	0.76	1.10	0.16	0.19	1.07	1.23
	Eastern San Pedro Bay	9	0.14	0.20	0.75	1.09	0.16	0.18	1.05	1.21
	Eastern San Pedro Bay	10	0.14	0.20	0.75	1.09	0.16	0.18	1.04	1.20
	Eastern San Pedro Bay	11	0.14	0.21	0.75	1.08	0.16	0.18	1.02	1.17
	Eastern San Pedro Bay	12	0.15	0.22	0.68	0.99	0.16	0.18	0.89	1.02
	Eastern San Pedro Bay	13	0.14	0.21	0.68	0.98	0.16	0.18	0.87	1.00
	Eastern San Pedro Bay	14	0.14	0.20	0.68	0.98	0.16	0.18	0.87	1.00
	Eastern San Pedro Bay	15	0.15	0.21	0.67	0.98	0.15	0.18	0.85	0.98
	Eastern San Pedro Bay	16	0.15	0.22	0.67	0.97	0.15	0.18	0.84	0.97
	Eastern San Pedro Bay	17	0.15	0.22	0.67	0.96	0.15	0.18	0.83	0.95
	Eastern San Pedro Bay	18	0.15	0.21	0.66	0.95	0.15	0.18	0.81	0.93
	Eastern San Pedro Bay	19	0.14	0.20	0.66	0.95	0.15	0.17	0.80	0.92
	Eastern San Pedro Bay	20	0.14	0.20	0.66	0.95	0.15	0.17	0.79	0.91
B-6l	Outside Harbor	1	0.19	0.27	5.96	8.65	0.16	0.19	0.33	0.37
	Outside Harbor	2	0.18	0.26	5.89	8.55	0.16	0.18	0.31	0.36
	Outside Harbor	3	0.17	0.24	5.89	8.54	0.16	0.18	0.31	0.35
	Outside Harbor	4	0.16	0.23	5.86	8.49	0.16	0.18	0.30	0.34
	Outside Harbor	5	0.17	0.25	5.82	8.45	0.16	0.18	0.29	0.34
	Outside Harbor	6	0.17	0.24	5.80	8.42	0.16	0.18	0.29	0.33
	Outside Harbor	7	0.16	0.24	5.76	8.35	0.16	0.18	0.28	0.32
	Outside Harbor	8	0.16	0.23	5.70	8.27	0.16	0.18	0.27	0.32
	Outside Harbor	9	0.15	0.22	5.66	8.22	0.16	0.18	0.27	0.31
	Outside Harbor	10	0.15	0.22	5.64	8.18	0.16	0.18	0.26	0.30
	Outside Harbor	11	0.15	0.22	5.60	8.13	0.16	0.18	0.26	0.30
	Outside Harbor	12	0.16	0.23	5.55	8.04	0.16	0.18	0.25	0.29
	Outside Harbor	13	0.15	0.22	5.52	8.00	0.16	0.18	0.25	0.28
	Outside Harbor	14	0.15	0.22	5.49	7.96	0.16	0.18	0.24	0.28
	Outside Harbor	15	0.15	0.22	5.46	7.91	0.16	0.18	0.24	0.28
	Outside Harbor	16	0.16	0.23	5.41	7.85	0.16	0.18	0.24	0.27
	Outside Harbor	17	0.16	0.23	5.38	7.80	0.16	0.18	0.23	0.27
	Outside Harbor	18	0.16	0.23	5.33	7.74	0.16	0.18	0.23	0.26
	Outside Harbor	19	0.15	0.22	5.31	7.69	0.16	0.18	0.22	0.26
	Outside Harbor	20	0.15	0.22	5.28	7.66	0.16	0.18	0.22	0.26

Notes:

µg/g: microgram per gram

CS: Consolidated Slip (TMDL hot spot)

DCE: Dominguez Channel Estuary (TMDL hot spot upstream of Consolidated Slip)

DDX: dichlorodiphenyltrichloroethane-related compounds (4,4'-DDT, 4,4'-DDE, 4,4'-DDD, 2,4'-DDT, 2,4'-DDE, and 2,4'-DDD)

FH: Fish Harbor (TMDL hot spot)

FMZ: fish movement zone

ng/L: nanogram per liter

OC: organic carbon

PCB: polychlorinated biphenyl

WLR: Watershed Load Reduction

WRAP: Water Resources Action Plan

Table B-7

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + DCE + WLR + SedLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-7a	Dominguez Channel Estuary	1	0.12	0.17	0.00001	0.00002	0.11	0.13	0.0001	0.0002
	Dominguez Channel Estuary	2	0.07	0.10	0.00001	0.00001	0.05	0.05	0.0001	0.0001
	Dominguez Channel Estuary	3	0.06	0.09	0.00001	0.00002	0.05	0.05	0.0001	0.0001
	Dominguez Channel Estuary	4	0.06	0.08	0.00001	0.00002	0.05	0.06	0.0001	0.0001
	Dominguez Channel Estuary	5	0.07	0.10	0.00001	0.00002	0.05	0.06	0.0001	0.0001
	Dominguez Channel Estuary	6	0.07	0.10	0.00002	0.00002	0.05	0.06	0.0001	0.0001
	Dominguez Channel Estuary	7	0.06	0.09	0.00001	0.00002	0.05	0.05	0.0001	0.0001
	Dominguez Channel Estuary	8	0.05	0.08	0.00001	0.00002	0.05	0.06	0.0001	0.0001
	Dominguez Channel Estuary	9	0.05	0.08	0.00001	0.00002	0.05	0.06	0.0001	0.0001
	Dominguez Channel Estuary	10	0.06	0.08	0.00002	0.00002	0.05	0.06	0.0001	0.0001
	Dominguez Channel Estuary	11	0.05	0.07	0.00001	0.00002	0.04	0.05	0.0001	0.0001
	Dominguez Channel Estuary	12	0.05	0.08	0.00001	0.00001	0.05	0.05	0.0001	0.0001
	Dominguez Channel Estuary	13	0.05	0.07	0.00001	0.00001	0.05	0.05	0.0001	0.0001
	Dominguez Channel Estuary	14	0.05	0.08	0.00001	0.00001	0.05	0.06	0.0001	0.0001
	Dominguez Channel Estuary	15	0.05	0.08	0.00001	0.00001	0.05	0.06	0.0001	0.0001
	Dominguez Channel Estuary	16	0.06	0.09	0.00001	0.00002	0.05	0.06	0.0001	0.0001
	Dominguez Channel Estuary	17	0.06	0.08	0.00001	0.00002	0.05	0.05	0.0001	0.0001
	Dominguez Channel Estuary	18	0.05	0.08	0.00001	0.00001	0.05	0.06	0.0001	0.0001
	Dominguez Channel Estuary	19	0.05	0.08	0.00001	0.00002	0.05	0.06	0.0001	0.0001
	Dominguez Channel Estuary	20	0.05	0.08	0.00001	0.00002	0.05	0.06	0.0001	0.0001
B-7b	Consolidated Slip	1	0.21	0.30	0.00004	0.00006	0.16	0.18	0.0003	0.0003
	Consolidated Slip	2	0.18	0.26	0.00008	0.00012	0.13	0.14	0.0006	0.0006
	Consolidated Slip	3	0.17	0.24	0.00012	0.00018	0.13	0.15	0.0009	0.0010
	Consolidated Slip	4	0.14	0.20	0.00016	0.00023	0.13	0.14	0.0012	0.0013
	Consolidated Slip	5	0.17	0.25	0.00019	0.00028	0.13	0.14	0.0014	0.0017
	Consolidated Slip	6	0.17	0.24	0.00023	0.00033	0.13	0.15	0.0017	0.0020
	Consolidated Slip	7	0.15	0.22	0.00025	0.00037	0.13	0.14	0.0019	0.0022
	Consolidated Slip	8	0.14	0.20	0.00027	0.00040	0.13	0.14	0.0021	0.0024
	Consolidated Slip	9	0.13	0.19	0.00030	0.00044	0.12	0.14	0.0023	0.0027
	Consolidated Slip	10	0.13	0.19	0.00033	0.00047	0.12	0.14	0.0026	0.0030
	Consolidated Slip	11	0.13	0.19	0.00035	0.00050	0.12	0.14	0.0028	0.0032
	Consolidated Slip	12	0.14	0.21	0.00031	0.00045	0.12	0.14	0.0025	0.0029
	Consolidated Slip	13	0.13	0.19	0.00033	0.00048	0.12	0.14	0.0027	0.0031
	Consolidated Slip	14	0.13	0.19	0.00036	0.00052	0.13	0.14	0.0029	0.0034
	Consolidated Slip	15	0.14	0.20	0.00038	0.00055	0.13	0.14	0.0031	0.0036
	Consolidated Slip	16	0.15	0.21	0.00040	0.00058	0.13	0.14	0.0033	0.0038
	Consolidated Slip	17	0.14	0.21	0.00041	0.00059	0.12	0.14	0.0034	0.0039
	Consolidated Slip	18	0.14	0.20	0.00042	0.00060	0.13	0.14	0.0034	0.0039
	Consolidated Slip	19	0.13	0.19	0.00044	0.00064	0.12	0.14	0.0036	0.0042
	Consolidated Slip	20	0.13	0.19	0.00046	0.00067	0.12	0.14	0.0038	0.0044

Table B-7

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + DCE + WLR + SedLR Model Scenario

Table No.	FMZs	Model Years	Total DDX Water Column Dissolved (ng/L)	Total DDX Water Column Particulate (µg/g OC)	Total DDX Sediment Bed Dissolved (ng/L)	Total DDX Surface Sediment Bed Concentration (µg/g OC)	Total PCB Water Column Dissolved (ng/L)	Total PCB Water Column Particulate (µg/g OC)	Total PCB Sediment Bed Dissolved (ng/L)	Total PCB Surface Sediment Bed Concentration (µg/g OC)
B-7c	Los Angeles Inner Harbor	1	0.22	0.32	0.00011	0.00016	0.17	0.19	0.0008	0.0009
	Los Angeles Inner Harbor	2	0.21	0.30	0.00028	0.00041	0.15	0.17	0.0020	0.0023
	Los Angeles Inner Harbor	3	0.19	0.28	0.00043	0.00063	0.15	0.17	0.0031	0.0036
	Los Angeles Inner Harbor	4	0.16	0.24	0.00056	0.00081	0.14	0.17	0.0042	0.0048
	Los Angeles Inner Harbor	5	0.19	0.27	0.00067	0.00098	0.15	0.17	0.01	0.01
	Los Angeles Inner Harbor	6	0.19	0.27	0.00081	0.00118	0.14	0.17	0.01	0.01
	Los Angeles Inner Harbor	7	0.17	0.25	0.00092	0.00133	0.14	0.17	0.01	0.01
	Los Angeles Inner Harbor	8	0.16	0.23	0.00100	0.00145	0.14	0.17	0.01	0.01
	Los Angeles Inner Harbor	9	0.15	0.22	0.00109	0.00158	0.14	0.16	0.01	0.01
	Los Angeles Inner Harbor	10	0.15	0.22	0.00117	0.00170	0.14	0.16	0.01	0.01
	Los Angeles Inner Harbor	11	0.15	0.22	0.00125	0.00181	0.14	0.17	0.01	0.01
	Los Angeles Inner Harbor	12	0.17	0.24	0.00127	0.00185	0.14	0.17	0.01	0.01
	Los Angeles Inner Harbor	13	0.15	0.22	0.00135	0.00196	0.14	0.17	0.01	0.01
	Los Angeles Inner Harbor	14	0.15	0.22	0.00142	0.00206	0.14	0.17	0.01	0.01
	Los Angeles Inner Harbor	15	0.16	0.23	0.00149	0.00216	0.14	0.17	0.01	0.01
	Los Angeles Inner Harbor	16	0.17	0.25	0.00157	0.00227	0.14	0.17	0.01	0.01
	Los Angeles Inner Harbor	17	0.16	0.24	0.00163	0.00236	0.14	0.17	0.01	0.01
	Los Angeles Inner Harbor	18	0.16	0.23	0.00169	0.00245	0.14	0.17	0.01	0.01
	Los Angeles Inner Harbor	19	0.15	0.22	0.00175	0.00254	0.14	0.17	0.01	0.02
	Los Angeles Inner Harbor	20	0.15	0.22	0.00181	0.00263	0.14	0.16	0.01	0.02
B-7d	Fish Harbor	1	0.19	0.28	0.00016	0.00023	0.13	0.15	0.001	0.001
	Fish Harbor	2	0.19	0.27	0.00042	0.00060	0.12	0.14	0.003	0.003
	Fish Harbor	3	0.16	0.23	0.00063	0.00092	0.12	0.13	0.004	0.005
	Fish Harbor	4	0.14	0.21	0.00081	0.00118	0.11	0.13	0.01	0.01
	Fish Harbor	5	0.17	0.25	0.00099	0.00143	0.12	0.13	0.01	0.01
	Fish Harbor	6	0.18	0.26	0.00121	0.00175	0.12	0.13	0.01	0.01
	Fish Harbor	7	0.15	0.21	0.00138	0.00199	0.12	0.13	0.01	0.01
	Fish Harbor	8	0.14	0.20	0.00151	0.00220	0.11	0.13	0.01	0.01
	Fish Harbor	9	0.13	0.19	0.00164	0.00238	0.11	0.13	0.01	0.01
	Fish Harbor	10	0.13	0.19	0.00176	0.00255	0.11	0.13	0.01	0.01
	Fish Harbor	11	0.13	0.19	0.00188	0.00273	0.11	0.13	0.01	0.01
	Fish Harbor	12	0.15	0.21	0.00200	0.00290	0.12	0.13	0.01	0.02
	Fish Harbor	13	0.13	0.19	0.00212	0.00307	0.11	0.13	0.01	0.02
	Fish Harbor	14	0.13	0.19	0.00223	0.00323	0.11	0.13	0.02	0.02
	Fish Harbor	15	0.14	0.20	0.00233	0.00338	0.11	0.13	0.02	0.02
	Fish Harbor	16	0.15	0.22	0.00246	0.00356	0.12	0.13	0.02	0.02
	Fish Harbor	17	0.14	0.20	0.00257	0.00373	0.12	0.13	0.02	0.02
	Fish Harbor	18	0.13	0.19	0.00267	0.00387	0.11	0.13	0.02	0.02
	Fish Harbor	19	0.13	0.19	0.00276	0.00400	0.11	0.13	0.02	0.02
	Fish Harbor	20	0.13	0.19	0.00285	0.00413	0.11	0.13	0.02	0.02

Table B-7
Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + DCE + WLR + SedLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-7e	Seaplane Lagoon	1	0.21	0.31	0.00027	0.00039	0.14	0.16	0.002	0.002
	Seaplane Lagoon	2	0.21	0.30	0.00071	0.00102	0.12	0.14	0.004	0.005
	Seaplane Lagoon	3	0.18	0.27	0.00108	0.00157	0.12	0.14	0.01	0.01
	Seaplane Lagoon	4	0.16	0.23	0.00139	0.00202	0.12	0.14	0.01	0.01
	Seaplane Lagoon	5	0.19	0.28	0.00168	0.00244	0.12	0.14	0.01	0.01
	Seaplane Lagoon	6	0.19	0.27	0.00206	0.00298	0.12	0.14	0.01	0.01
	Seaplane Lagoon	7	0.17	0.24	0.00234	0.00340	0.12	0.14	0.01	0.02
	Seaplane Lagoon	8	0.15	0.22	0.00259	0.00375	0.12	0.14	0.02	0.02
	Seaplane Lagoon	9	0.14	0.21	0.00280	0.00407	0.12	0.14	0.02	0.02
	Seaplane Lagoon	10	0.15	0.21	0.00301	0.00436	0.12	0.14	0.02	0.02
	Seaplane Lagoon	11	0.15	0.22	0.00321	0.00466	0.12	0.14	0.02	0.02
	Seaplane Lagoon	12	0.16	0.23	0.00343	0.00497	0.12	0.14	0.02	0.02
	Seaplane Lagoon	13	0.15	0.22	0.00363	0.00527	0.12	0.14	0.02	0.03
	Seaplane Lagoon	14	0.15	0.21	0.00382	0.00554	0.12	0.14	0.02	0.03
	Seaplane Lagoon	15	0.15	0.22	0.00400	0.00580	0.12	0.14	0.02	0.03
	Seaplane Lagoon	16	0.16	0.24	0.00421	0.00610	0.12	0.14	0.03	0.03
	Seaplane Lagoon	17	0.16	0.23	0.00440	0.00639	0.12	0.14	0.03	0.03
	Seaplane Lagoon	18	0.15	0.22	0.00458	0.00665	0.12	0.14	0.03	0.03
	Seaplane Lagoon	19	0.14	0.21	0.00475	0.00688	0.12	0.14	0.03	0.03
	Seaplane Lagoon	20	0.14	0.21	0.00490	0.00711	0.12	0.14	0.03	0.03
B-7f	Los Angeles Outer Harbor	1	0.21	0.31	0.00019	0.00027	0.16	0.19	0.001	0.002
	Los Angeles Outer Harbor	2	0.21	0.30	0.00048	0.00070	0.16	0.18	0.003	0.004
	Los Angeles Outer Harbor	3	0.19	0.27	0.00074	0.00108	0.15	0.18	0.01	0.01
	Los Angeles Outer Harbor	4	0.17	0.25	0.00097	0.00141	0.15	0.18	0.01	0.01
	Los Angeles Outer Harbor	5	0.19	0.28	0.00117	0.00170	0.15	0.18	0.01	0.01
	Los Angeles Outer Harbor	6	0.19	0.27	0.00140	0.00204	0.15	0.18	0.01	0.01
	Los Angeles Outer Harbor	7	0.17	0.25	0.00158	0.00230	0.15	0.18	0.01	0.01
	Los Angeles Outer Harbor	8	0.16	0.24	0.00174	0.00252	0.15	0.18	0.01	0.02
	Los Angeles Outer Harbor	9	0.16	0.23	0.00189	0.00274	0.15	0.18	0.01	0.02
	Los Angeles Outer Harbor	10	0.16	0.23	0.00204	0.00296	0.15	0.18	0.02	0.02
	Los Angeles Outer Harbor	11	0.16	0.23	0.00217	0.00315	0.15	0.18	0.02	0.02
	Los Angeles Outer Harbor	12	0.17	0.25	0.00227	0.00329	0.15	0.18	0.02	0.02
	Los Angeles Outer Harbor	13	0.16	0.23	0.00240	0.00349	0.15	0.18	0.02	0.02
	Los Angeles Outer Harbor	14	0.16	0.23	0.00253	0.00368	0.15	0.18	0.02	0.02
	Los Angeles Outer Harbor	15	0.16	0.24	0.00265	0.00385	0.15	0.18	0.02	0.02
	Los Angeles Outer Harbor	16	0.17	0.25	0.00279	0.00405	0.15	0.18	0.02	0.02
	Los Angeles Outer Harbor	17	0.17	0.24	0.00291	0.00422	0.15	0.18	0.02	0.02
	Los Angeles Outer Harbor	18	0.16	0.23	0.00301	0.00437	0.15	0.18	0.02	0.03
	Los Angeles Outer Harbor	19	0.16	0.23	0.00312	0.00453	0.15	0.18	0.02	0.03
	Los Angeles Outer Harbor	20	0.16	0.22	0.00323	0.00468	0.15	0.18	0.02	0.03

Table B-7

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + DCE + WLR + SedLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-7g	Long Beach Inner Harbor North	1	0.21	0.30	0.00016	0.00023	0.15	0.18	0.001	0.001
	Long Beach Inner Harbor North	2	0.18	0.27	0.00039	0.00056	0.13	0.15	0.003	0.003
	Long Beach Inner Harbor North	3	0.17	0.25	0.00059	0.00085	0.13	0.15	0.004	0.005
	Long Beach Inner Harbor North	4	0.14	0.21	0.00075	0.00109	0.13	0.15	0.01	0.01
	Long Beach Inner Harbor North	5	0.18	0.26	0.00090	0.00131	0.13	0.15	0.01	0.01
	Long Beach Inner Harbor North	6	0.17	0.25	0.00110	0.00160	0.13	0.15	0.01	0.01
	Long Beach Inner Harbor North	7	0.16	0.23	0.00124	0.00181	0.13	0.15	0.01	0.01
	Long Beach Inner Harbor North	8	0.14	0.21	0.00136	0.00197	0.13	0.15	0.01	0.01
	Long Beach Inner Harbor North	9	0.13	0.19	0.00146	0.00212	0.13	0.15	0.01	0.01
	Long Beach Inner Harbor North	10	0.13	0.19	0.00156	0.00227	0.13	0.15	0.01	0.01
	Long Beach Inner Harbor North	11	0.14	0.20	0.00166	0.00240	0.13	0.15	0.01	0.01
	Long Beach Inner Harbor North	12	0.15	0.21	0.00171	0.00248	0.13	0.15	0.01	0.01
	Long Beach Inner Harbor North	13	0.14	0.20	0.00180	0.00261	0.13	0.15	0.01	0.01
	Long Beach Inner Harbor North	14	0.13	0.19	0.00189	0.00274	0.13	0.15	0.01	0.02
	Long Beach Inner Harbor North	15	0.14	0.21	0.00198	0.00287	0.13	0.15	0.01	0.02
	Long Beach Inner Harbor North	16	0.15	0.22	0.00208	0.00302	0.13	0.15	0.01	0.02
	Long Beach Inner Harbor North	17	0.15	0.21	0.00216	0.00314	0.13	0.15	0.01	0.02
	Long Beach Inner Harbor North	18	0.14	0.21	0.00223	0.00324	0.13	0.15	0.02	0.02
	Long Beach Inner Harbor North	19	0.13	0.19	0.00231	0.00335	0.13	0.15	0.02	0.02
	Long Beach Inner Harbor North	20	0.13	0.19	0.00238	0.00346	0.13	0.15	0.02	0.02
B-7h	Long Beach Inner Harbor South	1	0.20	0.30	0.00028	0.00041	0.15	0.17	0.002	0.002
	Long Beach Inner Harbor South	2	0.18	0.27	0.00069	0.00101	0.13	0.15	0.005	0.005
	Long Beach Inner Harbor South	3	0.17	0.25	0.00106	0.00154	0.13	0.15	0.01	0.01
	Long Beach Inner Harbor South	4	0.14	0.21	0.00135	0.00196	0.13	0.15	0.01	0.01
	Long Beach Inner Harbor South	5	0.18	0.26	0.00163	0.00236	0.13	0.15	0.01	0.01
	Long Beach Inner Harbor South	6	0.18	0.25	0.00200	0.00290	0.13	0.15	0.01	0.02
	Long Beach Inner Harbor South	7	0.16	0.23	0.00226	0.00328	0.13	0.15	0.02	0.02
	Long Beach Inner Harbor South	8	0.14	0.21	0.00248	0.00360	0.13	0.15	0.02	0.02
	Long Beach Inner Harbor South	9	0.13	0.19	0.00268	0.00388	0.13	0.15	0.02	0.02
	Long Beach Inner Harbor South	10	0.13	0.19	0.00286	0.00414	0.13	0.15	0.02	0.02
	Long Beach Inner Harbor South	11	0.14	0.20	0.00303	0.00440	0.13	0.15	0.02	0.02
	Long Beach Inner Harbor South	12	0.15	0.21	0.00317	0.00460	0.13	0.15	0.02	0.02
	Long Beach Inner Harbor South	13	0.14	0.20	0.00335	0.00485	0.13	0.15	0.02	0.03
	Long Beach Inner Harbor South	14	0.13	0.19	0.00350	0.00508	0.13	0.15	0.02	0.03
	Long Beach Inner Harbor South	15	0.14	0.21	0.00366	0.00531	0.13	0.15	0.02	0.03
	Long Beach Inner Harbor South	16	0.15	0.22	0.00385	0.00558	0.13	0.15	0.03	0.03
	Long Beach Inner Harbor South	17	0.15	0.21	0.00401	0.00582	0.13	0.15	0.03	0.03
	Long Beach Inner Harbor South	18	0.14	0.21	0.00416	0.00604	0.13	0.15	0.03	0.03
	Long Beach Inner Harbor South	19	0.13	0.19	0.00430	0.00624	0.13	0.15	0.03	0.03
	Long Beach Inner Harbor South	20	0.13	0.19	0.00443	0.00643	0.13	0.15	0.03	0.03

Table B-7

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + DCE + WLR + SedLR Model Scenario

Table No.	FMZs	Model Years	Total DDX: Water Column Dissolved (ng/L)	Total DDX: Water Column Particulate (µg/g OC)	Total DDX: Sediment Bed Dissolved (ng/L)	Total DDX: Surface Sediment Bed Concentration (µg/g OC)	Total PCB: Water Column Dissolved (ng/L)	Total PCB: Water Column Particulate (µg/g OC)	Total PCB: Sediment Bed Dissolved (ng/L)	Total PCB: Surface Sediment Bed Concentration (µg/g OC)
B-7i	Long Beach Outer Harbor	1	0.20	0.29	0.00030	0.00044	0.15	0.17	0.002	0.002
	Long Beach Outer Harbor	2	0.19	0.27	0.00077	0.00112	0.14	0.16	0.01	0.01
	Long Beach Outer Harbor	3	0.17	0.25	0.00120	0.00174	0.14	0.16	0.01	0.01
	Long Beach Outer Harbor	4	0.15	0.22	0.00154	0.00224	0.14	0.16	0.01	0.01
	Long Beach Outer Harbor	5	0.18	0.27	0.00188	0.00272	0.14	0.16	0.01	0.02
	Long Beach Outer Harbor	6	0.18	0.26	0.00229	0.00333	0.14	0.16	0.02	0.02
	Long Beach Outer Harbor	7	0.16	0.24	0.00261	0.00378	0.14	0.16	0.02	0.02
	Long Beach Outer Harbor	8	0.15	0.22	0.00287	0.00416	0.14	0.16	0.02	0.02
	Long Beach Outer Harbor	9	0.14	0.20	0.00310	0.00450	0.14	0.16	0.02	0.02
	Long Beach Outer Harbor	10	0.14	0.20	0.00333	0.00482	0.14	0.16	0.02	0.03
	Long Beach Outer Harbor	11	0.14	0.21	0.00355	0.00514	0.14	0.16	0.02	0.03
	Long Beach Outer Harbor	12	0.15	0.22	0.00370	0.00537	0.14	0.16	0.02	0.03
	Long Beach Outer Harbor	13	0.14	0.21	0.00392	0.00568	0.14	0.16	0.02	0.03
	Long Beach Outer Harbor	14	0.14	0.20	0.00411	0.00596	0.14	0.16	0.03	0.03
	Long Beach Outer Harbor	15	0.15	0.21	0.00429	0.00622	0.14	0.16	0.03	0.03
	Long Beach Outer Harbor	16	0.16	0.23	0.00451	0.00655	0.14	0.16	0.03	0.03
	Long Beach Outer Harbor	17	0.15	0.22	0.00471	0.00684	0.14	0.16	0.03	0.03
	Long Beach Outer Harbor	18	0.15	0.21	0.00489	0.00710	0.14	0.16	0.03	0.03
	Long Beach Outer Harbor	19	0.14	0.20	0.00506	0.00734	0.14	0.16	0.03	0.03
	Long Beach Outer Harbor	20	0.14	0.20	0.00522	0.00757	0.14	0.16	0.03	0.03
B-7j	Los Angeles River Estuary	1	0.15	0.21	0.00007	0.00009	0.11	0.13	0.0005	0.001
	Los Angeles River Estuary	2	0.12	0.17	0.00007	0.00010	0.09	0.11	0.0005	0.001
	Los Angeles River Estuary	3	0.12	0.17	0.00010	0.00015	0.10	0.11	0.001	0.001
	Los Angeles River Estuary	4	0.11	0.15	0.00014	0.00020	0.10	0.11	0.001	0.001
	Los Angeles River Estuary	5	0.12	0.18	0.00015	0.00022	0.10	0.11	0.001	0.001
	Los Angeles River Estuary	6	0.12	0.18	0.00019	0.00028	0.10	0.11	0.001	0.002
	Los Angeles River Estuary	7	0.11	0.16	0.00020	0.00029	0.10	0.11	0.002	0.002
	Los Angeles River Estuary	8	0.10	0.15	0.00019	0.00027	0.10	0.11	0.001	0.002
	Los Angeles River Estuary	9	0.09	0.14	0.00020	0.00029	0.10	0.11	0.002	0.002
	Los Angeles River Estuary	10	0.09	0.14	0.00022	0.00031	0.10	0.11	0.002	0.002
	Los Angeles River Estuary	11	0.10	0.15	0.00022	0.00032	0.10	0.11	0.002	0.002
	Los Angeles River Estuary	12	0.10	0.14	0.00013	0.00019	0.09	0.11	0.001	0.001
	Los Angeles River Estuary	13	0.10	0.14	0.00015	0.00022	0.10	0.11	0.001	0.001
	Los Angeles River Estuary	14	0.10	0.14	0.00018	0.00025	0.10	0.11	0.002	0.002
	Los Angeles River Estuary	15	0.10	0.15	0.00018	0.00026	0.10	0.11	0.002	0.002
	Los Angeles River Estuary	16	0.11	0.16	0.00021	0.00030	0.10	0.11	0.002	0.002
	Los Angeles River Estuary	17	0.10	0.15	0.00021	0.00031	0.10	0.11	0.002	0.002
	Los Angeles River Estuary	18	0.10	0.15	0.00020	0.00029	0.10	0.11	0.002	0.002
	Los Angeles River Estuary	19	0.09	0.14	0.00021	0.00030	0.10	0.11	0.002	0.002
	Los Angeles River Estuary	20	0.09	0.14	0.00023	0.00033	0.10	0.11	0.002	0.002

Table B-7

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + DCE + WLR + SedLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-7k	Eastern San Pedro Bay	1	0.20	0.28	0.00013	0.00019	0.15	0.17	0.001	0.001
	Eastern San Pedro Bay	2	0.18	0.25	0.00030	0.00044	0.13	0.15	0.002	0.003
	Eastern San Pedro Bay	3	0.16	0.24	0.00047	0.00068	0.13	0.15	0.003	0.004
	Eastern San Pedro Bay	4	0.15	0.21	0.00060	0.00088	0.13	0.15	0.005	0.005
	Eastern San Pedro Bay	5	0.17	0.24	0.00073	0.00106	0.13	0.15	0.01	0.01
	Eastern San Pedro Bay	6	0.17	0.24	0.00088	0.00128	0.13	0.15	0.01	0.01
	Eastern San Pedro Bay	7	0.15	0.22	0.00100	0.00145	0.13	0.15	0.01	0.01
	Eastern San Pedro Bay	8	0.14	0.21	0.00110	0.00159	0.13	0.15	0.01	0.01
	Eastern San Pedro Bay	9	0.13	0.19	0.00119	0.00173	0.13	0.15	0.01	0.01
	Eastern San Pedro Bay	10	0.13	0.19	0.00128	0.00186	0.13	0.15	0.01	0.01
	Eastern San Pedro Bay	11	0.14	0.20	0.00137	0.00199	0.13	0.15	0.01	0.01
	Eastern San Pedro Bay	12	0.14	0.21	0.00137	0.00198	0.13	0.15	0.01	0.01
	Eastern San Pedro Bay	13	0.14	0.20	0.00145	0.00210	0.13	0.15	0.01	0.01
	Eastern San Pedro Bay	14	0.13	0.19	0.00153	0.00222	0.13	0.15	0.01	0.01
	Eastern San Pedro Bay	15	0.14	0.20	0.00160	0.00232	0.13	0.15	0.01	0.02
	Eastern San Pedro Bay	16	0.15	0.22	0.00169	0.00245	0.13	0.15	0.01	0.02
	Eastern San Pedro Bay	17	0.14	0.21	0.00176	0.00255	0.13	0.15	0.01	0.02
	Eastern San Pedro Bay	18	0.14	0.21	0.00182	0.00264	0.13	0.15	0.01	0.02
	Eastern San Pedro Bay	19	0.13	0.19	0.00189	0.00274	0.13	0.15	0.02	0.02
	Eastern San Pedro Bay	20	0.13	0.19	0.00196	0.00284	0.13	0.15	0.02	0.02
B-7l	Outside Harbor	1	0.18	0.27	5.96	8.65	0.16	0.18	0.33	0.37
	Outside Harbor	2	0.17	0.25	5.89	8.55	0.16	0.18	0.31	0.36
	Outside Harbor	3	0.16	0.24	5.89	8.54	0.16	0.18	0.31	0.35
	Outside Harbor	4	0.16	0.23	5.86	8.49	0.15	0.18	0.30	0.34
	Outside Harbor	5	0.17	0.25	5.82	8.45	0.15	0.18	0.29	0.34
	Outside Harbor	6	0.17	0.24	5.80	8.42	0.15	0.18	0.29	0.33
	Outside Harbor	7	0.16	0.23	5.76	8.35	0.15	0.18	0.28	0.32
	Outside Harbor	8	0.15	0.22	5.70	8.27	0.15	0.18	0.27	0.31
	Outside Harbor	9	0.15	0.21	5.66	8.22	0.15	0.18	0.27	0.31
	Outside Harbor	10	0.15	0.22	5.64	8.18	0.15	0.18	0.26	0.30
	Outside Harbor	11	0.15	0.22	5.60	8.13	0.15	0.18	0.26	0.30
	Outside Harbor	12	0.16	0.23	5.55	8.04	0.15	0.18	0.25	0.29
	Outside Harbor	13	0.15	0.22	5.52	8.00	0.15	0.18	0.25	0.28
	Outside Harbor	14	0.15	0.22	5.49	7.96	0.15	0.18	0.24	0.28
	Outside Harbor	15	0.15	0.22	5.46	7.91	0.15	0.18	0.24	0.28
	Outside Harbor	16	0.16	0.23	5.41	7.85	0.15	0.18	0.23	0.27
	Outside Harbor	17	0.15	0.22	5.38	7.80	0.15	0.18	0.23	0.27
	Outside Harbor	18	0.16	0.23	5.33	7.74	0.15	0.18	0.23	0.26
	Outside Harbor	19	0.15	0.22	5.31	7.69	0.15	0.18	0.22	0.26
	Outside Harbor	20	0.15	0.21	5.28	7.66	0.15	0.18	0.22	0.25

Notes:
µg/g: microgram per gram
DCE: Dominguez Channel Estuary (TMDL hot spot upstream of Consolidated Slip)
DDX: dichlorodiphenyltrichloroethane-related compounds (4,4'-DDT, 4,4'-DDE, 4,4'-DDD, 2,4'-DDT, 2,4'-DDE, and 2,4'-DDD)
FMZ: fish movement zone
ng/L: nanogram per liter
OC: organic carbon
PCB: polychlorinated biphenyl
SedLR: Sediment Load Reduction
WLR: Watershed Load Reduction
WRAP: Water Resources Action Plan

Table B-8

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + Hot Spot SedLR Model Scenario

Table No.	FMZs	Model Years	Total DDX: Water Column Dissolved (ng/L)	Total DDX: Water Column Particulate (µg/g OC)	Total DDX: Sediment Bed Dissolved (ng/L)	Total DDX: Surface Sediment Bed Concentration (µg/g OC)	Total PCB: Water Column Dissolved (ng/L)	Total PCB: Water Column Particulate (µg/g OC)	Total PCB: Sediment Bed Dissolved (ng/L)	Total PCB: Surface Sediment Bed Concentration (µg/g OC)
B-8a	Dominguez Channel Estuary	1	3.45	5.01	0.04	0.06	3.16	3.63	0.09	0.10
	Dominguez Channel Estuary	2	5.56	8.06	0.03	0.05	4.72	5.42	0.08	0.09
	Dominguez Channel Estuary	3	4.65	6.74	0.03	0.04	3.94	4.53	0.08	0.09
	Dominguez Channel Estuary	4	4.62	6.70	0.03	0.04	4.12	4.74	0.08	0.09
	Dominguez Channel Estuary	5	3.81	5.53	0.03	0.04	3.24	3.73	0.08	0.09
	Dominguez Channel Estuary	6	4.82	6.99	0.03	0.04	4.34	5.00	0.08	0.09
	Dominguez Channel Estuary	7	6.22	9.02	0.03	0.04	5.33	6.13	0.08	0.09
	Dominguez Channel Estuary	8	6.20	8.98	0.03	0.04	5.29	6.09	0.08	0.09
	Dominguez Channel Estuary	9	4.37	6.33	0.03	0.04	3.44	3.95	0.08	0.09
	Dominguez Channel Estuary	10	3.42	4.96	0.03	0.04	2.85	3.28	0.08	0.09
	Dominguez Channel Estuary	11	3.39	4.92	0.03	0.04	3.03	3.49	0.08	0.09
	Dominguez Channel Estuary	12	5.46	7.92	0.03	0.04	4.63	5.33	0.08	0.09
	Dominguez Channel Estuary	13	4.63	6.71	0.03	0.04	3.89	4.47	0.08	0.09
	Dominguez Channel Estuary	14	4.68	6.79	0.03	0.04	4.17	4.79	0.08	0.09
	Dominguez Channel Estuary	15	3.75	5.44	0.03	0.04	3.19	3.67	0.08	0.09
	Dominguez Channel Estuary	16	4.79	6.95	0.03	0.04	4.27	4.91	0.08	0.09
	Dominguez Channel Estuary	17	6.26	9.08	0.03	0.04	5.33	6.13	0.08	0.09
	Dominguez Channel Estuary	18	6.15	8.92	0.03	0.04	5.17	5.95	0.08	0.09
	Dominguez Channel Estuary	19	4.29	6.22	0.03	0.04	3.37	3.88	0.08	0.10
	Dominguez Channel Estuary	20	3.51	5.09	0.03	0.04	2.86	3.29	0.08	0.09
B-8b	Consolidated Slip	1	0.73	1.05	0.04	0.05	0.73	0.84	0.08	0.10
	Consolidated Slip	2	1.03	1.50	0.03	0.04	0.87	1.00	0.06	0.07
	Consolidated Slip	3	0.71	1.03	0.03	0.04	0.63	0.72	0.06	0.07
	Consolidated Slip	4	0.61	0.88	0.03	0.04	0.59	0.68	0.06	0.07
	Consolidated Slip	5	0.65	0.94	0.03	0.04	0.58	0.67	0.06	0.07
	Consolidated Slip	6	0.67	0.97	0.02	0.04	0.62	0.71	0.06	0.07
	Consolidated Slip	7	0.97	1.40	0.02	0.03	0.81	0.93	0.06	0.06
	Consolidated Slip	8	0.79	1.14	0.02	0.03	0.68	0.78	0.05	0.06
	Consolidated Slip	9	0.55	0.80	0.02	0.03	0.50	0.57	0.05	0.06
	Consolidated Slip	10	0.42	0.61	0.02	0.03	0.42	0.48	0.05	0.06
	Consolidated Slip	11	0.64	0.93	0.02	0.03	0.60	0.69	0.05	0.06
	Consolidated Slip	12	0.99	1.44	0.02	0.03	0.80	0.92	0.05	0.05
	Consolidated Slip	13	0.68	0.99	0.02	0.03	0.58	0.66	0.05	0.05
	Consolidated Slip	14	0.59	0.86	0.02	0.03	0.54	0.62	0.05	0.05
	Consolidated Slip	15	0.61	0.88	0.02	0.03	0.53	0.61	0.05	0.05
	Consolidated Slip	16	0.66	0.95	0.02	0.03	0.58	0.67	0.04	0.05
	Consolidated Slip	17	0.95	1.38	0.02	0.02	0.77	0.89	0.04	0.05
	Consolidated Slip	18	0.78	1.13	0.02	0.02	0.64	0.73	0.04	0.05
	Consolidated Slip	19	0.54	0.79	0.02	0.02	0.46	0.53	0.04	0.05
	Consolidated Slip	20	0.43	0.63	0.02	0.02	0.39	0.45	0.04	0.05

Table B-8

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + Hot Spot SedLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-8c	Los Angeles Inner Harbor	1	0.36	0.52	2.71	3.93	0.37	0.42	3.56	4.09
	Los Angeles Inner Harbor	2	0.41	0.59	2.56	3.72	0.39	0.44	3.17	3.65
	Los Angeles Inner Harbor	3	0.30	0.44	2.53	3.67	0.31	0.36	3.07	3.54
	Los Angeles Inner Harbor	4	0.26	0.38	2.52	3.65	0.30	0.35	3.02	3.47
	Los Angeles Inner Harbor	5	0.30	0.43	2.50	3.62	0.31	0.35	2.95	3.39
	Los Angeles Inner Harbor	6	0.29	0.43	2.48	3.60	0.31	0.35	2.89	3.32
	Los Angeles Inner Harbor	7	0.34	0.49	2.46	3.56	0.34	0.40	2.80	3.23
	Los Angeles Inner Harbor	8	0.29	0.42	2.43	3.52	0.31	0.36	2.73	3.14
	Los Angeles Inner Harbor	9	0.24	0.35	2.42	3.50	0.28	0.32	2.69	3.09
	Los Angeles Inner Harbor	10	0.22	0.32	2.41	3.49	0.26	0.30	2.65	3.04
	Los Angeles Inner Harbor	11	0.28	0.40	2.39	3.47	0.30	0.35	2.60	2.99
	Los Angeles Inner Harbor	12	0.34	0.49	2.31	3.36	0.34	0.39	2.44	2.80
	Los Angeles Inner Harbor	13	0.26	0.38	2.30	3.34	0.28	0.32	2.40	2.76
	Los Angeles Inner Harbor	14	0.24	0.35	2.30	3.33	0.27	0.31	2.37	2.73
	Los Angeles Inner Harbor	15	0.26	0.38	2.29	3.31	0.28	0.32	2.34	2.69
	Los Angeles Inner Harbor	16	0.27	0.39	2.28	3.30	0.28	0.32	2.31	2.65
	Los Angeles Inner Harbor	17	0.32	0.46	2.26	3.28	0.32	0.37	2.27	2.61
	Los Angeles Inner Harbor	18	0.28	0.41	2.24	3.25	0.29	0.33	2.22	2.56
	Los Angeles Inner Harbor	19	0.24	0.34	2.24	3.24	0.26	0.30	2.20	2.53
	Los Angeles Inner Harbor	20	0.21	0.31	2.23	3.24	0.24	0.28	2.18	2.51
B-8d	Fish Harbor	1	0.25	0.37	0.07	0.09	0.20	0.23	0.14	0.16
	Fish Harbor	2	0.28	0.41	0.07	0.09	0.22	0.25	0.13	0.16
	Fish Harbor	3	0.20	0.29	0.06	0.09	0.16	0.19	0.13	0.15
	Fish Harbor	4	0.17	0.25	0.06	0.09	0.15	0.17	0.13	0.15
	Fish Harbor	5	0.22	0.32	0.06	0.09	0.17	0.20	0.13	0.15
	Fish Harbor	6	0.21	0.31	0.06	0.09	0.16	0.18	0.13	0.15
	Fish Harbor	7	0.20	0.29	0.06	0.09	0.18	0.21	0.13	0.15
	Fish Harbor	8	0.18	0.26	0.06	0.09	0.16	0.18	0.13	0.15
	Fish Harbor	9	0.16	0.23	0.06	0.09	0.15	0.17	0.13	0.14
	Fish Harbor	10	0.15	0.22	0.06	0.09	0.14	0.16	0.12	0.14
	Fish Harbor	11	0.18	0.27	0.06	0.09	0.17	0.20	0.12	0.14
	Fish Harbor	12	0.23	0.33	0.06	0.09	0.21	0.24	0.12	0.14
	Fish Harbor	13	0.17	0.25	0.06	0.09	0.16	0.18	0.12	0.14
	Fish Harbor	14	0.15	0.22	0.06	0.09	0.14	0.16	0.12	0.14
	Fish Harbor	15	0.18	0.26	0.06	0.09	0.16	0.19	0.12	0.14
	Fish Harbor	16	0.18	0.26	0.06	0.09	0.15	0.17	0.12	0.14
	Fish Harbor	17	0.19	0.27	0.06	0.09	0.17	0.20	0.12	0.14
	Fish Harbor	18	0.17	0.25	0.06	0.09	0.16	0.18	0.12	0.14
	Fish Harbor	19	0.15	0.22	0.06	0.09	0.15	0.17	0.12	0.14
	Fish Harbor	20	0.15	0.21	0.06	0.09	0.14	0.16	0.12	0.13

Table B-8

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + Hot Spot SedLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-8e	Seaplane Lagoon	1	0.31	0.44	1.58	2.29	0.33	0.38	2.01	2.31
	Seaplane Lagoon	2	0.41	0.60	1.57	2.27	0.44	0.51	1.95	2.24
	Seaplane Lagoon	3	0.25	0.36	1.56	2.26	0.27	0.31	1.89	2.18
	Seaplane Lagoon	4	0.21	0.30	1.55	2.25	0.25	0.29	1.84	2.12
	Seaplane Lagoon	5	0.28	0.40	1.54	2.24	0.30	0.34	1.80	2.07
	Seaplane Lagoon	6	0.25	0.36	1.54	2.23	0.26	0.30	1.75	2.02
	Seaplane Lagoon	7	0.27	0.39	1.53	2.22	0.30	0.35	1.71	1.97
	Seaplane Lagoon	8	0.23	0.33	1.52	2.21	0.27	0.31	1.67	1.92
	Seaplane Lagoon	9	0.20	0.30	1.52	2.20	0.25	0.29	1.64	1.88
	Seaplane Lagoon	10	0.19	0.28	1.51	2.19	0.24	0.27	1.60	1.84
	Seaplane Lagoon	11	0.23	0.33	1.51	2.18	0.28	0.32	1.57	1.81
	Seaplane Lagoon	12	0.35	0.51	1.50	2.17	0.41	0.47	1.54	1.77
	Seaplane Lagoon	13	0.20	0.30	1.49	2.17	0.24	0.28	1.51	1.74
	Seaplane Lagoon	14	0.19	0.27	1.49	2.16	0.22	0.26	1.49	1.71
	Seaplane Lagoon	15	0.23	0.33	1.48	2.15	0.27	0.31	1.46	1.68
	Seaplane Lagoon	16	0.22	0.32	1.48	2.15	0.24	0.28	1.44	1.65
	Seaplane Lagoon	17	0.25	0.36	1.48	2.14	0.28	0.32	1.41	1.63
	Seaplane Lagoon	18	0.21	0.31	1.47	2.13	0.24	0.28	1.39	1.60
	Seaplane Lagoon	19	0.20	0.28	1.47	2.13	0.23	0.27	1.37	1.58
	Seaplane Lagoon	20	0.19	0.27	1.46	2.12	0.22	0.25	1.35	1.55
B-8f	Los Angeles Outer Harbor	1	0.27	0.39	2.49	3.61	0.23	0.27	1.26	1.44
	Los Angeles Outer Harbor	2	0.29	0.42	2.40	3.48	0.25	0.29	1.20	1.38
	Los Angeles Outer Harbor	3	0.22	0.33	2.35	3.41	0.20	0.23	1.16	1.33
	Los Angeles Outer Harbor	4	0.20	0.29	2.33	3.38	0.20	0.23	1.13	1.29
	Los Angeles Outer Harbor	5	0.23	0.34	2.30	3.34	0.21	0.24	1.09	1.26
	Los Angeles Outer Harbor	6	0.22	0.32	2.27	3.29	0.20	0.23	1.06	1.22
	Los Angeles Outer Harbor	7	0.23	0.33	2.24	3.25	0.22	0.25	1.04	1.19
	Los Angeles Outer Harbor	8	0.21	0.30	2.22	3.22	0.20	0.23	1.01	1.17
	Los Angeles Outer Harbor	9	0.19	0.27	2.21	3.20	0.19	0.22	0.99	1.14
	Los Angeles Outer Harbor	10	0.18	0.26	2.20	3.19	0.19	0.21	0.97	1.12
	Los Angeles Outer Harbor	11	0.21	0.30	2.18	3.17	0.21	0.24	0.96	1.10
	Los Angeles Outer Harbor	12	0.24	0.35	2.16	3.13	0.24	0.27	0.95	1.09
	Los Angeles Outer Harbor	13	0.19	0.28	2.15	3.11	0.19	0.22	0.93	1.07
	Los Angeles Outer Harbor	14	0.18	0.27	2.14	3.10	0.19	0.22	0.92	1.05
	Los Angeles Outer Harbor	15	0.20	0.29	2.13	3.08	0.20	0.23	0.90	1.04
	Los Angeles Outer Harbor	16	0.21	0.30	2.11	3.07	0.19	0.22	0.89	1.02
	Los Angeles Outer Harbor	17	0.22	0.32	2.10	3.04	0.21	0.24	0.88	1.01
	Los Angeles Outer Harbor	18	0.20	0.29	2.09	3.03	0.20	0.23	0.87	1.00
	Los Angeles Outer Harbor	19	0.18	0.27	2.08	3.02	0.19	0.22	0.85	0.98
	Los Angeles Outer Harbor	20	0.18	0.26	2.07	3.01	0.18	0.21	0.84	0.97

Table B-8

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + Hot Spot SedLR Model Scenario

Table No.	FMZs	Model Years	Total DDX: Water Column Dissolved (ng/L)	Total DDX: Water Column Particulate (µg/g OC)	Total DDX: Sediment Bed Dissolved (ng/L)	Total DDX: Surface Sediment Bed Concentration (µg/g OC)	Total PCB: Water Column Dissolved (ng/L)	Total PCB: Water Column Particulate (µg/g OC)	Total PCB: Sediment Bed Dissolved (ng/L)	Total PCB: Surface Sediment Bed Concentration (µg/g OC)
B-8g	Long Beach Inner Harbor North	1	0.34	0.49	0.87	1.26	0.34	0.40	2.26	2.60
	Long Beach Inner Harbor North	2	0.42	0.61	0.83	1.20	0.40	0.45	2.09	2.40
	Long Beach Inner Harbor North	3	0.29	0.42	0.81	1.18	0.29	0.33	1.99	2.29
	Long Beach Inner Harbor North	4	0.23	0.34	0.80	1.17	0.27	0.30	1.92	2.21
	Long Beach Inner Harbor North	5	0.30	0.43	0.80	1.15	0.29	0.33	1.85	2.13
	Long Beach Inner Harbor North	6	0.28	0.40	0.79	1.14	0.28	0.32	1.79	2.06
	Long Beach Inner Harbor North	7	0.34	0.49	0.78	1.13	0.33	0.38	1.73	1.99
	Long Beach Inner Harbor North	8	0.28	0.40	0.77	1.11	0.29	0.33	1.67	1.92
	Long Beach Inner Harbor North	9	0.22	0.32	0.76	1.10	0.25	0.29	1.62	1.87
	Long Beach Inner Harbor North	10	0.19	0.28	0.76	1.10	0.23	0.26	1.58	1.82
	Long Beach Inner Harbor North	11	0.26	0.38	0.75	1.09	0.29	0.33	1.54	1.77
	Long Beach Inner Harbor North	12	0.36	0.53	0.73	1.05	0.35	0.41	1.47	1.69
	Long Beach Inner Harbor North	13	0.25	0.36	0.72	1.05	0.26	0.30	1.44	1.65
	Long Beach Inner Harbor North	14	0.22	0.32	0.72	1.04	0.24	0.28	1.41	1.62
	Long Beach Inner Harbor North	15	0.25	0.36	0.71	1.03	0.26	0.30	1.38	1.59
	Long Beach Inner Harbor North	16	0.25	0.37	0.71	1.03	0.26	0.29	1.35	1.56
	Long Beach Inner Harbor North	17	0.32	0.47	0.70	1.02	0.31	0.36	1.32	1.52
	Long Beach Inner Harbor North	18	0.27	0.39	0.70	1.01	0.27	0.31	1.30	1.50
	Long Beach Inner Harbor North	19	0.21	0.31	0.70	1.01	0.23	0.27	1.28	1.47
	Long Beach Inner Harbor North	20	0.19	0.27	0.69	1.00	0.21	0.25	1.26	1.45
B-8h	Long Beach Inner Harbor South	1	0.28	0.40	1.93	2.80	0.30	0.34	4.24	4.88
	Long Beach Inner Harbor South	2	0.34	0.49	1.87	2.72	0.35	0.40	3.98	4.57
	Long Beach Inner Harbor South	3	0.23	0.33	1.85	2.69	0.25	0.28	3.78	4.35
	Long Beach Inner Harbor South	4	0.18	0.27	1.84	2.66	0.23	0.27	3.61	4.15
	Long Beach Inner Harbor South	5	0.25	0.36	1.82	2.64	0.26	0.30	3.45	3.97
	Long Beach Inner Harbor South	6	0.23	0.33	1.80	2.61	0.24	0.28	3.31	3.81
	Long Beach Inner Harbor South	7	0.25	0.37	1.78	2.59	0.27	0.31	3.18	3.65
	Long Beach Inner Harbor South	8	0.21	0.31	1.76	2.56	0.25	0.28	3.05	3.51
	Long Beach Inner Harbor South	9	0.18	0.25	1.75	2.54	0.22	0.26	2.95	3.39
	Long Beach Inner Harbor South	10	0.16	0.24	1.74	2.53	0.21	0.24	2.85	3.28
	Long Beach Inner Harbor South	11	0.21	0.31	1.73	2.51	0.25	0.29	2.76	3.17
	Long Beach Inner Harbor South	12	0.29	0.42	1.70	2.47	0.31	0.36	2.65	3.05
	Long Beach Inner Harbor South	13	0.19	0.27	1.69	2.45	0.22	0.25	2.57	2.96
	Long Beach Inner Harbor South	14	0.17	0.25	1.68	2.44	0.21	0.24	2.50	2.88
	Long Beach Inner Harbor South	15	0.21	0.30	1.67	2.43	0.23	0.27	2.44	2.80
	Long Beach Inner Harbor South	16	0.20	0.29	1.67	2.42	0.22	0.25	2.37	2.73
	Long Beach Inner Harbor South	17	0.24	0.35	1.66	2.40	0.25	0.29	2.31	2.66
	Long Beach Inner Harbor South	18	0.20	0.30	1.64	2.38	0.23	0.26	2.26	2.60
	Long Beach Inner Harbor South	19	0.17	0.25	1.64	2.38	0.21	0.24	2.21	2.54
	Long Beach Inner Harbor South	20	0.16	0.23	1.63	2.37	0.20	0.22	2.16	2.48

Table B-8

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + Hot Spot SedLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-8i	Long Beach Outer Harbor	1	0.26	0.37	1.91	2.77	0.24	0.28	1.03	1.18
	Long Beach Outer Harbor	2	0.30	0.44	1.86	2.69	0.30	0.34	0.97	1.12
	Long Beach Outer Harbor	3	0.21	0.30	1.84	2.66	0.20	0.23	0.92	1.06
	Long Beach Outer Harbor	4	0.18	0.26	1.82	2.63	0.18	0.21	0.89	1.02
	Long Beach Outer Harbor	5	0.24	0.34	1.80	2.61	0.22	0.25	0.85	0.98
	Long Beach Outer Harbor	6	0.22	0.32	1.78	2.58	0.20	0.23	0.82	0.94
	Long Beach Outer Harbor	7	0.23	0.33	1.76	2.55	0.23	0.27	0.79	0.91
	Long Beach Outer Harbor	8	0.20	0.29	1.74	2.53	0.21	0.24	0.76	0.87
	Long Beach Outer Harbor	9	0.18	0.26	1.73	2.51	0.20	0.23	0.74	0.85
	Long Beach Outer Harbor	10	0.16	0.24	1.72	2.49	0.18	0.21	0.72	0.82
	Long Beach Outer Harbor	11	0.20	0.29	1.70	2.47	0.22	0.25	0.70	0.80
	Long Beach Outer Harbor	12	0.26	0.38	1.67	2.43	0.28	0.32	0.67	0.77
	Long Beach Outer Harbor	13	0.17	0.25	1.66	2.41	0.18	0.21	0.66	0.76
	Long Beach Outer Harbor	14	0.16	0.23	1.65	2.40	0.17	0.20	0.64	0.74
	Long Beach Outer Harbor	15	0.20	0.28	1.64	2.38	0.21	0.24	0.63	0.72
	Long Beach Outer Harbor	16	0.19	0.28	1.63	2.37	0.19	0.22	0.61	0.70
	Long Beach Outer Harbor	17	0.22	0.32	1.62	2.35	0.22	0.26	0.60	0.69
	Long Beach Outer Harbor	18	0.19	0.28	1.61	2.33	0.20	0.23	0.59	0.68
	Long Beach Outer Harbor	19	0.17	0.25	1.60	2.32	0.19	0.22	0.58	0.66
	Long Beach Outer Harbor	20	0.16	0.23	1.59	2.31	0.17	0.20	0.57	0.65
B-8j	Los Angeles River Estuary	1	0.97	1.41	0.65	0.95	1.54	1.77	3.48	4.01
	Los Angeles River Estuary	2	1.61	2.34	0.29	0.42	2.52	2.90	1.52	1.75
	Los Angeles River Estuary	3	0.93	1.34	0.26	0.38	1.47	1.69	1.37	1.57
	Los Angeles River Estuary	4	0.71	1.02	0.26	0.37	1.17	1.34	1.35	1.55
	Los Angeles River Estuary	5	0.98	1.42	0.23	0.34	1.58	1.82	1.22	1.41
	Los Angeles River Estuary	6	0.72	1.05	0.22	0.33	1.17	1.34	1.17	1.35
	Los Angeles River Estuary	7	1.30	1.89	0.20	0.29	2.03	2.34	1.03	1.19
	Los Angeles River Estuary	8	1.07	1.55	0.17	0.24	1.72	1.98	0.87	1.01
	Los Angeles River Estuary	9	1.04	1.51	0.16	0.23	1.66	1.91	0.84	0.96
	Los Angeles River Estuary	10	0.71	1.03	0.16	0.23	1.18	1.36	0.83	0.95
	Los Angeles River Estuary	11	0.91	1.32	0.16	0.23	1.44	1.65	0.82	0.94
	Los Angeles River Estuary	12	1.59	2.31	0.11	0.15	2.50	2.87	0.54	0.62
	Los Angeles River Estuary	13	0.89	1.29	0.10	0.15	1.42	1.63	0.51	0.59
	Los Angeles River Estuary	14	0.70	1.01	0.10	0.15	1.14	1.31	0.51	0.59
	Los Angeles River Estuary	15	0.97	1.41	0.10	0.14	1.58	1.82	0.48	0.56
	Los Angeles River Estuary	16	0.73	1.05	0.10	0.14	1.18	1.35	0.51	0.58
	Los Angeles River Estuary	17	1.32	1.91	0.10	0.14	2.04	2.35	0.51	0.58
	Los Angeles River Estuary	18	1.05	1.52	0.09	0.13	1.68	1.93	0.47	0.54
	Los Angeles River Estuary	19	1.02	1.48	0.09	0.13	1.63	1.87	0.47	0.54
	Los Angeles River Estuary	20	0.70	1.02	0.09	0.13	1.15	1.32	0.48	0.55

Table B-8

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + Hot Spot SedLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-8k	Eastern San Pedro Bay	1	0.33	0.48	0.93	1.35	0.37	0.43	1.57	1.80
	Eastern San Pedro Bay	2	0.45	0.65	0.82	1.19	0.56	0.64	1.28	1.47
	Eastern San Pedro Bay	3	0.27	0.39	0.81	1.17	0.31	0.36	1.24	1.42
	Eastern San Pedro Bay	4	0.22	0.32	0.80	1.17	0.27	0.31	1.22	1.40
	Eastern San Pedro Bay	5	0.31	0.45	0.79	1.15	0.37	0.43	1.18	1.36
	Eastern San Pedro Bay	6	0.26	0.38	0.79	1.14	0.30	0.34	1.16	1.33
	Eastern San Pedro Bay	7	0.33	0.48	0.77	1.12	0.40	0.47	1.12	1.28
	Eastern San Pedro Bay	8	0.29	0.42	0.76	1.10	0.37	0.42	1.08	1.24
	Eastern San Pedro Bay	9	0.25	0.37	0.76	1.10	0.33	0.38	1.06	1.22
	Eastern San Pedro Bay	10	0.21	0.31	0.75	1.09	0.27	0.31	1.05	1.20
	Eastern San Pedro Bay	11	0.27	0.39	0.75	1.08	0.34	0.40	1.03	1.18
	Eastern San Pedro Bay	12	0.41	0.60	0.68	0.99	0.54	0.62	0.90	1.03
	Eastern San Pedro Bay	13	0.24	0.34	0.68	0.99	0.29	0.34	0.88	1.01
	Eastern San Pedro Bay	14	0.20	0.30	0.68	0.99	0.25	0.29	0.88	1.01
	Eastern San Pedro Bay	15	0.28	0.40	0.67	0.98	0.36	0.41	0.86	0.99
	Eastern San Pedro Bay	16	0.24	0.35	0.67	0.98	0.29	0.33	0.85	0.98
	Eastern San Pedro Bay	17	0.32	0.46	0.67	0.97	0.39	0.45	0.83	0.96
	Eastern San Pedro Bay	18	0.28	0.41	0.66	0.96	0.36	0.41	0.82	0.94
	Eastern San Pedro Bay	19	0.25	0.37	0.66	0.95	0.32	0.37	0.81	0.93
	Eastern San Pedro Bay	20	0.21	0.30	0.66	0.95	0.26	0.30	0.80	0.92
B-8l	Outside Harbor	1	0.20	0.28	5.96	8.65	0.18	0.20	0.33	0.37
	Outside Harbor	2	0.19	0.28	5.89	8.55	0.18	0.21	0.32	0.36
	Outside Harbor	3	0.17	0.25	5.89	8.54	0.16	0.19	0.31	0.35
	Outside Harbor	4	0.17	0.24	5.86	8.49	0.16	0.19	0.30	0.34
	Outside Harbor	5	0.18	0.27	5.82	8.45	0.17	0.20	0.29	0.34
	Outside Harbor	6	0.18	0.25	5.80	8.42	0.17	0.19	0.29	0.33
	Outside Harbor	7	0.17	0.25	5.76	8.35	0.17	0.20	0.28	0.32
	Outside Harbor	8	0.17	0.24	5.70	8.27	0.17	0.19	0.27	0.32
	Outside Harbor	9	0.16	0.23	5.67	8.22	0.17	0.19	0.27	0.31
	Outside Harbor	10	0.15	0.22	5.64	8.18	0.16	0.19	0.26	0.30
	Outside Harbor	11	0.16	0.24	5.60	8.13	0.17	0.20	0.26	0.30
	Outside Harbor	12	0.17	0.25	5.55	8.04	0.18	0.20	0.25	0.29
	Outside Harbor	13	0.16	0.23	5.52	8.00	0.16	0.19	0.25	0.29
	Outside Harbor	14	0.15	0.22	5.49	7.96	0.16	0.18	0.24	0.28
	Outside Harbor	15	0.16	0.24	5.46	7.91	0.17	0.19	0.24	0.28
	Outside Harbor	16	0.17	0.24	5.41	7.85	0.16	0.19	0.24	0.27
	Outside Harbor	17	0.17	0.24	5.38	7.80	0.17	0.19	0.23	0.27
	Outside Harbor	18	0.17	0.24	5.33	7.74	0.17	0.19	0.23	0.26
	Outside Harbor	19	0.16	0.23	5.31	7.70	0.17	0.19	0.23	0.26
	Outside Harbor	20	0.15	0.22	5.28	7.66	0.16	0.18	0.22	0.26

Notes:

µg/g: microgram per gram

DCE: Dominguez Channel Estuary (TMDL hot spot upstream of Consolidated Slip)

DDX: dichlorodiphenyltrichloroethane-related compounds (4,4'-DDT, 4,4'-DDE, 4,4'-DDD, 2,4'-DDT, 2,4'-DDE, and 2,4'-DDD)

FMZ: fish movement zone

ng/L: nanogram per liter

OC: organic carbon

PCB: polychlorinated biphenyl

SedLR: Sediment Load Reduction

WLR: Watershed Load Reduction

WRAP: Water Resources Action Plan

Table B-9

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 50% WLR + T=0 Hot Spot SedLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-9a	Dominguez Channel Estuary	1	1.82319	2.64363	0.03859	0.05596	1.7241	1.9828	0.0837	0.0963
	Dominguez Channel Estuary	2	2.84012	4.11818	0.03155	0.04575	2.4487	2.8160	0.0714	0.0821
	Dominguez Channel Estuary	3	2.37225	3.43976	0.02797	0.04056	2.0411	2.3473	0.0666	0.0766
	Dominguez Channel Estuary	4	2.35375	3.41293	0.02649	0.03841	2.1302	2.4497	0.0649	0.0747
	Dominguez Channel Estuary	5	1.94923	2.82638	0.02516	0.03649	1.6827	1.9351	0.0635	0.0730
	Dominguez Channel Estuary	6	2.45321	3.55714	0.02477	0.03592	2.2335	2.5685	0.0628	0.0722
	Dominguez Channel Estuary	7	3.14751	4.56388	0.02438	0.03535	2.7205	3.1286	0.0632	0.0727
	Dominguez Channel Estuary	8	3.13215	4.54162	0.02373	0.03441	2.6990	3.1038	0.0626	0.0720
	Dominguez Channel Estuary	9	2.21745	3.21530	0.02377	0.03447	1.7725	2.0383	0.0639	0.0735
	Dominguez Channel Estuary	10	1.74393	2.52870	0.02385	0.03458	1.4792	1.7011	0.0637	0.0732
	Dominguez Channel Estuary	11	1.72591	2.50258	0.02349	0.03406	1.5642	1.7988	0.0621	0.0714
	Dominguez Channel Estuary	12	2.76690	4.01200	0.02527	0.03664	2.3661	2.7210	0.0637	0.0732
	Dominguez Channel Estuary	13	2.34399	3.39878	0.02479	0.03594	1.9915	2.2902	0.0637	0.0733
	Dominguez Channel Estuary	14	2.37464	3.44323	0.02486	0.03605	2.1329	2.4528	0.0646	0.0743
	Dominguez Channel Estuary	15	1.90987	2.76931	0.02444	0.03545	1.6420	1.8883	0.0643	0.0740
	Dominguez Channel Estuary	16	2.43268	3.52738	0.02444	0.03544	2.1847	2.5124	0.0641	0.0738
	Dominguez Channel Estuary	17	3.16232	4.58537	0.02396	0.03474	2.7096	3.1160	0.0638	0.0734
	Dominguez Channel Estuary	18	3.10564	4.50318	0.02351	0.03409	2.6290	3.0233	0.0634	0.0729
	Dominguez Channel Estuary	19	2.17572	3.15479	0.02356	0.03416	1.7323	1.9921	0.0643	0.0740
	Dominguez Channel Estuary	20	1.78801	2.59262	0.02360	0.03423	1.4750	1.6962	0.0640	0.0736
	Dominguez Channel Estuary	21	1.70532	2.47272	0.02327	0.03374	1.5444	1.7761	0.0624	0.0718
	Dominguez Channel Estuary	22	2.80985	4.07428	0.02392	0.03469	2.3618	2.7161	0.0618	0.0711
	Dominguez Channel Estuary	23	2.34875	3.40568	0.02376	0.03445	1.9696	2.2650	0.0624	0.0717
	Dominguez Channel Estuary	24	2.43477	3.53041	0.02392	0.03469	2.1709	2.4965	0.0634	0.0729
	Dominguez Channel Estuary	25	1.86032	2.69746	0.02356	0.03417	1.6029	1.8434	0.0631	0.0726
	Dominguez Channel Estuary	26	2.44254	3.54168	0.02358	0.03419	2.2063	2.5373	0.0630	0.0724
	Dominguez Channel Estuary	27	3.14818	4.56485	0.02308	0.03347	2.7001	3.1051	0.0624	0.0718
	Dominguez Channel Estuary	28	3.11645	4.51885	0.02272	0.03294	2.6428	3.0392	0.0622	0.0715
	Dominguez Channel Estuary	29	2.16642	3.14131	0.02287	0.03316	1.7086	1.9649	0.0633	0.0727
	Dominguez Channel Estuary	30	1.77162	2.56885	0.02287	0.03316	1.4509	1.6686	0.0627	0.0721
B-9b	Consolidated Slip	1	0.49005	0.71058	0.03774	0.05473	0.5606	0.6446	0.0837	0.0962
	Consolidated Slip	2	0.63493	0.92065	0.02794	0.04052	0.5971	0.6867	0.0625	0.0719
	Consolidated Slip	3	0.45055	0.65330	0.02630	0.03813	0.4572	0.5257	0.0594	0.0683
	Consolidated Slip	4	0.38533	0.55873	0.02600	0.03770	0.4317	0.4964	0.0591	0.0680
	Consolidated Slip	5	0.42198	0.61187	0.02526	0.03663	0.4253	0.4891	0.0579	0.0666
	Consolidated Slip	6	0.42973	0.62311	0.02472	0.03585	0.4428	0.5092	0.0571	0.0656
	Consolidated Slip	7	0.57146	0.82862	0.02344	0.03398	0.5384	0.6191	0.0545	0.0627
	Consolidated Slip	8	0.47519	0.68903	0.02235	0.03241	0.4648	0.5345	0.0524	0.0603
	Consolidated Slip	9	0.34929	0.50647	0.02216	0.03213	0.3737	0.4297	0.0524	0.0603
	Consolidated Slip	10	0.28474	0.41287	0.02195	0.03183	0.3305	0.3801	0.0522	0.0601
	Consolidated Slip	11	0.39920	0.57884	0.02135	0.03096	0.4215	0.4847	0.0511	0.0588
	Consolidated Slip	12	0.58035	0.84150	0.01818	0.02637	0.5172	0.5948	0.0437	0.0503
	Consolidated Slip	13	0.41560	0.60263	0.01788	0.02593	0.4027	0.4631	0.0434	0.0499
	Consolidated Slip	14	0.37010	0.53665	0.01789	0.02595	0.3836	0.4412	0.0437	0.0502
	Consolidated Slip	15	0.38115	0.55267	0.01755	0.02545	0.3764	0.4328	0.0432	0.0496
	Consolidated Slip	16	0.41000	0.59450	0.01723	0.02498	0.4029	0.4633	0.0427	0.0491
	Consolidated Slip	17	0.55395	0.80323	0.01661	0.02408	0.4953	0.5696	0.0414	0.0477
	Consolidated Slip	18	0.46510	0.67439	0.01596	0.02314	0.4252	0.4890	0.0401	0.0461
	Consolidated Slip	19	0.34321	0.49765	0.01594	0.02312	0.3393	0.3902	0.0404	0.0464
	Consolidated Slip	20	0.28696	0.41609	0.01590	0.02305	0.3029	0.3483	0.0405	0.0466
	Consolidated Slip	21	0.39861	0.57798	0.01555	0.02256	0.3911	0.4498	0.0399	0.0458
	Consolidated Slip	22	0.55150	0.79968	0.01363	0.01977	0.4765	0.5480	0.0350	0.0402

Table B-9

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 50% WLR + T=0 Hot Spot SedLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-9b	Consolidated Slip	23	0.41406	0.60039	0.01354	0.01964	0.3828	0.4403	0.0350	0.0403
	Consolidated Slip	24	0.37225	0.53976	0.01356	0.01966	0.3668	0.4218	0.0353	0.0406
	Consolidated Slip	25	0.37906	0.54964	0.01343	0.01947	0.3581	0.4118	0.0353	0.0406
	Consolidated Slip	26	0.39643	0.57482	0.01330	0.01929	0.3840	0.4416	0.0351	0.0404
	Consolidated Slip	27	0.56471	0.81883	0.01283	0.01861	0.4870	0.5601	0.0342	0.0393
	Consolidated Slip	28	0.46042	0.66761	0.01247	0.01809	0.4104	0.4720	0.0334	0.0384
	Consolidated Slip	29	0.34068	0.49399	0.01251	0.01814	0.3236	0.3722	0.0338	0.0388
	Consolidated Slip	30	0.27801	0.40312	0.01250	0.01812	0.2848	0.3275	0.0339	0.0390
B-9c	Los Angeles Inner Harbor	1	0.31196	0.45234	2.70767	3.92649	0.3310	0.3806	3.5564	4.0904
	Los Angeles Inner Harbor	2	0.33728	0.48905	2.56202	3.71530	0.3284	0.3777	3.1713	3.6474
	Los Angeles Inner Harbor	3	0.26293	0.38124	2.53151	3.67103	0.2779	0.3196	3.0740	3.5356
	Los Angeles Inner Harbor	4	0.22724	0.32950	2.51857	3.65224	0.2719	0.3126	3.0143	3.4669
	Los Angeles Inner Harbor	5	0.25691	0.37252	2.49803	3.62243	0.2730	0.3140	2.9444	3.3864
	Los Angeles Inner Harbor	6	0.25330	0.36729	2.48242	3.59990	0.2715	0.3122	2.8841	3.3171
	Los Angeles Inner Harbor	7	0.27120	0.39323	2.45570	3.56104	0.2903	0.3339	2.8036	3.2245
	Los Angeles Inner Harbor	8	0.23985	0.34778	2.42656	3.51885	0.2696	0.3101	2.7285	3.1382
	Los Angeles Inner Harbor	9	0.20895	0.30298	2.41561	3.50298	0.2553	0.2936	2.6847	3.0877
	Los Angeles Inner Harbor	10	0.19796	0.28704	2.40726	3.49083	0.2457	0.2825	2.6457	3.0429
	Los Angeles Inner Harbor	11	0.22982	0.33324	2.39222	3.46908	0.2642	0.3039	2.5970	2.9869
	Los Angeles Inner Harbor	12	0.27176	0.39405	2.31436	3.35613	0.2786	0.3204	2.4335	2.7988
	Los Angeles Inner Harbor	13	0.21822	0.31642	2.30139	3.33733	0.2464	0.2834	2.3952	2.7548
	Los Angeles Inner Harbor	14	0.20847	0.30228	2.29636	3.33001	0.2443	0.2809	2.3692	2.7249
	Los Angeles Inner Harbor	15	0.22080	0.32017	2.28509	3.31366	0.2463	0.2832	2.3352	2.6857
	Los Angeles Inner Harbor	16	0.23069	0.33450	2.27633	3.30104	0.2471	0.2842	2.3047	2.6507
	Los Angeles Inner Harbor	17	0.25254	0.36618	2.26030	3.27772	0.2651	0.3049	2.2644	2.6043
	Los Angeles Inner Harbor	18	0.23041	0.33410	2.24218	3.25152	0.2478	0.2849	2.2228	2.5565
	Los Angeles Inner Harbor	19	0.20238	0.29346	2.23707	3.24399	0.2340	0.2691	2.2005	2.5309
	Los Angeles Inner Harbor	20	0.19135	0.27746	2.23408	3.23988	0.2273	0.2613	2.1809	2.5084
	Los Angeles Inner Harbor	21	0.22312	0.32352	2.22561	3.22749	0.2457	0.2825	2.1535	2.4768
	Los Angeles Inner Harbor	22	0.24881	0.36077	2.17232	3.14997	0.2560	0.2944	2.0555	2.3641
	Los Angeles Inner Harbor	23	0.20897	0.30301	2.16461	3.13899	0.2318	0.2666	2.0330	2.3382
	Los Angeles Inner Harbor	24	0.20164	0.29238	2.16244	3.13593	0.2309	0.2656	2.0184	2.3215
	Los Angeles Inner Harbor	25	0.21630	0.31364	2.15511	3.12519	0.2356	0.2709	1.9980	2.2980
	Los Angeles Inner Harbor	26	0.21369	0.30985	2.14988	3.11758	0.2345	0.2697	1.9801	2.2773
	Los Angeles Inner Harbor	27	0.24440	0.35439	2.13802	3.10039	0.2548	0.2930	1.9533	2.2466
	Los Angeles Inner Harbor	28	0.22006	0.31908	2.12501	3.08161	0.2372	0.2728	1.9261	2.2152
	Los Angeles Inner Harbor	29	0.19707	0.28576	2.12209	3.07739	0.2240	0.2576	1.9117	2.1987
	Los Angeles Inner Harbor	30	0.18585	0.26949	2.12101	3.07571	0.2163	0.2488	1.8992	2.1844
B-9d	Fish Harbor	1	0.23802	0.34513	0.06542	0.09487	0.1800	0.2070	0.1363	0.1568
	Fish Harbor	2	0.25132	0.36441	0.06501	0.09427	0.1844	0.2121	0.1343	0.1545
	Fish Harbor	3	0.19380	0.28101	0.06484	0.09403	0.1511	0.1737	0.1327	0.1526
	Fish Harbor	4	0.16872	0.24464	0.06471	0.09383	0.1405	0.1615	0.1310	0.1507
	Fish Harbor	5	0.20466	0.29675	0.06455	0.09361	0.1533	0.1763	0.1296	0.1490
	Fish Harbor	6	0.20439	0.29636	0.06447	0.09349	0.1458	0.1676	0.1282	0.1474
	Fish Harbor	7	0.18438	0.26735	0.06431	0.09326	0.1578	0.1814	0.1268	0.1459
	Fish Harbor	8	0.16639	0.24126	0.06411	0.09297	0.1473	0.1694	0.1256	0.1444
	Fish Harbor	9	0.15396	0.22325	0.06399	0.09280	0.1411	0.1622	0.1244	0.1431
	Fish Harbor	10	0.15067	0.21847	0.06388	0.09263	0.1362	0.1567	0.1233	0.1418
	Fish Harbor	11	0.16839	0.24417	0.06375	0.09244	0.1540	0.1772	0.1223	0.1406
	Fish Harbor	12	0.19804	0.28716	0.06345	0.09202	0.1732	0.1991	0.1213	0.1395
	Fish Harbor	13	0.15976	0.23165	0.06334	0.09185	0.1444	0.1661	0.1204	0.1385
	Fish Harbor	14	0.15050	0.21823	0.06326	0.09174	0.1359	0.1563	0.1195	0.1374

Table B-9

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 50% WLR + T=0 Hot Spot SedLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-9d	Fish Harbor	15	0.16549	0.23996	0.06315	0.09158	0.1481	0.1703	0.1187	0.1365
	Fish Harbor	16	0.17168	0.24893	0.06308	0.09148	0.1414	0.1626	0.1179	0.1356
	Fish Harbor	17	0.17140	0.24854	0.06298	0.09133	0.1533	0.1763	0.1171	0.1347
	Fish Harbor	18	0.15852	0.22985	0.06284	0.09113	0.1431	0.1646	0.1164	0.1338
	Fish Harbor	19	0.14913	0.21624	0.06278	0.09103	0.1372	0.1578	0.1157	0.1330
	Fish Harbor	20	0.14435	0.20931	0.06271	0.09094	0.1334	0.1534	0.1150	0.1322
	Fish Harbor	21	0.16270	0.23591	0.06264	0.09083	0.1497	0.1721	0.1143	0.1315
	Fish Harbor	22	0.17941	0.26015	0.06240	0.09049	0.1672	0.1923	0.1137	0.1308
	Fish Harbor	23	0.15318	0.22211	0.06232	0.09037	0.1414	0.1626	0.1132	0.1302
	Fish Harbor	24	0.14506	0.21034	0.06226	0.09029	0.1339	0.1540	0.1126	0.1295
	Fish Harbor	25	0.15960	0.23141	0.06219	0.09019	0.1453	0.1671	0.1121	0.1289
	Fish Harbor	26	0.15543	0.22537	0.06214	0.09012	0.1388	0.1596	0.1115	0.1283
	Fish Harbor	27	0.16434	0.23829	0.06205	0.08999	0.1519	0.1746	0.1110	0.1277
	Fish Harbor	28	0.15165	0.21989	0.06195	0.08984	0.1415	0.1627	0.1105	0.1271
	Fish Harbor	29	0.14367	0.20832	0.06190	0.08977	0.1353	0.1556	0.1101	0.1266
	Fish Harbor	30	0.14065	0.20395	0.06186	0.08971	0.1316	0.1514	0.1096	0.1260
B-9e	Seaplane Lagoon	1	0.28389	0.41164	1.57783	2.28816	0.3002	0.3452	2.0096	2.3114
	Seaplane Lagoon	2	0.34061	0.49389	1.56589	2.27086	0.3469	0.3990	1.9473	2.2397
	Seaplane Lagoon	3	0.23851	0.34584	1.55778	2.25909	0.2571	0.2956	1.8921	2.1763
	Seaplane Lagoon	4	0.20293	0.29424	1.55050	2.24854	0.2420	0.2783	1.8415	2.1181
	Seaplane Lagoon	5	0.25471	0.36933	1.54275	2.23731	0.2660	0.3059	1.7938	2.0632
	Seaplane Lagoon	6	0.23686	0.34345	1.53606	2.22760	0.2476	0.2847	1.7497	2.0125
	Seaplane Lagoon	7	0.23697	0.34360	1.52913	2.21755	0.2647	0.3045	1.7081	1.9647
	Seaplane Lagoon	8	0.20964	0.30398	1.52203	2.20725	0.2460	0.2830	1.6688	1.9194
	Seaplane Lagoon	9	0.19169	0.27794	1.51583	2.19828	0.2378	0.2734	1.6324	1.8776
	Seaplane Lagoon	10	0.18694	0.27106	1.51059	2.19066	0.2285	0.2628	1.5986	1.8387
	Seaplane Lagoon	11	0.20510	0.29740	1.50553	2.18331	0.2481	0.2854	1.5667	1.8019
	Seaplane Lagoon	12	0.27460	0.39818	1.49796	2.17233	0.3118	0.3586	1.5354	1.7660
	Seaplane Lagoon	13	0.19263	0.27932	1.49324	2.16551	0.2268	0.2609	1.5071	1.7334
	Seaplane Lagoon	14	0.18154	0.26323	1.48894	2.15926	0.2149	0.2471	1.4806	1.7030
	Seaplane Lagoon	15	0.20620	0.29899	1.48403	2.15214	0.2387	0.2745	1.4550	1.6735
	Seaplane Lagoon	16	0.20809	0.30173	1.47977	2.14596	0.2246	0.2583	1.4310	1.6459
	Seaplane Lagoon	17	0.21857	0.31692	1.47481	2.13877	0.2411	0.2772	1.4076	1.6189
	Seaplane Lagoon	18	0.19784	0.28687	1.46990	2.13166	0.2234	0.2569	1.3851	1.5931
	Seaplane Lagoon	19	0.18423	0.26713	1.46573	2.12561	0.2164	0.2489	1.3641	1.5690
	Seaplane Lagoon	20	0.17898	0.25952	1.46205	2.12027	0.2104	0.2420	1.3443	1.5462
	Seaplane Lagoon	21	0.19920	0.28884	1.45833	2.11487	0.2306	0.2651	1.3252	1.5243
	Seaplane Lagoon	22	0.25129	0.36437	1.45279	2.10680	0.2863	0.3293	1.3064	1.5026
	Seaplane Lagoon	23	0.18480	0.26797	1.44909	2.10148	0.2115	0.2433	1.2887	1.4823
	Seaplane Lagoon	24	0.17427	0.25269	1.44613	2.09717	0.2008	0.2309	1.2721	1.4632
	Seaplane Lagoon	25	0.19965	0.28950	1.44265	2.09212	0.2247	0.2584	1.2559	1.4445
	Seaplane Lagoon	26	0.18999	0.27549	1.43962	2.08774	0.2101	0.2416	1.2403	1.4266
	Seaplane Lagoon	27	0.20968	0.30403	1.43597	2.08246	0.2294	0.2638	1.2250	1.4090
	Seaplane Lagoon	28	0.18849	0.27331	1.43232	2.07714	0.2108	0.2424	1.2101	1.3918
	Seaplane Lagoon	29	0.17775	0.25773	1.42938	2.07287	0.2045	0.2352	1.1960	1.3756
	Seaplane Lagoon	30	0.17304	0.25091	1.42694	2.06933	0.1983	0.2280	1.1826	1.3602

Table B-9

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 50% WLR + T=0 Hot Spot SedLR Model Scenario

Table No.	FMZs	Model Years	Total DDX Water Column Dissolved (ng/L)	Total DDX Water Column Particulate (µg/g OC)	Total DDX Sediment Bed Dissolved (ng/L)	Total DDX Surface Sediment Bed Concentration (µg/g OC)	Total PCB Water Column Dissolved (ng/L)	Total PCB Water Column Particulate (µg/g OC)	Total PCB Sediment Bed Dissolved (ng/L)	Total PCB Surface Sediment Bed Concentration (µg/g OC)
B-9f	Los Angeles Outer Harbor	1	0.25078	0.36364	2.49125	3.61282	0.2163	0.2488	1.2550	1.4434
	Los Angeles Outer Harbor	2	0.26196	0.37984	2.40110	3.48208	0.2202	0.2532	1.1992	1.3794
	Los Angeles Outer Harbor	3	0.21421	0.31061	2.35432	3.41424	0.1921	0.2209	1.1579	1.3318
	Los Angeles Outer Harbor	4	0.19310	0.28000	2.32988	3.37878	0.1885	0.2168	1.1250	1.2940
	Los Angeles Outer Harbor	5	0.21811	0.31626	2.30324	3.34016	0.1950	0.2243	1.0934	1.2576
	Los Angeles Outer Harbor	6	0.21324	0.30919	2.26576	3.28580	0.1893	0.2177	1.0620	1.2215
	Los Angeles Outer Harbor	7	0.20850	0.30233	2.24197	3.25130	0.1986	0.2284	1.0366	1.1923
	Los Angeles Outer Harbor	8	0.19241	0.27900	2.21997	3.21940	0.1909	0.2195	1.0132	1.1654
	Los Angeles Outer Harbor	9	0.17739	0.25721	2.20736	3.20112	0.1860	0.2139	0.9924	1.1414
	Los Angeles Outer Harbor	10	0.17398	0.25227	2.19743	3.18669	0.1815	0.2087	0.9739	1.1201
	Los Angeles Outer Harbor	11	0.18891	0.27392	2.18338	3.16633	0.1926	0.2215	0.9560	1.0996
	Los Angeles Outer Harbor	12	0.21636	0.31373	2.15986	3.13223	0.2053	0.2360	0.9444	1.0862
	Los Angeles Outer Harbor	13	0.18064	0.26193	2.14615	3.11234	0.1825	0.2099	0.9289	1.0684
	Los Angeles Outer Harbor	14	0.17603	0.25524	2.13733	3.09954	0.1806	0.2077	0.9146	1.0519
	Los Angeles Outer Harbor	15	0.18659	0.27055	2.12576	3.08276	0.1864	0.2143	0.9006	1.0358
	Los Angeles Outer Harbor	16	0.19480	0.28246	2.11360	3.06513	0.1824	0.2097	0.8870	1.0202
	Los Angeles Outer Harbor	17	0.19689	0.28549	2.09941	3.04455	0.1913	0.2200	0.8746	1.0060
	Los Angeles Outer Harbor	18	0.18685	0.27093	2.08728	3.02697	0.1843	0.2119	0.8634	0.9931
	Los Angeles Outer Harbor	19	0.17397	0.25226	2.07926	3.01532	0.1797	0.2066	0.8526	0.9807
	Los Angeles Outer Harbor	20	0.17003	0.24655	2.07403	3.00776	0.1767	0.2032	0.8429	0.9695
	Los Angeles Outer Harbor	21	0.18535	0.26875	2.06483	2.99439	0.1870	0.2151	0.8332	0.9584
	Los Angeles Outer Harbor	22	0.19845	0.28775	2.04326	2.96311	0.1970	0.2265	0.8233	0.9469
	Los Angeles Outer Harbor	23	0.17528	0.25416	2.03503	2.95117	0.1784	0.2051	0.8145	0.9368
	Los Angeles Outer Harbor	24	0.17202	0.24944	2.03068	2.94486	0.1770	0.2035	0.8064	0.9275
	Los Angeles Outer Harbor	25	0.18295	0.26528	2.02364	2.93468	0.1835	0.2110	0.7984	0.9182
	Los Angeles Outer Harbor	26	0.17927	0.25994	2.01663	2.92451	0.1785	0.2053	0.7905	0.9092
	Los Angeles Outer Harbor	27	0.19107	0.27706	2.00637	2.90961	0.1885	0.2168	0.7825	0.9000
	Los Angeles Outer Harbor	28	0.17940	0.26013	1.99767	2.89701	0.1811	0.2082	0.7753	0.8917
	Los Angeles Outer Harbor	29	0.17033	0.24699	1.99311	2.89039	0.1767	0.2032	0.7687	0.8841
	Los Angeles Outer Harbor	30	0.16654	0.24149	1.99026	2.88623	0.1735	0.1995	0.7626	0.8771
B-9g	Long Beach Inner Harbor North	1	0.28336	0.41087	0.86631	1.25638	0.3004	0.3454	2.2589	2.5983
	Long Beach Inner Harbor North	2	0.32029	0.46443	0.82510	1.19662	0.3145	0.3616	2.0859	2.3992
	Long Beach Inner Harbor North	3	0.24117	0.34970	0.81168	1.17715	0.2514	0.2891	1.9932	2.2927
	Long Beach Inner Harbor North	4	0.19854	0.28788	0.80419	1.16629	0.2374	0.2730	1.9200	2.2084
	Long Beach Inner Harbor North	5	0.24732	0.35861	0.79503	1.15301	0.2484	0.2856	1.8493	2.1271
	Long Beach Inner Harbor North	6	0.23513	0.34093	0.78736	1.14189	0.2407	0.2768	1.7869	2.0554
	Long Beach Inner Harbor North	7	0.25911	0.37571	0.77682	1.12659	0.2681	0.3083	1.7248	1.9839
	Long Beach Inner Harbor North	8	0.22103	0.32050	0.76623	1.11124	0.2454	0.2822	1.6691	1.9199
	Long Beach Inner Harbor North	9	0.18449	0.26751	0.76062	1.10311	0.2252	0.2590	1.6229	1.8667
	Long Beach Inner Harbor North	10	0.17056	0.24731	0.75598	1.09637	0.2123	0.2442	1.5812	1.8188
	Long Beach Inner Harbor North	11	0.20924	0.30340	0.74972	1.08729	0.2416	0.2779	1.5397	1.7711
	Long Beach Inner Harbor North	12	0.26567	0.38522	0.72676	1.05400	0.2732	0.3142	1.4709	1.6919
	Long Beach Inner Harbor North	13	0.20011	0.29016	0.72081	1.04536	0.2232	0.2567	1.4361	1.6519
	Long Beach Inner Harbor North	14	0.18304	0.26541	0.71759	1.04068	0.2123	0.2441	1.4065	1.6178
	Long Beach Inner Harbor North	15	0.20399	0.29579	0.71299	1.03401	0.2228	0.2562	1.3768	1.5837
	Long Beach Inner Harbor North	16	0.20871	0.30262	0.70920	1.02853	0.2192	0.2520	1.3495	1.5523
	Long Beach Inner Harbor North	17	0.24163	0.35037	0.70310	1.01968	0.2456	0.2824	1.3213	1.5198
	Long Beach Inner Harbor North	18	0.21298	0.30882	0.69744	1.01147	0.2248	0.2586	1.2977	1.4926
	Long Beach Inner Harbor North	19	0.18021	0.26130	0.69457	1.00732	0.2067	0.2377	1.2756	1.4672
	Long Beach Inner Harbor North	20	0.16630	0.24114	0.69226	1.00397	0.1966	0.2261	1.2552	1.4438
	Long Beach Inner Harbor North	21	0.20467	0.29677	0.68885	0.99902	0.2243	0.2579	1.2349	1.4205
	Long Beach Inner Harbor North	22	0.24919	0.36132	0.67171	0.97415	0.2530	0.2910	1.1952	1.3747

Table B-9

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 50% WLR + T=0 Hot Spot SedLR Model Scenario

Table No.	FMZs	Model Years	Total DDX Water Column Dissolved (ng/L)	Total DDX Water Column Particulate (µg/g OC)	Total DDX Sediment Bed Dissolved (ng/L)	Total DDX Surface Sediment Bed Concentration (µg/g OC)	Total PCB Water Column Dissolved (ng/L)	Total PCB Water Column Particulate (µg/g OC)	Total PCB Sediment Bed Dissolved (ng/L)	Total PCB Surface Sediment Bed Concentration (µg/g OC)
B-9g	Long Beach Inner Harbor North	23	0.19368	0.28084	0.66710	0.96747	0.2123	0.2442	1.1746	1.3510
	Long Beach Inner Harbor North	24	0.17881	0.25927	0.66505	0.96450	0.2028	0.2332	1.1580	1.3320
	Long Beach Inner Harbor North	25	0.20210	0.29304	0.66149	0.95934	0.2150	0.2473	1.1405	1.3118
	Long Beach Inner Harbor North	26	0.19541	0.28334	0.65883	0.95548	0.2082	0.2395	1.1245	1.2935
	Long Beach Inner Harbor North	27	0.23570	0.34177	0.65369	0.94801	0.2387	0.2744	1.1064	1.2726
	Long Beach Inner Harbor North	28	0.20345	0.29501	0.64916	0.94145	0.2153	0.2476	1.0937	1.2580
	Long Beach Inner Harbor North	29	0.17529	0.25418	0.64731	0.93878	0.1979	0.2275	1.0810	1.2434
	Long Beach Inner Harbor North	30	0.16234	0.23539	0.64596	0.93680	0.1880	0.2162	1.0686	1.2292
B-9h	Long Beach Inner Harbor South	1	0.24984	0.36227	1.92862	2.79710	0.2710	0.3117	4.2414	4.8789
	Long Beach Inner Harbor South	2	0.27409	0.39742	1.87389	2.71772	0.2850	0.3278	3.9746	4.5720
	Long Beach Inner Harbor South	3	0.20561	0.29813	1.85126	2.68489	0.2301	0.2646	3.7781	4.3460
	Long Beach Inner Harbor South	4	0.17081	0.24767	1.83550	2.66204	0.2205	0.2536	3.6082	4.1505
	Long Beach Inner Harbor South	5	0.22135	0.32096	1.81785	2.63644	0.2319	0.2667	3.4498	3.9684
	Long Beach Inner Harbor South	6	0.20804	0.30165	1.80246	2.61413	0.2208	0.2539	3.3073	3.8044
	Long Beach Inner Harbor South	7	0.21360	0.30972	1.78408	2.58746	0.2374	0.2730	3.1737	3.6507
	Long Beach Inner Harbor South	8	0.18475	0.26788	1.76439	2.55890	0.2218	0.2551	3.0496	3.5080
	Long Beach Inner Harbor South	9	0.15953	0.23132	1.75329	2.54282	0.2104	0.2420	2.9431	3.3854
	Long Beach Inner Harbor South	10	0.15328	0.22225	1.74336	2.52841	0.2020	0.2323	2.8452	3.2728
	Long Beach Inner Harbor South	11	0.18067	0.26197	1.73142	2.51111	0.2213	0.2545	2.7525	3.1662
	Long Beach Inner Harbor South	12	0.22471	0.32583	1.70120	2.46727	0.2508	0.2884	2.6477	3.0456
	Long Beach Inner Harbor South	13	0.16822	0.24392	1.69045	2.45168	0.2019	0.2322	2.5697	2.9559
	Long Beach Inner Harbor South	14	0.15648	0.22689	1.68314	2.44107	0.1951	0.2244	2.5002	2.8760
	Long Beach Inner Harbor South	15	0.17918	0.25981	1.67393	2.42771	0.2075	0.2387	2.4328	2.7984
	Long Beach Inner Harbor South	16	0.18183	0.26365	1.66602	2.41625	0.1995	0.2295	2.3709	2.7272
	Long Beach Inner Harbor South	17	0.19917	0.28880	1.65465	2.39975	0.2173	0.2499	2.3101	2.6573
	Long Beach Inner Harbor South	18	0.17876	0.25921	1.64386	2.38410	0.2024	0.2328	2.2527	2.5912
	Long Beach Inner Harbor South	19	0.15718	0.22791	1.63817	2.37584	0.1925	0.2214	2.2026	2.5337
	Long Beach Inner Harbor South	20	0.15010	0.21764	1.63288	2.36818	0.1864	0.2143	2.1556	2.4796
	Long Beach Inner Harbor South	21	0.17681	0.25637	1.62608	2.35832	0.2050	0.2358	2.1102	2.4273
	Long Beach Inner Harbor South	22	0.21096	0.30590	1.60349	2.32555	0.2266	0.2606	2.0549	2.3638
	Long Beach Inner Harbor South	23	0.16304	0.23641	1.59701	2.31615	0.1894	0.2178	2.0143	2.3171
	Long Beach Inner Harbor South	24	0.15307	0.22195	1.59297	2.31029	0.1842	0.2118	1.9776	2.2749
	Long Beach Inner Harbor South	25	0.17815	0.25832	1.58714	2.30183	0.1981	0.2278	1.9408	2.2325
	Long Beach Inner Harbor South	26	0.16874	0.24467	1.58283	2.29559	0.1882	0.2164	1.9069	2.1935
	Long Beach Inner Harbor South	27	0.19285	0.27963	1.57572	2.28526	0.2081	0.2393	1.8724	2.1538
	Long Beach Inner Harbor South	28	0.16961	0.24594	1.56849	2.27480	0.1923	0.2212	1.8394	2.1158
	Long Beach Inner Harbor South	29	0.15269	0.22141	1.56484	2.26949	0.1832	0.2106	1.8104	2.0825
	Long Beach Inner Harbor South	30	0.14671	0.21274	1.56152	2.26468	0.1777	0.2044	1.7827	2.0507
B-9i	Long Beach Outer Harbor	1	0.23629	0.34262	1.90869	2.76846	0.2164	0.2489	1.0292	1.1840
	Long Beach Outer Harbor	2	0.25592	0.37108	1.85776	2.69458	0.2370	0.2725	0.9686	1.1142
	Long Beach Outer Harbor	3	0.19694	0.28557	1.83515	2.66180	0.1833	0.2108	0.9238	1.0626
	Long Beach Outer Harbor	4	0.16901	0.24506	1.81653	2.63479	0.1759	0.2023	0.8843	1.0173
	Long Beach Outer Harbor	5	0.21493	0.31165	1.79687	2.60626	0.1947	0.2239	0.8481	0.9756
	Long Beach Outer Harbor	6	0.20312	0.29452	1.77919	2.58062	0.1842	0.2118	0.8157	0.9383
	Long Beach Outer Harbor	7	0.20158	0.29229	1.76109	2.55437	0.1986	0.2284	0.7862	0.9044
	Long Beach Outer Harbor	8	0.17879	0.25925	1.74187	2.52649	0.1867	0.2147	0.7586	0.8727
	Long Beach Outer Harbor	9	0.16144	0.23409	1.72872	2.50741	0.1809	0.2081	0.7352	0.8457
	Long Beach Outer Harbor	10	0.15501	0.22476	1.71680	2.49011	0.1718	0.1976	0.7136	0.8208
	Long Beach Outer Harbor	11	0.17518	0.25402	1.70416	2.47178	0.1901	0.2186	0.6931	0.7973
	Long Beach Outer Harbor	12	0.21306	0.30894	1.67449	2.42875	0.2218	0.2550	0.6706	0.7714
	Long Beach Outer Harbor	13	0.16265	0.23584	1.66290	2.41194	0.1715	0.1972	0.6536	0.7519
	Long Beach Outer Harbor	14	0.15462	0.22420	1.65248	2.39682	0.1661	0.1910	0.6380	0.7339

Table B-9

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 50% WLR + T=0 Hot Spot SedLR Model Scenario

Table No.	FMZs	Model Years	Total DDX: Water Column Dissolved (ng/L)	Total DDX: Water Column Particulate (µg/g OC)	Total DDX: Sediment Bed Dissolved (ng/L)	Total DDX: Surface Sediment Bed Concentration (µg/g OC)	Total PCB: Water Column Dissolved (ng/L)	Total PCB: Water Column Particulate (µg/g OC)	Total PCB: Sediment Bed Dissolved (ng/L)	Total PCB: Surface Sediment Bed Concentration (µg/g OC)
B-9i	Long Beach Outer Harbor	15	0.17583	0.25495	1.64071	2.37975	0.1837	0.2112	0.6231	0.7168
	Long Beach Outer Harbor	16	0.17983	0.26075	1.63067	2.36518	0.1756	0.2019	0.6094	0.7011
	Long Beach Outer Harbor	17	0.18923	0.27438	1.61943	2.34888	0.1903	0.2189	0.5963	0.6860
	Long Beach Outer Harbor	18	0.17414	0.25250	1.60802	2.33233	0.1780	0.2047	0.5840	0.6717
	Long Beach Outer Harbor	19	0.15984	0.23177	1.59952	2.31999	0.1739	0.2000	0.5731	0.6592
	Long Beach Outer Harbor	20	0.15224	0.22075	1.59212	2.30927	0.1655	0.1903	0.5629	0.6475
	Long Beach Outer Harbor	21	0.17206	0.24949	1.58407	2.29758	0.1832	0.2107	0.5529	0.6360
	Long Beach Outer Harbor	22	0.19998	0.28998	1.56150	2.26485	0.2093	0.2407	0.5409	0.6222
	Long Beach Outer Harbor	23	0.15830	0.22954	1.55341	2.25311	0.1665	0.1915	0.5322	0.6121
	Long Beach Outer Harbor	24	0.15160	0.21983	1.54706	2.24391	0.1619	0.1861	0.5241	0.6029
	Long Beach Outer Harbor	25	0.17498	0.25372	1.53900	2.23221	0.1811	0.2083	0.5161	0.5937
	Long Beach Outer Harbor	26	0.16636	0.24122	1.53248	2.22275	0.1698	0.1953	0.5088	0.5852
	Long Beach Outer Harbor	27	0.18296	0.26529	1.52413	2.21065	0.1864	0.2144	0.5014	0.5768
	Long Beach Outer Harbor	28	0.16561	0.24013	1.51574	2.19848	0.1732	0.1992	0.4944	0.5687
	Long Beach Outer Harbor	29	0.15562	0.22566	1.51026	2.19053	0.1697	0.1952	0.4881	0.5615
	Long Beach Outer Harbor	30	0.14947	0.21673	1.50536	2.18343	0.1624	0.1868	0.4822	0.5546
B-9j	Los Angeles River Estuary	1	0.57149	0.82867	0.65158	0.94490	0.8986	1.0334	3.4829	4.0058
	Los Angeles River Estuary	2	0.87521	1.26905	0.28777	0.41728	1.3511	1.5538	1.5199	1.7479
	Los Angeles River Estuary	3	0.52838	0.76615	0.25801	0.37414	0.8240	0.9476	1.3609	1.5651
	Los Angeles River Estuary	4	0.41223	0.59773	0.25515	0.36999	0.6715	0.7722	1.3416	1.5430
	Los Angeles River Estuary	5	0.55824	0.80945	0.23191	0.33630	0.8755	1.0068	1.2158	1.3983
	Los Angeles River Estuary	6	0.42665	0.61864	0.22315	0.32359	0.6679	0.7681	1.1662	1.3412
	Los Angeles River Estuary	7	0.71256	1.03322	0.19741	0.28627	1.0958	1.2601	1.0263	1.1803
	Los Angeles River Estuary	8	0.58971	0.85508	0.16757	0.24299	0.9382	1.0789	0.8676	0.9978
	Los Angeles River Estuary	9	0.57067	0.82747	0.16024	0.23237	0.9061	1.0420	0.8284	0.9527
	Los Angeles River Estuary	10	0.40774	0.59123	0.15869	0.23012	0.6636	0.7631	0.8189	0.9418
	Los Angeles River Estuary	11	0.51139	0.74151	0.15806	0.22922	0.7949	0.9142	0.8115	0.9334
	Los Angeles River Estuary	12	0.84994	1.23241	0.10454	0.15159	1.3141	1.5112	0.5292	0.6086
	Los Angeles River Estuary	13	0.49750	0.72137	0.09883	0.14331	0.7779	0.8946	0.5023	0.5776
	Los Angeles River Estuary	14	0.40022	0.58031	0.09970	0.14457	0.6387	0.7345	0.5065	0.5825
	Los Angeles River Estuary	15	0.54096	0.78440	0.09393	0.13621	0.8601	0.9891	0.4766	0.5481
	Los Angeles River Estuary	16	0.42155	0.61125	0.09769	0.14166	0.6579	0.7566	0.4973	0.5720
	Los Angeles River Estuary	17	0.71286	1.03365	0.09751	0.14140	1.0869	1.2499	0.4970	0.5716
	Los Angeles River Estuary	18	0.57720	0.83694	0.09034	0.13100	0.9048	1.0405	0.4595	0.5285
	Los Angeles River Estuary	19	0.56124	0.81381	0.08980	0.13021	0.8788	1.0106	0.4573	0.5259
	Los Angeles River Estuary	20	0.40161	0.58233	0.09153	0.13272	0.6398	0.7358	0.4667	0.5367
	Los Angeles River Estuary	21	0.51468	0.74629	0.10639	0.15429	0.7902	0.9087	0.5461	0.6281
	Los Angeles River Estuary	22	0.84155	1.22024	0.06758	0.09799	1.2988	1.4936	0.3345	0.3847
	Los Angeles River Estuary	23	0.49571	0.71878	0.06530	0.09470	0.7689	0.8842	0.3250	0.3737
	Los Angeles River Estuary	24	0.40280	0.58406	0.06653	0.09647	0.6382	0.7340	0.3317	0.3815
	Los Angeles River Estuary	25	0.53519	0.77602	0.06379	0.09250	0.8430	0.9694	0.3191	0.3670
	Los Angeles River Estuary	26	0.42066	0.60996	0.06931	0.10050	0.6605	0.7596	0.3498	0.4023
	Los Angeles River Estuary	27	0.72157	1.04627	0.07031	0.10196	1.0981	1.2628	0.3554	0.4088
	Los Angeles River Estuary	28	0.58189	0.84374	0.06660	0.09658	0.9135	1.0505	0.3361	0.3865
	Los Angeles River Estuary	29	0.56114	0.81365	0.06699	0.09714	0.8777	1.0093	0.3387	0.3895
	Los Angeles River Estuary	30	0.39597	0.57415	0.06879	0.09975	0.6282	0.7224	0.3486	0.4009

Table B-9

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 50% WLR + T=0 Hot Spot SedLR Model Scenario

Table No.	FMZs	Model Years	Total DDX Water Column Dissolved (ng/L)	Total DDX Water Column Particulate (µg/g OC)	Total DDX Sediment Bed Dissolved (ng/L)	Total DDX Surface Sediment Bed Concentration (µg/g OC)	Total PCB Water Column Dissolved (ng/L)	Total PCB Water Column Particulate (µg/g OC)	Total PCB Sediment Bed Dissolved (ng/L)	Total PCB Surface Sediment Bed Concentration (µg/g OC)
B-9k	Eastern San Pedro Bay	1	0.26813	0.38880	0.93339	1.35356	0.2853	0.3281	1.5671	1.8024
	Eastern San Pedro Bay	2	0.32165	0.46639	0.82115	1.19079	0.3658	0.4207	1.2777	1.4695
	Eastern San Pedro Bay	3	0.22098	0.32043	0.80813	1.17191	0.2387	0.2745	1.2345	1.4199
	Eastern San Pedro Bay	4	0.18574	0.26932	0.80476	1.16702	0.2175	0.2501	1.2144	1.3967
	Eastern San Pedro Bay	5	0.24192	0.35079	0.79394	1.15133	0.2697	0.3101	1.1784	1.3554
	Eastern San Pedro Bay	6	0.21630	0.31364	0.78798	1.14268	0.2322	0.2670	1.1546	1.3280
	Eastern San Pedro Bay	7	0.24665	0.35765	0.77390	1.12226	0.2842	0.3268	1.1145	1.2819
	Eastern San Pedro Bay	8	0.21968	0.31853	0.76021	1.10241	0.2646	0.3043	1.0759	1.2375
	Eastern San Pedro Bay	9	0.19699	0.28564	0.75509	1.09499	0.2450	0.2817	1.0566	1.2153
	Eastern San Pedro Bay	10	0.17499	0.25374	0.75283	1.09171	0.2129	0.2449	1.0435	1.2002
	Eastern San Pedro Bay	11	0.20666	0.29966	0.74609	1.08195	0.2524	0.2902	1.0214	1.1748
	Eastern San Pedro Bay	12	0.28369	0.41135	0.68426	0.99226	0.3476	0.3997	0.8925	1.0265
	Eastern San Pedro Bay	13	0.18928	0.27446	0.67945	0.98529	0.2242	0.2579	0.8771	1.0087
	Eastern San Pedro Bay	14	0.17153	0.24872	0.67957	0.98548	0.2044	0.2350	0.8713	1.0021
	Eastern San Pedro Bay	15	0.21223	0.30773	0.67451	0.97813	0.2571	0.2957	0.8565	0.9851
	Eastern San Pedro Bay	16	0.19869	0.28810	0.67260	0.97537	0.2226	0.2560	0.8476	0.9749
	Eastern San Pedro Bay	17	0.23509	0.34088	0.66541	0.96494	0.2742	0.3153	0.8302	0.9549
	Eastern San Pedro Bay	18	0.21595	0.31313	0.65846	0.95486	0.2559	0.2943	0.8126	0.9346
	Eastern San Pedro Bay	19	0.19514	0.28295	0.65615	0.95150	0.2372	0.2727	0.8041	0.9248
	Eastern San Pedro Bay	20	0.17253	0.25016	0.65564	0.95077	0.2055	0.2363	0.7987	0.9186
	Eastern San Pedro Bay	21	0.20403	0.29584	0.65131	0.94449	0.2449	0.2816	0.7866	0.9047
	Eastern San Pedro Bay	22	0.27144	0.39358	0.61060	0.88545	0.3357	0.3860	0.7120	0.8189
	Eastern San Pedro Bay	23	0.18566	0.26920	0.60768	0.88122	0.2189	0.2518	0.7035	0.8091
	Eastern San Pedro Bay	24	0.16852	0.24435	0.60833	0.88216	0.1987	0.2285	0.7008	0.8060
	Eastern San Pedro Bay	25	0.21139	0.30652	0.60529	0.87775	0.2546	0.2927	0.6927	0.7967
	Eastern San Pedro Bay	26	0.18845	0.27326	0.60427	0.87627	0.2168	0.2494	0.6878	0.7910
	Eastern San Pedro Bay	27	0.23058	0.33435	0.59963	0.86954	0.2711	0.3118	0.6776	0.7793
	Eastern San Pedro Bay	28	0.20772	0.30119	0.59500	0.86284	0.2502	0.2877	0.6670	0.7672
	Eastern San Pedro Bay	29	0.19115	0.27716	0.59371	0.86097	0.2325	0.2674	0.6620	0.7614
	Eastern San Pedro Bay	30	0.16881	0.24478	0.59365	0.86088	0.2009	0.2311	0.6589	0.7578
B-9l	Outside Harbor	1	0.19081	0.27667	5.96222	8.64781	0.1696	0.1950	0.3255	0.3744
	Outside Harbor	2	0.18464	0.26773	5.89481	8.55006	0.1704	0.1960	0.3150	0.3624
	Outside Harbor	3	0.16805	0.24368	5.88901	8.54165	0.1613	0.1855	0.3076	0.3538
	Outside Harbor	4	0.16367	0.23733	5.85670	8.49477	0.1603	0.1843	0.2992	0.3441
	Outside Harbor	5	0.17803	0.25815	5.82265	8.44540	0.1646	0.1893	0.2918	0.3357
	Outside Harbor	6	0.17228	0.24980	5.80254	8.41623	0.1624	0.1867	0.2871	0.3303
	Outside Harbor	7	0.16921	0.24536	5.75795	8.35154	0.1647	0.1894	0.2807	0.3229
	Outside Harbor	8	0.16060	0.23287	5.70006	8.26756	0.1629	0.1873	0.2740	0.3152
	Outside Harbor	9	0.15303	0.22189	5.66495	8.21668	0.1617	0.1859	0.2681	0.3084
	Outside Harbor	10	0.15161	0.21983	5.63749	8.17682	0.1596	0.1835	0.2626	0.3021
	Outside Harbor	11	0.15727	0.22804	5.60218	8.12560	0.1639	0.1885	0.2574	0.2961
	Outside Harbor	12	0.16501	0.23926	5.54595	8.04405	0.1676	0.1927	0.2522	0.2901
	Outside Harbor	13	0.15310	0.22200	5.51744	8.00271	0.1590	0.1828	0.2478	0.2850
	Outside Harbor	14	0.15232	0.22086	5.48780	7.95971	0.1582	0.1819	0.2435	0.2801
	Outside Harbor	15	0.15860	0.22997	5.45675	7.91468	0.1625	0.1869	0.2394	0.2754
	Outside Harbor	16	0.16254	0.23569	5.41354	7.85199	0.1607	0.1849	0.2353	0.2707
	Outside Harbor	17	0.16125	0.23381	5.37566	7.79708	0.1629	0.1873	0.2316	0.2664
	Outside Harbor	18	0.16169	0.23445	5.33375	7.73626	0.1619	0.1861	0.2280	0.2623
	Outside Harbor	19	0.15335	0.22236	5.30515	7.69478	0.1608	0.1849	0.2249	0.2587
	Outside Harbor	20	0.15019	0.21777	5.28381	7.66382	0.1583	0.1820	0.2219	0.2552
	Outside Harbor	21	0.15532	0.22522	5.25753	7.62573	0.1623	0.1867	0.2190	0.2519
	Outside Harbor	22	0.16173	0.23451	5.21470	7.56361	0.1681	0.1933	0.2160	0.2485

Table B-9

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 50% WLR + T=0 Hot Spot SedLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-9I	Outside Harbor	23	0.15077	0.21862	5.19521	7.53532	0.1582	0.1819	0.2135	0.2456
	Outside Harbor	24	0.15055	0.21829	5.17389	7.50442	0.1574	0.1810	0.2110	0.2428
	Outside Harbor	25	0.15737	0.22818	5.15149	7.47193	0.1626	0.1869	0.2087	0.2401
	Outside Harbor	26	0.15518	0.22501	5.12153	7.42844	0.1595	0.1834	0.2063	0.2373
	Outside Harbor	27	0.15760	0.22852	5.09418	7.38880	0.1618	0.1861	0.2040	0.2347
	Outside Harbor	28	0.15390	0.22315	5.06554	7.34725	0.1603	0.1843	0.2019	0.2322
	Outside Harbor	29	0.15049	0.21821	5.05110	7.32633	0.1599	0.1839	0.2001	0.2301
	Outside Harbor	30	0.14877	0.21572	5.03930	7.30920	0.1581	0.1818	0.1983	0.2281

Notes:

µg/g: microgram per gram

DCE: Dominguez Channel Estuary (TMDL hot spot upstream of Consolidated Slip)

DDX: dichlorodiphenyltrichloroethane-related compounds (4,4'-DDT, 4,4'-DDE, 4,4'-DDD, 2,4'-DDT, 2,4'-DDE, and 2,4'-DDD)

FMZ: fish movement zone

ng/L: nanogram per liter

OC: organic carbon

PCB: polychlorinated biphenyl

SedLR: Sediment Load Reduction

WLR: Watershed Load Reduction

WRAP: Water Resources Action Plan

Table B-10

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 50% WLR + T=20 Hot Spot SedLR Model Scenario

Table No.	FMZs	Model Years	Total DDX				Total PCB			
			Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-10a	Dominguez Channel Estuary	1	7.74752	11.23391	5.01793	7.27662	9.4848	10.9075	12.7497	14.6626
	Dominguez Channel Estuary	2	10.39290	15.06970	5.04742	7.31904	12.0094	13.8108	12.7720	14.6878
	Dominguez Channel Estuary	3	7.23134	10.48544	4.38747	6.36203	7.2942	8.3883	11.8862	13.6692
	Dominguez Channel Estuary	4	6.27832	9.10357	4.09331	5.93555	6.7747	7.7909	11.3400	13.0412
	Dominguez Channel Estuary	5	4.34896	6.30600	3.86322	5.60188	4.7750	5.4912	10.8916	12.5254
	Dominguez Channel Estuary	6	4.78101	6.93246	3.83992	5.56810	5.0002	5.7502	10.7518	12.3648
	Dominguez Channel Estuary	7	5.03488	7.30059	3.79761	5.50675	5.0314	5.7861	10.6343	12.2296
	Dominguez Channel Estuary	8	4.67546	6.77941	3.64266	5.28206	4.5814	5.2686	10.4750	12.0468
	Dominguez Channel Estuary	9	4.14982	6.01724	3.59462	5.21239	3.9807	4.5778	10.2698	11.8111
	Dominguez Channel Estuary	10	3.64378	5.28348	3.63764	5.27478	3.5165	4.0440	10.1880	11.7171
	Dominguez Channel Estuary	11	2.95458	4.28415	3.65540	5.30076	3.0591	3.5179	10.2172	11.7509
	Dominguez Channel Estuary	12	5.82998	8.45347	4.12546	5.98212	5.7577	6.6214	11.2283	12.9133
	Dominguez Channel Estuary	13	4.24418	6.15406	3.91410	5.67557	4.4263	5.0902	10.9259	12.5654
	Dominguez Channel Estuary	14	4.41507	6.40185	3.88328	5.63095	4.5743	5.2604	10.7153	12.3230
	Dominguez Channel Estuary	15	3.44633	4.99718	3.75331	5.44252	3.5229	4.0513	10.4618	12.0315
	Dominguez Channel Estuary	16	3.95644	5.73683	3.77022	5.46704	3.9203	4.5084	10.4132	11.9756
	Dominguez Channel Estuary	17	4.37259	6.34025	3.65056	5.29349	4.1415	4.7627	10.2986	11.8438
	Dominguez Channel Estuary	18	4.18471	6.06783	3.50941	5.08884	3.8500	4.4275	10.1787	11.7059
	Dominguez Channel Estuary	19	3.50414	5.08101	3.45912	5.01587	3.1280	3.5972	9.9944	11.4939
	Dominguez Channel Estuary	20	3.12807	4.53570	3.48057	5.04701	2.8407	3.2668	9.9285	11.4180
	Dominguez Channel Estuary	21	1.75836	2.54963	0.04462	0.05785	1.6082	1.8495	0.1002	0.0999
	Dominguez Channel Estuary	22	2.83697	4.11361	0.03482	0.05049	2.3958	2.7552	0.0781	0.0898
	Dominguez Channel Estuary	23	2.36591	3.43057	0.03272	0.04745	1.9914	2.2901	0.0758	0.0871
	Dominguez Channel Estuary	24	2.45287	3.55666	0.03201	0.04641	2.1934	2.5224	0.0755	0.0869
	Dominguez Channel Estuary	25	1.87368	2.71684	0.03065	0.04444	1.6200	1.8630	0.0738	0.0849
	Dominguez Channel Estuary	26	2.45588	3.56102	0.03012	0.04367	2.2231	2.5565	0.0729	0.0839
	Dominguez Channel Estuary	27	3.15783	4.57885	0.02891	0.04192	2.7125	3.1194	0.0713	0.0820
	Dominguez Channel Estuary	28	3.12453	4.53057	0.02793	0.04051	2.6535	3.0515	0.0702	0.0807
	Dominguez Channel Estuary	29	2.17599	3.15519	0.02778	0.04029	1.7206	1.9787	0.0708	0.0815
	Dominguez Channel Estuary	30	1.78062	2.58190	0.02759	0.04001	1.4623	1.6816	0.0700	0.0805
B-10b	Consolidated Slip	1	1.28477	1.86291	5.71825	8.29270	1.9703	2.2658	21.0471	24.2083
	Consolidated Slip	2	2.05704	2.98271	4.09390	5.93677	3.0498	3.5072	14.8993	17.1364
	Consolidated Slip	3	1.31534	1.90723	3.79646	5.50552	1.4067	1.6177	13.9434	16.0371
	Consolidated Slip	4	0.85369	1.23786	3.73640	5.41838	1.0517	1.2095	13.6667	15.7188
	Consolidated Slip	5	0.72889	1.05689	3.59821	5.21799	0.9654	1.1102	13.1765	15.1550
	Consolidated Slip	6	0.68111	0.98761	3.48903	5.05966	0.8652	0.9949	12.7879	14.7081
	Consolidated Slip	7	0.83119	1.20522	3.26004	4.72761	0.9981	1.1478	12.0068	13.8096
	Consolidated Slip	8	0.66757	0.96798	3.08133	4.46840	0.8212	0.9444	11.3480	13.0520
	Consolidated Slip	9	0.57242	0.83001	3.07774	4.46322	0.7417	0.8530	11.1509	12.8253
	Consolidated Slip	10	0.48101	0.69747	3.06869	4.45009	0.6384	0.7342	10.9804	12.6291
	Consolidated Slip	11	0.60100	0.87145	2.98354	4.32690	0.7893	0.9077	10.6280	12.2241
	Consolidated Slip	12	1.14016	1.65323	2.42581	3.51776	1.1453	1.3171	8.8296	10.1554
	Consolidated Slip	13	0.68664	0.99563	2.42302	3.51379	0.7976	0.9173	8.5812	9.8697
	Consolidated Slip	14	0.58752	0.85191	2.46111	3.56901	0.6943	0.7984	8.4891	9.7638
	Consolidated Slip	15	0.57223	0.82973	2.41801	3.50652	0.6723	0.7731	8.2553	9.4949
	Consolidated Slip	16	0.57260	0.83028	2.34873	3.40605	0.6470	0.7440	8.0315	9.2374
	Consolidated Slip	17	0.71853	1.04187	2.21296	3.20913	0.7621	0.8764	7.6641	8.8149
	Consolidated Slip	18	0.59723	0.86599	2.08337	3.02122	0.6423	0.7386	7.2847	8.3785
	Consolidated Slip	19	0.49283	0.71461	2.11920	3.07318	0.5597	0.6436	7.2024	8.2839
	Consolidated Slip	20	0.42747	0.61983	2.13289	3.09305	0.5033	0.5787	7.1253	8.1951
	Consolidated Slip	21	0.40632	0.58917	0.04012	0.05402	0.4007	0.4608	0.0936	0.0966

Table B-10

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 50% WLR + T=20 Hot Spot SedLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-10b	Consolidated Slip	22	0.55505	0.80482	0.03212	0.04658	0.4811	0.5532	0.0726	0.0835
	Consolidated Slip	23	0.41614	0.60341	0.03159	0.04581	0.3857	0.4435	0.0716	0.0823
	Consolidated Slip	24	0.37401	0.54231	0.03146	0.04562	0.3692	0.4246	0.0715	0.0822
	Consolidated Slip	25	0.38049	0.55171	0.03098	0.04492	0.3601	0.4141	0.0706	0.0812
	Consolidated Slip	26	0.39768	0.57664	0.03054	0.04429	0.3858	0.4436	0.0697	0.0802
	Consolidated Slip	27	0.56597	0.82065	0.02940	0.04263	0.4888	0.5621	0.0673	0.0774
	Consolidated Slip	28	0.46130	0.66888	0.02844	0.04124	0.4117	0.4735	0.0653	0.0751
	Consolidated Slip	29	0.34164	0.49538	0.02834	0.04109	0.3250	0.3737	0.0653	0.0751
	Consolidated Slip	30	0.27883	0.40431	0.02820	0.04089	0.2860	0.3289	0.0651	0.0749
B-10c	Los Angeles Inner Harbor	1	0.43663	0.63311	2.70768	3.92652	0.5349	0.6151	3.5569	4.0910
	Los Angeles Inner Harbor	2	0.53785	0.77989	2.56212	3.71544	0.6515	0.7492	3.1733	3.6498
	Los Angeles Inner Harbor	3	0.38142	0.55305	2.53167	3.67128	0.4018	0.4621	3.0771	3.5390
	Los Angeles Inner Harbor	4	0.29145	0.42261	2.51879	3.65254	0.3529	0.4058	3.0177	3.4707
	Los Angeles Inner Harbor	5	0.30133	0.43692	2.49825	3.62276	0.3468	0.3988	2.9479	3.3905
	Los Angeles Inner Harbor	6	0.28858	0.41844	2.48257	3.60010	0.3284	0.3777	2.8878	3.3214
	Los Angeles Inner Harbor	7	0.30764	0.44608	2.45585	3.56125	0.3511	0.4038	2.8074	3.2288
	Los Angeles Inner Harbor	8	0.26625	0.38607	2.42670	3.51907	0.3163	0.3637	2.7323	3.1425
	Los Angeles Inner Harbor	9	0.23976	0.34765	2.41577	3.50317	0.3046	0.3503	2.6885	3.0921
	Los Angeles Inner Harbor	10	0.22477	0.32592	2.40741	3.49104	0.2874	0.3305	2.6496	3.0474
	Los Angeles Inner Harbor	11	0.26229	0.38032	2.39235	3.46927	0.3212	0.3694	2.6008	2.9913
	Los Angeles Inner Harbor	12	0.34781	0.50433	2.31452	3.35634	0.3603	0.4144	2.4373	2.8033
	Los Angeles Inner Harbor	13	0.25539	0.37032	2.30151	3.33753	0.2983	0.3431	2.3991	2.7593
	Los Angeles Inner Harbor	14	0.23826	0.34548	2.29651	3.33026	0.2860	0.3289	2.3732	2.7295
	Los Angeles Inner Harbor	15	0.24862	0.36050	2.28525	3.31389	0.2878	0.3309	2.3392	2.6903
	Los Angeles Inner Harbor	16	0.25298	0.36683	2.27653	3.30129	0.2802	0.3222	2.3087	2.6553
	Los Angeles Inner Harbor	17	0.27524	0.39909	2.26054	3.27803	0.3004	0.3455	2.2683	2.6089
	Los Angeles Inner Harbor	18	0.24841	0.36019	2.24240	3.25180	0.2767	0.3182	2.2267	2.5610
	Los Angeles Inner Harbor	19	0.22273	0.32296	2.23729	3.24431	0.2637	0.3033	2.2044	2.5354
	Los Angeles Inner Harbor	20	0.21027	0.30489	2.23428	3.24018	0.2547	0.2929	2.1848	2.5128
	Los Angeles Inner Harbor	21	0.22486	0.32605	2.22579	3.22774	0.2479	0.2851	2.1573	2.4812
	Los Angeles Inner Harbor	22	0.24930	0.36149	2.17254	3.15027	0.2567	0.2952	2.0590	2.3681
	Los Angeles Inner Harbor	23	0.20925	0.30341	2.16482	3.13929	0.2323	0.2671	2.0363	2.3421
	Los Angeles Inner Harbor	24	0.20188	0.29273	2.16265	3.13623	0.2313	0.2660	2.0216	2.3251
	Los Angeles Inner Harbor	25	0.21651	0.31394	2.15532	3.12549	0.2360	0.2713	2.0011	2.3015
	Los Angeles Inner Harbor	26	0.21386	0.31010	2.15007	3.11785	0.2349	0.2701	1.9830	2.2807
	Los Angeles Inner Harbor	27	0.24458	0.35464	2.13821	3.10061	0.2551	0.2934	1.9561	2.2498
	Los Angeles Inner Harbor	28	0.22018	0.31926	2.12519	3.08180	0.2374	0.2730	1.9288	2.2184
	Los Angeles Inner Harbor	29	0.19721	0.28595	2.12227	3.07766	0.2243	0.2579	1.9143	2.2017
	Los Angeles Inner Harbor	30	0.18597	0.26965	2.12115	3.07589	0.2166	0.2491	1.9018	2.1873

Table B-10

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 50% WLR + T=20 Hot Spot SedLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-10d	Fish Harbor	1	0.29409	0.42643	3.54255	5.13729	0.5756	0.6620	7.0178	8.0715
	Fish Harbor	2	0.31711	0.45981	3.50377	5.08103	0.5822	0.6695	6.8023	7.8237
	Fish Harbor	3	0.23715	0.34387	3.48272	5.05053	0.5256	0.6045	6.6284	7.6236
	Fish Harbor	4	0.20574	0.29833	3.46615	5.02651	0.5226	0.6010	6.4722	7.4440
	Fish Harbor	5	0.23896	0.34649	3.44814	5.00038	0.5051	0.5809	6.3216	7.2708
	Fish Harbor	6	0.23562	0.34165	3.43241	4.97757	0.4856	0.5585	6.1815	7.1097
	Fish Harbor	7	0.21732	0.31511	3.41546	4.95299	0.4812	0.5534	6.0459	6.9537
	Fish Harbor	8	0.19935	0.28906	3.39788	4.92751	0.4799	0.5518	5.9157	6.8039
	Fish Harbor	9	0.18776	0.27226	3.38555	4.90960	0.4754	0.5467	5.7998	6.6706
	Fish Harbor	10	0.18435	0.26731	3.37442	4.89346	0.4699	0.5404	5.6906	6.5451
	Fish Harbor	11	0.20366	0.29530	3.36209	4.87564	0.4630	0.5324	5.5852	6.4238
	Fish Harbor	12	0.23655	0.34300	3.33837	4.84121	0.4577	0.5263	5.4670	6.2878
	Fish Harbor	13	0.19332	0.28032	3.32615	4.82349	0.4436	0.5101	5.3718	6.1784
	Fish Harbor	14	0.18388	0.26662	3.31644	4.80939	0.4490	0.5164	5.2854	6.0790
	Fish Harbor	15	0.19649	0.28490	3.30434	4.79185	0.4348	0.5000	5.1991	5.9797
	Fish Harbor	16	0.20091	0.29133	3.29328	4.77579	0.4217	0.4850	5.1179	5.8864
	Fish Harbor	17	0.20107	0.29156	3.28045	4.75721	0.4198	0.4827	5.0374	5.7937
	Fish Harbor	18	0.18937	0.27458	3.26755	4.73848	0.4233	0.4868	4.9600	5.7048
	Fish Harbor	19	0.18043	0.26162	3.25866	4.72561	0.4192	0.4821	4.8903	5.6246
	Fish Harbor	20	0.17627	0.25559	3.25060	4.71390	0.4169	0.4794	4.8246	5.5490
	Fish Harbor	21	0.16378	0.23749	0.06977	0.09487	0.1576	0.1812	0.1446	0.1590
	Fish Harbor	22	0.17955	0.26034	0.06510	0.09441	0.1684	0.1937	0.1364	0.1569
	Fish Harbor	23	0.15323	0.22219	0.06494	0.09418	0.1426	0.1640	0.1348	0.1550
	Fish Harbor	24	0.14510	0.21039	0.06482	0.09400	0.1351	0.1554	0.1332	0.1532
	Fish Harbor	25	0.15964	0.23148	0.06468	0.09379	0.1464	0.1684	0.1318	0.1516
	Fish Harbor	26	0.15546	0.22542	0.06457	0.09363	0.1398	0.1608	0.1304	0.1499
	Fish Harbor	27	0.16438	0.23835	0.06441	0.09341	0.1528	0.1758	0.1290	0.1484
	Fish Harbor	28	0.15168	0.21994	0.06425	0.09318	0.1425	0.1639	0.1278	0.1470
	Fish Harbor	29	0.14369	0.20836	0.06415	0.09303	0.1362	0.1567	0.1266	0.1456
	Fish Harbor	30	0.14068	0.20398	0.06406	0.09289	0.1326	0.1524	0.1255	0.1443
B-10e	Seaplane Lagoon	1	0.30444	0.44143	1.57785	2.28819	0.3298	0.3793	2.0098	2.3116
	Seaplane Lagoon	2	0.38505	0.55832	1.56602	2.27105	0.4108	0.4724	1.9489	2.2415
	Seaplane Lagoon	3	0.25412	0.36847	1.55800	2.25942	0.2755	0.3168	1.8941	2.1786
	Seaplane Lagoon	4	0.20953	0.30382	1.55077	2.24893	0.2514	0.2892	1.8435	2.1204
	Seaplane Lagoon	5	0.26078	0.37813	1.54304	2.23771	0.2769	0.3184	1.7959	2.0656
	Seaplane Lagoon	6	0.24156	0.35027	1.53635	2.22802	0.2562	0.2946	1.7519	2.0150
	Seaplane Lagoon	7	0.24424	0.35414	1.52942	2.21798	0.2771	0.3187	1.7104	1.9673
	Seaplane Lagoon	8	0.21404	0.31036	1.52232	2.20767	0.2542	0.2924	1.6711	1.9221
	Seaplane Lagoon	9	0.19555	0.28355	1.51615	2.19871	0.2450	0.2817	1.6347	1.8802
	Seaplane Lagoon	10	0.18989	0.27534	1.51091	2.19112	0.2345	0.2697	1.6009	1.8414
	Seaplane Lagoon	11	0.21070	0.30552	1.50586	2.18381	0.2584	0.2971	1.5690	1.8046
	Seaplane Lagoon	12	0.28844	0.41824	1.49828	2.17281	0.3318	0.3816	1.5380	1.7690
	Seaplane Lagoon	13	0.19858	0.28794	1.49358	2.16600	0.2363	0.2717	1.5097	1.7365
	Seaplane Lagoon	14	0.18481	0.26797	1.48926	2.15973	0.2211	0.2543	1.4833	1.7060
	Seaplane Lagoon	15	0.21008	0.30461	1.48434	2.15260	0.2459	0.2827	1.4577	1.6766
	Seaplane Lagoon	16	0.21118	0.30620	1.48003	2.14634	0.2304	0.2649	1.4337	1.6490
	Seaplane Lagoon	17	0.22352	0.32411	1.47504	2.13910	0.2495	0.2869	1.4103	1.6221
	Seaplane Lagoon	18	0.20091	0.29132	1.47014	2.13201	0.2291	0.2635	1.3878	1.5962
	Seaplane Lagoon	19	0.18669	0.27069	1.46598	2.12597	0.2212	0.2544	1.3667	1.5720
	Seaplane Lagoon	20	0.18119	0.26272	1.46230	2.12063	0.2150	0.2473	1.3469	1.5492
	Seaplane Lagoon	21	0.19968	0.28953	1.45858	2.11525	0.2313	0.2660	1.3277	1.5271

Table B-10

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 50% WLR + T=20 Hot Spot SedLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-10e	Seaplane Lagoon	22	0.25143	0.36458	1.45308	2.10718	0.2867	0.3297	1.3087	1.5052
	Seaplane Lagoon	23	0.18485	0.26803	1.44935	2.10184	0.2118	0.2435	1.2909	1.4848
	Seaplane Lagoon	24	0.17429	0.25273	1.44637	2.09751	0.2010	0.2311	1.2742	1.4656
	Seaplane Lagoon	25	0.19968	0.28954	1.44289	2.09249	0.2248	0.2586	1.2578	1.4467
	Seaplane Lagoon	26	0.19002	0.27553	1.43990	2.08817	0.2103	0.2418	1.2421	1.4287
	Seaplane Lagoon	27	0.20972	0.30409	1.43625	2.08285	0.2296	0.2640	1.2267	1.4110
	Seaplane Lagoon	28	0.18851	0.27334	1.43259	2.07754	0.2109	0.2425	1.2118	1.3937
	Seaplane Lagoon	29	0.17776	0.25776	1.42964	2.07327	0.2046	0.2353	1.1976	1.3774
	Seaplane Lagoon	30	0.17305	0.25093	1.42720	2.06972	0.1984	0.2281	1.1841	1.3619
B-10f	Los Angeles Outer Harbor	1	0.28007	0.40611	2.49126	3.61283	0.2645	0.3042	1.2552	1.4437
	Los Angeles Outer Harbor	2	0.30730	0.44558	2.40116	3.48216	0.2941	0.3382	1.2003	1.3805
	Los Angeles Outer Harbor	3	0.23785	0.34489	2.35439	3.41434	0.2193	0.2522	1.1593	1.3334
	Los Angeles Outer Harbor	4	0.20486	0.29705	2.32996	3.37890	0.2055	0.2363	1.1266	1.2958
	Los Angeles Outer Harbor	5	0.22777	0.33027	2.30332	3.34028	0.2129	0.2448	1.0950	1.2595
	Los Angeles Outer Harbor	6	0.22021	0.31930	2.26584	3.28592	0.2024	0.2328	1.0637	1.2234
	Los Angeles Outer Harbor	7	0.21660	0.31408	2.24207	3.25143	0.2137	0.2458	1.0384	1.1943
	Los Angeles Outer Harbor	8	0.19802	0.28713	2.22006	3.21954	0.2025	0.2328	1.0149	1.1674
	Los Angeles Outer Harbor	9	0.18363	0.26627	2.20746	3.20126	0.1979	0.2275	0.9942	1.1435
	Los Angeles Outer Harbor	10	0.17911	0.25971	2.19752	3.18683	0.1914	0.2201	0.9756	1.1221
	Los Angeles Outer Harbor	11	0.19667	0.28518	2.18348	3.16648	0.2077	0.2389	0.9578	1.1016
	Los Angeles Outer Harbor	12	0.23277	0.33752	2.15996	3.13238	0.2260	0.2599	0.9462	1.0883
	Los Angeles Outer Harbor	13	0.18870	0.27361	2.14626	3.11249	0.1954	0.2248	0.9308	1.0706
	Los Angeles Outer Harbor	14	0.18177	0.26357	2.13744	3.09971	0.1905	0.2191	0.9164	1.0541
	Los Angeles Outer Harbor	15	0.19254	0.27918	2.12587	3.08292	0.1970	0.2265	0.9025	1.0380
	Los Angeles Outer Harbor	16	0.19926	0.28893	2.11371	3.06529	0.1907	0.2193	0.8889	1.0224
	Los Angeles Outer Harbor	17	0.20203	0.29295	2.09951	3.04469	0.2008	0.2309	0.8765	1.0082
	Los Angeles Outer Harbor	18	0.19072	0.27654	2.08738	3.02713	0.1920	0.2208	0.8653	0.9952
	Los Angeles Outer Harbor	19	0.17799	0.25809	2.07936	3.01547	0.1872	0.2153	0.8545	0.9828
	Los Angeles Outer Harbor	20	0.17383	0.25206	2.07414	3.00790	0.1839	0.2115	0.8448	0.9716
	Los Angeles Outer Harbor	21	0.18581	0.26942	2.06494	2.99455	0.1877	0.2158	0.8350	0.9604
	Los Angeles Outer Harbor	22	0.19857	0.28793	2.04335	2.96327	0.1972	0.2267	0.8249	0.9488
	Los Angeles Outer Harbor	23	0.17534	0.25425	2.03511	2.95130	0.1785	0.2052	0.8160	0.9386
	Los Angeles Outer Harbor	24	0.17207	0.24950	2.03077	2.94500	0.1771	0.2036	0.8079	0.9292
	Los Angeles Outer Harbor	25	0.18299	0.26534	2.02373	2.93481	0.1836	0.2111	0.7998	0.9199
	Los Angeles Outer Harbor	26	0.17930	0.25999	2.01673	2.92465	0.1786	0.2054	0.7919	0.9108
	Los Angeles Outer Harbor	27	0.19111	0.27711	2.00646	2.90975	0.1886	0.2169	0.7838	0.9015
	Los Angeles Outer Harbor	28	0.17942	0.26016	1.99776	2.89714	0.1811	0.2083	0.7765	0.8931
	Los Angeles Outer Harbor	29	0.17036	0.24702	1.99320	2.89052	0.1768	0.2033	0.7698	0.8855
	Los Angeles Outer Harbor	30	0.16656	0.24152	1.99034	2.88637	0.1736	0.1996	0.7637	0.8784

Table B-10

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 50% WLR + T=20 Hot Spot SedLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-10g	Long Beach Inner Harbor North	1	0.41904	0.60761	0.86635	1.25645	0.5164	0.5939	2.2595	2.5990
	Long Beach Inner Harbor North	2	0.54026	0.78337	0.82529	1.19689	0.6902	0.7937	2.0886	2.4023
	Long Beach Inner Harbor North	3	0.36119	0.52373	0.81197	1.17756	0.3781	0.4348	1.9968	2.2968
	Long Beach Inner Harbor North	4	0.25667	0.37217	0.80451	1.16675	0.3080	0.3542	1.9237	2.2127
	Long Beach Inner Harbor North	5	0.29194	0.42331	0.79537	1.15349	0.3193	0.3672	1.8531	2.1315
	Long Beach Inner Harbor North	6	0.26872	0.38965	0.78769	1.14237	0.2923	0.3361	1.7908	2.0598
	Long Beach Inner Harbor North	7	0.29899	0.43353	0.77715	1.12708	0.3321	0.3819	1.7286	1.9883
	Long Beach Inner Harbor North	8	0.24778	0.35928	0.76656	1.11172	0.2890	0.3324	1.6730	1.9243
	Long Beach Inner Harbor North	9	0.21297	0.30881	0.76096	1.10360	0.2684	0.3086	1.6267	1.8711
	Long Beach Inner Harbor North	10	0.19323	0.28018	0.75632	1.09686	0.2458	0.2827	1.5850	1.8231
	Long Beach Inner Harbor North	11	0.24351	0.35309	0.75006	1.08779	0.2979	0.3426	1.5435	1.7754
	Long Beach Inner Harbor North	12	0.34653	0.50247	0.72713	1.05452	0.3718	0.4276	1.4748	1.6964
	Long Beach Inner Harbor North	13	0.23977	0.34766	0.72120	1.04593	0.2767	0.3182	1.4402	1.6566
	Long Beach Inner Harbor North	14	0.21022	0.30482	0.71798	1.04125	0.2481	0.2853	1.4105	1.6224
	Long Beach Inner Harbor North	15	0.23140	0.33553	0.71337	1.03458	0.2620	0.3013	1.3809	1.5883
	Long Beach Inner Harbor North	16	0.23008	0.33362	0.70959	1.02909	0.2491	0.2865	1.3535	1.5568
	Long Beach Inner Harbor North	17	0.26651	0.38643	0.70347	1.02022	0.2827	0.3251	1.3252	1.5243
	Long Beach Inner Harbor North	18	0.23110	0.33510	0.69781	1.01201	0.2515	0.2893	1.3015	1.4970
	Long Beach Inner Harbor North	19	0.19878	0.28823	0.69494	1.00785	0.2322	0.2671	1.2793	1.4715
	Long Beach Inner Harbor North	20	0.18250	0.26462	0.69263	1.00450	0.2187	0.2515	1.2588	1.4479
	Long Beach Inner Harbor North	21	0.20635	0.29921	0.68921	0.99954	0.2264	0.2603	1.2384	1.4244
	Long Beach Inner Harbor North	22	0.24980	0.36221	0.67205	0.97464	0.2539	0.2919	1.1984	1.3784
	Long Beach Inner Harbor North	23	0.19398	0.28127	0.66743	0.96794	0.2128	0.2447	1.1776	1.3545
	Long Beach Inner Harbor North	24	0.17903	0.25959	0.66537	0.96496	0.2032	0.2336	1.1608	1.3352
	Long Beach Inner Harbor North	25	0.20230	0.29334	0.66179	0.95979	0.2154	0.2477	1.1432	1.3149
	Long Beach Inner Harbor North	26	0.19557	0.28358	0.65912	0.95590	0.2085	0.2398	1.1271	1.2964
	Long Beach Inner Harbor North	27	0.23590	0.34206	0.65397	0.94842	0.2390	0.2748	1.1088	1.2754
	Long Beach Inner Harbor North	28	0.20358	0.29519	0.64943	0.94185	0.2156	0.2479	1.0960	1.2606
	Long Beach Inner Harbor North	29	0.17541	0.25435	0.64758	0.93917	0.1981	0.2278	1.0832	1.2459
	Long Beach Inner Harbor North	30	0.16244	0.23554	0.64623	0.93718	0.1882	0.2164	1.0707	1.2315
B-10h	Long Beach Inner Harbor South	1	0.30268	0.43889	1.92865	2.79715	0.3517	0.4045	4.2418	4.8794
	Long Beach Inner Harbor South	2	0.35972	0.52159	1.87407	2.71798	0.4322	0.4970	3.9771	4.5748
	Long Beach Inner Harbor South	3	0.24132	0.34991	1.85150	2.68525	0.2696	0.3101	3.7811	4.3495
	Long Beach Inner Harbor South	4	0.18642	0.27030	1.83577	2.66243	0.2387	0.2745	3.6113	4.1541
	Long Beach Inner Harbor South	5	0.23620	0.34250	1.81813	2.63684	0.2549	0.2931	3.4529	3.9719
	Long Beach Inner Harbor South	6	0.21833	0.31658	1.80274	2.61453	0.2360	0.2714	3.3104	3.8079
	Long Beach Inner Harbor South	7	0.22854	0.33139	1.78437	2.58789	0.2607	0.2999	3.1768	3.6543
	Long Beach Inner Harbor South	8	0.19380	0.28101	1.76469	2.55934	0.2359	0.2713	3.0527	3.5116
	Long Beach Inner Harbor South	9	0.16793	0.24349	1.75359	2.54325	0.2226	0.2560	2.9461	3.3889
	Long Beach Inner Harbor South	10	0.15926	0.23093	1.74365	2.52883	0.2107	0.2423	2.8482	3.2763
	Long Beach Inner Harbor South	11	0.19432	0.28176	1.73171	2.51152	0.2432	0.2797	2.7554	3.1695
	Long Beach Inner Harbor South	12	0.25393	0.36820	1.70151	2.46771	0.2929	0.3368	2.6509	3.0493
	Long Beach Inner Harbor South	13	0.18113	0.26264	1.69077	2.45213	0.2192	0.2520	2.5729	2.9596
	Long Beach Inner Harbor South	14	0.16386	0.23760	1.68345	2.44152	0.2046	0.2353	2.5033	2.8796
	Long Beach Inner Harbor South	15	0.18818	0.27286	1.67424	2.42816	0.2204	0.2535	2.4358	2.8019
	Long Beach Inner Harbor South	16	0.18841	0.27320	1.66633	2.41670	0.2086	0.2399	2.3738	2.7306
	Long Beach Inner Harbor South	17	0.20877	0.30272	1.65496	2.40019	0.2315	0.2662	2.3130	2.6606
	Long Beach Inner Harbor South	18	0.18481	0.26797	1.64416	2.38454	0.2111	0.2427	2.2555	2.5945
	Long Beach Inner Harbor South	19	0.16262	0.23579	1.63847	2.37627	0.1998	0.2298	2.2054	2.5368
	Long Beach Inner Harbor South	20	0.15444	0.22394	1.63317	2.36860	0.1922	0.2211	2.1583	2.4827
	Long Beach Inner Harbor South	21	0.17763	0.25756	1.62637	2.35873	0.2061	0.2370	2.1127	2.4303

Table B-10

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 50% WLR + T=20 Hot Spot SedLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-10h	Long Beach Inner Harbor South	22	0.21123	0.30629	1.60378	2.32594	0.2269	0.2610	2.0573	2.3665
	Long Beach Inner Harbor South	23	0.16314	0.23655	1.59729	2.31655	0.1895	0.2180	2.0165	2.3196
	Long Beach Inner Harbor South	24	0.15313	0.22204	1.59324	2.31068	0.1843	0.2120	1.9797	2.2772
	Long Beach Inner Harbor South	25	0.17822	0.25842	1.58740	2.30223	0.1982	0.2279	1.9428	2.2348
	Long Beach Inner Harbor South	26	0.16879	0.24475	1.58310	2.29598	0.1883	0.2166	1.9087	2.1956
	Long Beach Inner Harbor South	27	0.19293	0.27974	1.57596	2.28562	0.2082	0.2394	1.8742	2.1558
	Long Beach Inner Harbor South	28	0.16966	0.24600	1.56874	2.27515	0.1924	0.2213	1.8410	2.1177
	Long Beach Inner Harbor South	29	0.15273	0.22146	1.56508	2.26984	0.1833	0.2107	1.8120	2.0843
	Long Beach Inner Harbor South	30	0.14674	0.21278	1.56175	2.26503	0.1778	0.2045	1.7842	2.0524
B-10i	Long Beach Outer Harbor	1	0.25568	0.37073	1.90870	2.76848	0.2478	0.2850	1.0295	1.1843
	Long Beach Outer Harbor	2	0.29274	0.42448	1.85782	2.69467	0.2990	0.3439	0.9699	1.1157
	Long Beach Outer Harbor	3	0.21257	0.30822	1.83525	2.66194	0.2010	0.2312	0.9254	1.0645
	Long Beach Outer Harbor	4	0.17557	0.25458	1.81664	2.63494	0.1838	0.2114	0.8860	1.0191
	Long Beach Outer Harbor	5	0.22067	0.31997	1.79698	2.60642	0.2039	0.2344	0.8498	0.9775
	Long Beach Outer Harbor	6	0.20767	0.30112	1.77930	2.58077	0.1912	0.2199	0.8173	0.9402
	Long Beach Outer Harbor	7	0.20812	0.30177	1.76120	2.55452	0.2091	0.2405	0.7878	0.9062
	Long Beach Outer Harbor	8	0.18281	0.26507	1.74197	2.52663	0.1933	0.2223	0.7602	0.8745
	Long Beach Outer Harbor	9	0.16492	0.23914	1.72882	2.50755	0.1863	0.2143	0.7367	0.8475
	Long Beach Outer Harbor	10	0.15787	0.22891	1.71688	2.49023	0.1762	0.2027	0.7151	0.8225
	Long Beach Outer Harbor	11	0.18042	0.26161	1.70424	2.47191	0.1988	0.2286	0.6946	0.7990
	Long Beach Outer Harbor	12	0.22569	0.32725	1.67458	2.42889	0.2400	0.2760	0.6722	0.7733
	Long Beach Outer Harbor	13	0.16833	0.24408	1.66300	2.41207	0.1794	0.2063	0.6553	0.7537
	Long Beach Outer Harbor	14	0.15769	0.22864	1.65257	2.39696	0.1703	0.1959	0.6396	0.7357
	Long Beach Outer Harbor	15	0.17941	0.26014	1.64079	2.37987	0.1890	0.2174	0.6246	0.7185
	Long Beach Outer Harbor	16	0.18270	0.26492	1.63075	2.36531	0.1798	0.2068	0.6109	0.7027
	Long Beach Outer Harbor	17	0.19339	0.28042	1.61951	2.34900	0.1967	0.2262	0.5978	0.6876
	Long Beach Outer Harbor	18	0.17686	0.25645	1.60810	2.33245	0.1821	0.2095	0.5854	0.6733
	Long Beach Outer Harbor	19	0.16207	0.23500	1.59959	2.32011	0.1772	0.2037	0.5744	0.6607
	Long Beach Outer Harbor	20	0.15429	0.22371	1.59220	2.30939	0.1685	0.1938	0.5641	0.6489
	Long Beach Outer Harbor	21	0.17240	0.24998	1.58415	2.29770	0.1837	0.2112	0.5541	0.6374
	Long Beach Outer Harbor	22	0.20010	0.29014	1.56157	2.26496	0.2095	0.2409	0.5420	0.6235
	Long Beach Outer Harbor	23	0.15834	0.22960	1.55348	2.25321	0.1666	0.1916	0.5332	0.6133
	Long Beach Outer Harbor	24	0.15163	0.21986	1.54713	2.24401	0.1619	0.1862	0.5250	0.6040
	Long Beach Outer Harbor	25	0.17501	0.25376	1.53906	2.23230	0.1812	0.2084	0.5170	0.5947
	Long Beach Outer Harbor	26	0.16638	0.24126	1.53254	2.22285	0.1699	0.1954	0.5096	0.5862
	Long Beach Outer Harbor	27	0.18299	0.26534	1.52419	2.21074	0.1865	0.2145	0.5022	0.5777
	Long Beach Outer Harbor	28	0.16563	0.24016	1.51579	2.19855	0.1733	0.1992	0.4950	0.5695
	Long Beach Outer Harbor	29	0.15564	0.22568	1.51029	2.19057	0.1698	0.1953	0.4888	0.5623
	Long Beach Outer Harbor	30	0.14948	0.21675	1.50539	2.18346	0.1625	0.1868	0.4828	0.5553

Table B-10

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 50% WLR + T=20 Hot Spot SedLR Model Scenario

			Total DDX				Total PCB			
Table No.	FMZs	Model Years	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)	Water Column Dissolved (ng/L)	Water Column Particulate (µg/g OC)	Sediment Bed Dissolved (ng/L)	Surface Sediment Bed Concentration (µg/g OC)
B-10j	Los Angeles River Estuary	1	0.57681	0.83638	0.65158	0.94490	0.9072	1.0433	3.4829	4.0058
	Los Angeles River Estuary	2	0.88558	1.28408	0.28778	0.41728	1.3679	1.5730	1.5200	1.7480
	Los Angeles River Estuary	3	0.53339	0.77341	0.25802	0.37415	0.8296	0.9540	1.3610	1.5653
	Los Angeles River Estuary	4	0.41440	0.60087	0.25515	0.37000	0.6741	0.7752	1.3418	1.5431
	Los Angeles River Estuary	5	0.56016	0.81223	0.23192	0.33631	0.8785	1.0103	1.2159	1.3984
	Los Angeles River Estuary	6	0.42825	0.62097	0.22316	0.32360	0.6704	0.7710	1.1663	1.3413
	Los Angeles River Estuary	7	0.71453	1.03607	0.19742	0.28628	1.0989	1.2637	1.0264	1.1804
	Los Angeles River Estuary	8	0.59102	0.85698	0.16757	0.24299	0.9404	1.0814	0.8677	0.9979
	Los Angeles River Estuary	9	0.57172	0.82899	0.16025	0.23238	0.9077	1.0439	0.8285	0.9528
	Los Angeles River Estuary	10	0.40866	0.59256	0.15870	0.23013	0.6650	0.7648	0.8190	0.9419
	Los Angeles River Estuary	11	0.51275	0.74348	0.15806	0.22922	0.7972	0.9167	0.8116	0.9335
	Los Angeles River Estuary	12	0.85349	1.23756	0.10454	0.15159	1.3187	1.5165	0.5292	0.6087
	Los Angeles River Estuary	13	0.49935	0.72406	0.09883	0.14332	0.7804	0.8975	0.5023	0.5777
	Los Angeles River Estuary	14	0.40124	0.58180	0.09970	0.14457	0.6401	0.7361	0.5066	0.5826
	Los Angeles River Estuary	15	0.54217	0.78615	0.09394	0.13622	0.8619	0.9912	0.4767	0.5482
	Los Angeles River Estuary	16	0.42253	0.61267	0.09769	0.14166	0.6593	0.7582	0.4974	0.5720
	Los Angeles River Estuary	17	0.71412	1.03548	0.09752	0.14141	1.0888	1.2521	0.4971	0.5717
	Los Angeles River Estuary	18	0.57804	0.83815	0.09034	0.13100	0.9061	1.0420	0.4596	0.5286
	Los Angeles River Estuary	19	0.56190	0.81476	0.08980	0.13022	0.8798	1.0117	0.4573	0.5259
	Los Angeles River Estuary	20	0.40230	0.58334	0.09153	0.13273	0.6408	0.7370	0.4667	0.5368
	Los Angeles River Estuary	21	0.51479	0.74644	0.10639	0.15429	0.7903	0.9088	0.5462	0.6282
	Los Angeles River Estuary	22	0.84158	1.22028	0.06758	0.09799	1.2989	1.4937	0.3345	0.3847
	Los Angeles River Estuary	23	0.49572	0.71880	0.06531	0.09470	0.7689	0.8842	0.3250	0.3738
	Los Angeles River Estuary	24	0.40281	0.58408	0.06653	0.09647	0.6382	0.7340	0.3318	0.3816
	Los Angeles River Estuary	25	0.53520	0.77604	0.06379	0.09250	0.8430	0.9694	0.3191	0.3670
	Los Angeles River Estuary	26	0.42067	0.60997	0.06931	0.10051	0.6605	0.7596	0.3498	0.4023
	Los Angeles River Estuary	27	0.72158	1.04629	0.07031	0.10196	1.0981	1.2628	0.3554	0.4088
	Los Angeles River Estuary	28	0.58190	0.84375	0.06660	0.09658	0.9135	1.0505	0.3361	0.3866
	Los Angeles River Estuary	29	0.56114	0.81366	0.06699	0.09714	0.8777	1.0093	0.3387	0.3895
	Los Angeles River Estuary	30	0.39597	0.57416	0.06879	0.09975	0.6282	0.7224	0.3486	0.4009
B-10k	Eastern San Pedro Bay	1	0.27716	0.40188	0.93339	1.35356	0.2998	0.3448	1.5672	1.8025
	Eastern San Pedro Bay	2	0.34149	0.49516	0.82117	1.19081	0.3986	0.4584	1.2780	1.4699
	Eastern San Pedro Bay	3	0.22893	0.33195	0.80816	1.17195	0.2474	0.2845	1.2349	1.4204
	Eastern San Pedro Bay	4	0.18907	0.27415	0.80479	1.16707	0.2214	0.2546	1.2148	1.3972
	Eastern San Pedro Bay	5	0.24491	0.35511	0.79398	1.15139	0.2744	0.3155	1.1789	1.3559
	Eastern San Pedro Bay	6	0.21871	0.31713	0.78802	1.14273	0.2358	0.2712	1.1551	1.3285
	Eastern San Pedro Bay	7	0.24994	0.36242	0.77394	1.12232	0.2894	0.3328	1.1150	1.2824
	Eastern San Pedro Bay	8	0.22169	0.32145	0.76025	1.10247	0.2679	0.3081	1.0764	1.2380
	Eastern San Pedro Bay	9	0.19864	0.28802	0.75513	1.09504	0.2475	0.2846	1.0571	1.2158
	Eastern San Pedro Bay	10	0.17642	0.25580	0.75286	1.09176	0.2151	0.2473	1.0440	1.2007
	Eastern San Pedro Bay	11	0.20888	0.30288	0.74613	1.08199	0.2560	0.2944	1.0219	1.1753
	Eastern San Pedro Bay	12	0.29036	0.42103	0.68429	0.99232	0.3568	0.4103	0.8930	1.0270
	Eastern San Pedro Bay	13	0.19218	0.27865	0.67949	0.98535	0.2281	0.2623	0.8776	1.0093
	Eastern San Pedro Bay	14	0.17311	0.25101	0.67961	0.98553	0.2065	0.2375	0.8718	1.0027
	Eastern San Pedro Bay	15	0.21404	0.31037	0.67454	0.97818	0.2597	0.2987	0.8570	0.9857
	Eastern San Pedro Bay	16	0.20017	0.29025	0.67264	0.97542	0.2247	0.2584	0.8481	0.9755
	Eastern San Pedro Bay	17	0.23719	0.34393	0.66545	0.96499	0.2774	0.3190	0.8307	0.9554
	Eastern San Pedro Bay	18	0.21723	0.31499	0.65849	0.95491	0.2579	0.2965	0.8131	0.9351
	Eastern San Pedro Bay	19	0.19615	0.28441	0.65618	0.95155	0.2386	0.2744	0.8046	0.9254
	Eastern San Pedro Bay	20	0.17360	0.25171	0.65568	0.95082	0.2070	0.2381	0.7992	0.9192
	Eastern San Pedro Bay	21	0.20418	0.29607	0.65135	0.94455	0.2451	0.2818	0.7870	0.9052

Table B-10

Annual Average Wrap Model Sediment and Water Column Total PCB and Total DDX Concentrations for the Baseline + 50% WLR + T=20 Hot Spot SedLR Model Scenario

Table No.	FMZs	Model Years	Total DDX: Water Column Dissolved (ng/L)	Total DDX: Water Column Particulate (µg/g OC)	Total DDX: Sediment Bed Dissolved (ng/L)	Total DDX: Surface Sediment Bed Concentration (µg/g OC)	Total PCB: Water Column Dissolved (ng/L)	Total PCB: Water Column Particulate (µg/g OC)	Total PCB: Sediment Bed Dissolved (ng/L)	Total PCB: Surface Sediment Bed Concentration (µg/g OC)
B-10k	Eastern San Pedro Bay	22	0.27149	0.39366	0.61063	0.88549	0.3358	0.3861	0.7124	0.8194
	Eastern San Pedro Bay	23	0.18568	0.26923	0.60771	0.88127	0.2190	0.2518	0.7039	0.8096
	Eastern San Pedro Bay	24	0.16853	0.24437	0.60836	0.88221	0.1988	0.2286	0.7012	0.8064
	Eastern San Pedro Bay	25	0.21141	0.30654	0.60532	0.87780	0.2546	0.2928	0.6931	0.7971
	Eastern San Pedro Bay	26	0.18846	0.27327	0.60430	0.87632	0.2169	0.2494	0.6881	0.7914
	Eastern San Pedro Bay	27	0.23060	0.33437	0.59966	0.86959	0.2711	0.3118	0.6779	0.7797
	Eastern San Pedro Bay	28	0.20773	0.30120	0.59503	0.86288	0.2502	0.2878	0.6674	0.7676
	Eastern San Pedro Bay	29	0.19115	0.27717	0.59374	0.86101	0.2326	0.2674	0.6624	0.7618
	Eastern San Pedro Bay	30	0.16882	0.24479	0.59368	0.86092	0.2009	0.2311	0.6593	0.7582
B-10l	Outside Harbor	1	0.19446	0.28197	5.96223	8.64783	0.1755	0.2018	0.3255	0.3744
	Outside Harbor	2	0.19031	0.27595	5.89485	8.55011	0.1792	0.2061	0.3151	0.3625
	Outside Harbor	3	0.17114	0.24816	5.88908	8.54174	0.1647	0.1894	0.3077	0.3540
	Outside Harbor	4	0.16515	0.23946	5.85680	8.49491	0.1622	0.1865	0.2993	0.3443
	Outside Harbor	5	0.17922	0.25987	5.82276	8.44556	0.1666	0.1916	0.2919	0.3358
	Outside Harbor	6	0.17326	0.25122	5.80263	8.41636	0.1640	0.1886	0.2873	0.3305
	Outside Harbor	7	0.17035	0.24701	5.75804	8.35167	0.1665	0.1915	0.2809	0.3231
	Outside Harbor	8	0.16133	0.23393	5.70016	8.26771	0.1642	0.1888	0.2741	0.3154
	Outside Harbor	9	0.15376	0.22295	5.66510	8.21689	0.1629	0.1873	0.2683	0.3086
	Outside Harbor	10	0.15229	0.22081	5.63766	8.17707	0.1607	0.1847	0.2628	0.3023
	Outside Harbor	11	0.15830	0.22954	5.60237	8.12588	0.1657	0.1905	0.2575	0.2963
	Outside Harbor	12	0.16708	0.24226	5.54612	8.04430	0.1701	0.1956	0.2523	0.2903
	Outside Harbor	13	0.15413	0.22349	5.51765	8.00301	0.1604	0.1845	0.2479	0.2852
	Outside Harbor	14	0.15302	0.22187	5.48799	7.95998	0.1592	0.1831	0.2436	0.2802
	Outside Harbor	15	0.15935	0.23106	5.45693	7.91493	0.1637	0.1882	0.2396	0.2756
	Outside Harbor	16	0.16317	0.23659	5.41370	7.85223	0.1617	0.1860	0.2354	0.2708
	Outside Harbor	17	0.16195	0.23483	5.37585	7.79734	0.1640	0.1886	0.2317	0.2666
	Outside Harbor	18	0.16220	0.23519	5.33399	7.73660	0.1627	0.1871	0.2281	0.2624
	Outside Harbor	19	0.15385	0.22308	5.30540	7.69514	0.1615	0.1858	0.2250	0.2588
	Outside Harbor	20	0.15065	0.21845	5.28404	7.66417	0.1590	0.1829	0.2220	0.2554
	Outside Harbor	21	0.15539	0.22532	5.25776	7.62606	0.1624	0.1868	0.2191	0.2520
	Outside Harbor	22	0.16175	0.23454	5.21493	7.56396	0.1681	0.1934	0.2161	0.2486
	Outside Harbor	23	0.15078	0.21863	5.19543	7.53564	0.1582	0.1819	0.2136	0.2457
	Outside Harbor	24	0.15055	0.21830	5.17410	7.50472	0.1574	0.1810	0.2111	0.2429
	Outside Harbor	25	0.15737	0.22819	5.15170	7.47223	0.1626	0.1870	0.2088	0.2402
	Outside Harbor	26	0.15519	0.22502	5.12172	7.42873	0.1595	0.1835	0.2064	0.2374
	Outside Harbor	27	0.15760	0.22853	5.09435	7.38905	0.1618	0.1861	0.2041	0.2348
	Outside Harbor	28	0.15390	0.22315	5.06573	7.34752	0.1603	0.1843	0.2019	0.2323
	Outside Harbor	29	0.15050	0.21822	5.05130	7.32660	0.1599	0.1839	0.2001	0.2302
	Outside Harbor	30	0.14877	0.21572	5.03951	7.30950	0.1581	0.1818	0.1983	0.2281

Notes:

µg/g: microgram per gram

DCE: Dominguez Channel Estuary (TMDL hot spot upstream of Consolidated Slip)

DDX: dichlorodiphenyltrichloroethane-related compounds (4,4'-DDT, 4,4'-DDE, 4,4'-DDD, 2,4'-DDT, 2,4'-DDE, and 2,4'-DDD)

FMZ: fish movement zone

ng/L: nanogram per liter

OC: organic carbon

PCB: polychlorinated biphenyl

SedLR: Sediment Load Reduction

WRAP: Water Resources Action Plan

WLR: Watershed Load Reduction

Table B-11

Initial Total PCB and Total DDX Concentrations (µg/g wet-weight whole body) in Surfperch by Age Class and FMZ

FMZ	Age Class	Dominguez Channel Estuary	Consolidated Slip	Los Angeles Inner Harbor	Fish Harbor	Seaplane Lagoon	Los Angeles Outer Harbor	Long Beach Inner Harbor North	Long Beach Inner Harbor South	Long Beach Outer Harbor	Los Angeles River Estuary	Eastern San Pedro Bay
Total DDX (µg/g wet-weight)	1	0.13	0.47	0.12	0.06	0.08	0.07	0.11	0.08	0.07	0.13	0.08
	2	0.16	0.63	0.19	0.10	0.12	0.12	0.16	0.12	0.11	0.16	0.12
	3	0.21	0.83	0.26	0.15	0.17	0.16	0.21	0.17	0.15	0.21	0.16
	4	0.26	1.00	0.32	0.18	0.21	0.20	0.26	0.21	0.18	0.26	0.20
	5	0.30	1.15	0.37	0.22	0.24	0.23	0.31	0.24	0.22	0.30	0.23
	6	0.34	1.29	0.42	0.25	0.27	0.26	0.35	0.27	0.25	0.34	0.26
	7	0.35	1.30	0.43	0.25	0.27	0.26	0.35	0.28	0.25	0.35	0.26
Total PCB (µg/g wet-weight)	1	0.24	0.77	0.15	0.14	0.11	0.06	0.16	0.11	0.08	0.24	0.13
	2	0.28	1.08	0.24	0.23	0.16	0.09	0.24	0.17	0.13	0.28	0.19
	3	0.38	1.44	0.33	0.32	0.22	0.13	0.33	0.23	0.17	0.38	0.26
	4	0.47	1.76	0.41	0.40	0.27	0.16	0.40	0.29	0.21	0.47	0.32
	5	0.54	2.05	0.48	0.47	0.32	0.18	0.47	0.34	0.25	0.54	0.38
	6	0.61	2.32	0.54	0.53	0.36	0.20	0.53	0.38	0.28	0.61	0.42
	7	0.63	2.32	0.55	0.54	0.36	0.21	0.53	0.39	0.28	0.63	0.43

Notes:

µg/g: micrograms per gram

DDX: dichlorodiphenyltrichloroethane-related compounds (4,4'-DDT, 4,4'-DDE, 4,4'-DDD, 2,4'-DDT, 2,4'-DDE, and 2,4'-DDD)

FMZ: fish movement zone

PCB: polychlorinated biphenyl

Table B-12
Initial Total PCB and Total DDX Concentrations (µg/g wet-weight whole body) in White Croaker by Age Class and FMZ

FMZ	Age Class	Dominguez Channel Estuary	Consolidated Slip	Los Angeles Inner Harbor	Fish Harbor	Seaplane Lagoon	Los Angeles Outer Harbor	Long Beach Inner Harbor North	Long Beach Inner Harbor South	Long Beach Outer Harbor	Los Angeles River Estuary	Eastern San Pedro Bay
Total DDX (µg/g wet-weight)	1	0.09	0.29	0.20	0.06	0.09	0.12	0.07	0.08	0.08	0.09	0.06
	2	0.18	0.59	0.89	0.18	0.23	0.45	0.22	0.26	0.22	0.18	0.14
	3	0.24	0.78	1.32	0.26	0.32	0.68	0.31	0.38	0.31	0.24	0.20
	4	0.28	0.90	1.60	0.33	0.38	0.84	0.37	0.46	0.37	0.28	0.24
	5	0.31	1.00	1.83	0.38	0.43	0.98	0.41	0.53	0.43	0.31	0.27
	6	0.34	1.08	2.01	0.43	0.48	1.10	0.45	0.59	0.48	0.34	0.30
	7	0.35	1.11	2.04	0.44	0.49	1.11	0.46	0.60	0.49	0.35	0.31
	8	0.36	1.13	2.07	0.44	0.50	1.12	0.47	0.61	0.50	0.36	0.32
	9	0.36	1.16	2.10	0.45	0.51	1.14	0.49	0.63	0.51	0.36	0.33
	10	0.37	1.18	2.12	0.46	0.52	1.14	0.50	0.64	0.51	0.37	0.34
	11	0.38	1.20	2.13	0.46	0.52	1.14	0.50	0.65	0.52	0.38	0.34
	12	0.37	1.19	2.11	0.46	0.52	1.13	0.50	0.64	0.51	0.37	0.34
Total PCB (µg/g wet-weight)	1	0.21	0.51	0.28	0.13	0.07	0.06	0.14	0.11	0.15	0.21	0.15
	2	0.48	1.05	0.58	0.30	0.19	0.15	0.32	0.26	0.33	0.48	0.37
	3	0.65	1.37	0.75	0.42	0.26	0.22	0.42	0.36	0.45	0.65	0.51
	4	0.76	1.56	0.86	0.50	0.31	0.26	0.47	0.42	0.53	0.76	0.61
	5	0.85	1.73	0.95	0.58	0.35	0.30	0.52	0.47	0.60	0.85	0.70
	6	0.93	1.87	1.02	0.64	0.38	0.33	0.55	0.51	0.65	0.93	0.78
	7	0.94	1.92	1.05	0.65	0.39	0.34	0.57	0.53	0.66	0.94	0.79
	8	0.96	1.96	1.08	0.67	0.40	0.35	0.59	0.55	0.68	0.96	0.80
	9	0.97	2.01	1.11	0.68	0.41	0.36	0.60	0.56	0.69	0.97	0.82
	10	0.98	2.05	1.13	0.70	0.42	0.37	0.62	0.58	0.70	0.98	0.83
	11	0.99	2.08	1.15	0.71	0.43	0.37	0.63	0.59	0.71	0.99	0.84
	12	0.99	2.07	1.14	0.70	0.42	0.37	0.63	0.59	0.70	0.99	0.83

Notes:
µg/g: micrograms per gram
DDX: dichlorodiphenyltrichloroethane-related compounds (4,4'-DDT, 4,4'-DDE, 4,4'-DDD, 2,4'-DDT, 2,4'-DDE, and 2,4'-DDD)
FMZ: fish movement zone
PCB: polychlorinated biphenyl

Table B-13

Initial Total PCB and Total DDX Concentrations (µg/g wet-weight whole body) in California Halibut by Age Class and FMZ

FMZ	Age Class	Dominguez Channel Estuary	Consolidated Slip	Los Angeles Inner Harbor	Fish Harbor	Seaplane Lagoon	Los Angeles Outer Harbor	Long Beach Inner Harbor North	Long Beach Inner Harbor South	Long Beach Outer Harbor	Los Angeles River Estuary	Eastern San Pedro Bay
Total DDX (µg/g wet-weight)	1	0.68	0.86	0.53	0.18	0.39	0.32	0.51	0.27	0.35	0.68	0.47
	2	0.76	0.86	0.70	0.20	0.49	0.47	0.62	0.32	0.49	0.76	0.61
	3	0.74	0.85	0.74	0.20	0.51	0.52	0.62	0.33	0.52	0.74	0.64
	4	0.73	0.84	0.79	0.21	0.53	0.58	0.63	0.34	0.56	0.73	0.66
	5	0.78	1.00	0.98	0.26	0.63	0.75	0.72	0.42	0.67	0.78	0.74
	6	1.11	1.14	1.61	0.49	1.18	1.43	1.11	0.88	1.16	1.11	1.15
	7	1.64	1.98	3.09	0.60	1.91	2.34	1.53	2.27	1.88	1.64	1.79
	8	2.00	2.16	3.85	0.70	2.34	2.90	1.82	2.69	2.37	2.00	2.24
	9	2.29	2.35	4.46	0.76	2.68	3.35	2.03	3.06	2.79	2.29	2.63
	10	2.52	2.55	4.92	0.84	2.97	3.76	2.24	3.30	3.11	2.52	2.91
	11	2.72	2.89	5.49	0.89	3.25	4.14	2.42	3.78	3.37	2.72	3.14
	12	2.83	3.02	5.74	0.96	3.40	4.34	2.53	3.94	3.50	2.83	3.24
	13	2.85	3.03	5.84	0.96	3.44	4.40	2.56	3.99	3.53	2.85	3.26
	14	2.87	3.05	5.89	0.97	3.47	4.43	2.59	4.02	3.55	2.87	3.28
	15	2.89	3.06	5.93	0.98	3.49	4.45	2.61	4.06	3.56	2.89	3.28
Total PCB (µg/g wet-weight)	1	1.08	1.38	0.65	0.29	0.47	0.30	0.68	0.29	0.41	1.08	0.68
	2	1.18	1.41	0.82	0.33	0.58	0.39	0.81	0.33	0.55	1.18	0.89
	3	1.17	1.42	0.85	0.33	0.60	0.40	0.83	0.34	0.58	1.17	0.95
	4	1.17	1.42	0.89	0.34	0.63	0.41	0.86	0.35	0.62	1.17	1.01
	5	1.32	1.76	1.10	0.44	0.76	0.49	1.03	0.45	0.74	1.32	1.22
	6	1.92	1.75	1.54	0.55	1.42	0.86	1.48	0.75	1.29	1.92	1.92
	7	2.34	1.41	1.64	0.50	1.85	1.12	1.59	0.81	1.78	2.34	2.40
	8	2.74	1.65	1.85	0.59	2.18	1.32	1.79	0.94	2.17	2.74	2.85
	9	3.05	1.69	2.01	0.61	2.42	1.47	1.94	0.99	2.48	3.05	3.23
	10	3.40	1.96	2.22	0.68	2.69	1.61	2.14	1.11	2.76	3.40	3.59
	11	3.65	2.02	2.36	0.71	2.88	1.71	2.27	1.17	2.95	3.65	3.84
	12	3.83	2.20	2.48	0.77	3.02	1.78	2.39	1.26	3.07	3.83	4.00
	13	3.86	2.20	2.51	0.77	3.05	1.80	2.42	1.27	3.09	3.86	4.03
	14	3.90	2.23	2.53	0.78	3.09	1.82	2.45	1.29	3.11	3.90	4.05
	15	3.91	2.23	2.55	0.78	3.11	1.84	2.47	1.30	3.12	3.91	4.06

Notes:

µg/g: micrograms per gram

DDX: dichlorodiphenyltrichloroethane-related compounds (4,4'-DDT, 4,4'-DDE, 4,4'-DDD, 2,4'-DDT, 2,4'-DDE, and 2,4'-DDD)

FMZ: fish movement zone

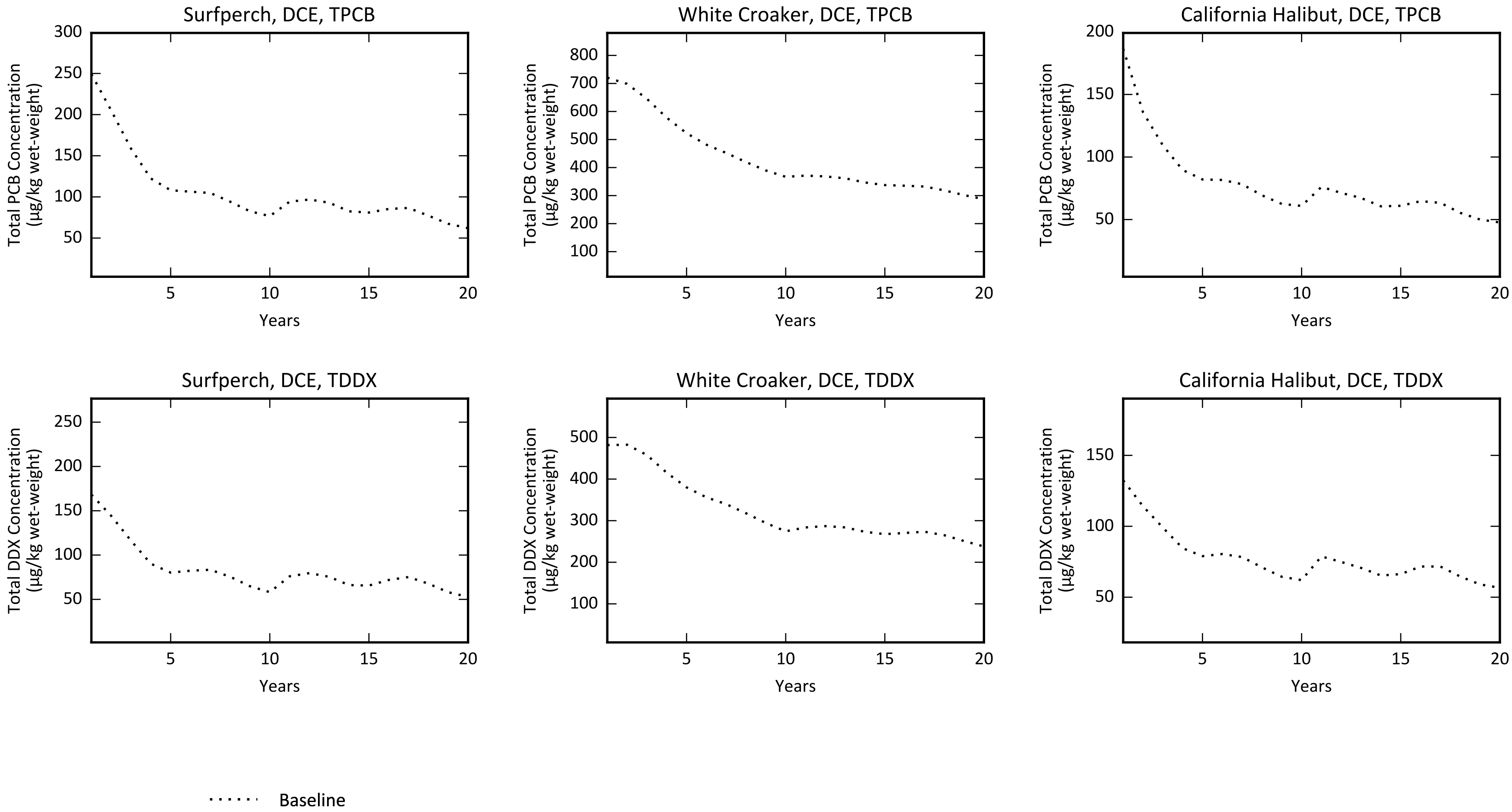
PCB: polychlorinated biphenyl

Figures

Publish Date: 2018/05/18, 11:35 AM | User: ckiblinger
Filepath: \\Orcas\gis\Jobs\120711-01.01_Port_of_Los_Angeles\POLA_POLB_Bioaccumulation_Modeling_Support\Maps\2018_05_LinkedModelDataSummary\FMZs_GreaterHarborWaters_LinkedModelRept.mxd

ANCHOR QEA

Figure B-1
Fish Movement Zones in the Greater Harbor Waters
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

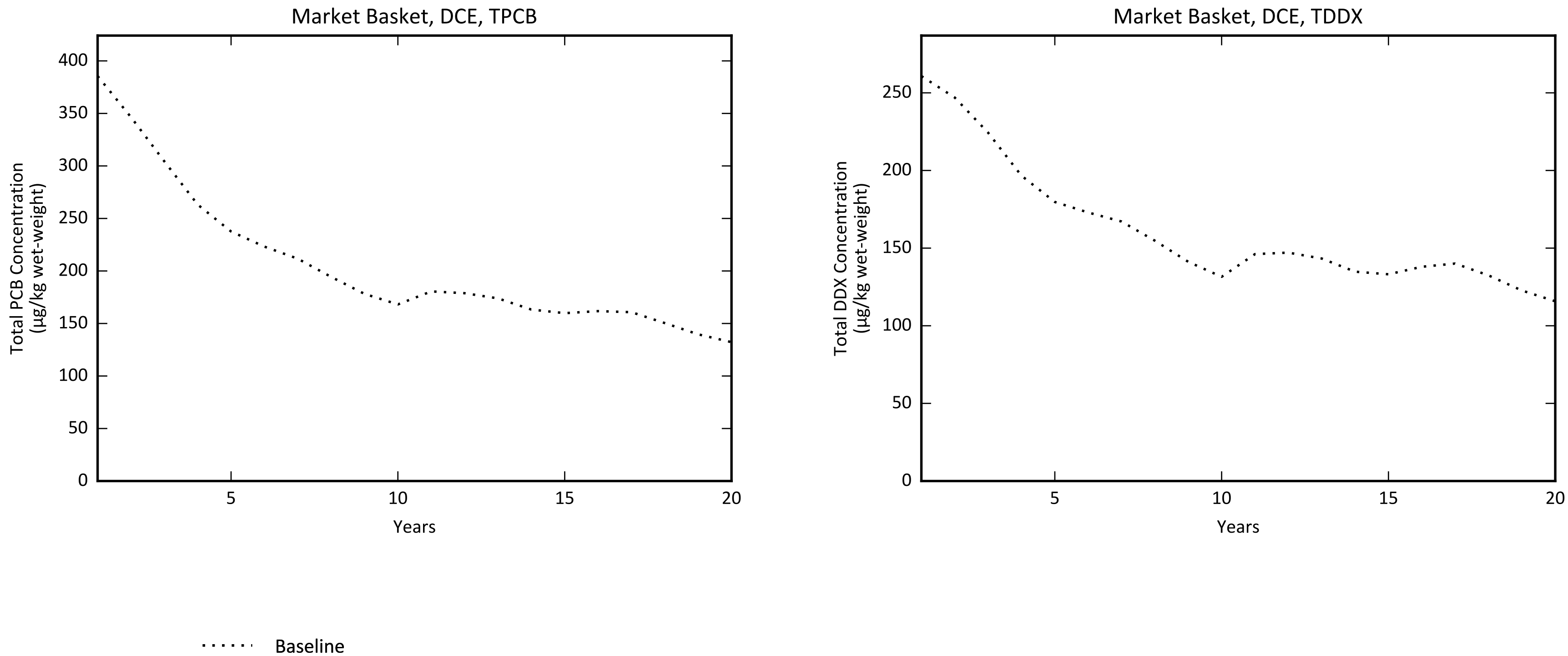


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1714 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:31 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-2a
Total PCB and DDX Concentrations in Fish over Time for Baseline in DCE

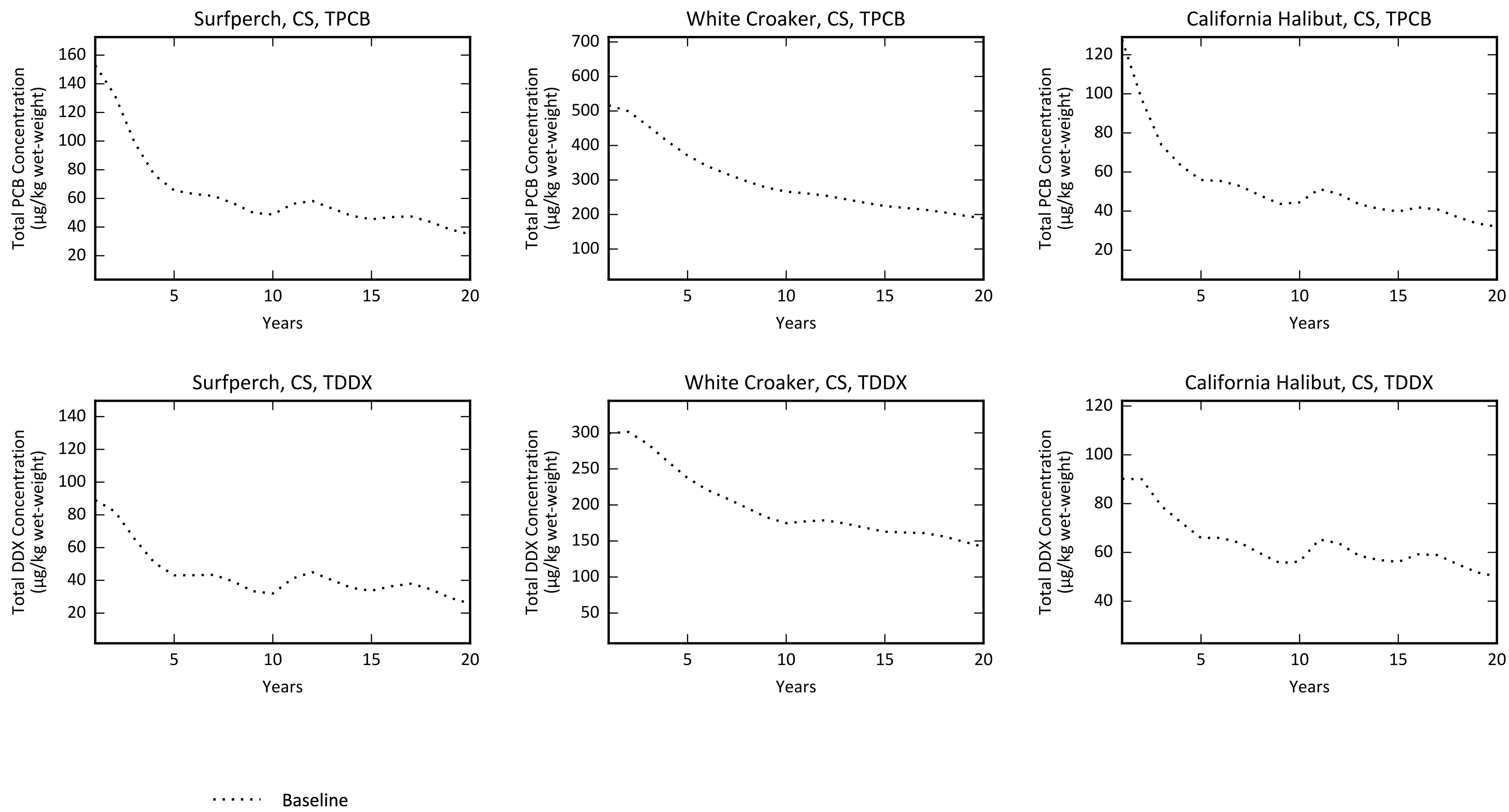


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1714 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:31 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-2a
Total PCB and DDX Concentrations in Fish over Time for Baseline in DCE
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

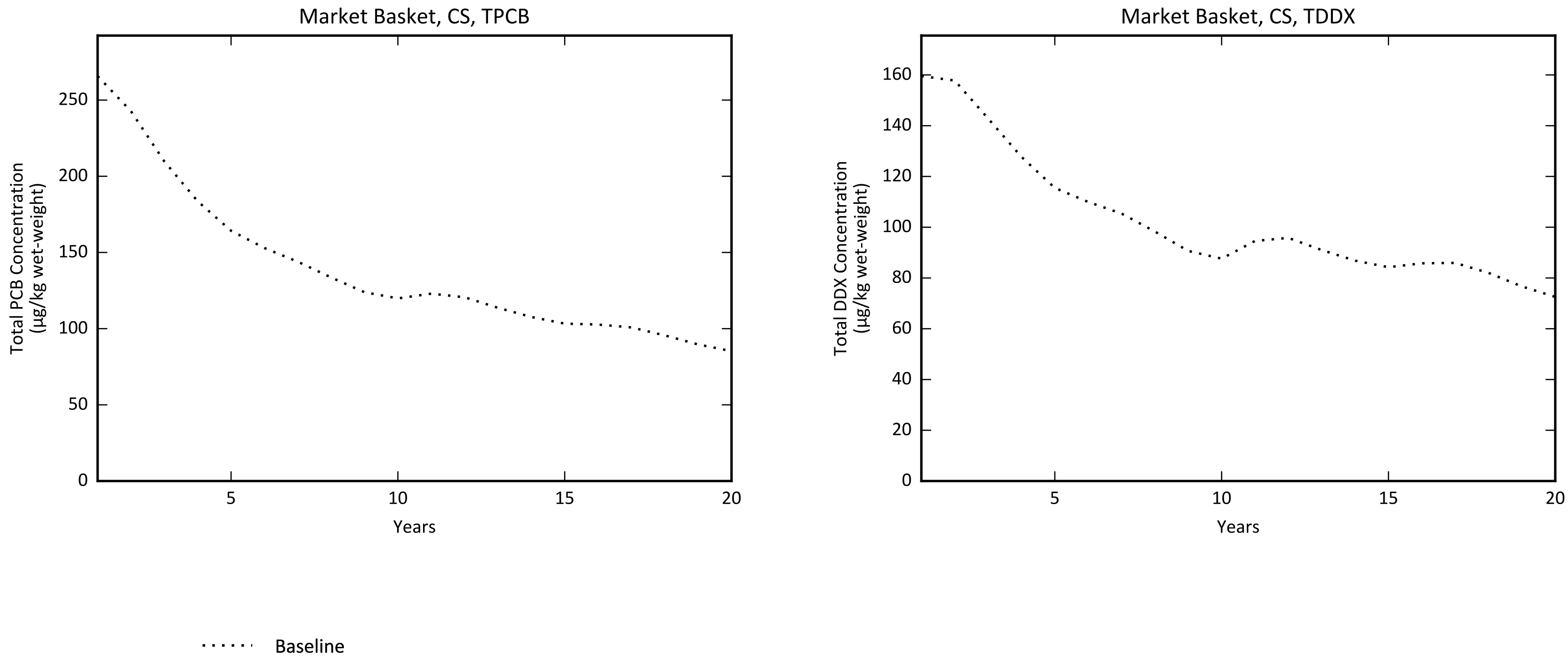


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1714 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:31 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-2b
Total PCB and DDX Concentrations in Fish over Time for Baseline in CS

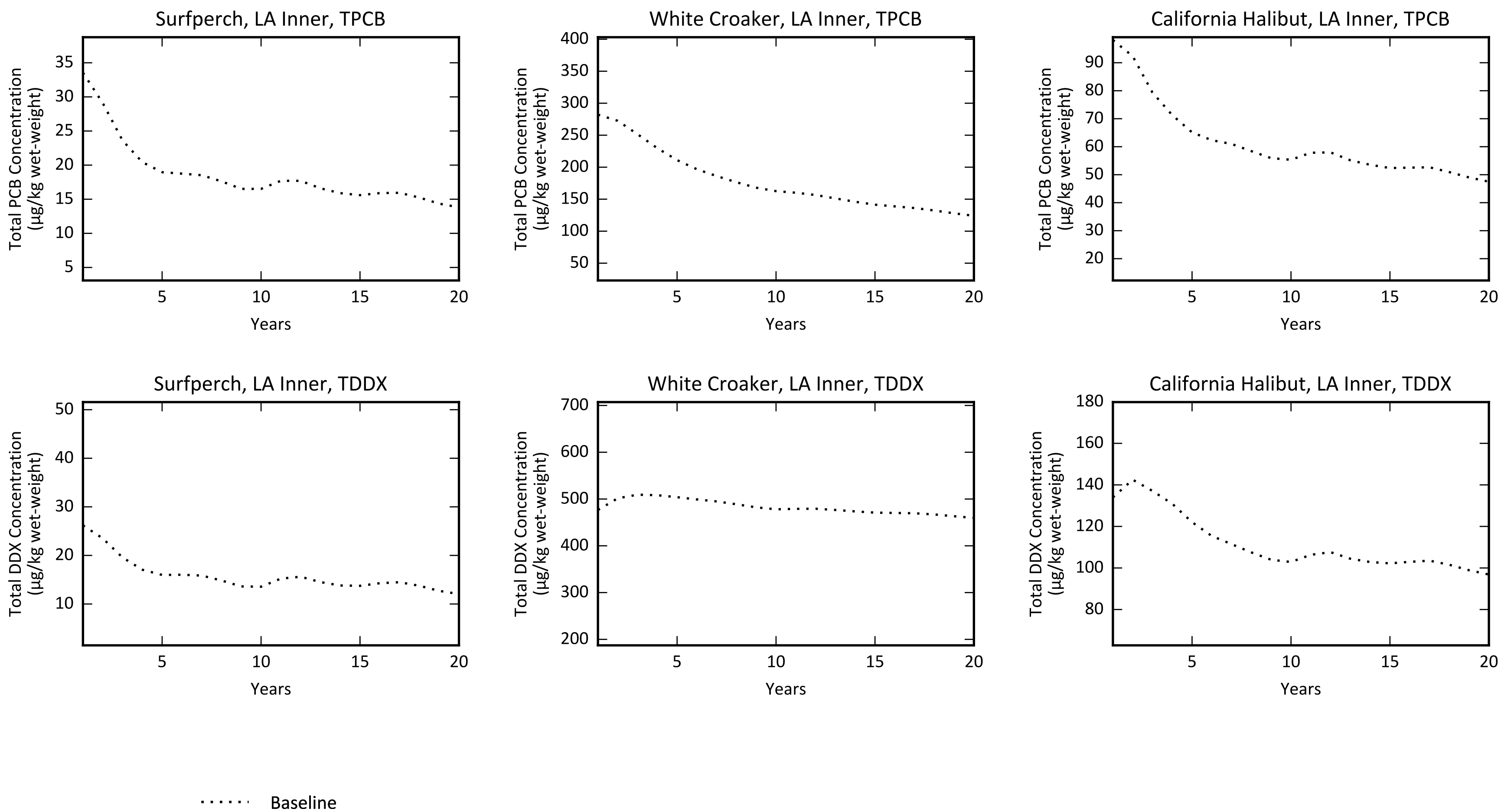


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1714 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:32 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-2b
Total PCB and DDX Concentrations in Fish over Time for Baseline in CS
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

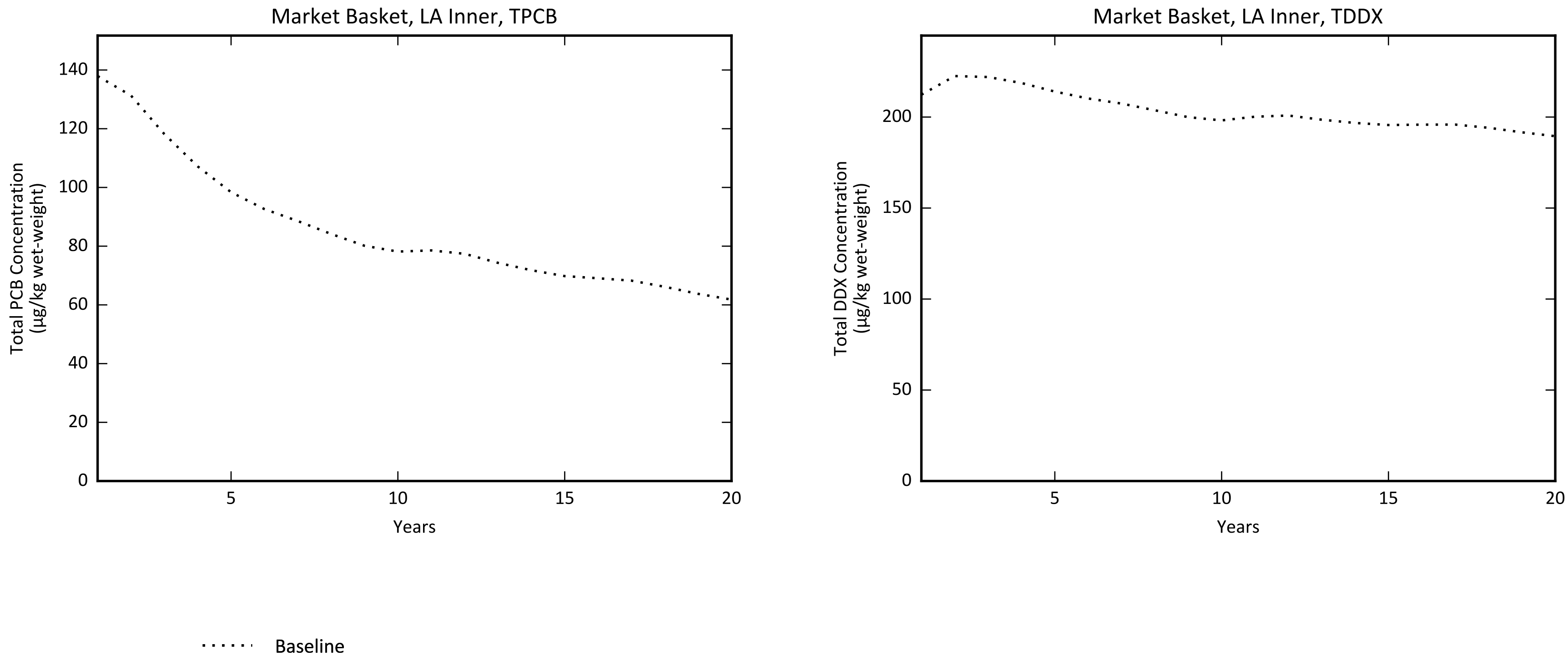


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1714 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:32 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-2c
Total PCB and DDX Concentrations in Fish over Time for Baseline in LA Inner
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

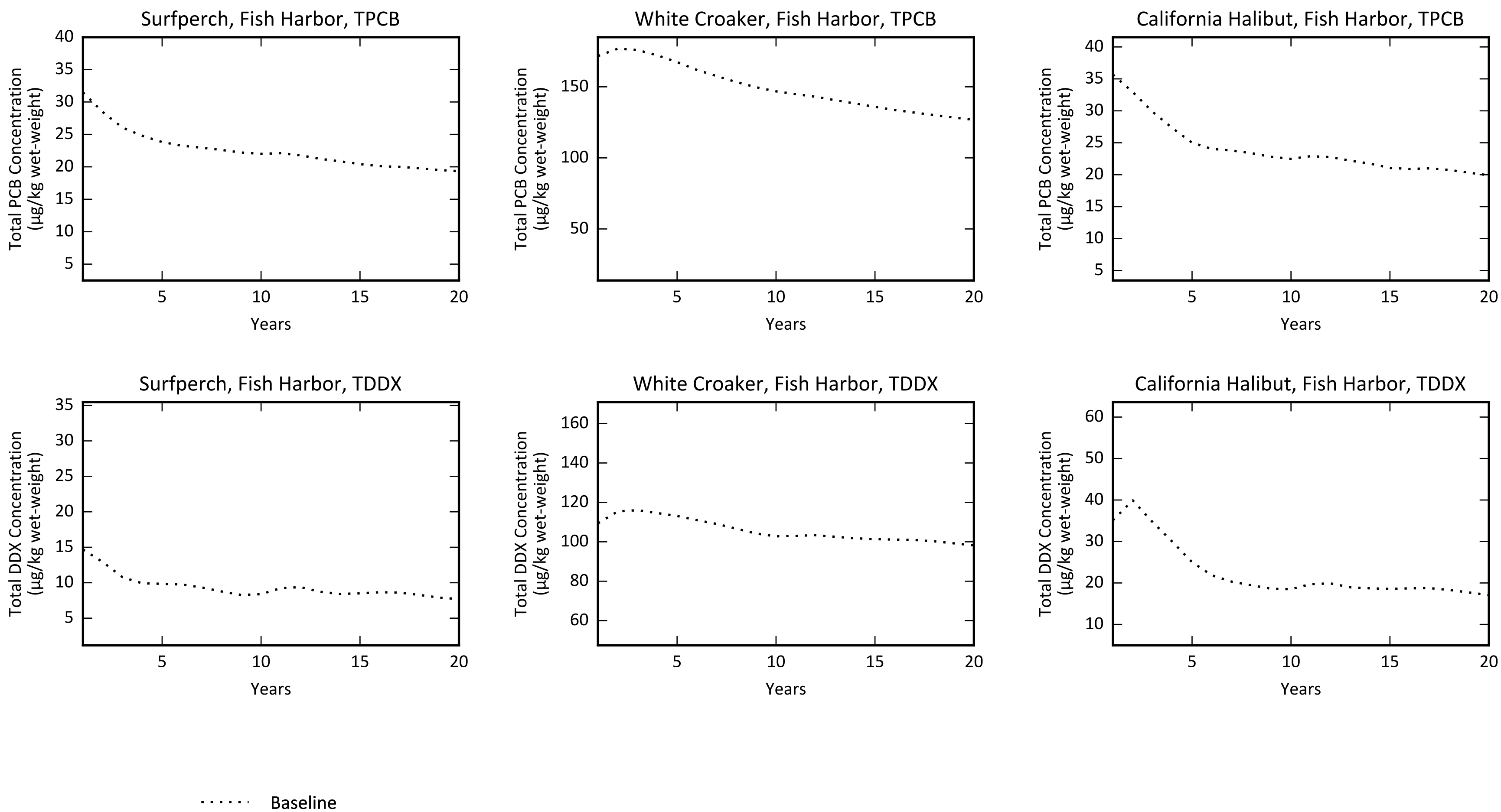


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1714 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:32 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-2c
Total PCB and DDX Concentrations in Fish over Time for Baseline in LA Inner
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

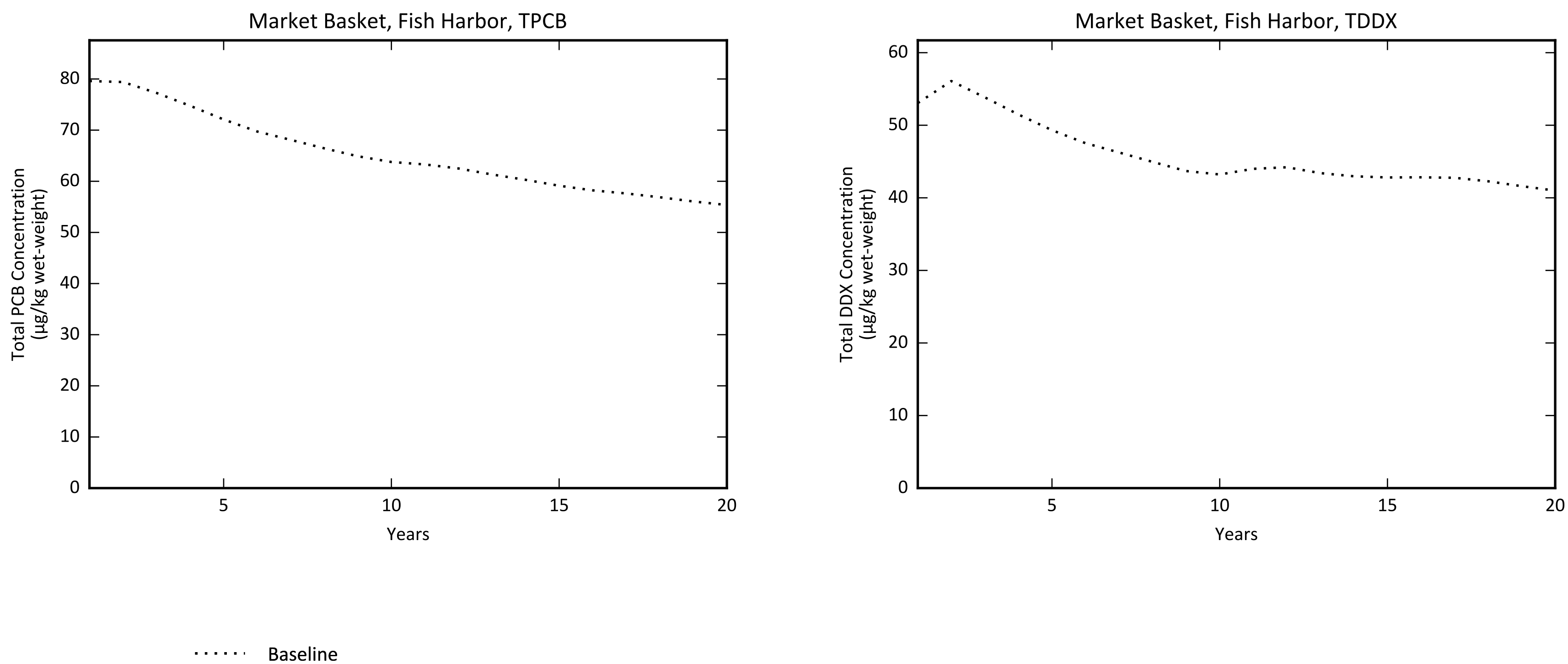


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1714 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:32 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-2d
Total PCB and DDX Concentrations in Fish over Time for Baseline in Fish Harbor
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

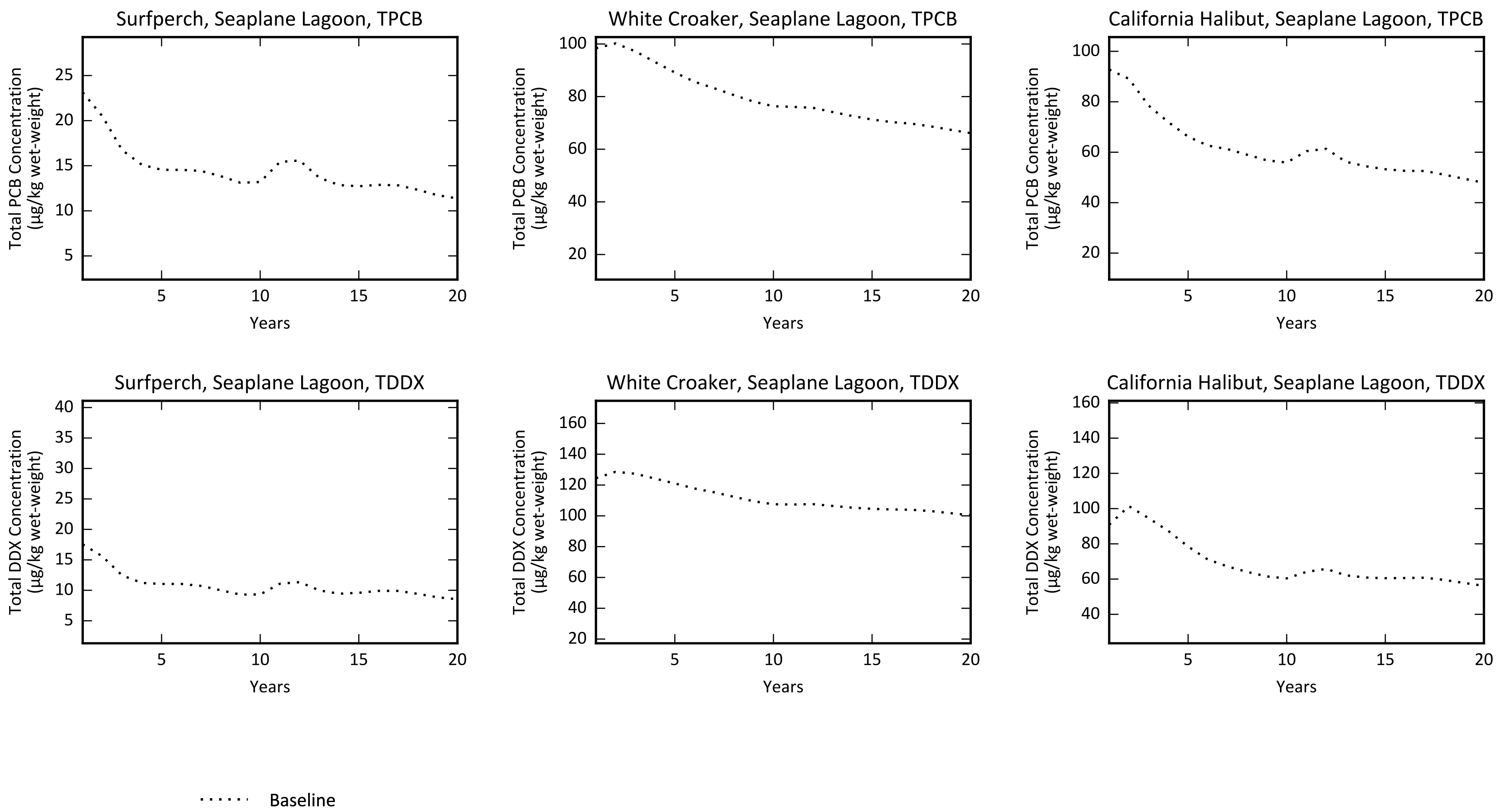


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1714 and biota files v.1755 used for model.

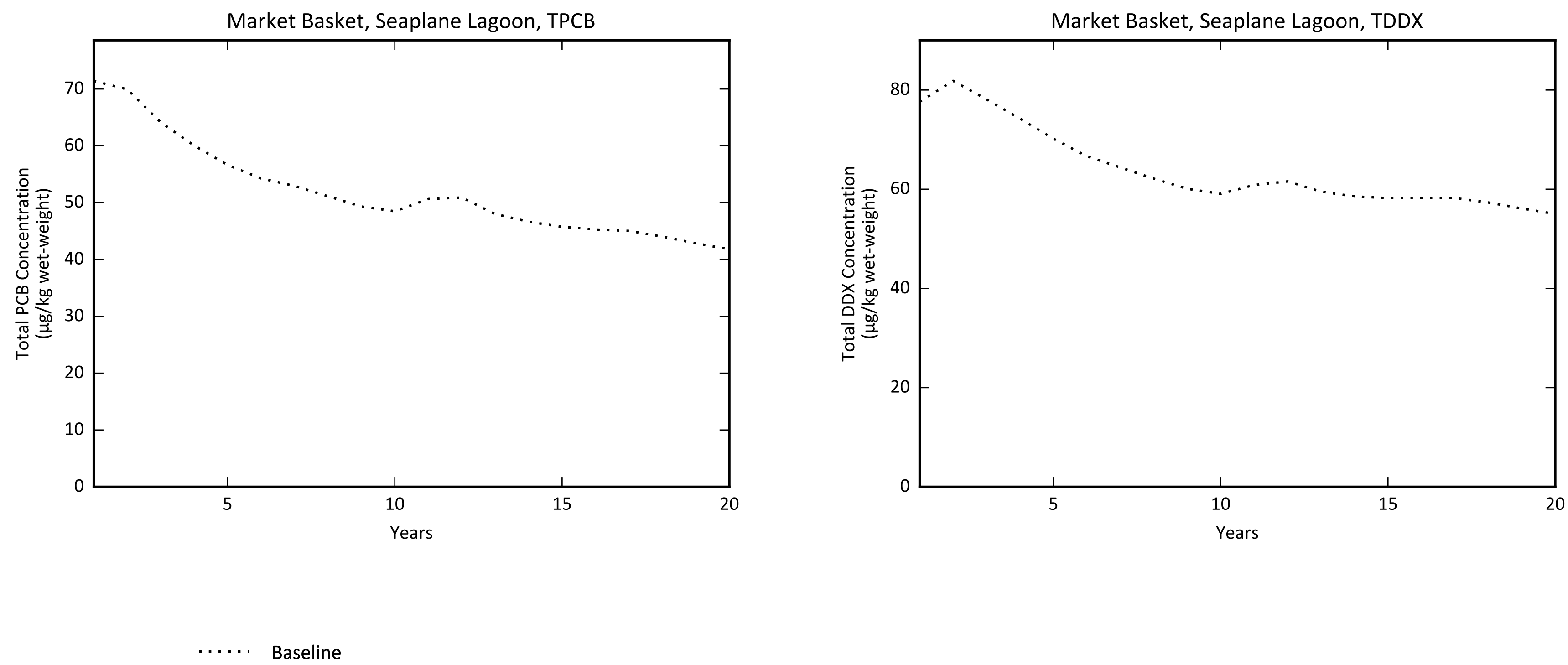
Publish Date: 07/26/2018 17:32 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-2d
Total PCB and DDX Concentrations in Fish over Time for Baseline in Fish Harbor
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1714 and biota files v.1755 used for model.

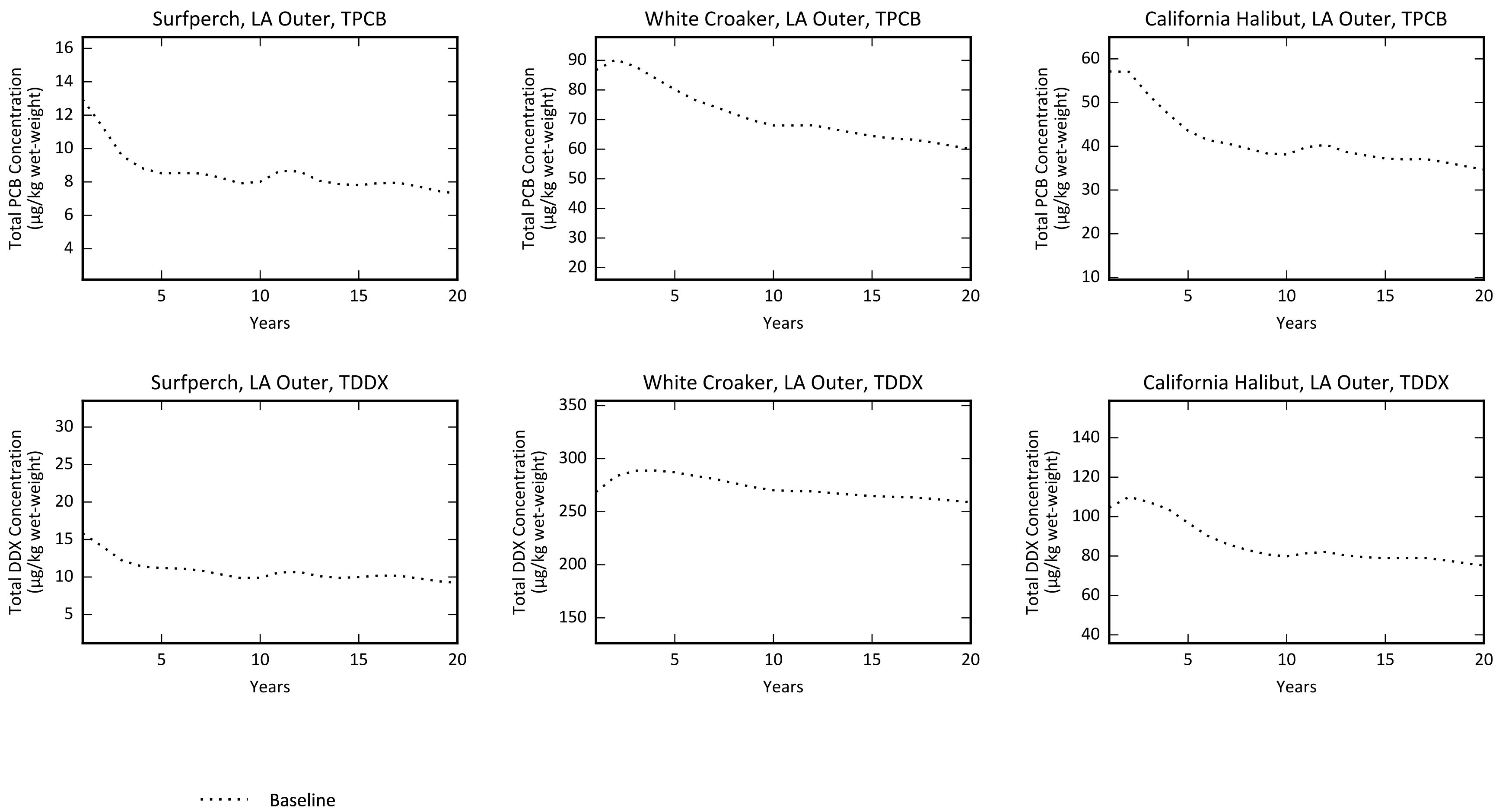


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1714 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:32 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-2e
Total PCB and DDX Concentrations in Fish over Time for Baseline in Seaplane Lagoon

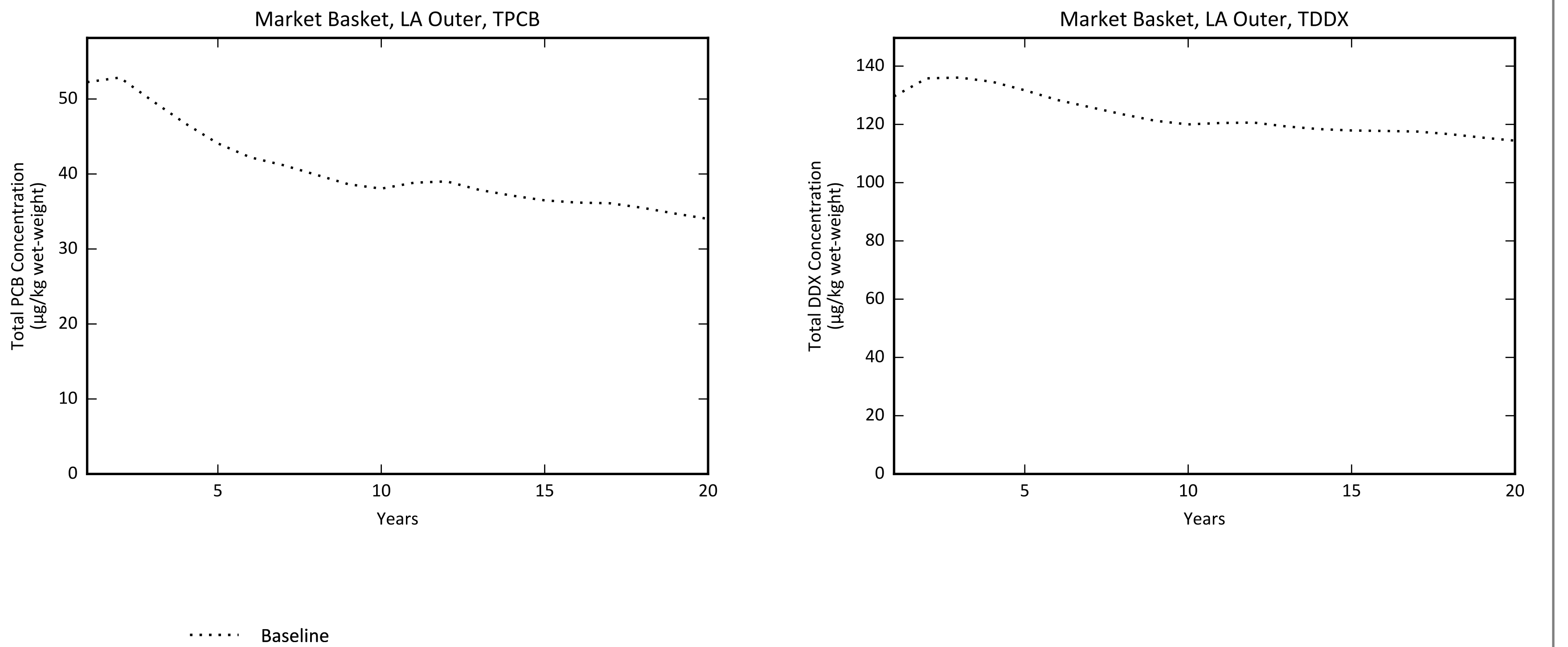


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1714 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:32 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-2f
Total PCB and DDX Concentrations in Fish over Time for Baseline in LA Outer

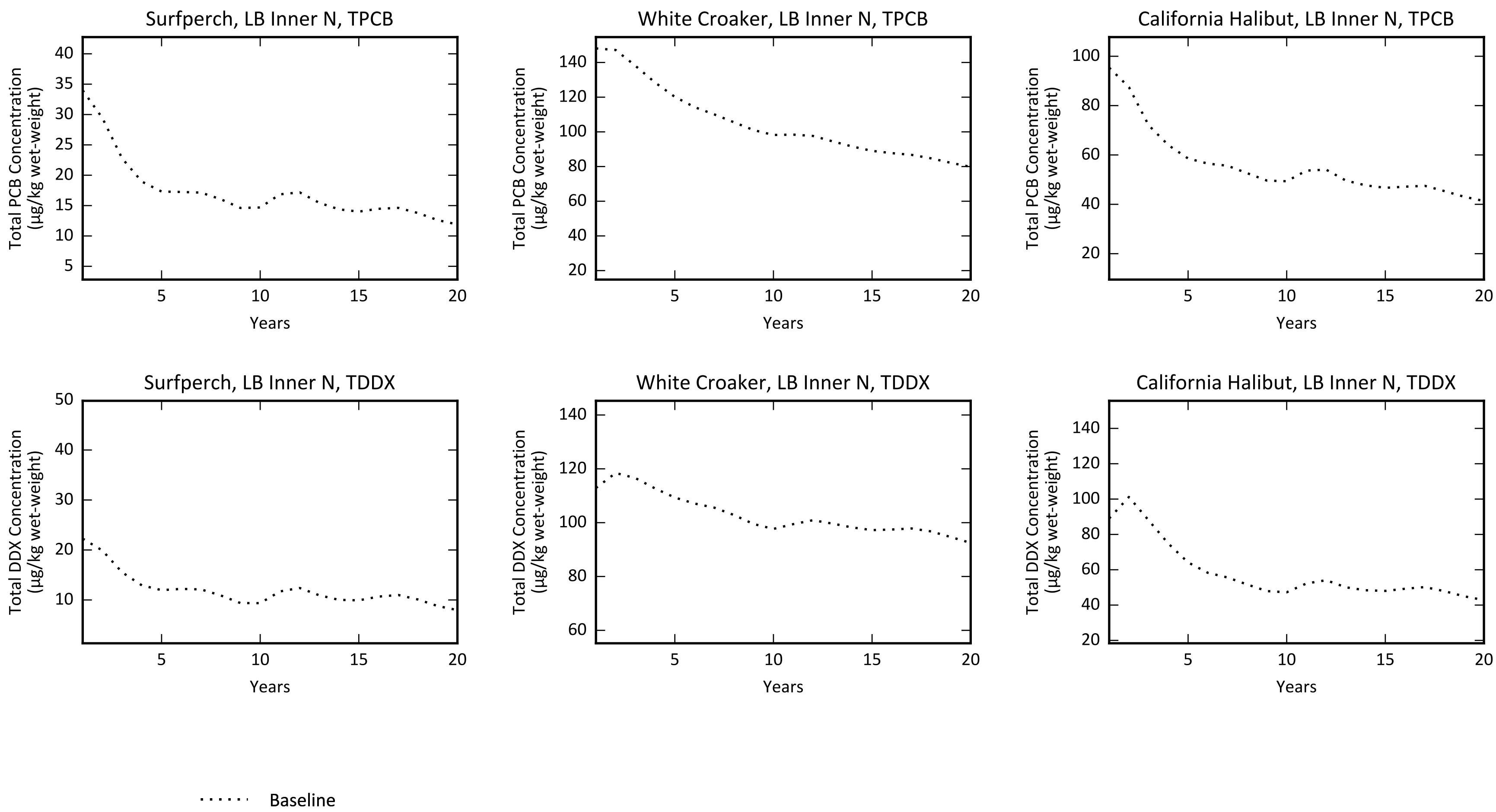


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1714 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:32 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-2f
Total PCB and DDX Concentrations in Fish over Time for Baseline in LA Outer
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

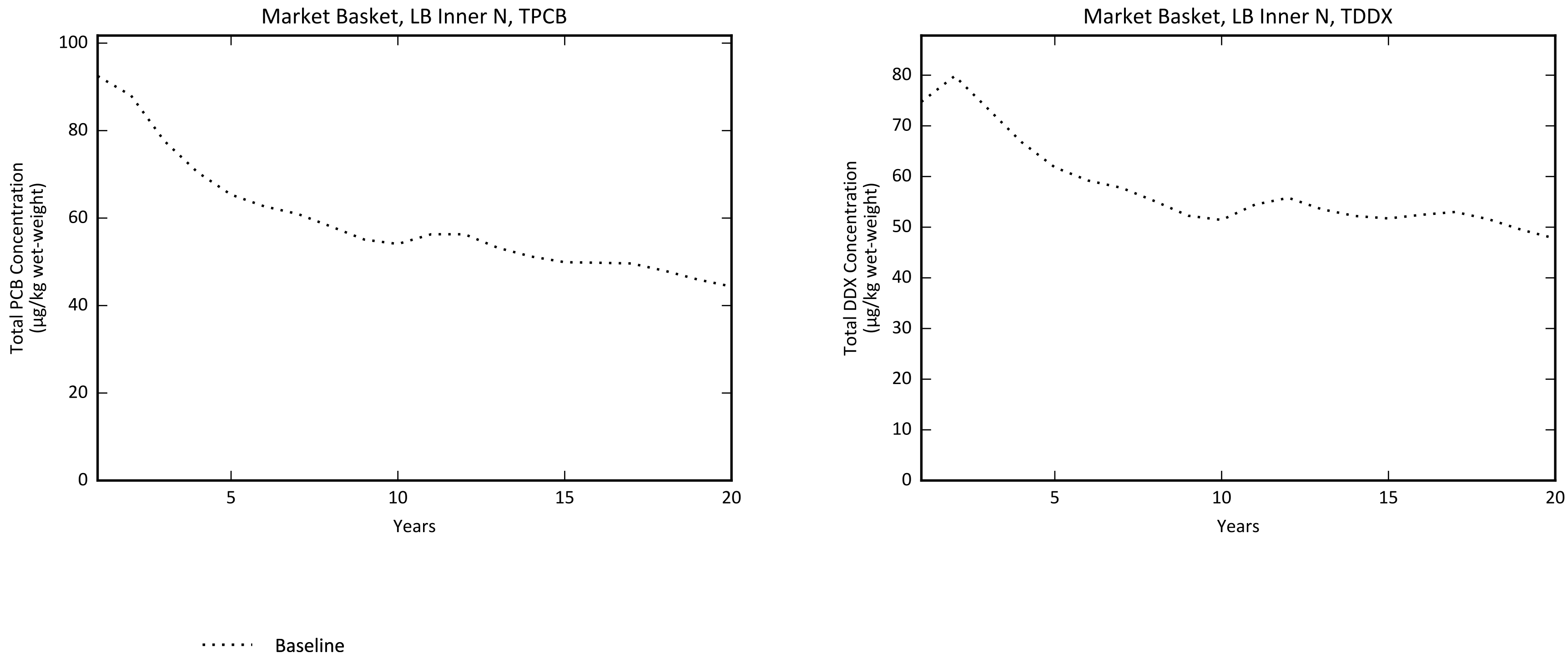


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1714 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:32 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-2g
Total PCB and DDX Concentrations in Fish over Time for Baseline in LB Inner N

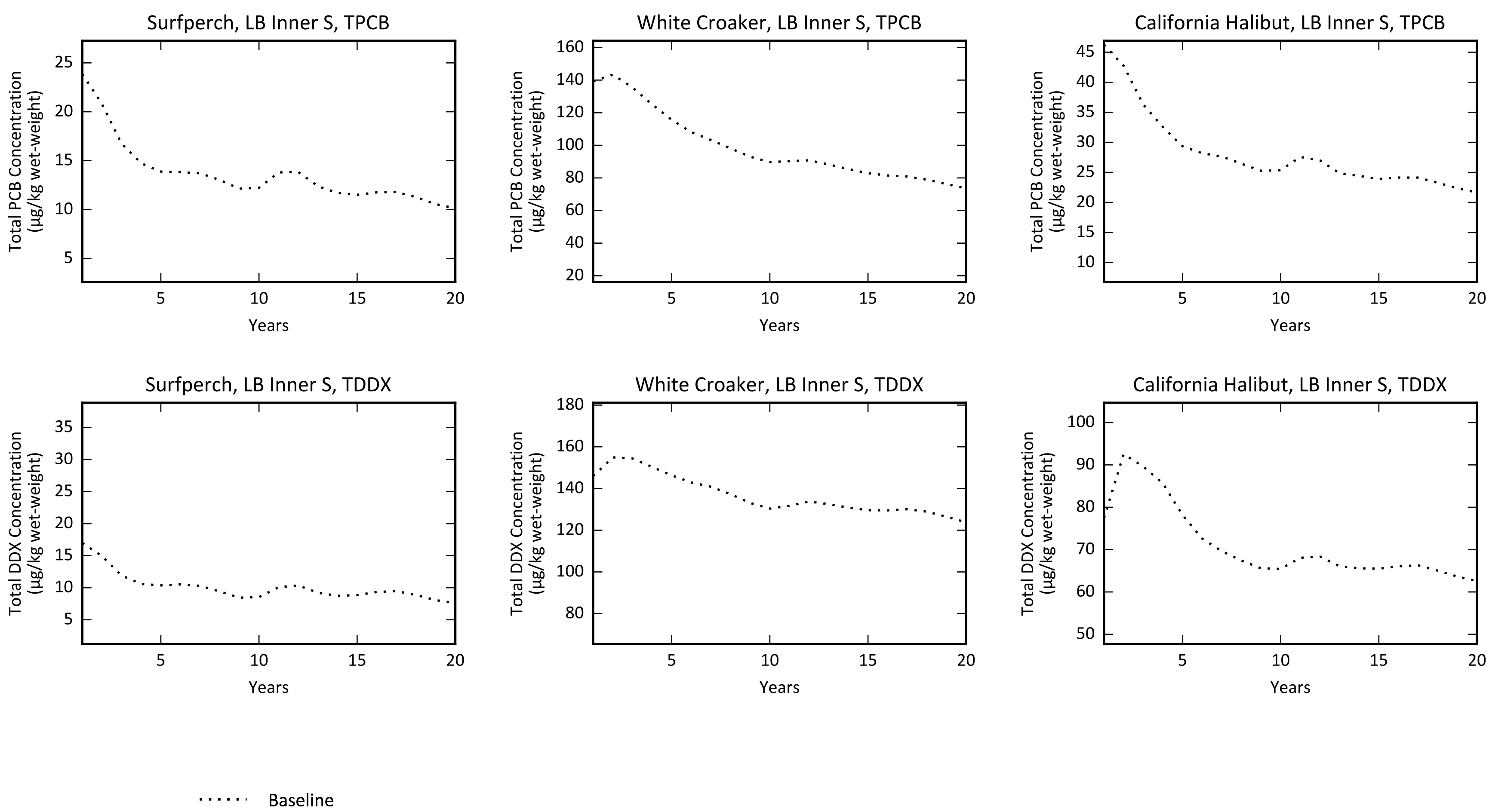


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1714 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:32 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-2g
Total PCB and DDX Concentrations in Fish over Time for Baseline in LB Inner N
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

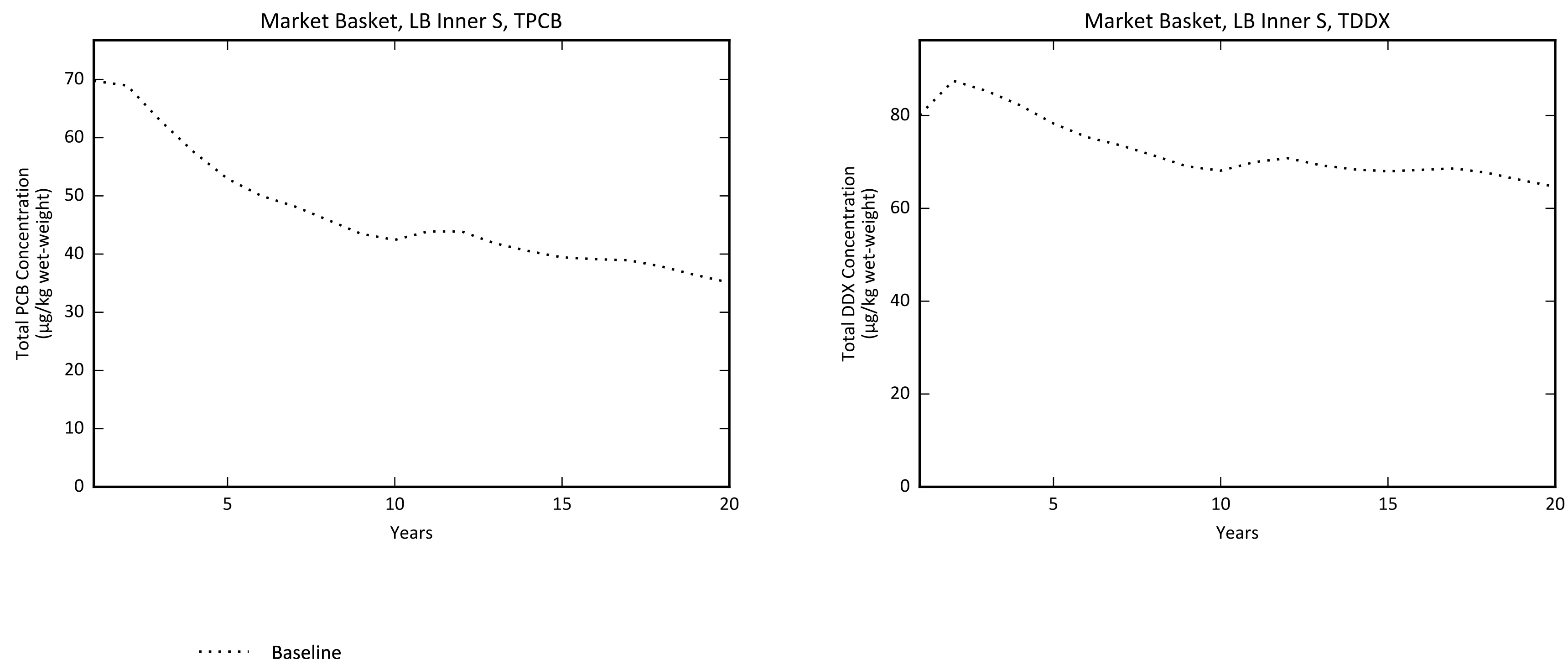


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1714 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:32 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

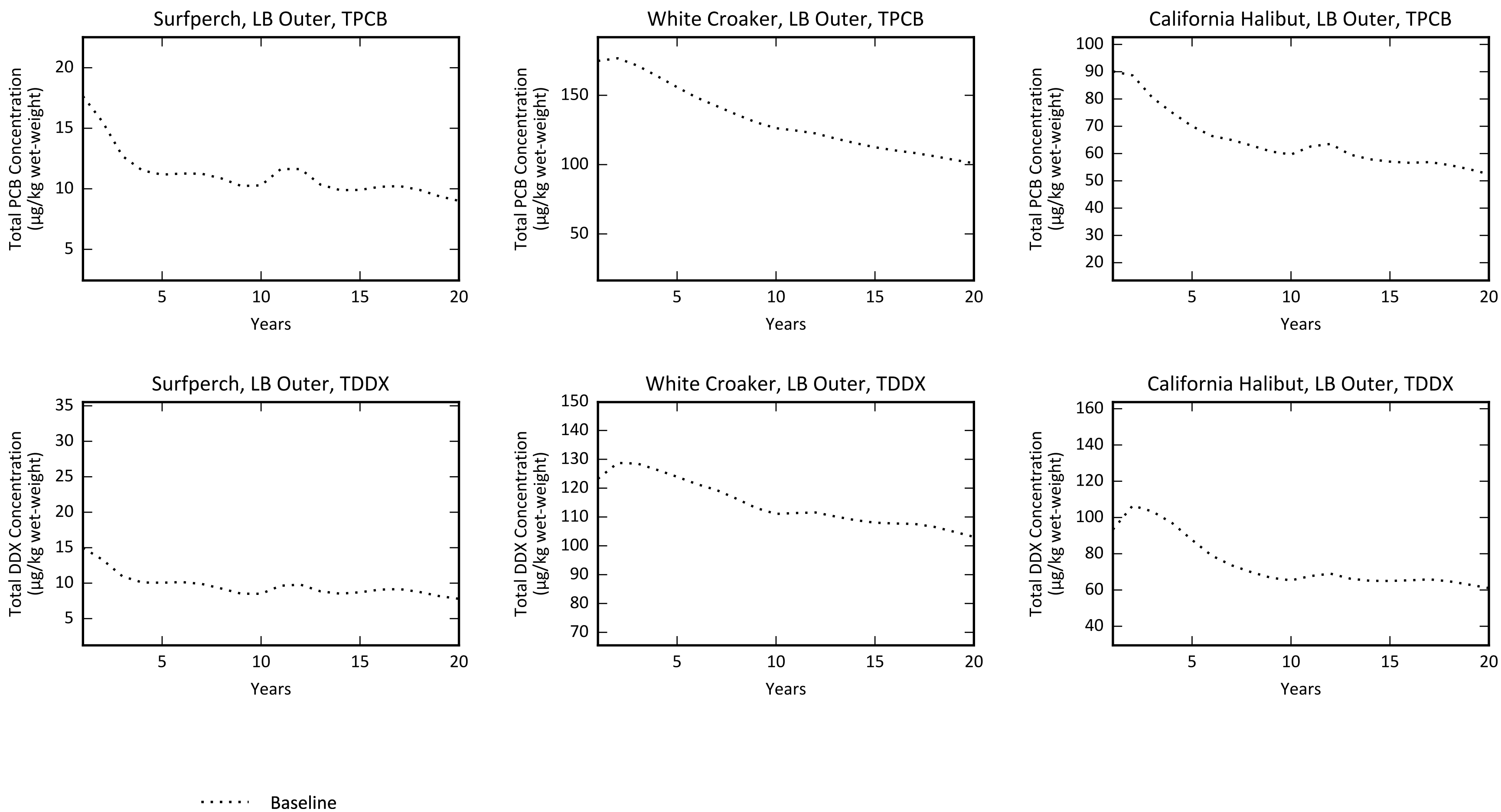
Figure B-2h
Total PCB and DDX Concentrations in Fish over Time for Baseline in LB Inner S



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1714 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:32 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

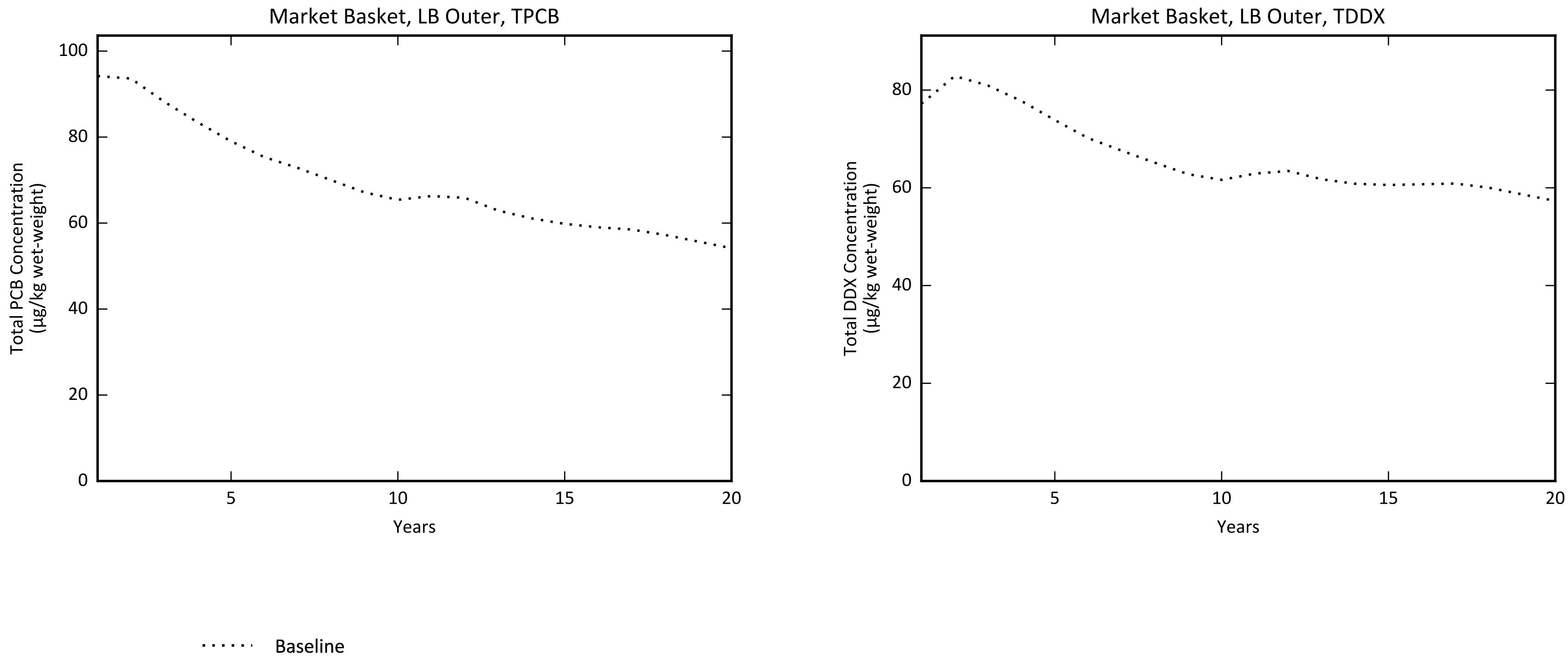
Figure B-2h
Total PCB and DDX Concentrations in Fish over Time for Baseline in LB Inner S



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1714 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:32 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

Figure B-2i
Total PCB and DDX Concentrations in Fish over Time for Baseline in LB Outer

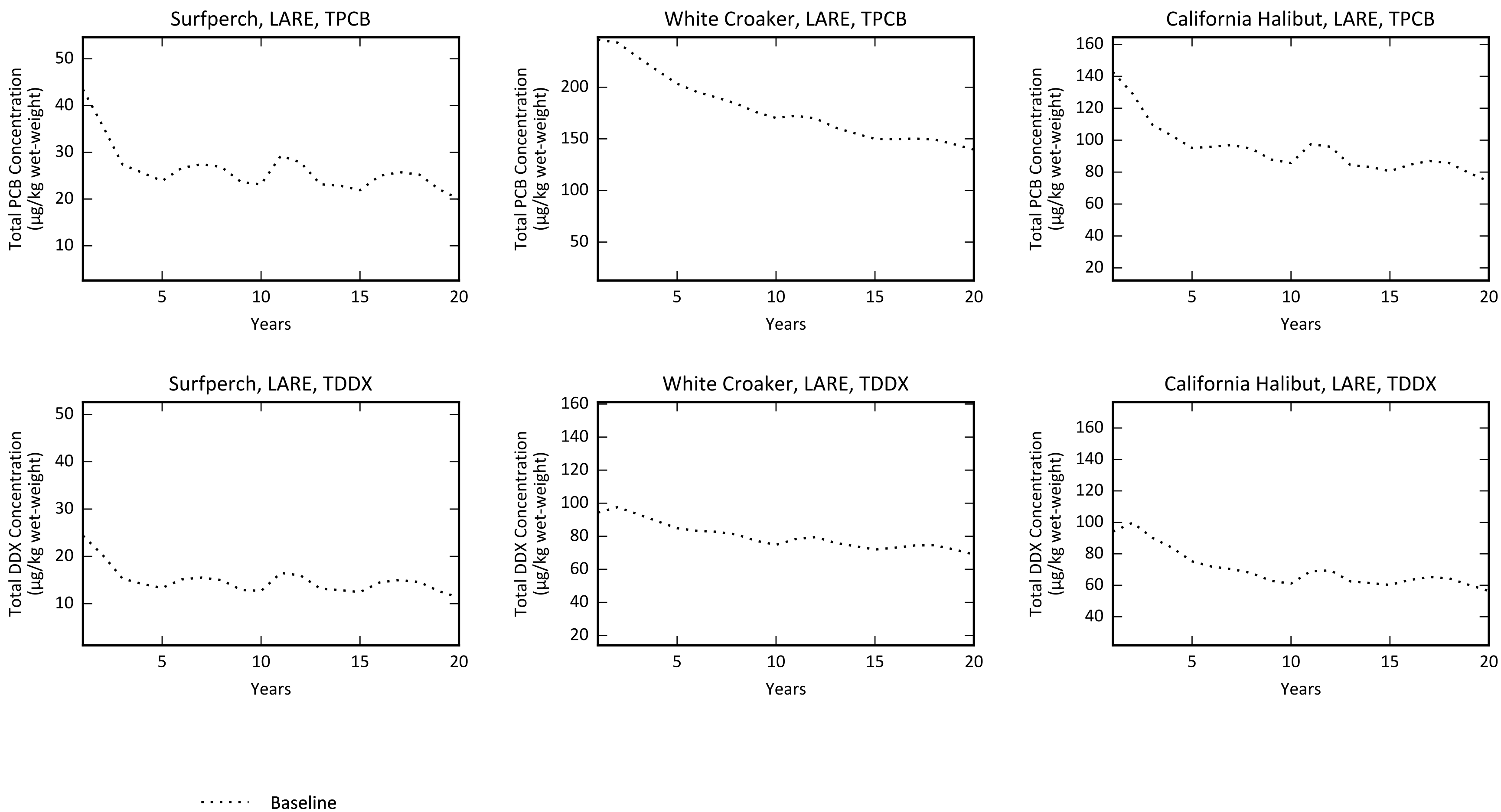


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1714 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:32 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-2i
Total PCB and DDX Concentrations in Fish over Time for Baseline in LB Outer
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

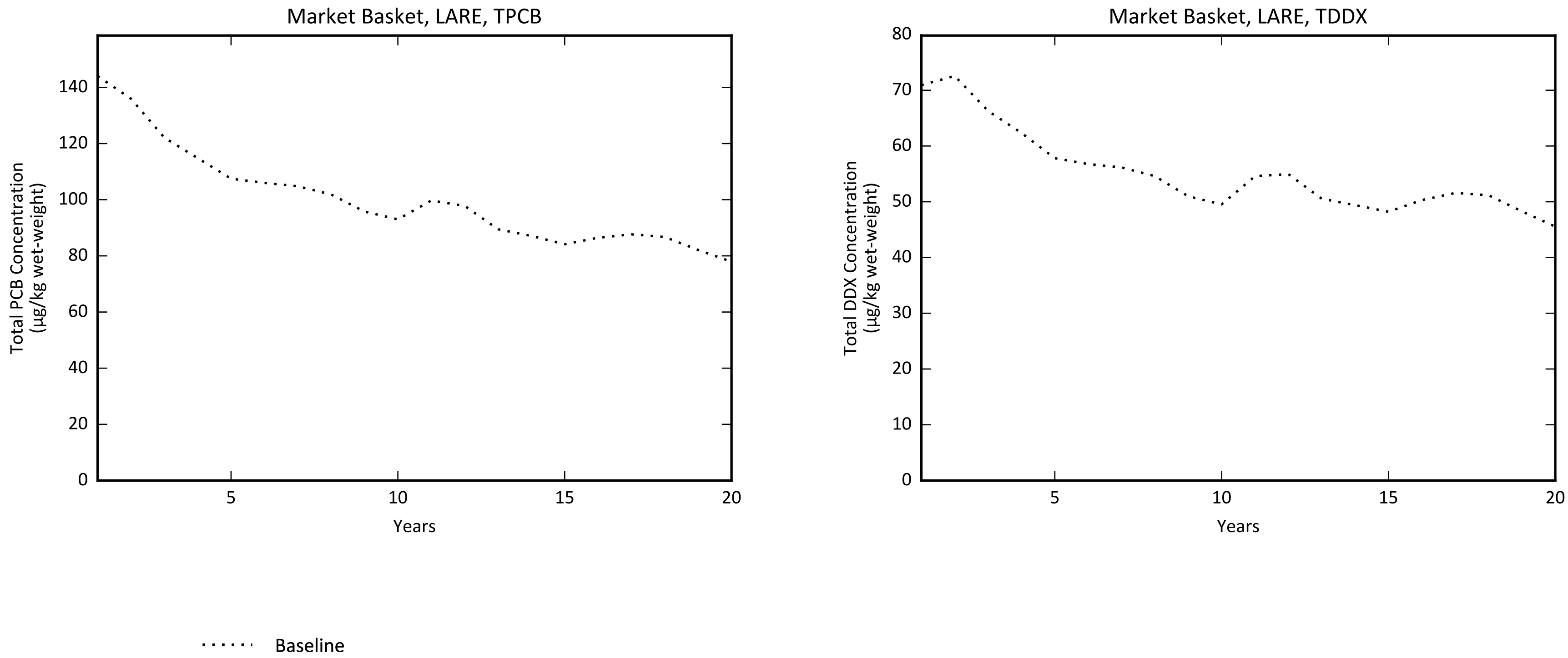


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1714 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:32 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-2j
Total PCB and DDX Concentrations in Fish over Time for Baseline in LARE
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

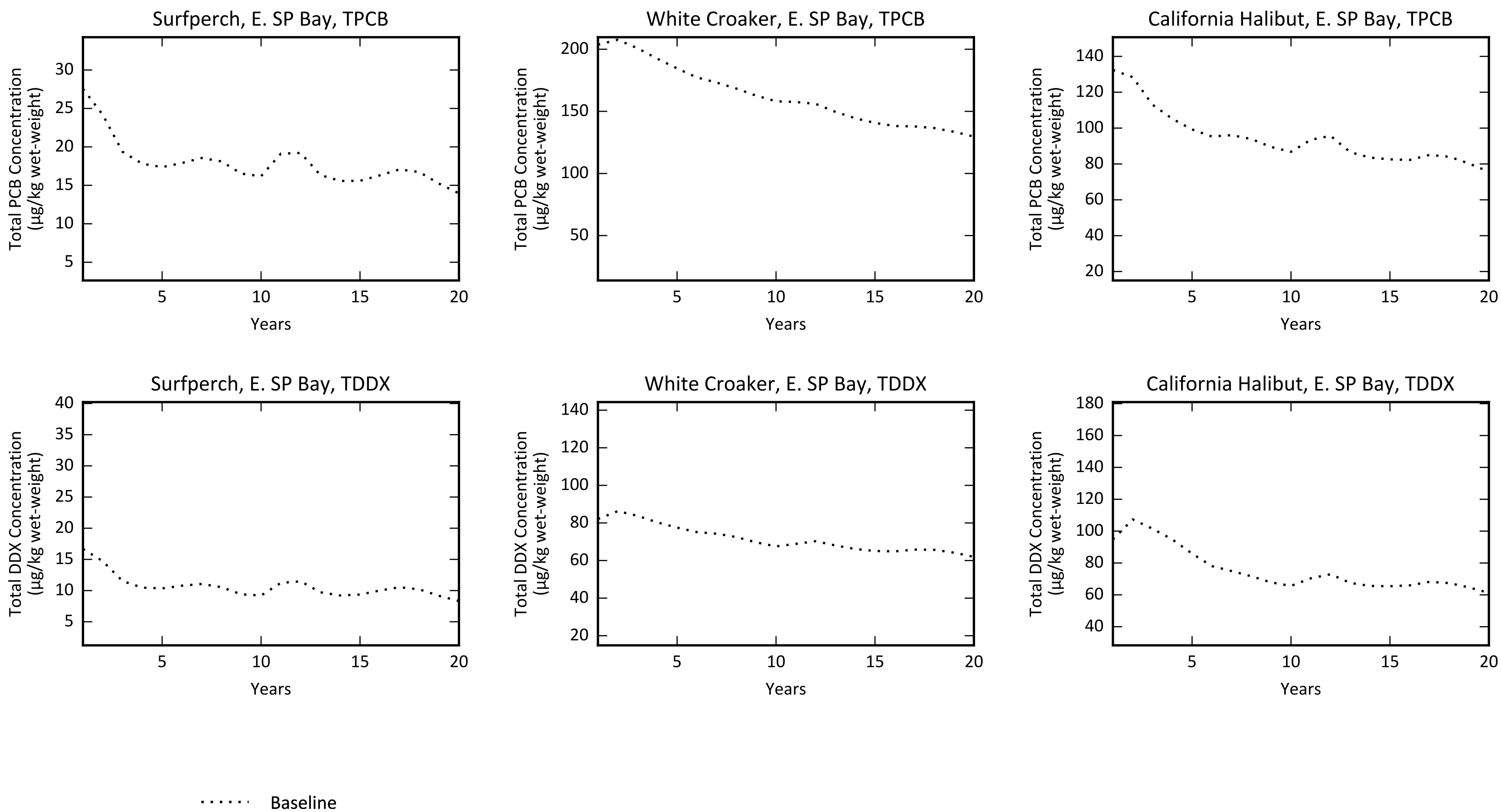


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1714 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:32 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-2j
Total PCB and DDX Concentrations in Fish over Time for Baseline in LARE
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

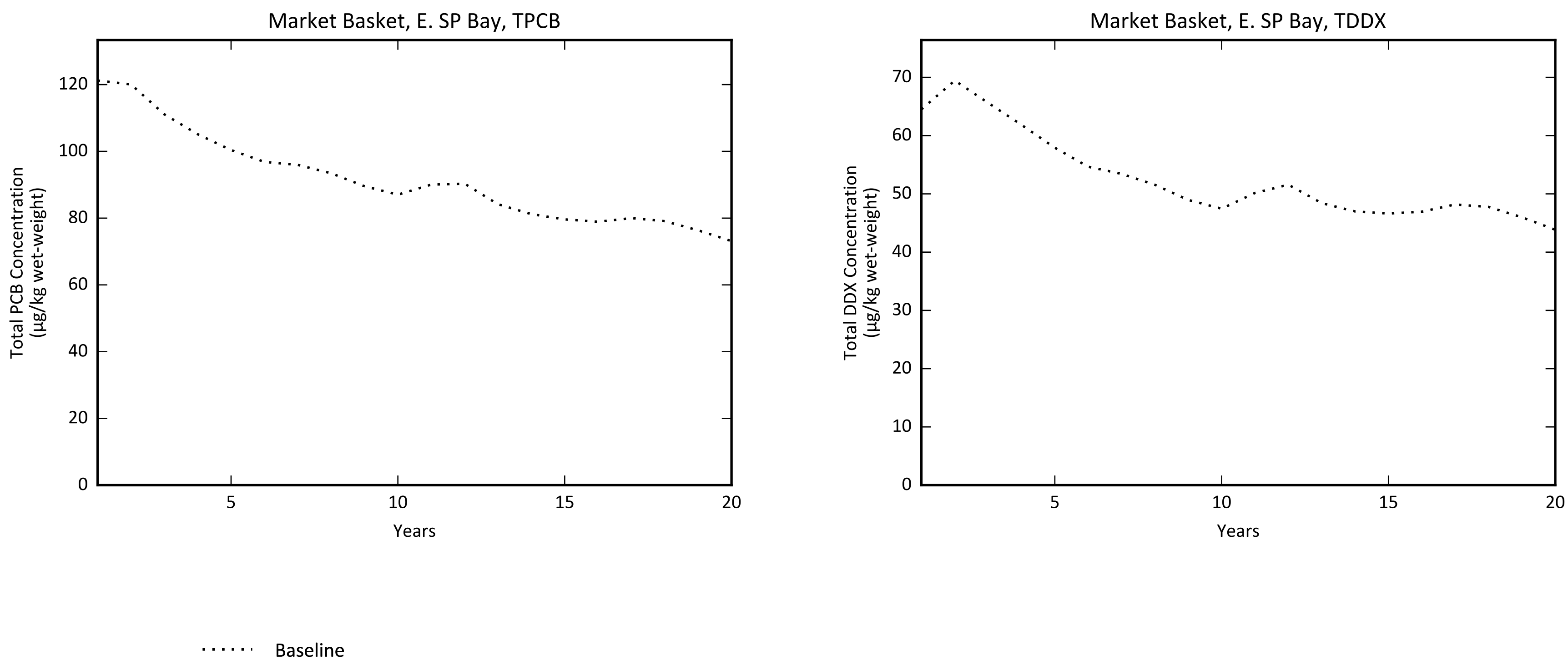


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1714 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:32 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-2k
Total PCB and DDX Concentrations in Fish over Time for Baseline in E. SP Bay

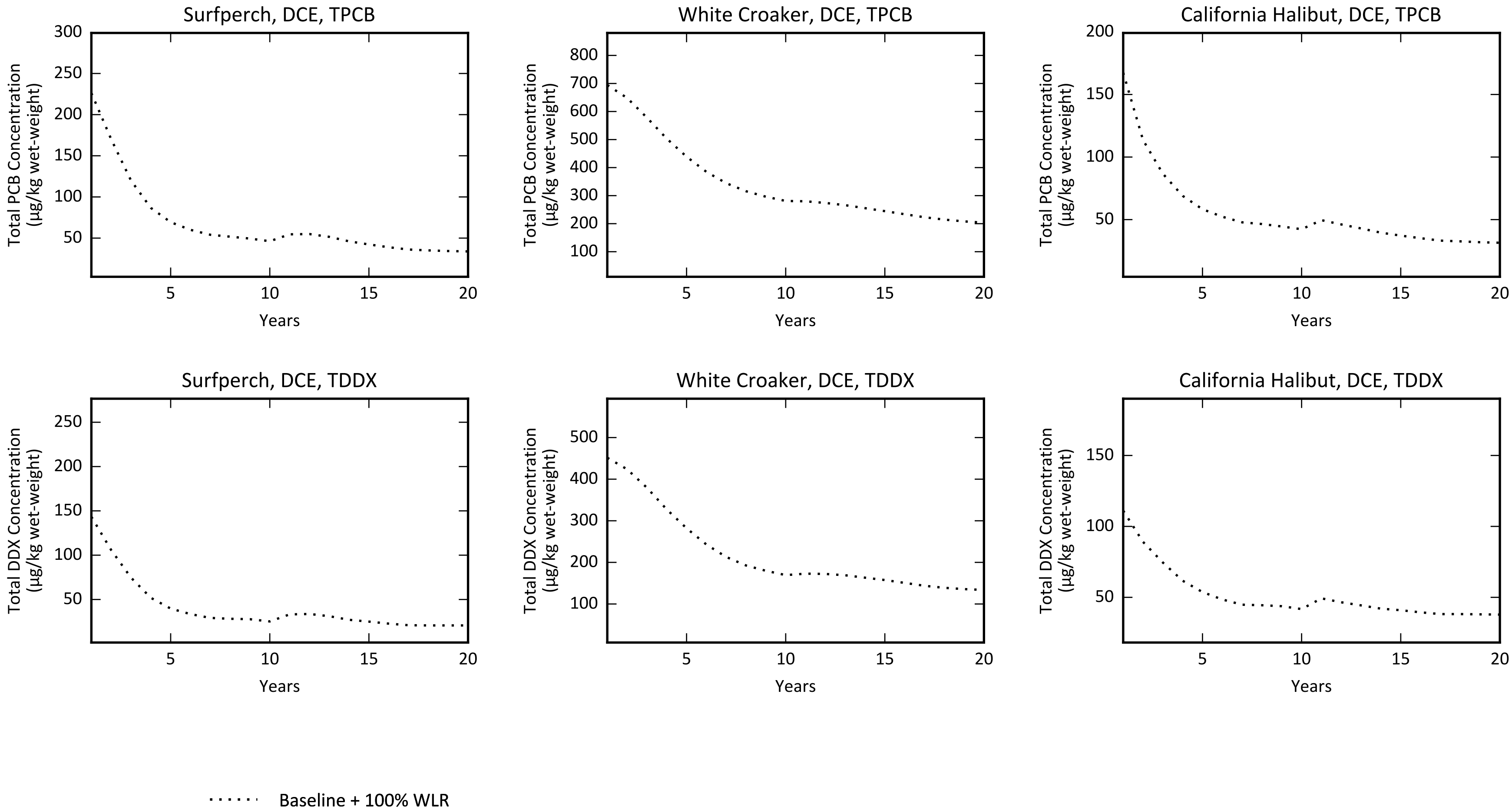


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1714 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:32 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-2k
Total PCB and DDX Concentrations in Fish over Time for Baseline in E. SP Bay
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



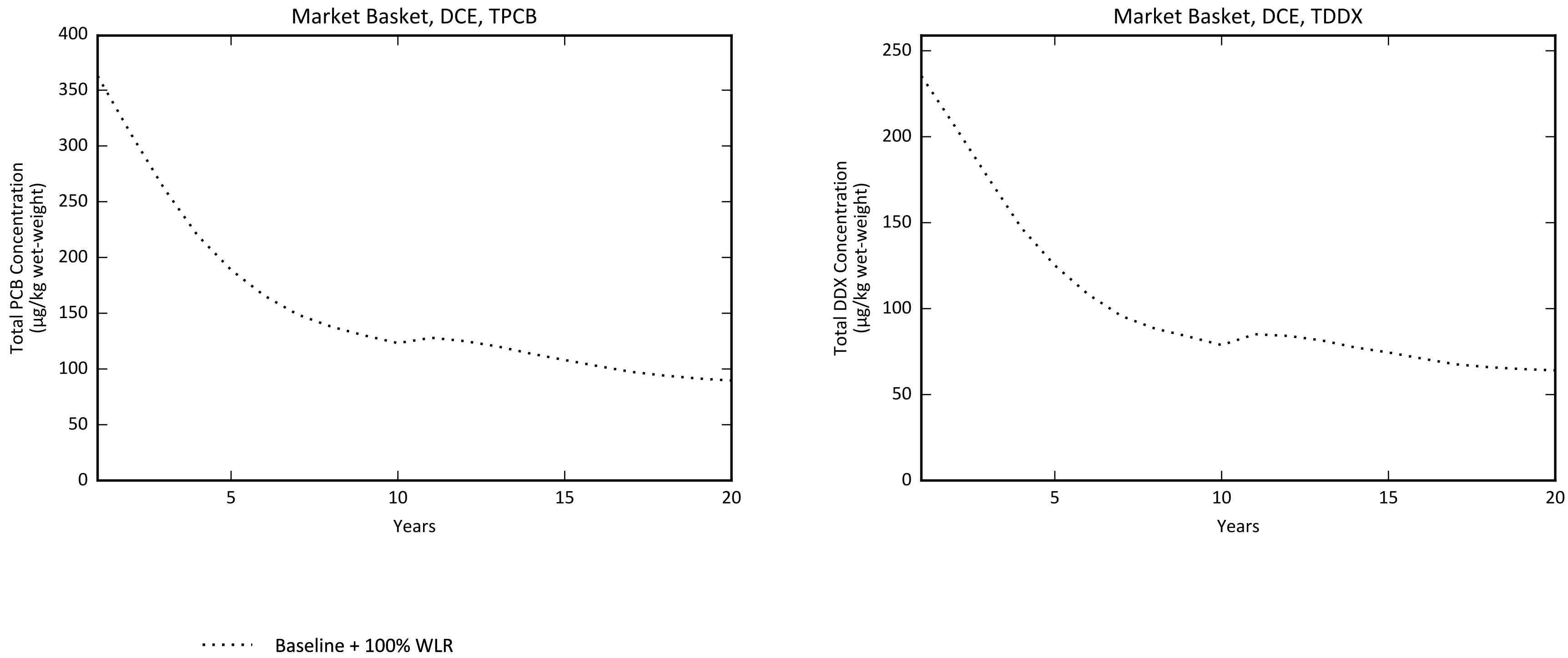
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1712 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:31 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-3a

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR in DCE

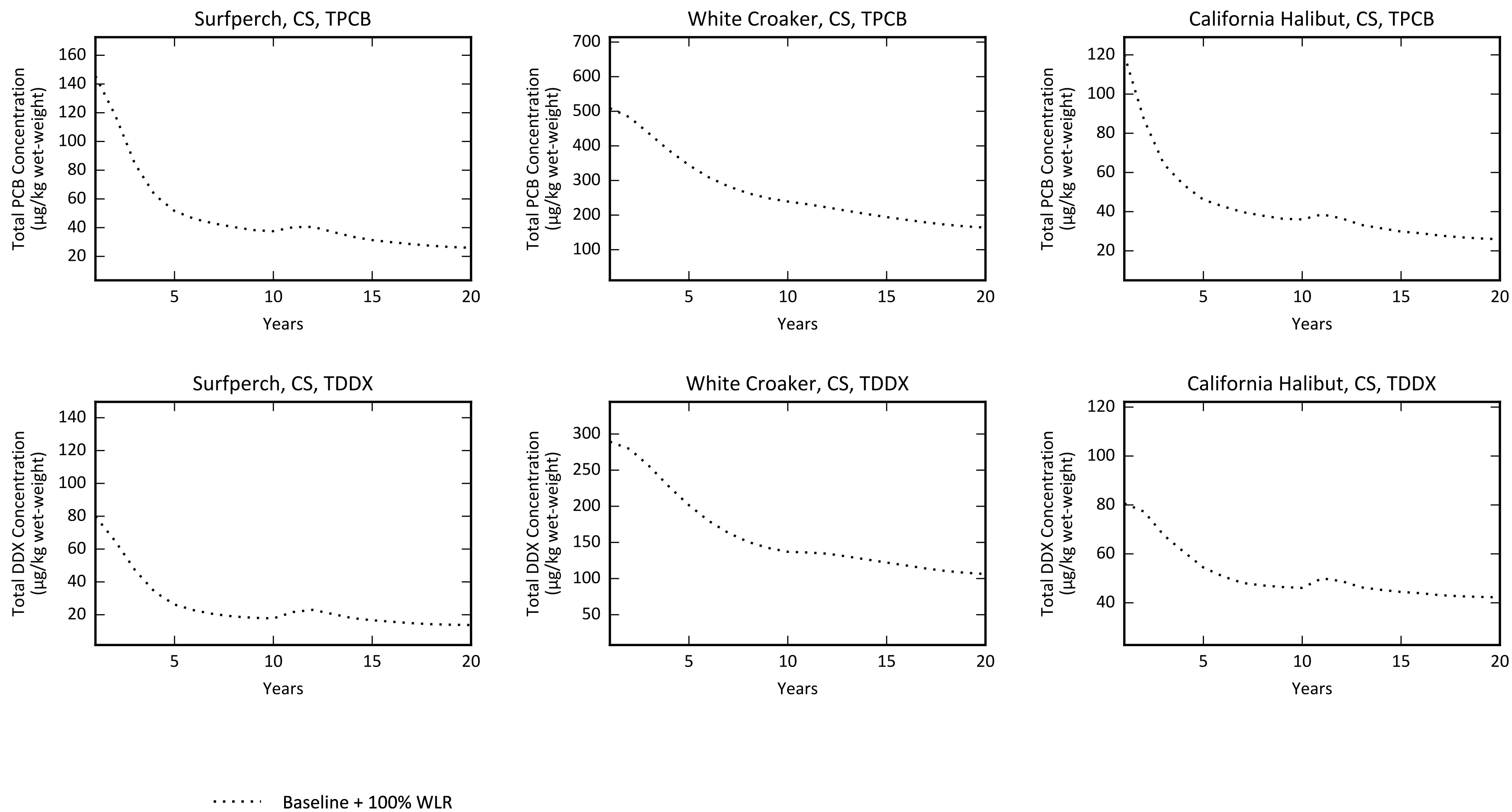


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1712 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:31 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-3a
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR in DCE



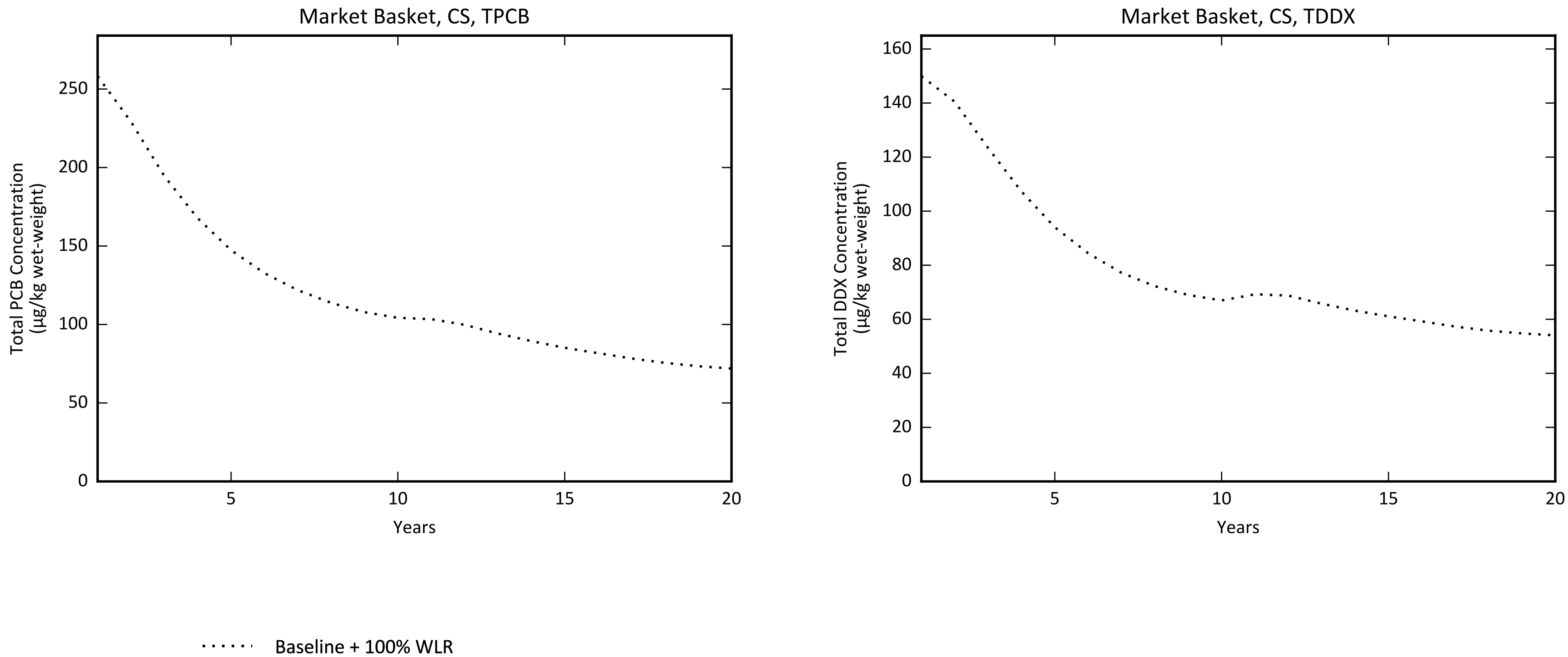
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1712 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:31 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-3b

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR in CS

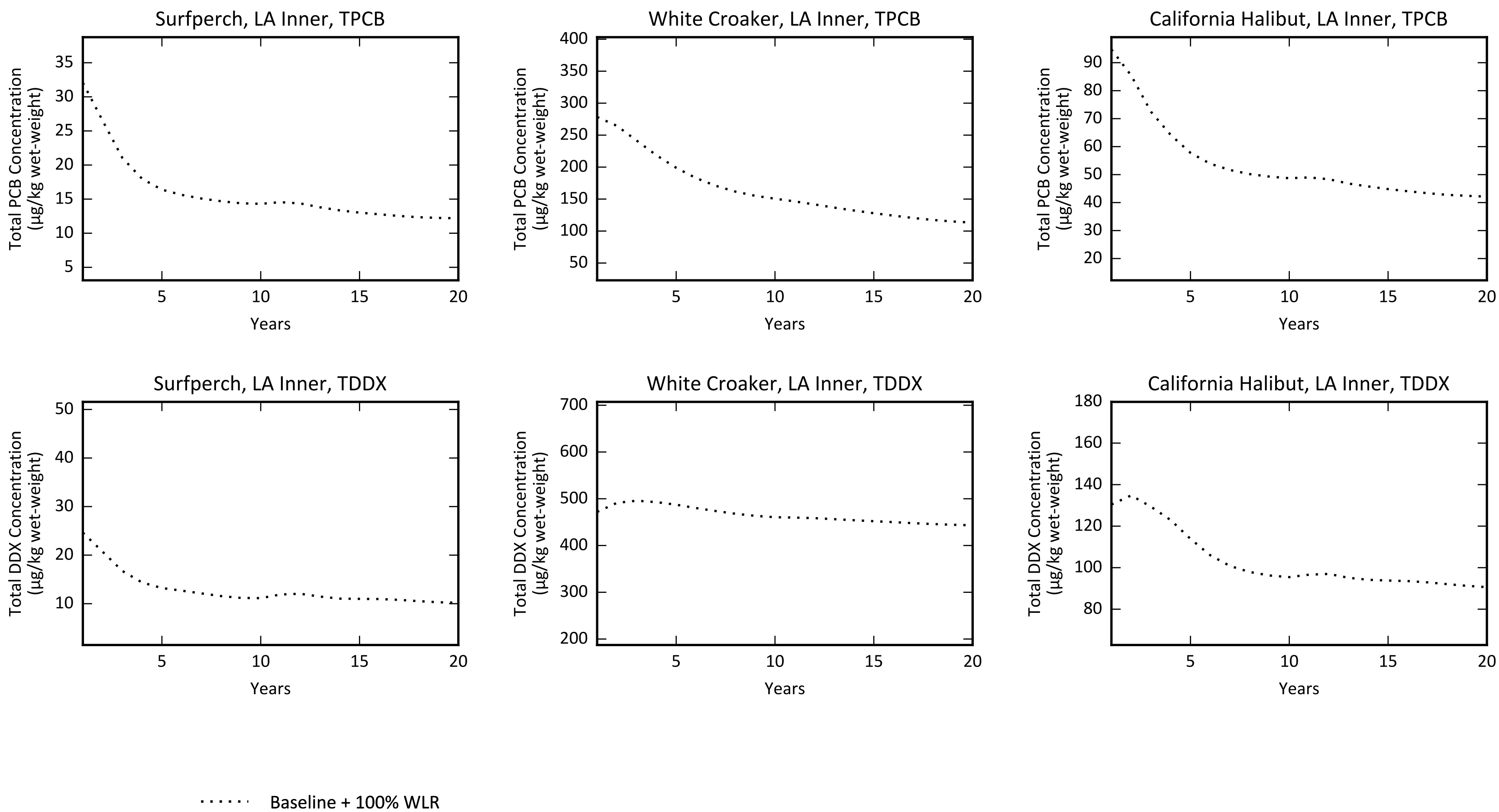


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1712 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:31 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-3b
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR in CS
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

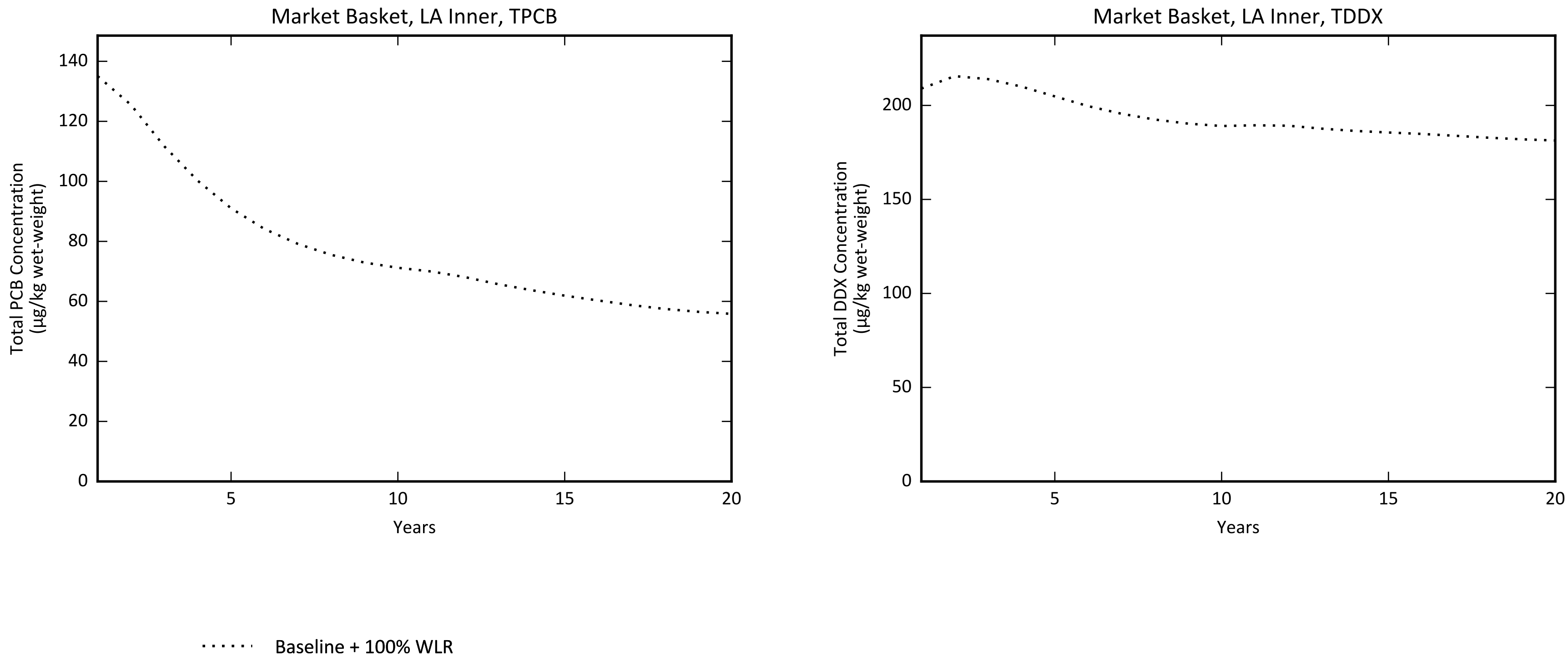


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1712 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:31 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-3c
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR in LA Inner



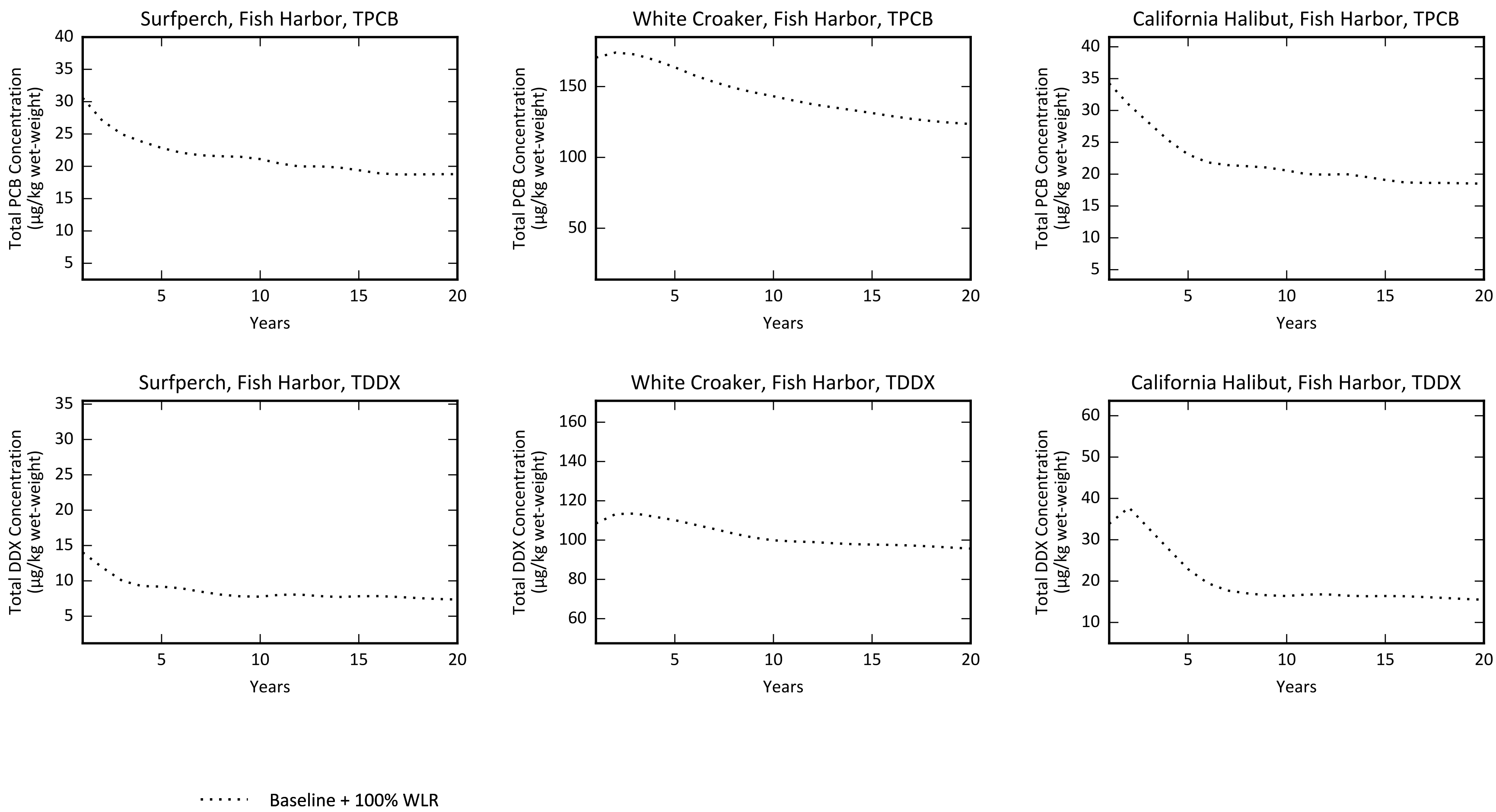
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1712 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:31 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-3c

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR in LA Inner

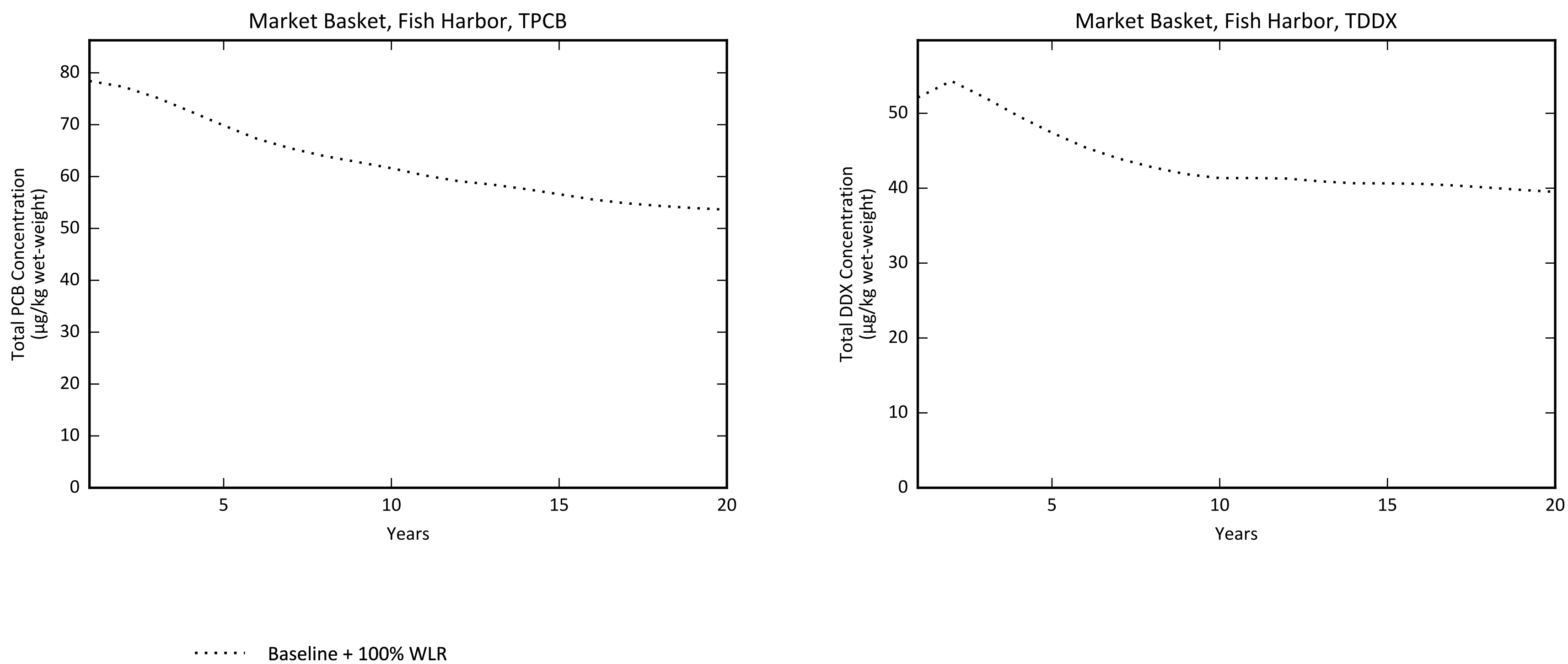


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1712 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:31 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-3d
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR in Fish Harbor
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



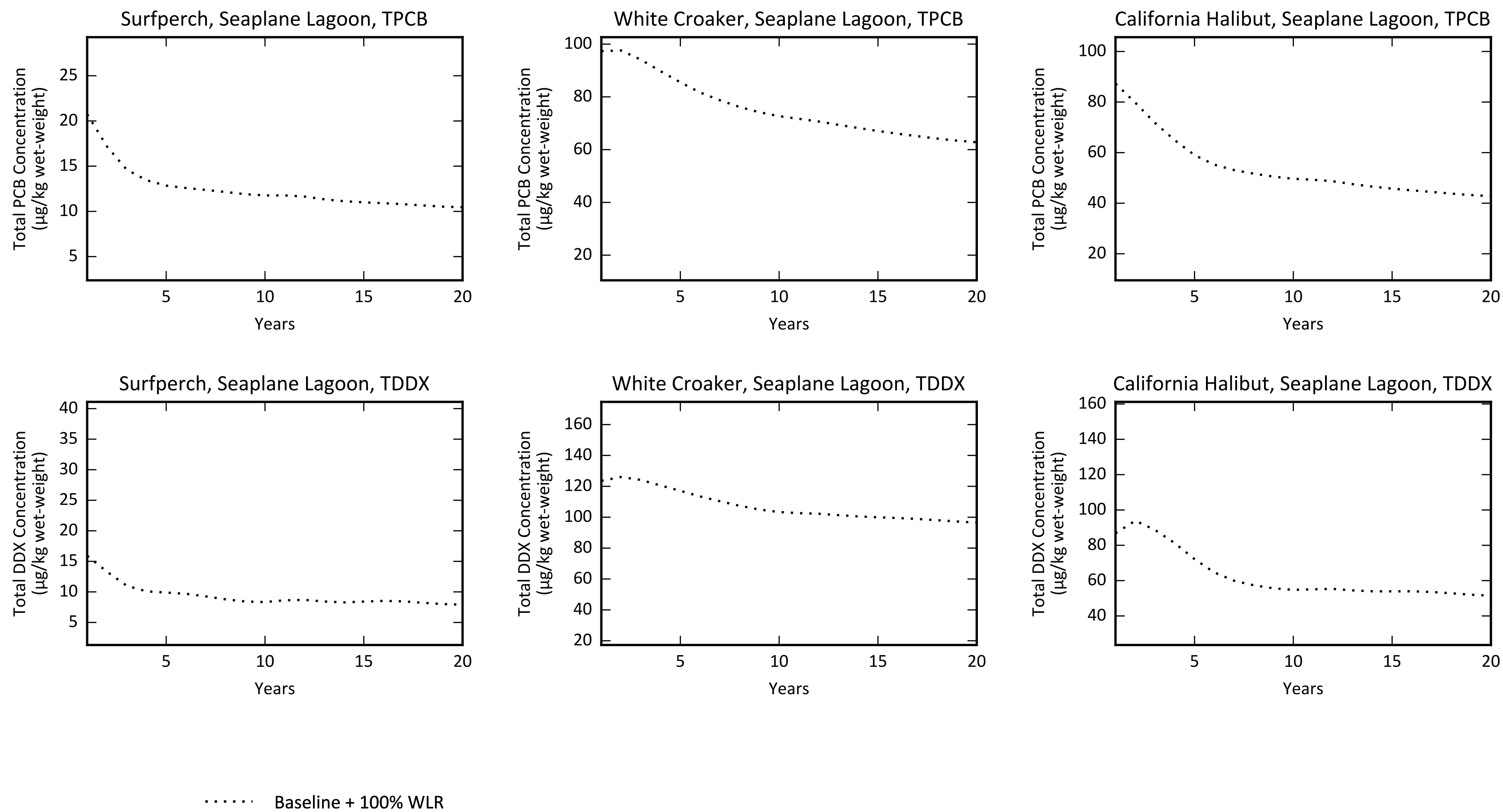
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1712 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:31 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-3d

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR in Fish Harbor



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1712 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:31 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

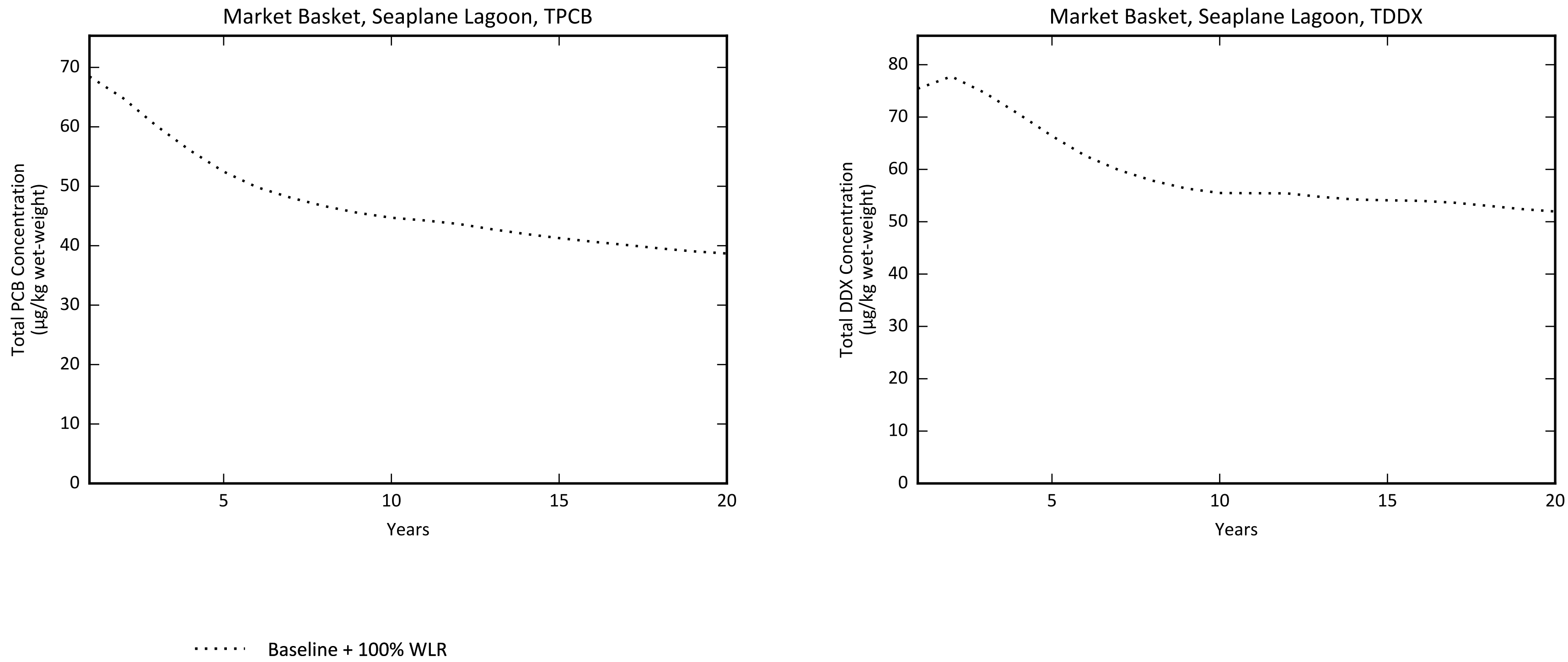
ANCHOR QEA

Figure B-3e

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR in Seaplane Lagoon

Linked Model Data Summary Report

Greater Los Angeles and Long Beach Harbor Waters



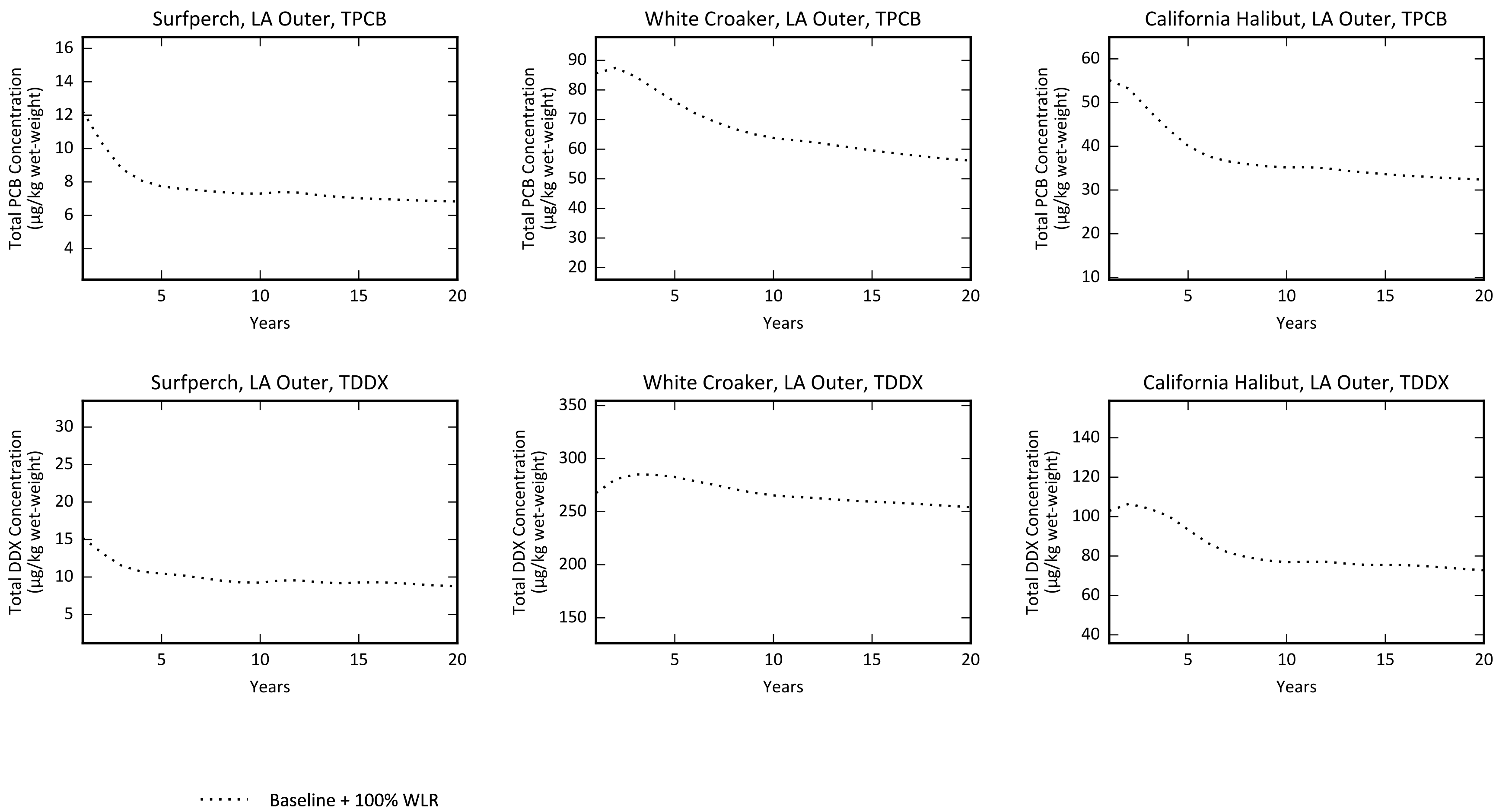
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1712 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:31 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

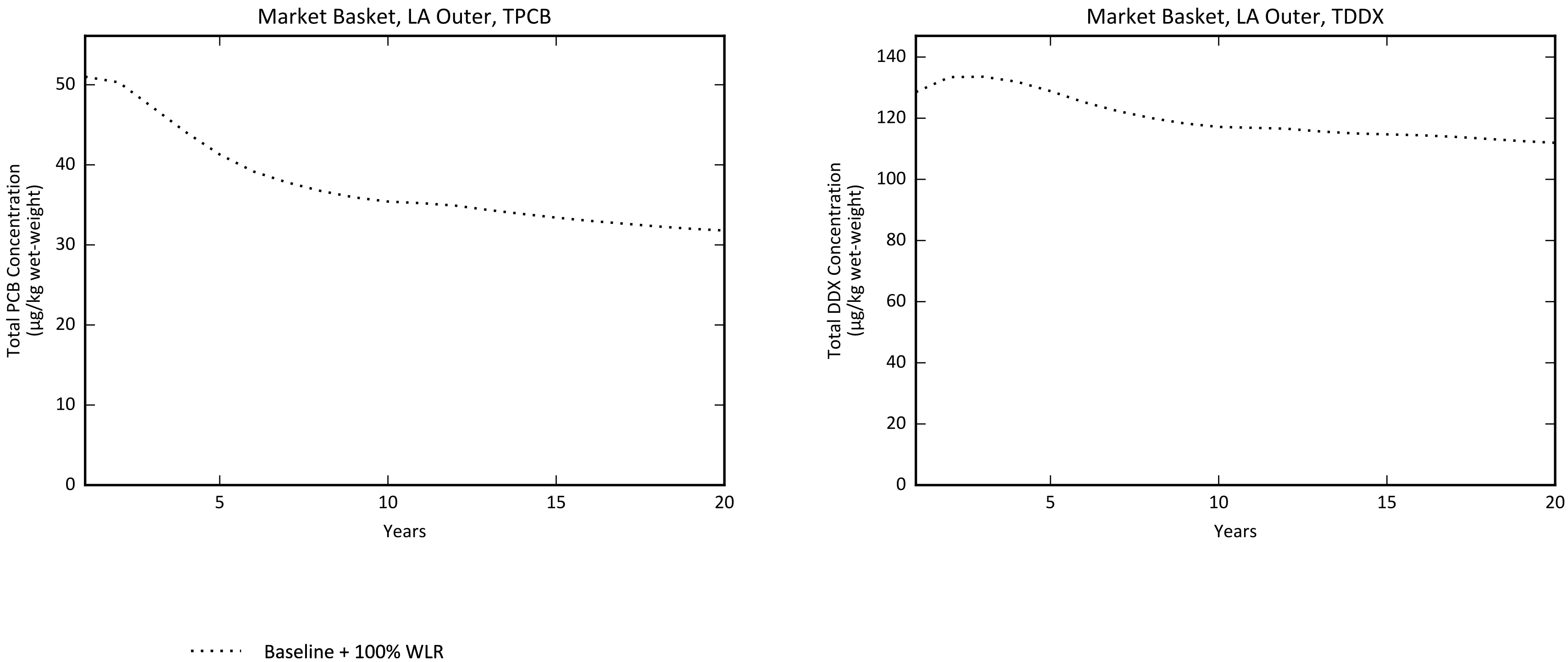
Figure B-3e

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR in Seaplane Lagoon



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1712 and biota files v.1755 used for model.

Figure B-3f
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR in LA Outer

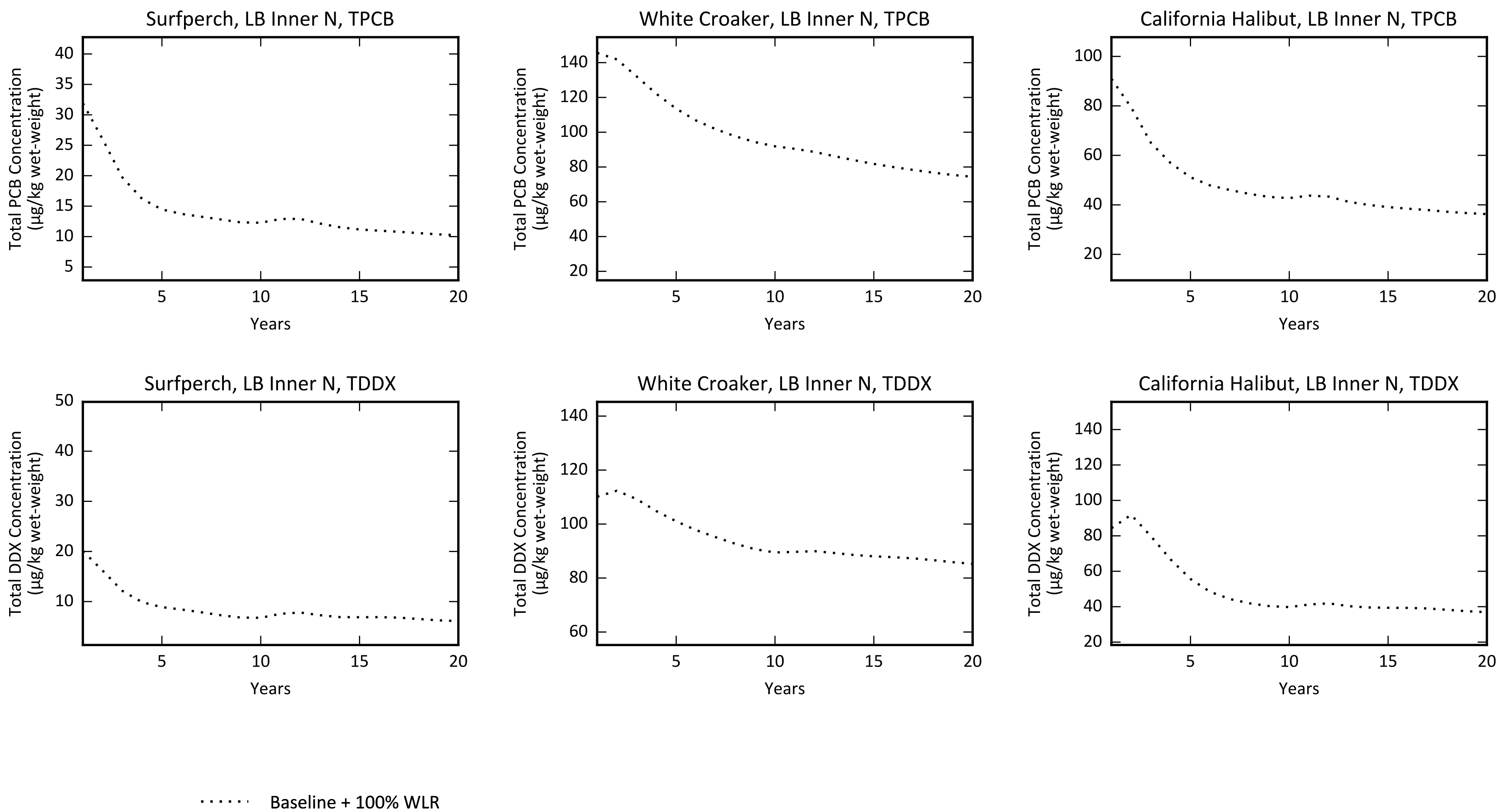


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1712 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:31 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-3f
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR in LA Outer
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

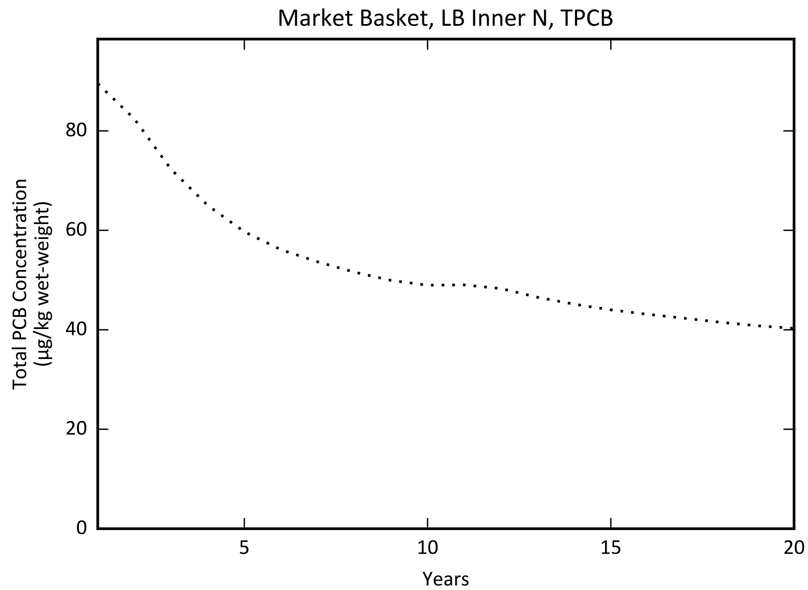


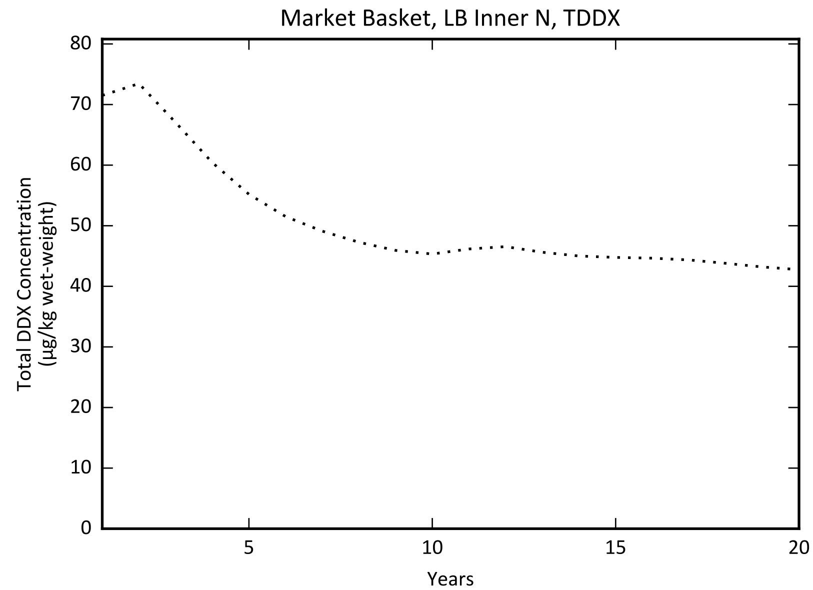
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1712 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:31 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-3g
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR in LB Inner N
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters





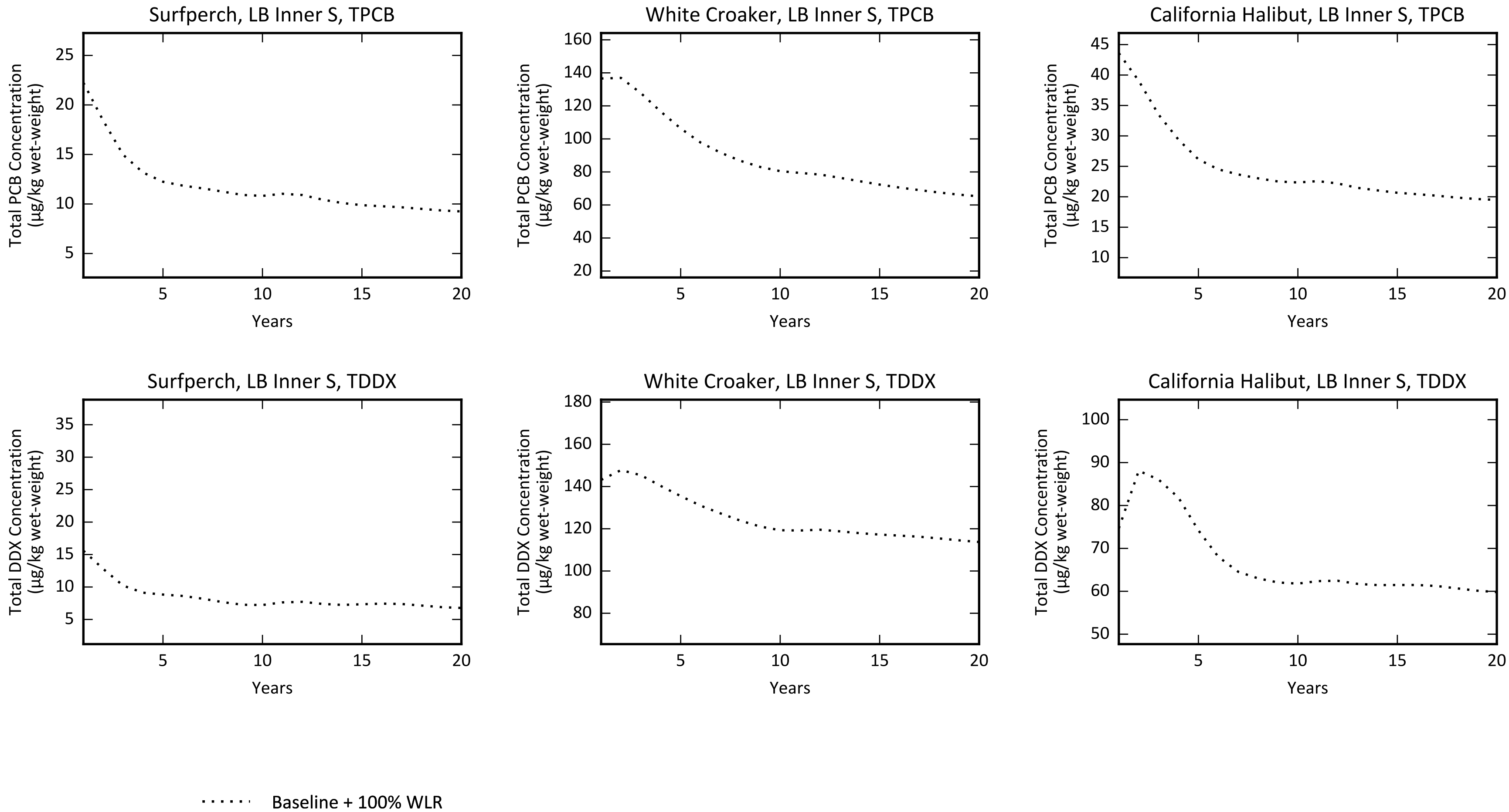
Baseline + 100% WLR

Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1712 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:31 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-3g
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR in LB Inner N

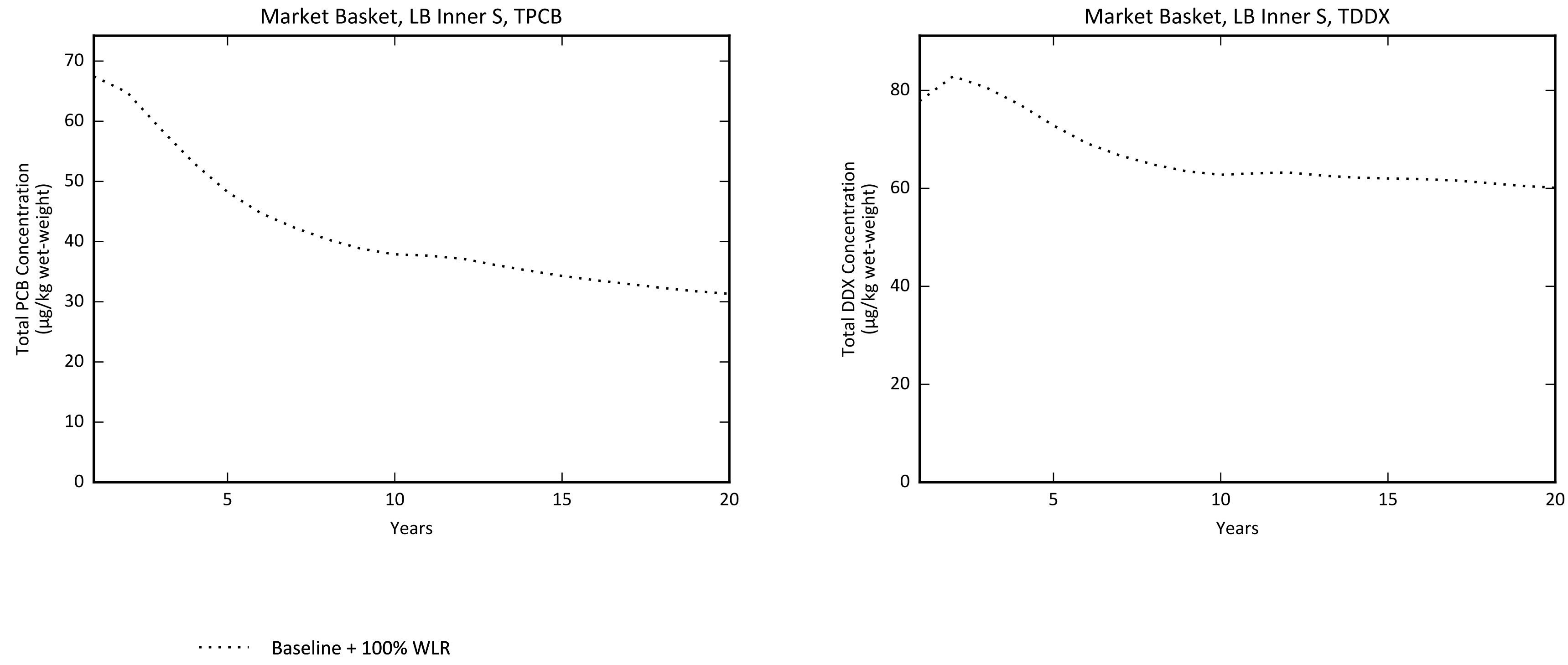


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1712 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:31 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-3h
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR in LB Inner S
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

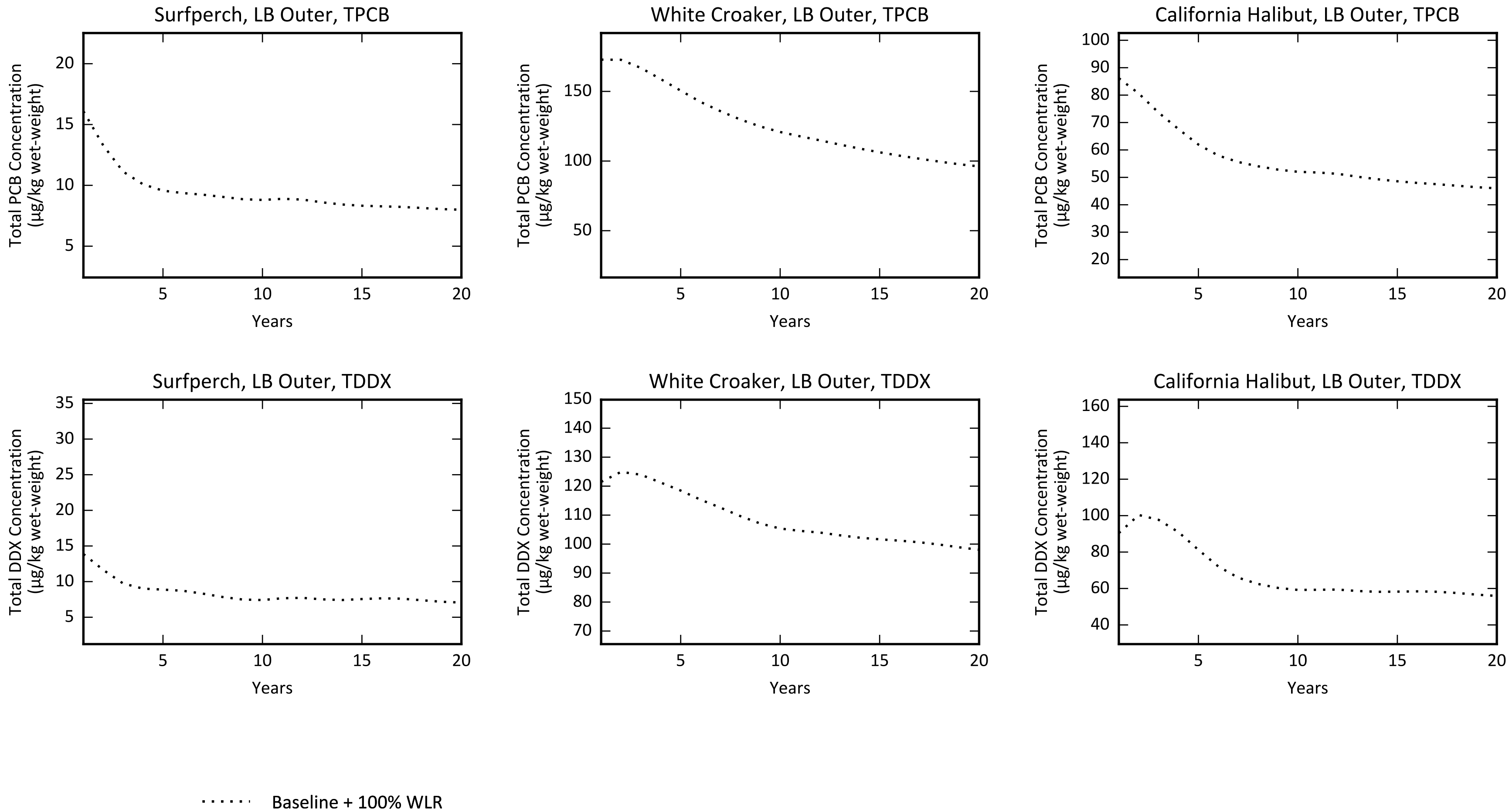


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1712 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:31 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

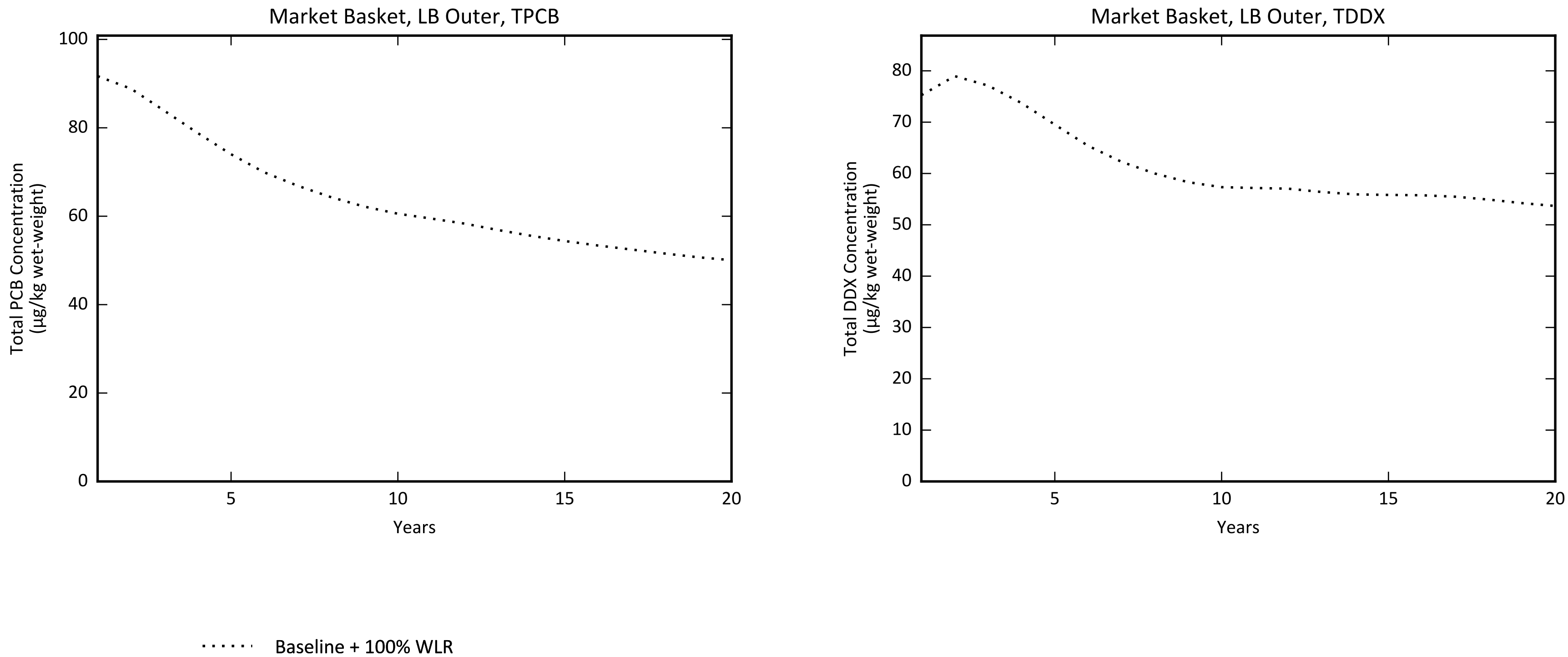
Figure B-3h
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR in LB Inner S



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1712 and biota files v.1755 used for model.

ANCHOR QEA

Figure B-3i
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR in LB Outer

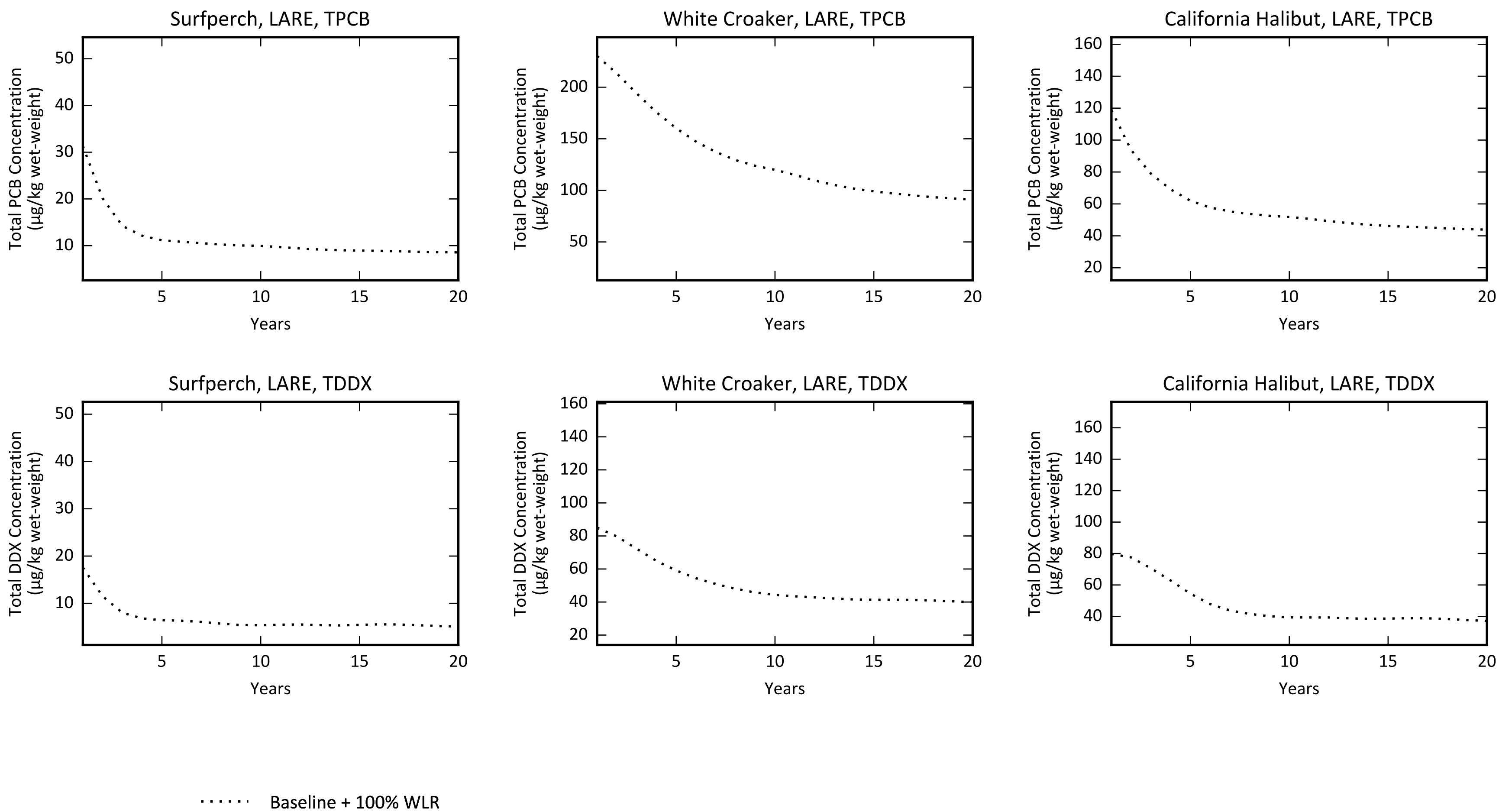


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1712 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:31 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

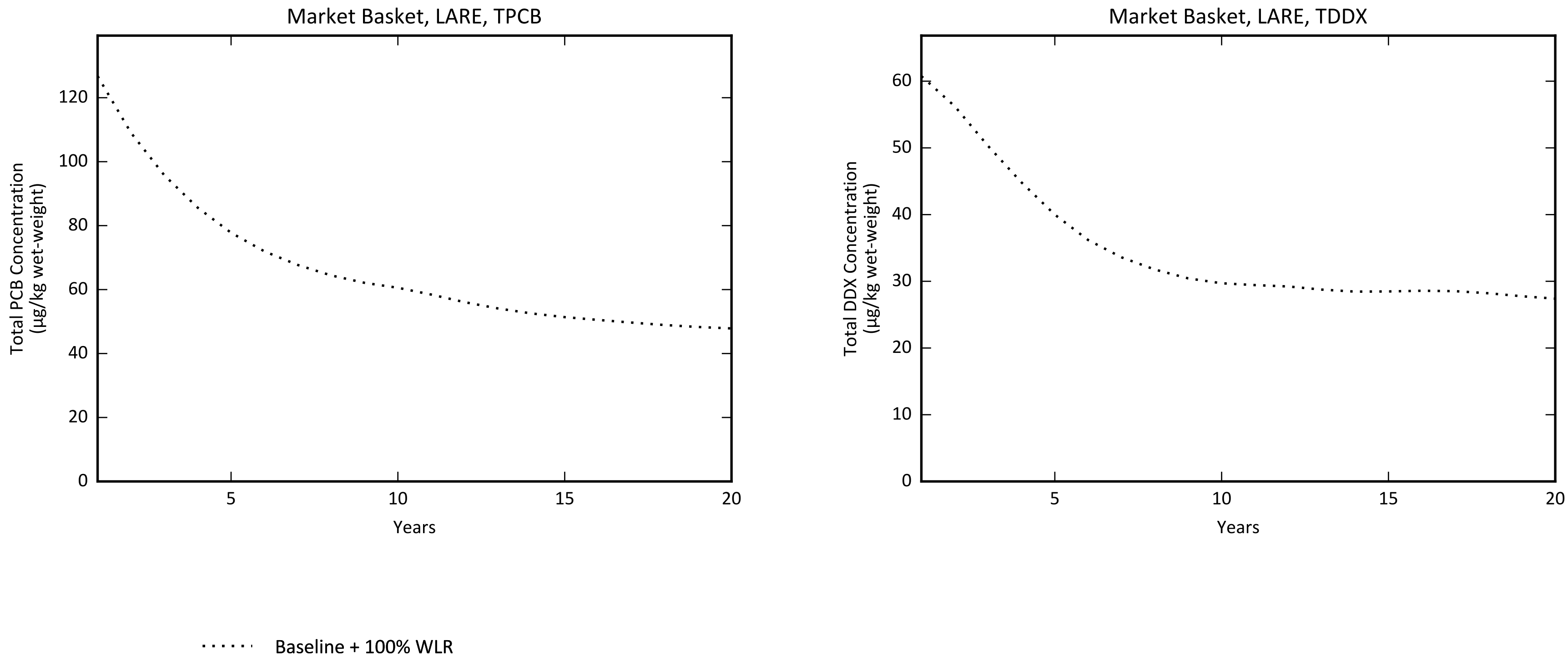
ANCHOR QEA

Figure B-3i
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR in LB Outer
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1712 and biota files v.1755 used for model.

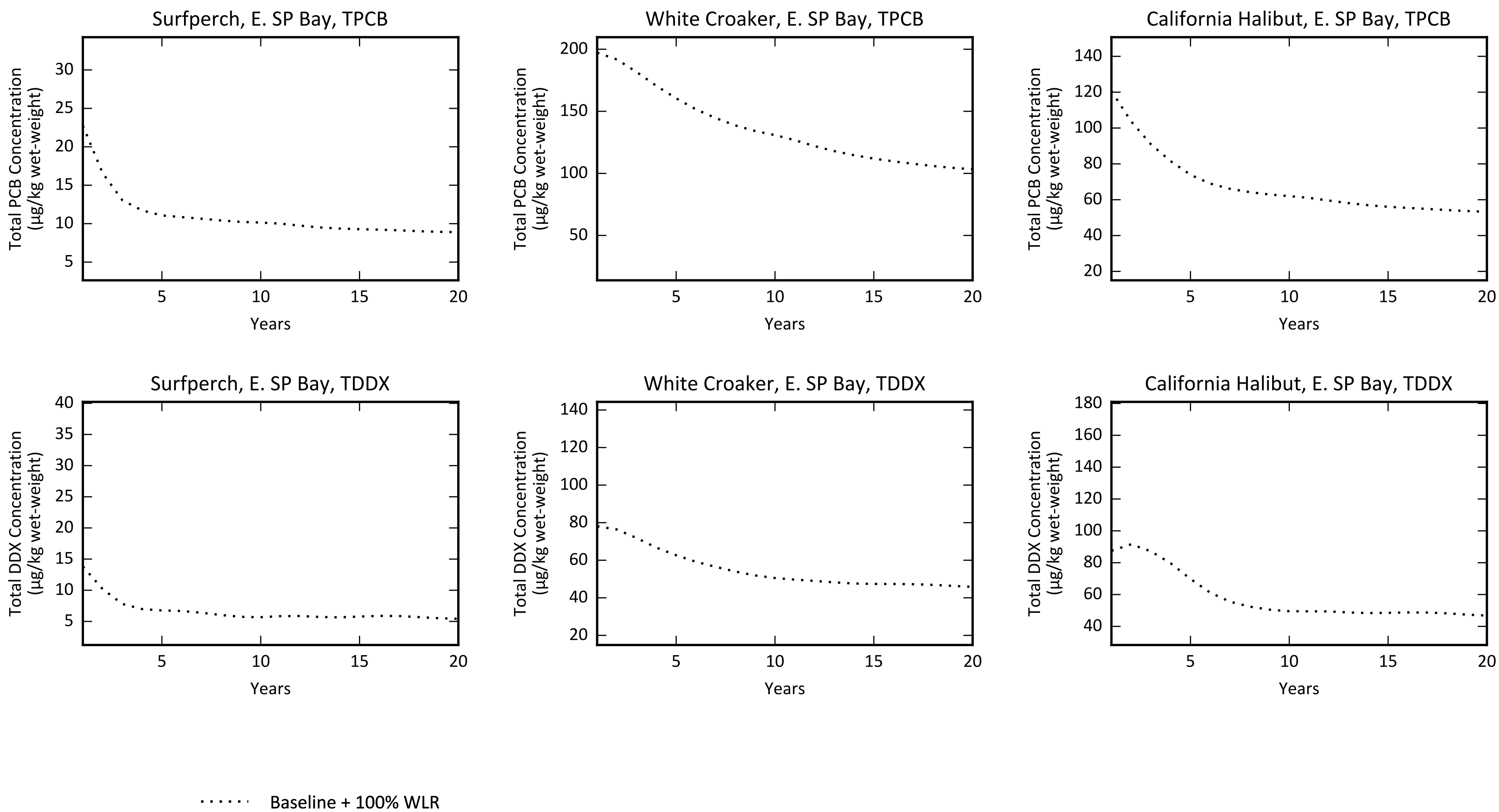
Figure B-3j
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR in LARE



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1712 and biota files v.1755 used for model.

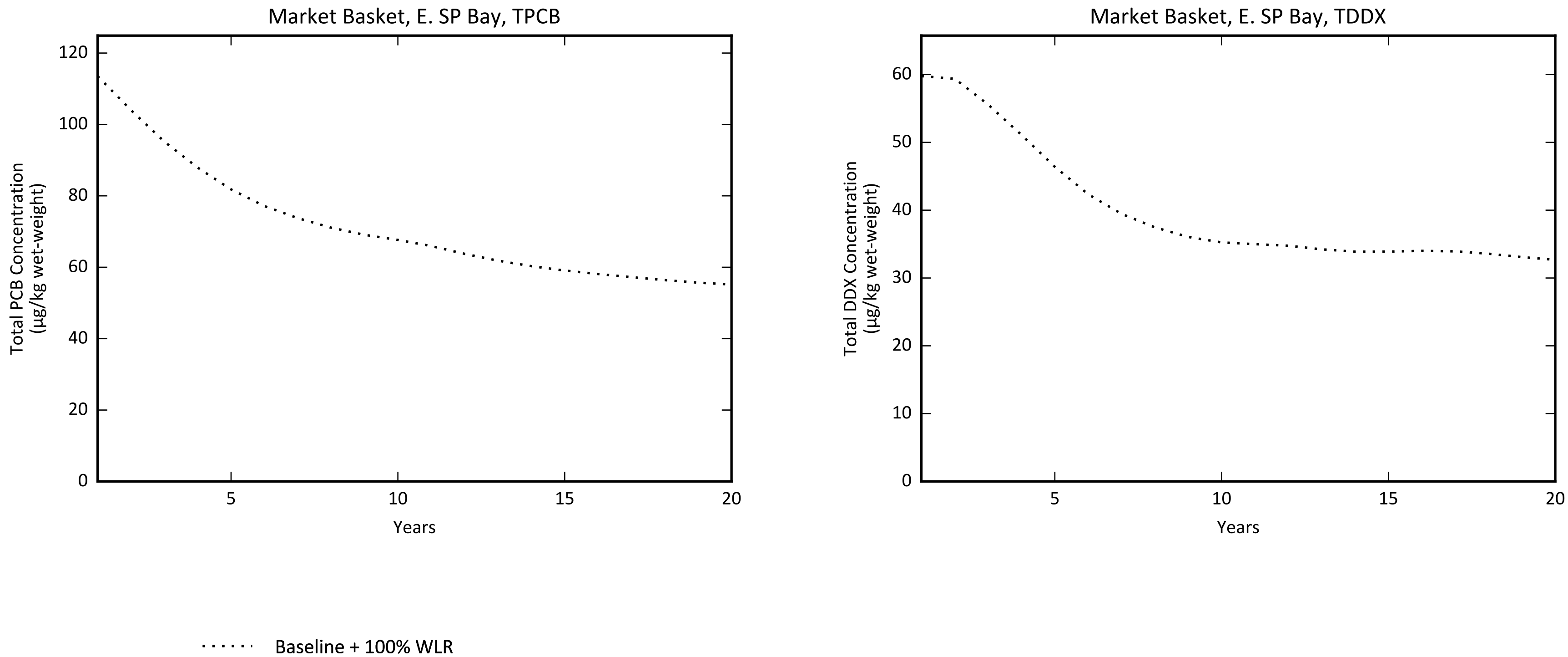
Publish Date: 07/26/2018 17:31 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

Figure B-3j
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR in LARE



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1712 and biota files v.1755 used for model.

Figure B-3k
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR in E. SP Bay

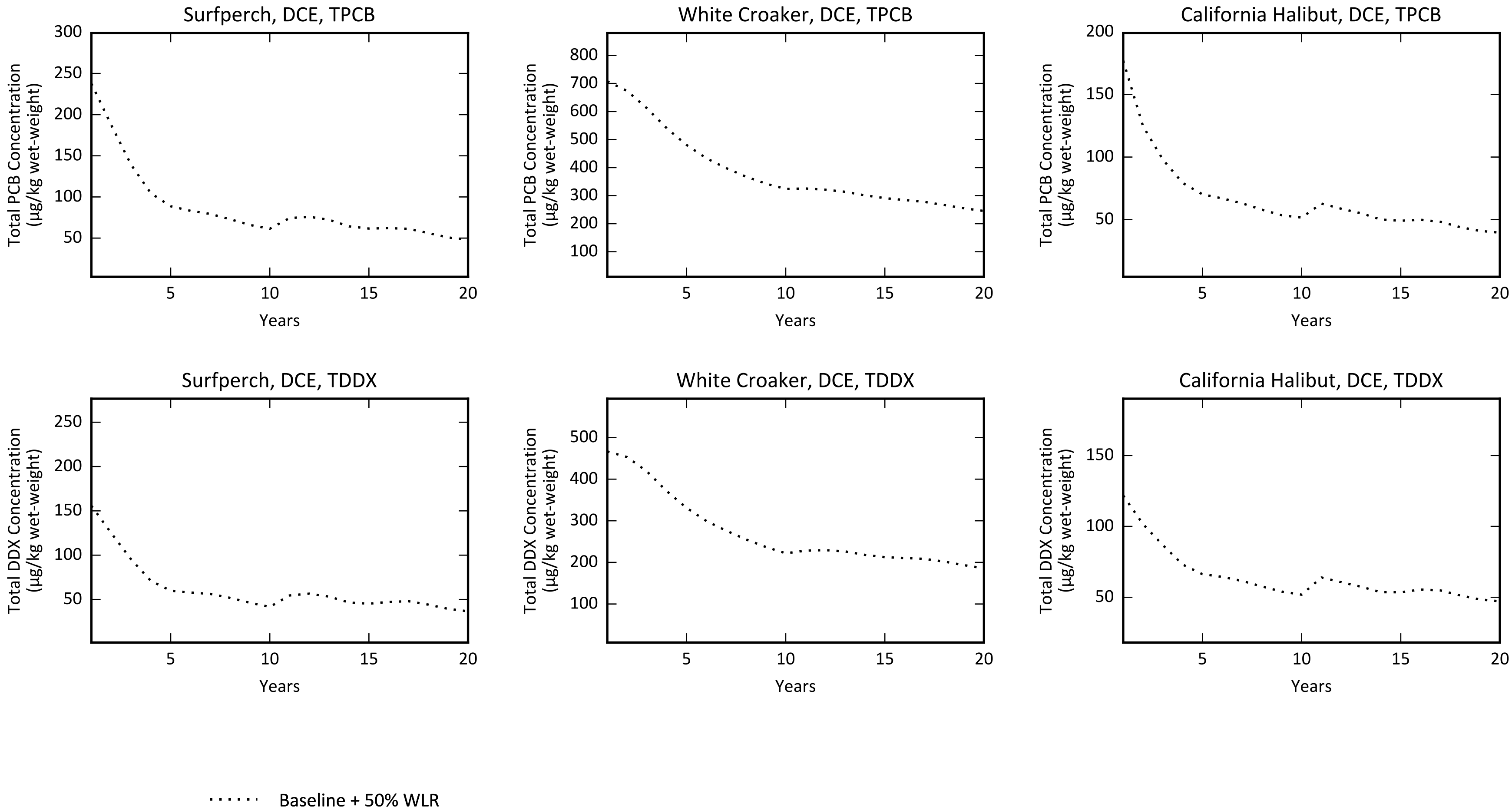


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1712 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:31 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-3k
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR in E. SP Bay
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1715 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:30 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

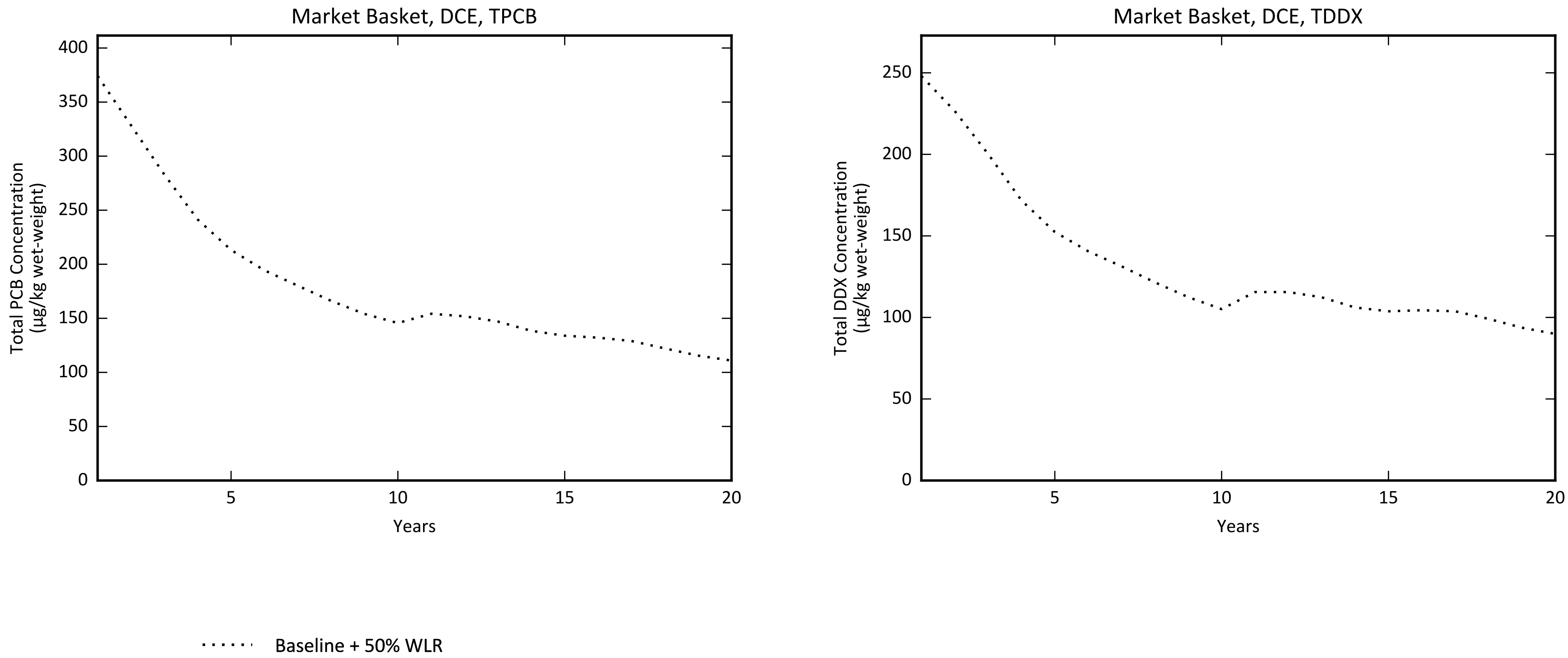
ANCHOR QEA

Figure B-4a

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR in DCE

Linked Model Data Summary Report

Greater Los Angeles and Long Beach Harbor Waters

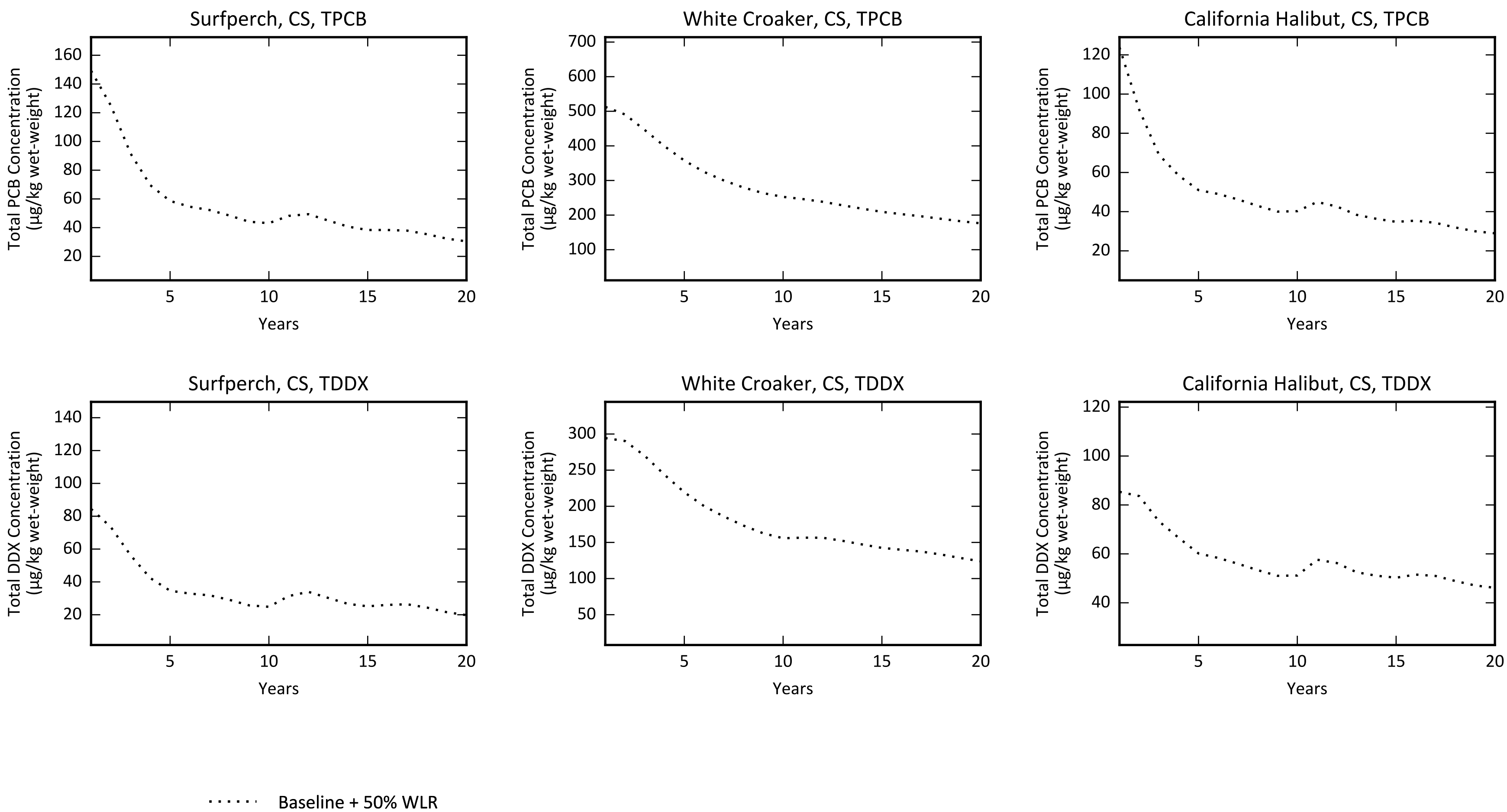


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1715 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:30 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-4a
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR in DCE

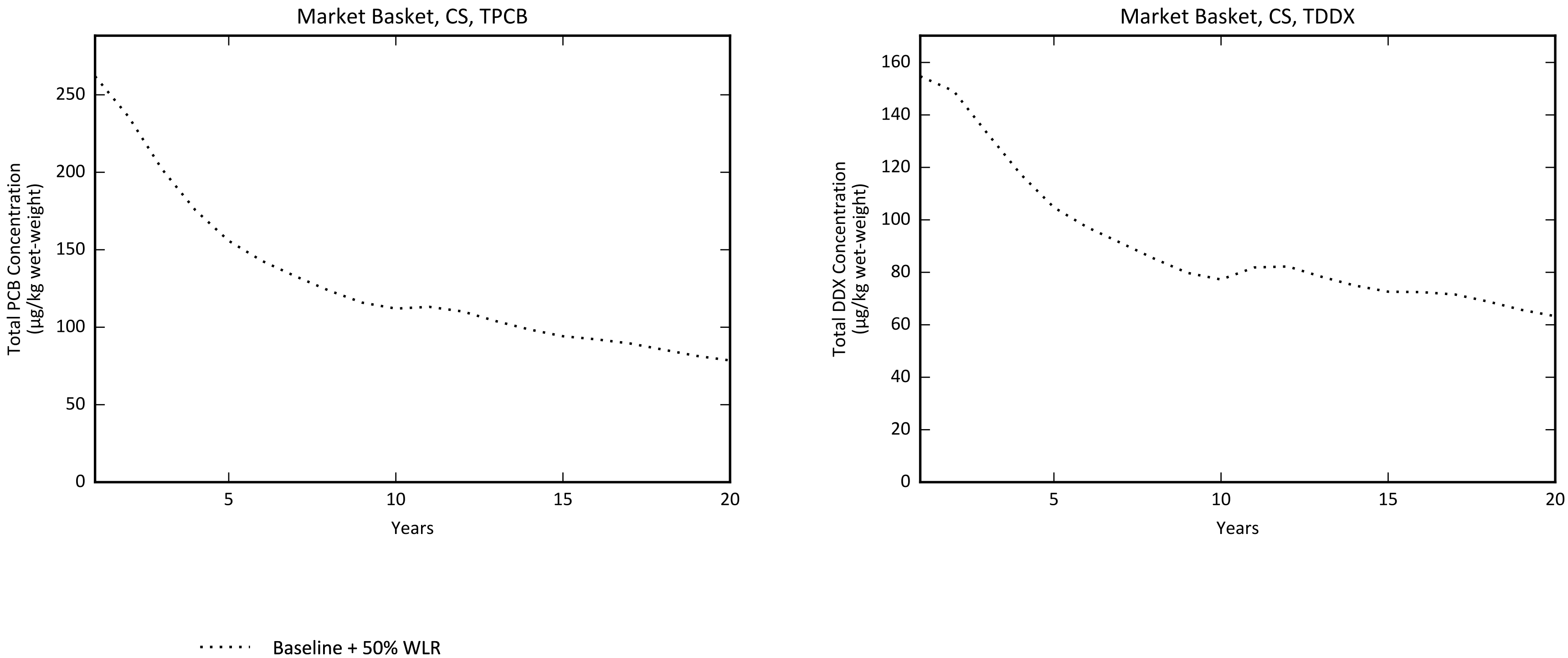


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1715 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:30 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-4b
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR in CS



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1715 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:30 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

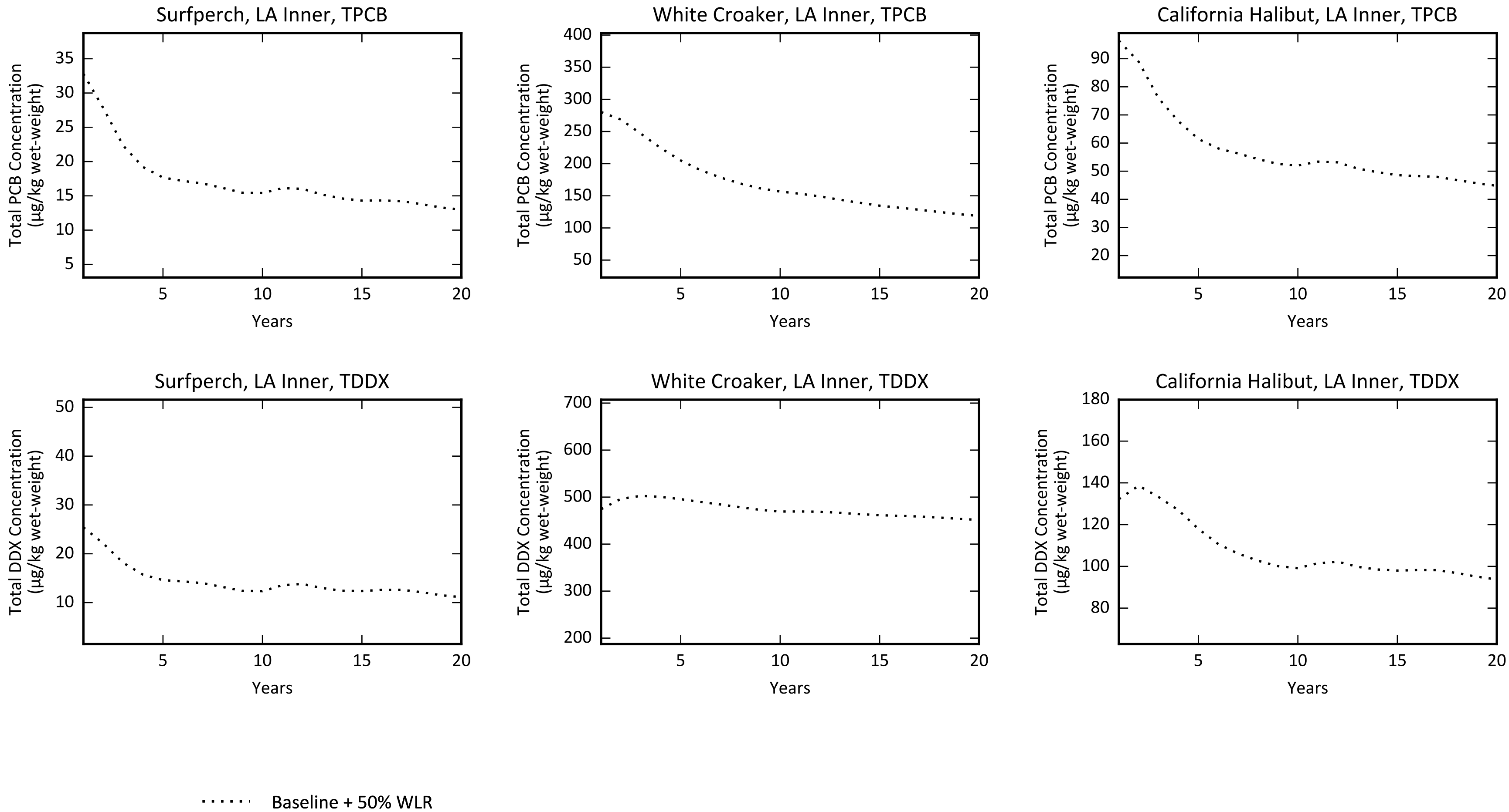
ANCHOR QEA

Figure B-4b

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR in CS

Linked Model Data Summary Report

Greater Los Angeles and Long Beach Harbor Waters

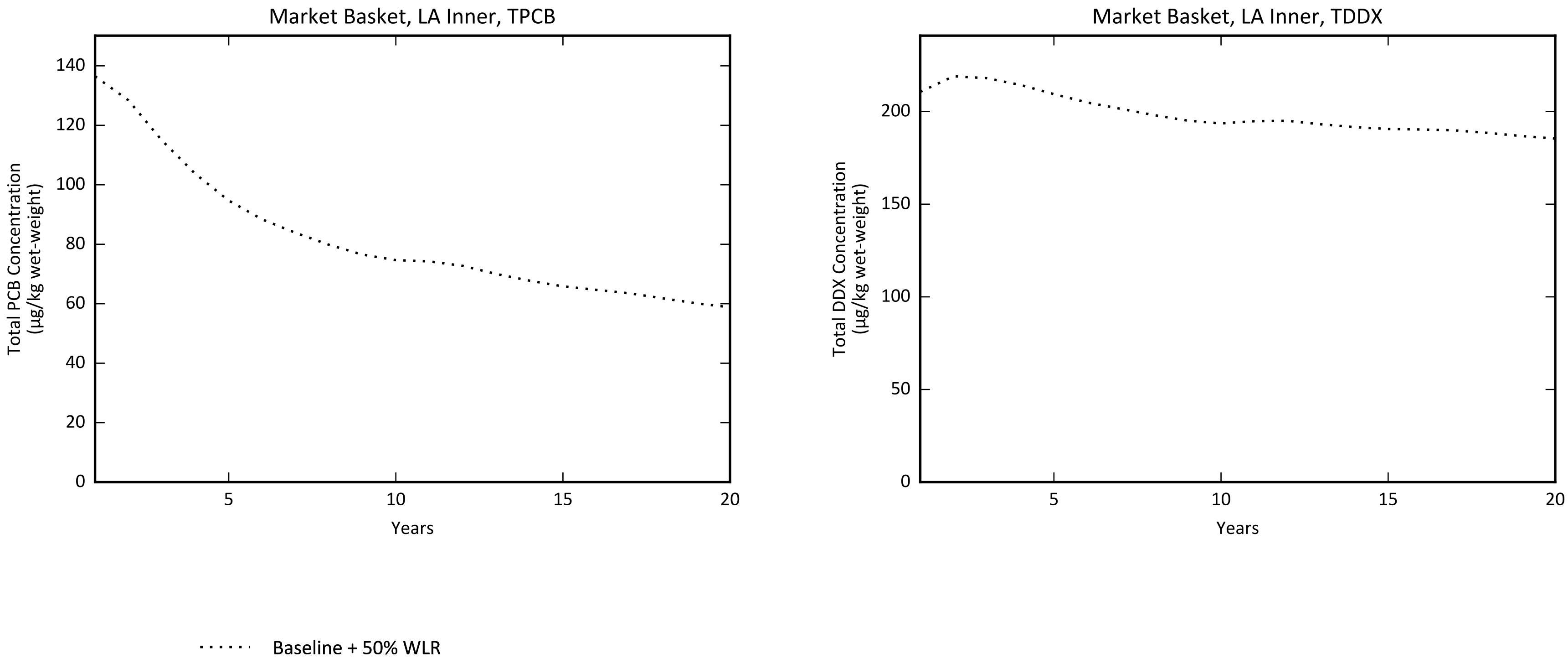


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1715 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:30 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

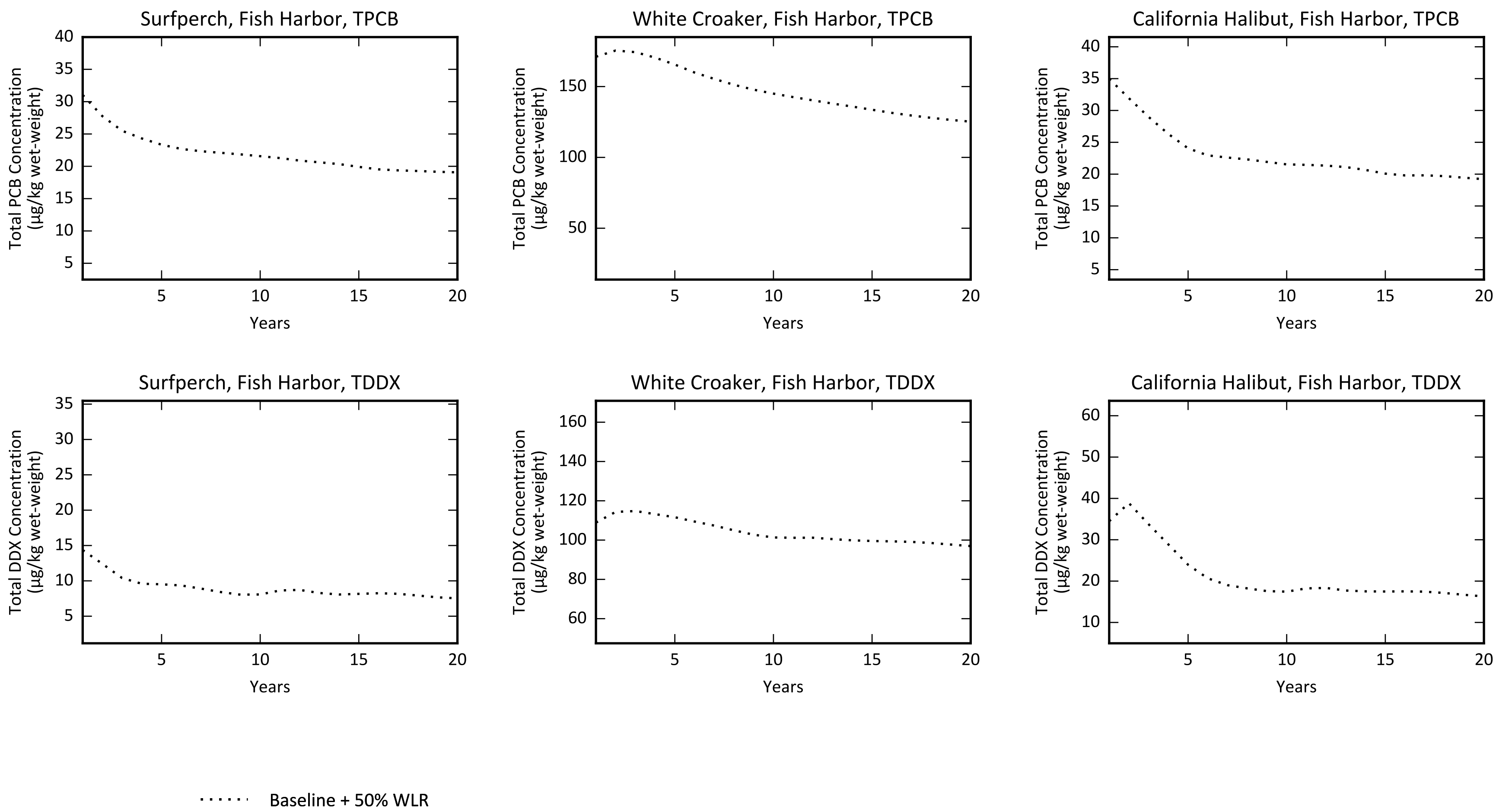
Figure B-4c
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR in LA Inner



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1715 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:30 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

Figure B-4c
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR in LA Inner

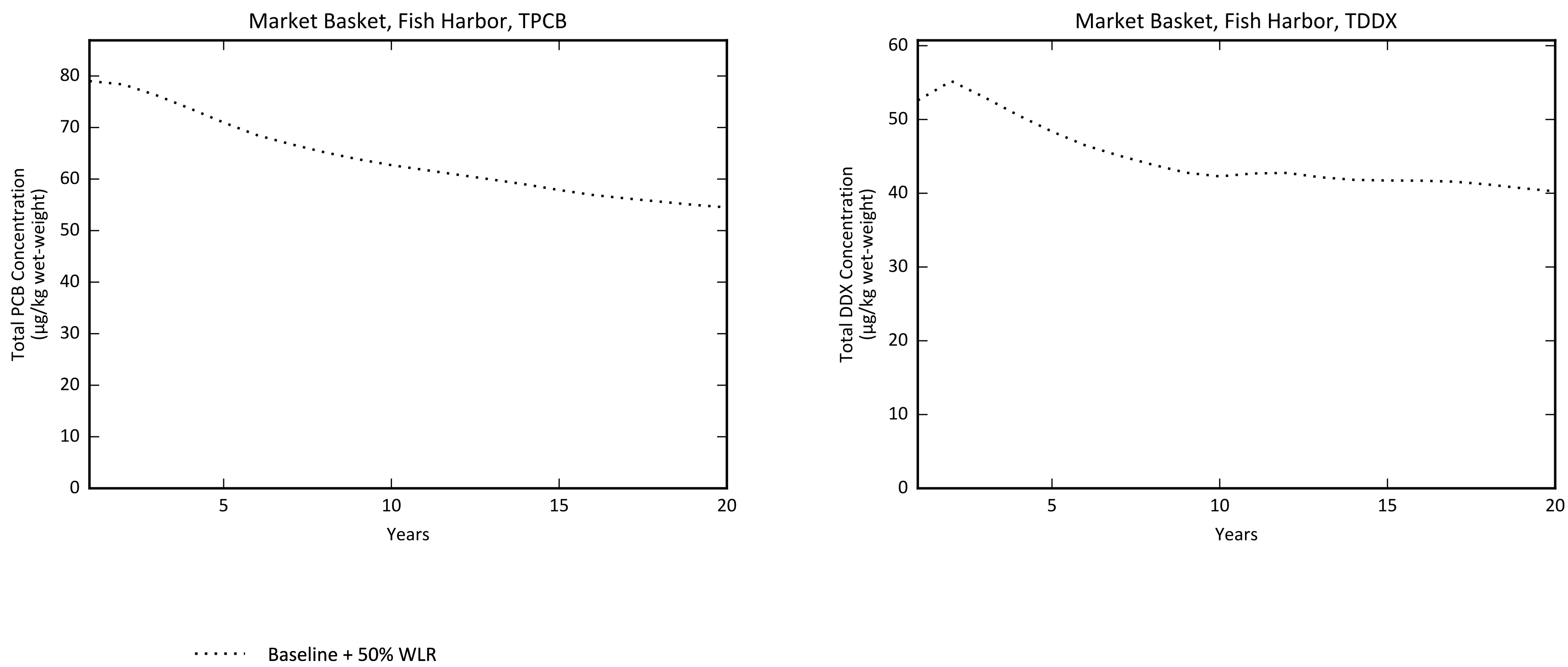


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1715 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:30 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-4d
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR in Fish Harbor
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



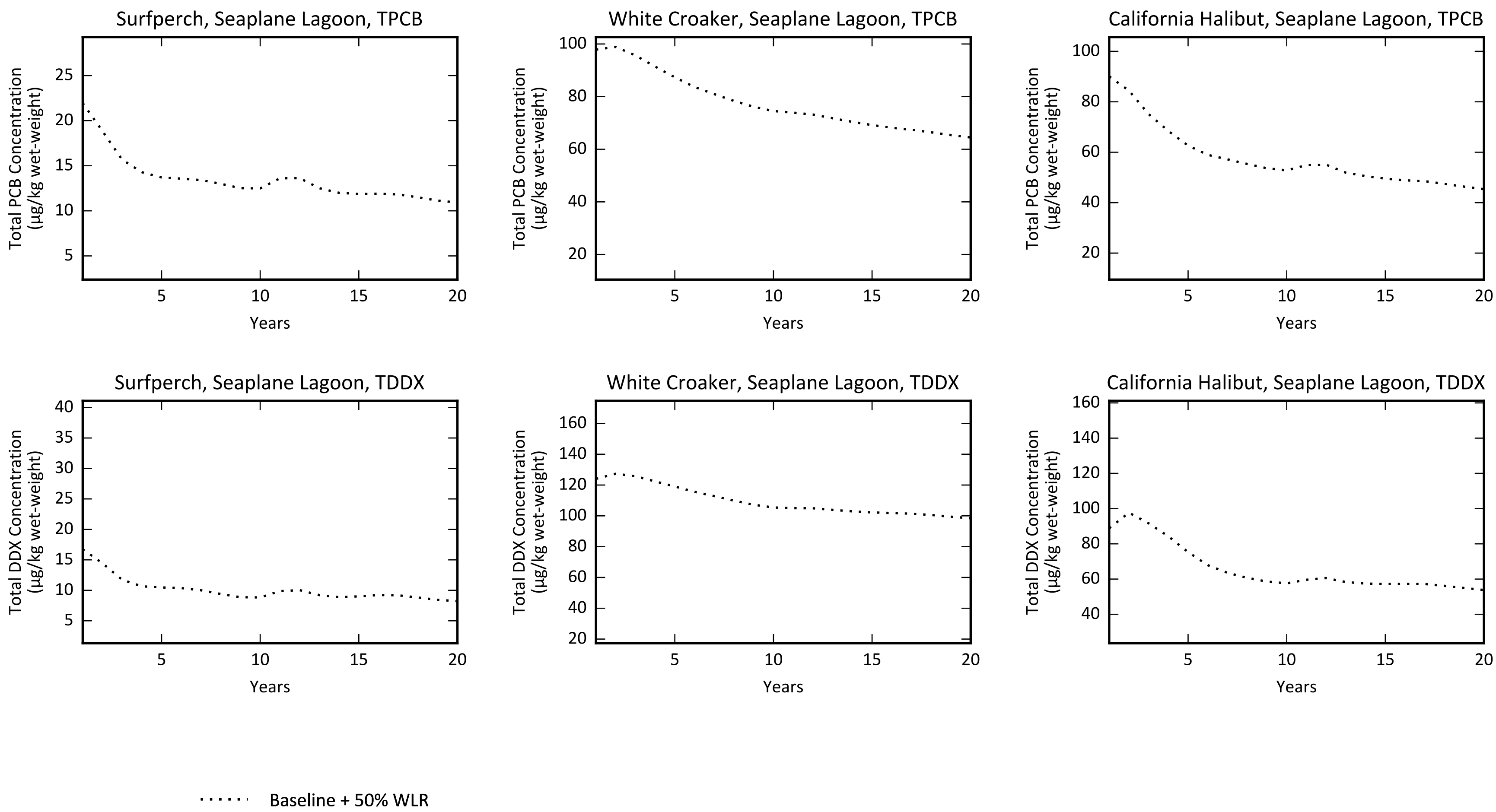
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1715 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:30 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-4d

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR in Fish Harbor



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1715 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:30 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

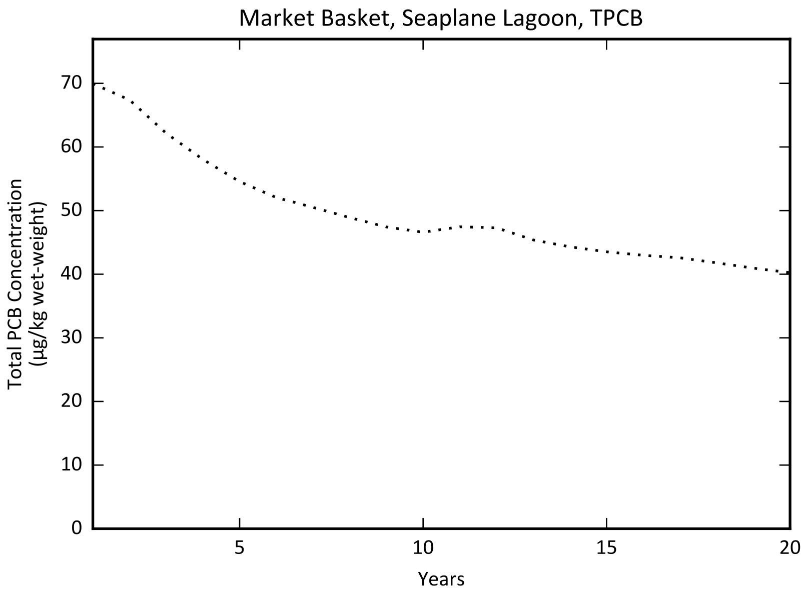
ANCHOR QEA

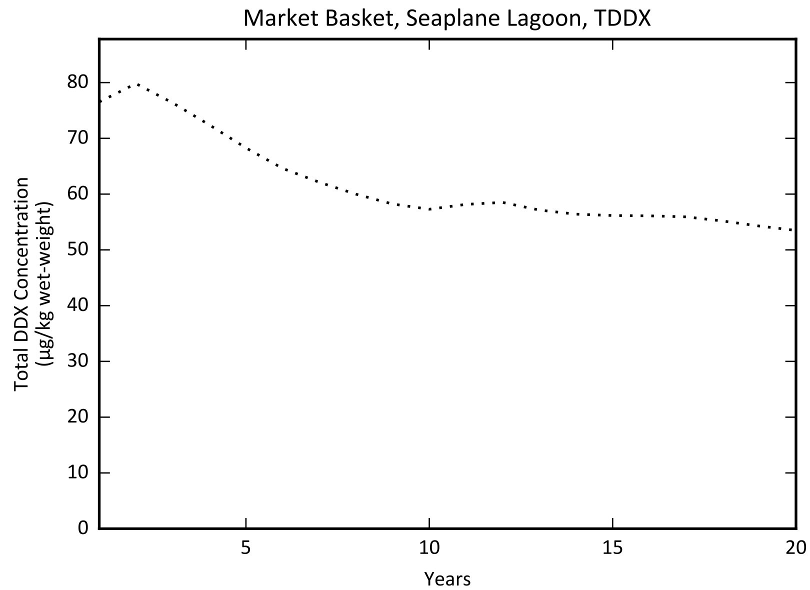
Figure B-4e

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR in Seaplane Lagoon

Linked Model Data Summary Report

Greater Los Angeles and Long Beach Harbor Waters



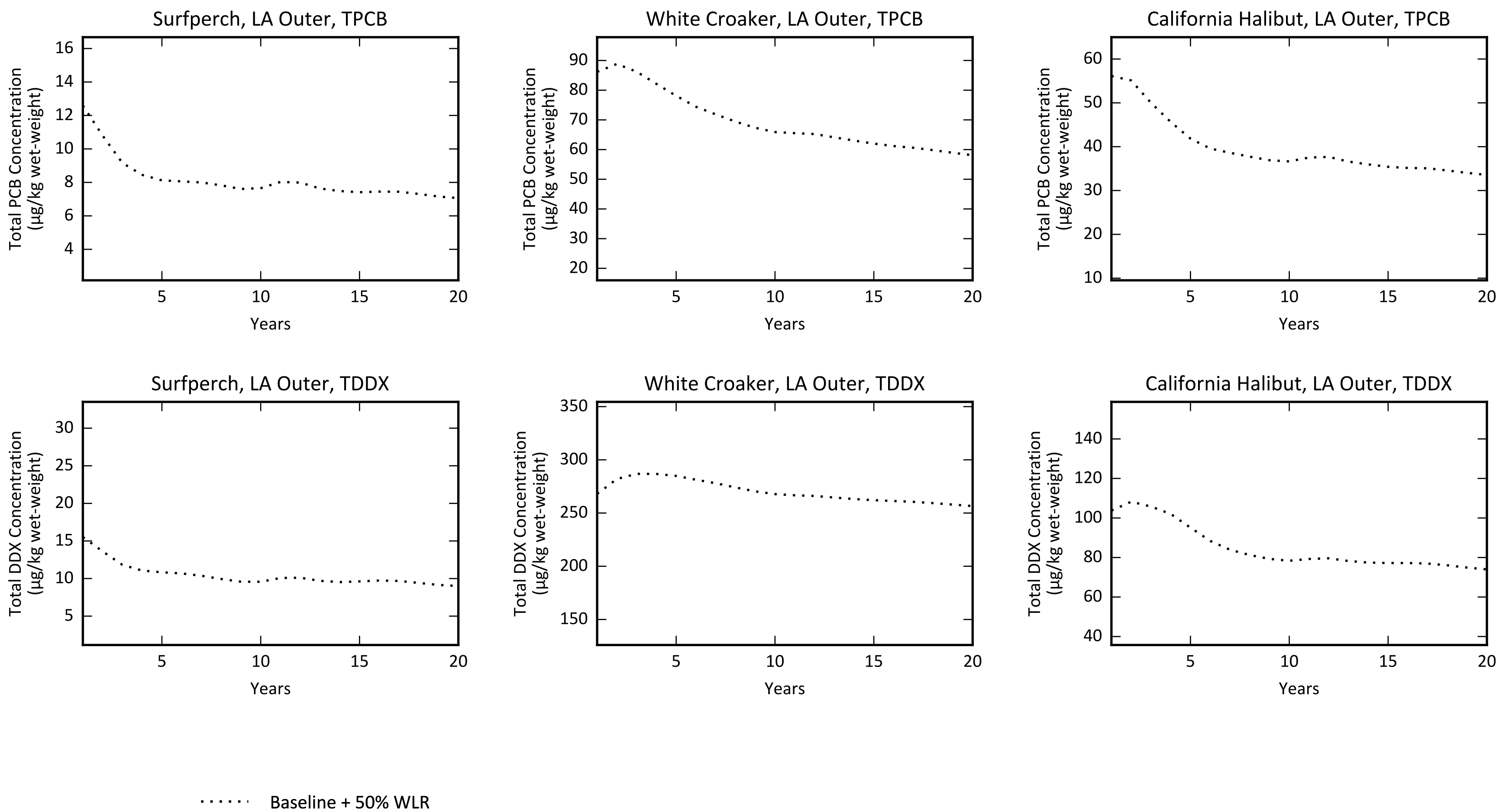


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1715 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:30 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-4e
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR in Seaplane Lagoon

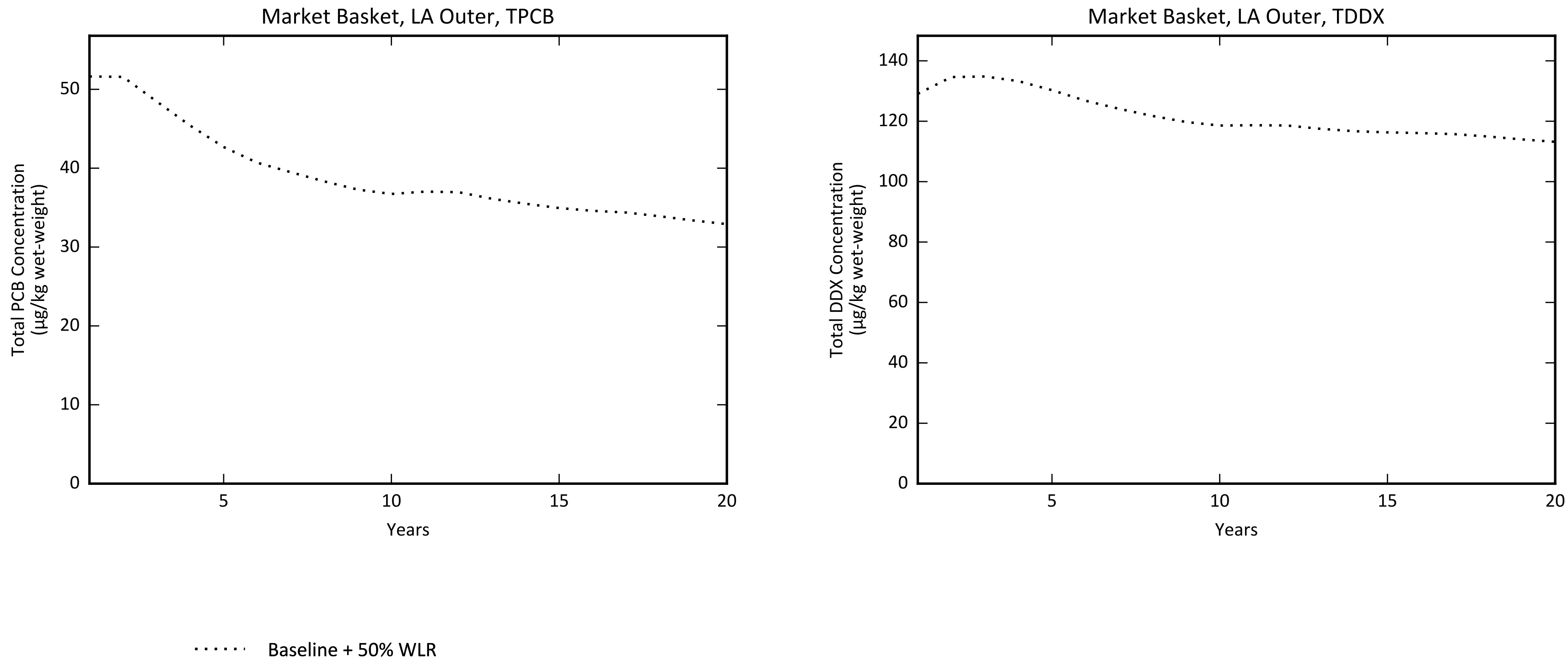


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes. In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1715 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:30 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-4f
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR in LA Outer

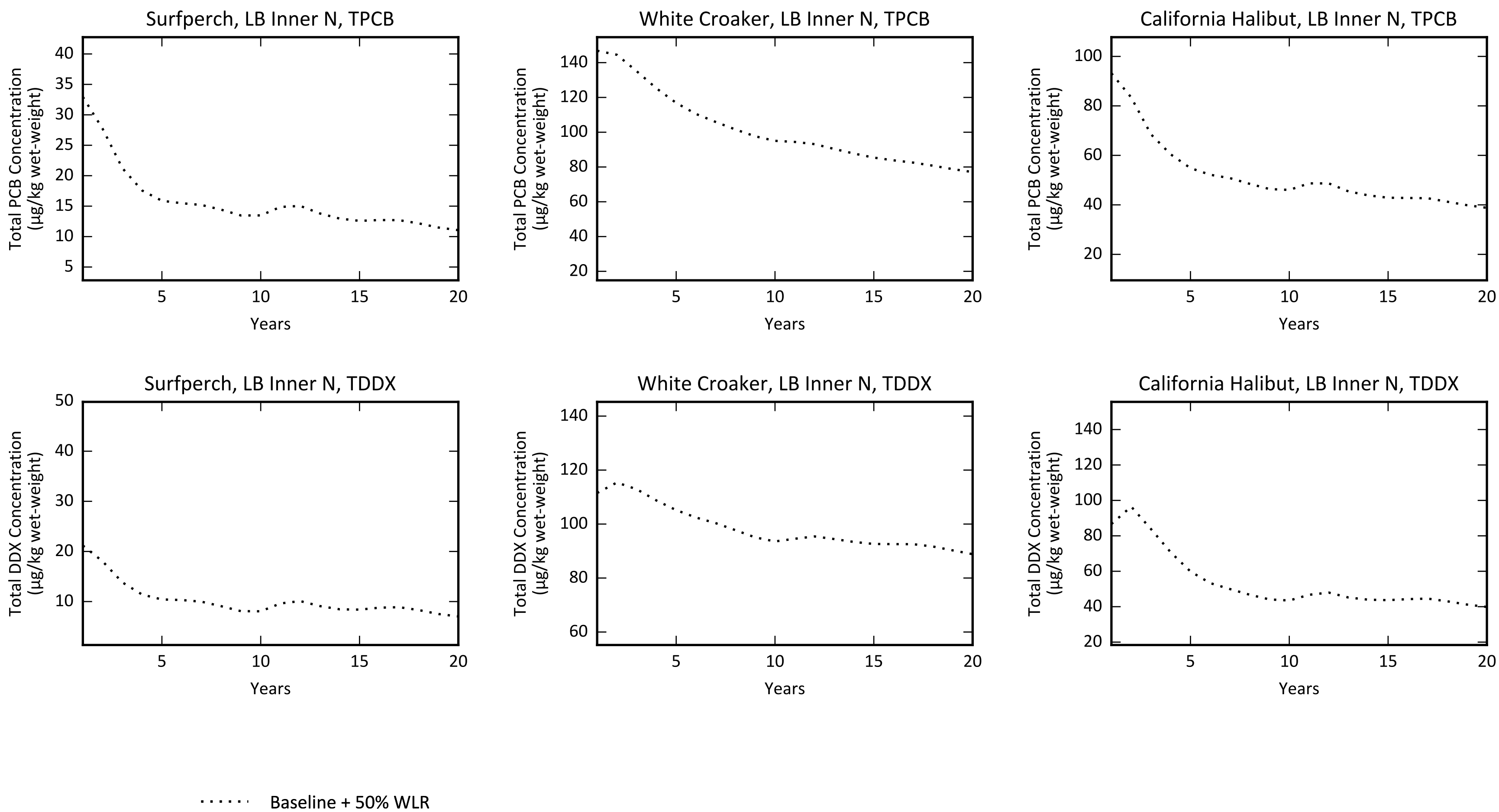


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1715 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:30 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-4f
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR in LA Outer
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

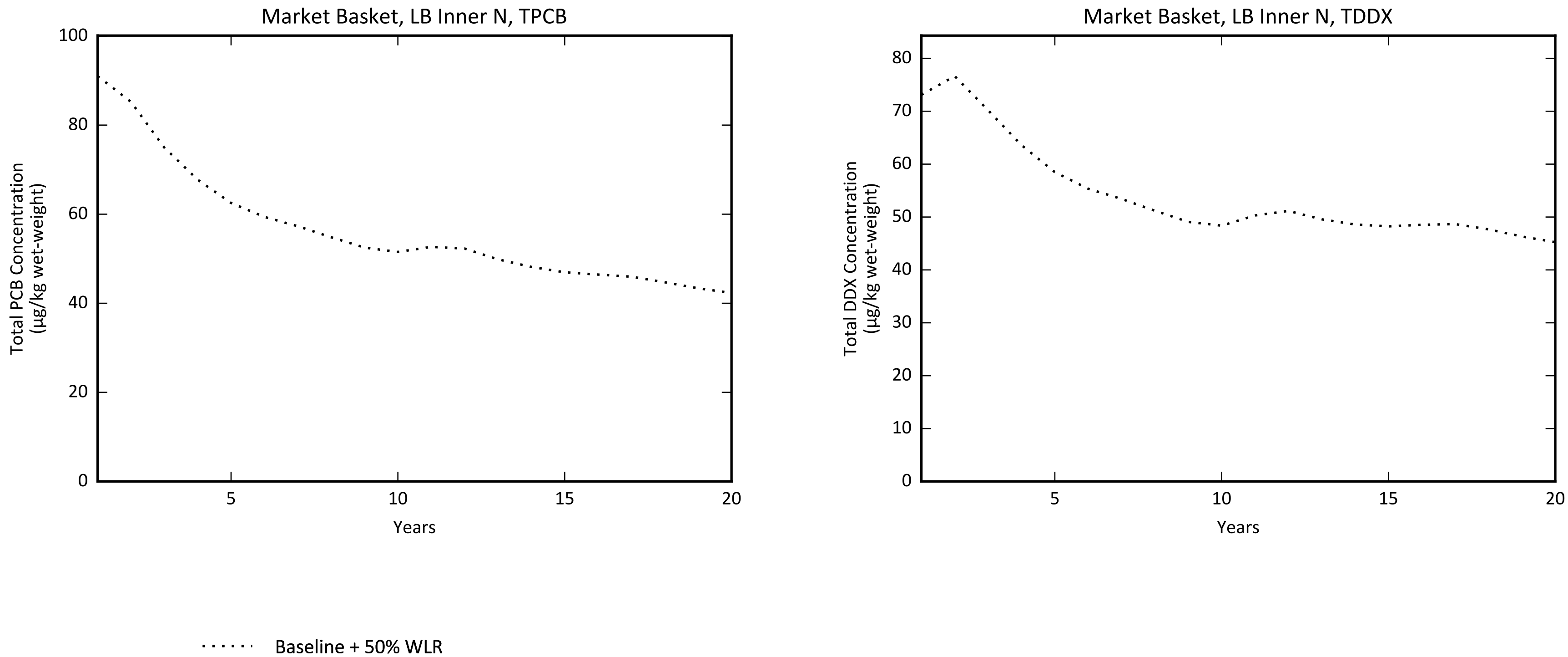


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1715 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:30 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

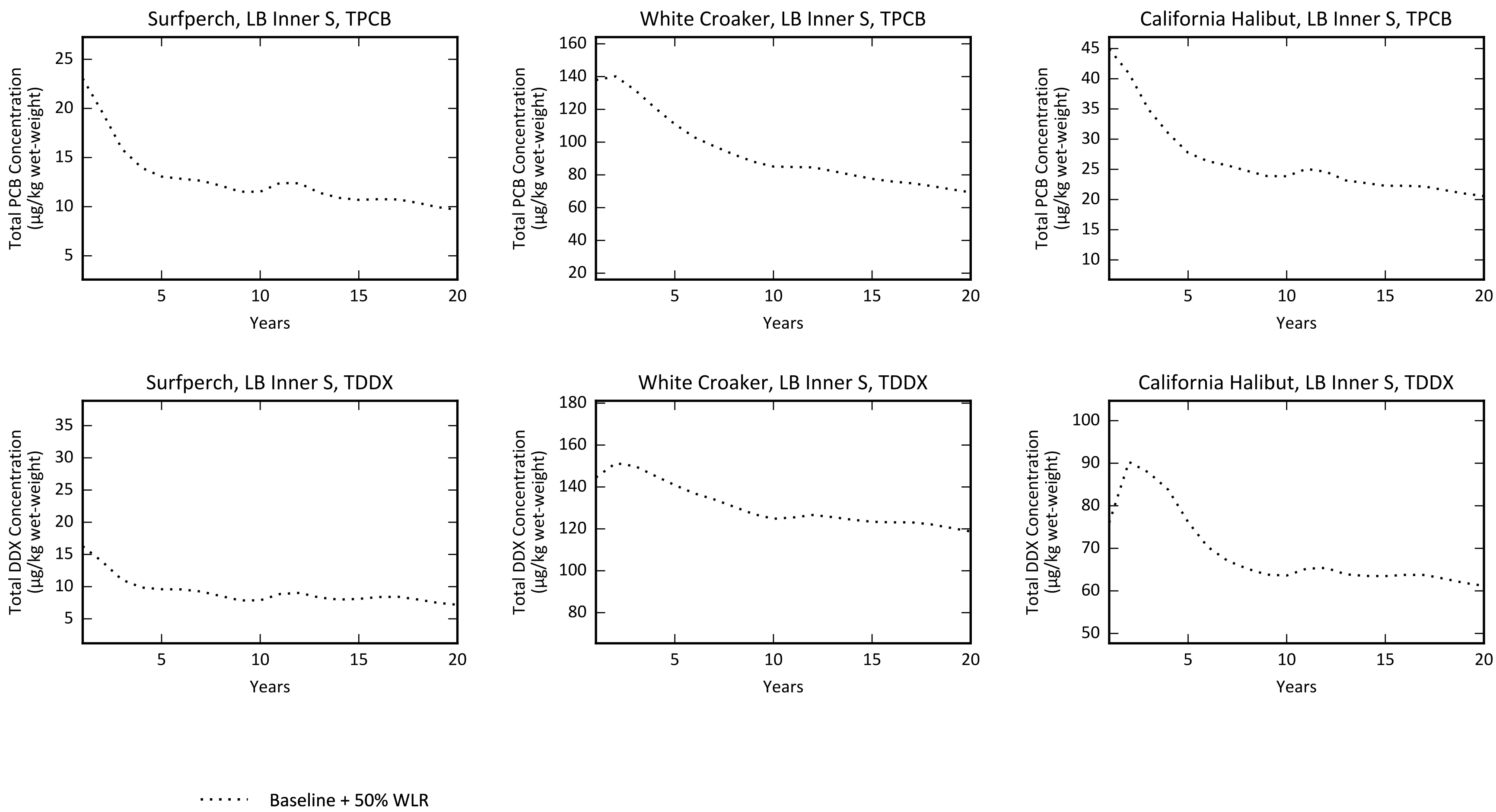
ANCHOR QEA

Figure B-4g
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR in LB Inner N
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1715 and biota files v.1755 used for model.

Figure B-4g
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR in LB Inner N

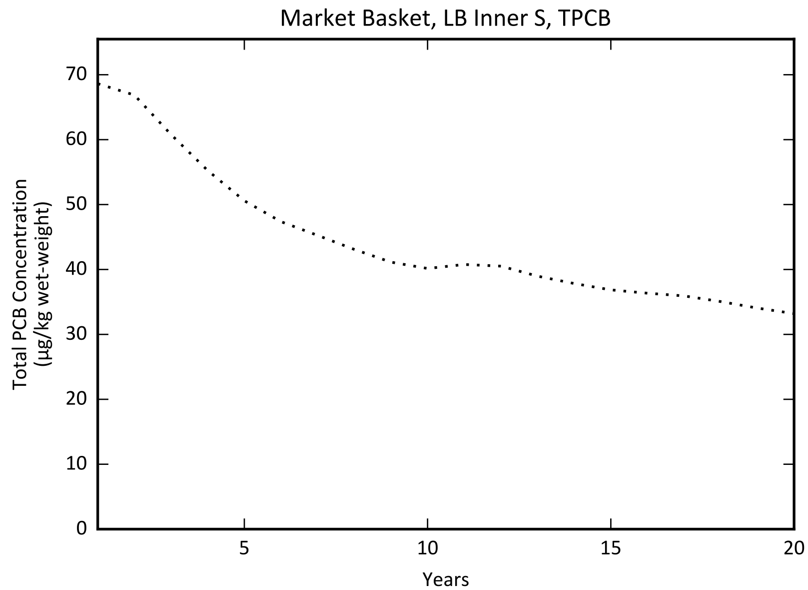


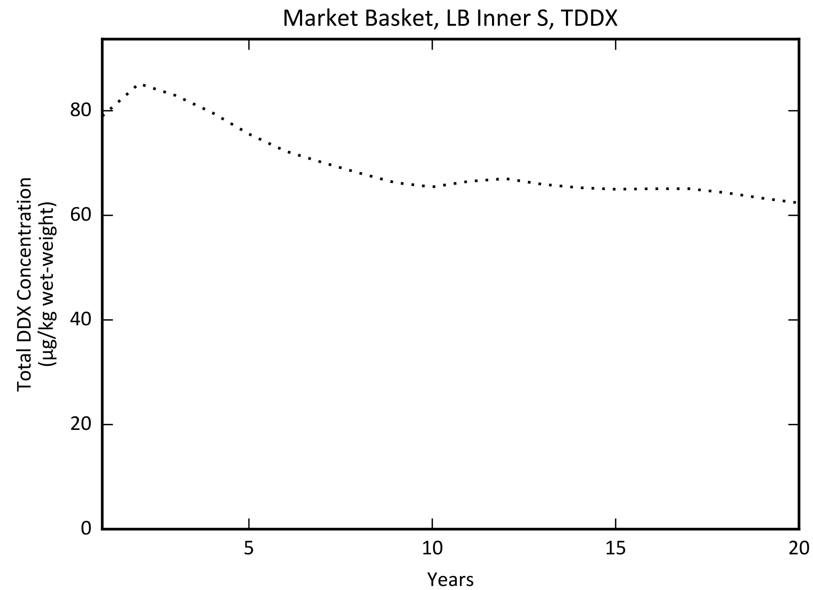
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1715 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:30 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-4h
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR in LB Inner S



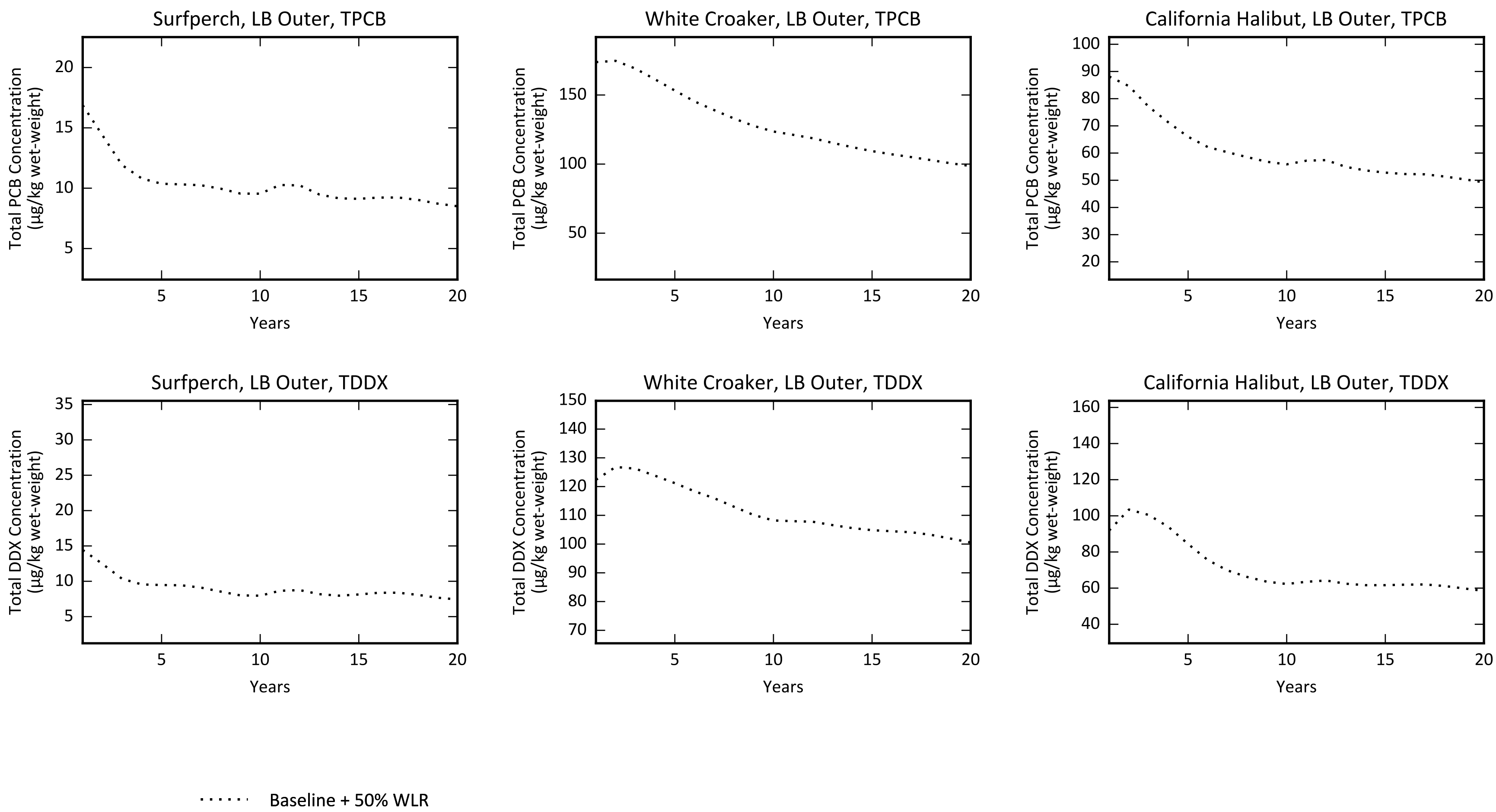


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1715 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:30 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-4h
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR in LB Inner S
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

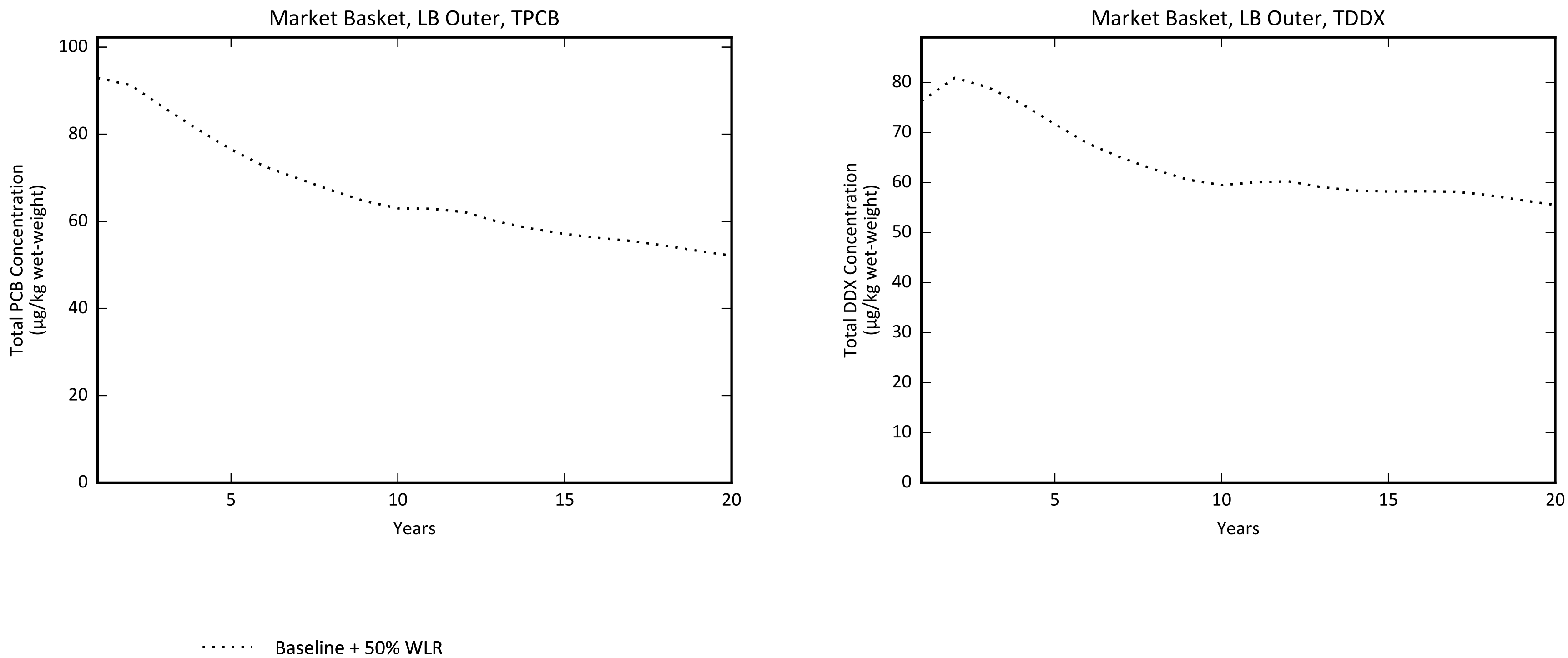


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1715 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:30 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-4i
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR in LB Outer
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

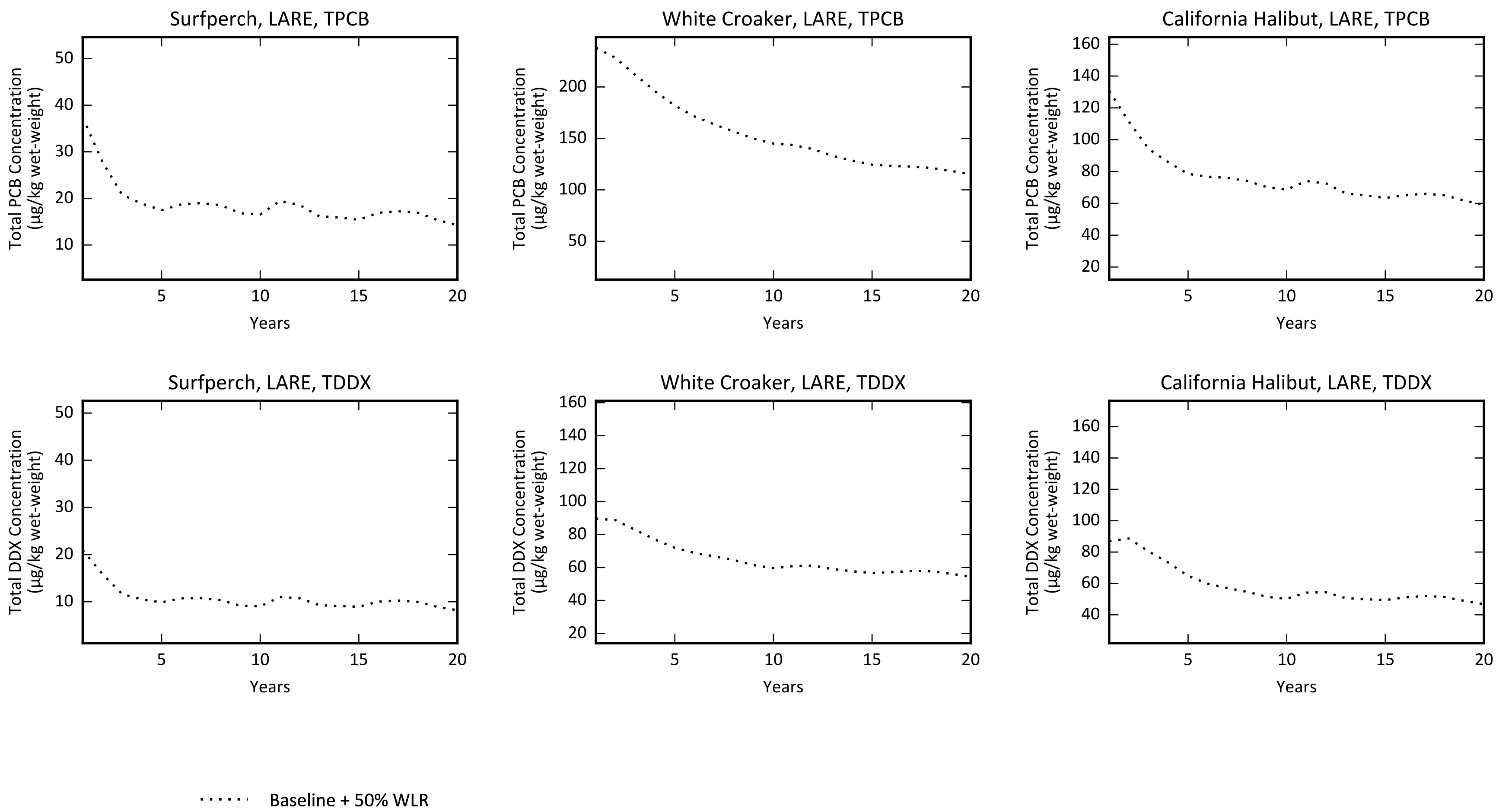


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1715 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:30 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-4i
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR in LB Outer

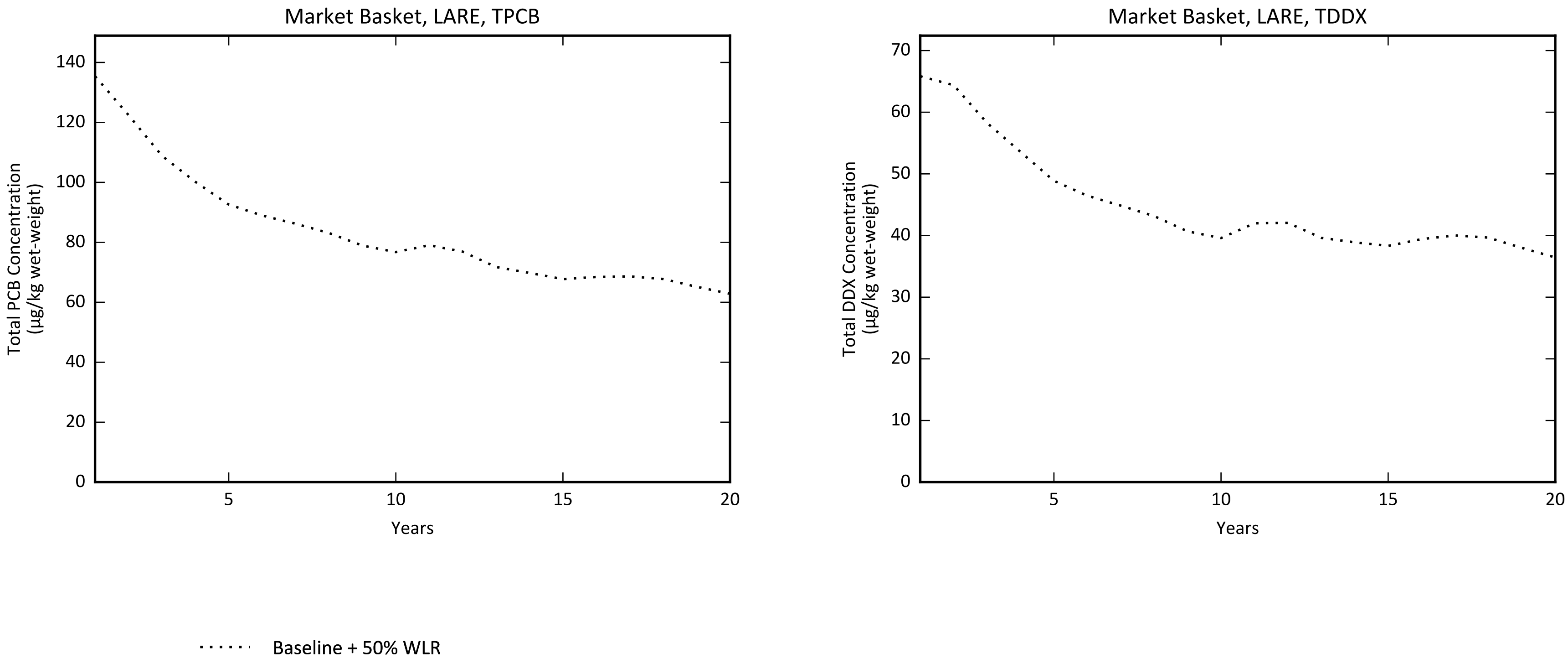


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1715 and biota files v.1755 used for model.

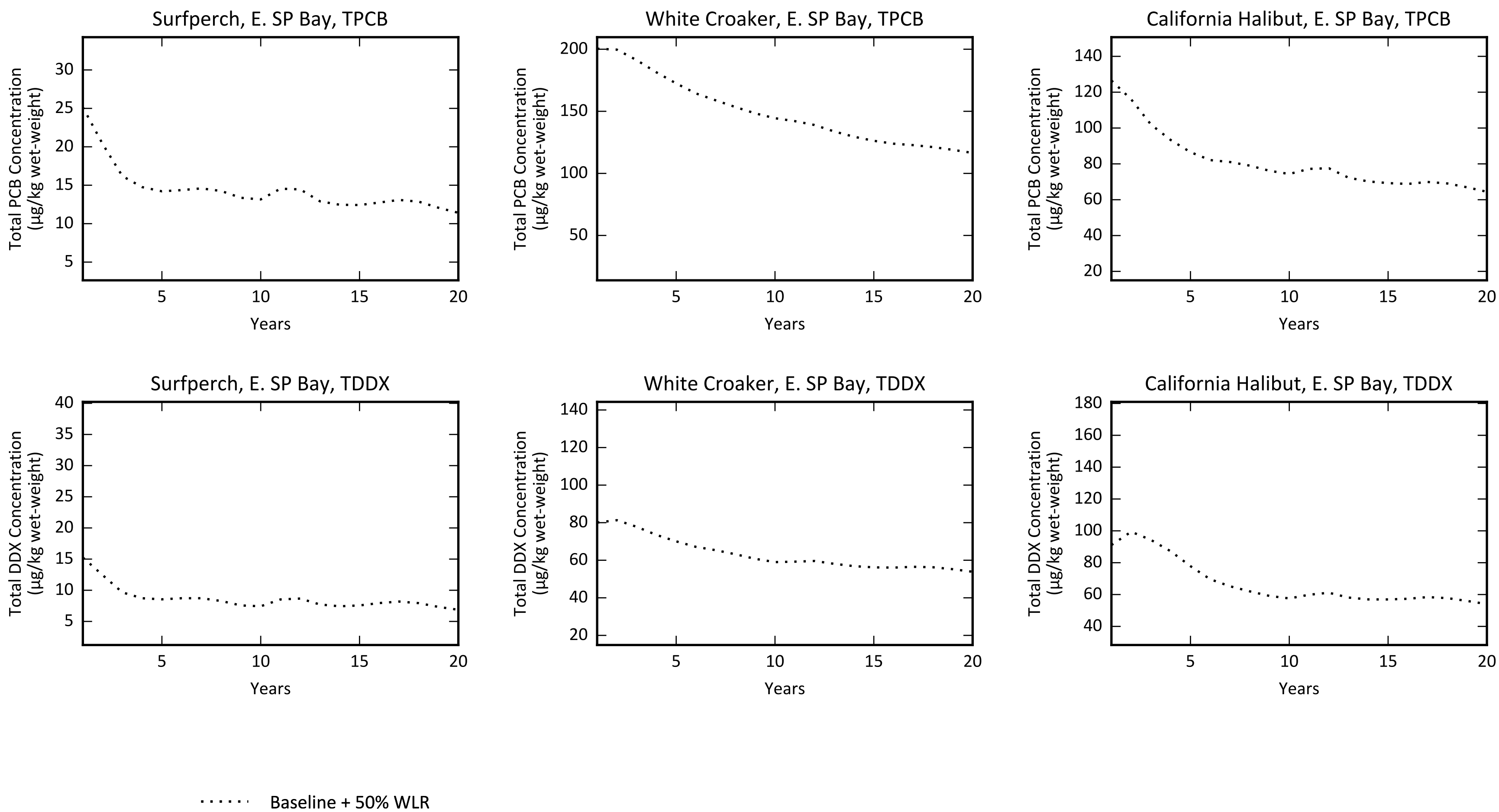
Publish Date: 07/26/2018 17:30 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-4j
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR in LARE
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1715 and biota files v.1755 used for model.

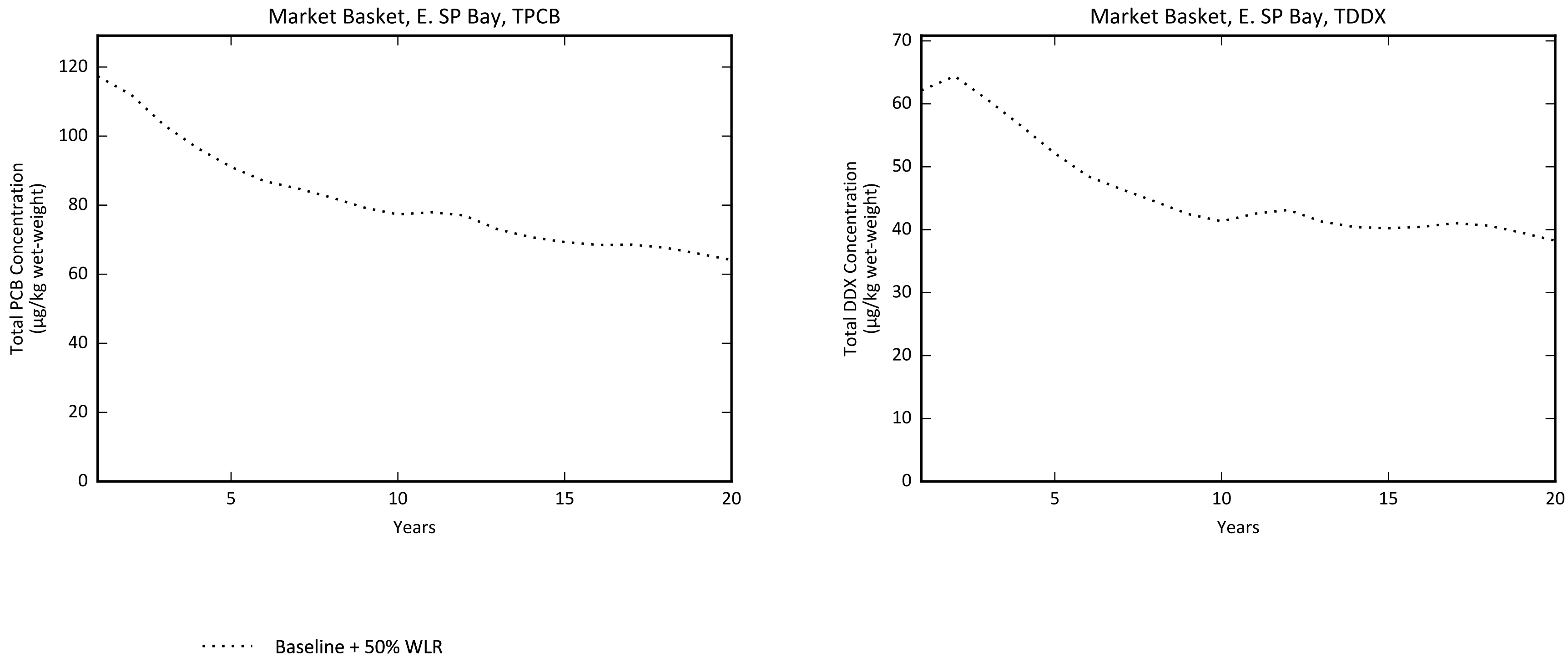


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1715 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:30 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

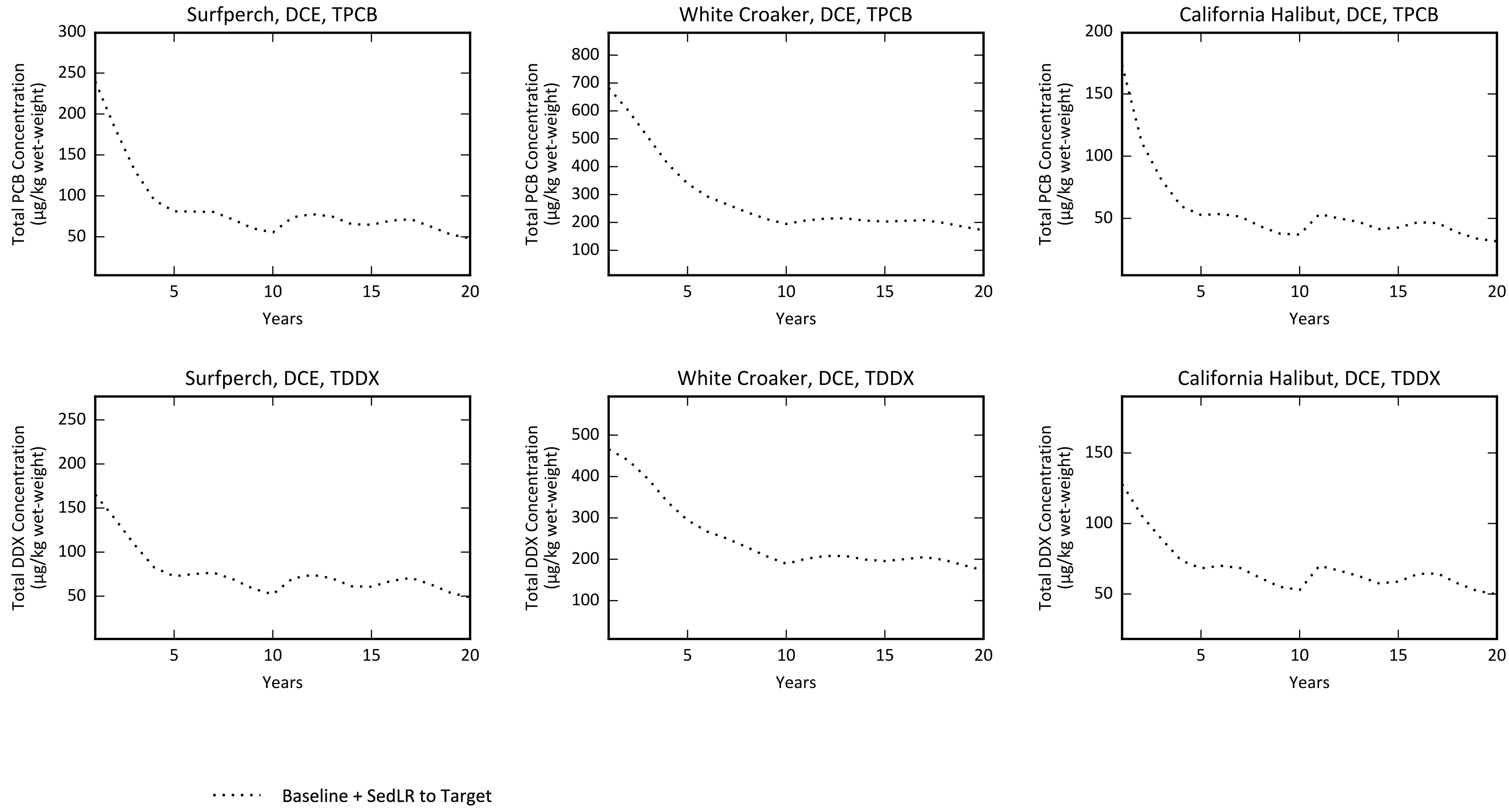
Figure B-4k
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR in E. SP Bay
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1715 and biota files v.1755 used for model.

Figure B-4k

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR in E. SP Bay

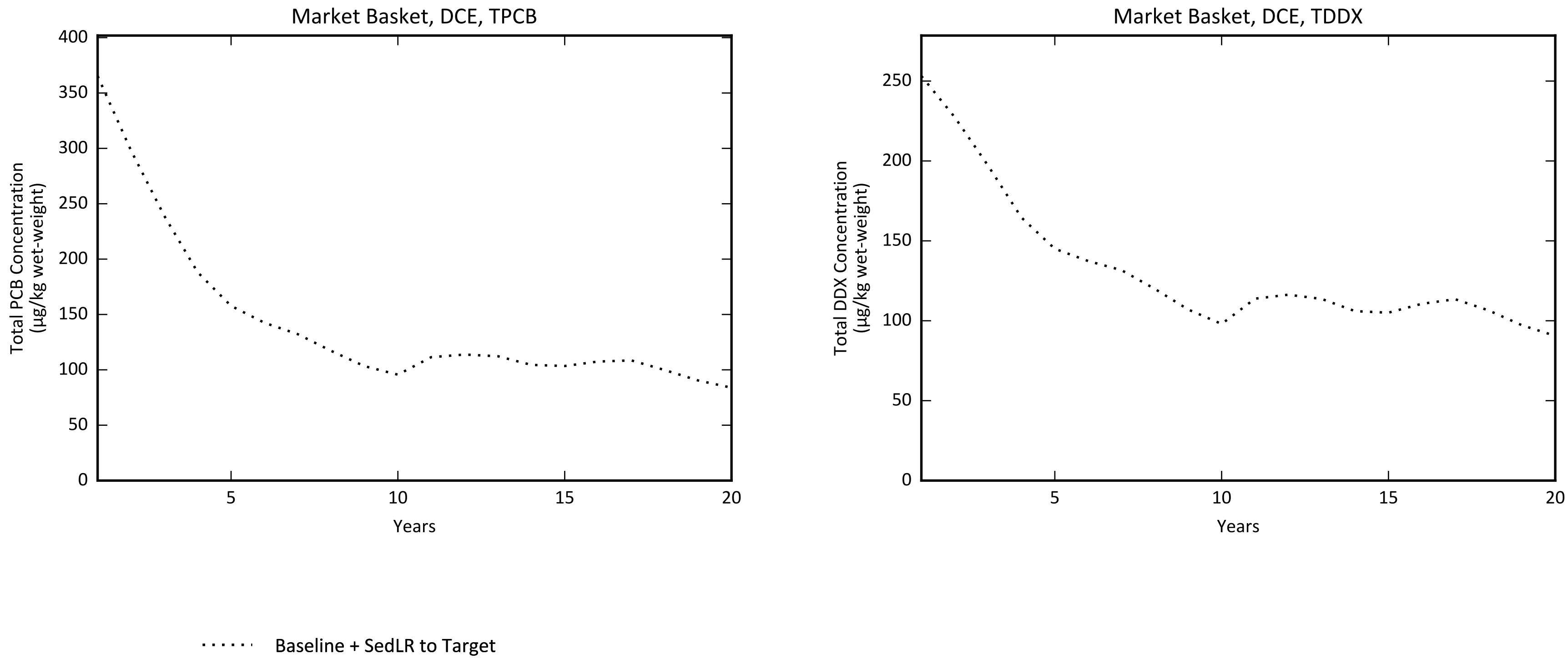


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1756 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:29 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-5a
Total PCB and DDX Concentrations in Fish over Time for Baseline + SedLR to Target in DCE



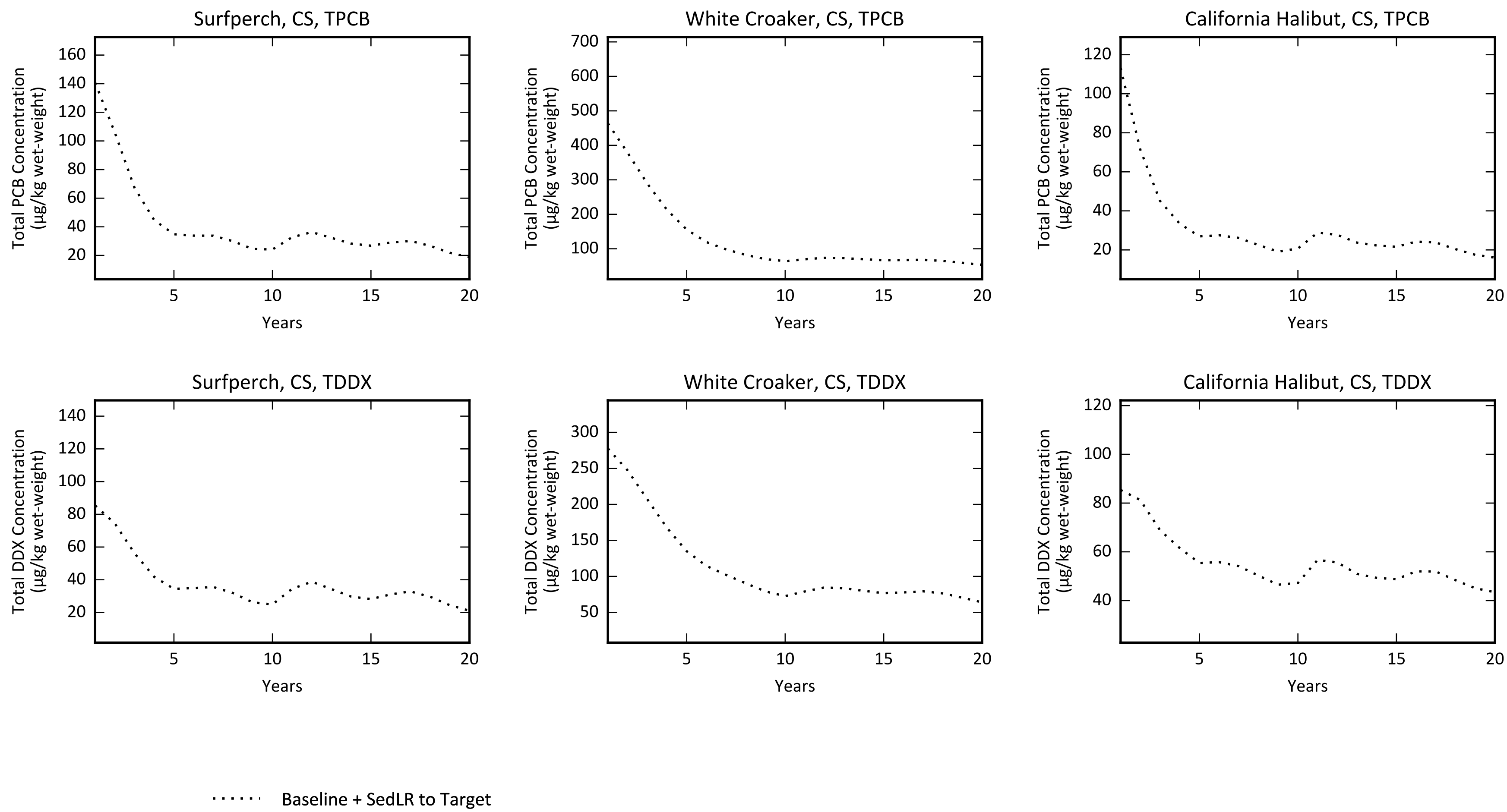
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1756 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:29 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-5a

Total PCB and DDX Concentrations in Fish over Time for Baseline + SedLR to Target in DCE

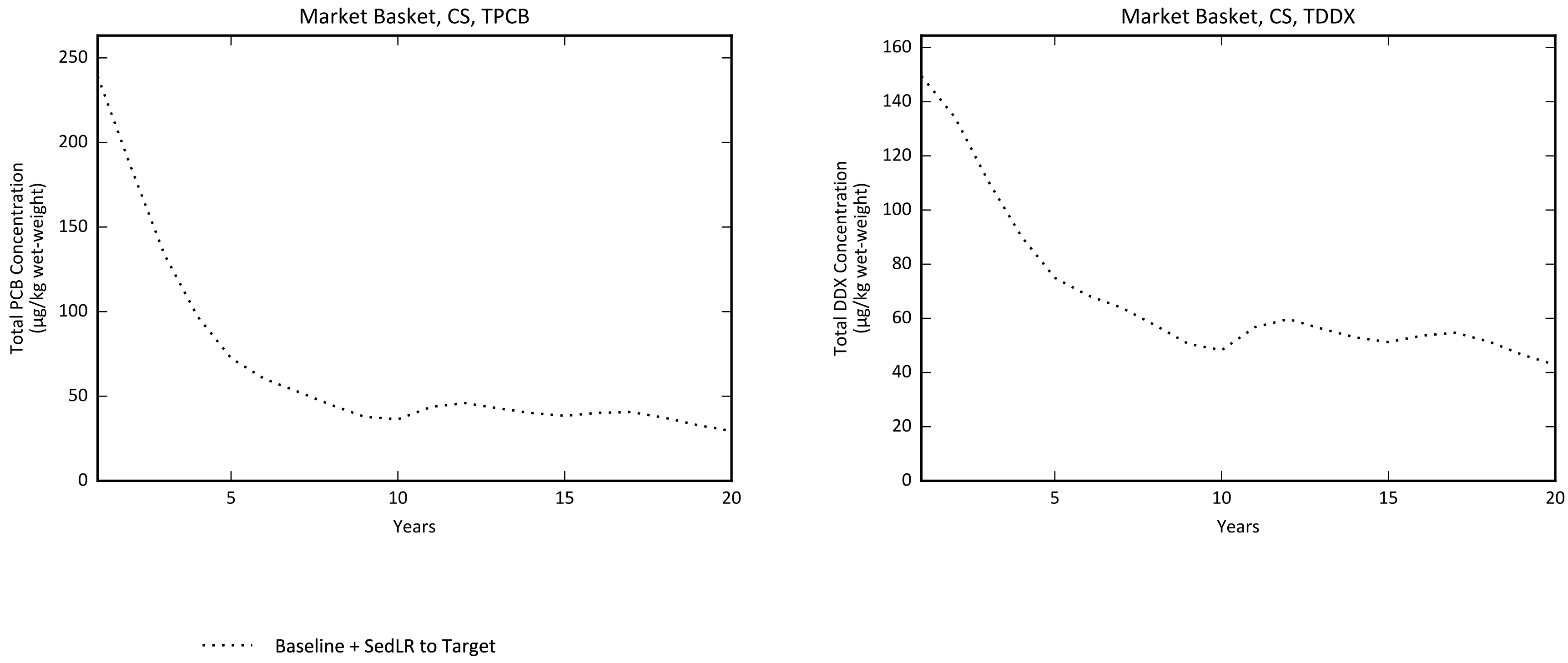


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1756 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:29 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

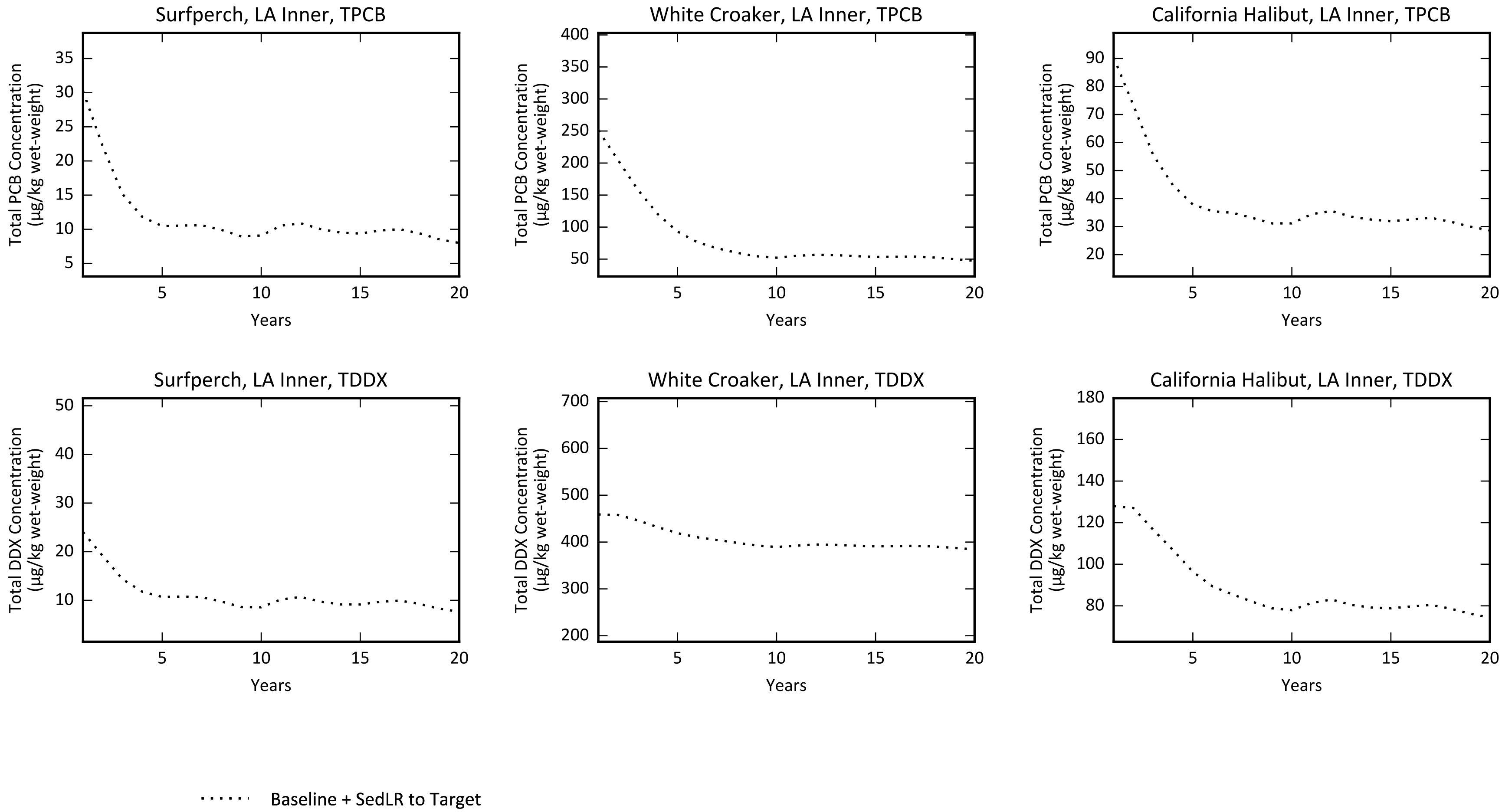
Figure B-5b

Total PCB and DDX Concentrations in Fish over Time for Baseline + SedLR to Target in CS



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1756 and biota files v.1755 used for model.

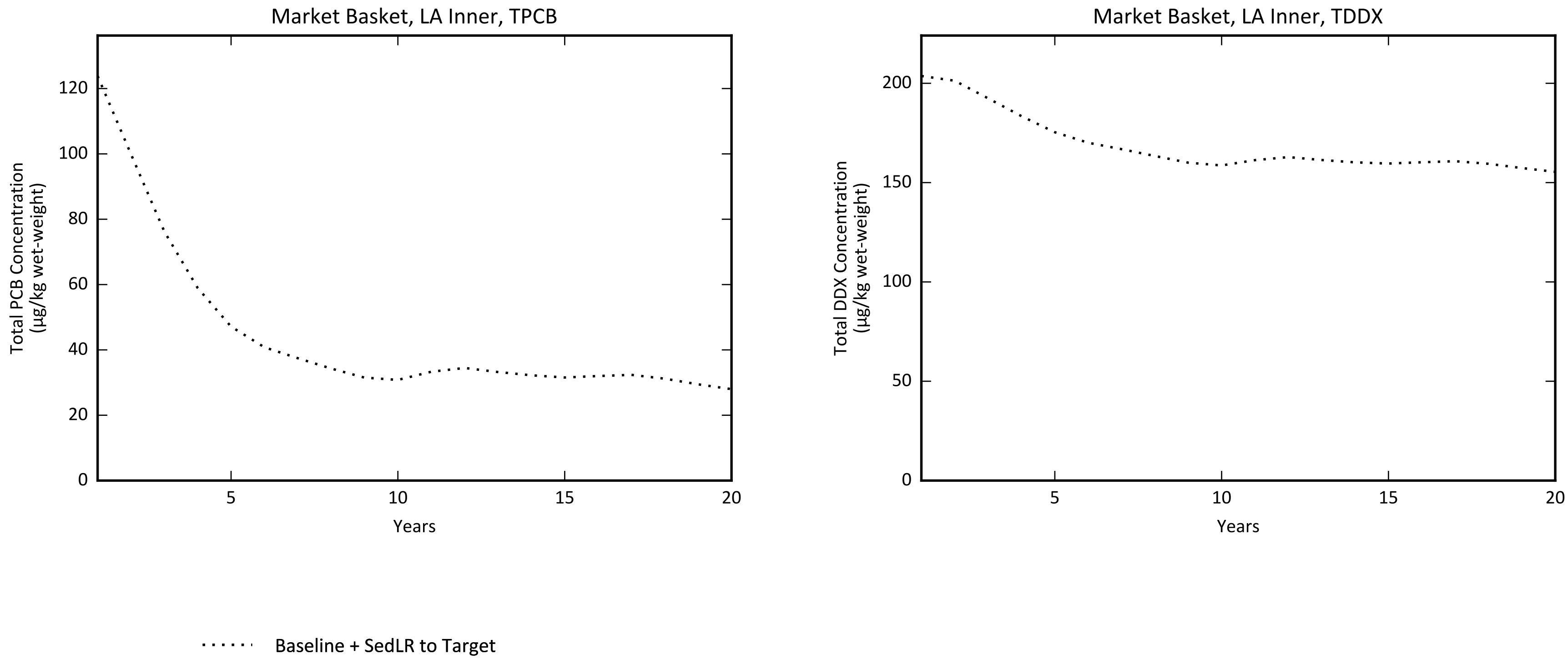
Figure B-5b
Total PCB and DDX Concentrations in Fish over Time for Baseline + SedLR to Target in CS



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1756 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:29 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

Figure B-5c
Total PCB and DDX Concentrations in Fish over Time for Baseline + SedLR to Target in LA Inner
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

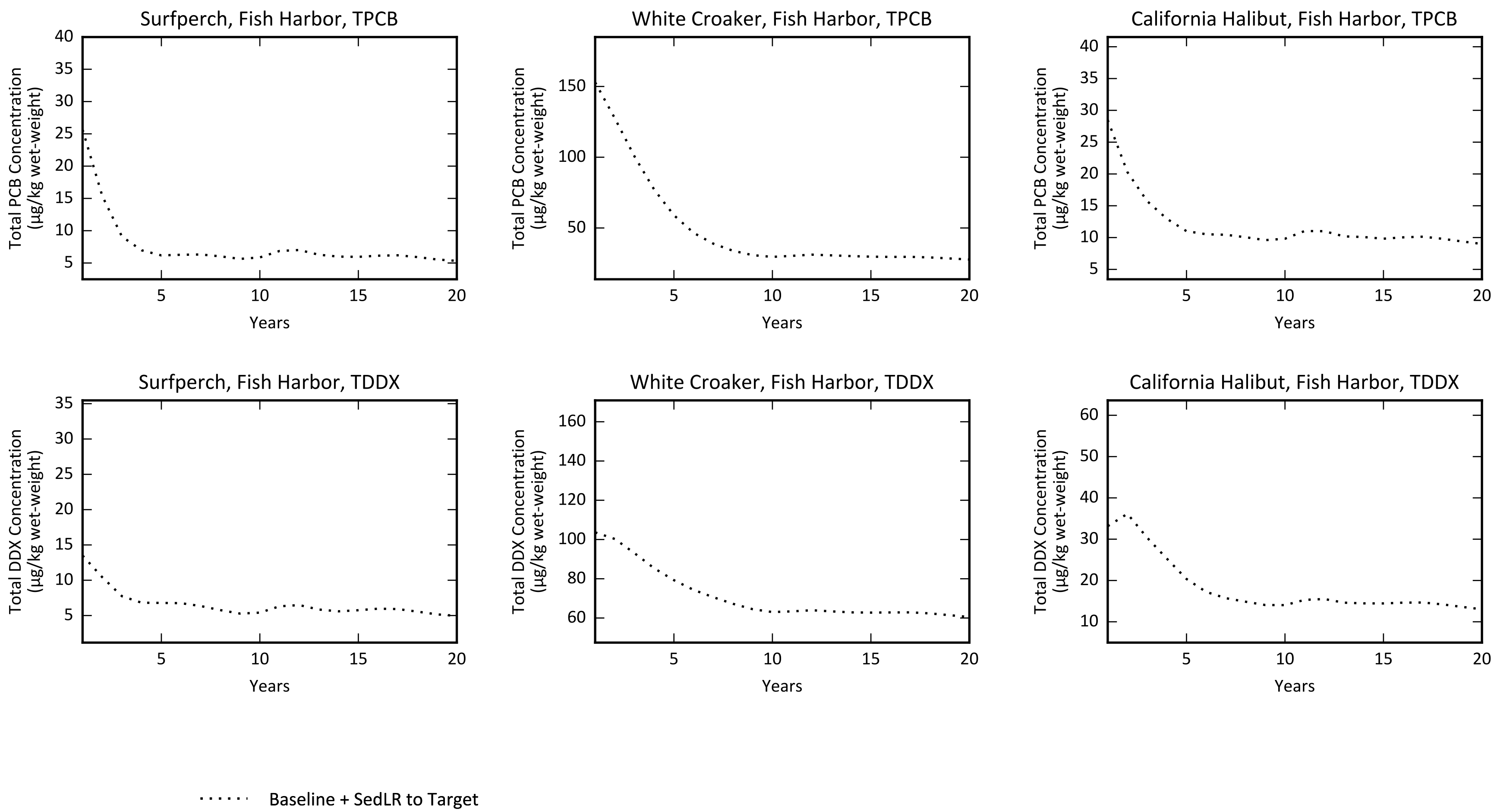


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1756 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:29 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-5c
Total PCB and DDX Concentrations in Fish over Time for Baseline + SedLR to Target in LA Inner
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

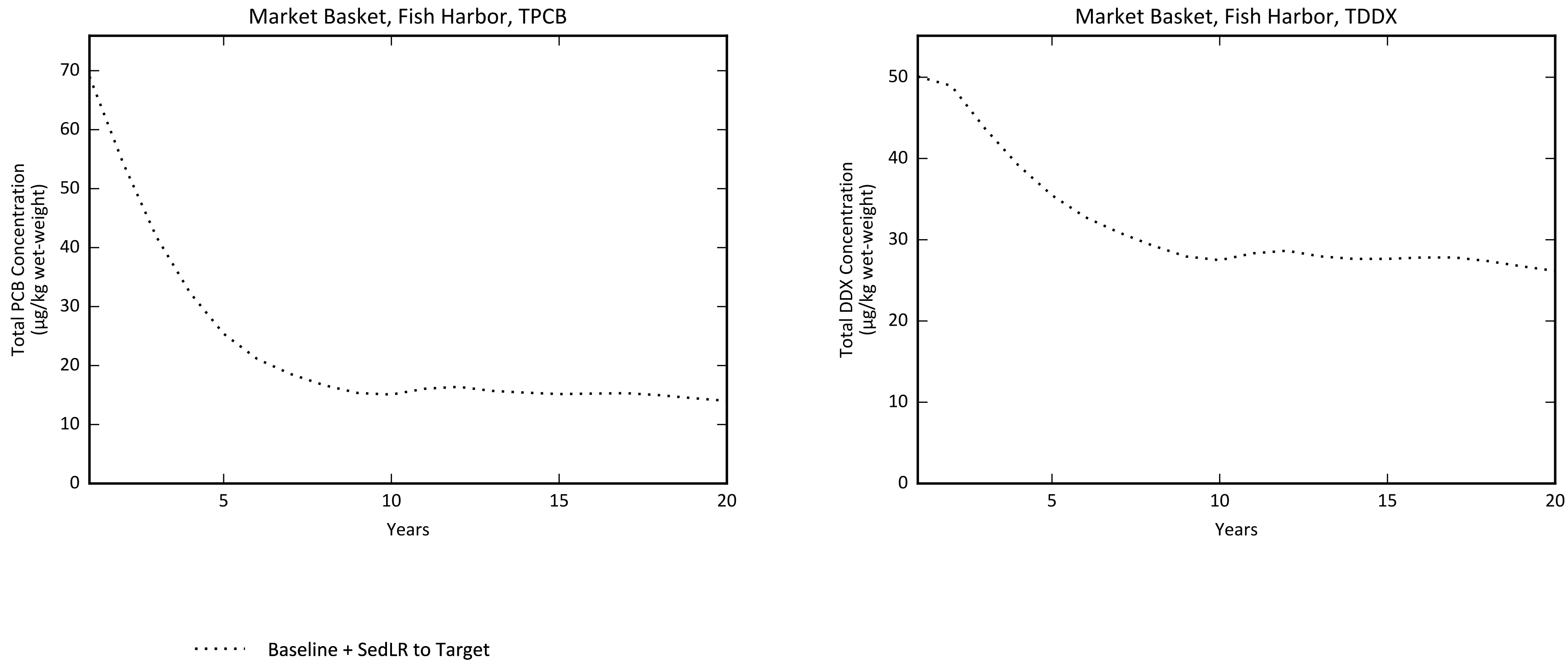


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1756 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:29 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-5d
Total PCB and DDX Concentrations in Fish over Time for Baseline + SedLR to Target in Fish Harbor
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

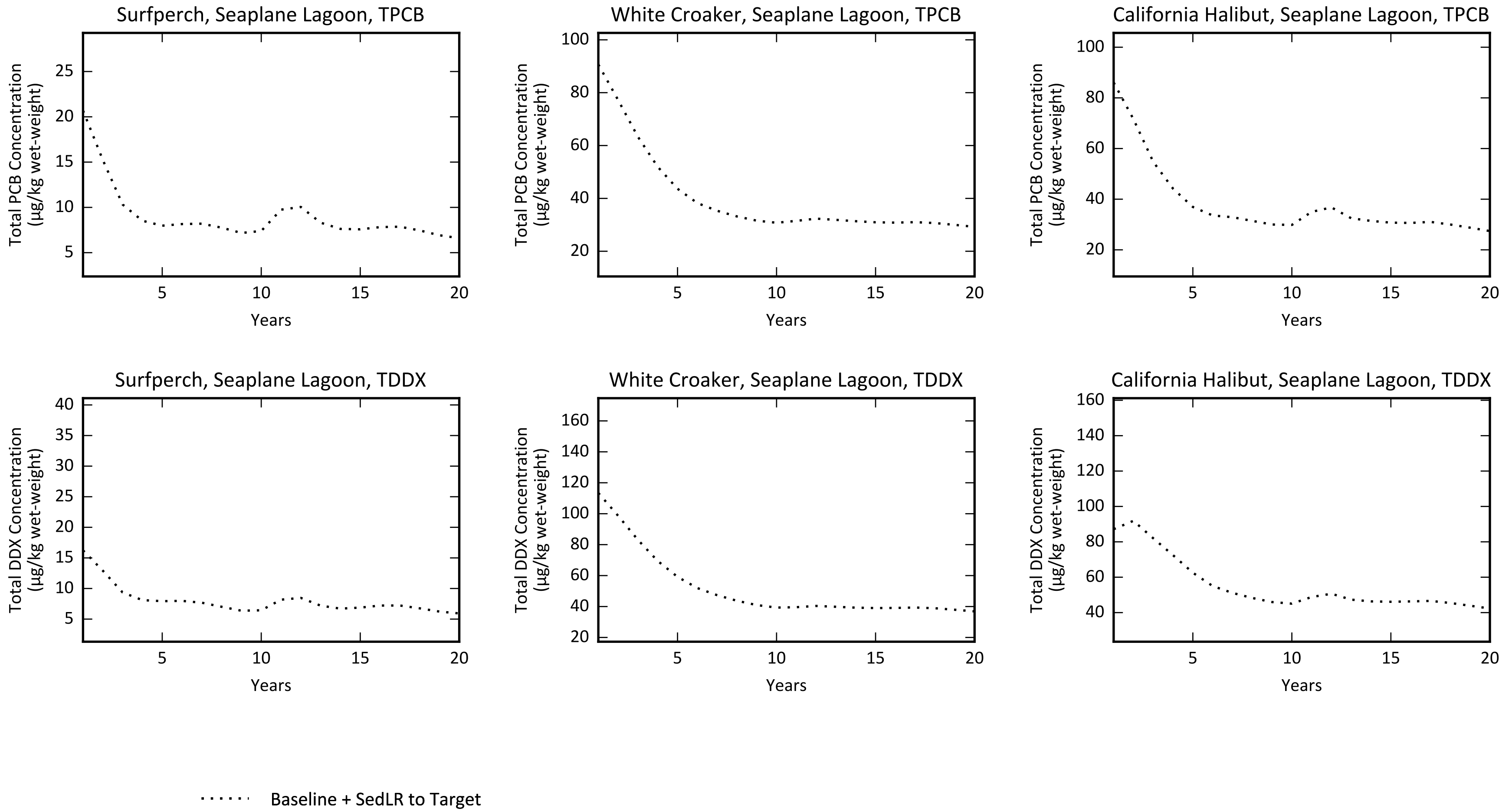


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1756 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:29 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

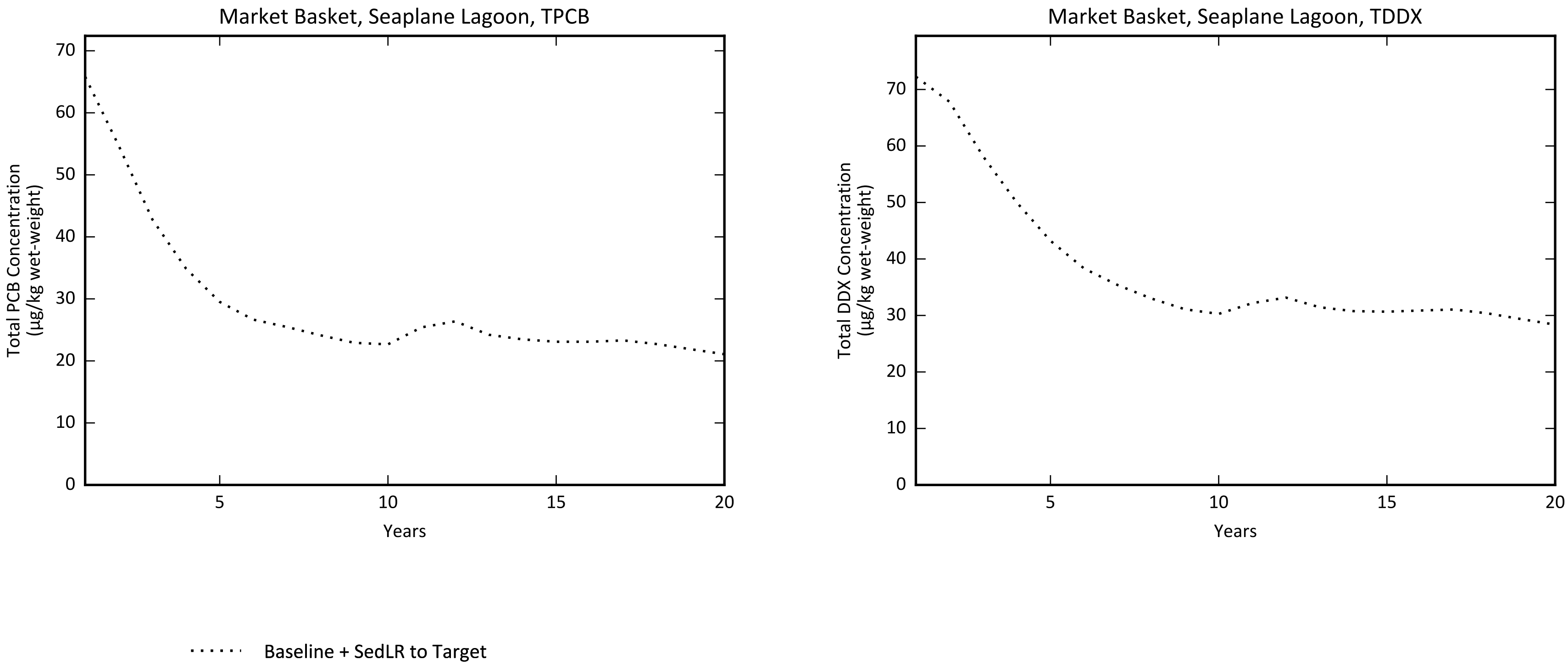
Figure B-5d
Total PCB and DDX Concentrations in Fish over Time for Baseline + SedLR to Target in Fish Harbor
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1756 and biota files v.1755 used for model.

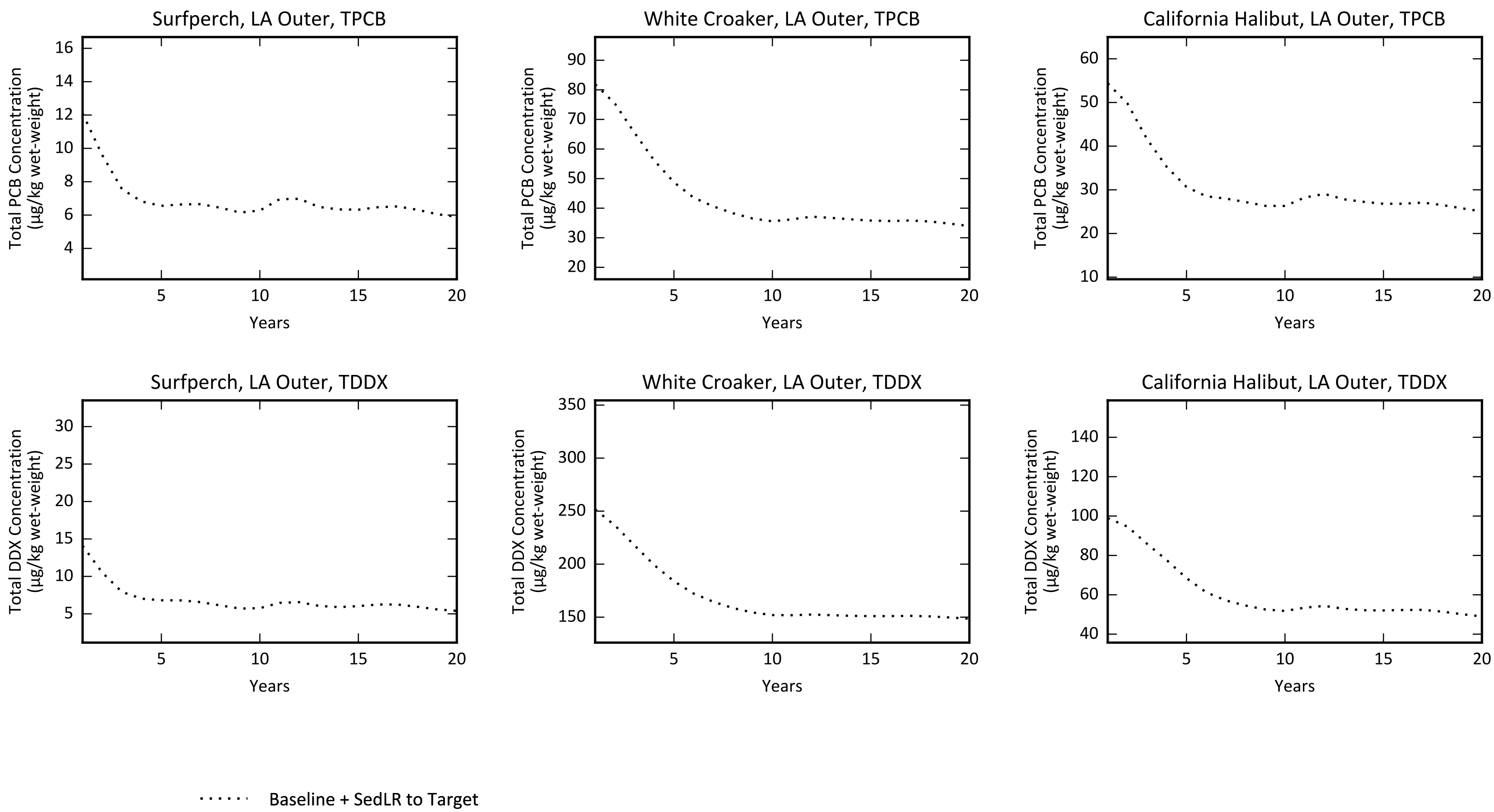
ANCHOR QEA

Figure B-5e
Total PCB and DDX Concentrations in Fish over Time for Baseline + SedLR to Target in Seaplane Lagoon
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1756 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:29 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

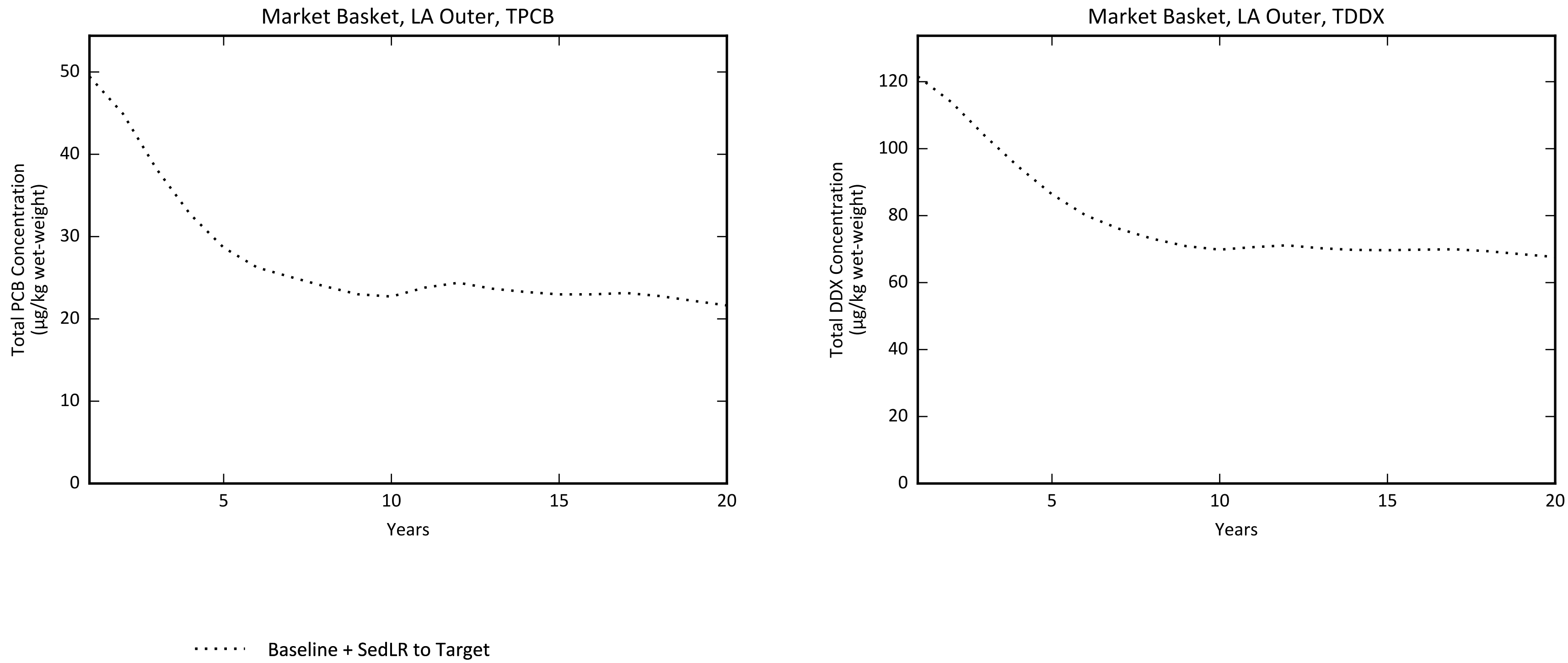


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1756 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:29 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-5f
Total PCB and DDX Concentrations in Fish over Time for Baseline + SedLR to Target in LA Outer
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1756 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:29 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

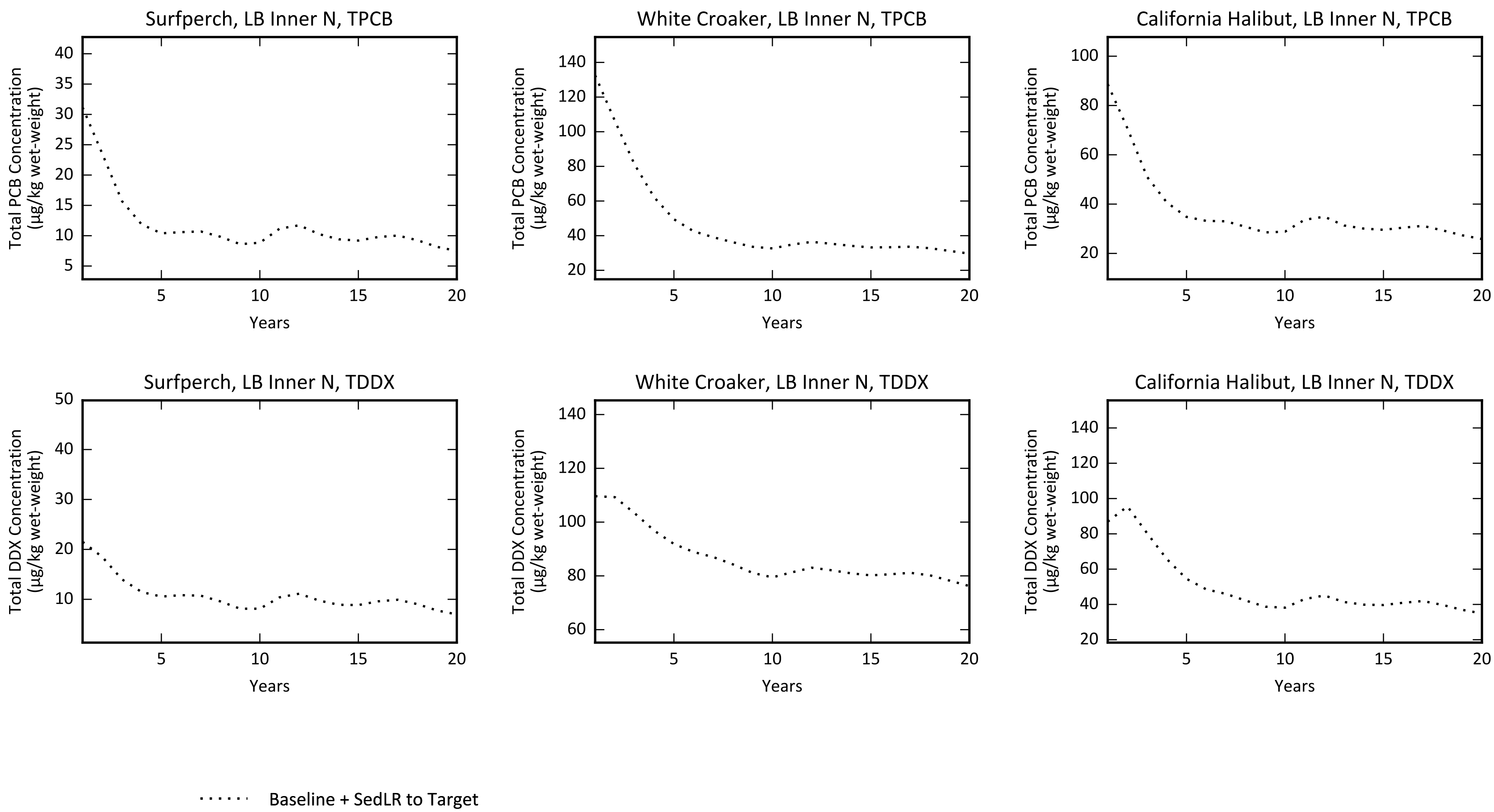
ANCHOR QEA

Figure B-5f

Total PCB and DDX Concentrations in Fish over Time for Baseline + SedLR to Target in LA Outer

Linked Model Data Summary Report

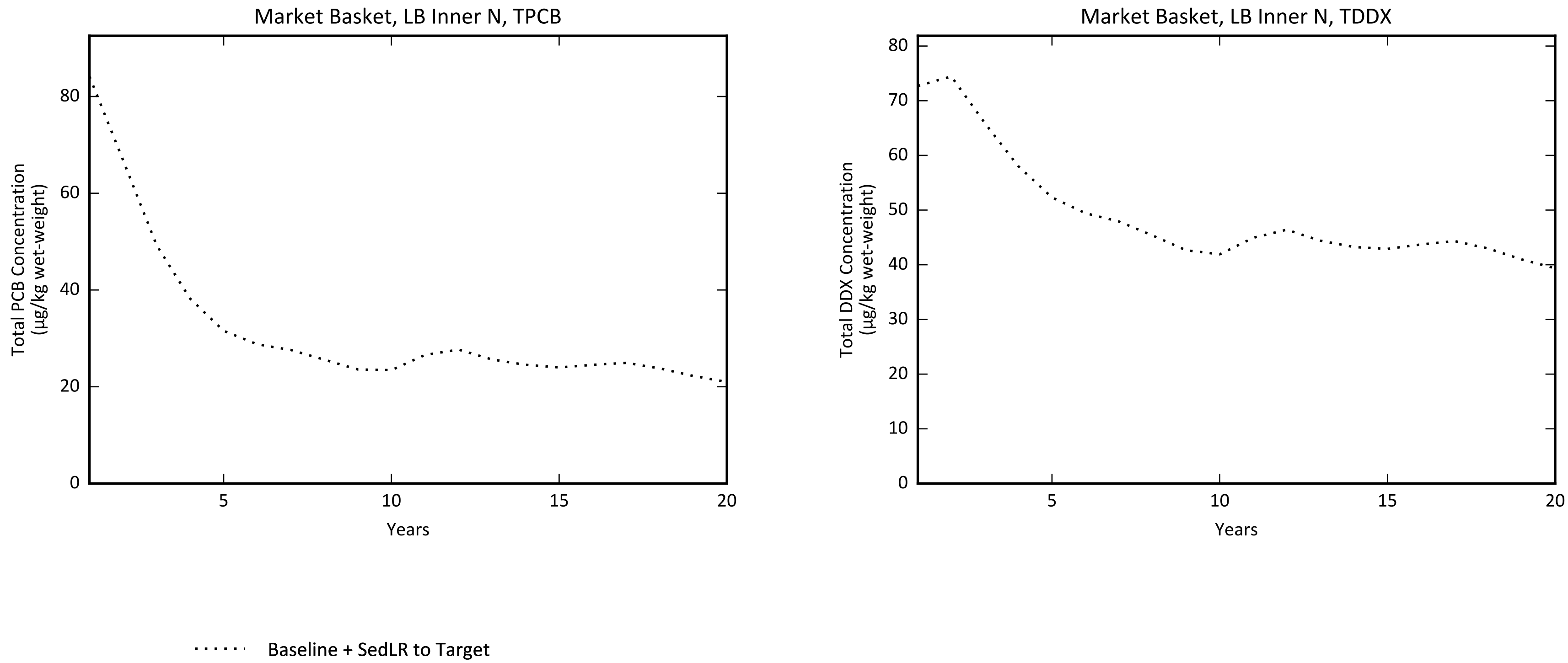
Greater Los Angeles and Long Beach Harbor Waters



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1756 and biota files v.1755 used for model.

ANCHOR QEA

Figure B-5g
Total PCB and DDX Concentrations in Fish over Time for Baseline + SedLR to Target in LB Inner N
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



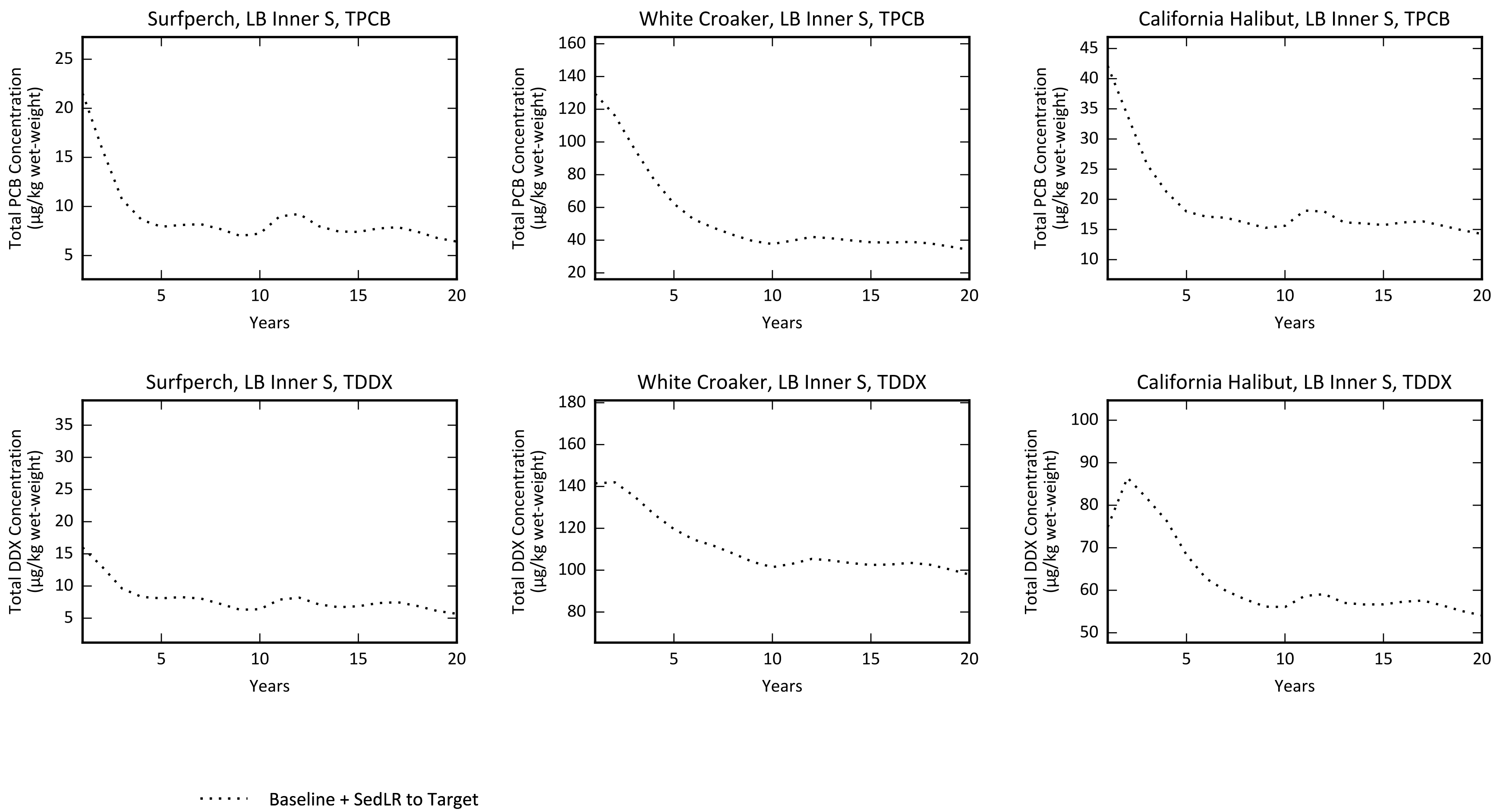
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1756 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:29 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-5g

Total PCB and DDX Concentrations in Fish over Time for Baseline + SedLR to Target in LB Inner N

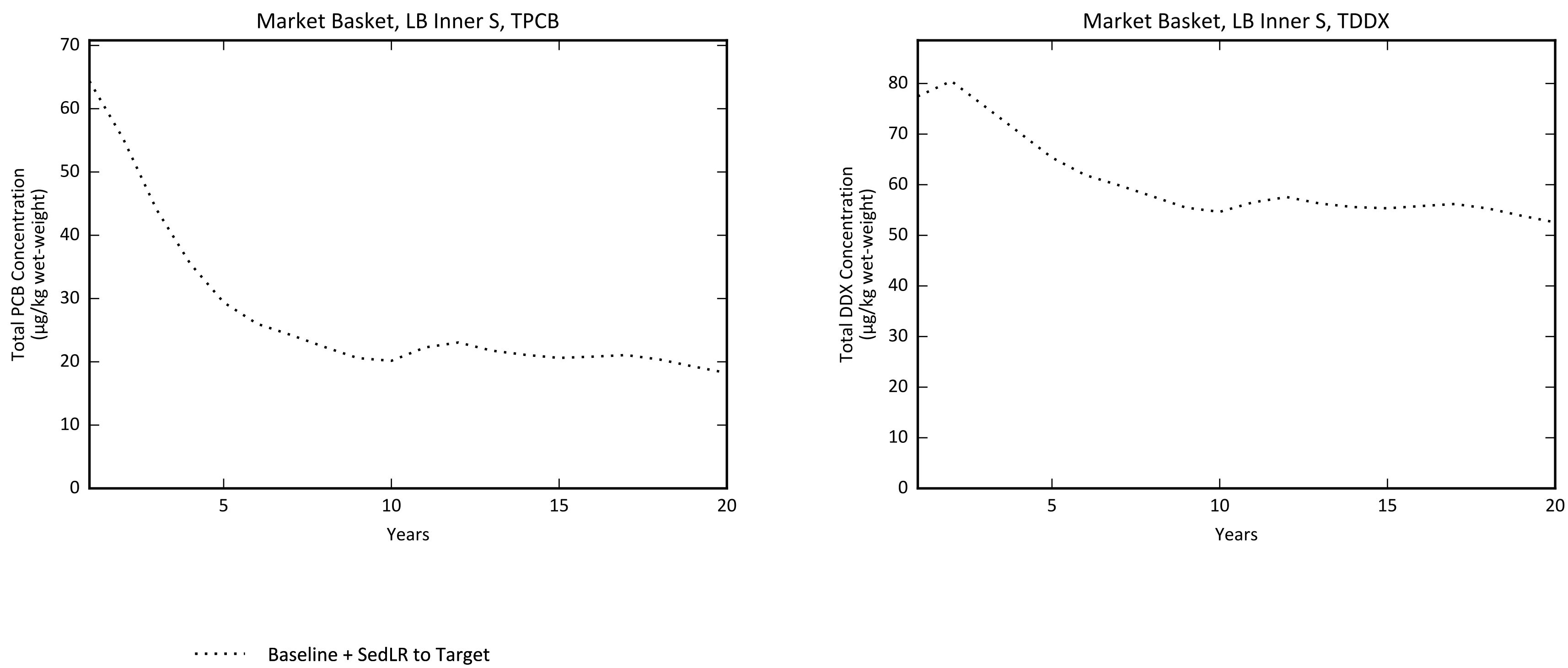


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1756 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:29 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-5h
Total PCB and DDX Concentrations in Fish over Time for Baseline + SedLR to Target in LB Inner S

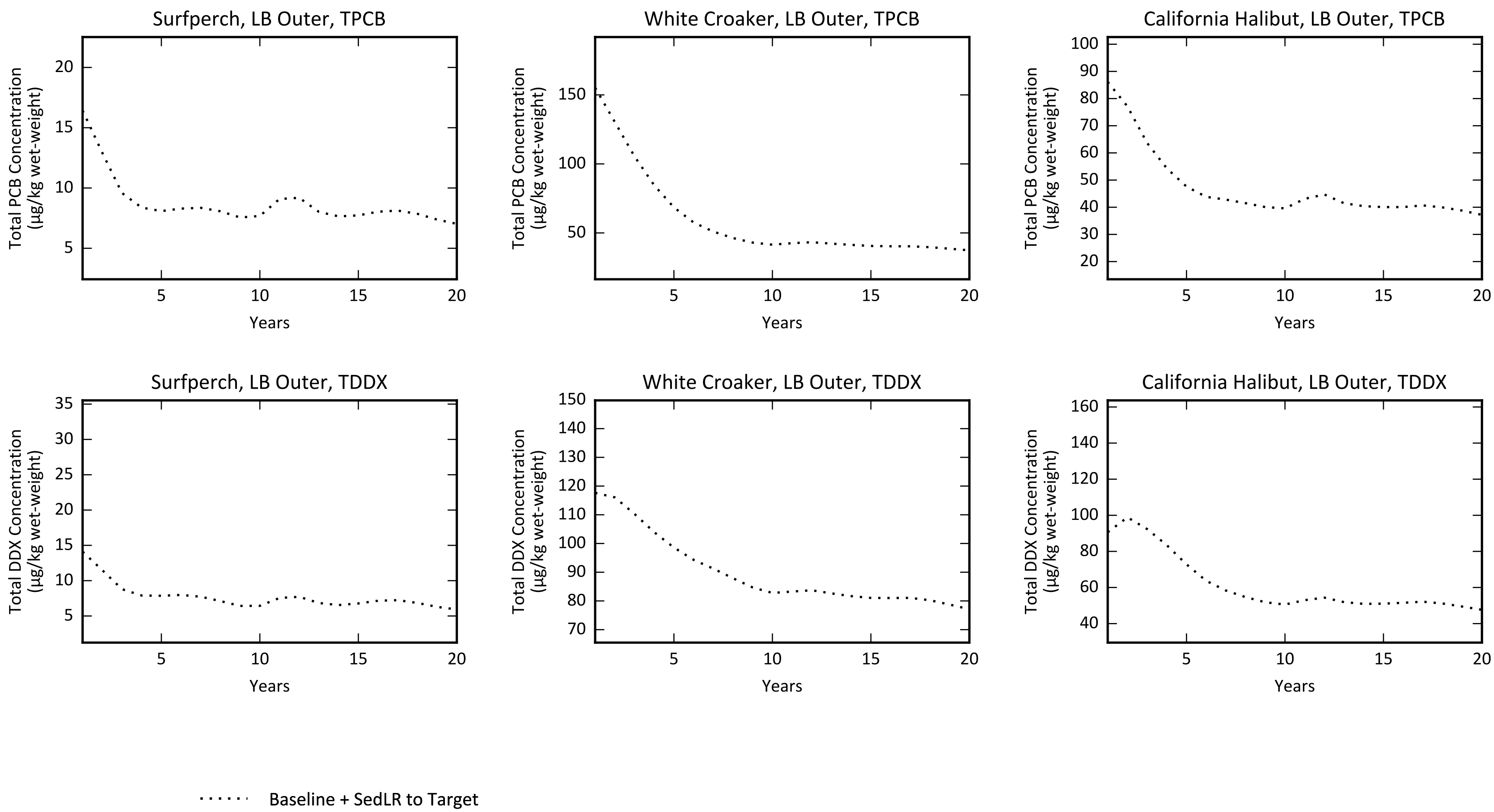


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1756 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:29 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-5h
Total PCB and DDX Concentrations in Fish over Time for Baseline + SedLR to Target in LB Inner S
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



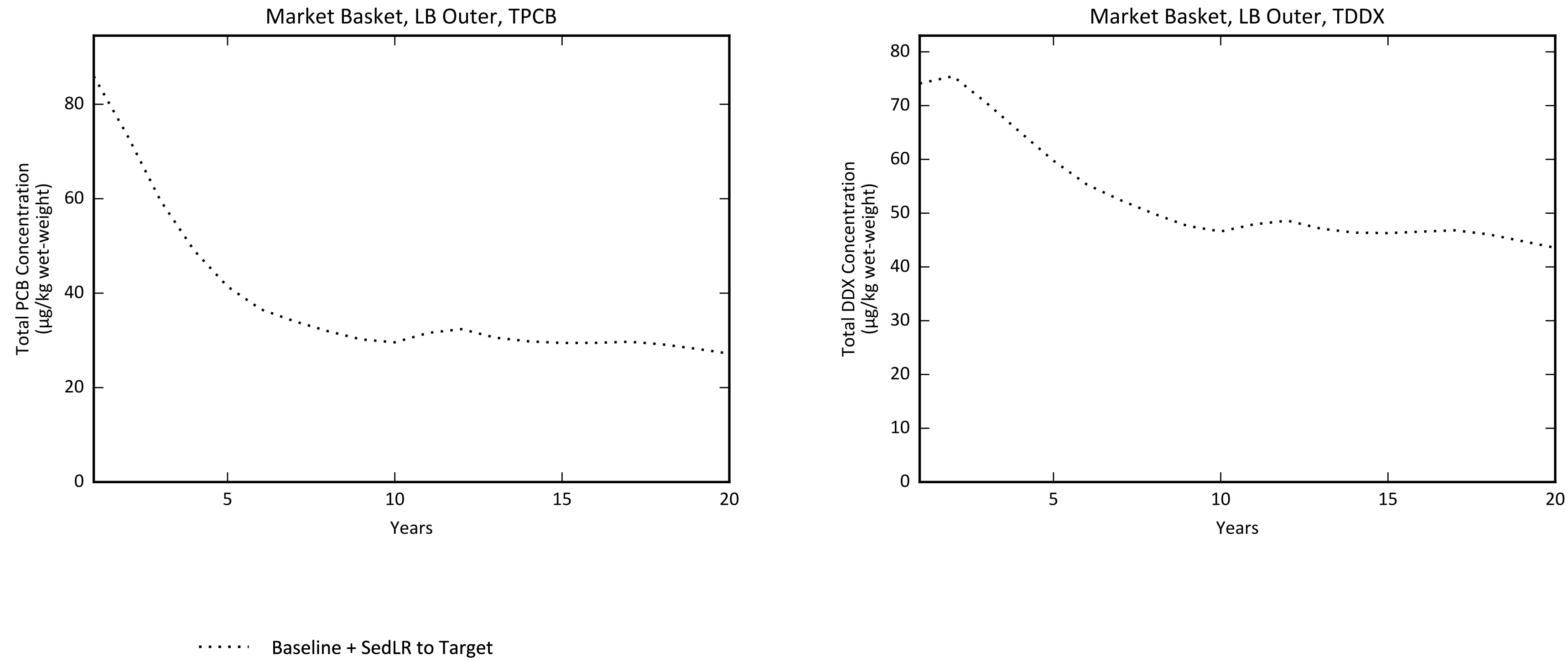
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1756 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:29 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-5i

Total PCB and DDX Concentrations in Fish over Time for Baseline + SedLR to Target in LB Outer

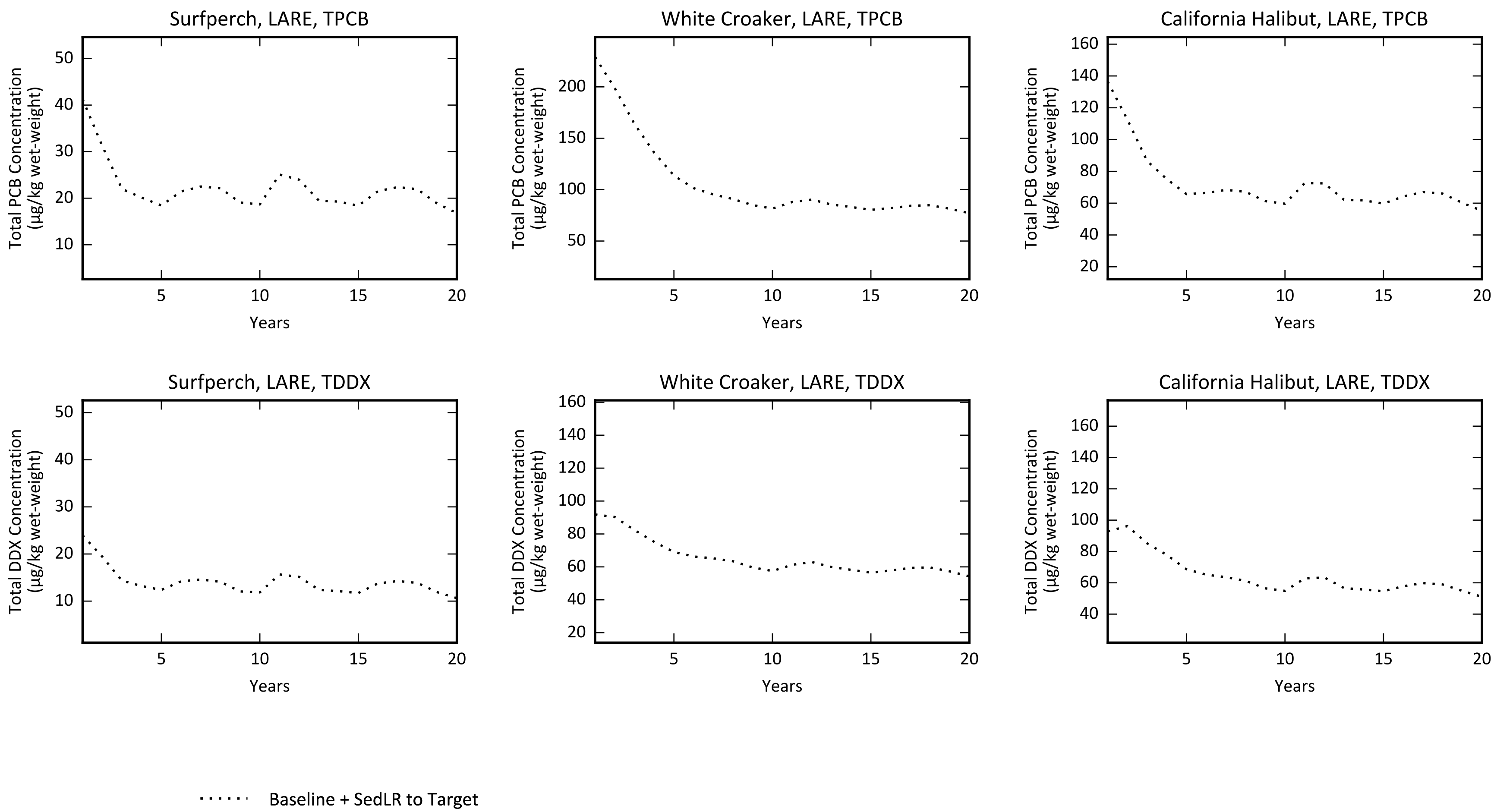


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1756 and biota files v.1755 used for model.

ANCHOR QEA

Figure B-5i

Total PCB and DDX Concentrations in Fish over Time for Baseline + SedLR to Target in LB Outer

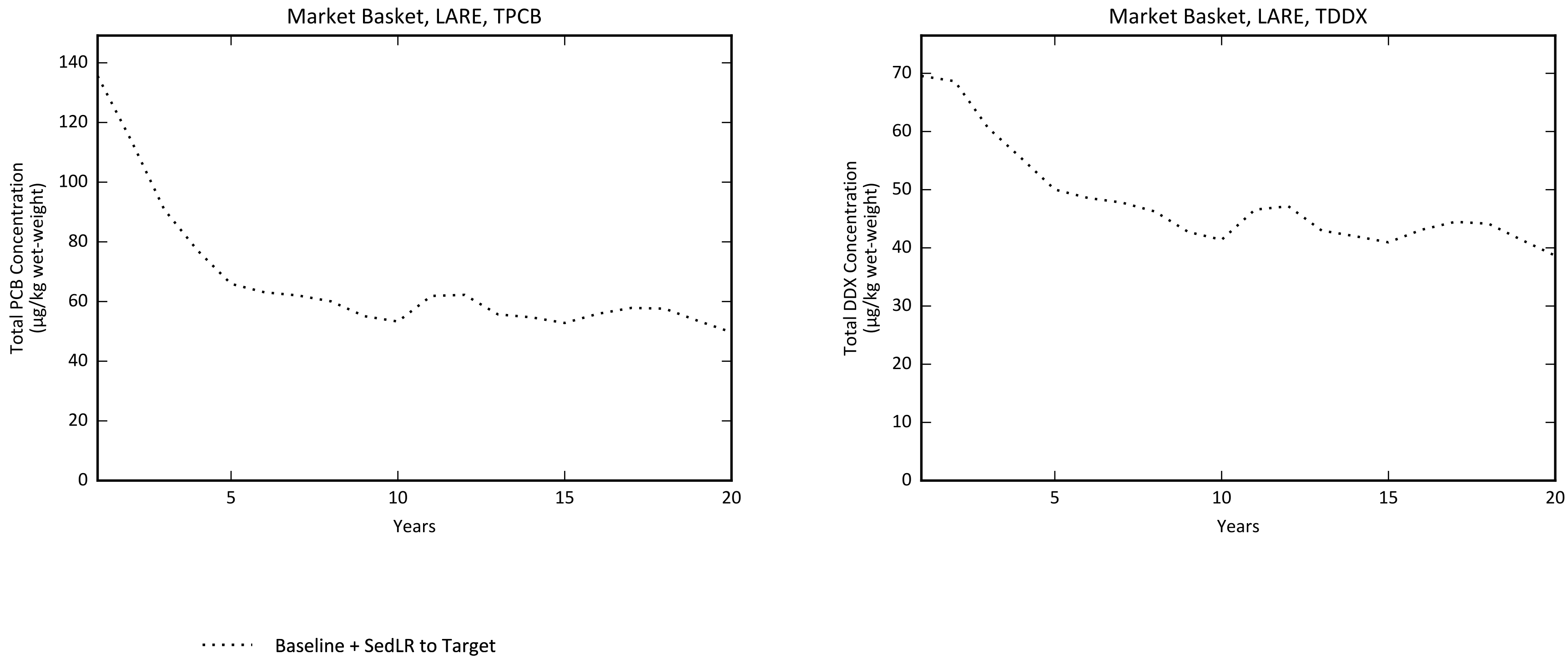


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1756 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:29 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-5j
Total PCB and DDX Concentrations in Fish over Time for Baseline + SedLR to Target in LARE
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

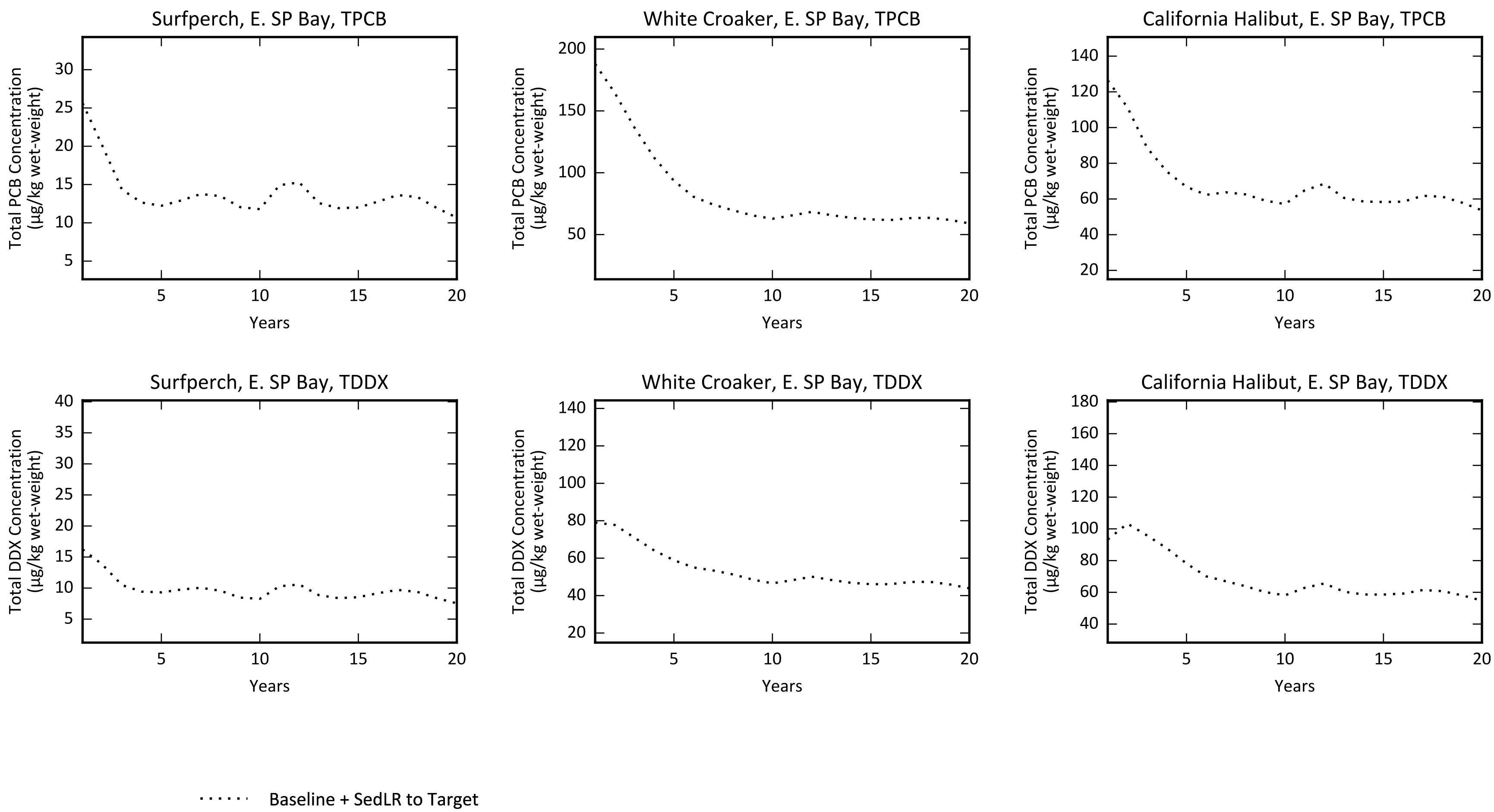


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1756 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:29 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-5j
Total PCB and DDX Concentrations in Fish over Time for Baseline + SedLR to Target in LARE
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

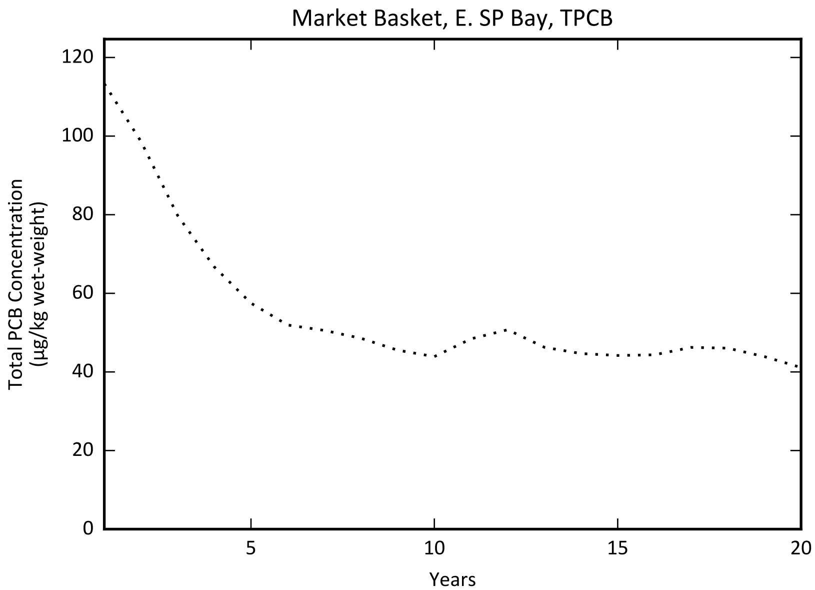


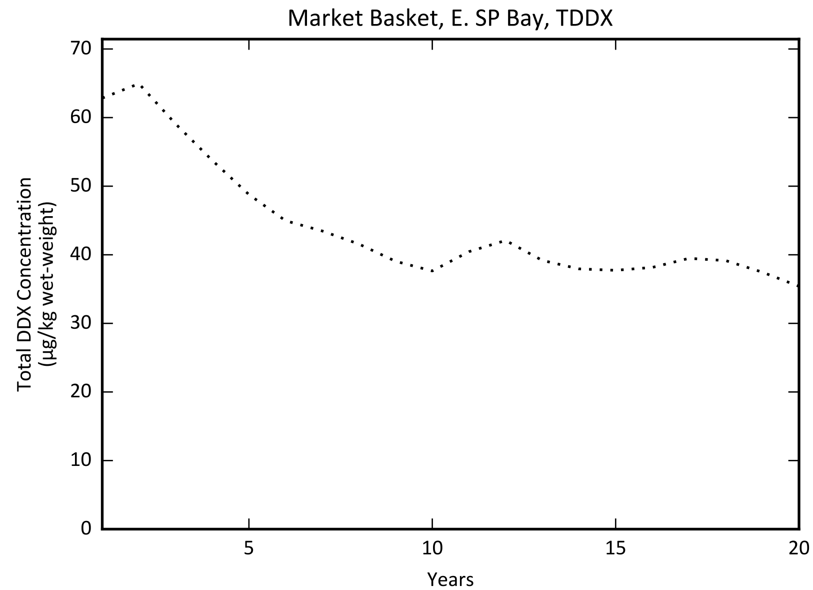
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1756 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:29 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-5k
Total PCB and DDX Concentrations in Fish over Time for Baseline + SedLR to Target in E. SP Bay
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters





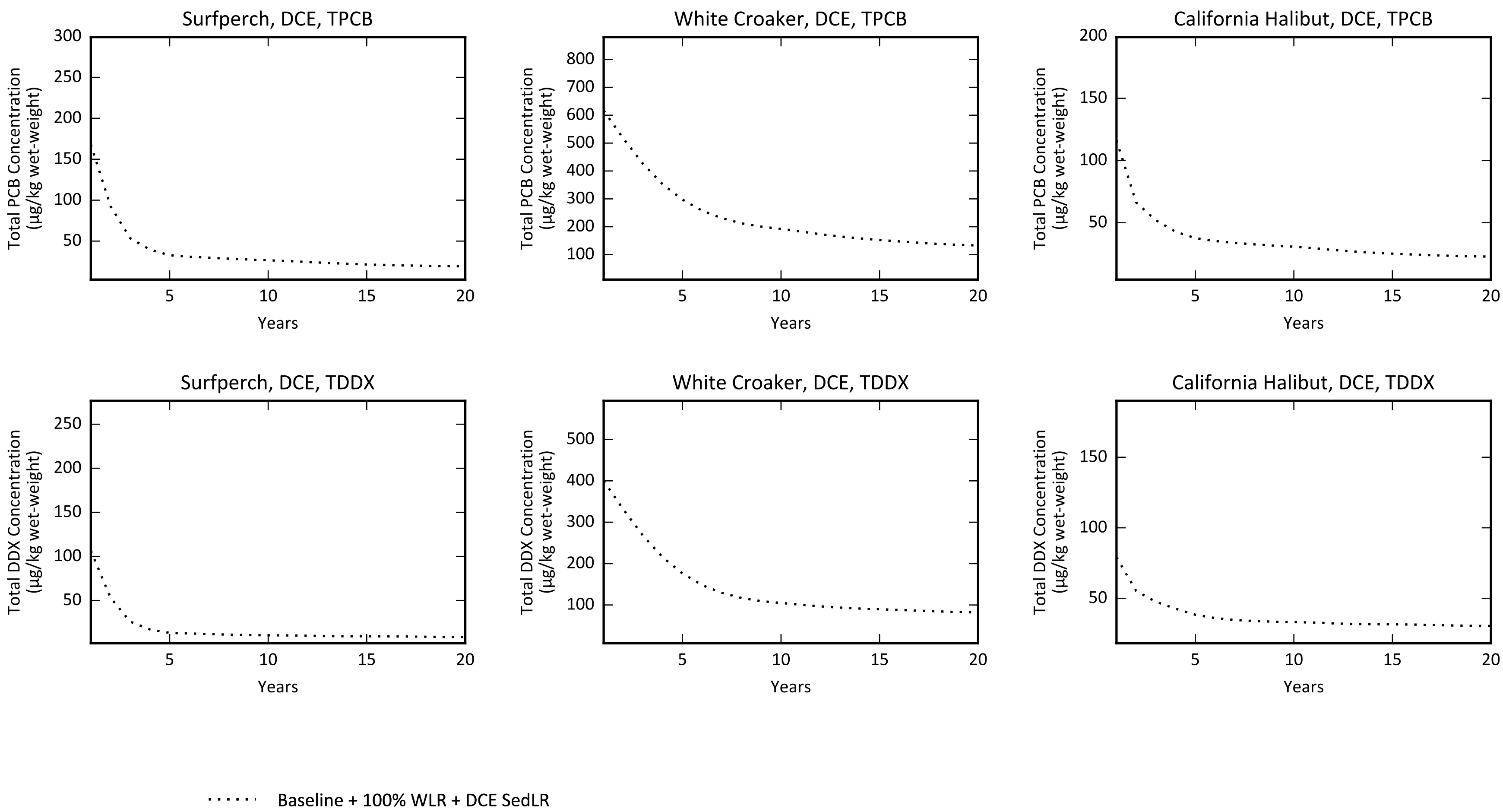
Baseline + SedLR to Target

Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1756 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:29 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-5k
Total PCB and DDX Concentrations in Fish over Time for Baseline + SedLR to Target in E. SP Bay
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

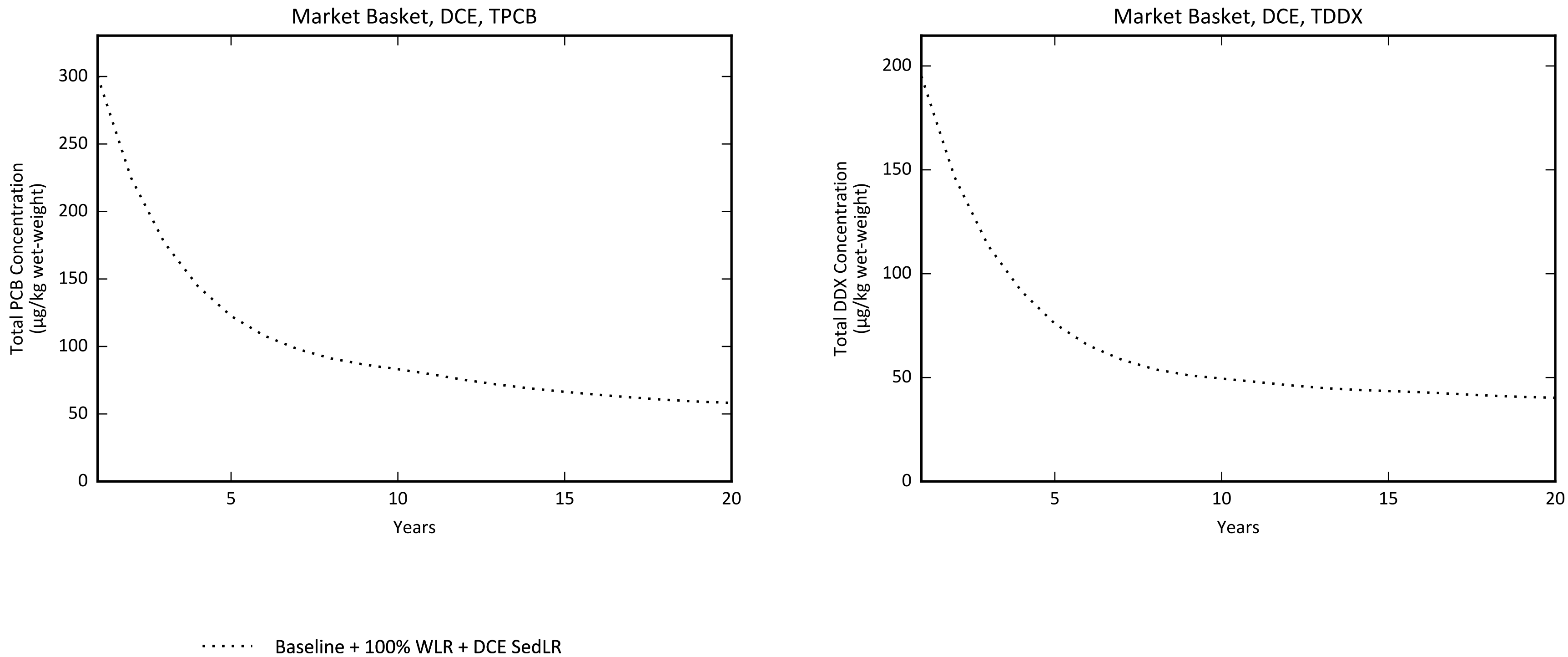


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1716 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:26 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-6a
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + DCE SedLR in DCE

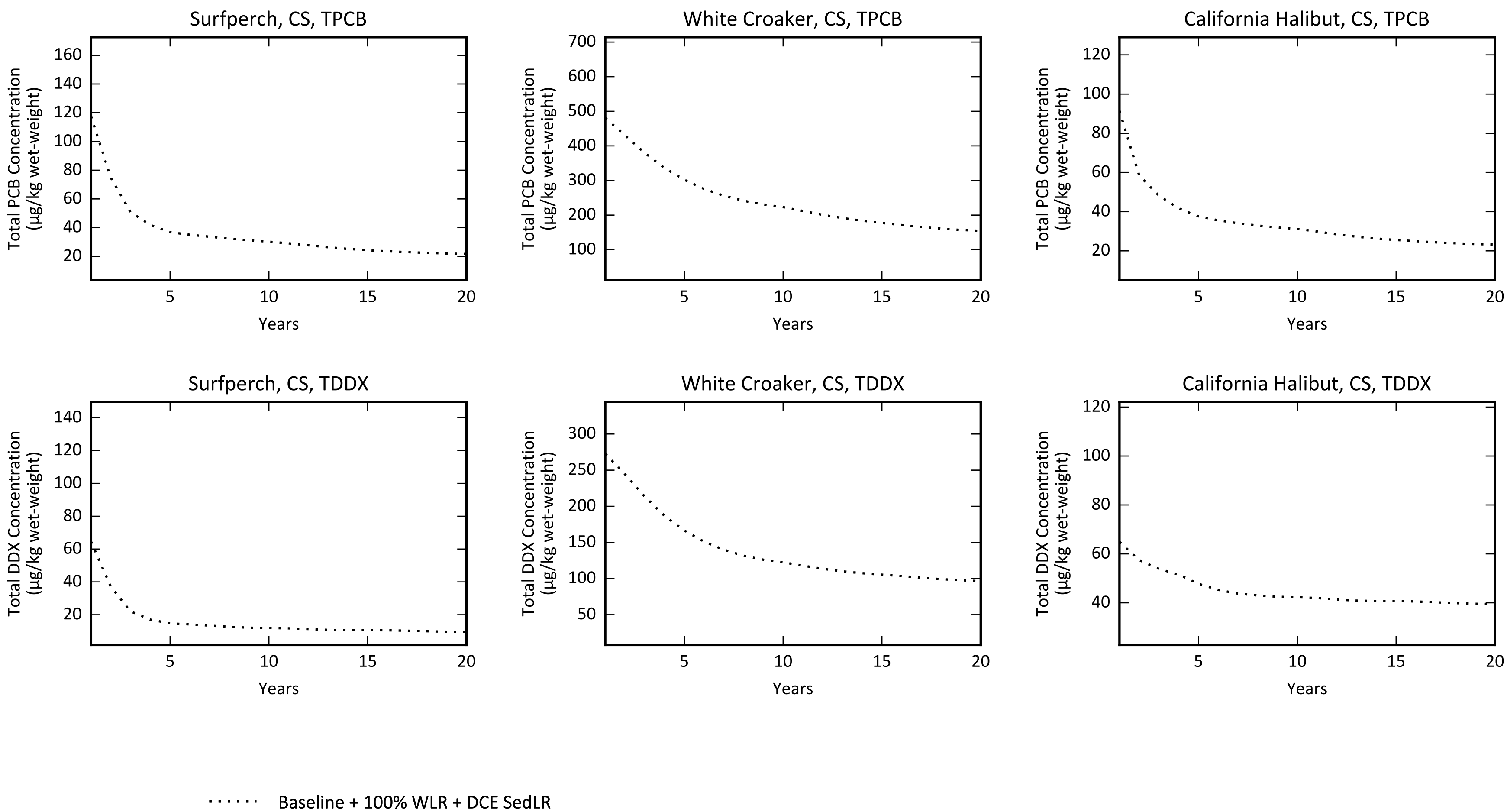


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1716 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:26 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-6a
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + DCE SedLR in DCE

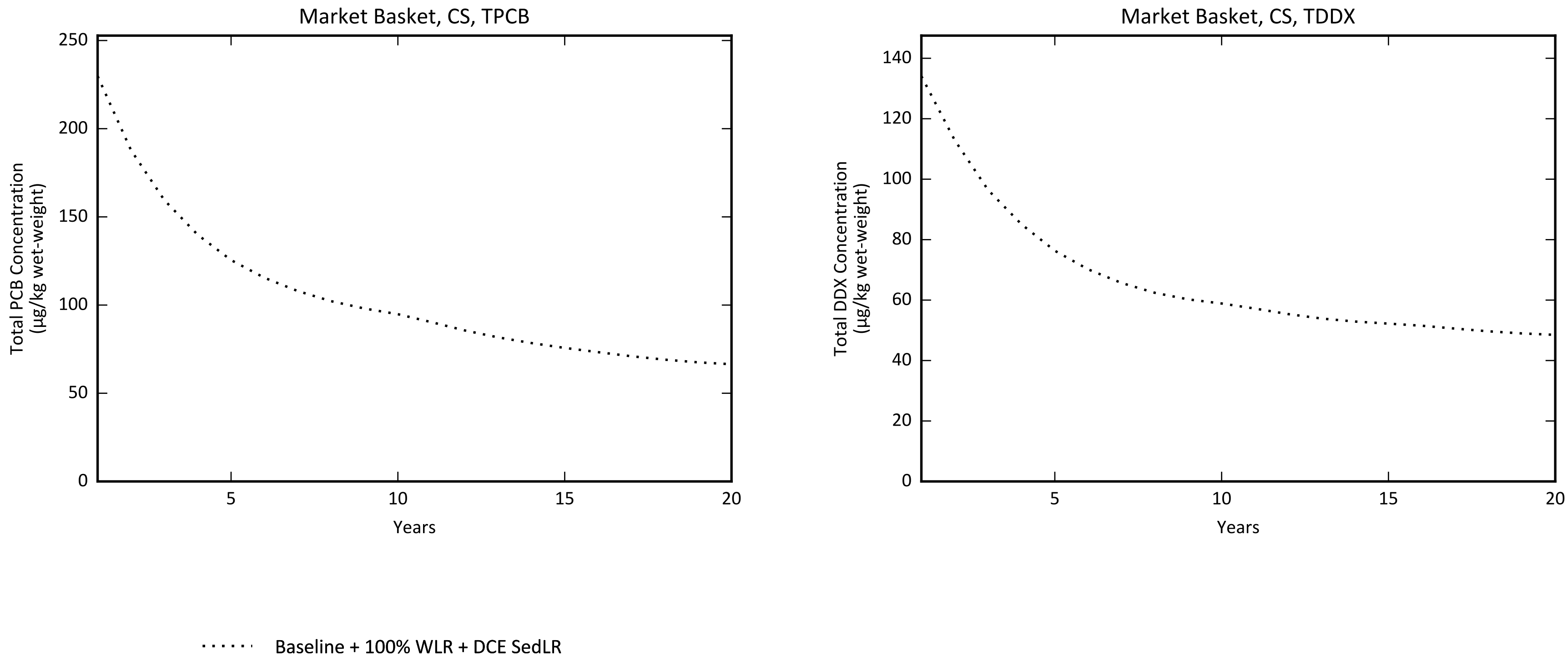


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1716 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:26 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-6b
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + DCE SedLR in CS



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1716 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:26 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

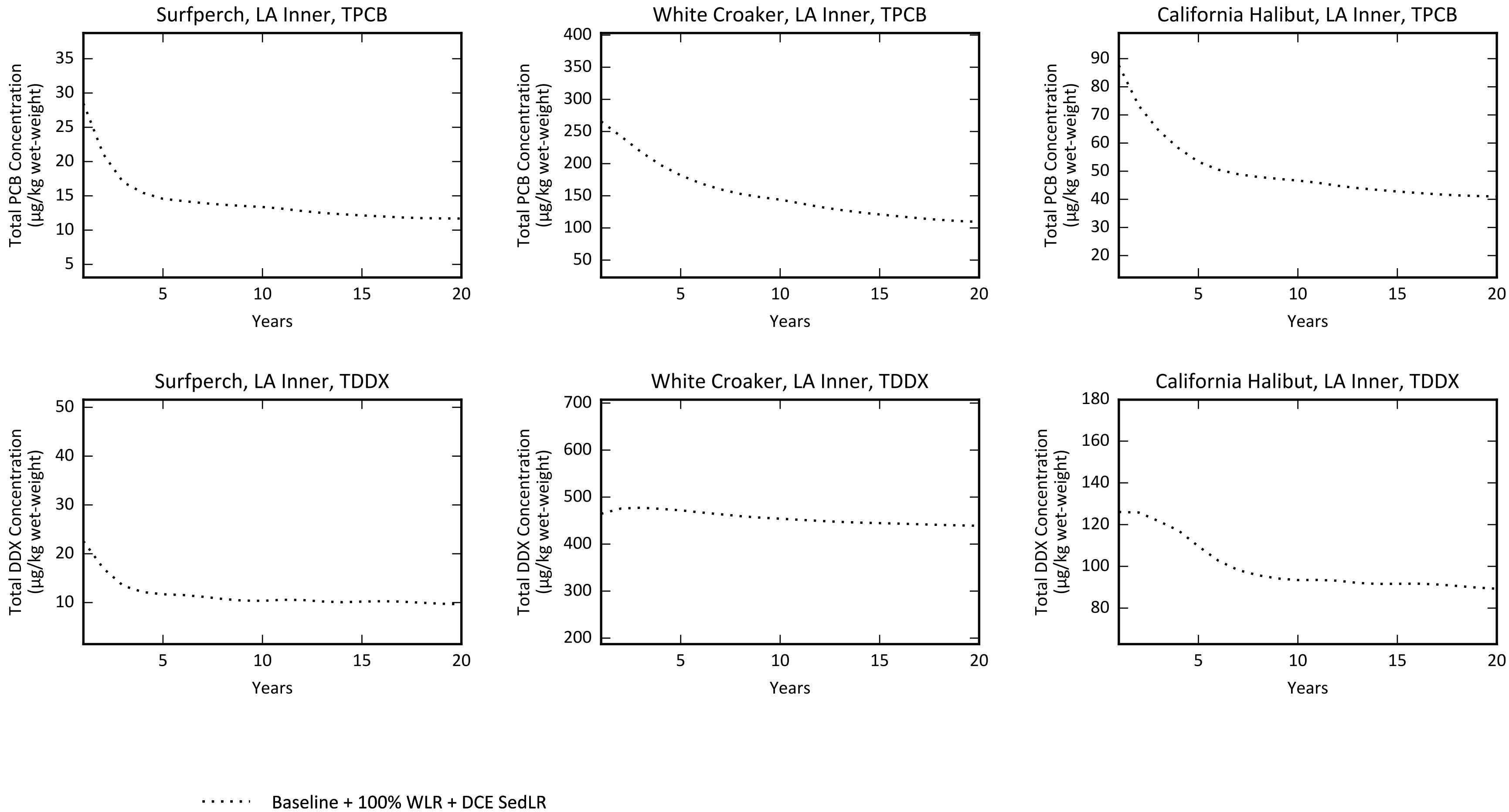
ANCHOR QEA

Figure B-6b

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + DCE SedLR in CS

Linked Model Data Summary Report

Greater Los Angeles and Long Beach Harbor Waters



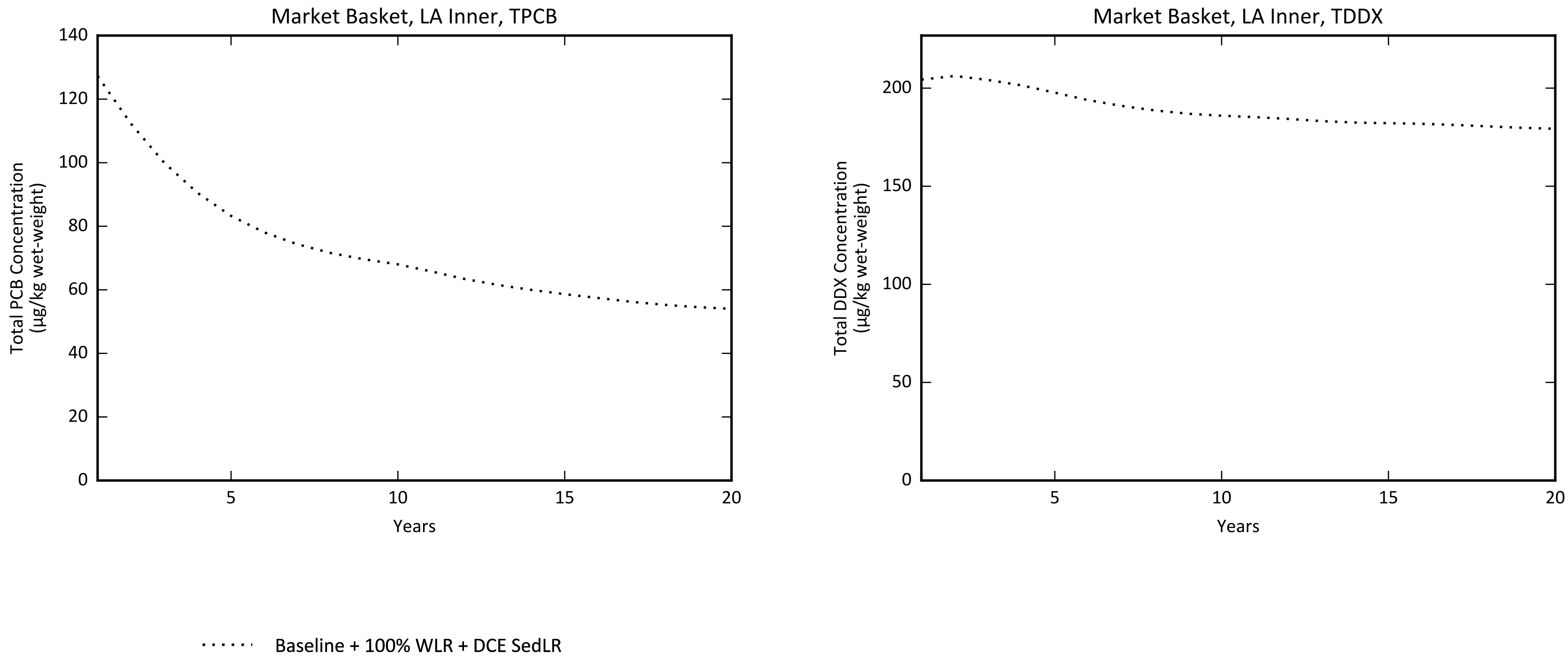
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1716 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:26 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-6c

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + DCE SedLR in LA Inner



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1716 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:26 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

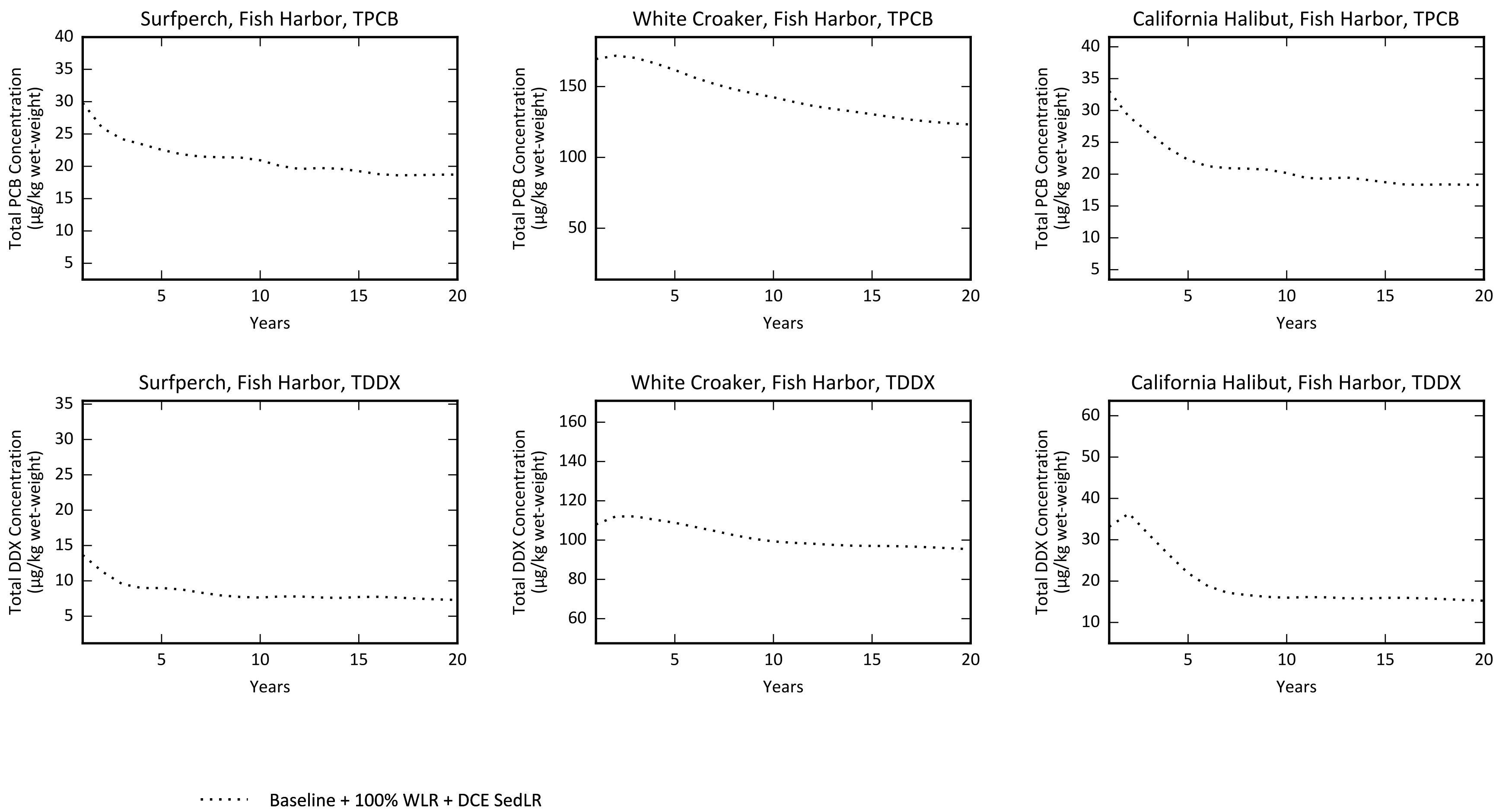
ANCHOR QEA

Figure B-6c

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + DCE SedLR in LA Inner

Linked Model Data Summary Report

Greater Los Angeles and Long Beach Harbor Waters



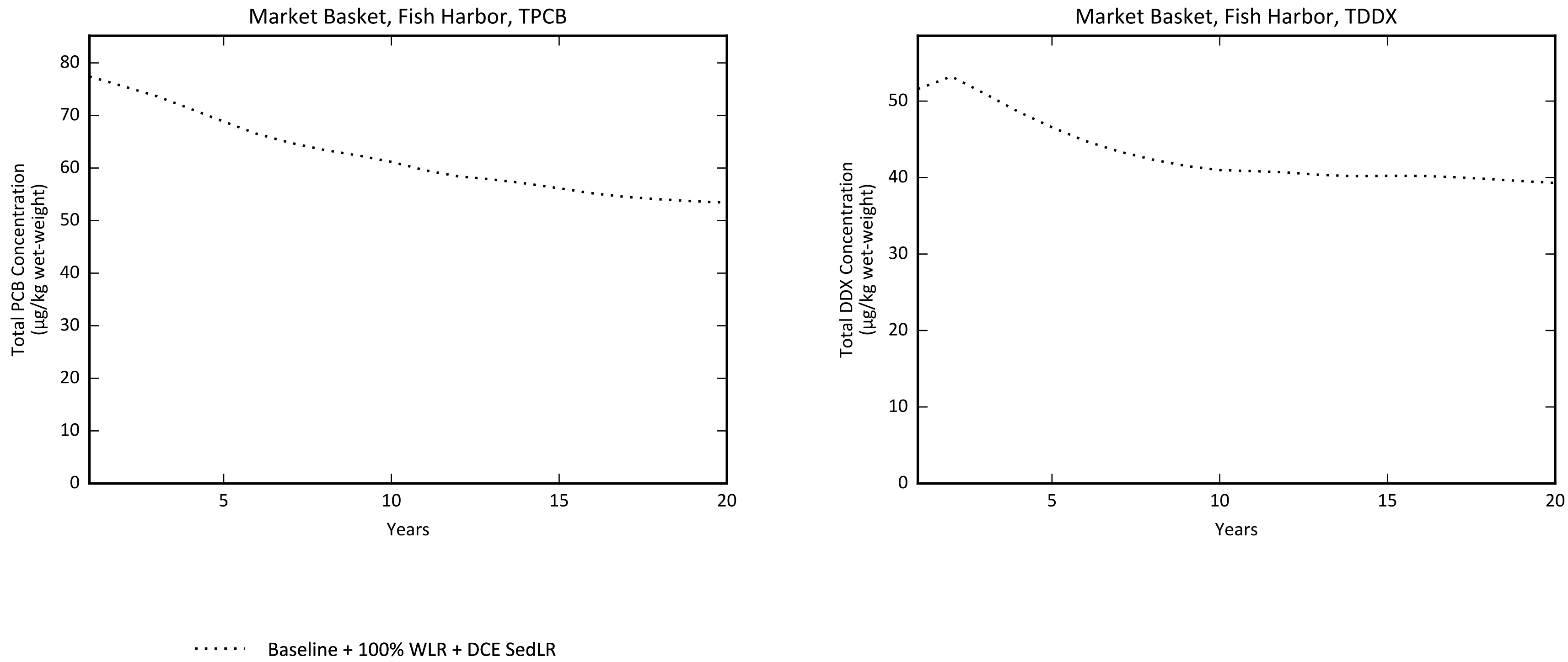
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1716 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:26 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-6d

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + DCE SedLR in Fish Harbor



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1716 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:26 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

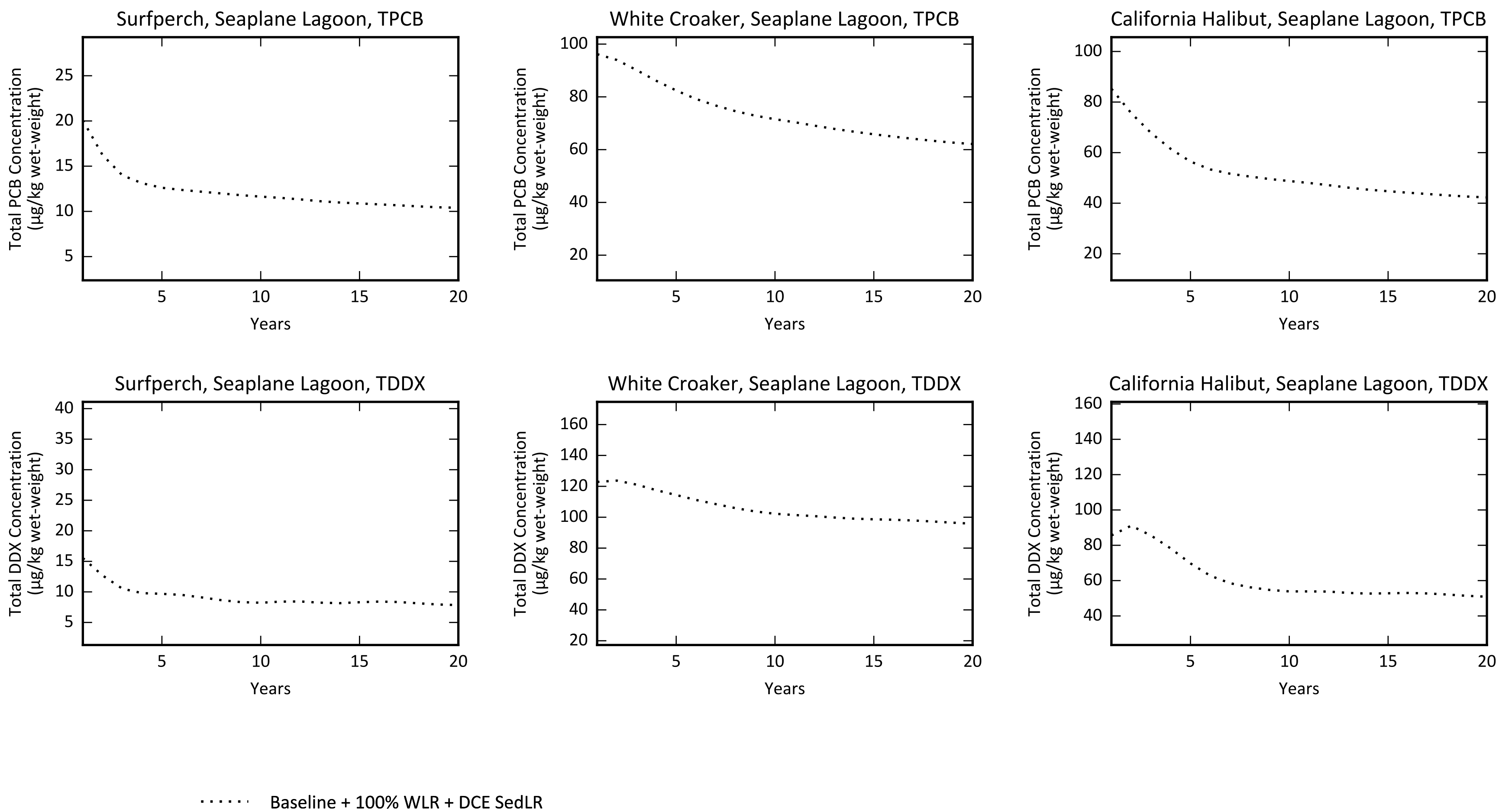
ANCHOR QEA

Figure B-6d

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + DCE SedLR in Fish Harbor

Linked Model Data Summary Report

Greater Los Angeles and Long Beach Harbor Waters



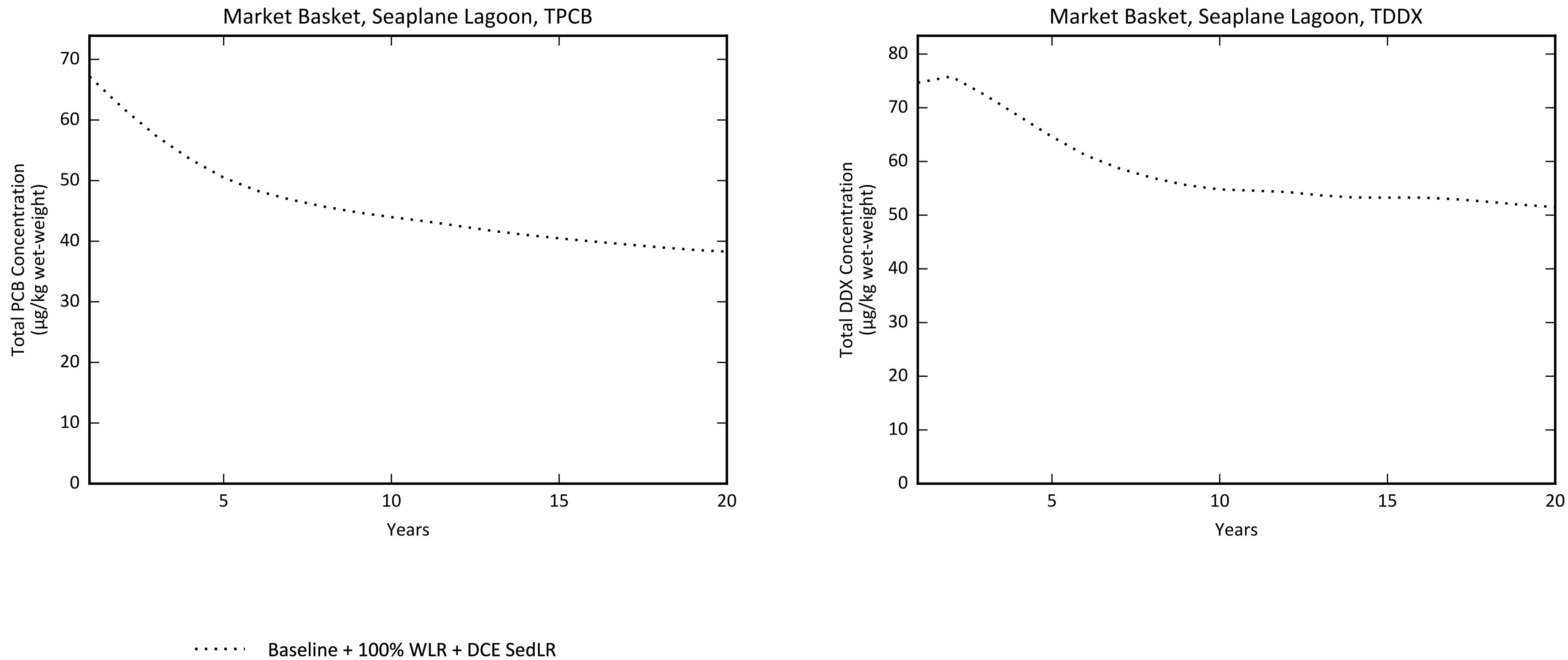
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1716 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:26 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-6e

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + DCE SedLR in Seaplane Lagoon

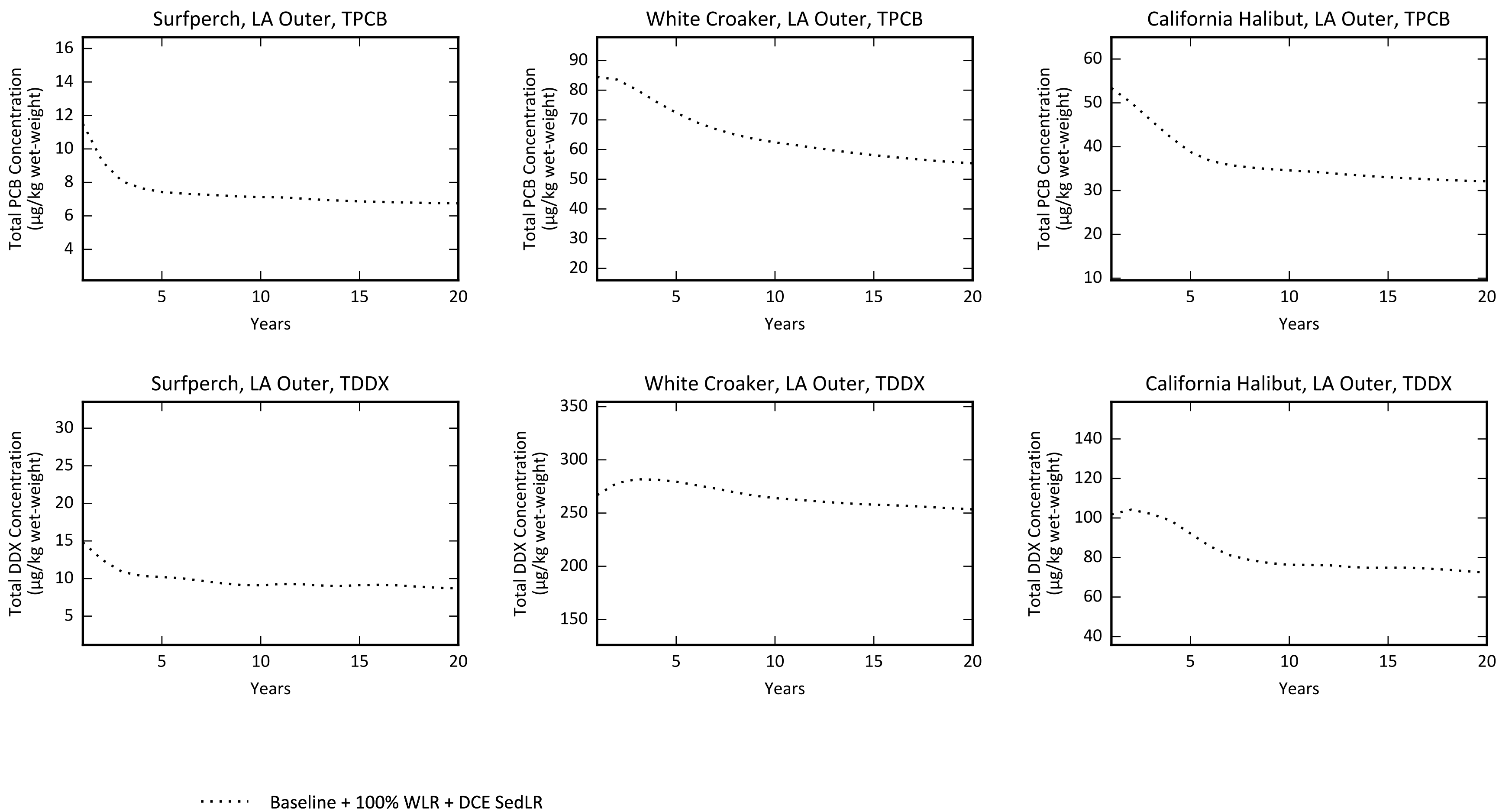


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1716 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:26 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-6e
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + DCE SedLR in Seaplane Lagoon



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1716 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:26 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

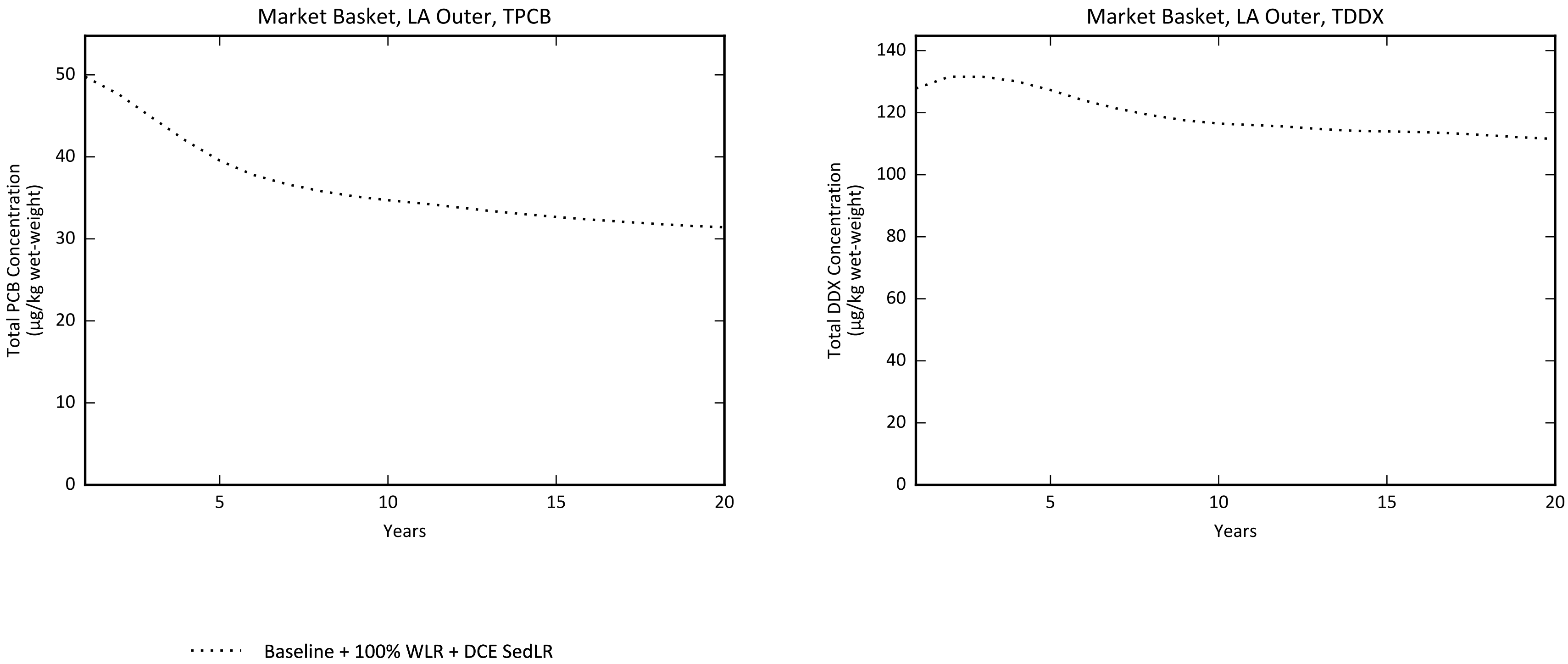
ANCHOR QEA

Figure B-6f

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + DCE SedLR in LA Outer

Linked Model Data Summary Report

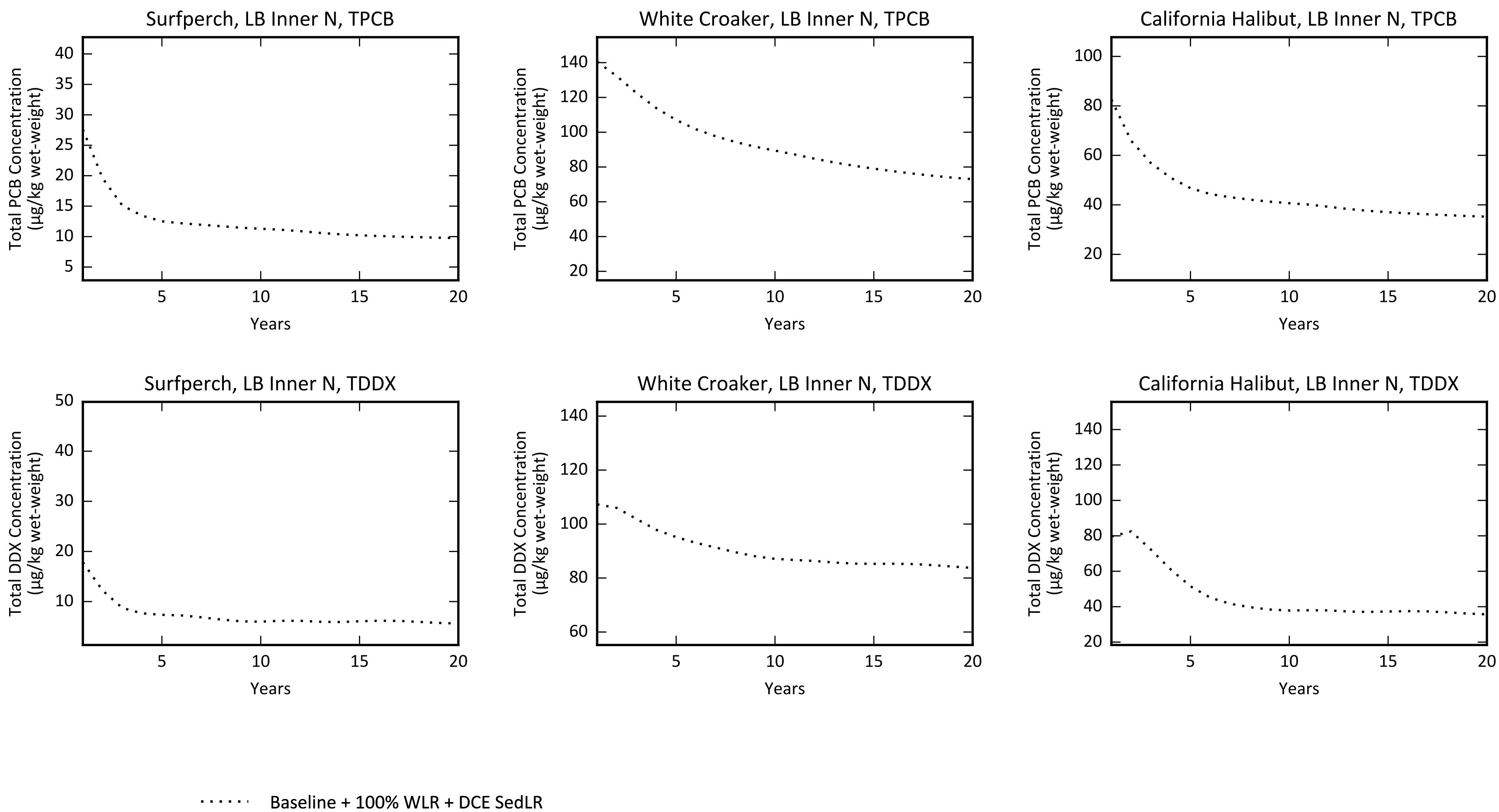
Greater Los Angeles and Long Beach Harbor Waters



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1716 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:26 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

Figure B-6f
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + DCE SedLR in LA Outer



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1716 and biota files v.1755 used for model.

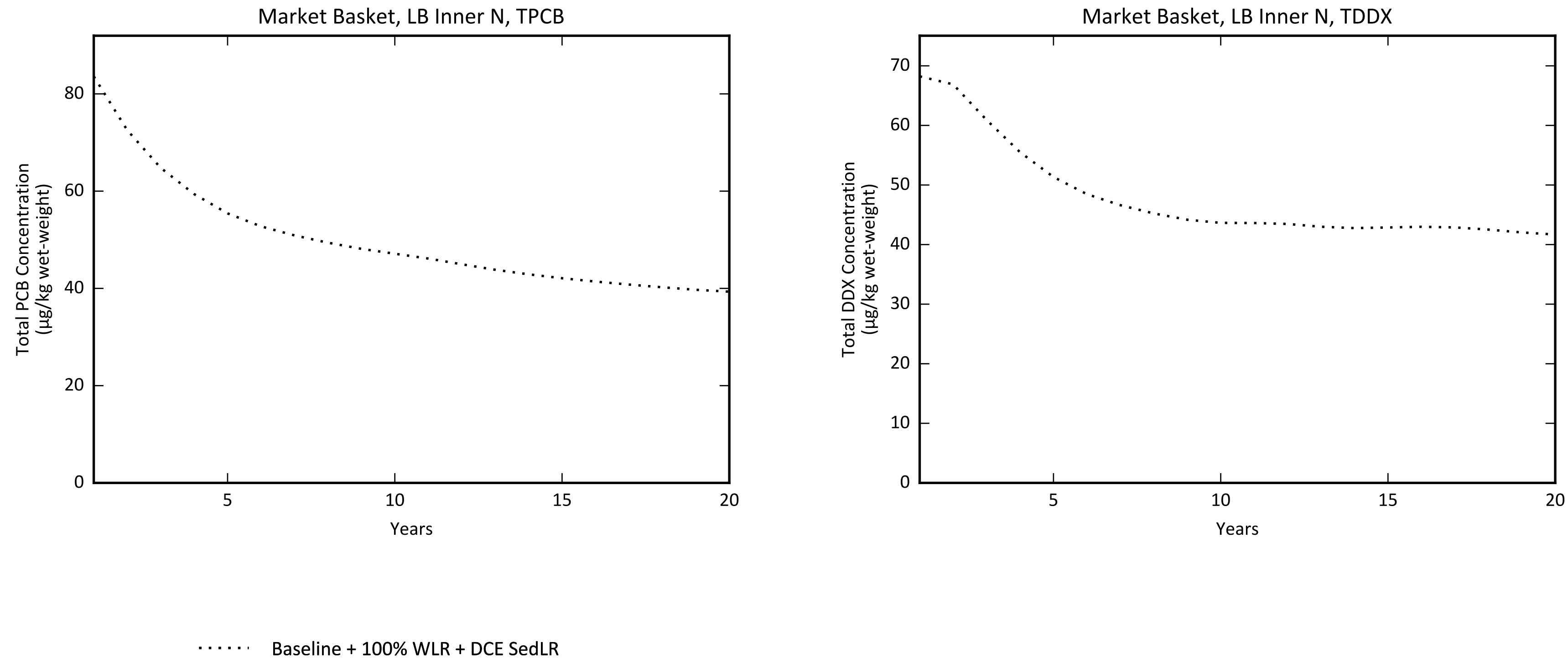
ANCHOR QEA

Figure B-6g

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + DCE SedLR in LB Inner N

Linked Model Data Summary Report

Greater Los Angeles and Long Beach Harbor Waters

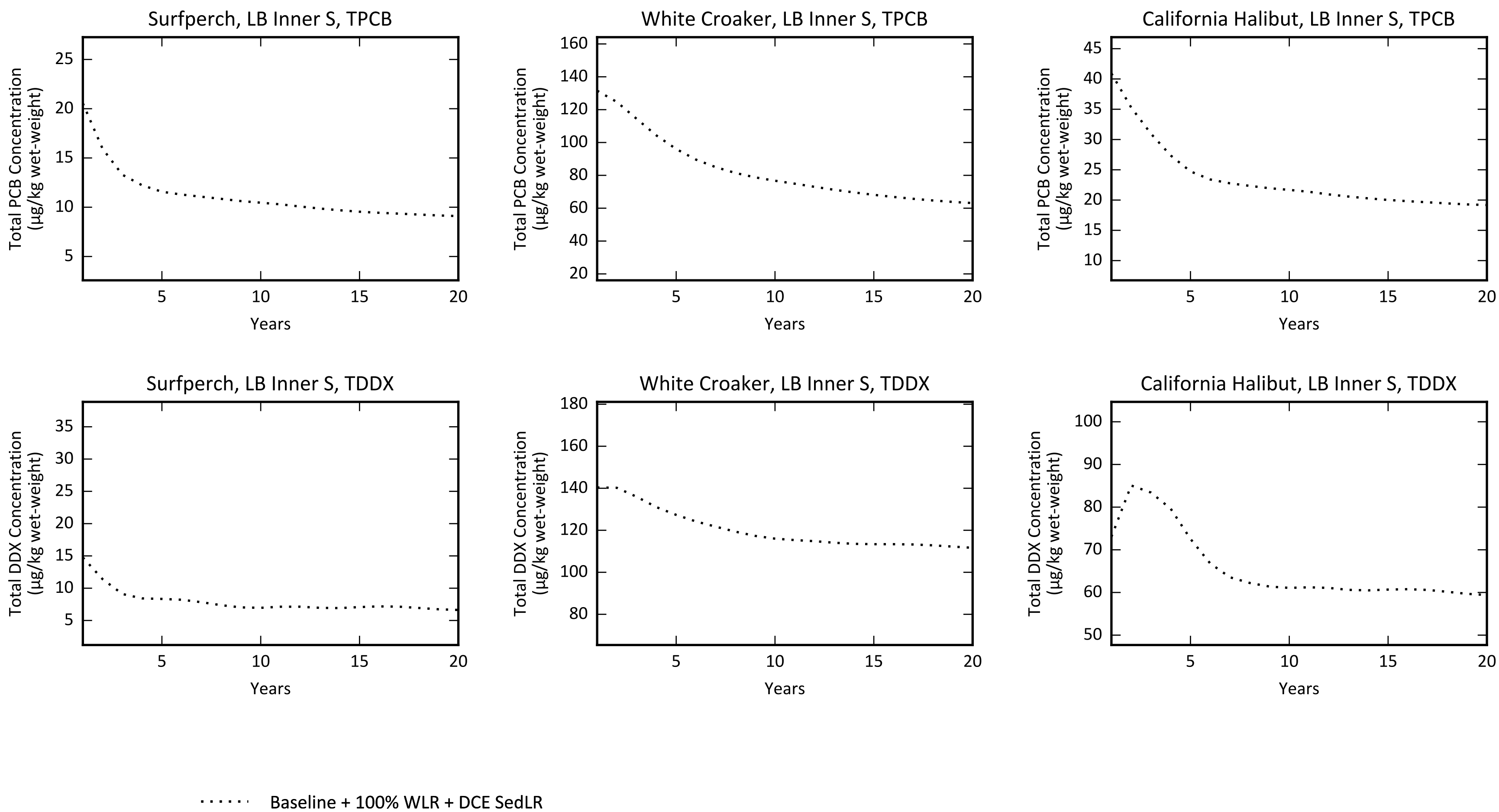


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1716 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:26 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

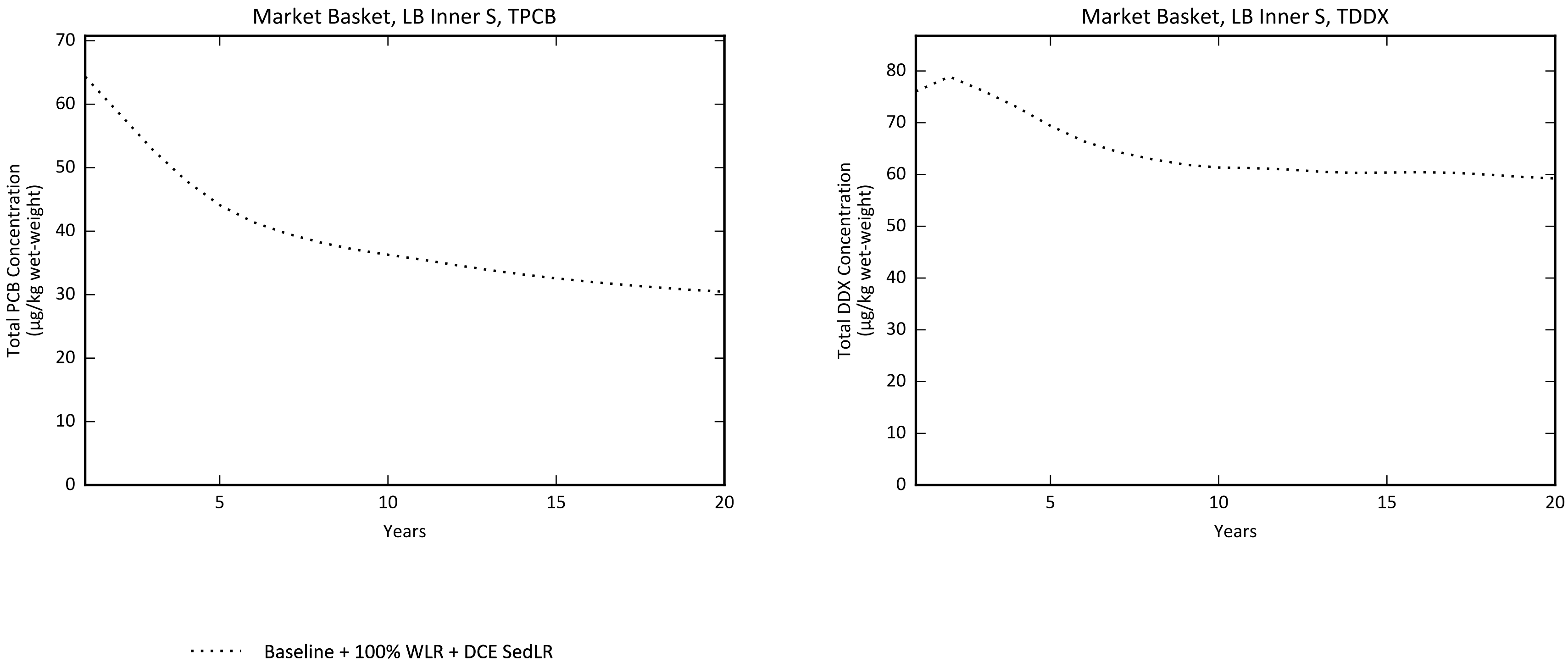
Figure B-6g
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + DCE SedLR in LB Inner N
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1716 and biota files v.1755 used for model.

Figure B-6h

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + DCE SedLR in LB Inner S



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1716 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:26 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

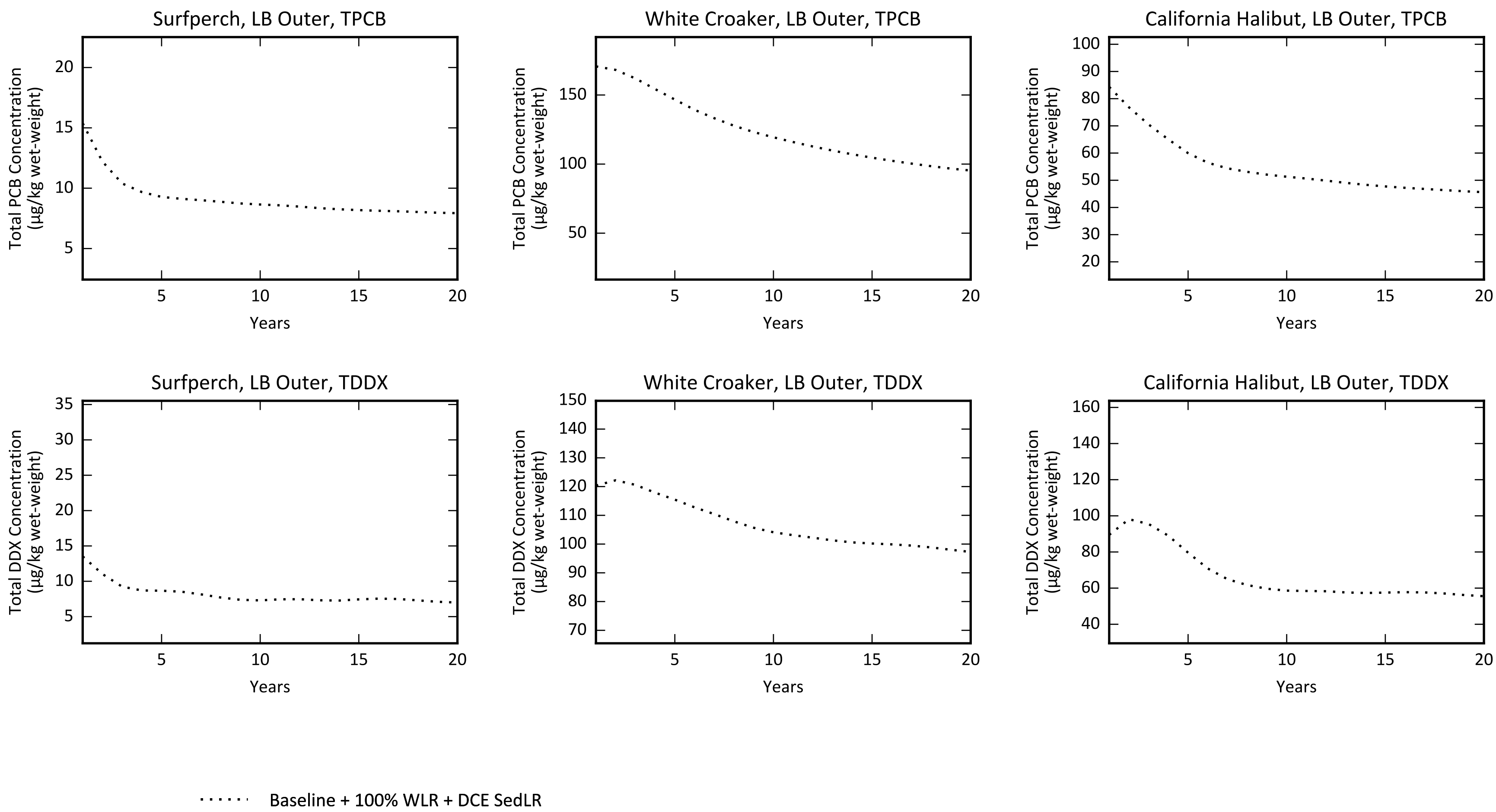
ANCHOR QEA

Figure B-6h

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + DCE SedLR in LB Inner S

Linked Model Data Summary Report

Greater Los Angeles and Long Beach Harbor Waters

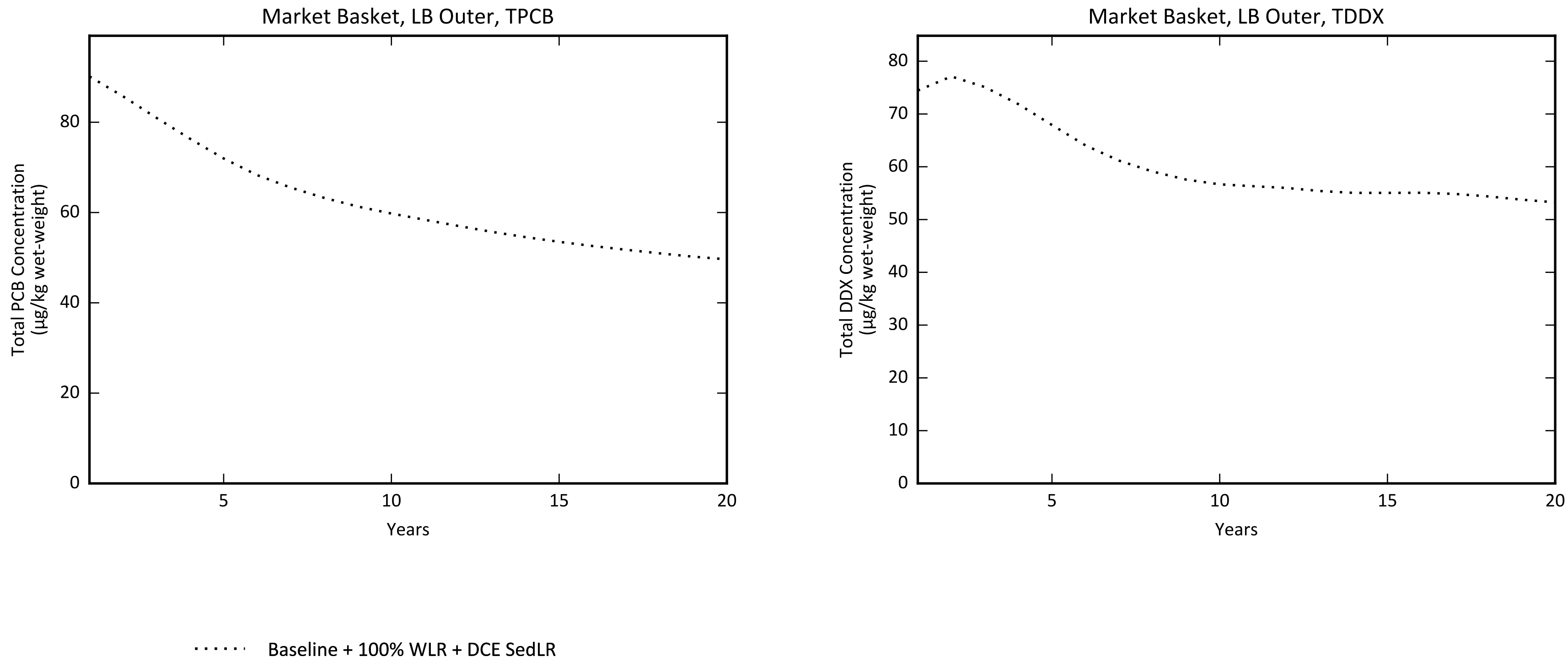


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1716 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:26 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-6i
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + DCE SedLR in LB Outer



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1716 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:27 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

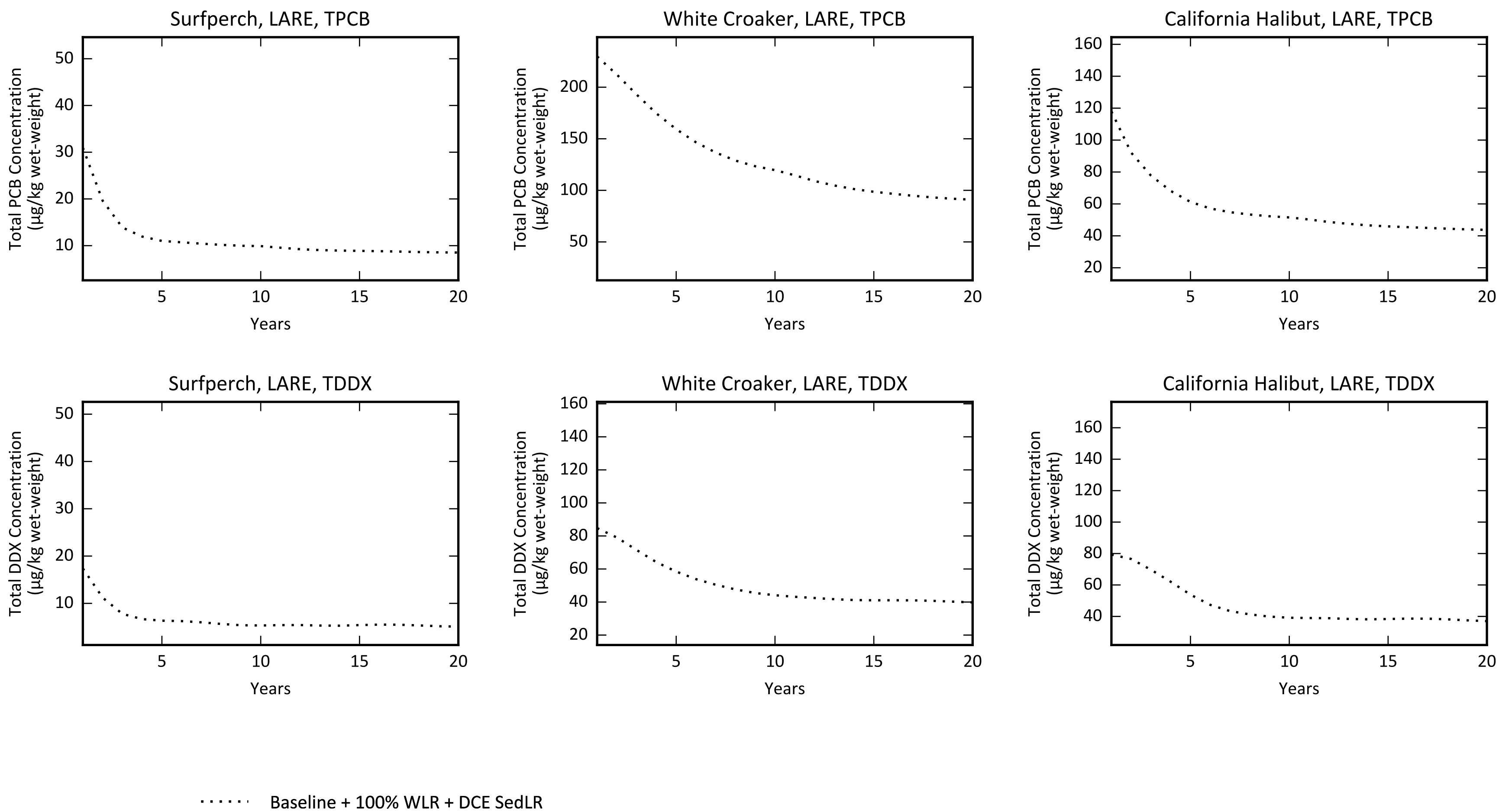
ANCHOR QEA

Figure B-6i

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + DCE SedLR in LB Outer

Linked Model Data Summary Report

Greater Los Angeles and Long Beach Harbor Waters



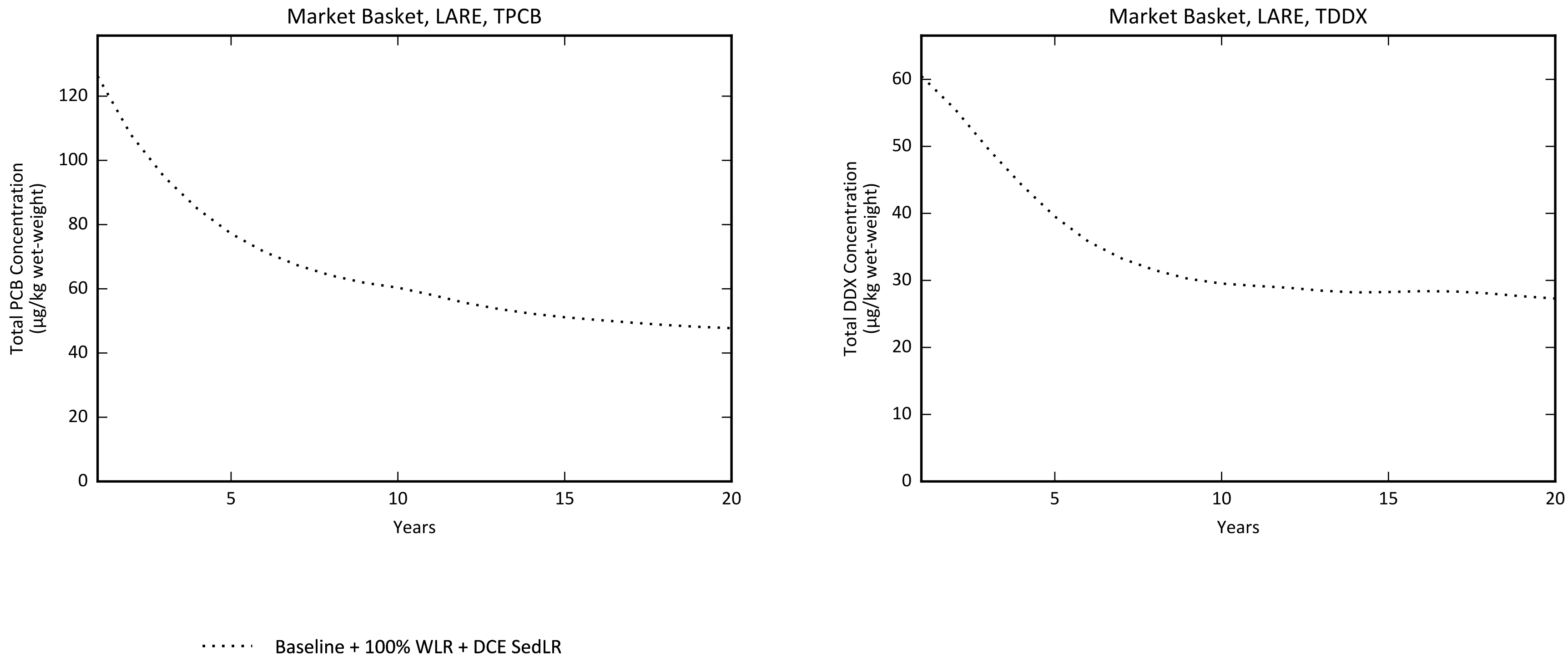
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1716 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:27 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-6j

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + DCE SedLR in LARE



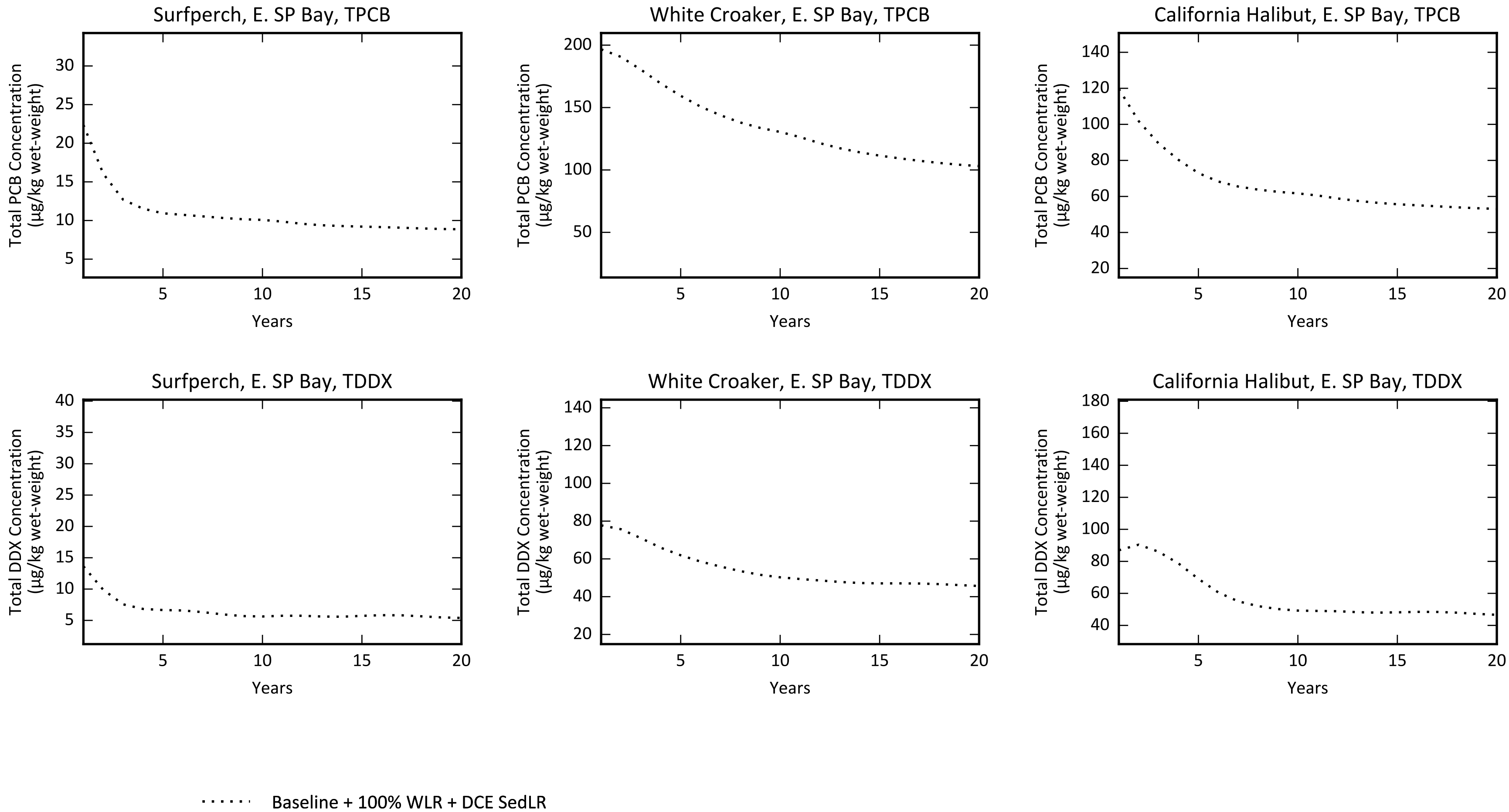
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1716 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:27 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-6j

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + DCE SedLR in LARE

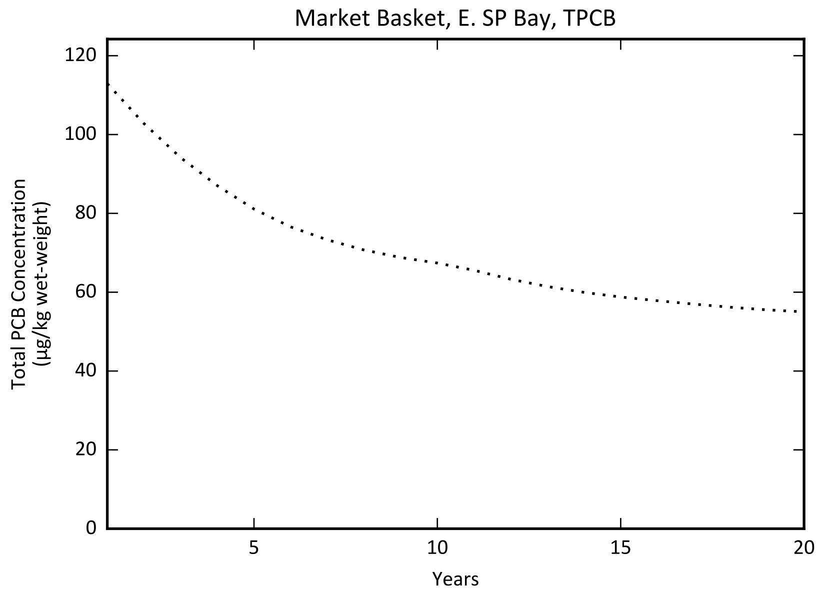


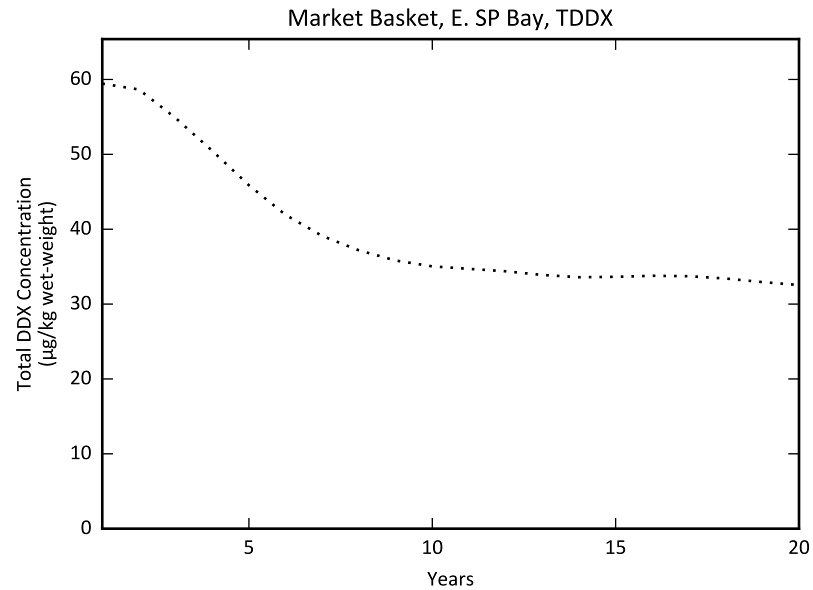
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1716 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:27 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-6k
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + DCE SedLR in E. SP Bay





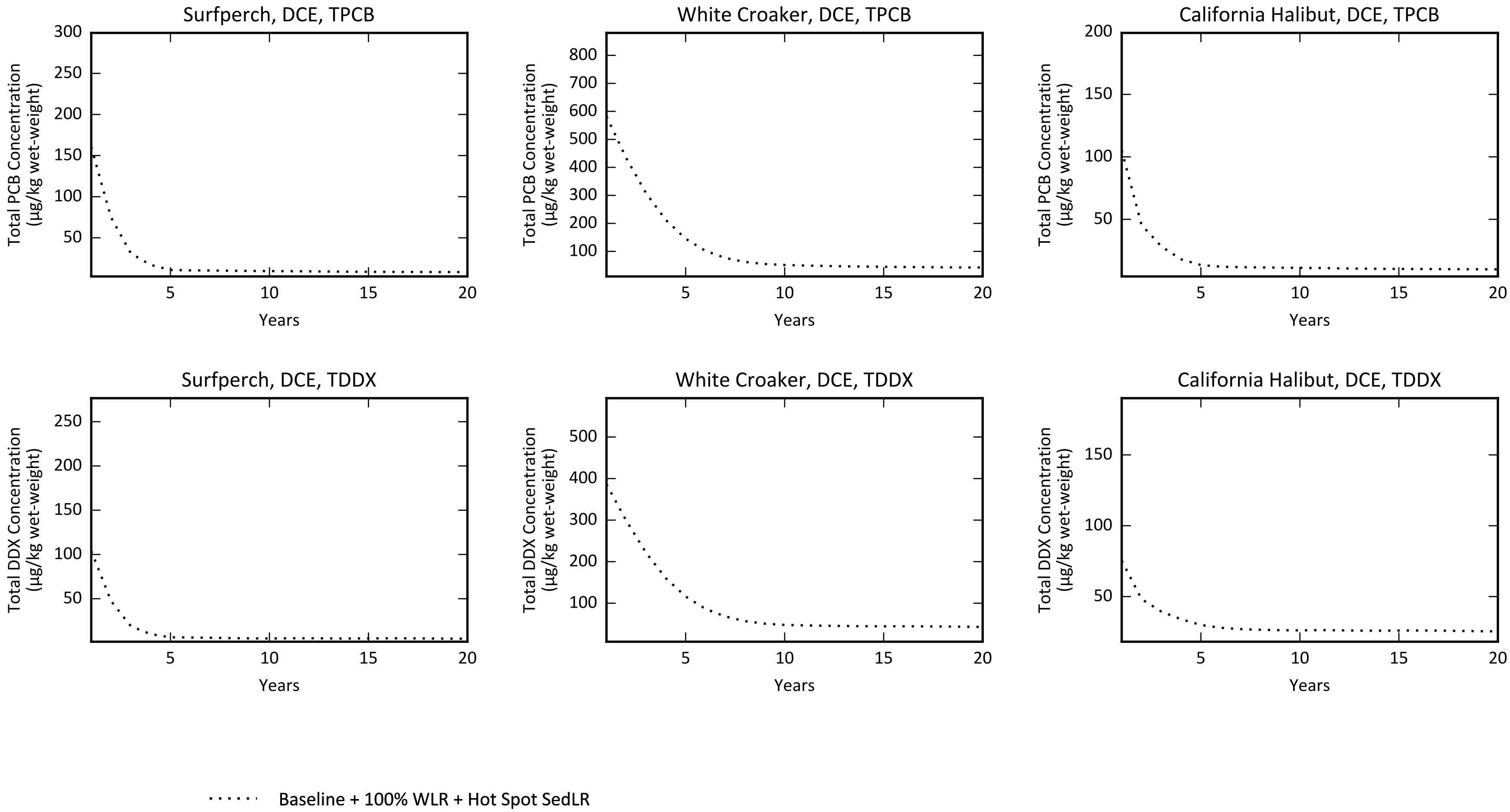
Baseline + 100% WLR + DCE SedLR

Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1716 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:27 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

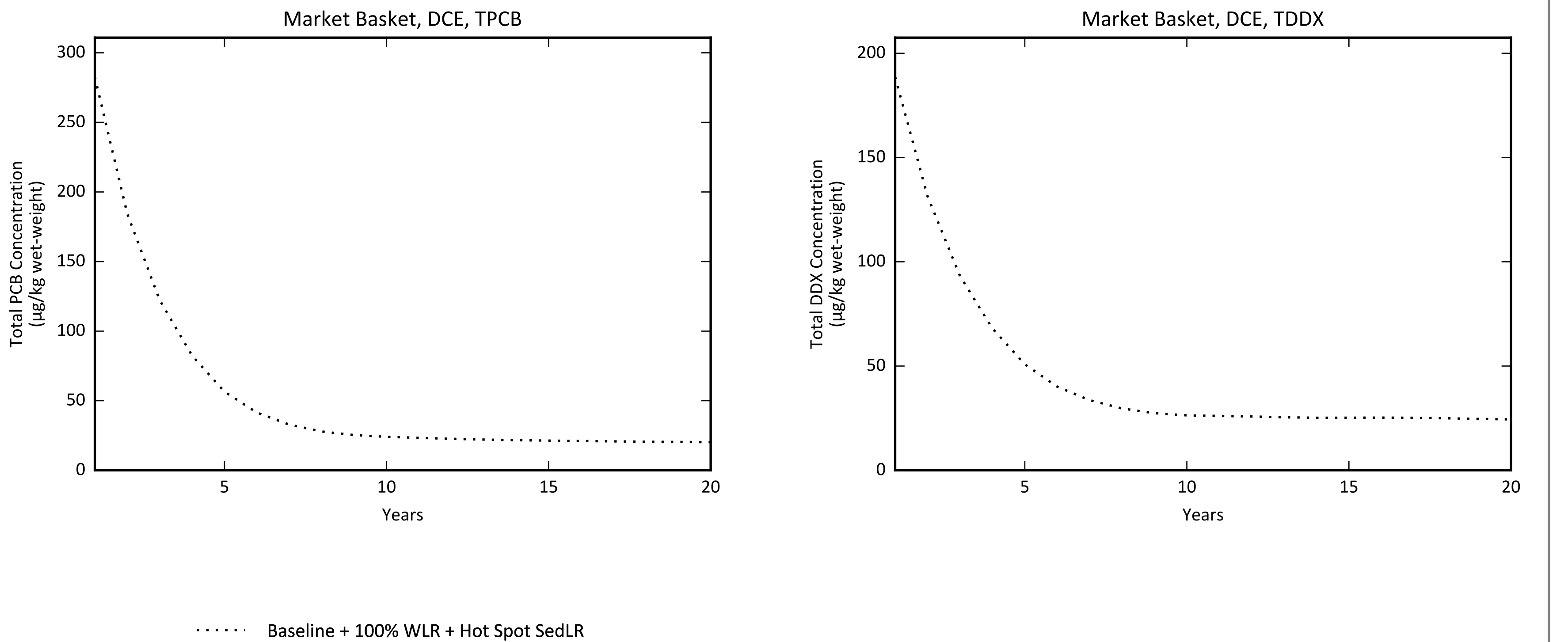
Figure B-6k
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + DCE SedLR in E. SP Bay
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1717 and biota files v.1755 used for model.

Figure B-7a

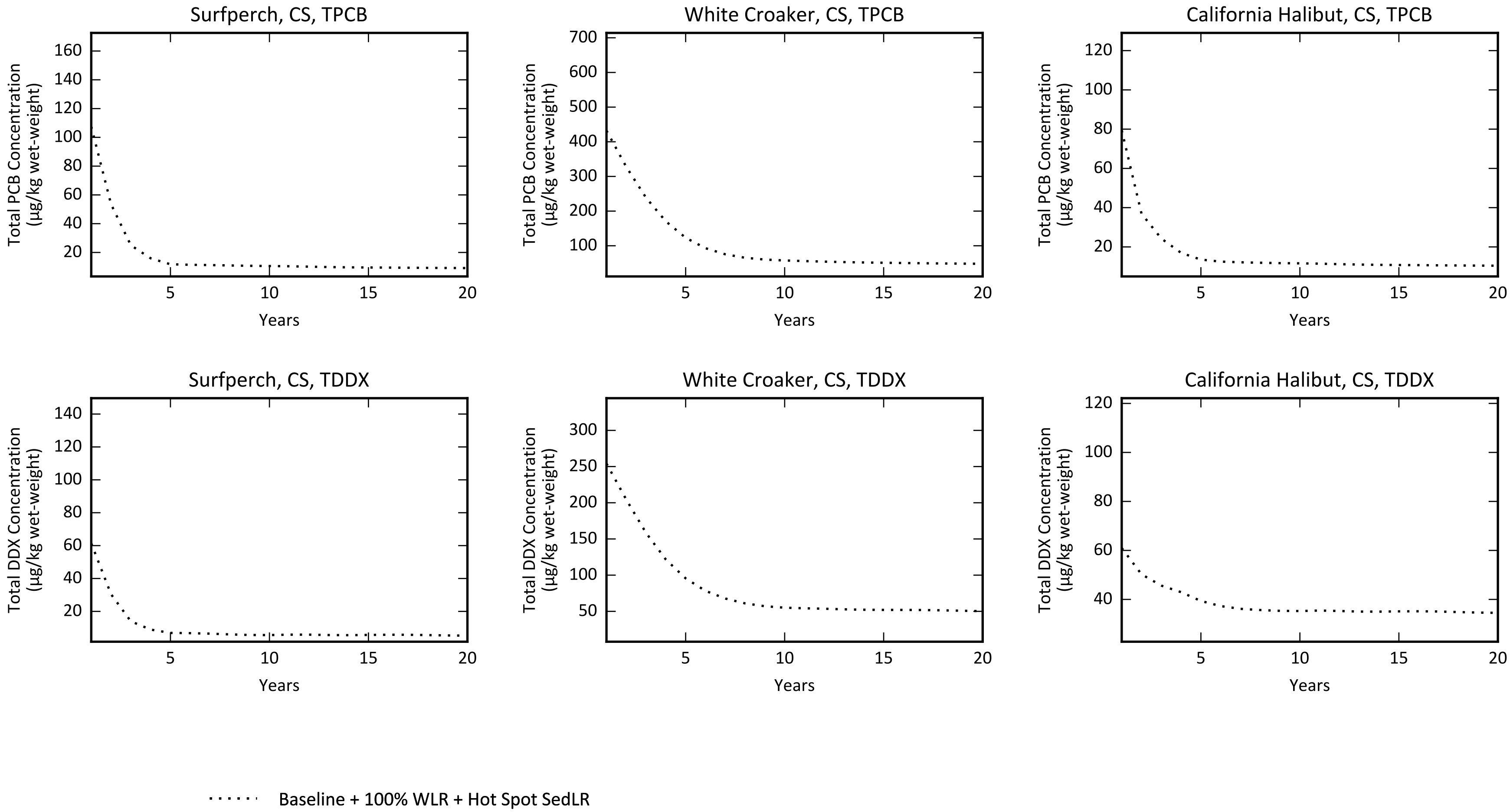
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + Hot Spot SedLR in DCE



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1717 and biota files v.1755 used for model.

Figure B-7a

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + Hot Spot SedLR in DCE

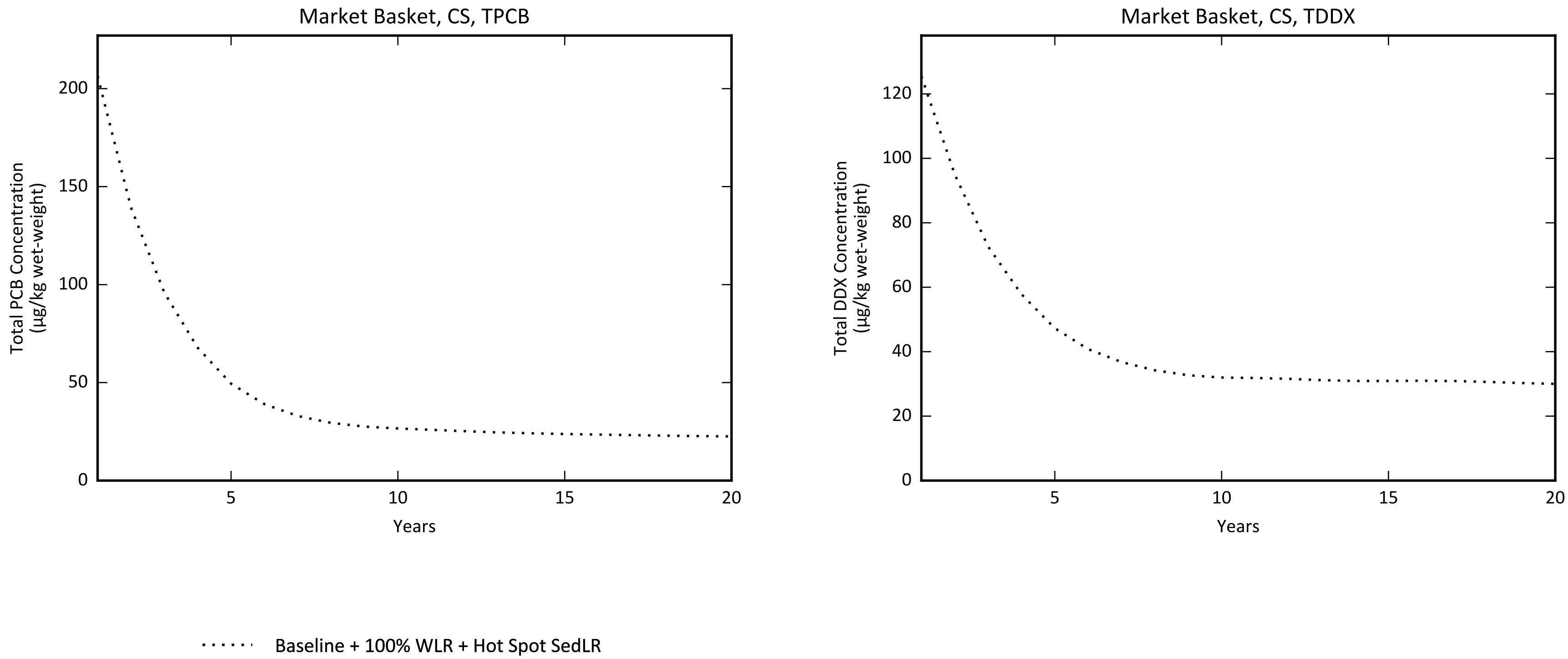


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1717 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:25 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-7b
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + Hot Spot SedLR in CS



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1717 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:25 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

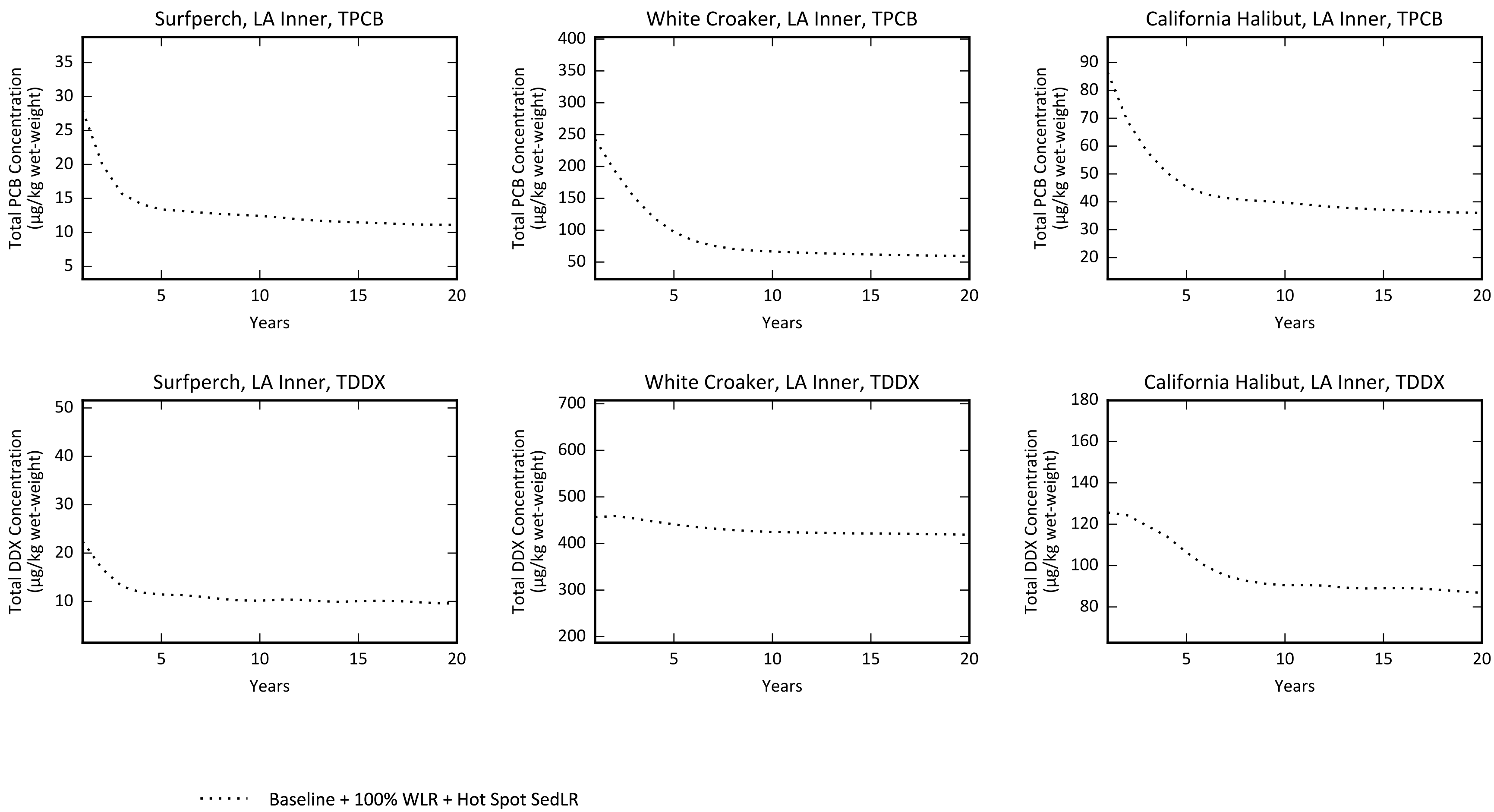
ANCHOR QEA

Figure B-7b

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + Hot Spot SedLR in CS

Linked Model Data Summary Report

Greater Los Angeles and Long Beach Harbor Waters



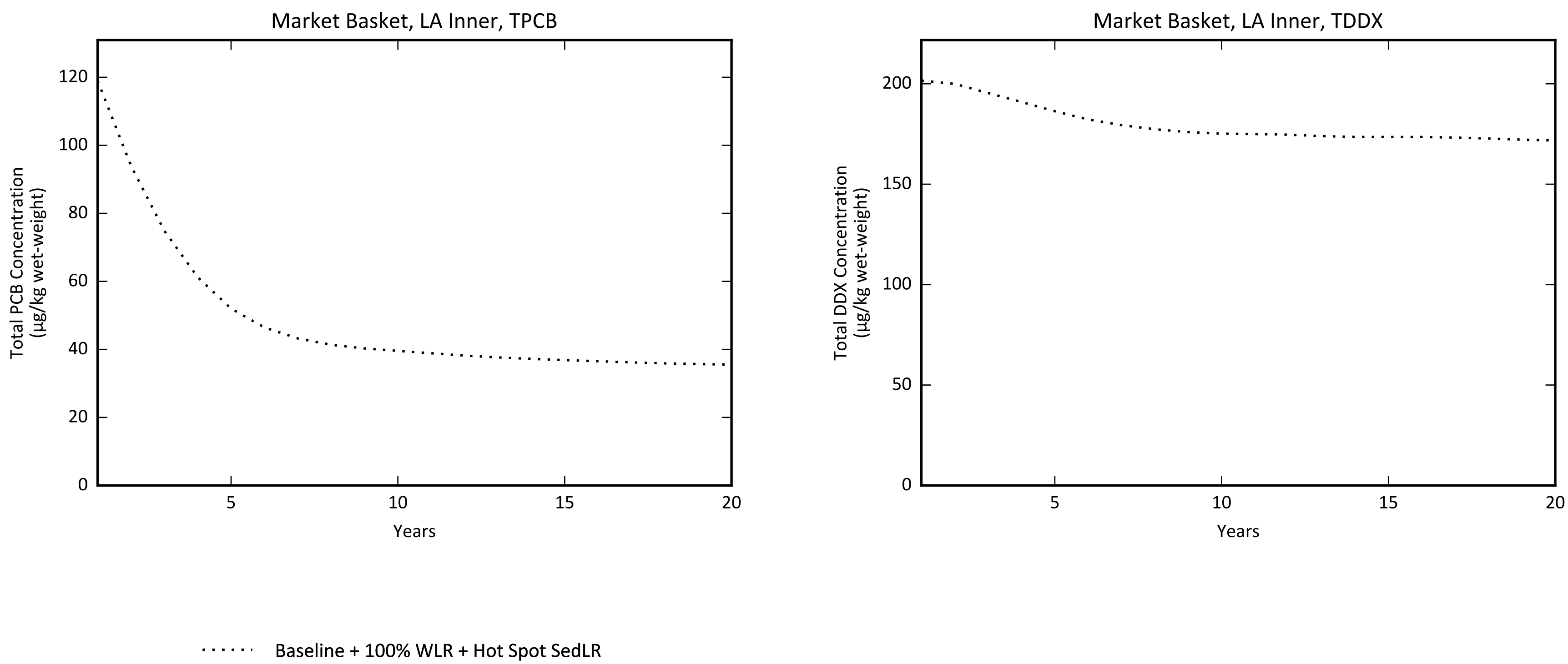
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1717 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:25 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-7c

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + Hot Spot SedLR in LA Inner

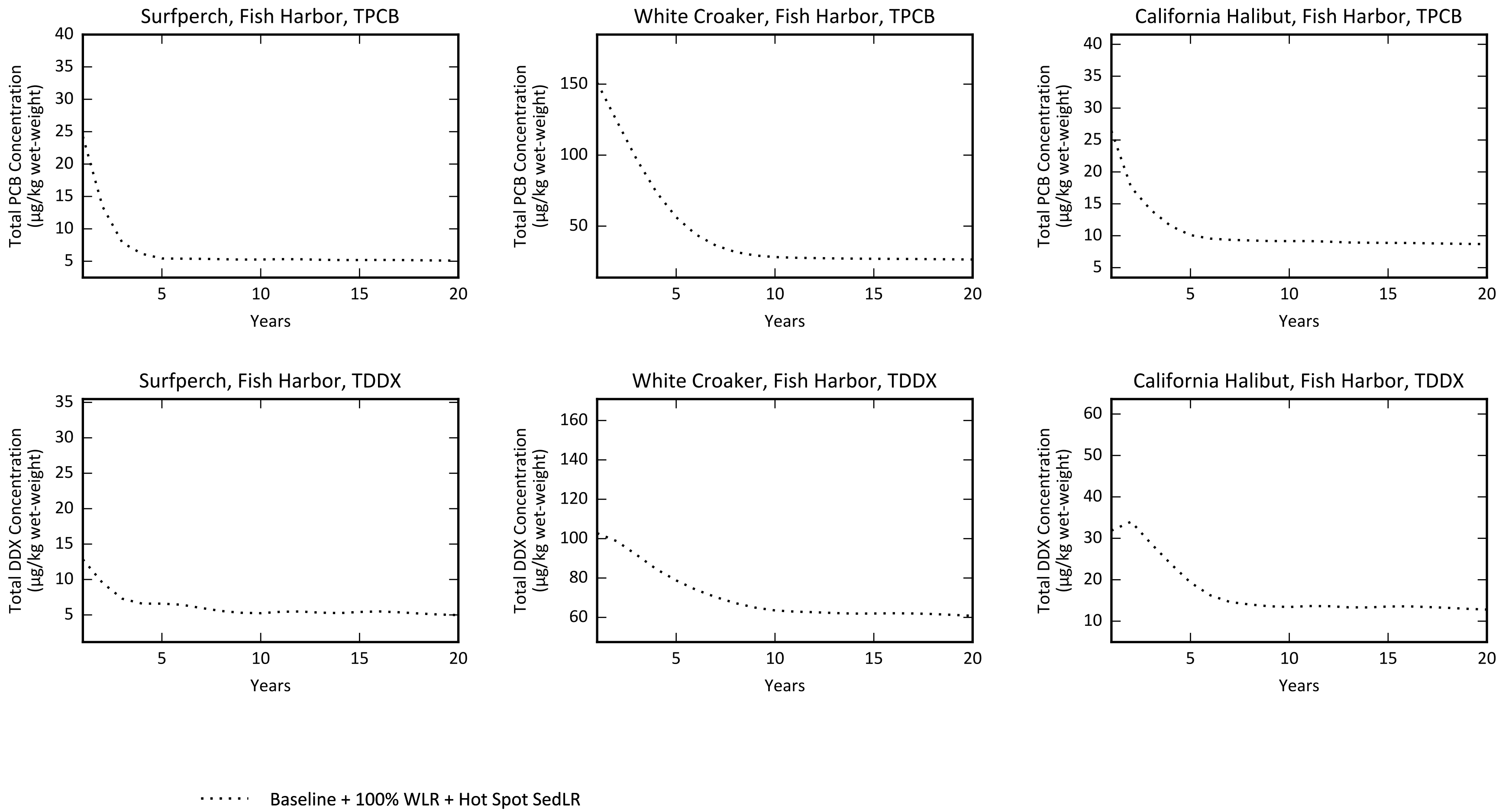


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1717 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:25 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-7c
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + Hot Spot SedLR in LA Inner



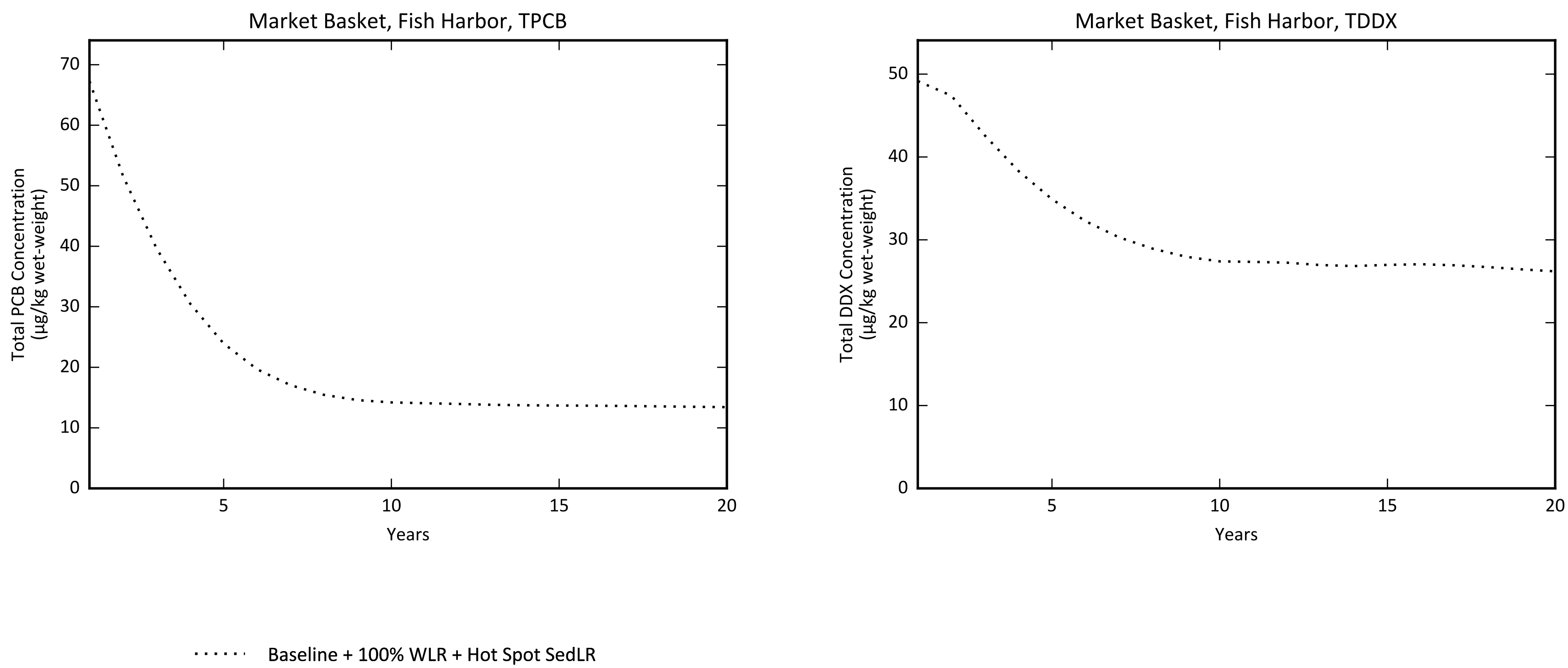
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1717 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:25 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-7d

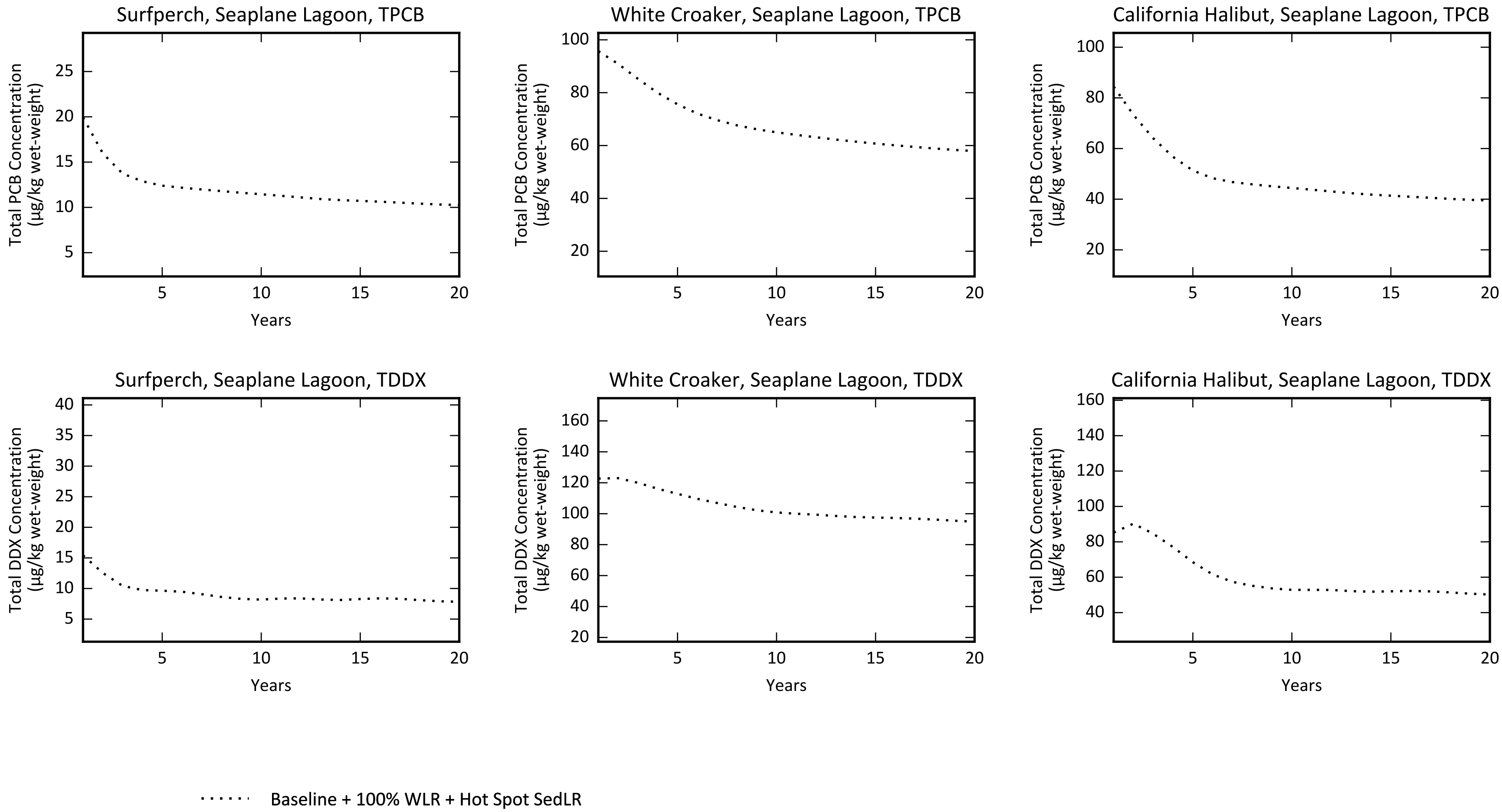
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + Hot Spot SedLR in Fish Harbor



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1717 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:25 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

Figure B-7d
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + Hot Spot SedLR in Fish Harbor



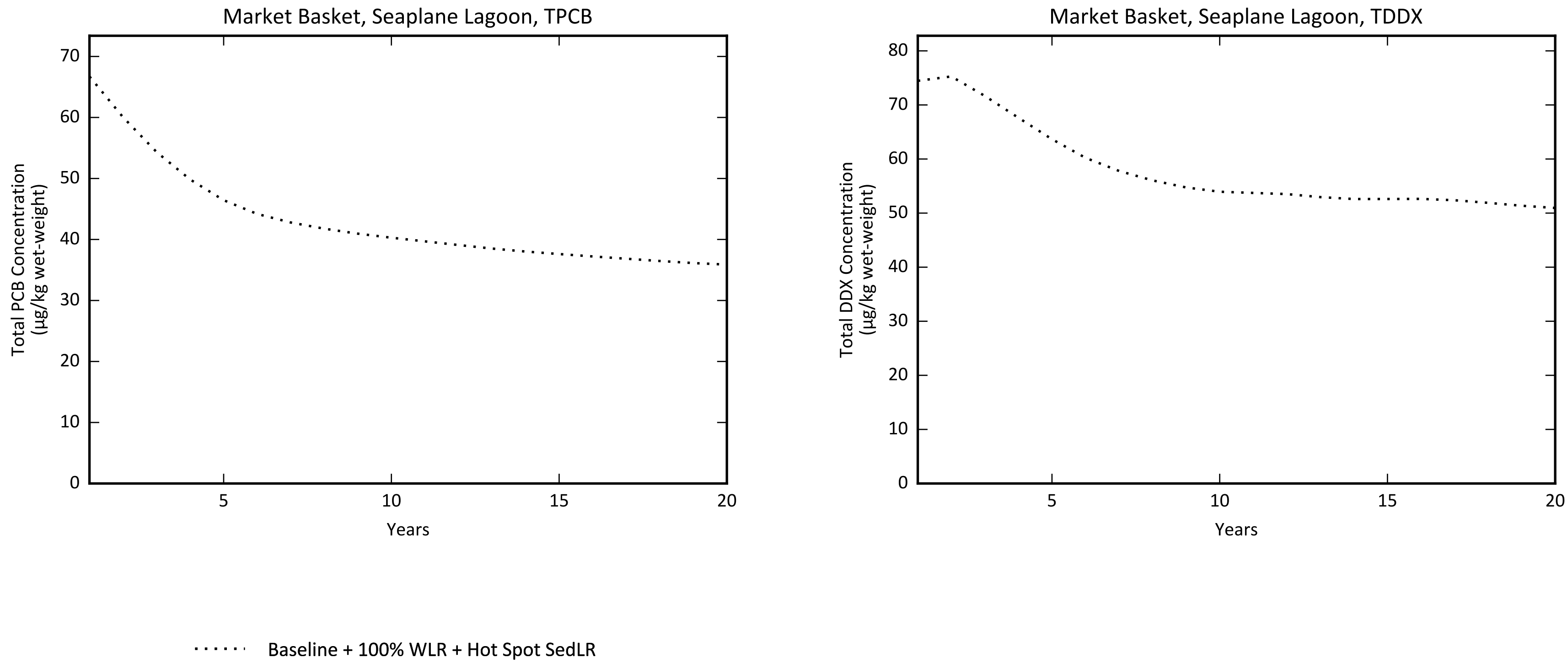
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1717 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:25 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-7e

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + Hot Spot SedLR in Seaplane Lagoon

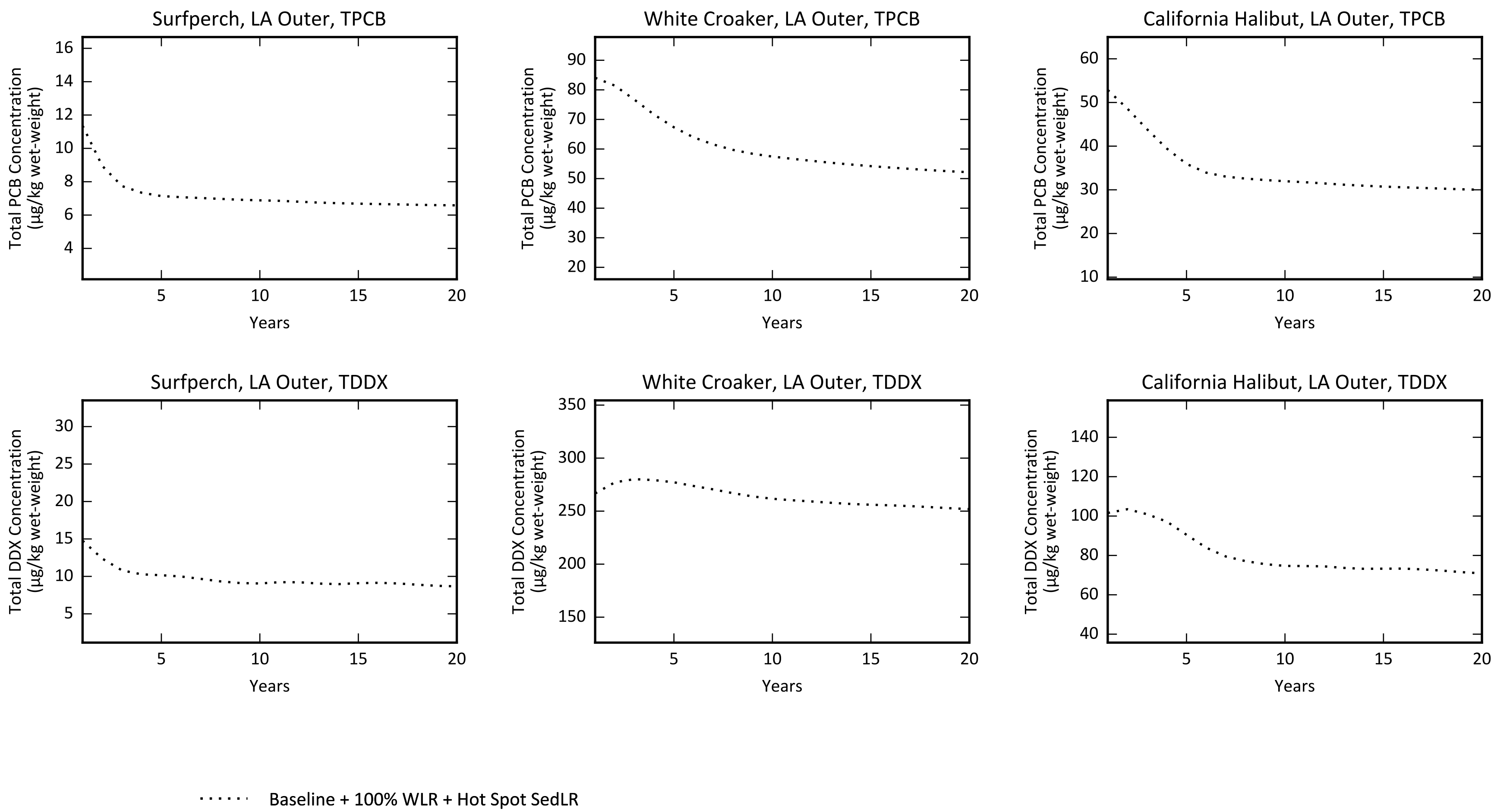


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1717 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:25 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-7e
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + Hot Spot SedLR in Seaplane Lagoon



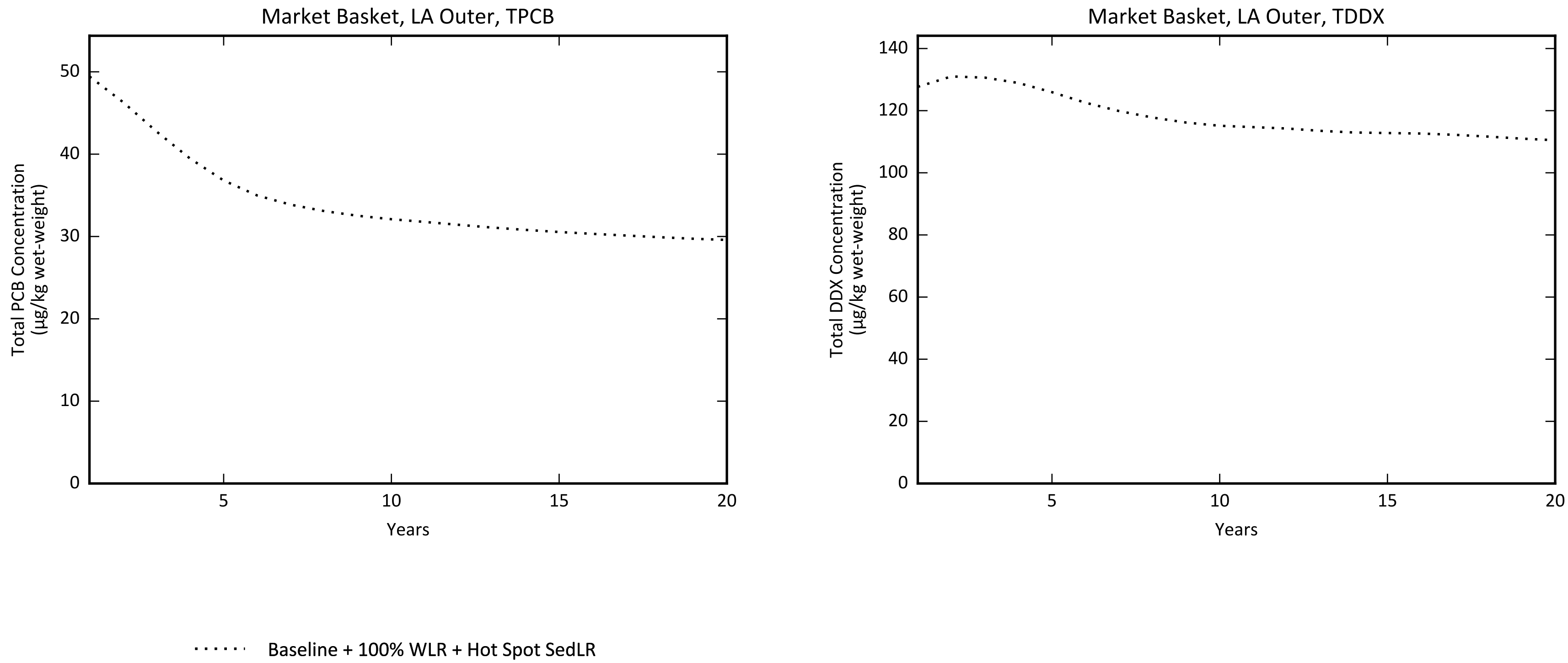
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1717 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:25 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-7f

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + Hot Spot SedLR in LA Outer

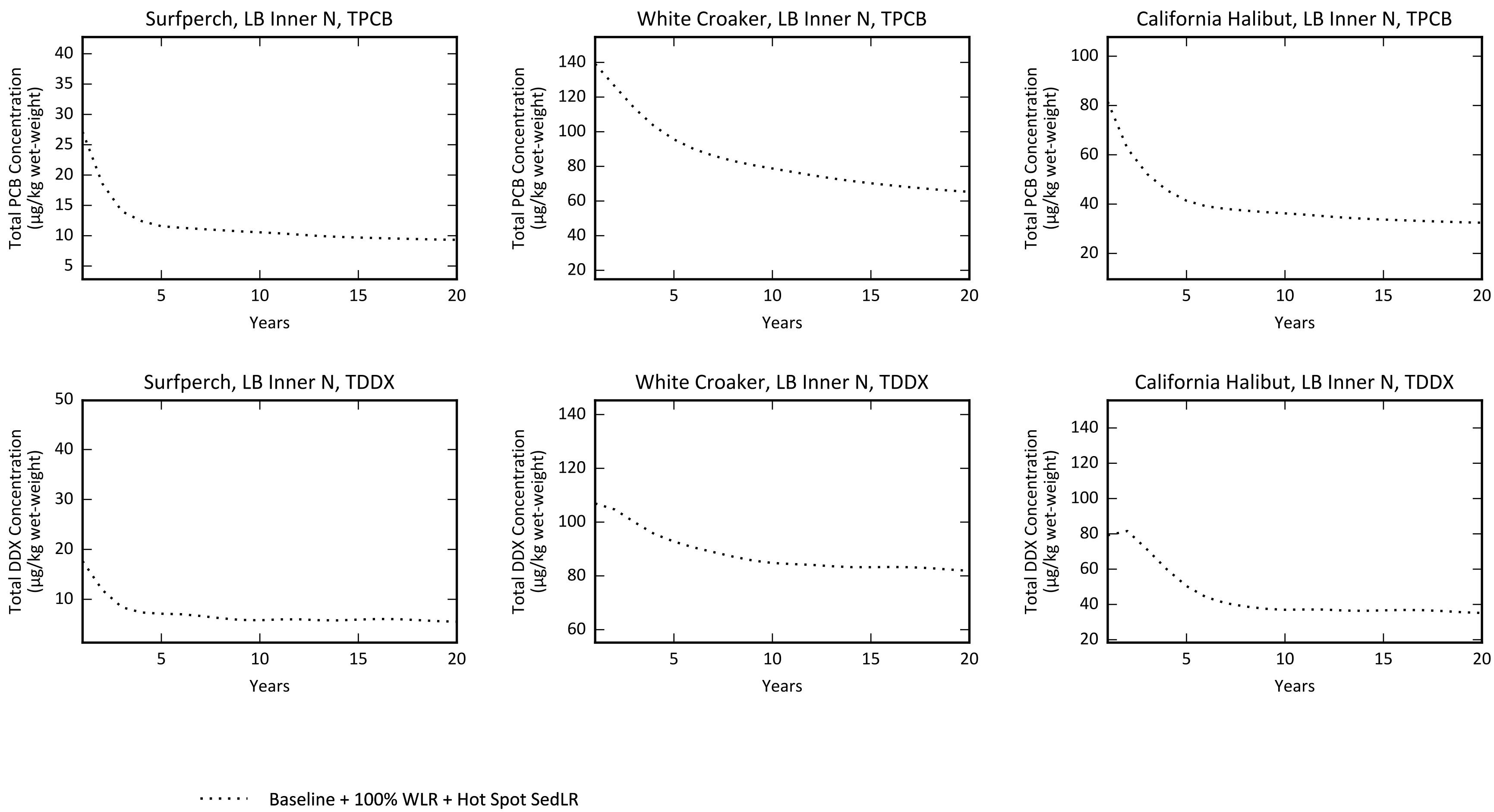


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1717 and biota files v.1755 used for model.

ANCHOR QEA

Figure B-7f

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + Hot Spot SedLR in LA Outer

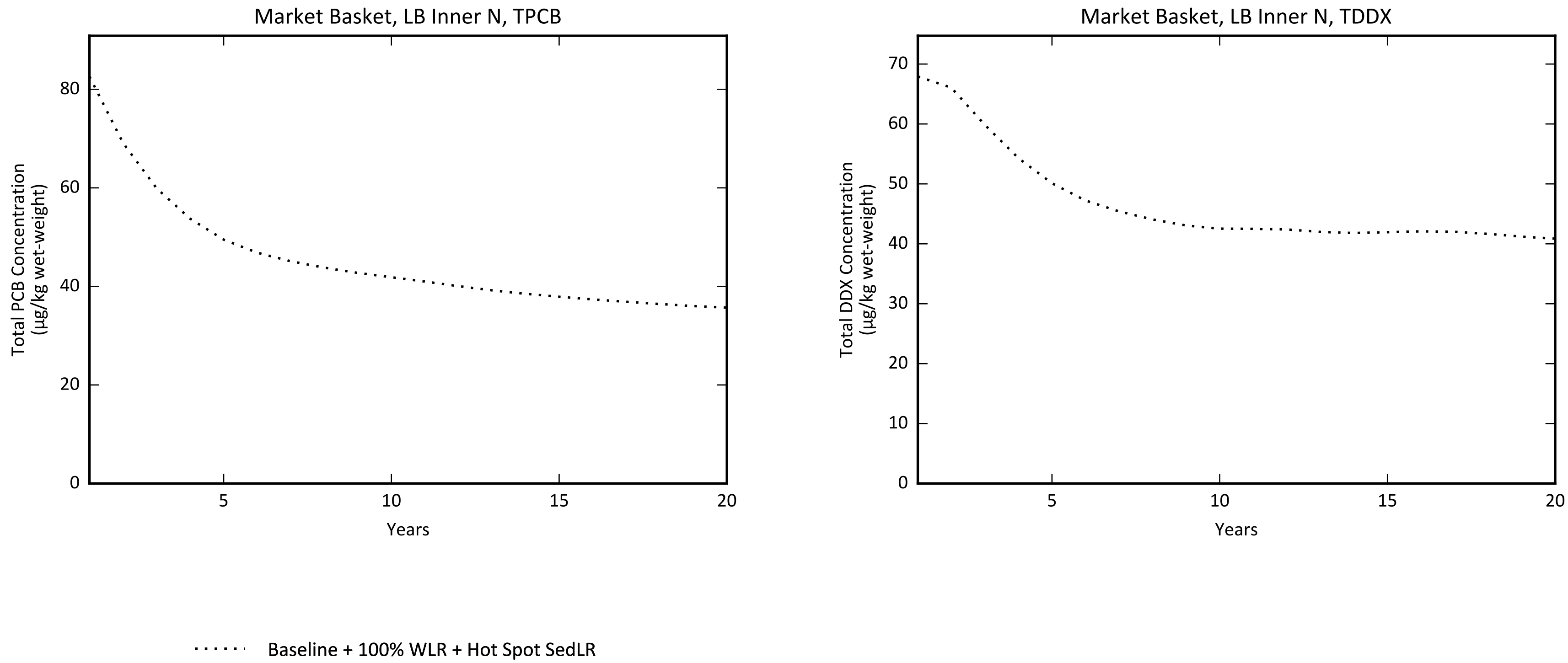


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1717 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:25 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-7g
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + Hot Spot SedLR in LB Inner N

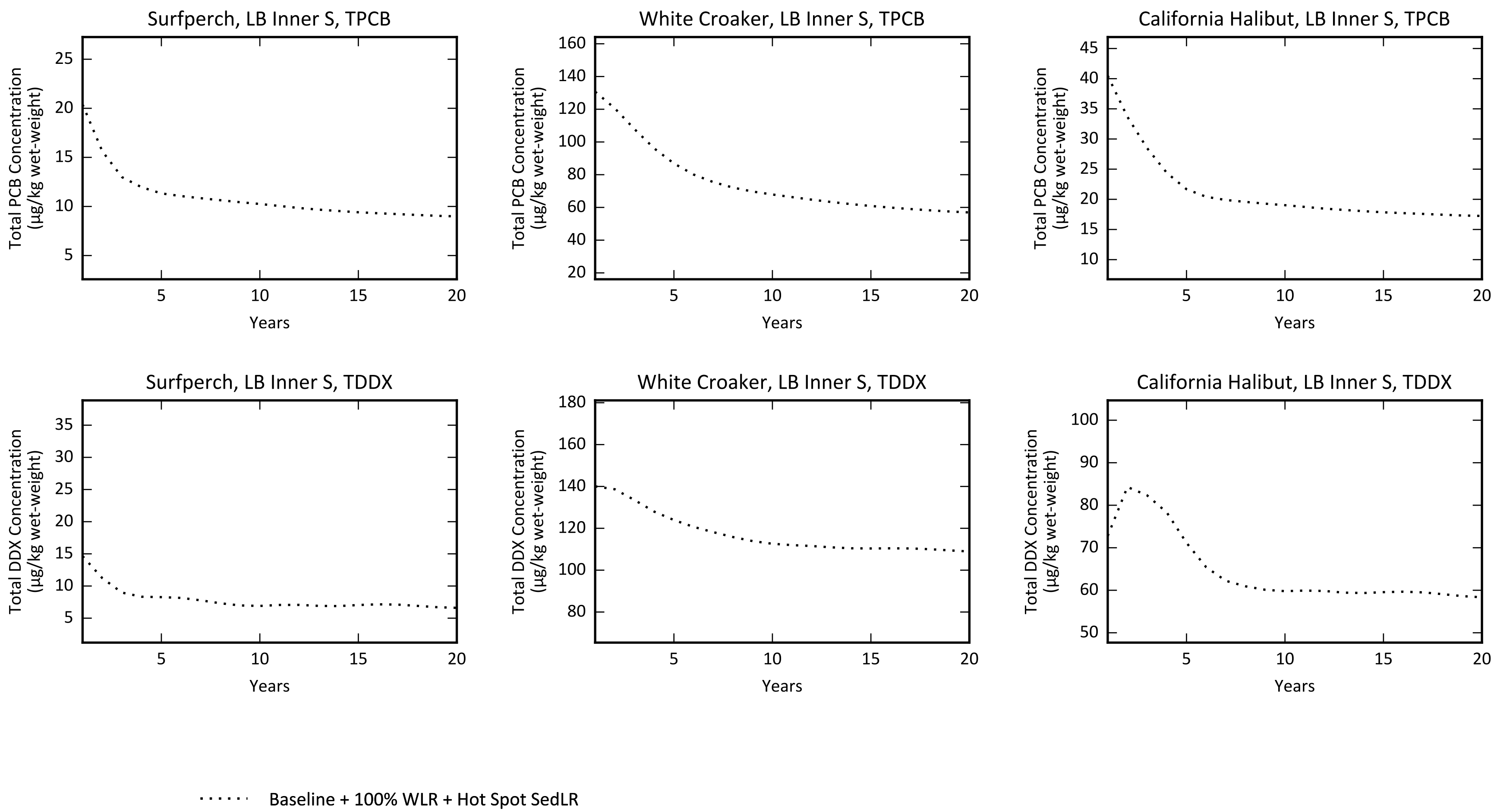


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1717 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:25 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-7g
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + Hot Spot SedLR in LB Inner N



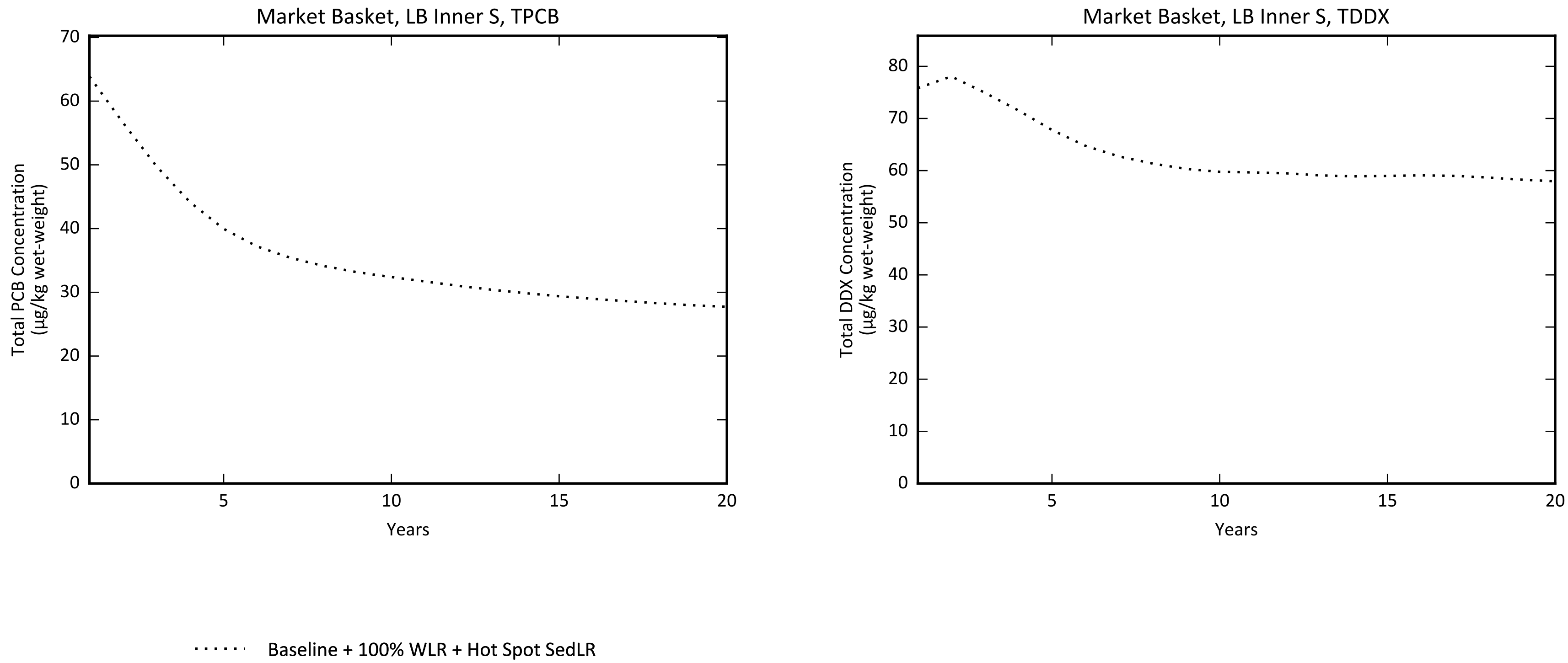
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1717 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:25 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-7h

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + Hot Spot SedLR in LB Inner S

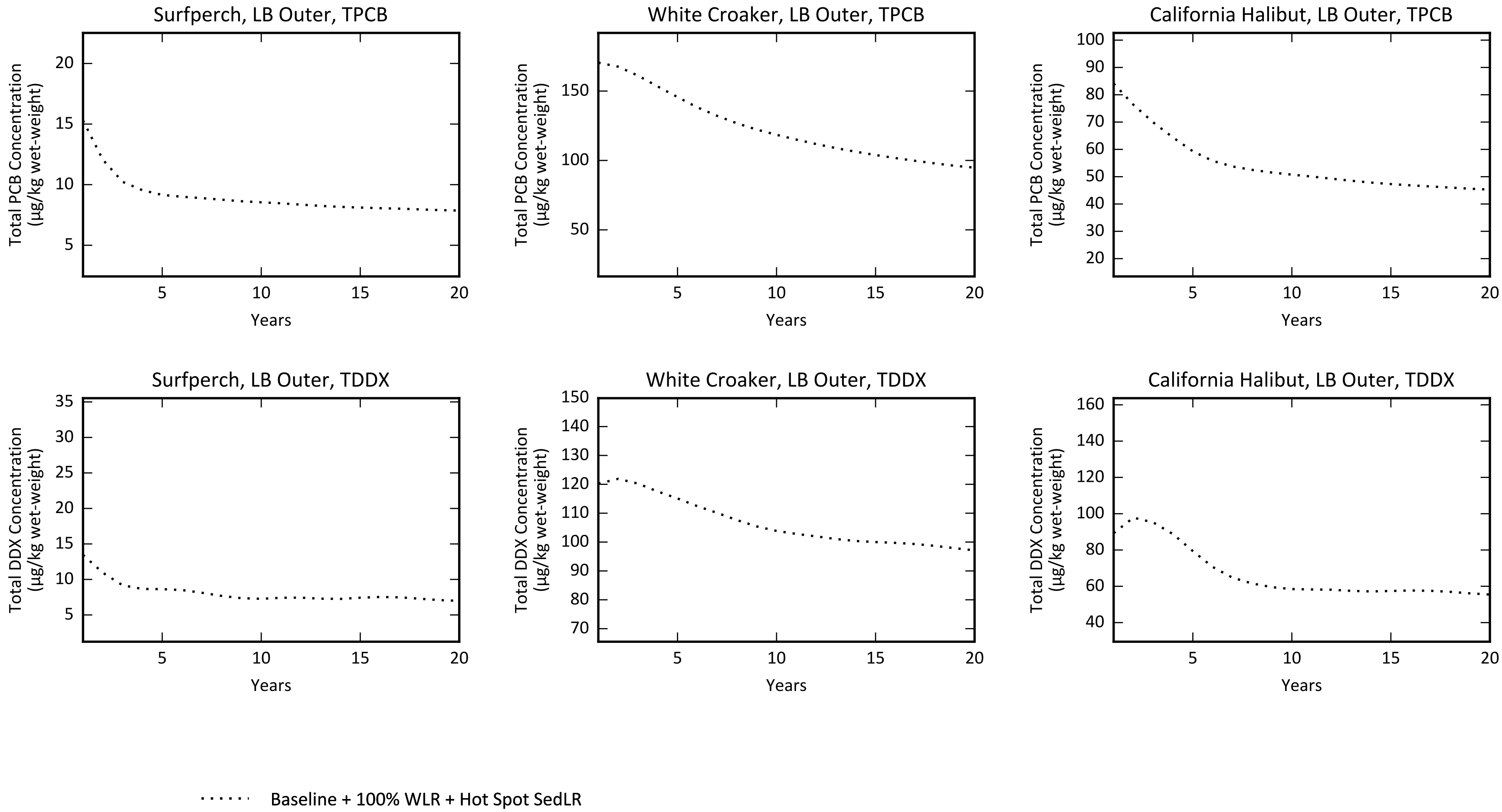


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1717 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:26 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-7h
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + Hot Spot SedLR in LB Inner S
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

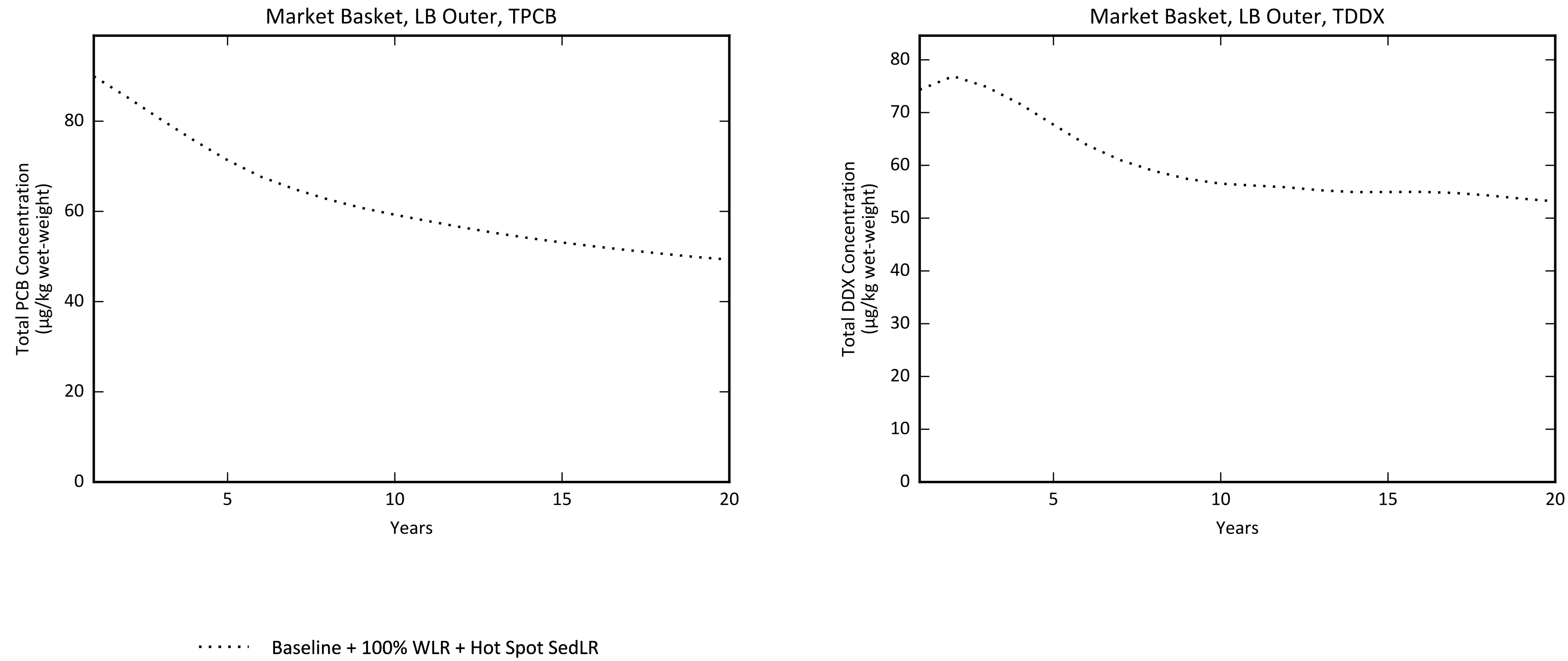


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1717 and biota files v.1755 used for model.

ANCHOR QEA

Figure B-7i

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + Hot Spot SedLR in LB Outer



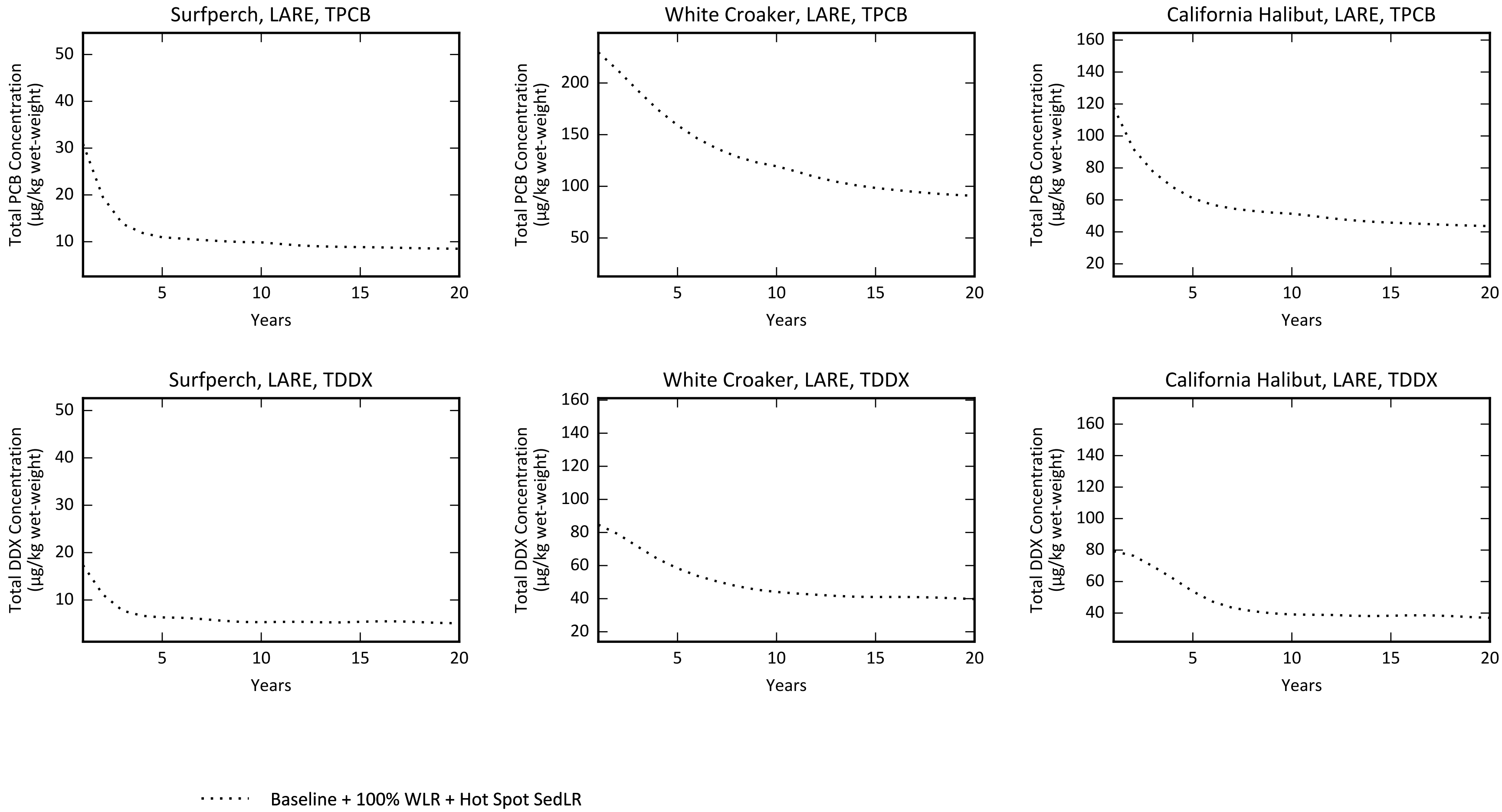
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1717 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:26 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-7i

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + Hot Spot SedLR in LB Outer

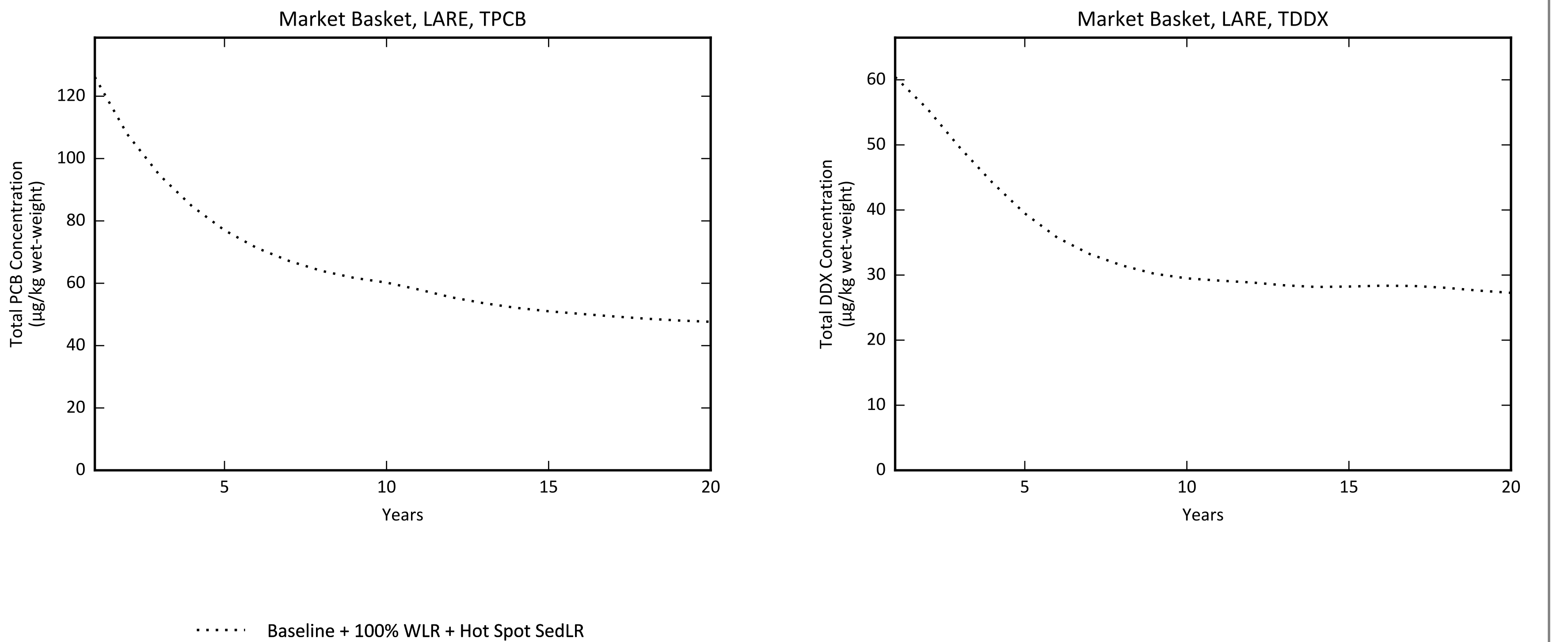


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1717 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:26 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-7j
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + Hot Spot SedLR in LARE
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

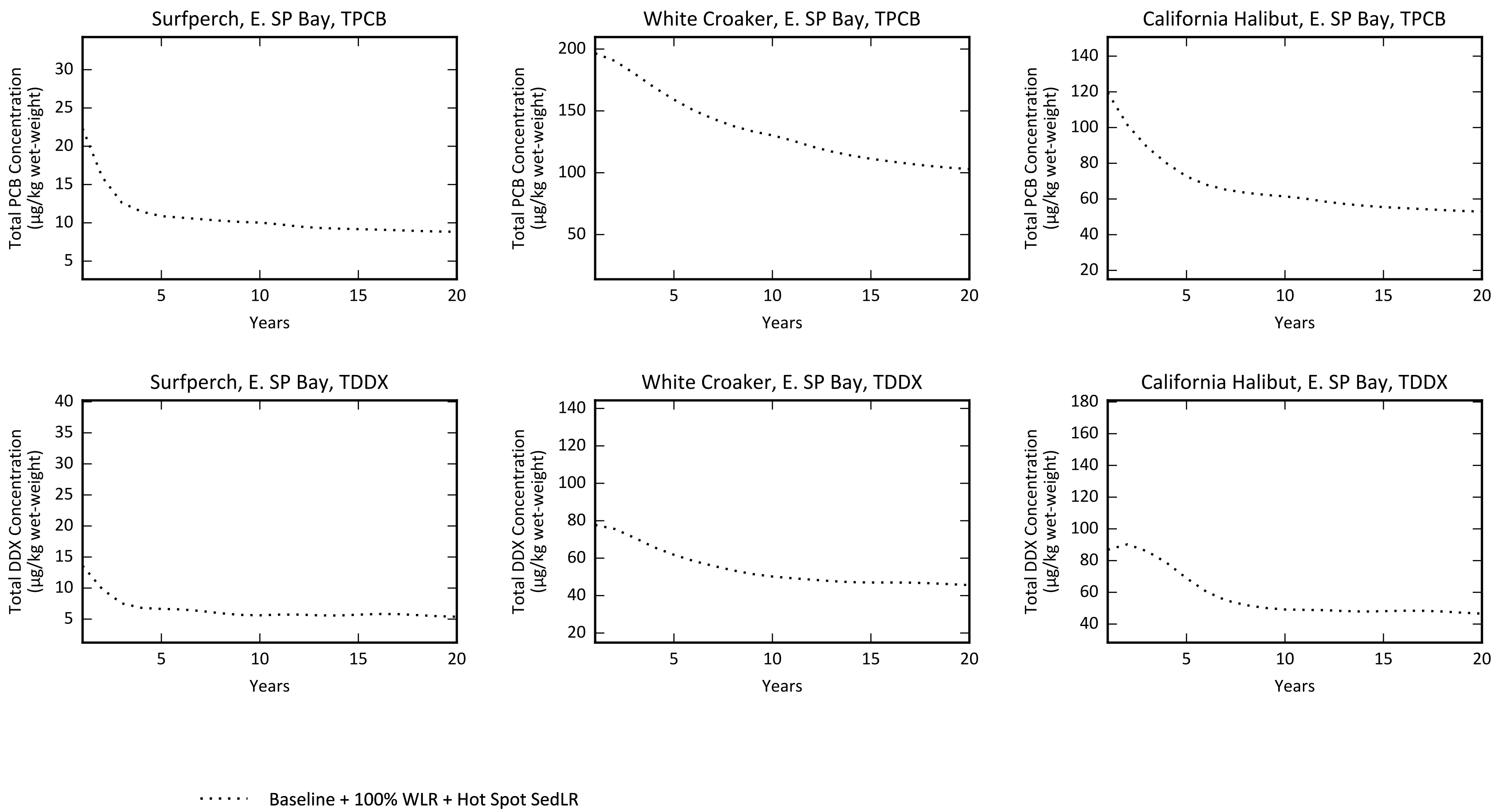


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1717 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:26 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-7j
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + Hot Spot SedLR in LARE



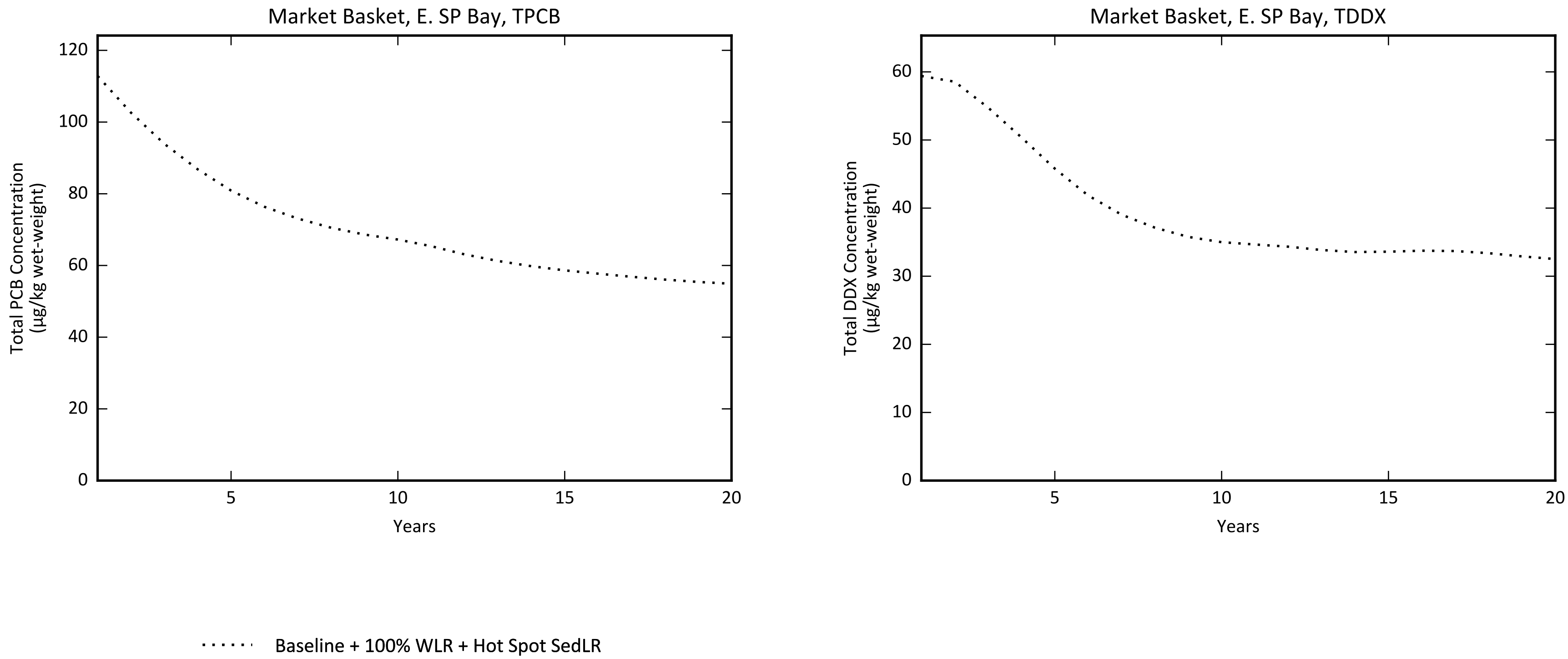
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1717 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:26 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-7k

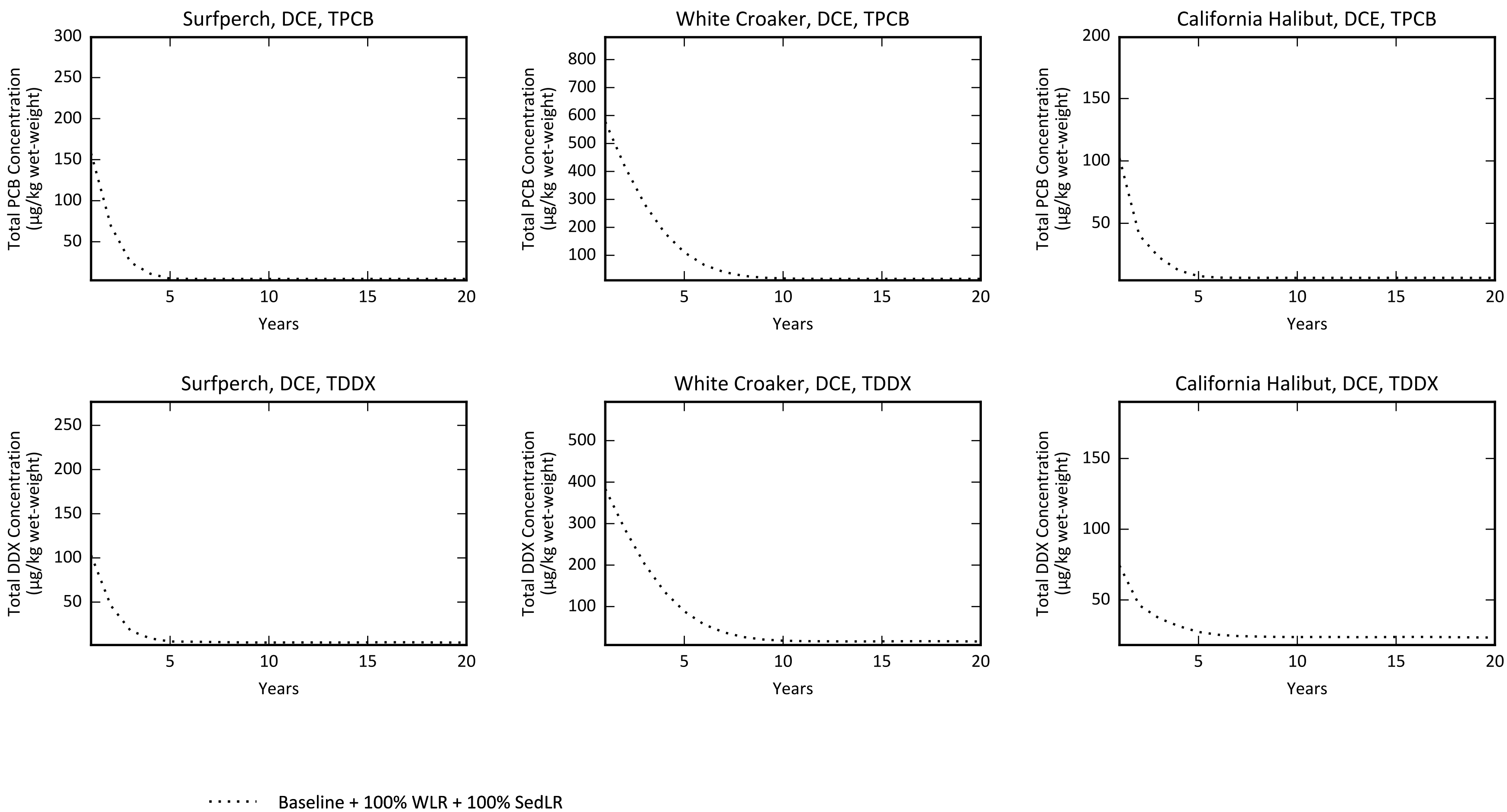
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + Hot Spot SedLR in E. SP Bay



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1717 and biota files v.1755 used for model.

Figure B-7k

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + Hot Spot SedLR in E. SP Bay



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1718 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:24 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

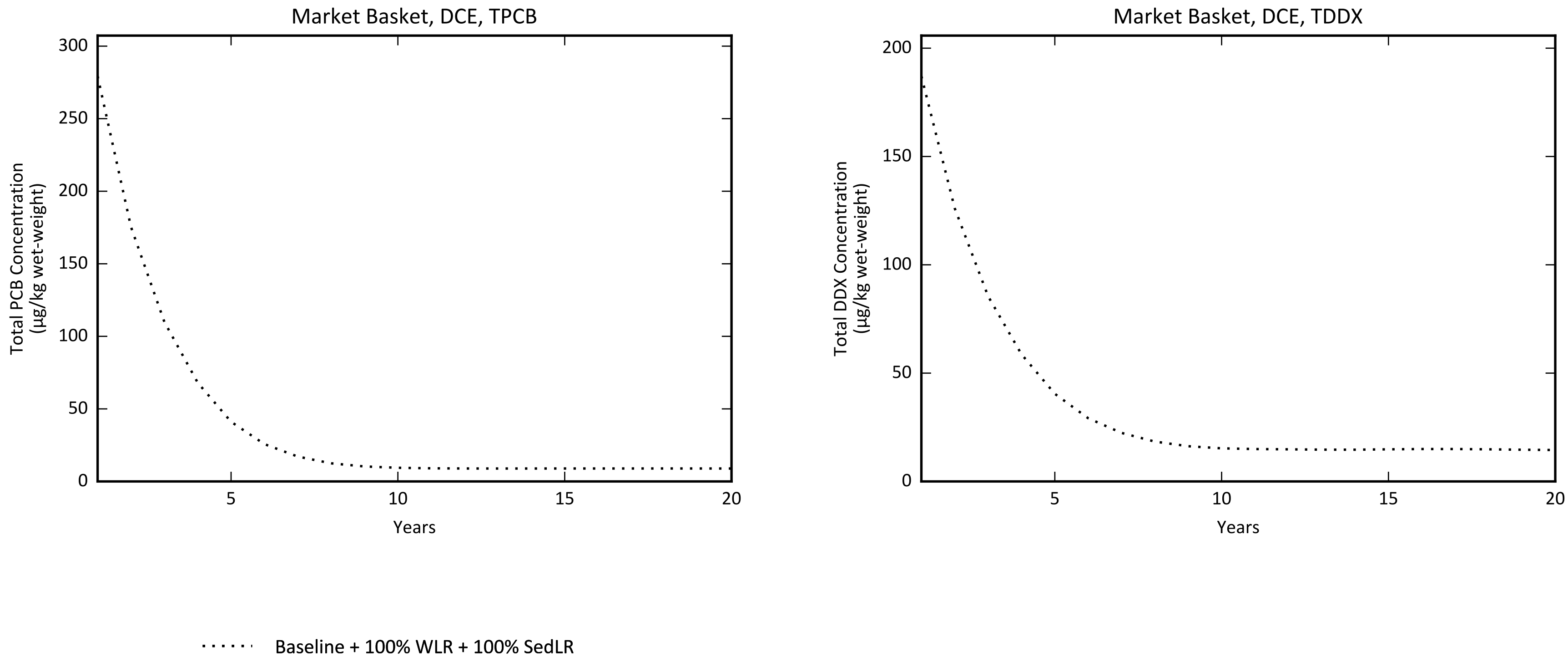
ANCHOR QEA

Figure B-8a

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + 100% SedLR in DCE

Linked Model Data Summary Report

Greater Los Angeles and Long Beach Harbor Waters



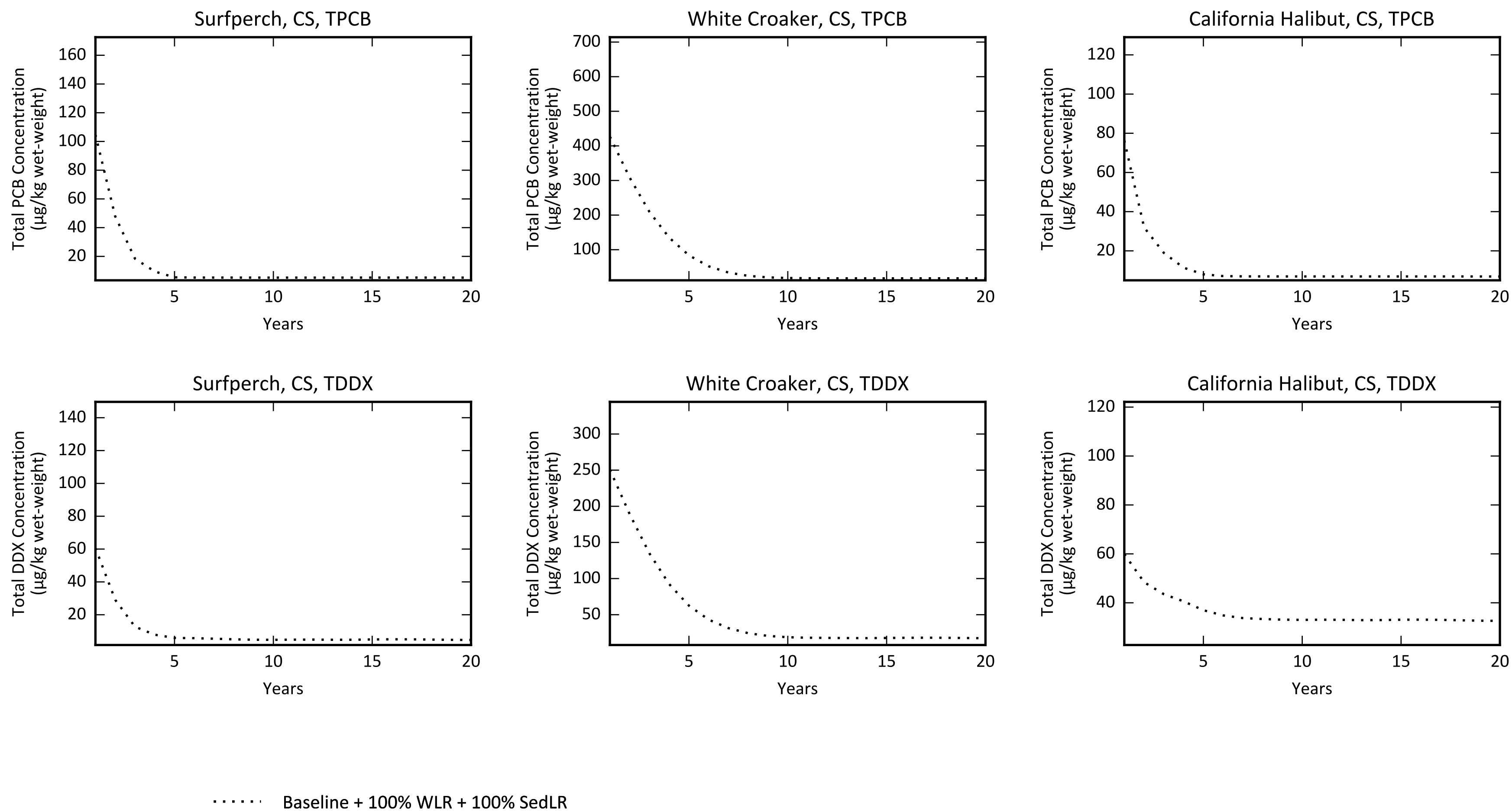
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1718 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:24 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-8a

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + 100% SedLR in DCE



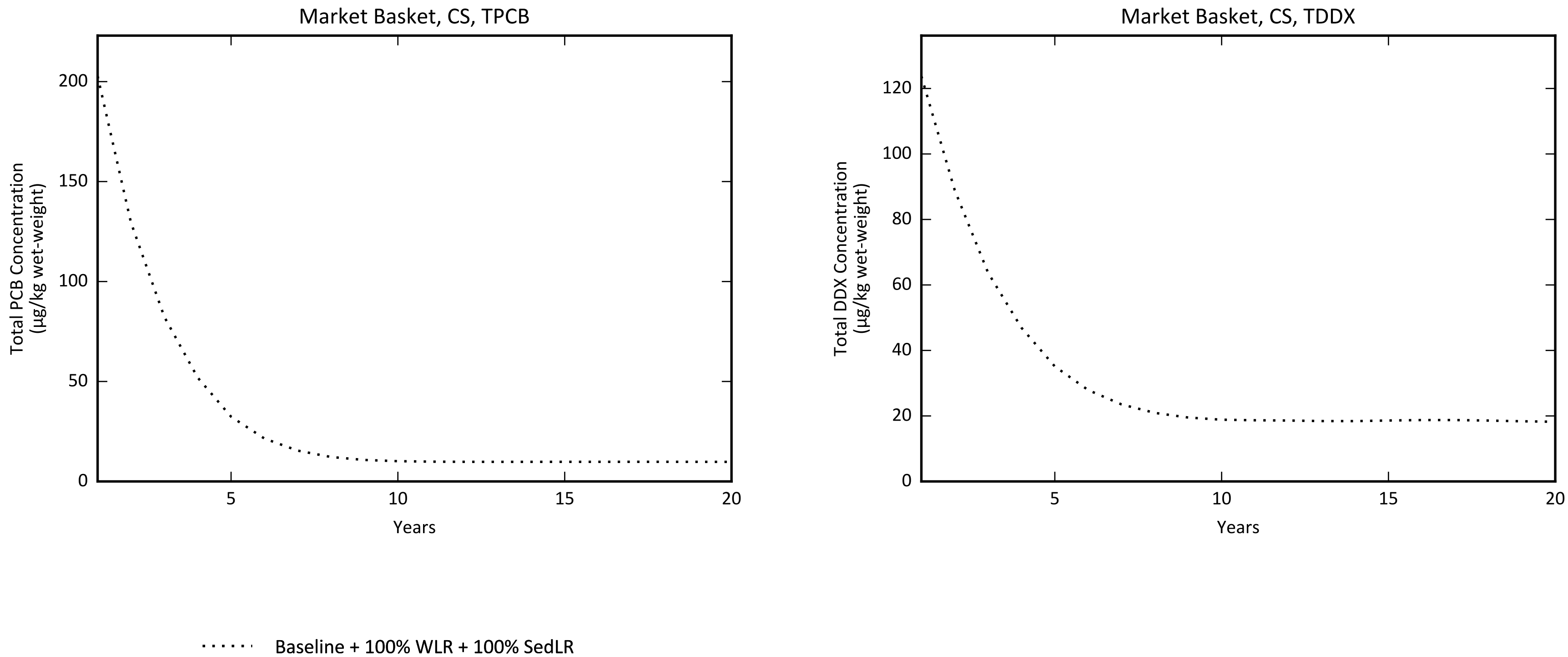
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1718 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:24 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-8b

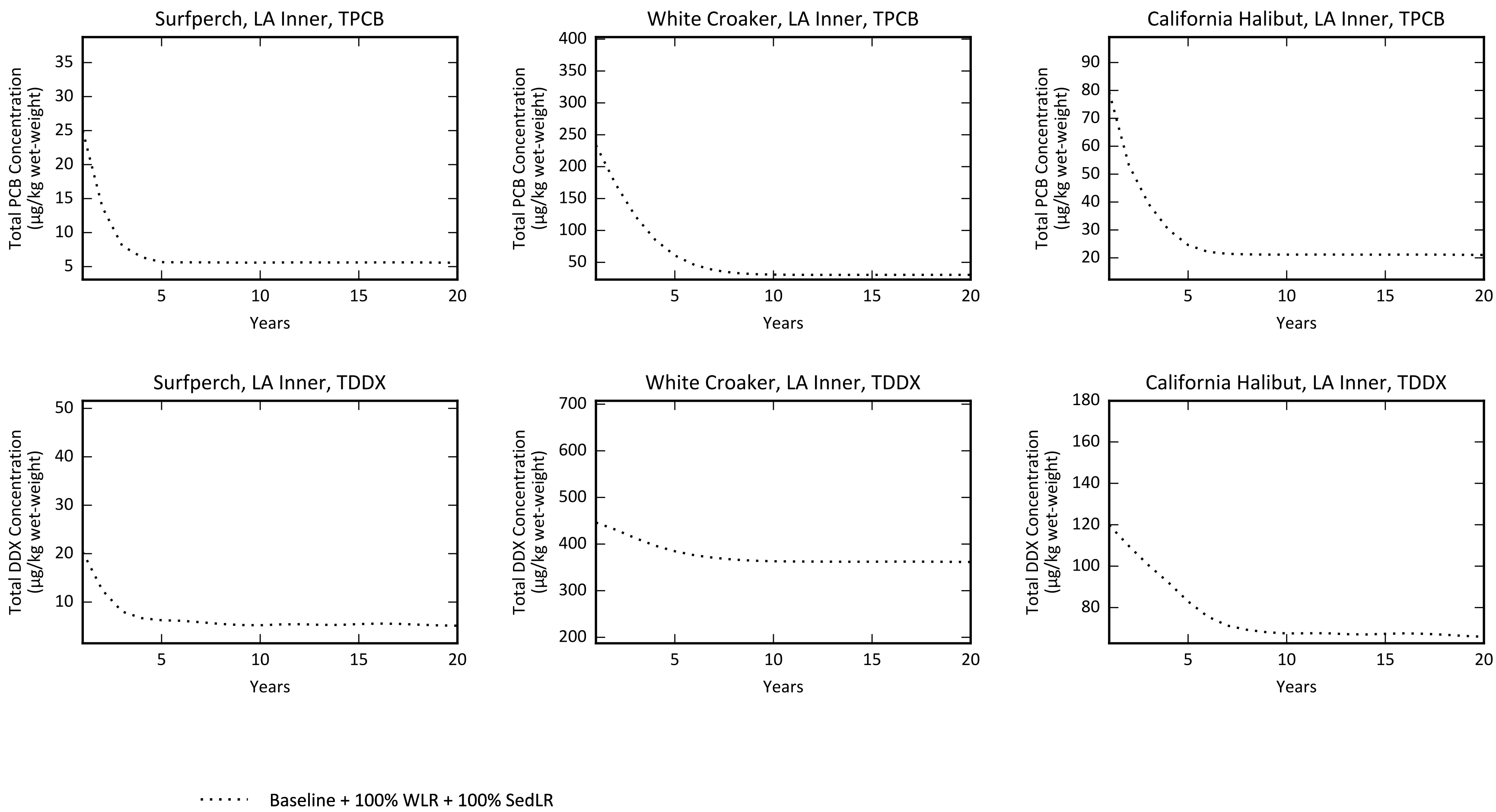
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + 100% SedLR in CS



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1718 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:24 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

Figure B-8b
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + 100% SedLR in CS



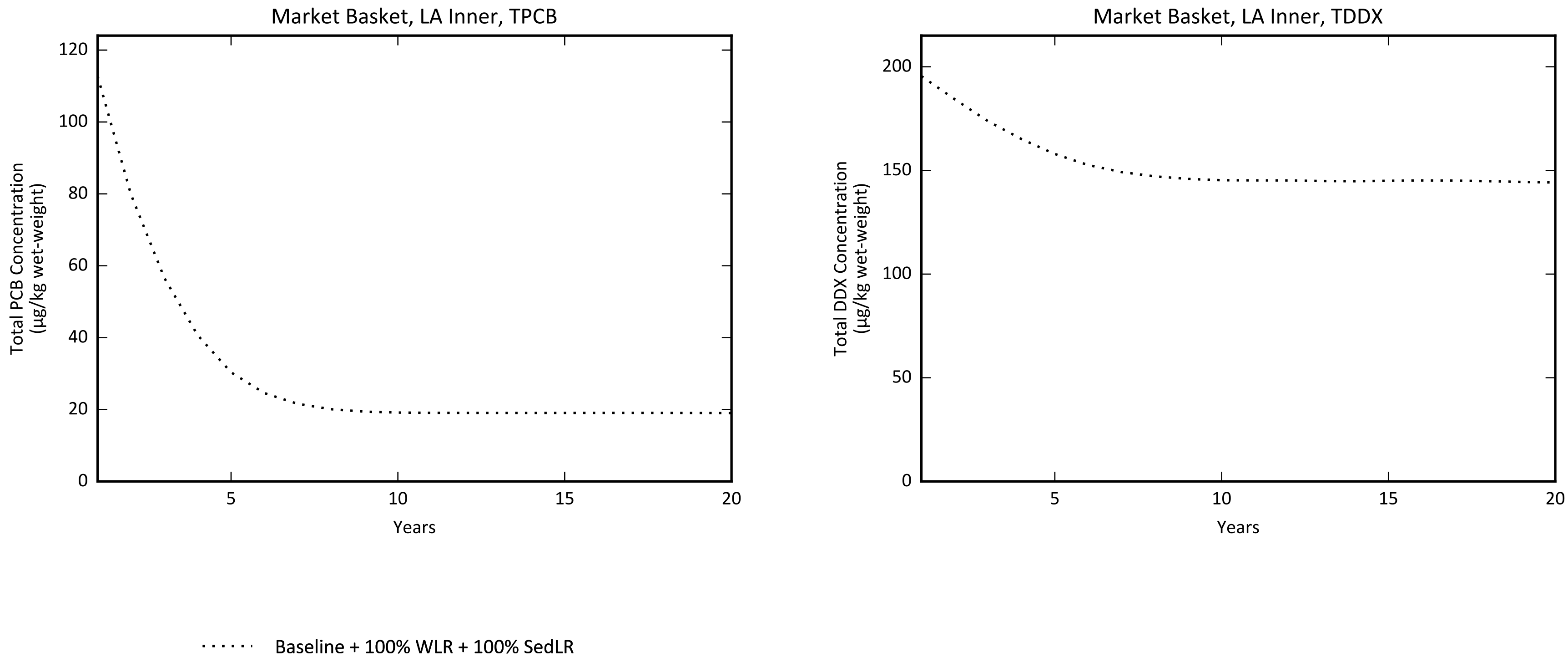
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1718 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:24 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-8c

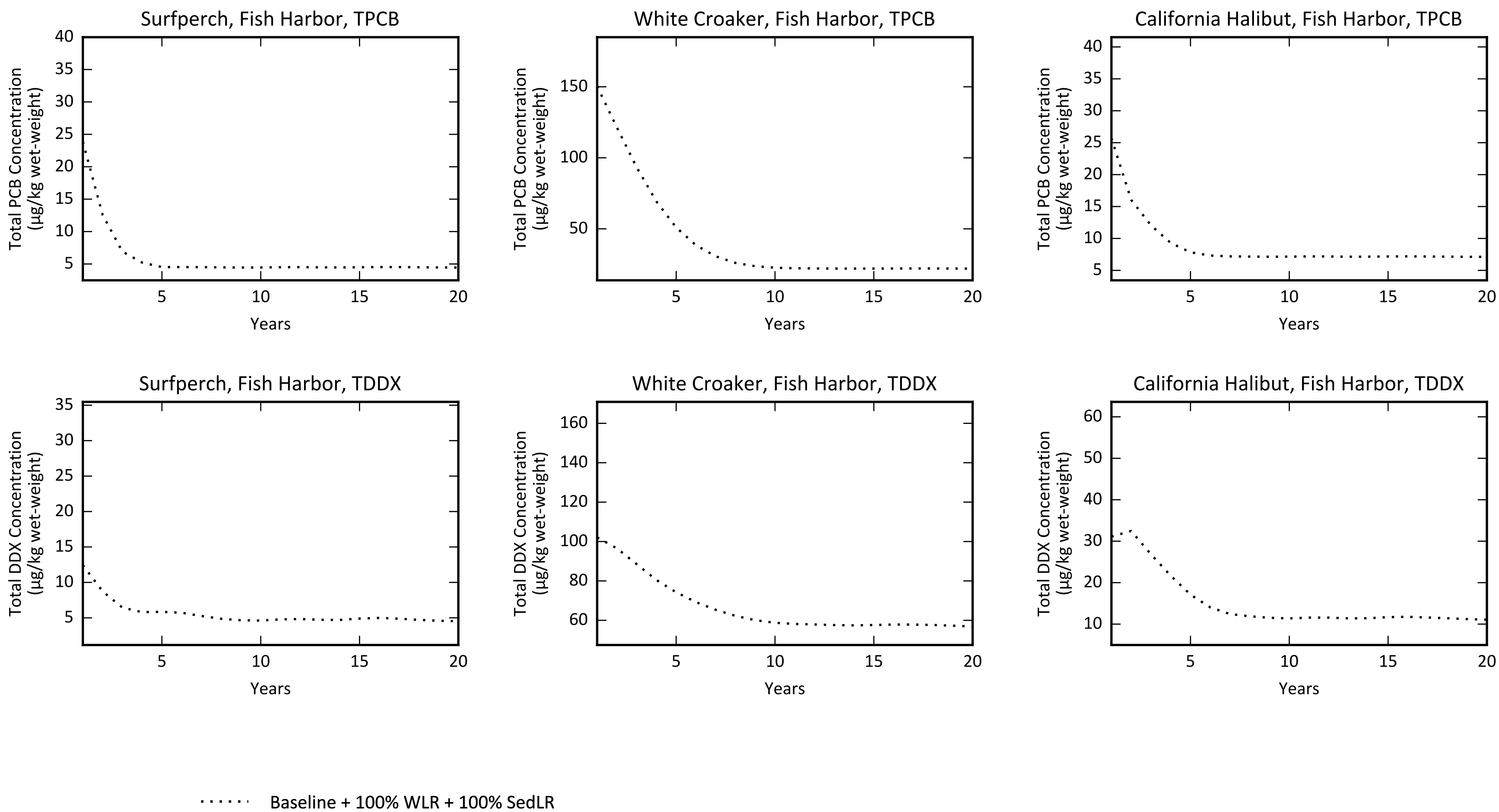
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + 100% SedLR in LA Inner



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1718 and biota files v.1755 used for model.

Figure B-8c

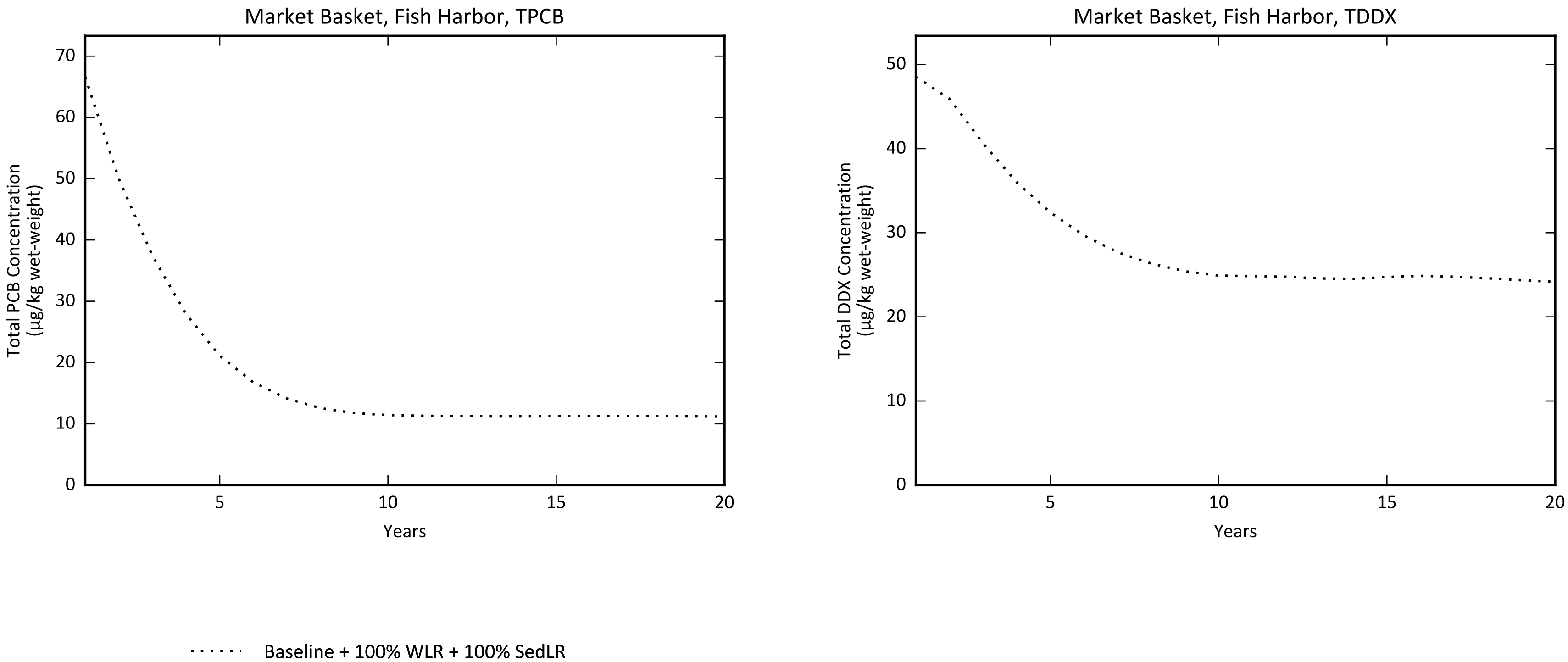
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + 100% SedLR in LA Inner



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1718 and biota files v.1755 used for model.

Figure B-8d

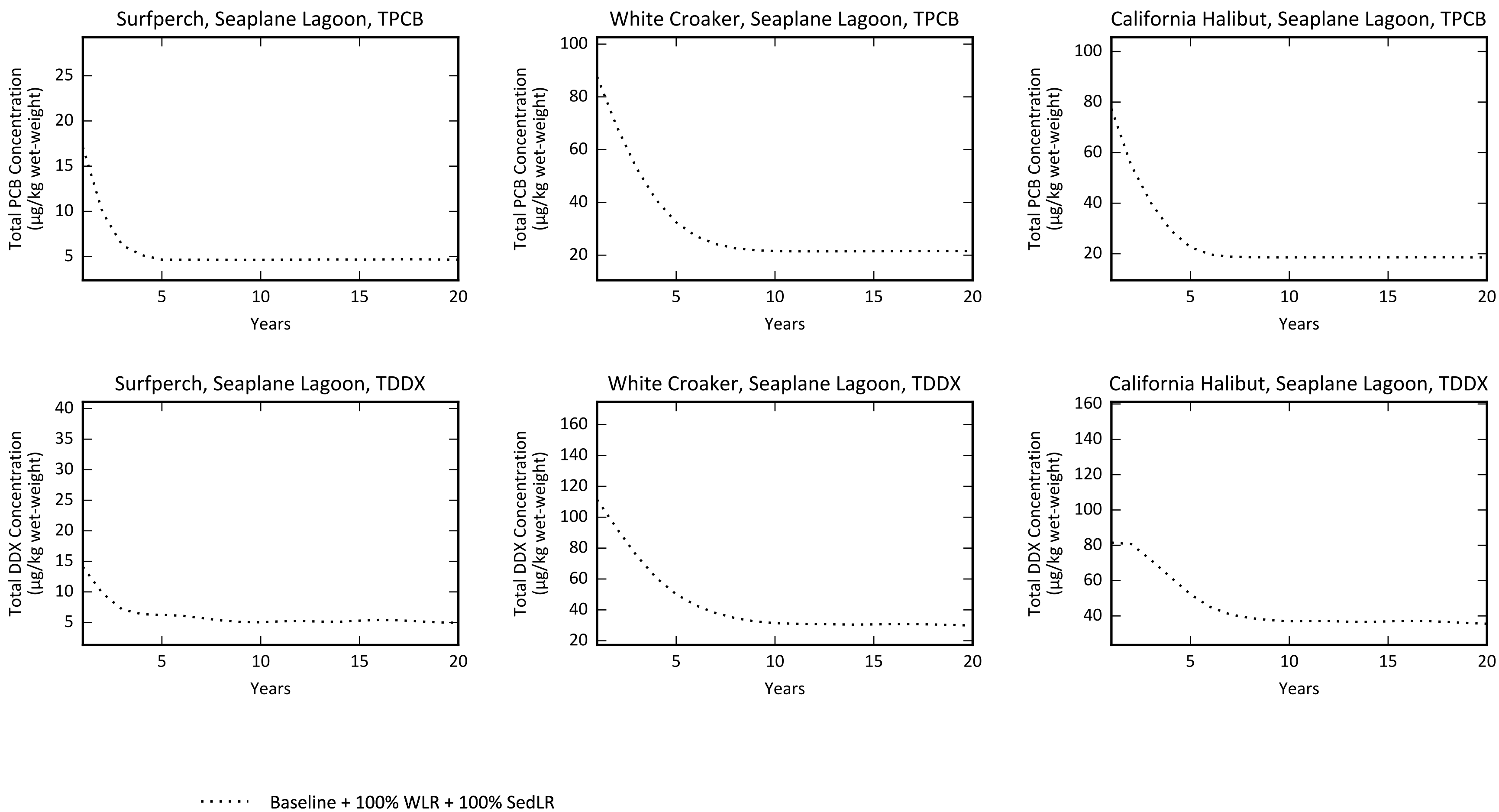
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + 100% SedLR in Fish Harbor



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1718 and biota files v.1755 used for model.

ANCHOR QEA

Figure B-8d
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + 100% SedLR in Fish Harbor

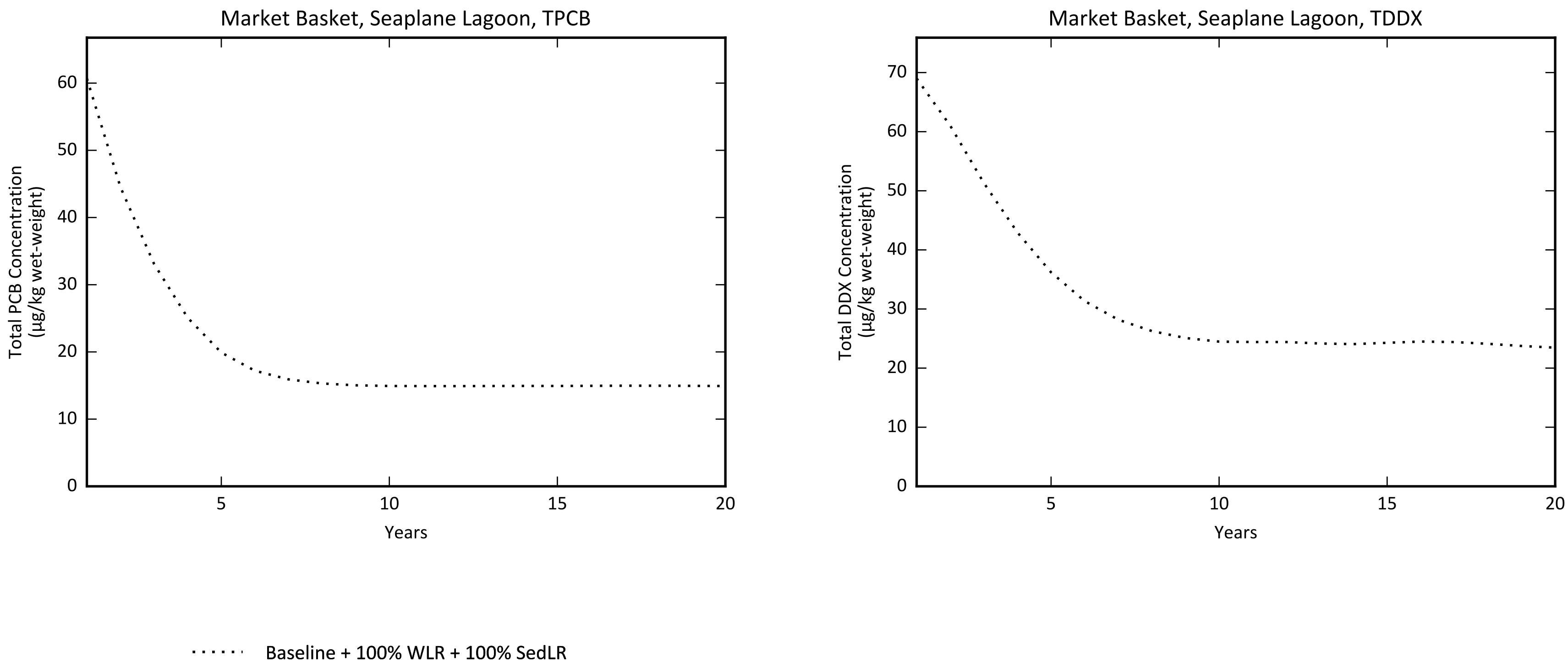


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1718 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:24 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-8e
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + 100% SedLR in Seaplane Lagoon
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



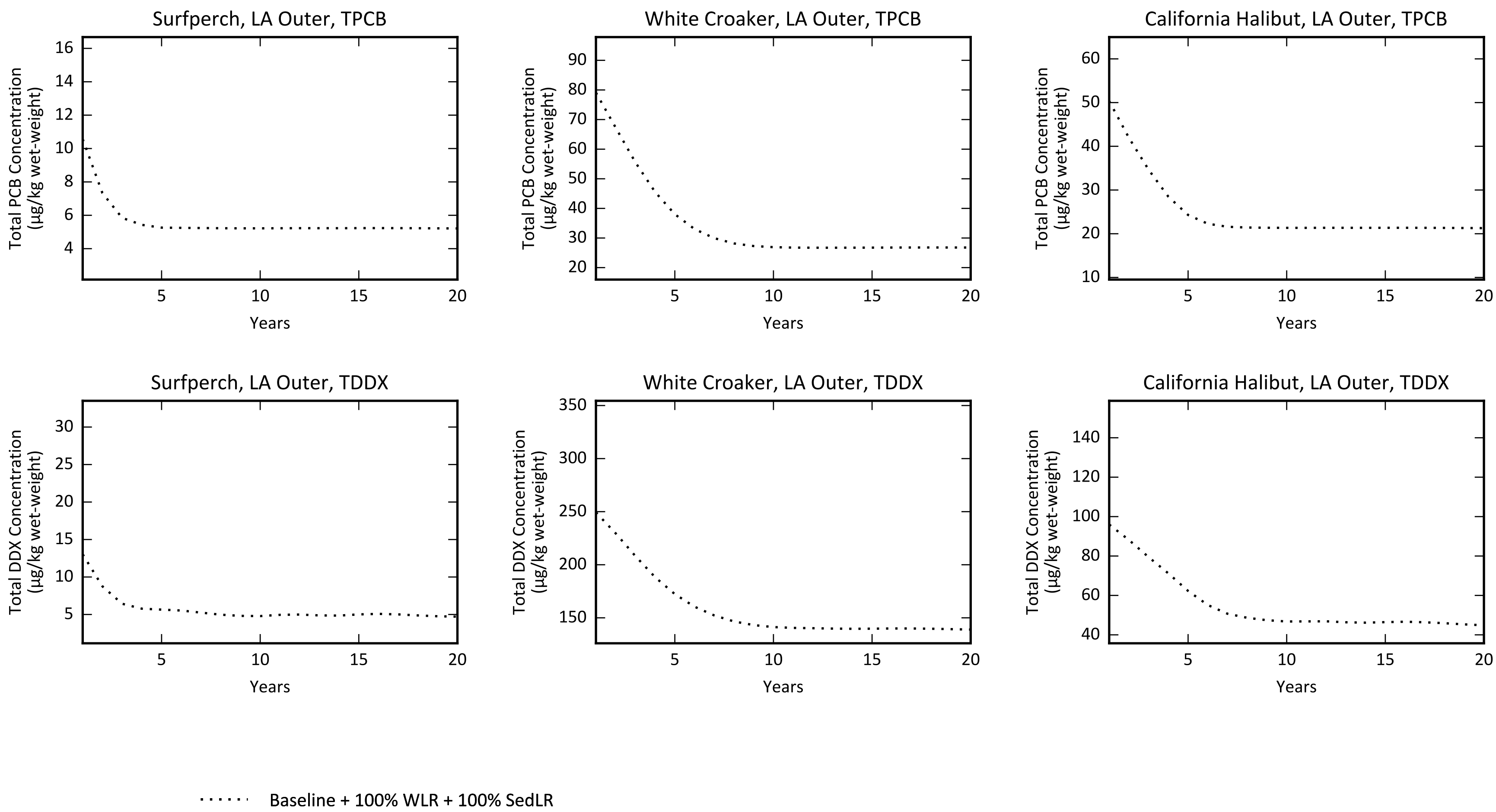
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1718 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:24 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-8e

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + 100% SedLR in Seaplane Lagoon

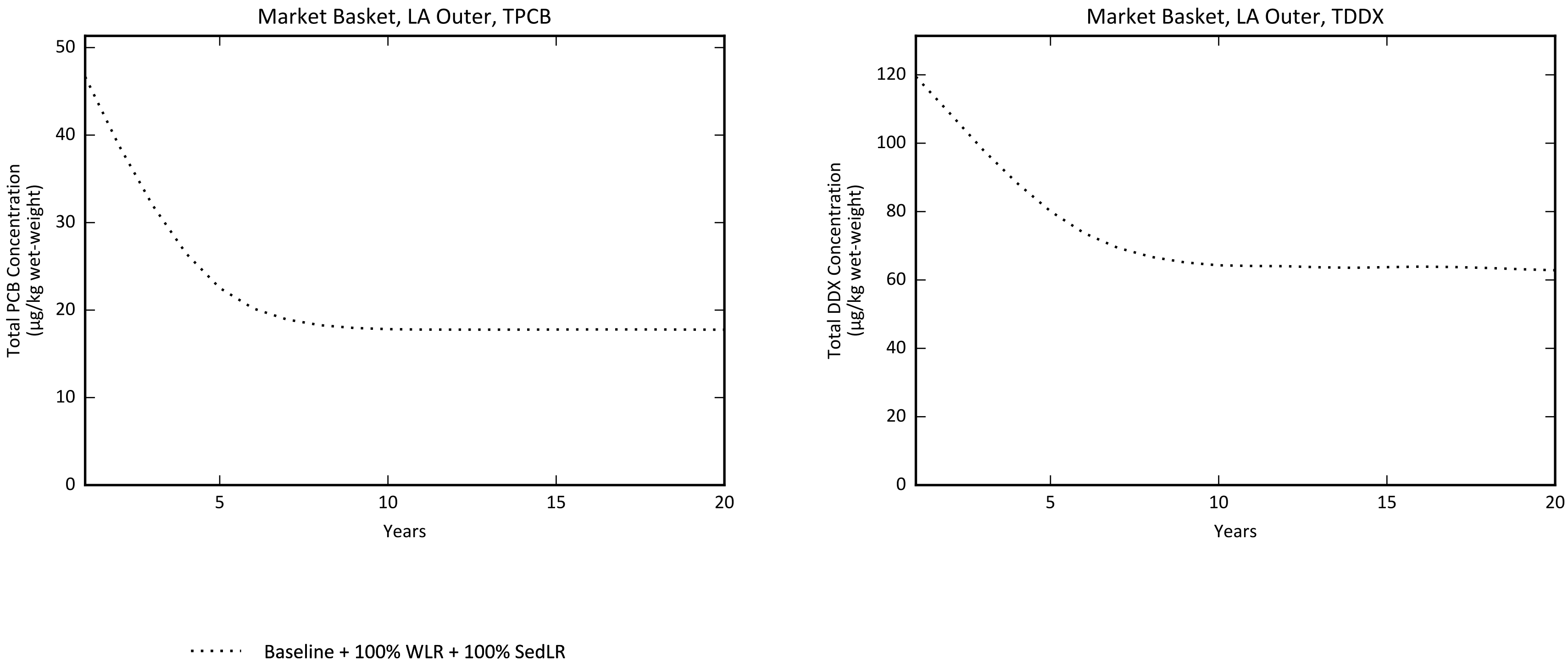


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1718 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:24 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

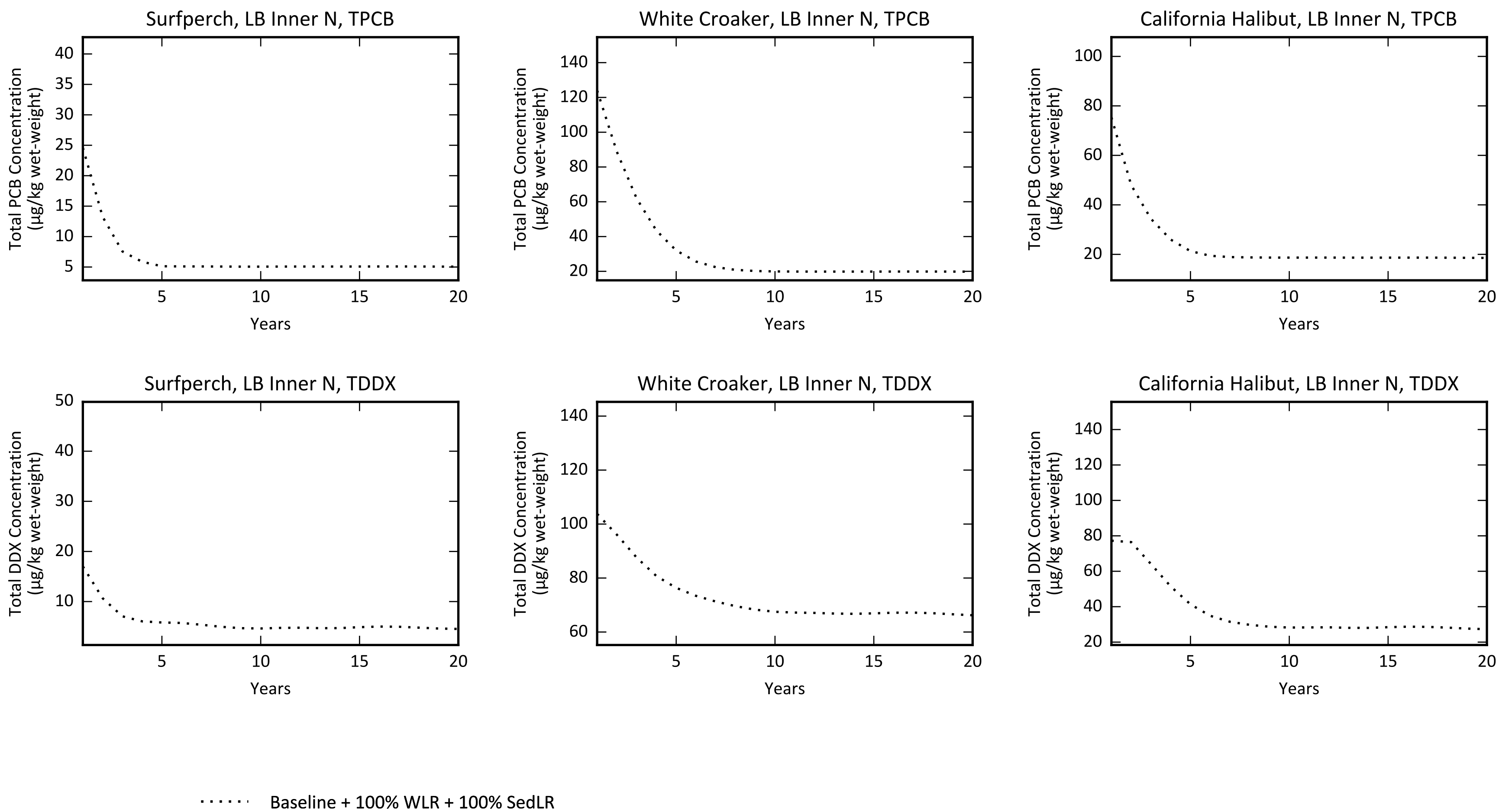
Figure B-8f

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + 100% SedLR in LA Outer



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1718 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:24 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1718 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:24 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

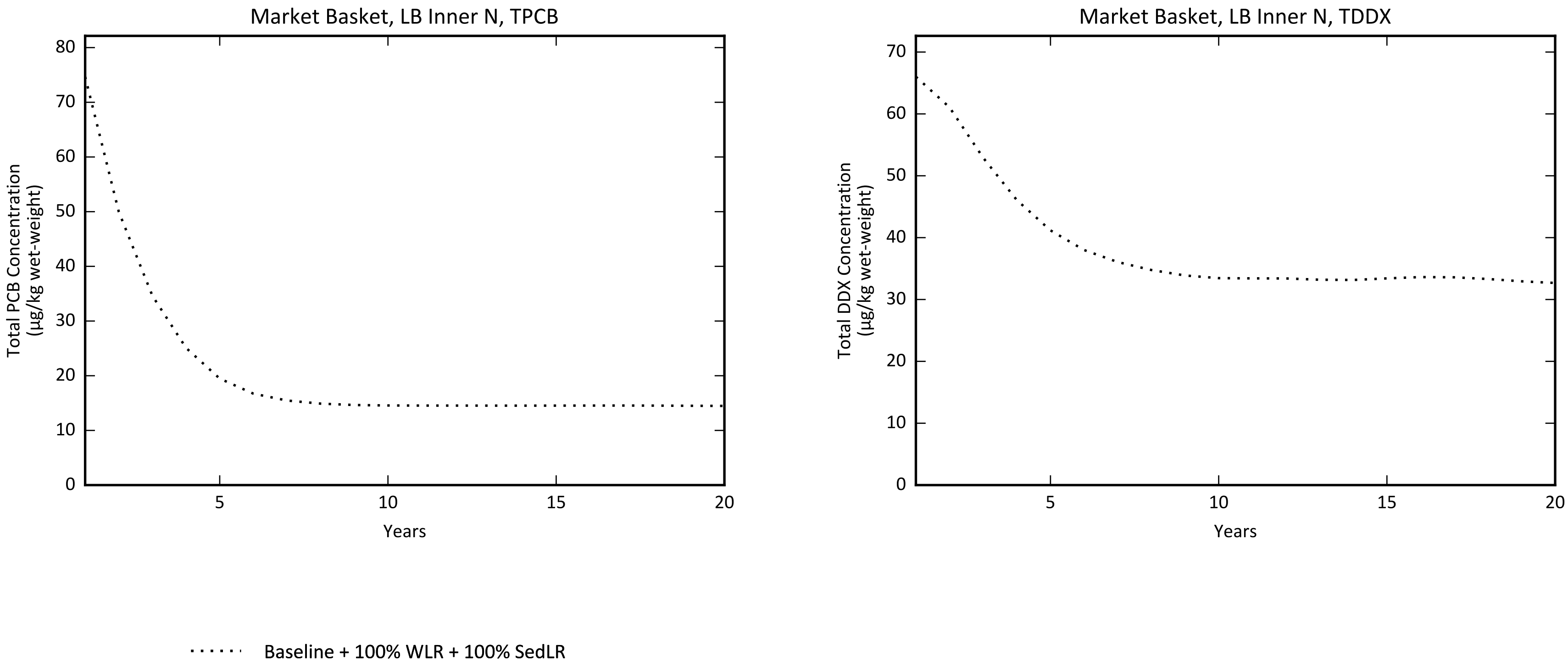
ANCHOR QEA

Figure B-8g

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + 100% SedLR in LB Inner N

Linked Model Data Summary Report

Greater Los Angeles and Long Beach Harbor Waters



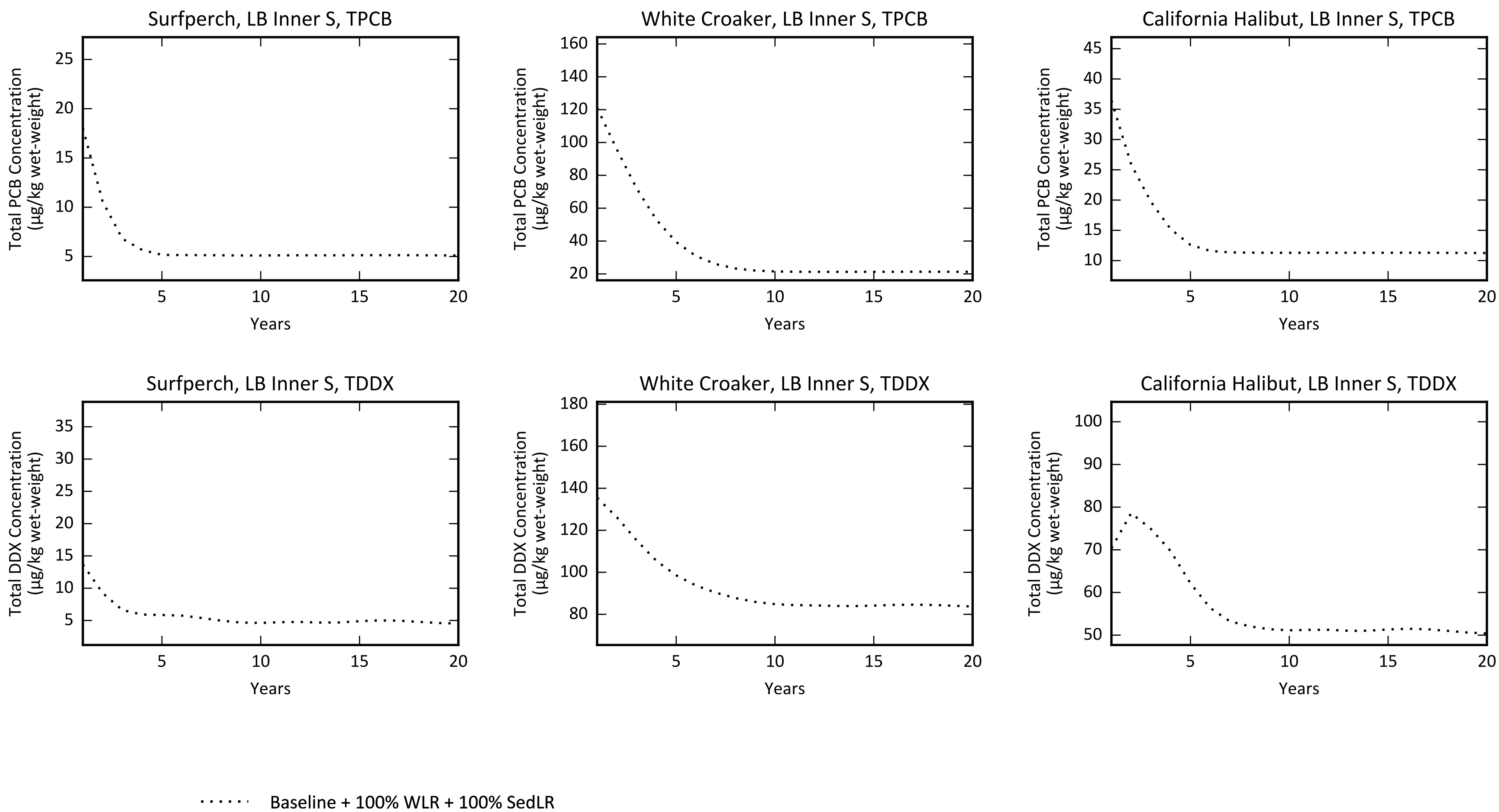
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1718 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:24 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-8g

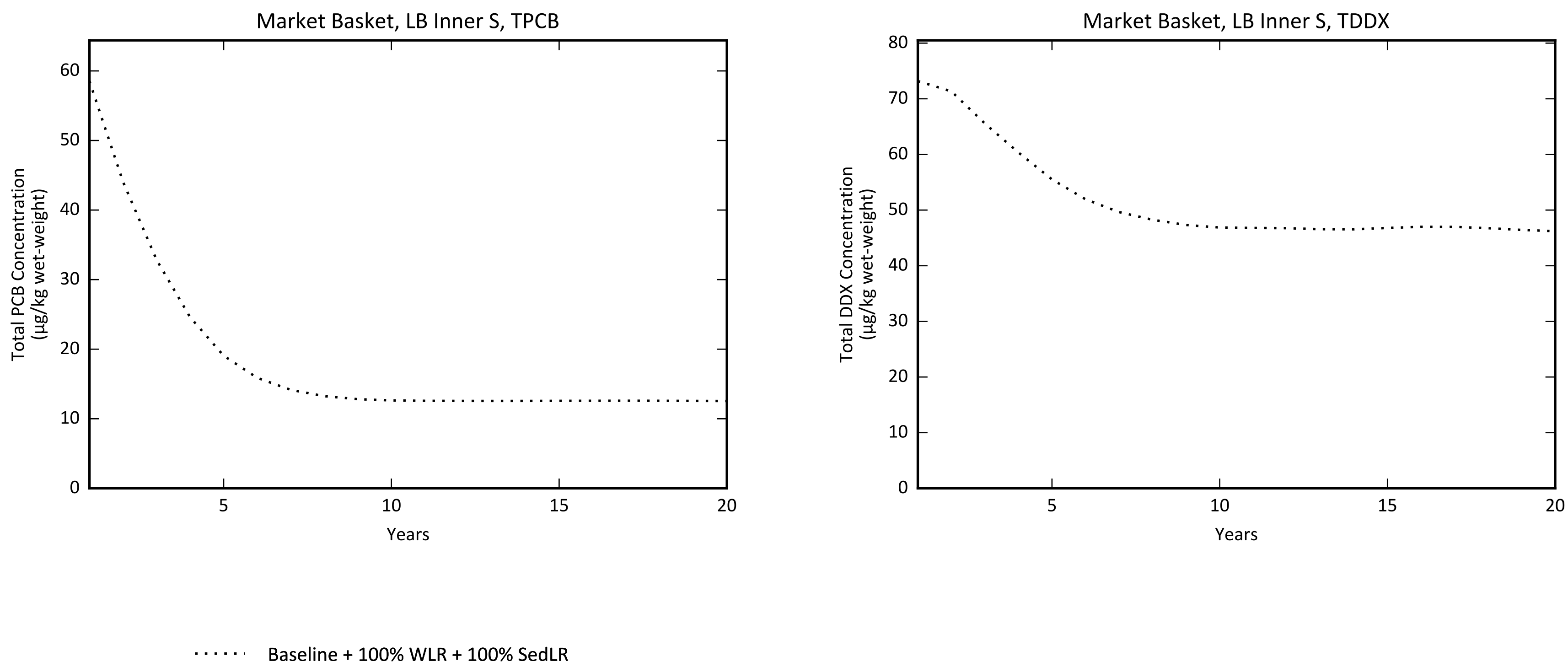
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + 100% SedLR in LB Inner N



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1718 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:24 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

Figure B-8h
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + 100% SedLR in LB Inner S

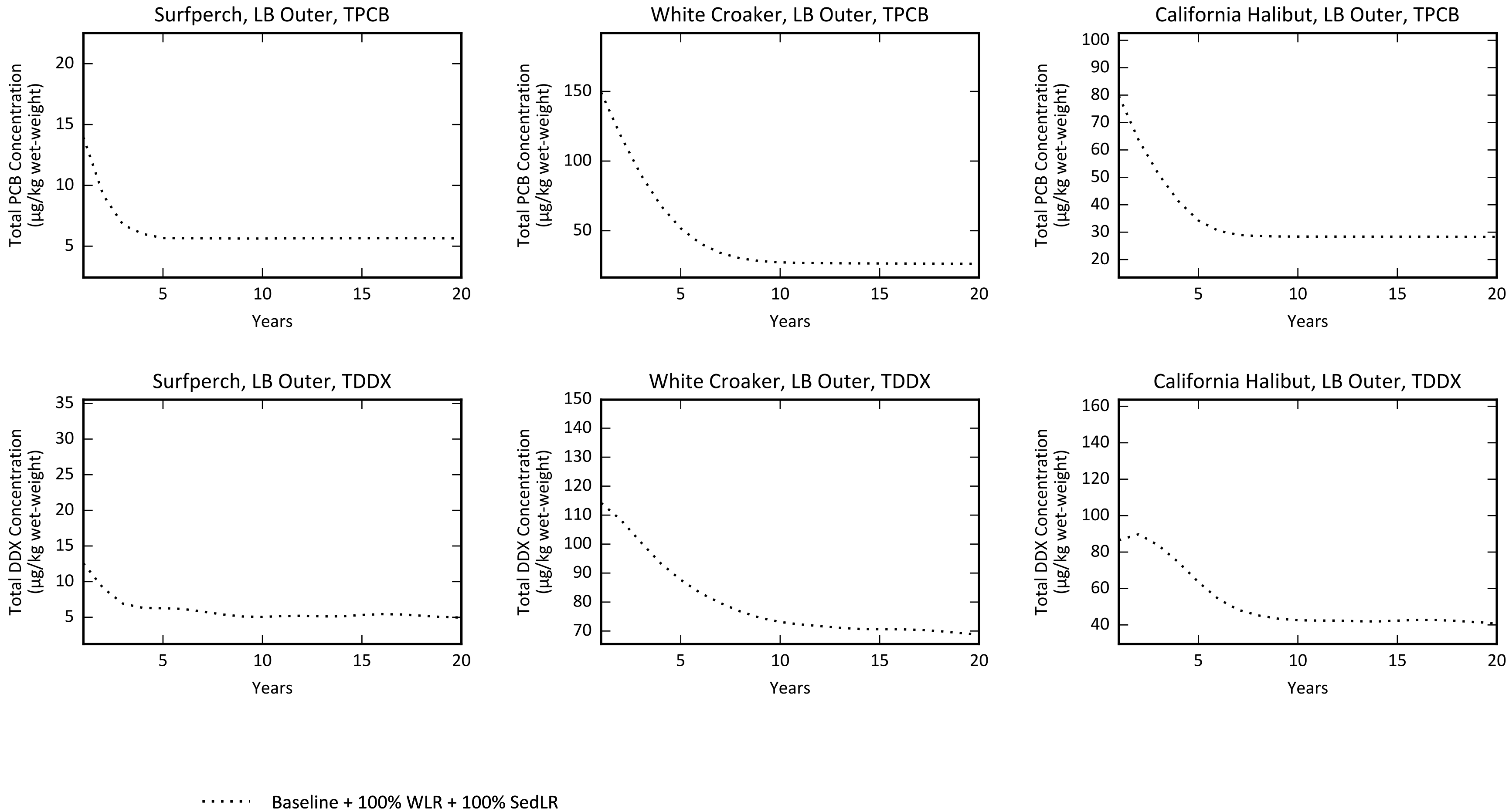


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1718 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:24 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

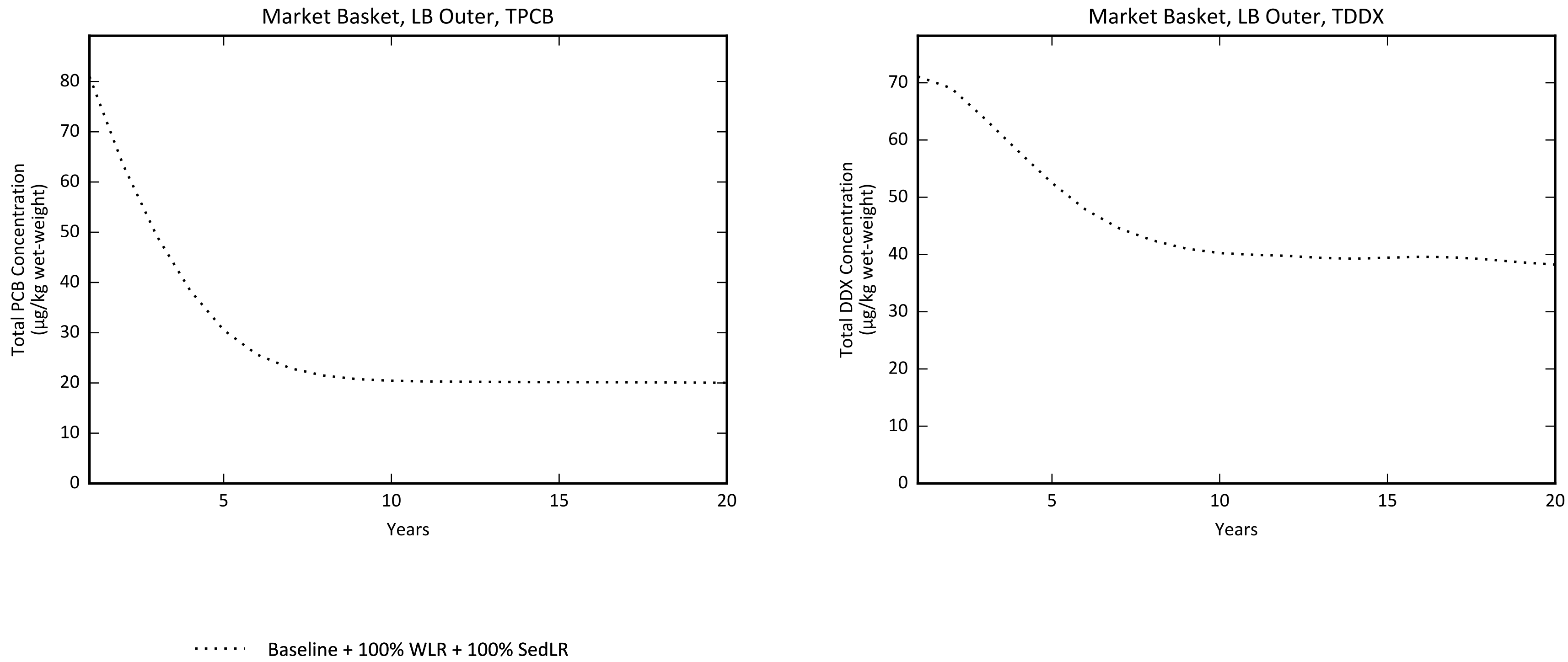
Figure B-8h
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + 100% SedLR in LB Inner S



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1718 and biota files v.1755 used for model.

Figure B-8i

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + 100% SedLR in LB Outer



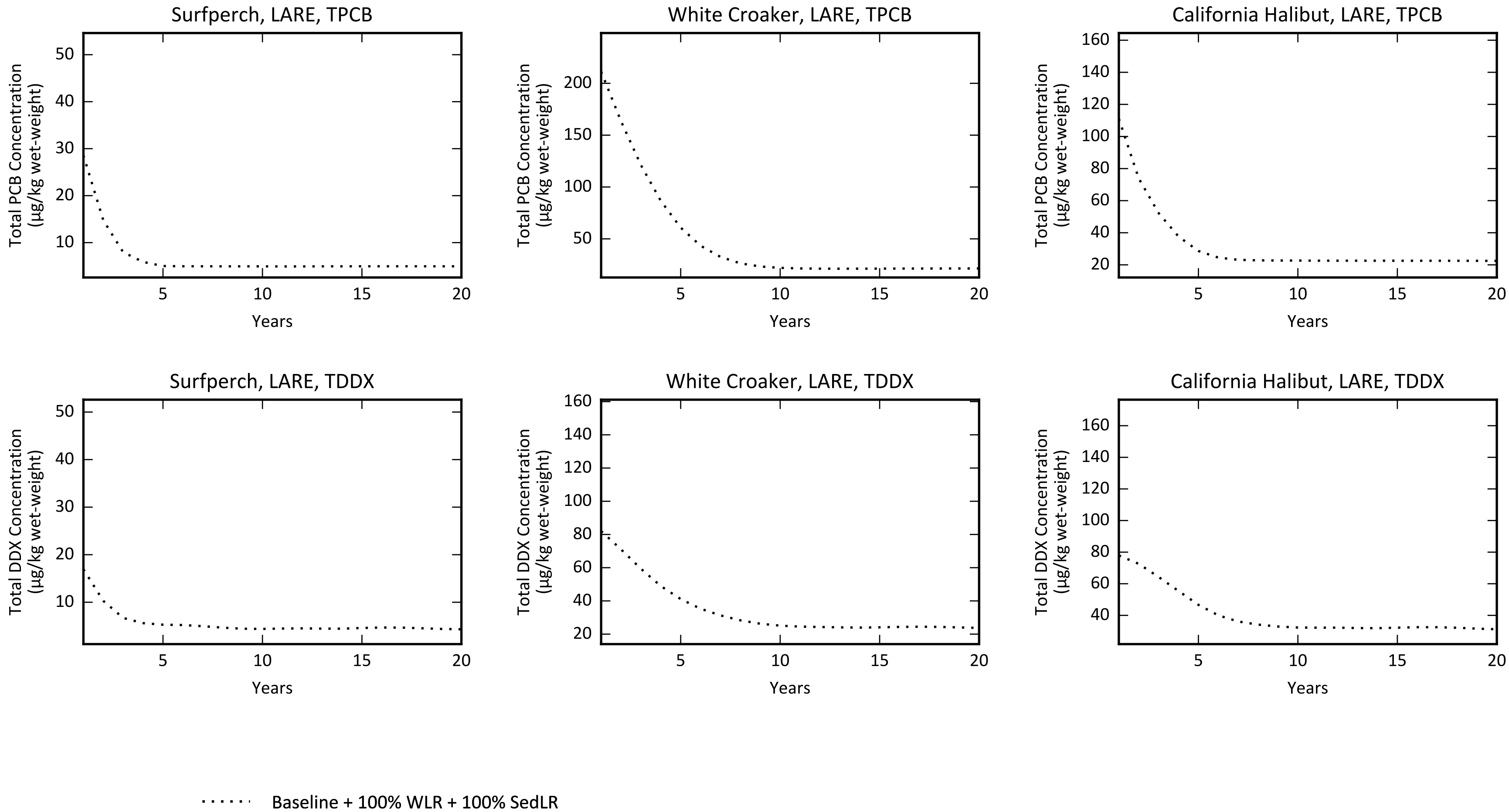
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1718 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:24 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-8i

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + 100% SedLR in LB Outer



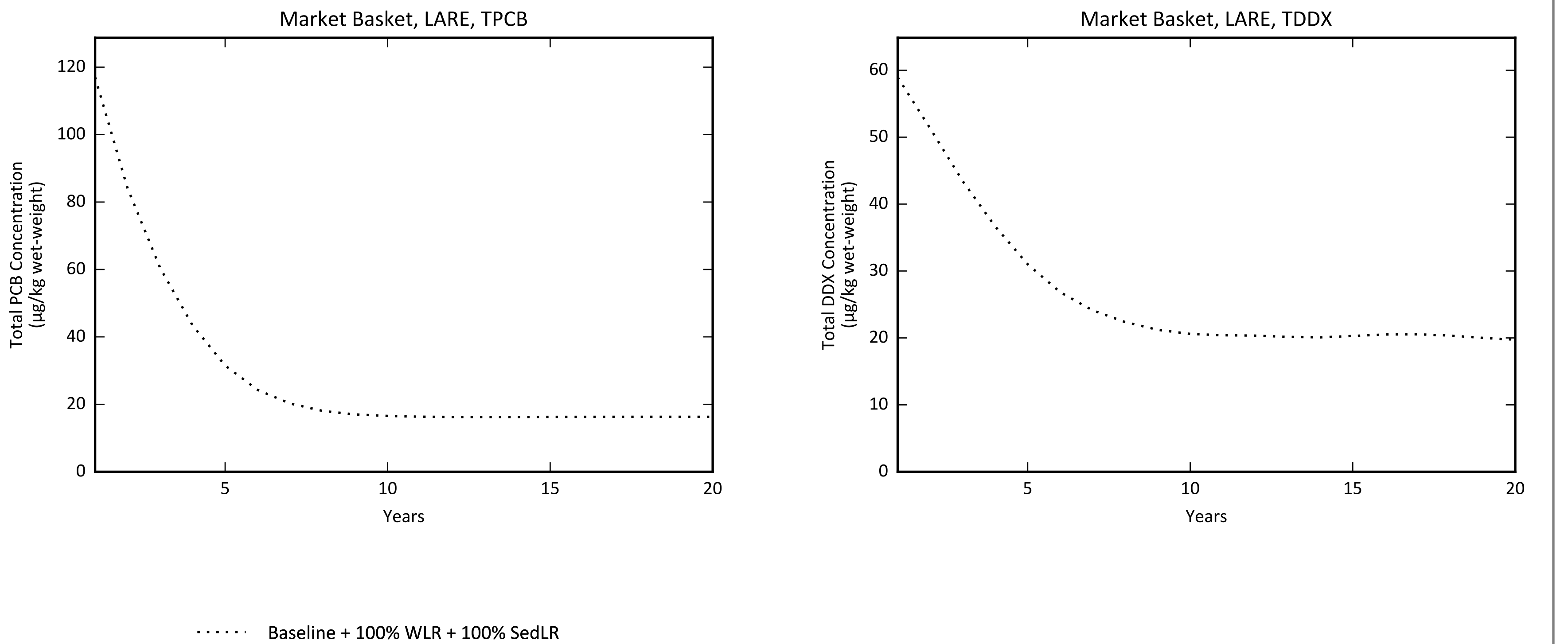
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1718 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:24 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-8j

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + 100% SedLR in LARE

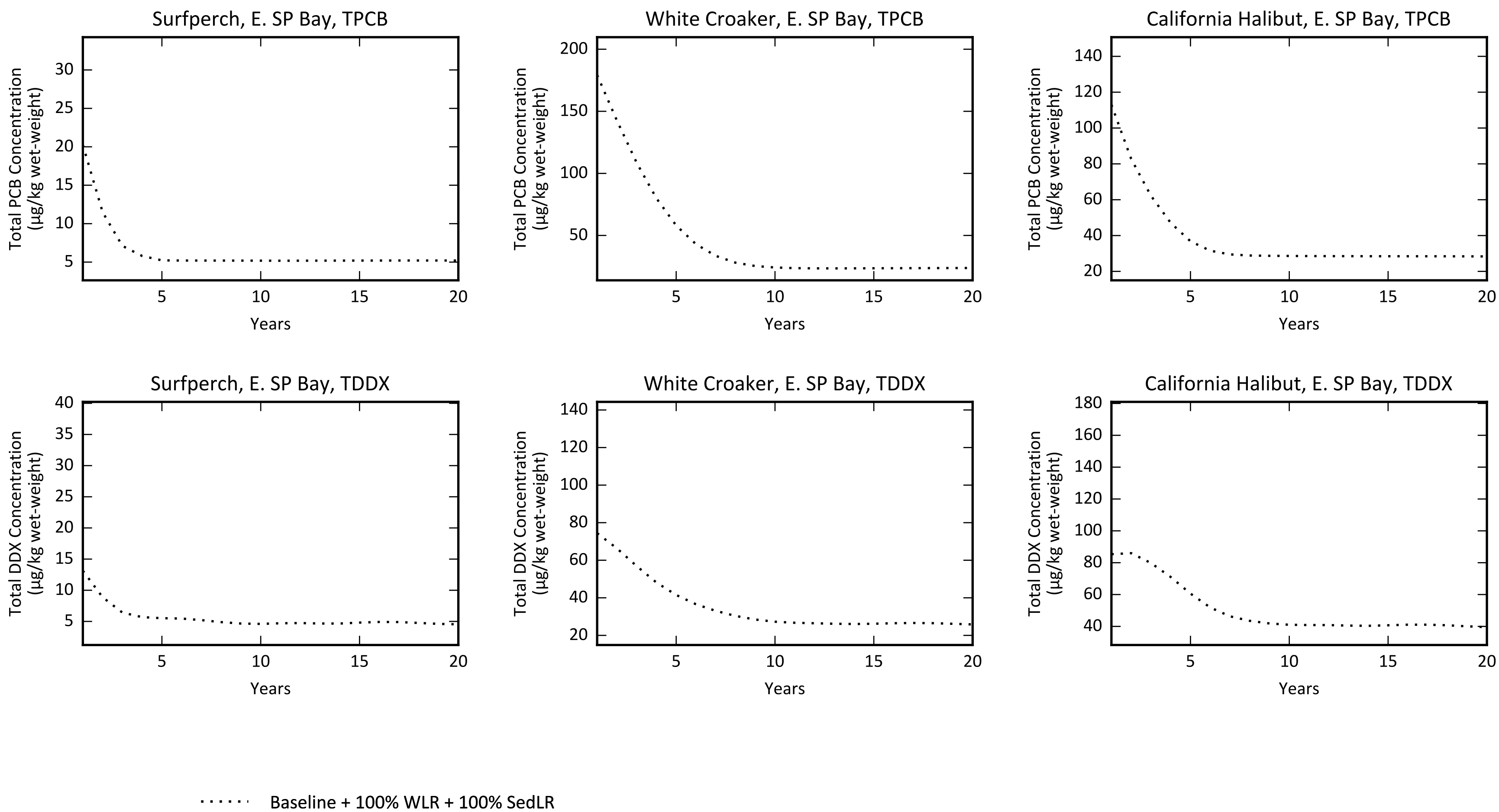


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1718 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:24 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-8j
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + 100% SedLR in LARE
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

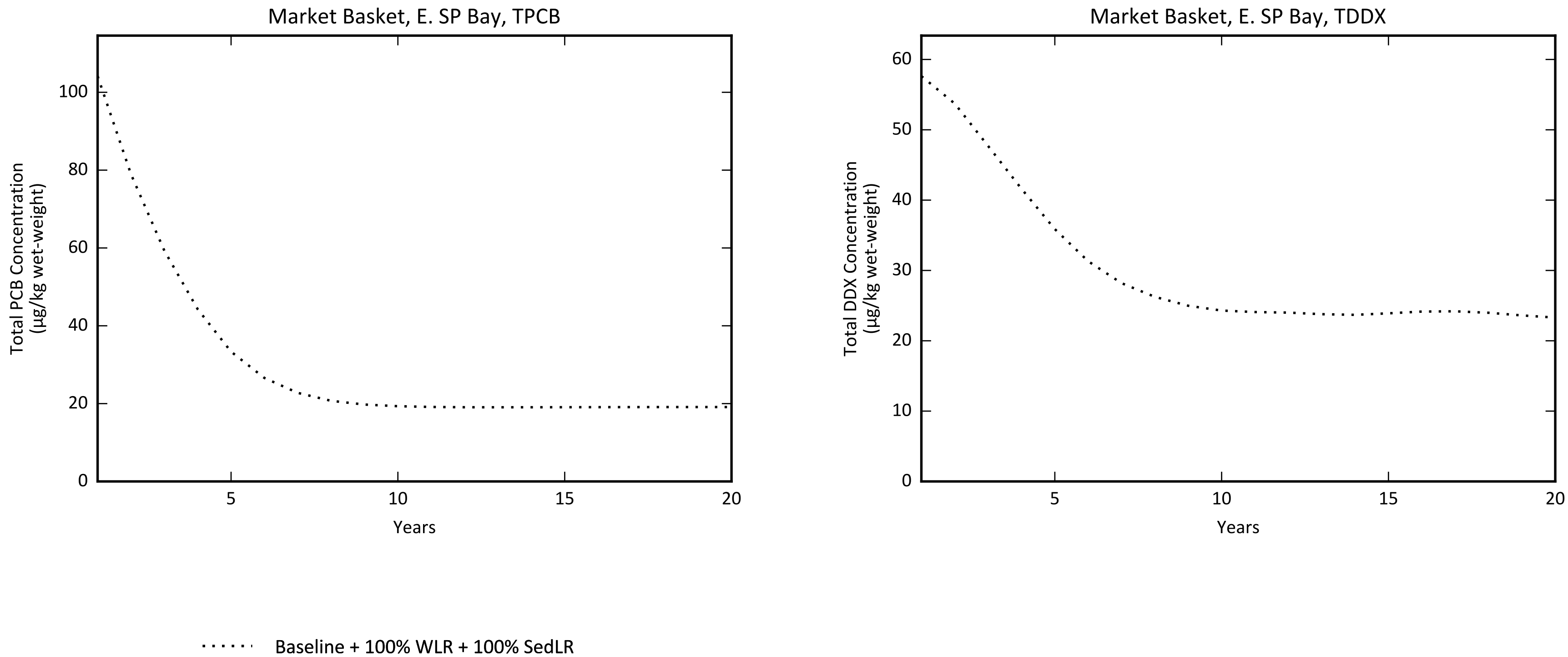


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1718 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:24 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

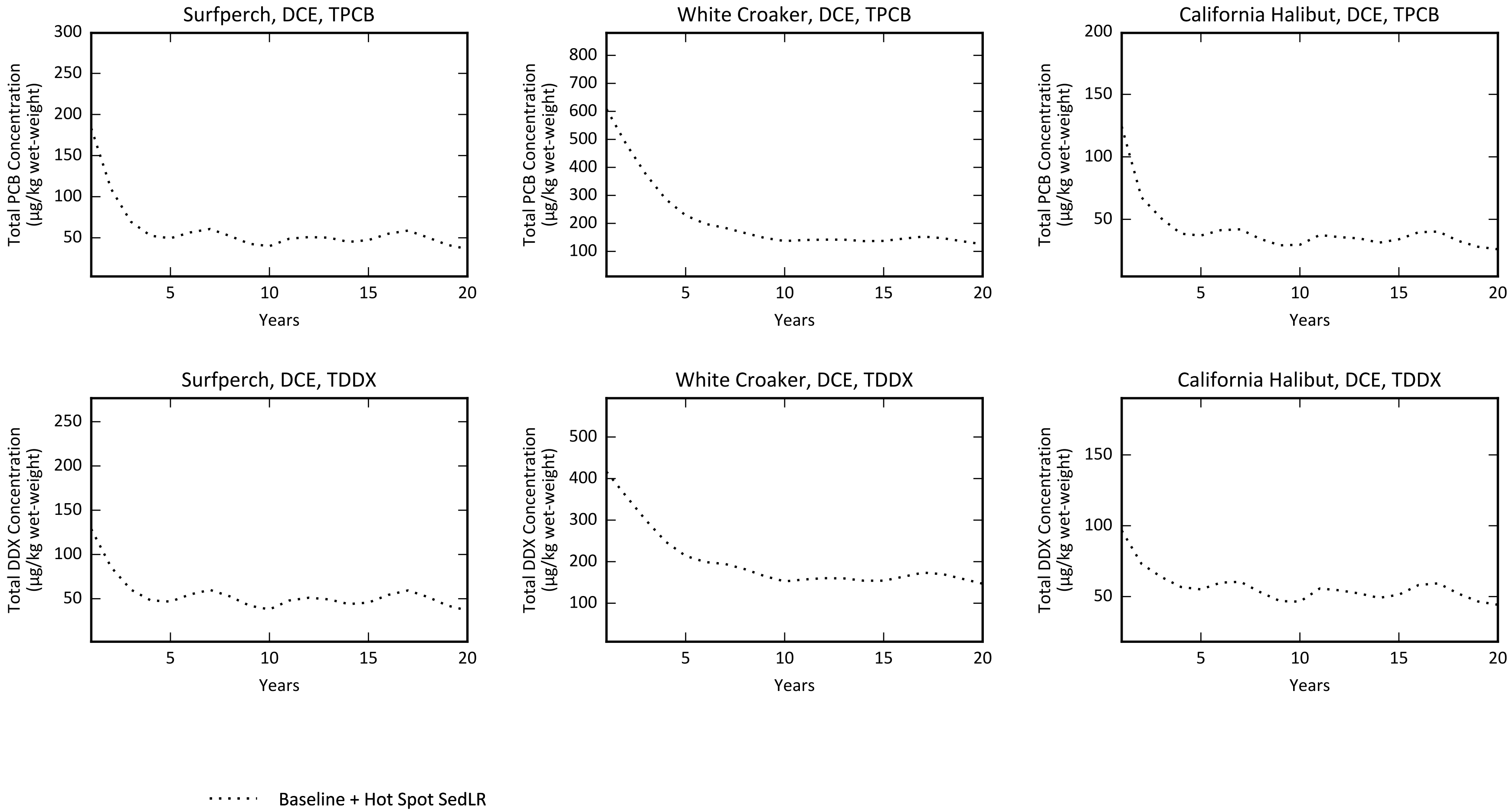
Figure B-8k
Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + 100% SedLR in E. SP Bay



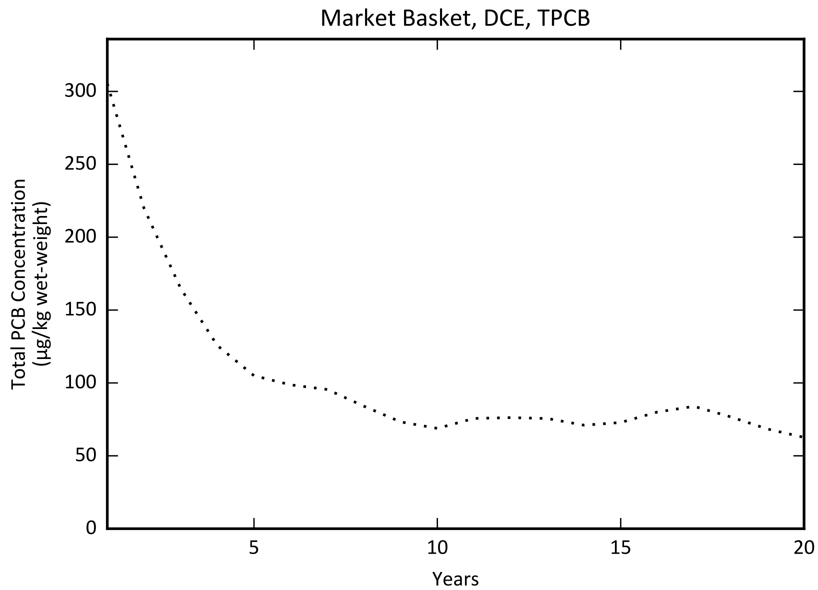
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1718 and biota files v.1755 used for model.

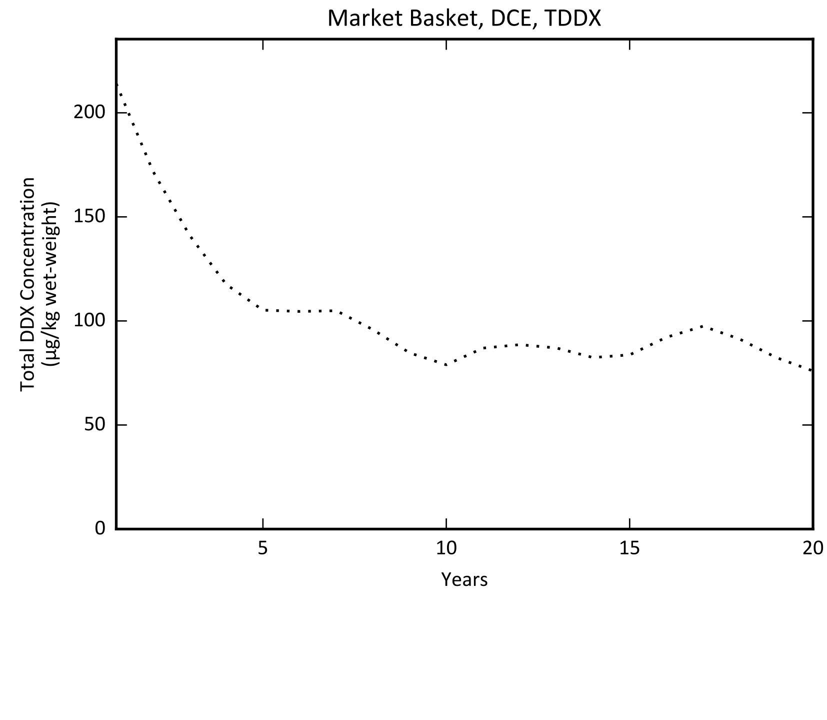
Figure B-8k

Total PCB and DDX Concentrations in Fish over Time for Baseline + 100% WLR + 100% SedLR in E. SP Bay



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1811 and biota files v.1755 used for model.



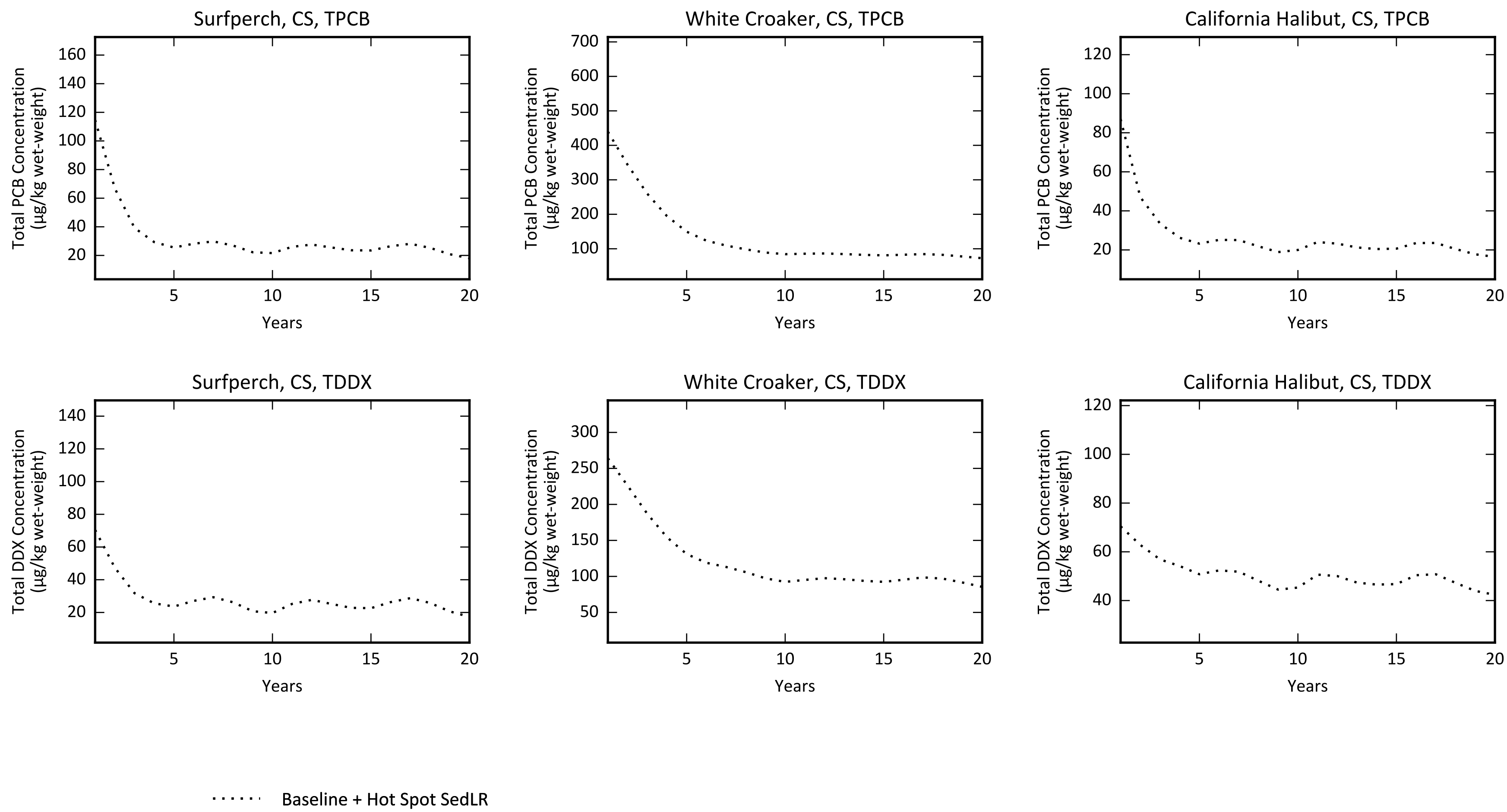


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1811 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:16 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-9a
Total PCB and DDX Concentrations in Fish over Time for Baseline + Hot Spot SedLR in DCE
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1811 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:16 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

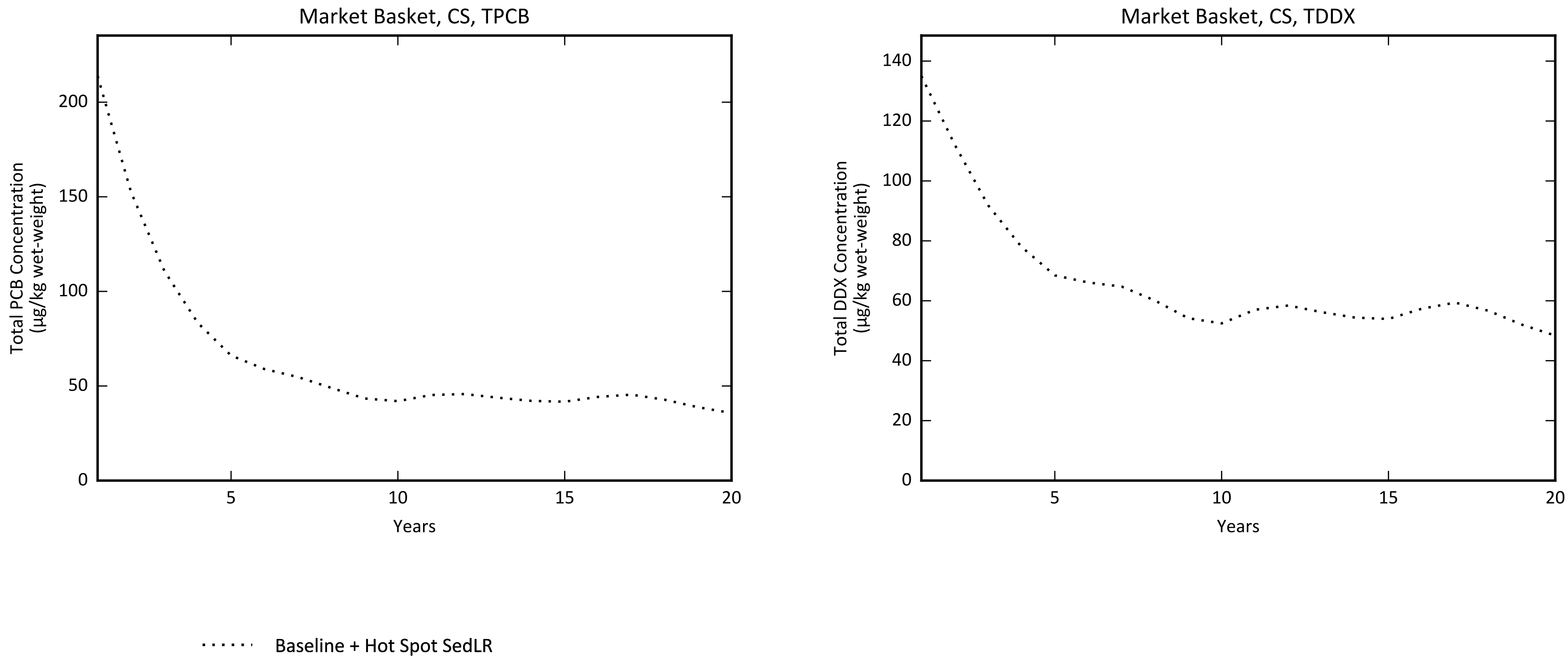
ANCHOR QEA

Figure B-9b

Total PCB and DDX Concentrations in Fish over Time for Baseline + Hot Spot SedLR in CS

Linked Model Data Summary Report

Greater Los Angeles and Long Beach Harbor Waters

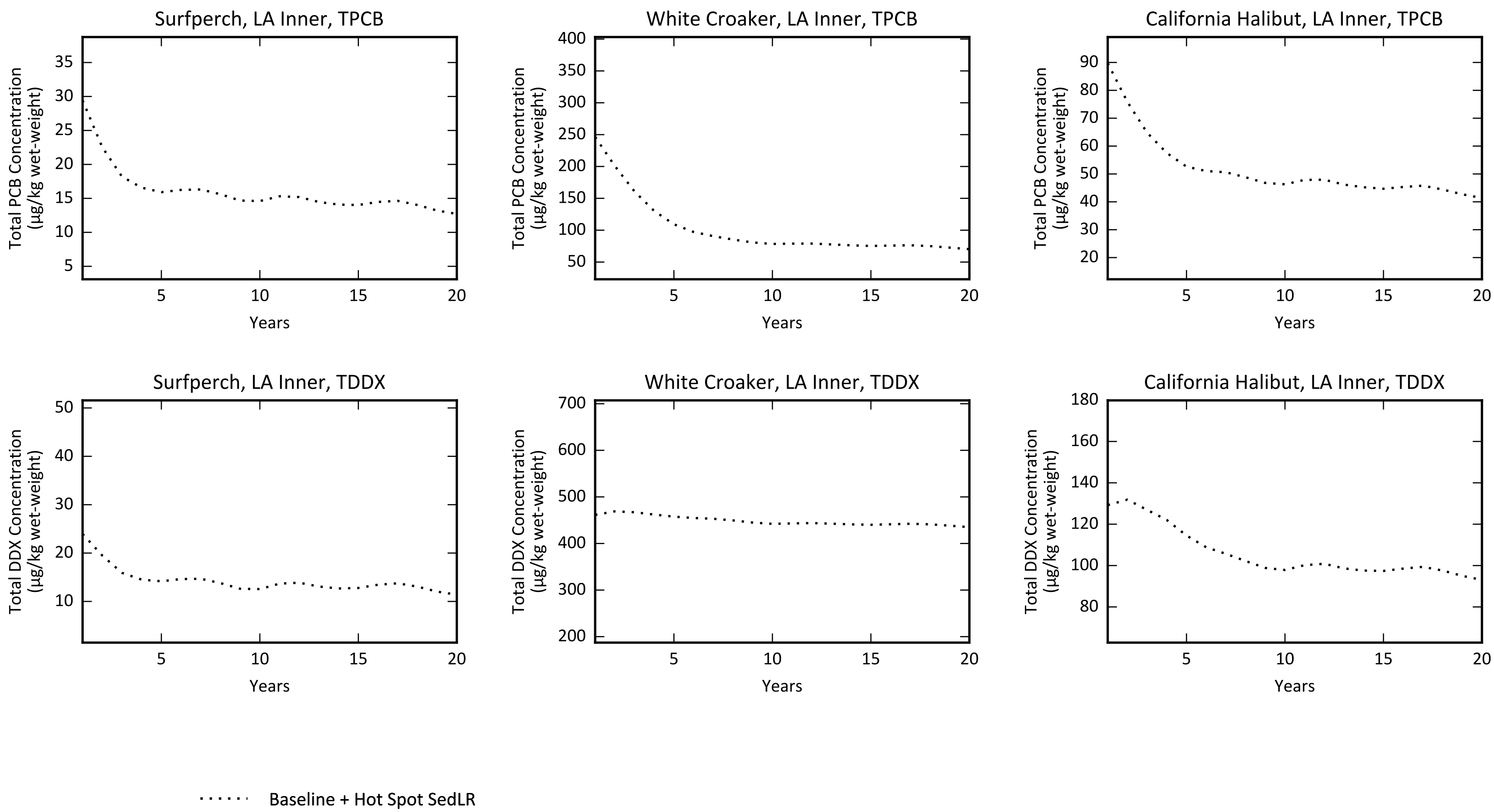


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1811 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:16 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-9b
Total PCB and DDX Concentrations in Fish over Time for Baseline + Hot Spot SedLR in CS



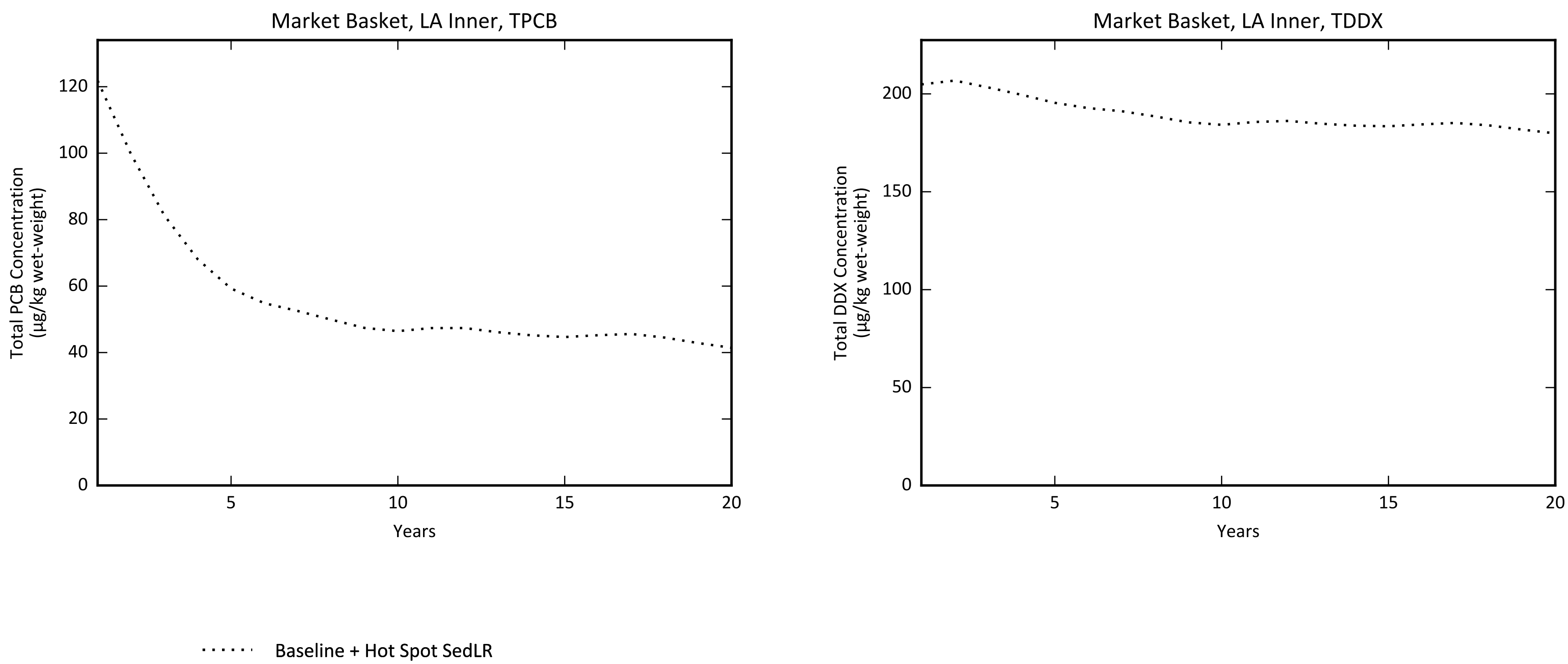
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1811 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:16 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-9c

Total PCB and DDX Concentrations in Fish over Time for Baseline + Hot Spot SedLR in LA Inner

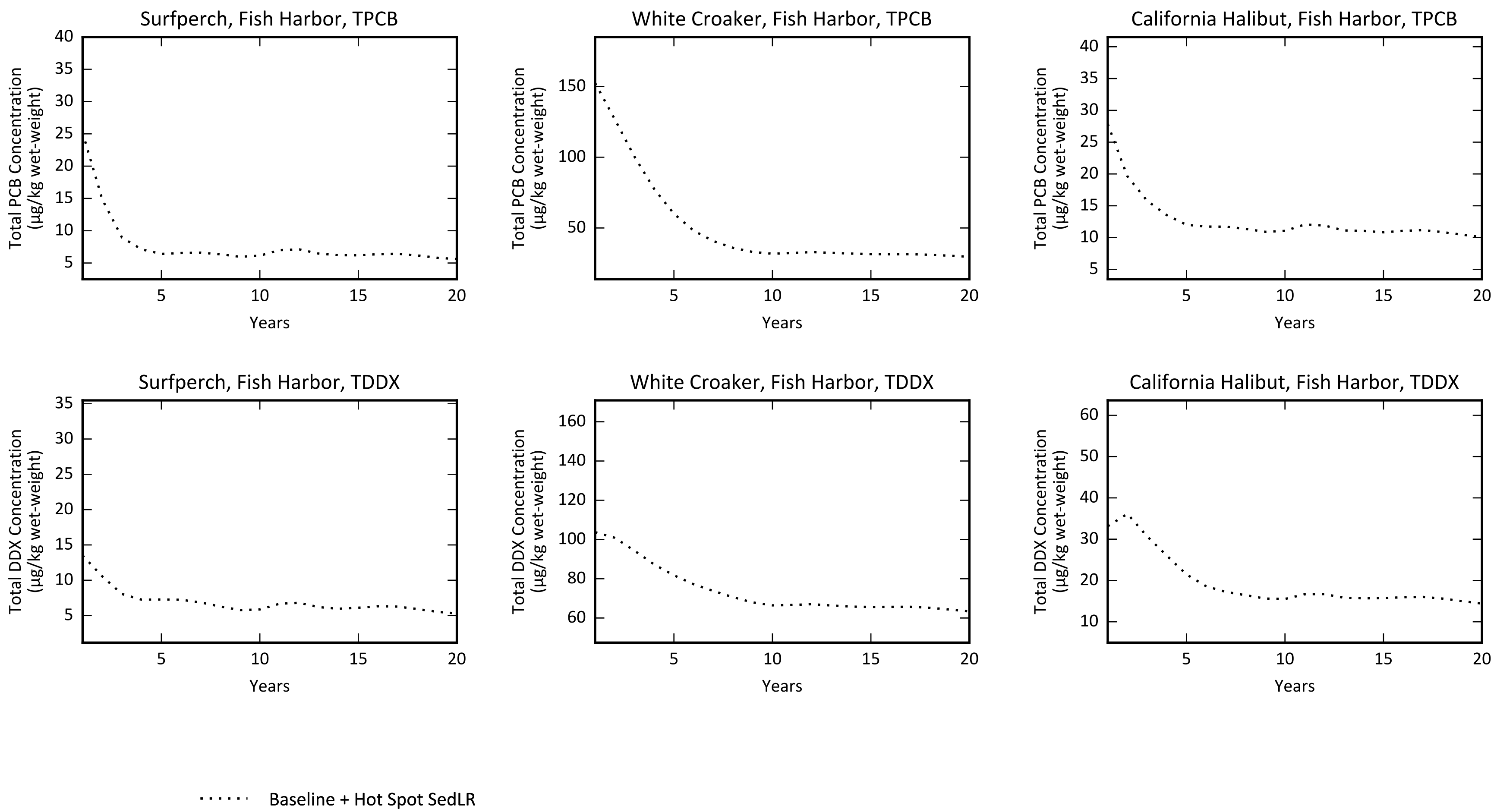


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1811 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:16 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-9c
Total PCB and DDX Concentrations in Fish over Time for Baseline + Hot Spot SedLR in LA Inner
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

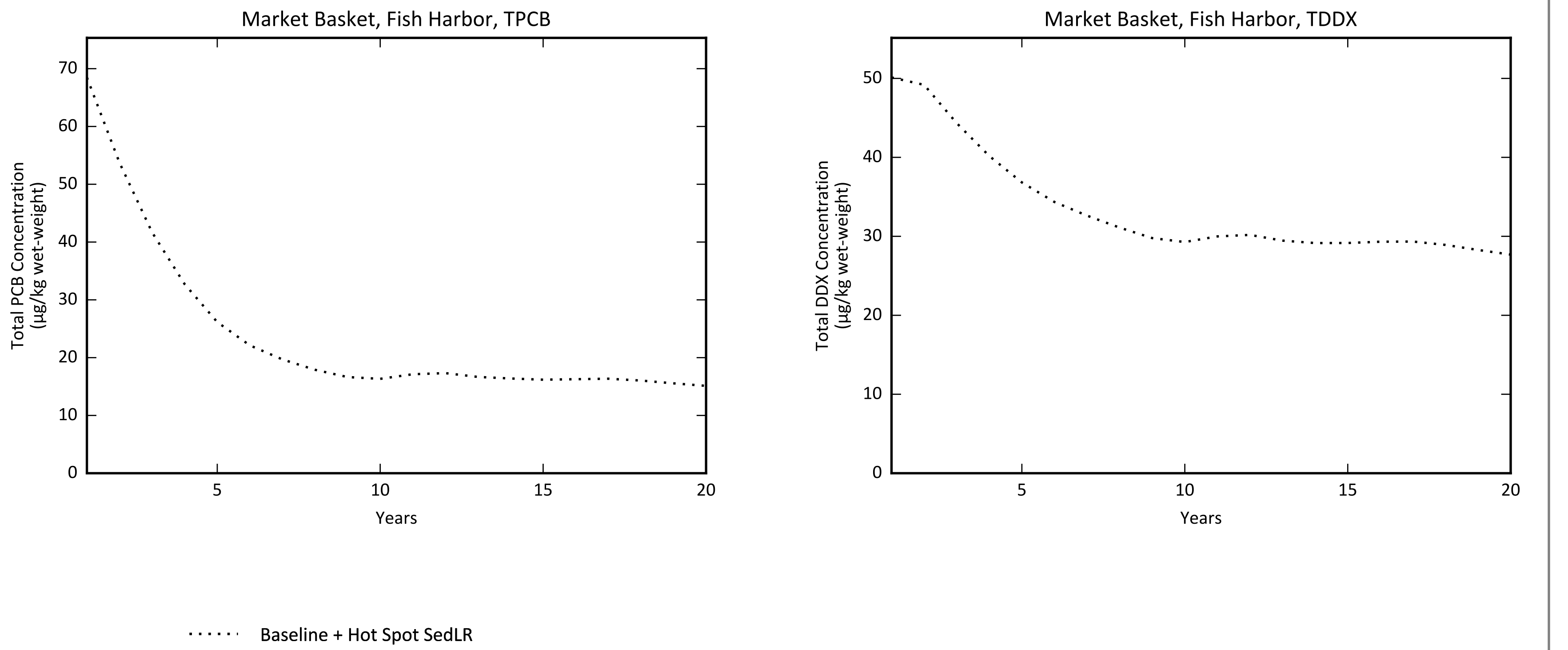


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1811 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:16 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-9d
Total PCB and DDX Concentrations in Fish over Time for Baseline + Hot Spot SedLR in Fish Harbor
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

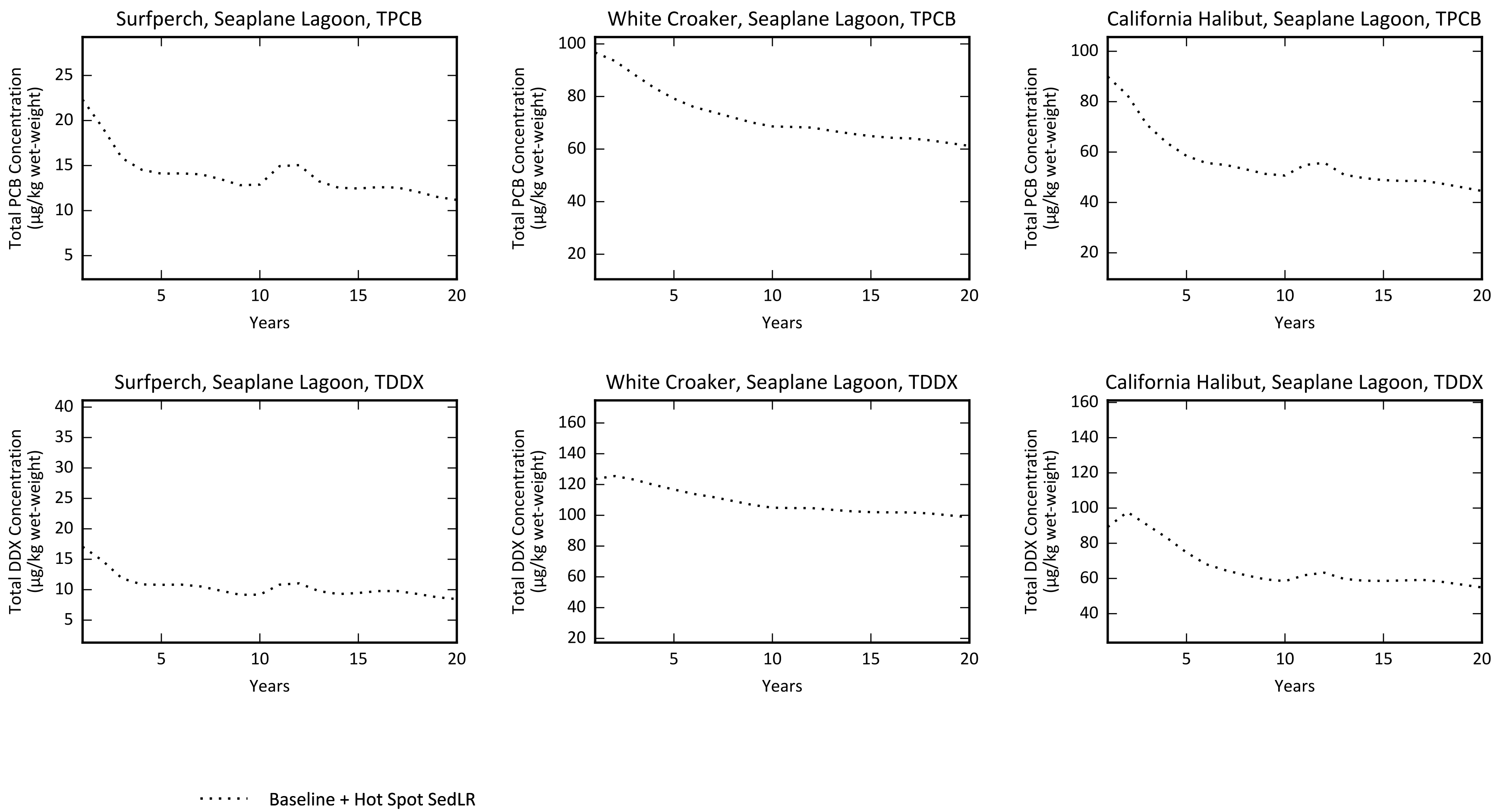


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1811 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:16 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-9d
Total PCB and DDX Concentrations in Fish over Time for Baseline + Hot Spot SedLR in Fish Harbor
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



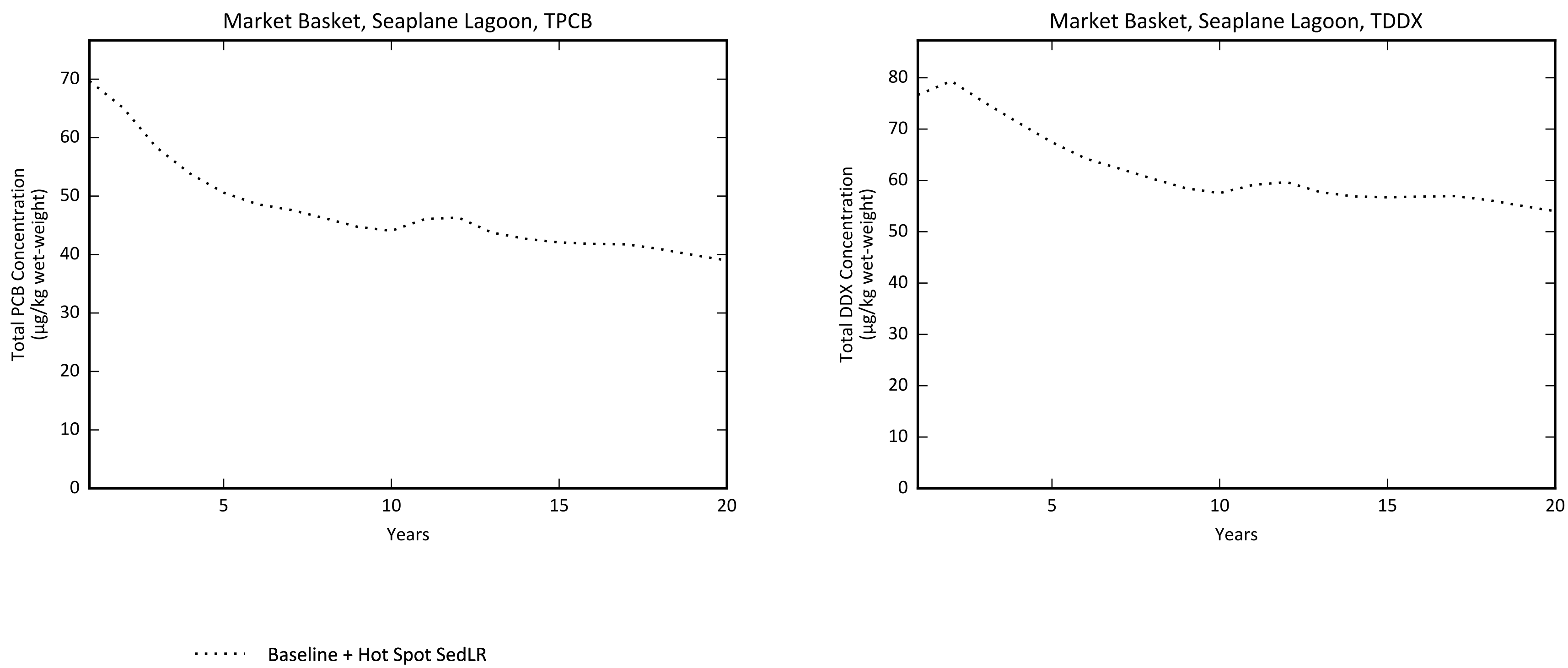
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1811 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:16 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-9e

Total PCB and DDX Concentrations in Fish over Time for Baseline + Hot Spot SedLR in Seaplane Lagoon



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1811 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:16 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

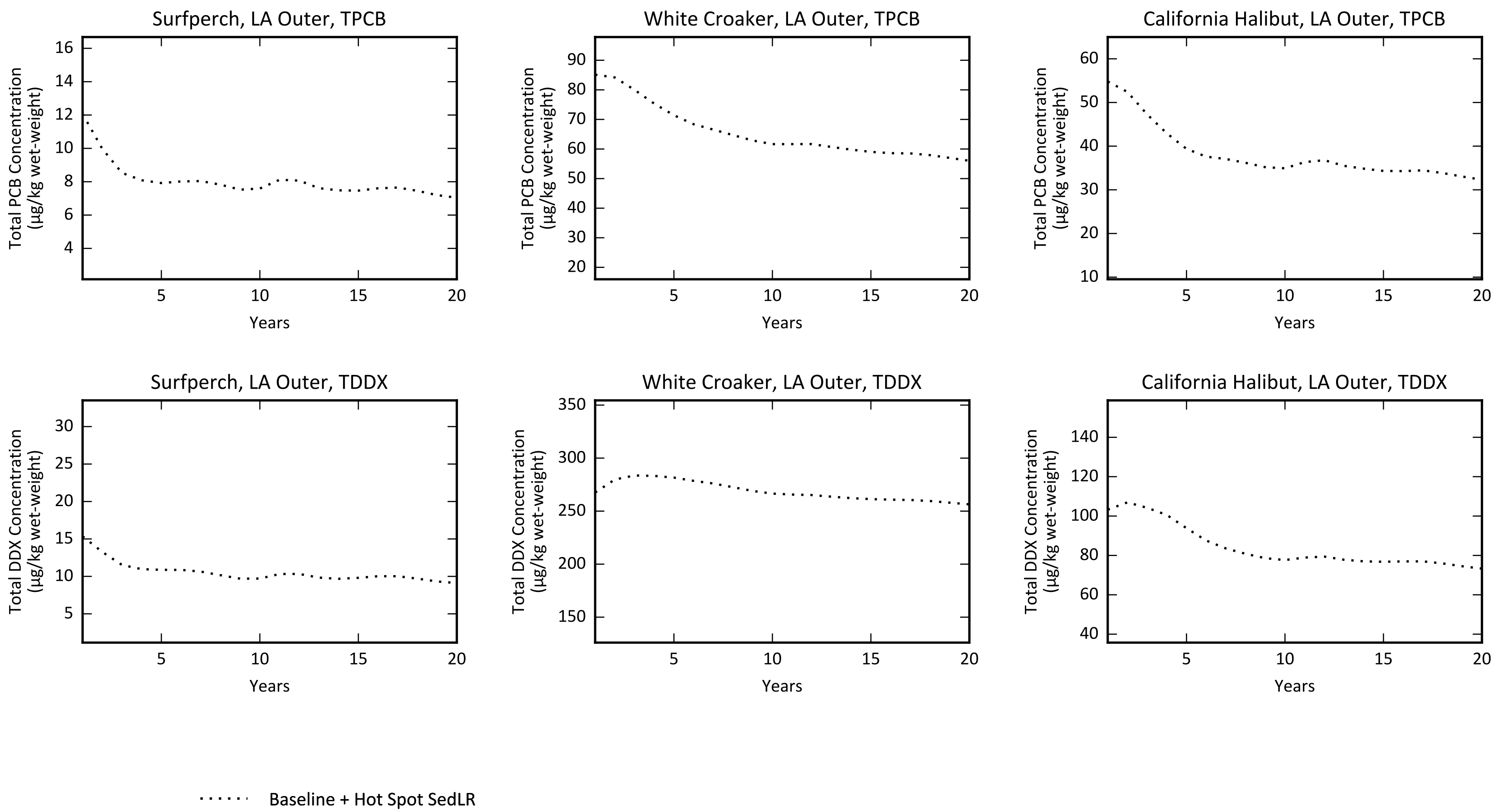
ANCHOR QEA

Figure B-9e

Total PCB and DDX Concentrations in Fish over Time for Baseline + Hot Spot SedLR in Seaplane Lagoon

Linked Model Data Summary Report

Greater Los Angeles and Long Beach Harbor Waters



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1811 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:16 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

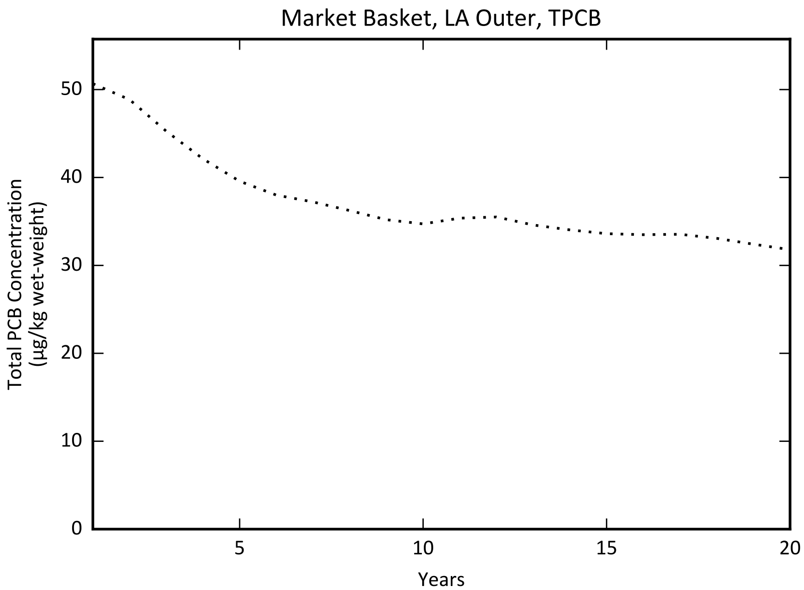
ANCHOR QEA

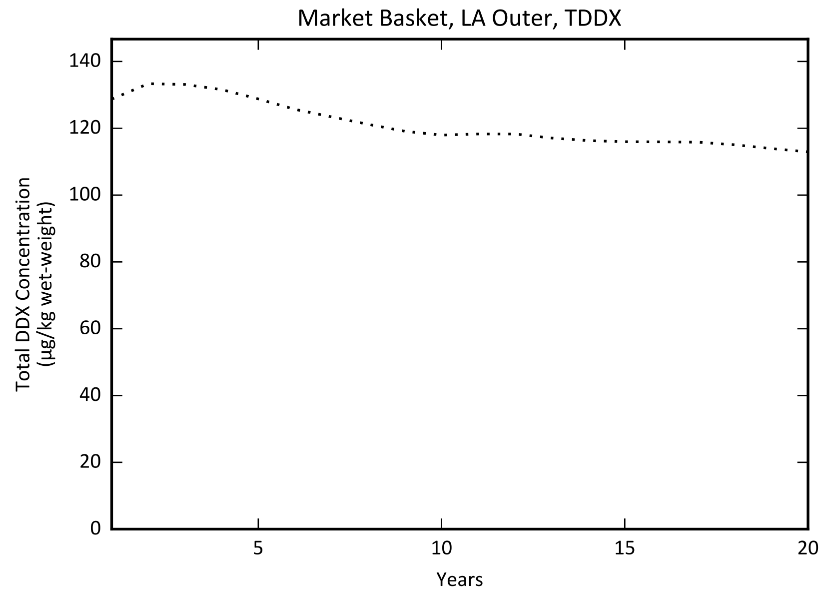
Figure B-9f

Total PCB and DDX Concentrations in Fish over Time for Baseline + Hot Spot SedLR in LA Outer

Linked Model Data Summary Report

Greater Los Angeles and Long Beach Harbor Waters



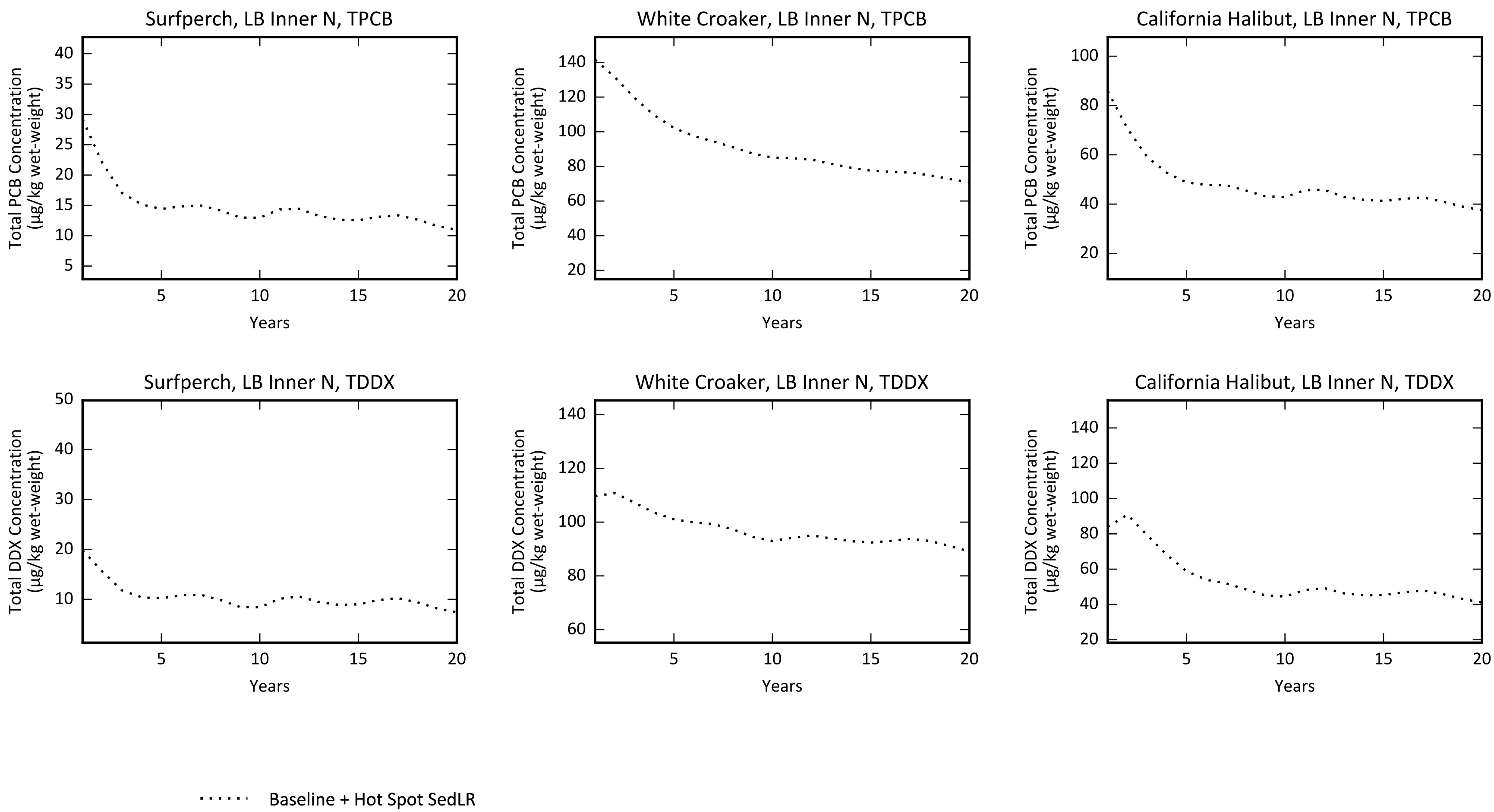


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1811 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:16 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-9f
Total PCB and DDX Concentrations in Fish over Time for Baseline + Hot Spot SedLR in LA Outer
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

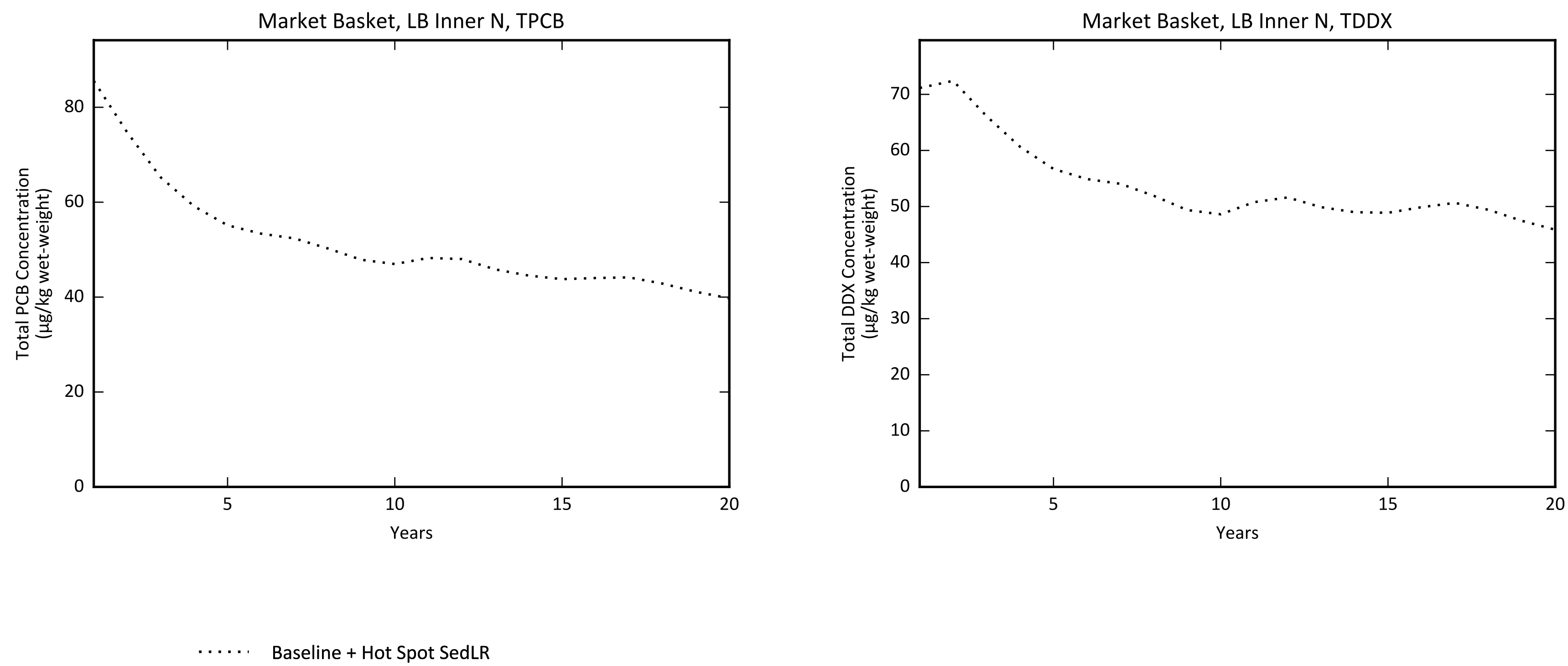


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1811 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:16 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-9g
Total PCB and DDX Concentrations in Fish over Time for Baseline + Hot Spot SedLR in LB Inner N
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

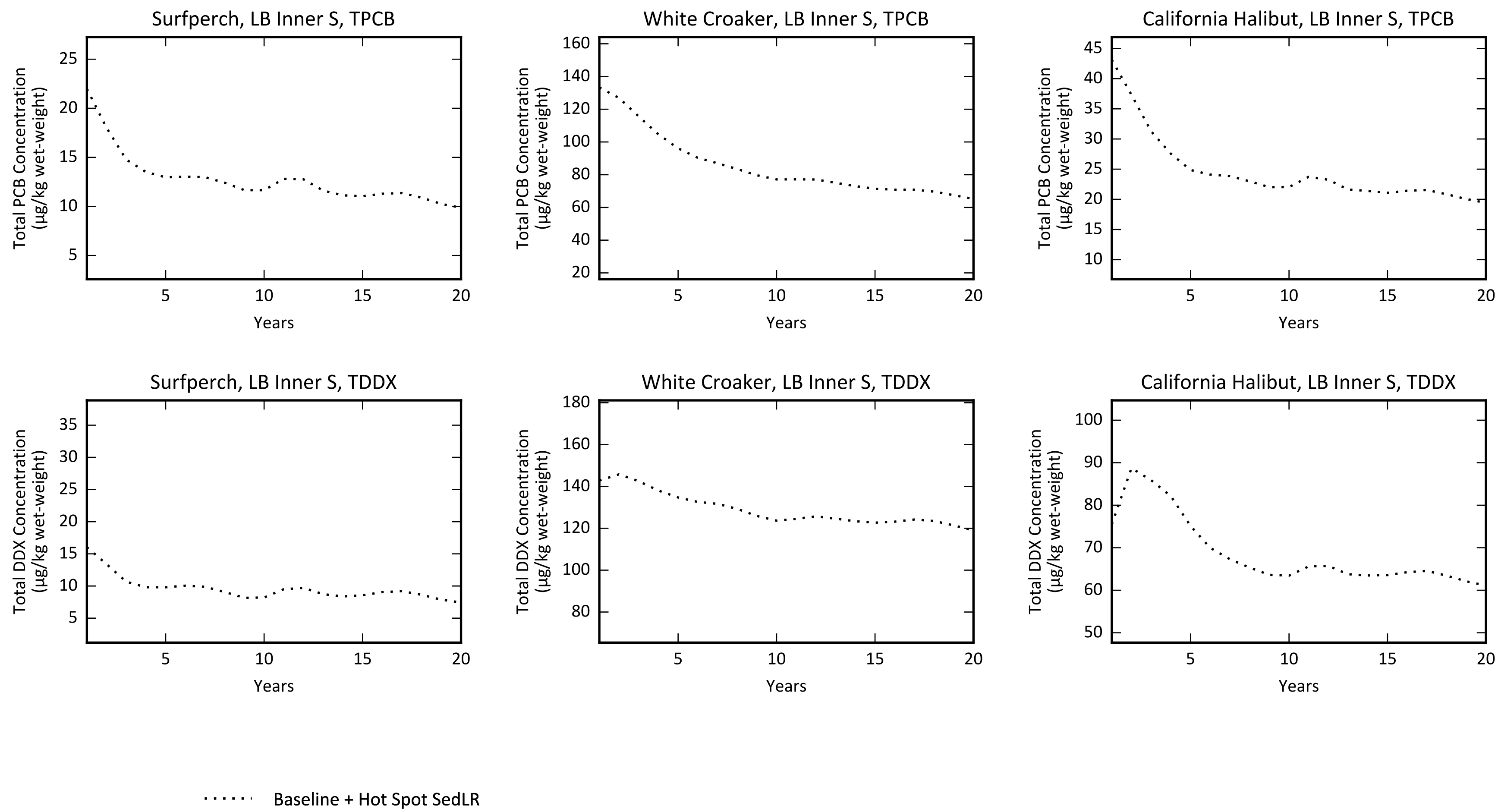


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1811 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:16 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-9g
Total PCB and DDX Concentrations in Fish over Time for Baseline + Hot Spot SedLR in LB Inner N
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

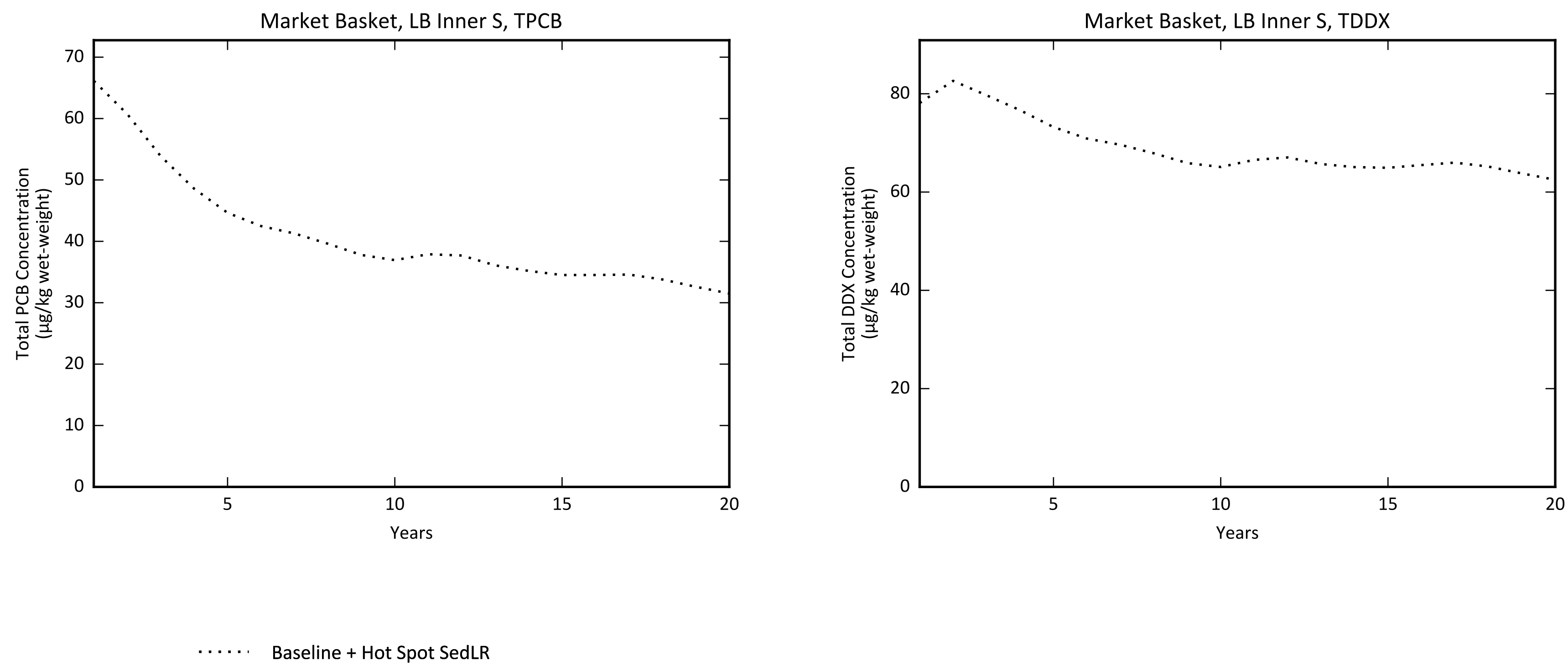


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1811 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:16 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

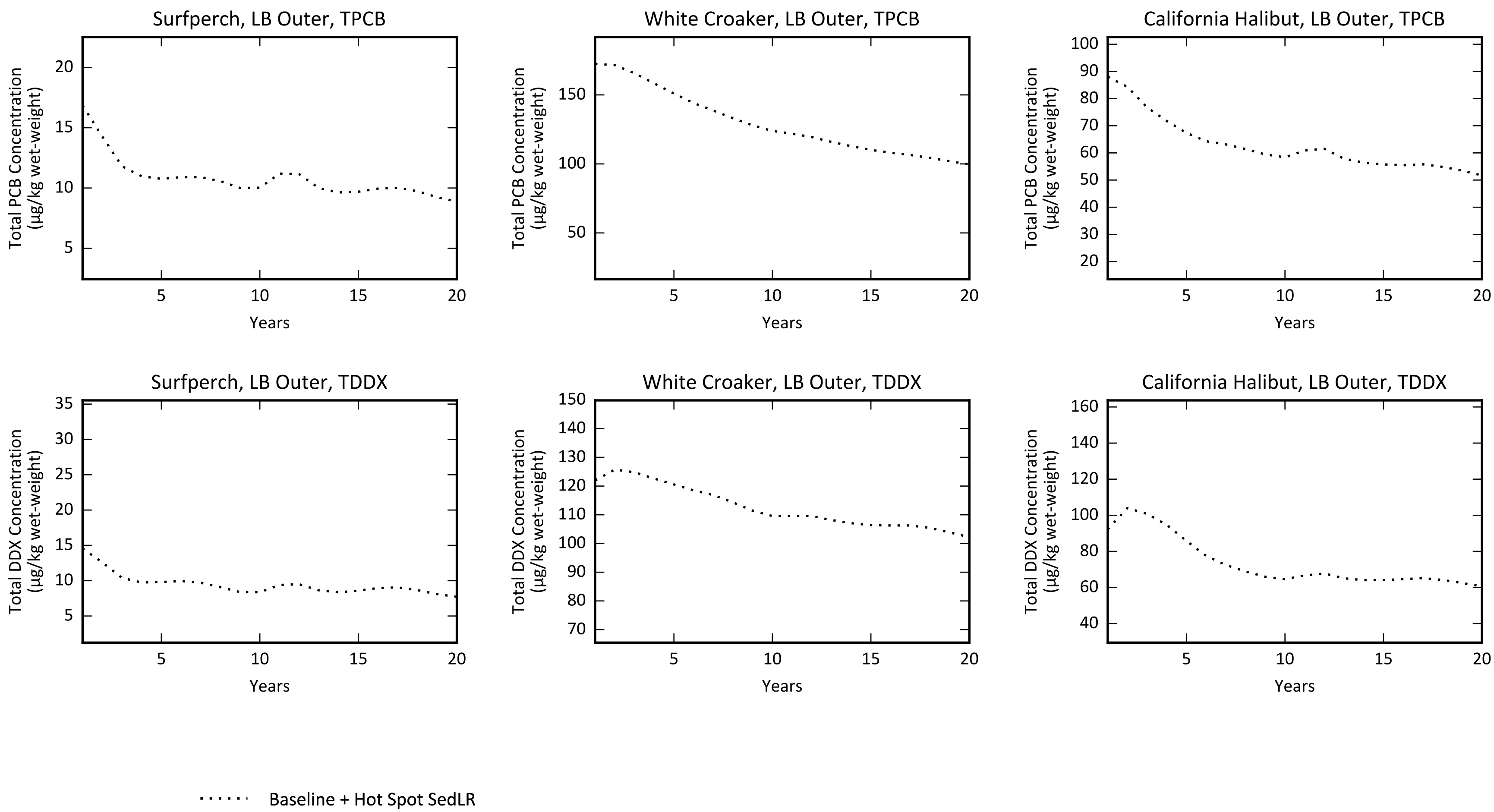
ANCHOR QEA

Figure B-9h
Total PCB and DDX Concentrations in Fish over Time for Baseline + Hot Spot SedLR in LB Inner S
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1811 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:16 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

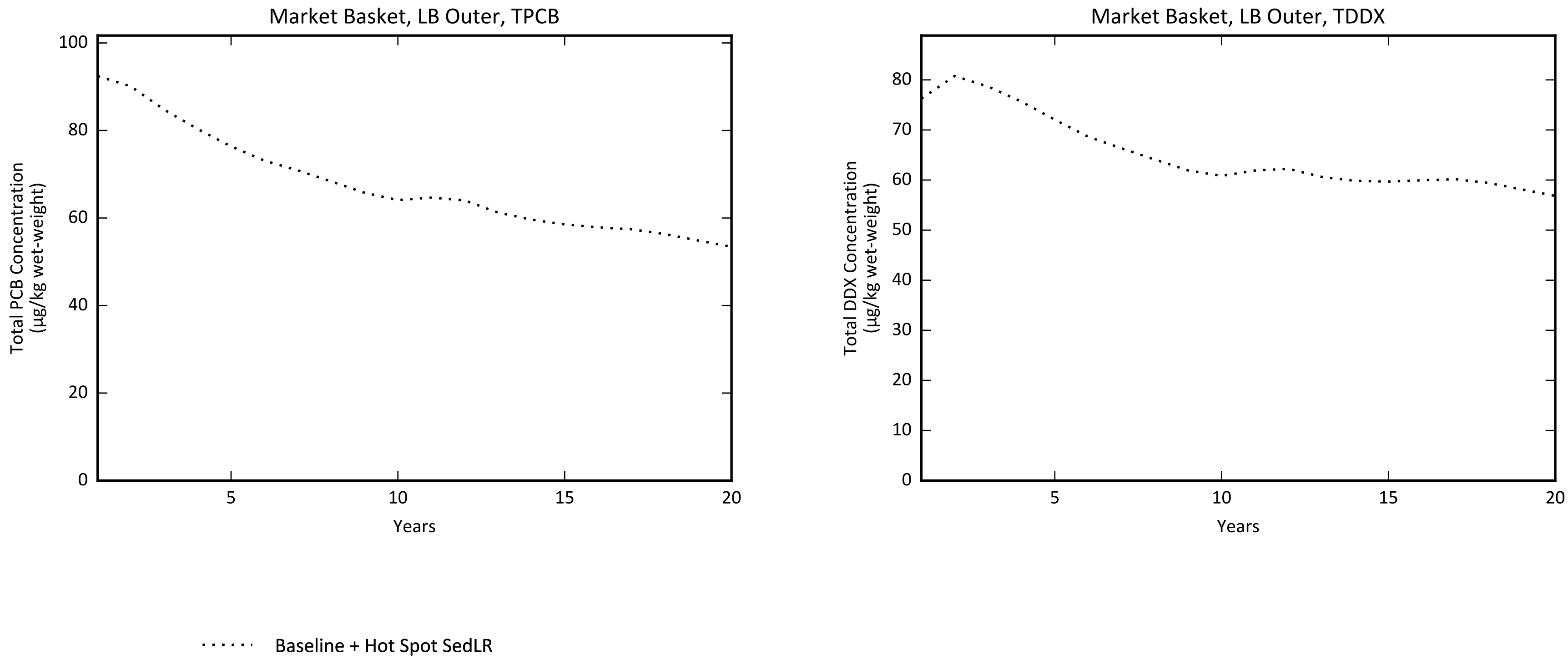


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1811 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:16 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-9i
Total PCB and DDX Concentrations in Fish over Time for Baseline + Hot Spot SedLR in LB Outer
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

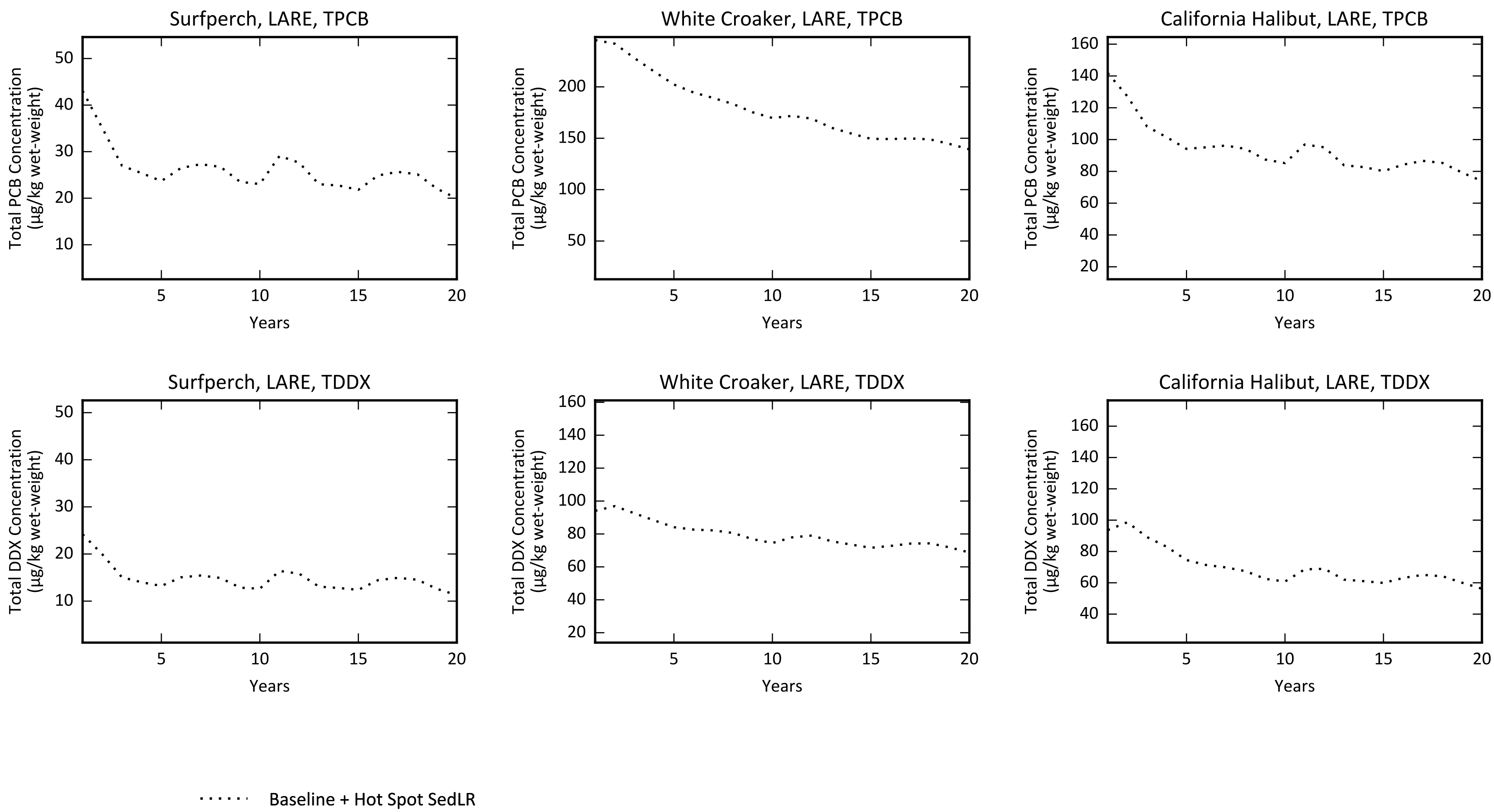


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1811 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:16 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-9i
Total PCB and DDX Concentrations in Fish over Time for Baseline + Hot Spot SedLR in LB Outer
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

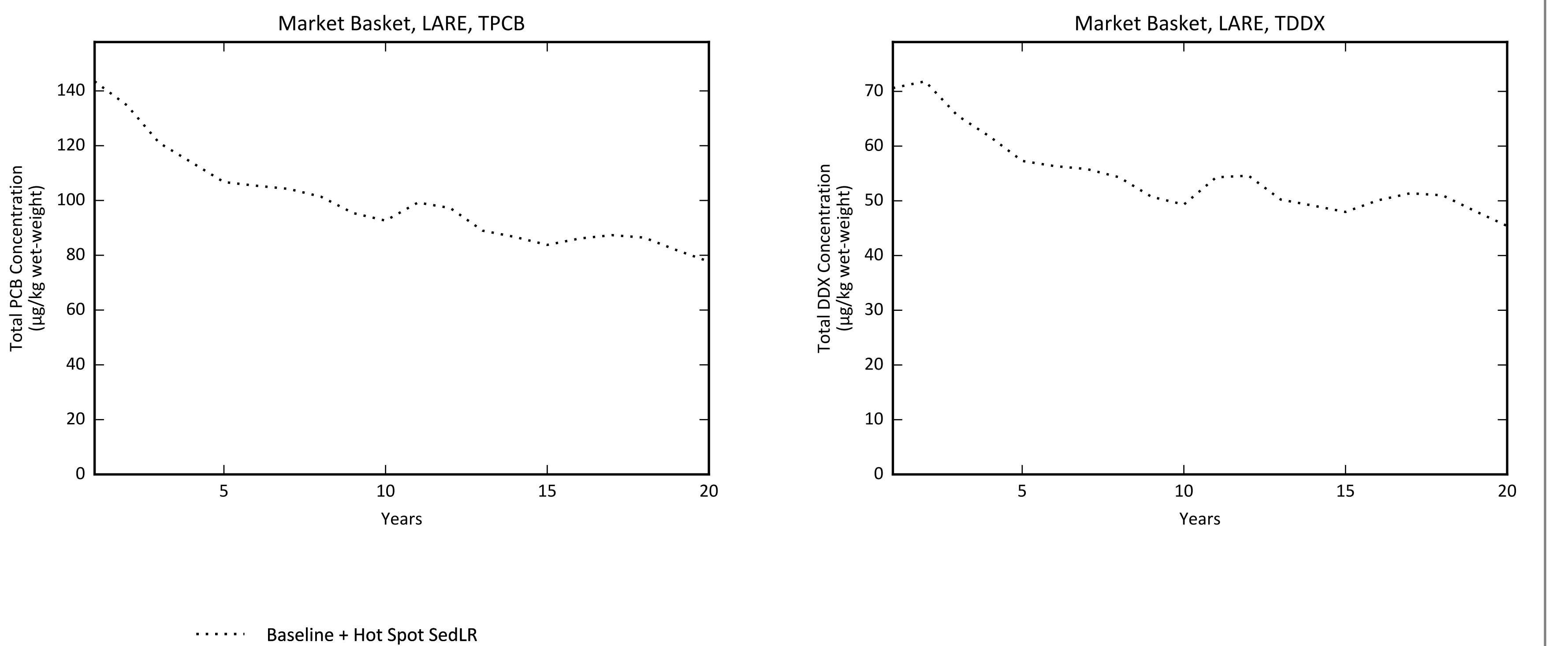


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1811 and biota files v.1755 used for model.

ANCHOR QEA

Figure B-9j

Total PCB and DDX Concentrations in Fish over Time for Baseline + Hot Spot SedLR in LARE

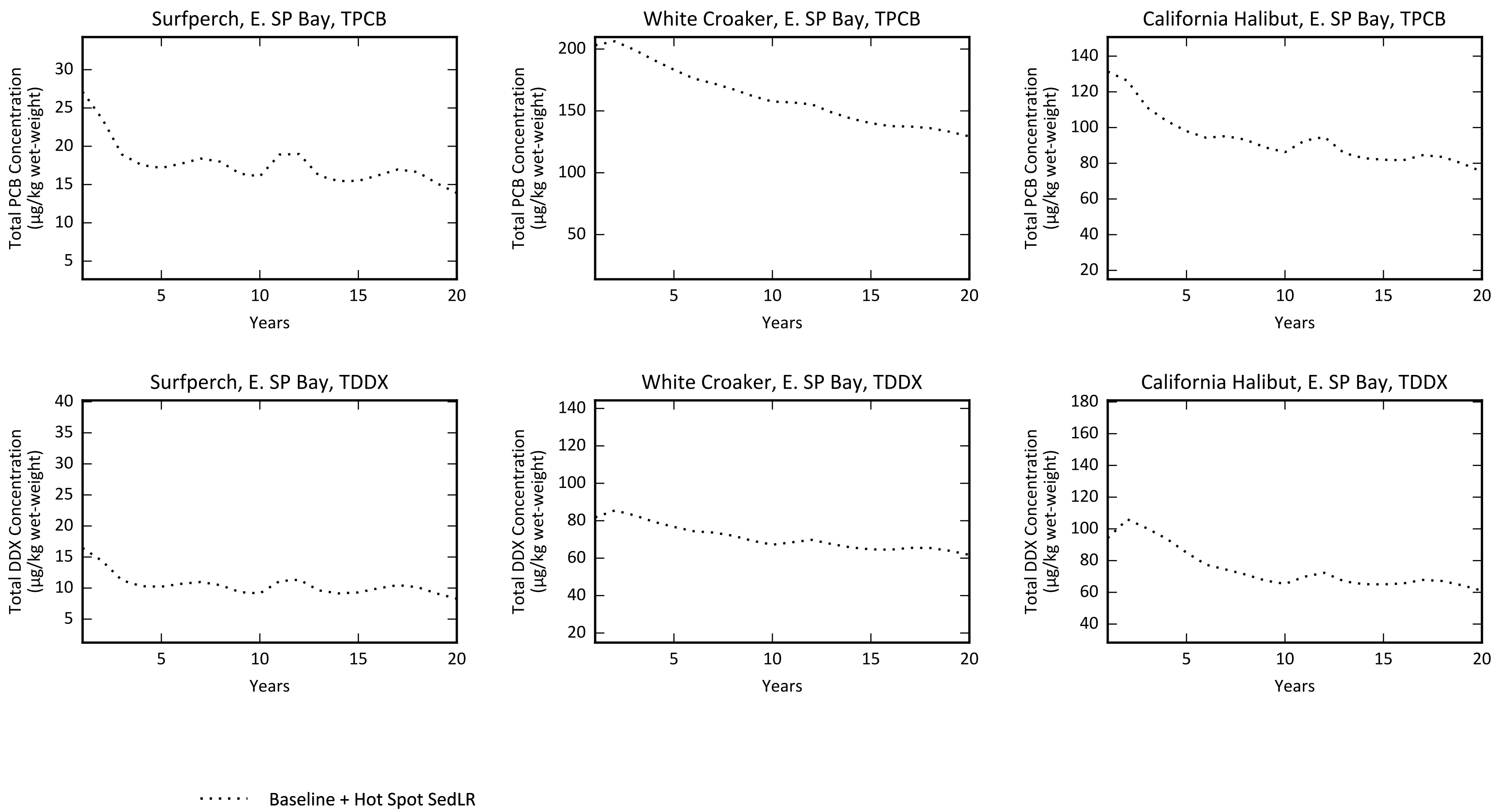


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1811 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:16 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

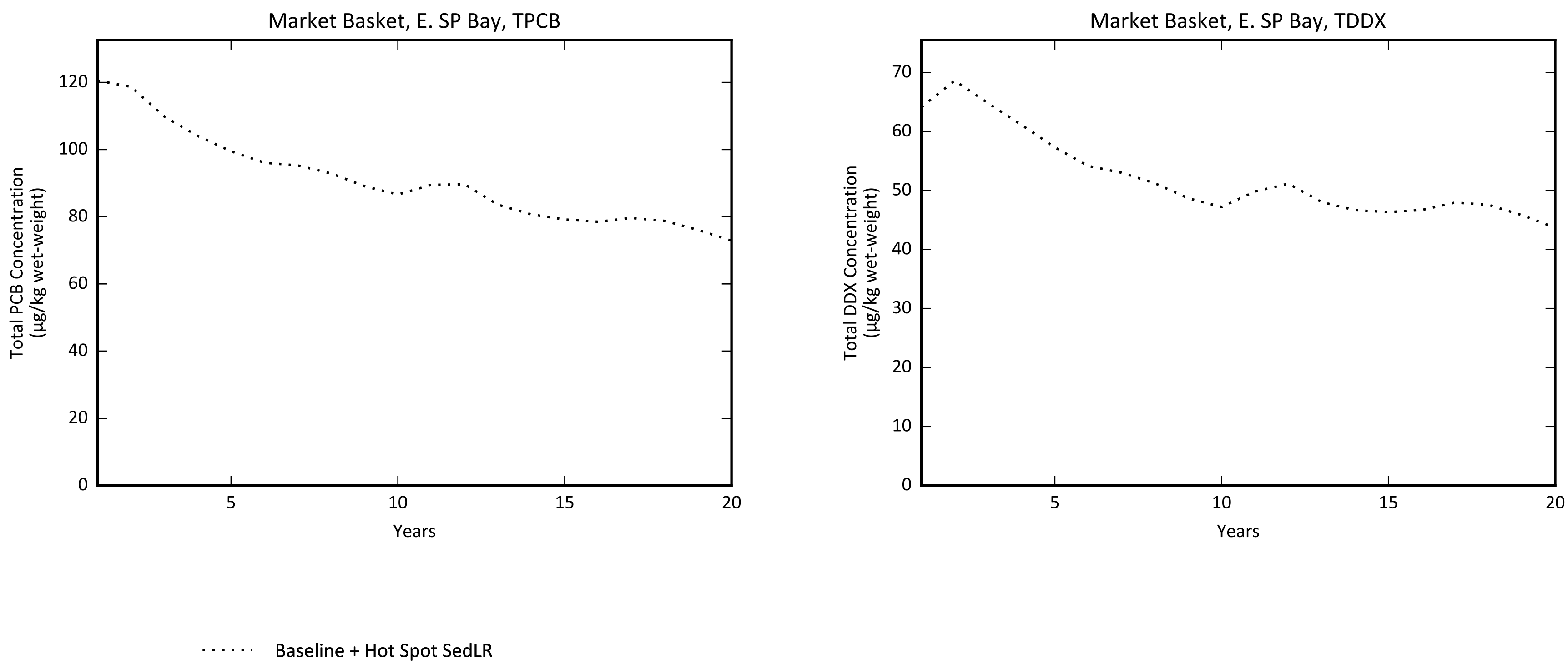
Figure B-9j
Total PCB and DDX Concentrations in Fish over Time for Baseline + Hot Spot SedLR in LARE



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1811 and biota files v.1755 used for model.

ANCHOR QEA

Figure B-9k
Total PCB and DDX Concentrations in Fish over Time for Baseline + Hot Spot SedLR in E. SP Bay
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

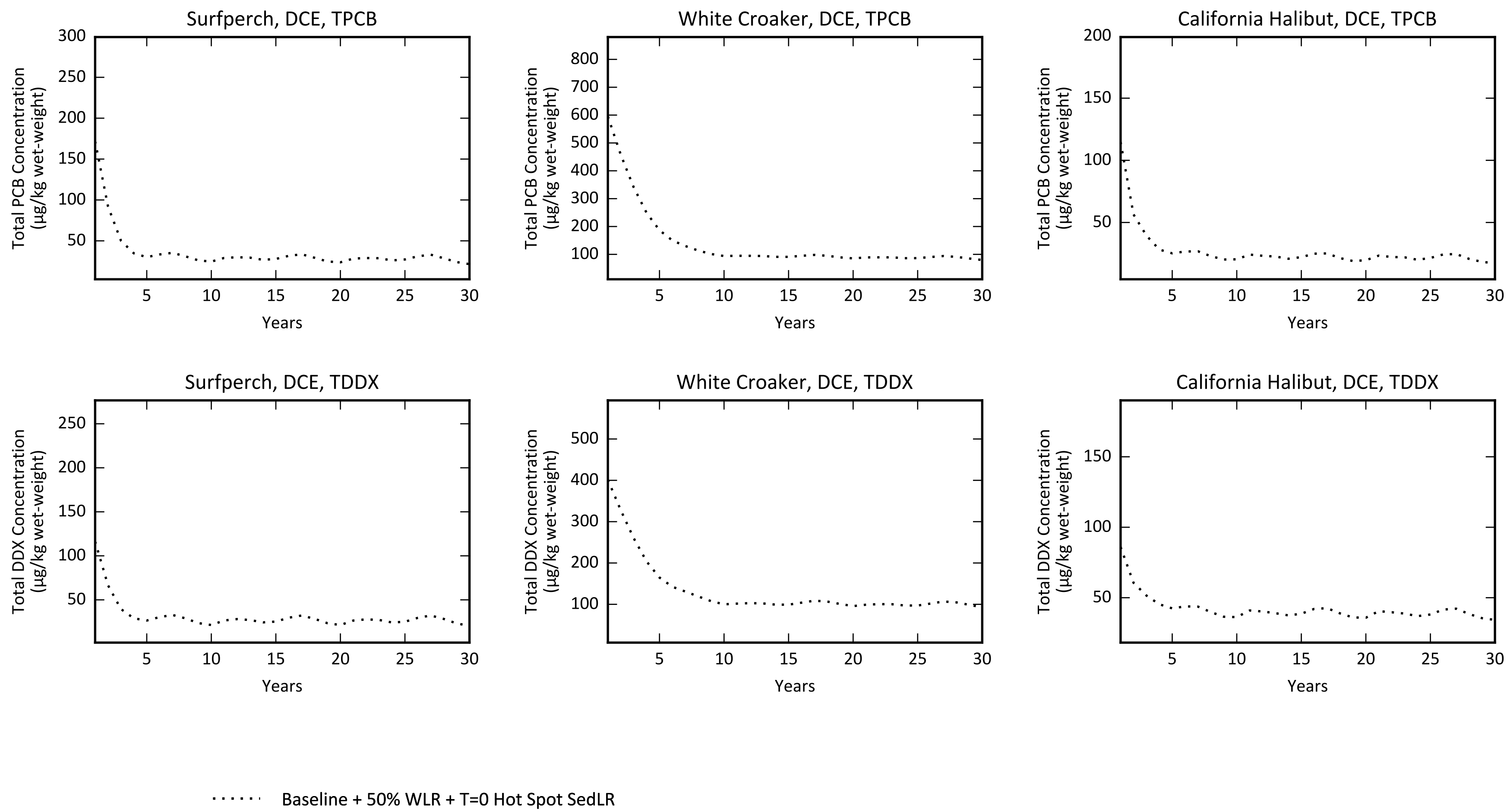


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1811 and biota files v.1755 used for model.

Publish Date: 07/26/2018 17:16 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

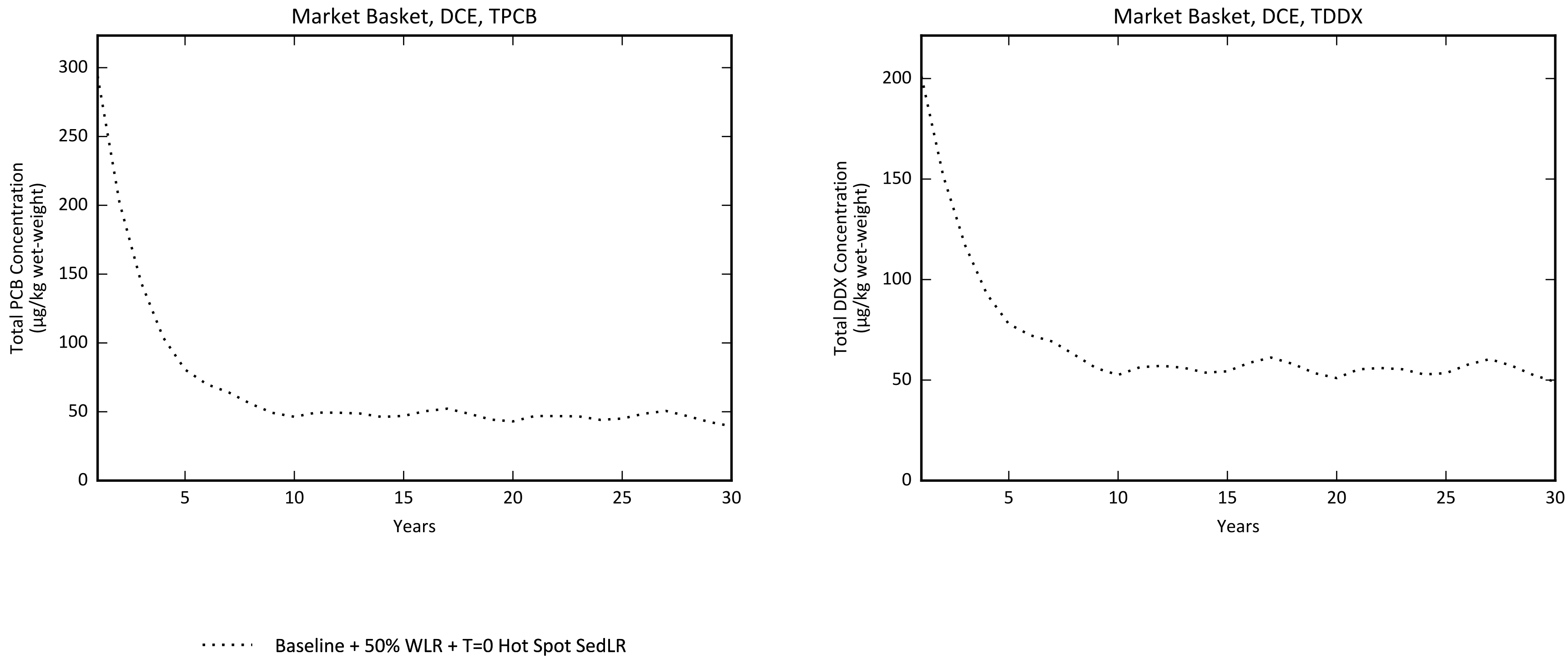
ANCHOR QEA

Figure B-9k
Total PCB and DDX Concentrations in Fish over Time for Baseline + Hot Spot SedLR in E. SP Bay



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1812 and biota files v.1801 used for model.

Figure B-10a
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=0 Hot Spot SedLR in DCE

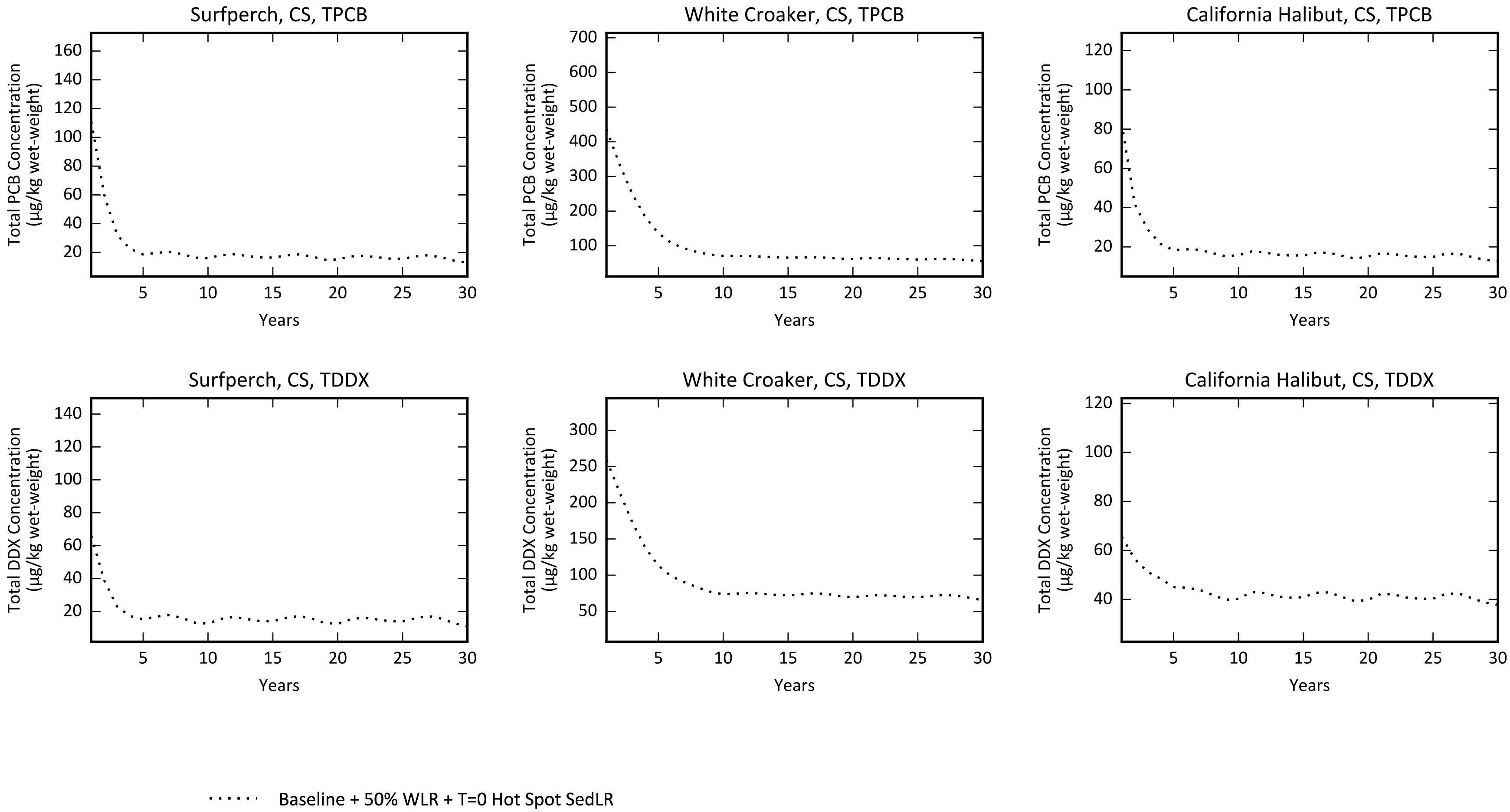


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1812 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:15 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

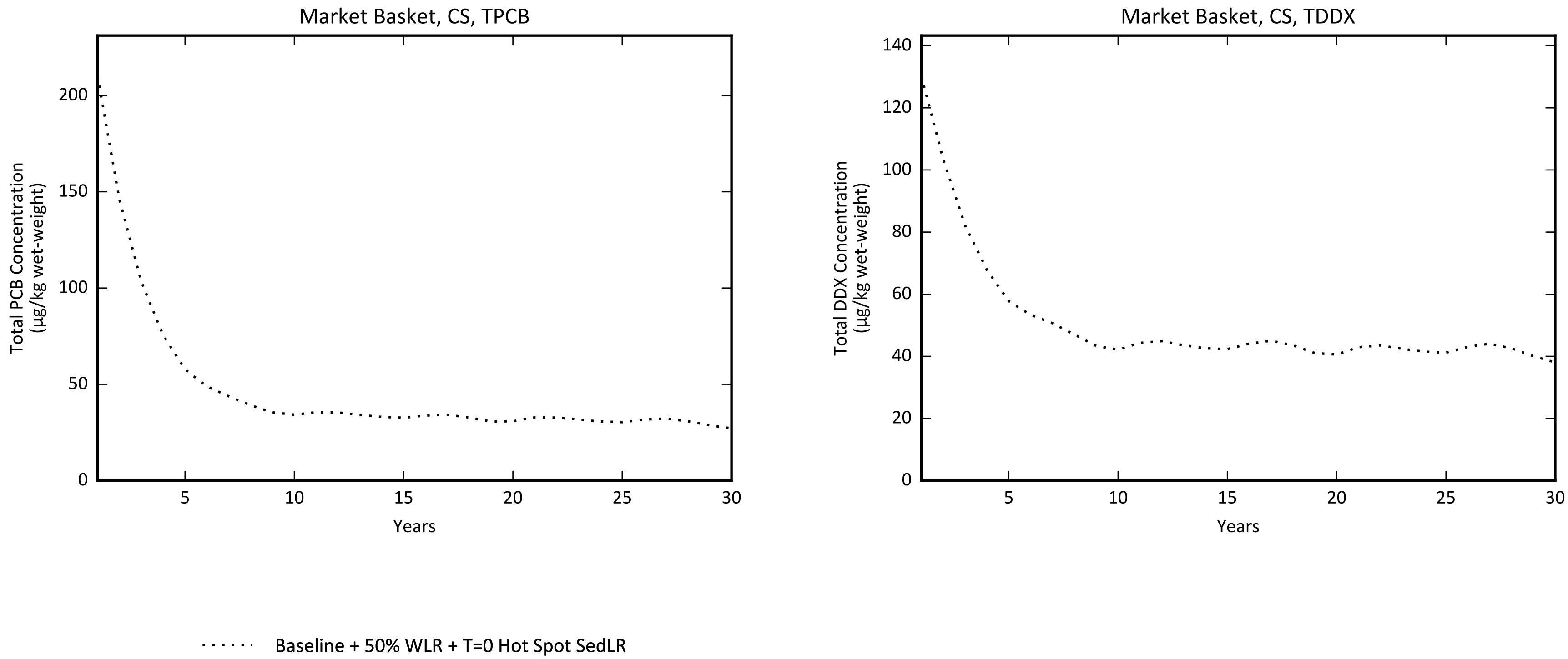
Figure B-10a
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=0 Hot Spot SedLR in DCE



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1812 and biota files v.1801 used for model.

Figure B-10b

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=0 Hot Spot SedLR in CS

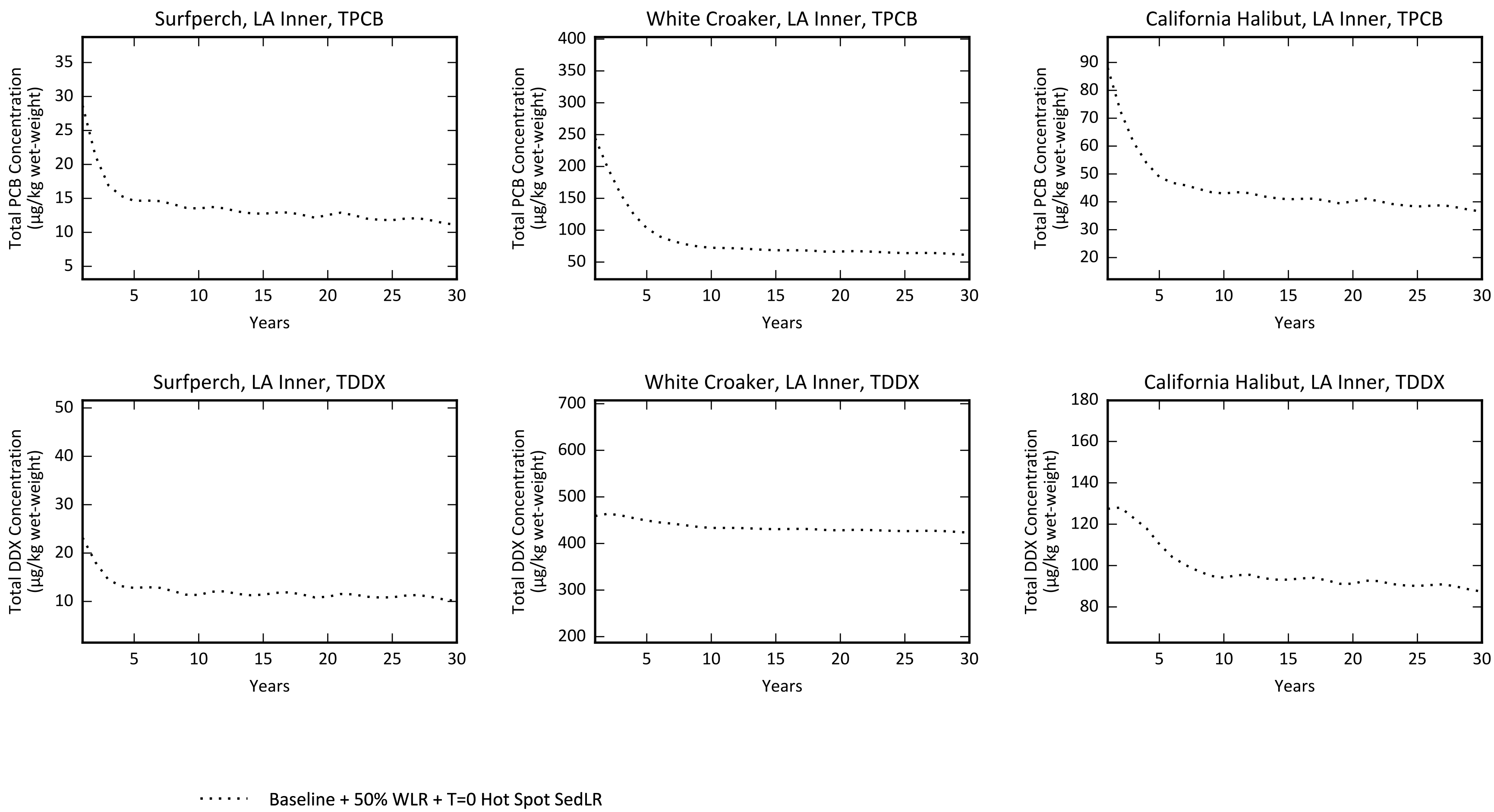


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1812 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:15 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-10b
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=0 Hot Spot SedLR in CS
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

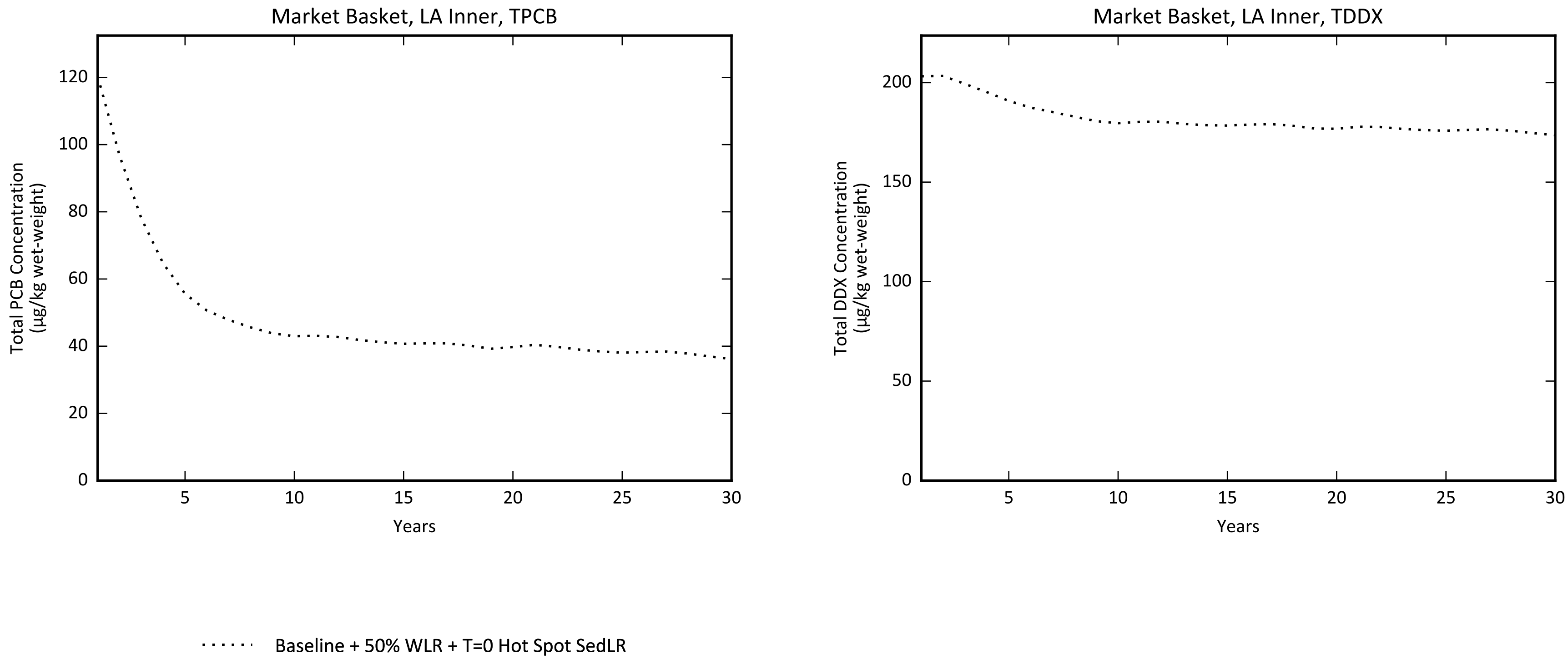


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1812 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:15 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-10c
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=0 Hot Spot SedLR in LA Inner
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



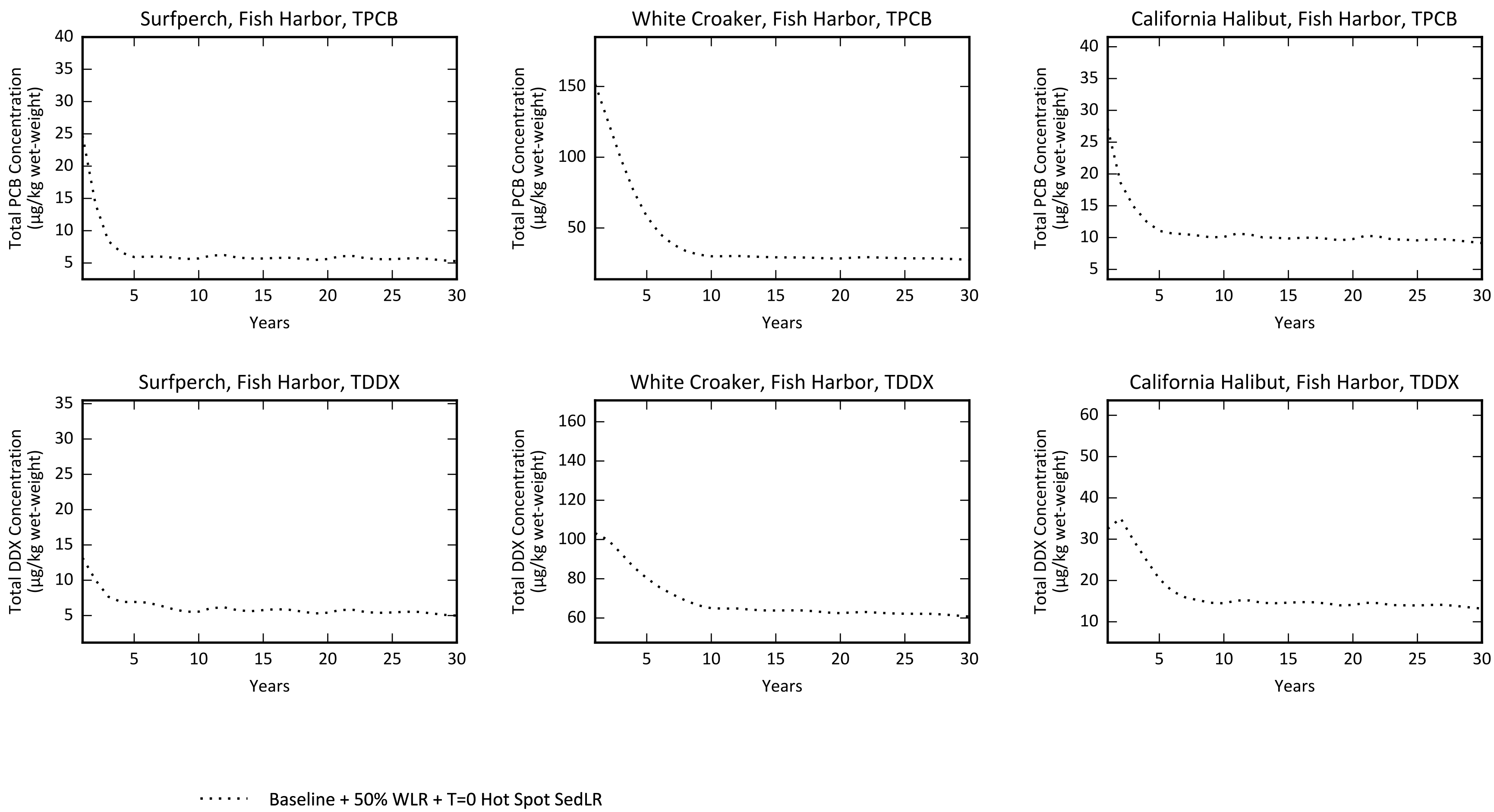
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1812 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:15 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-10c

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=0 Hot Spot SedLR in LA Inner

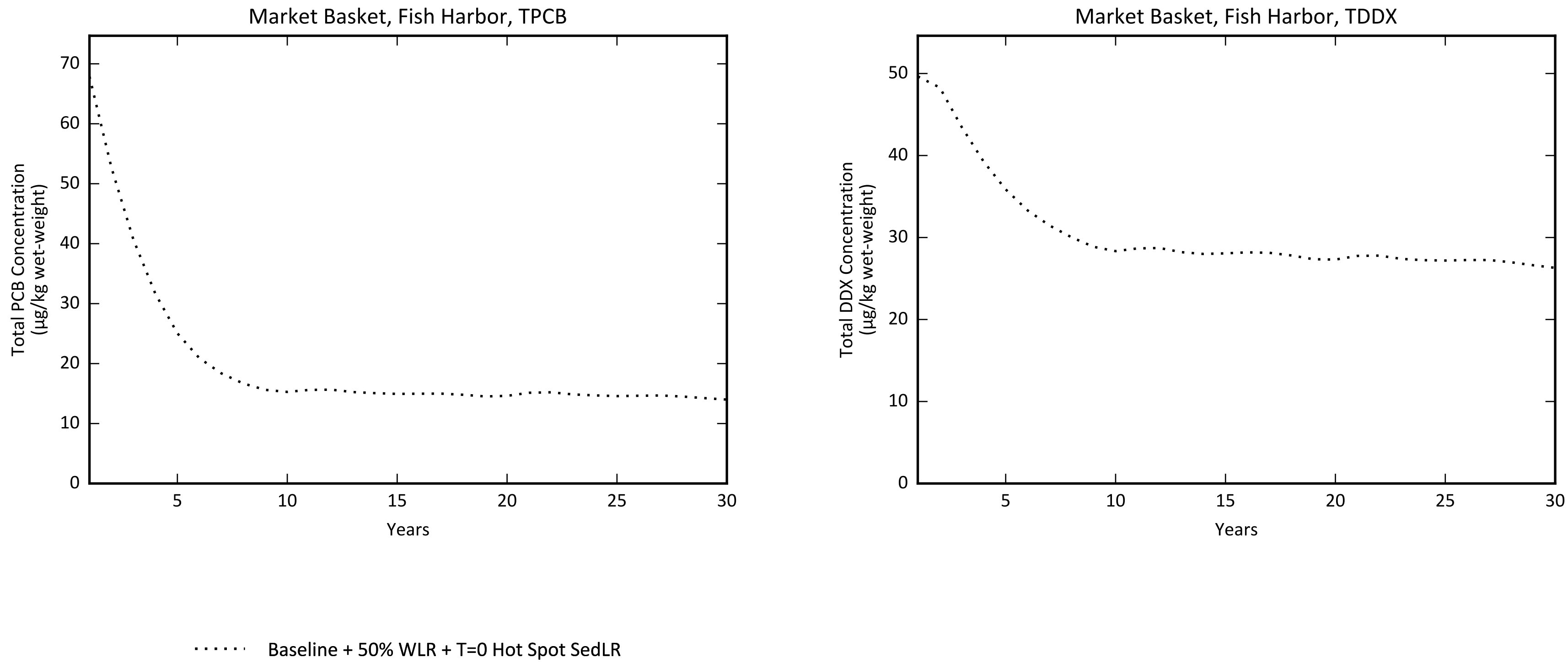


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1812 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:15 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-10d
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=0 Hot Spot SedLR in Fish Harbor
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

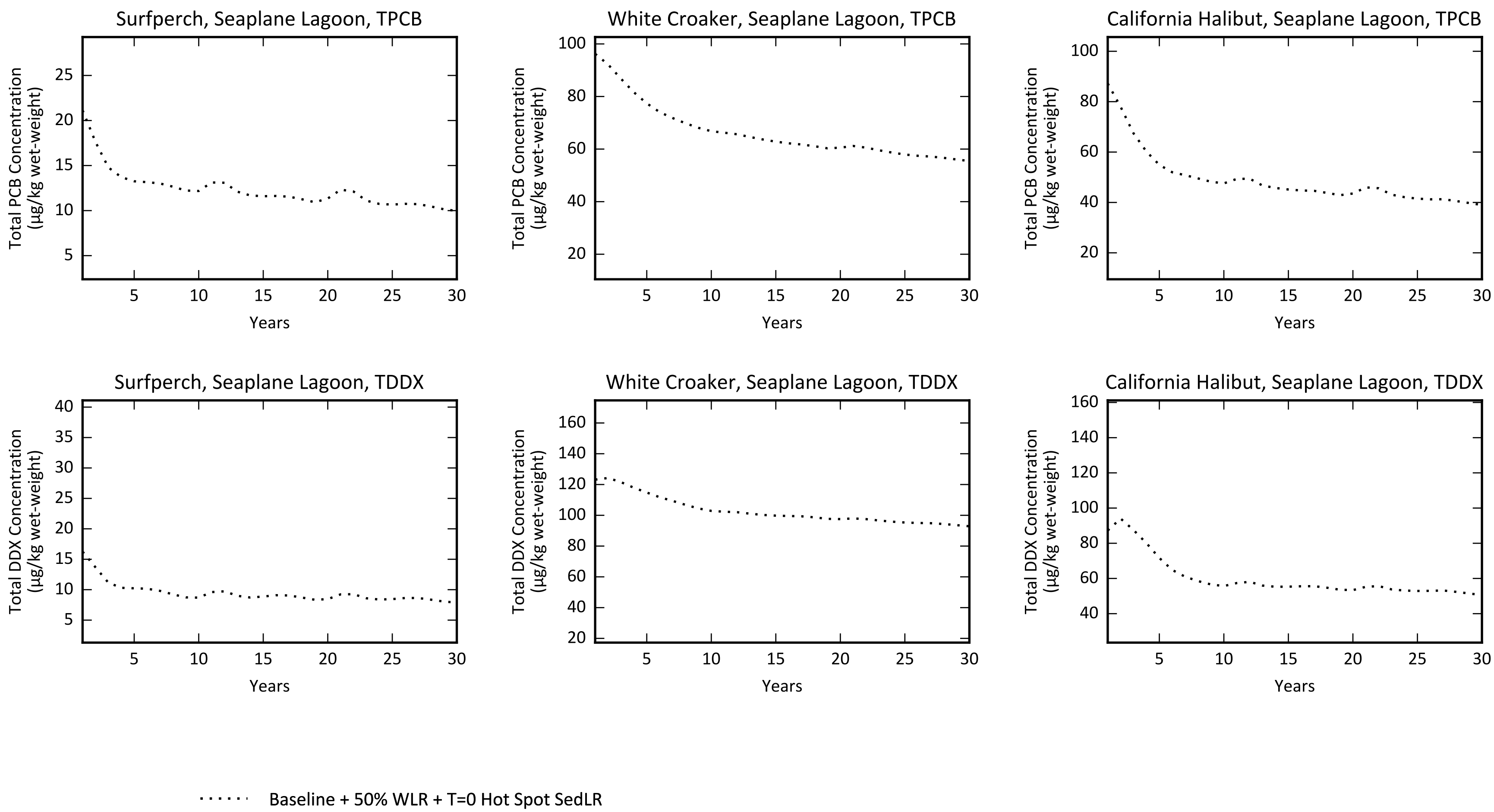


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1812 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:15 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-10d
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=0 Hot Spot SedLR in Fish Harbor
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



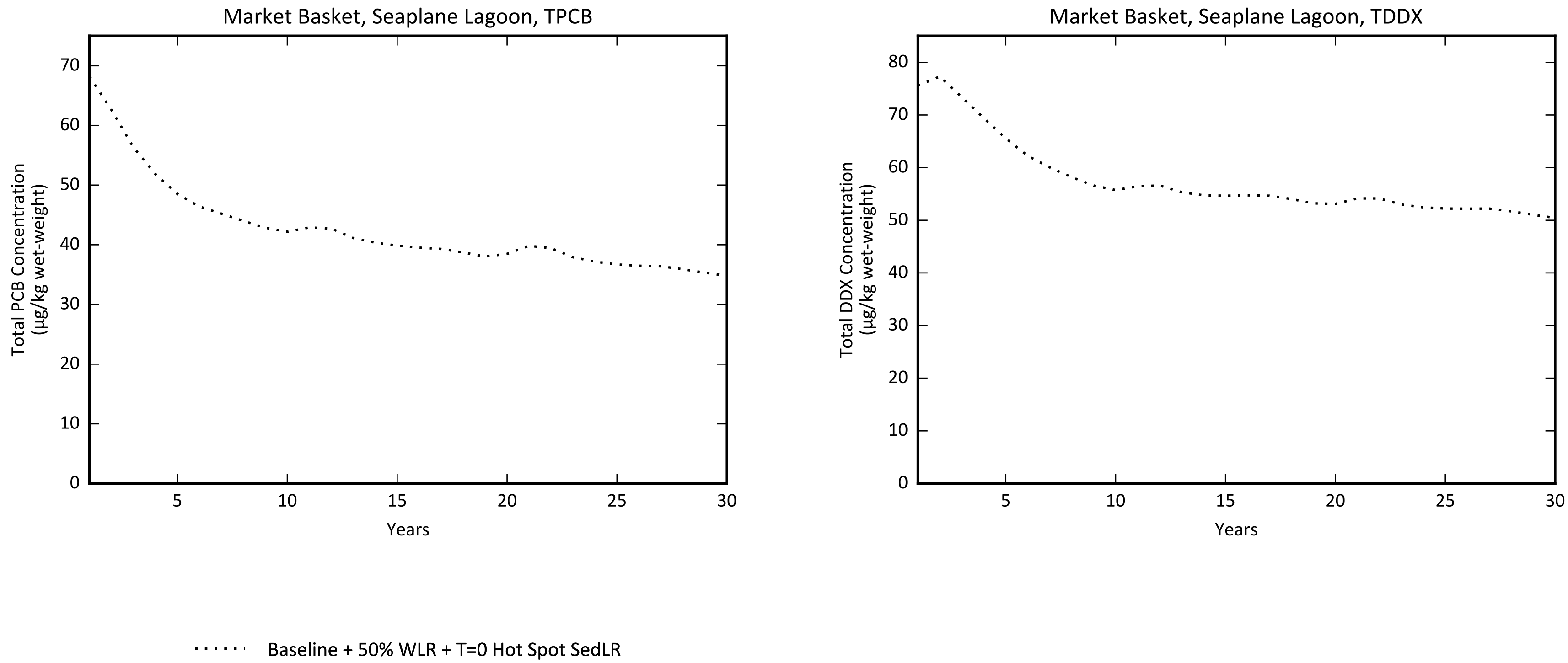
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1812 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:15 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-10e

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=0 Hot Spot SedLR in Seaplane Lagoon

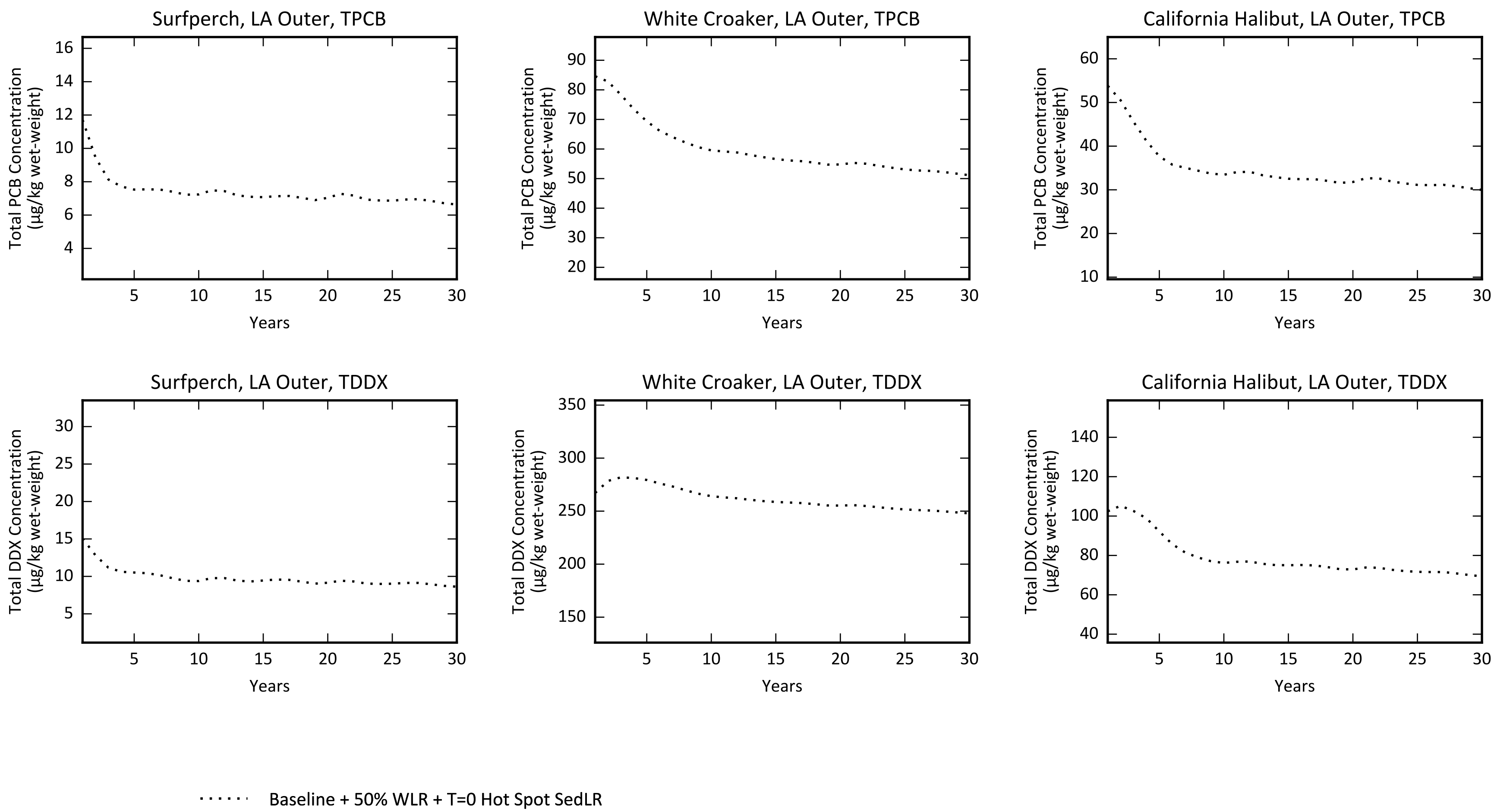


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1812 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:15 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

Figure B-10e

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=0 Hot Spot SedLR in Seaplane Lagoon

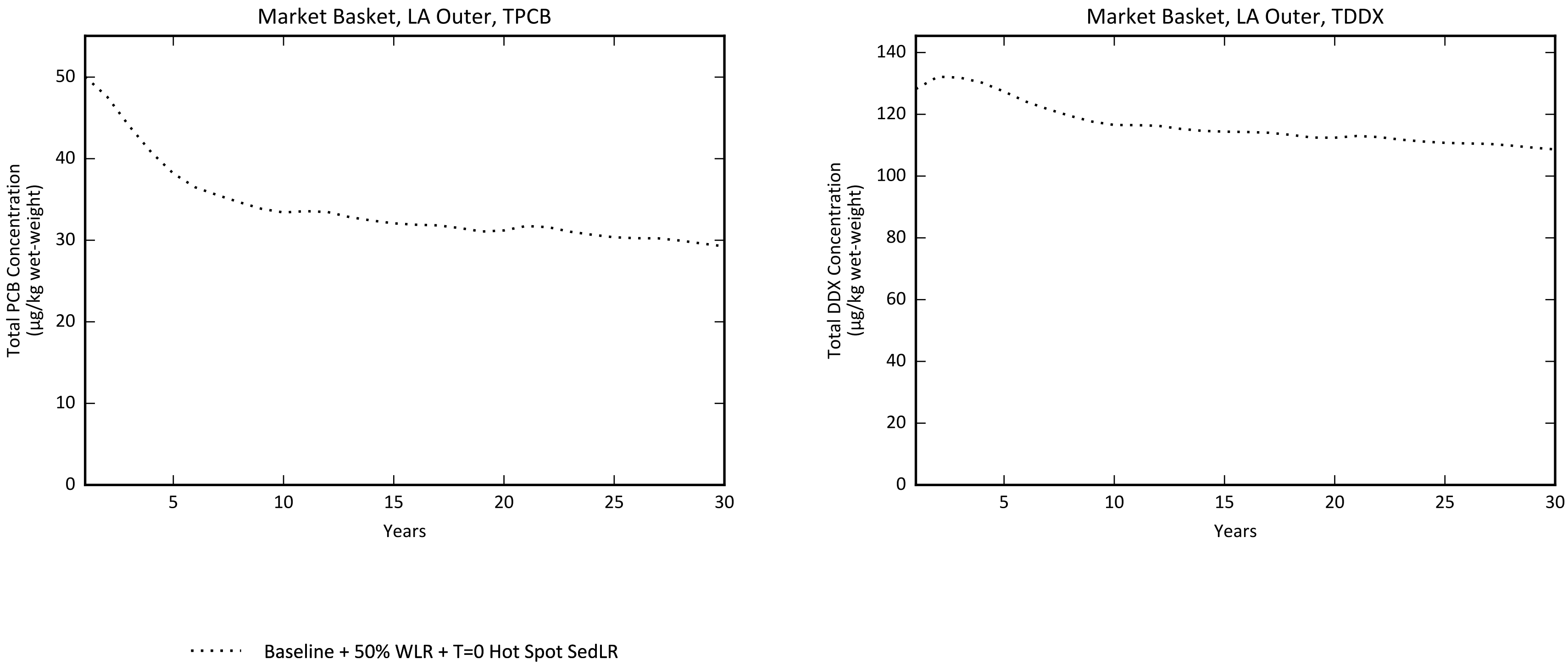


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1812 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:15 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

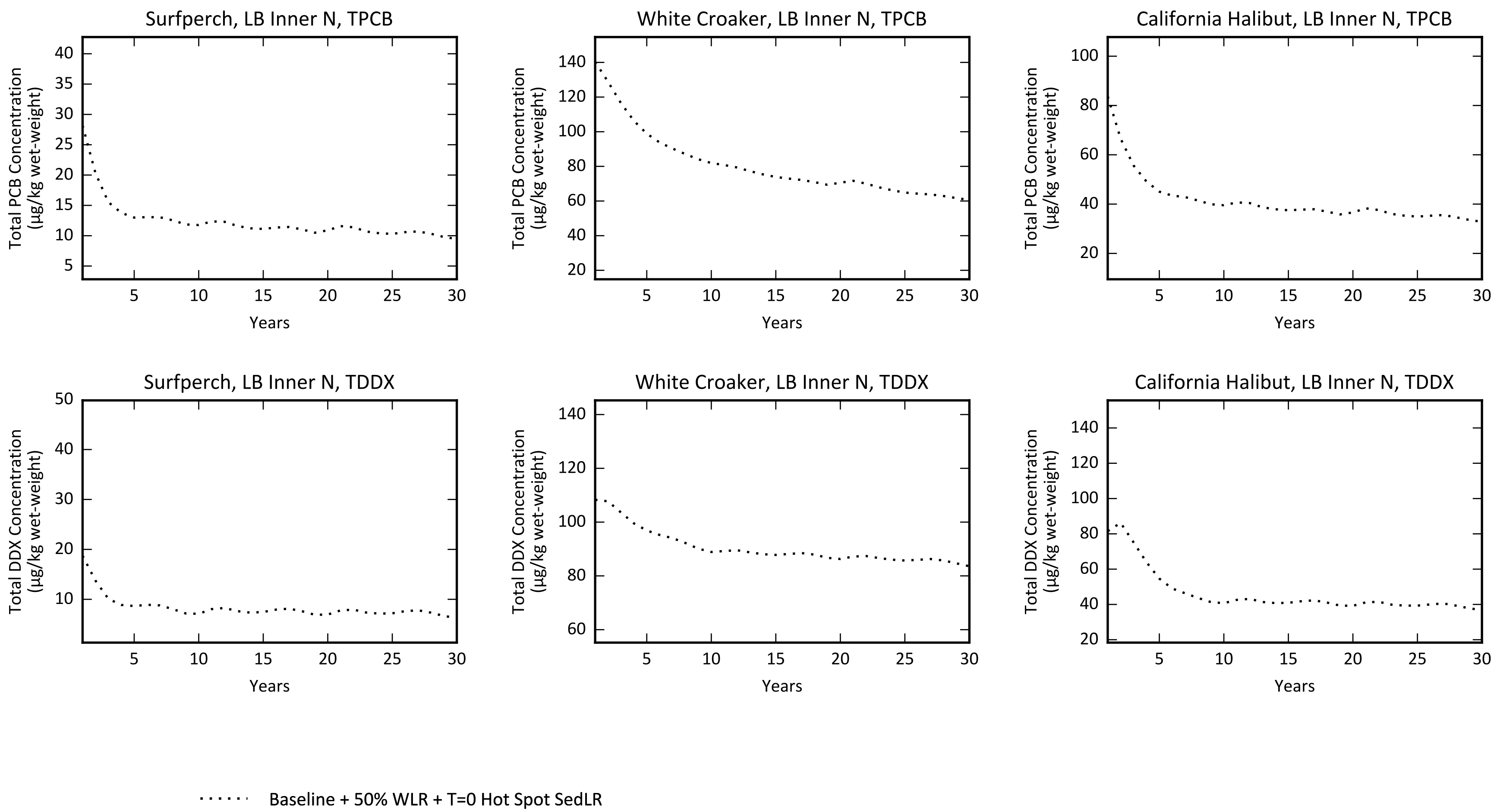
ANCHOR QEA

Figure B-10f
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=0 Hot Spot SedLR in LA Outer



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1812 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:15 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py



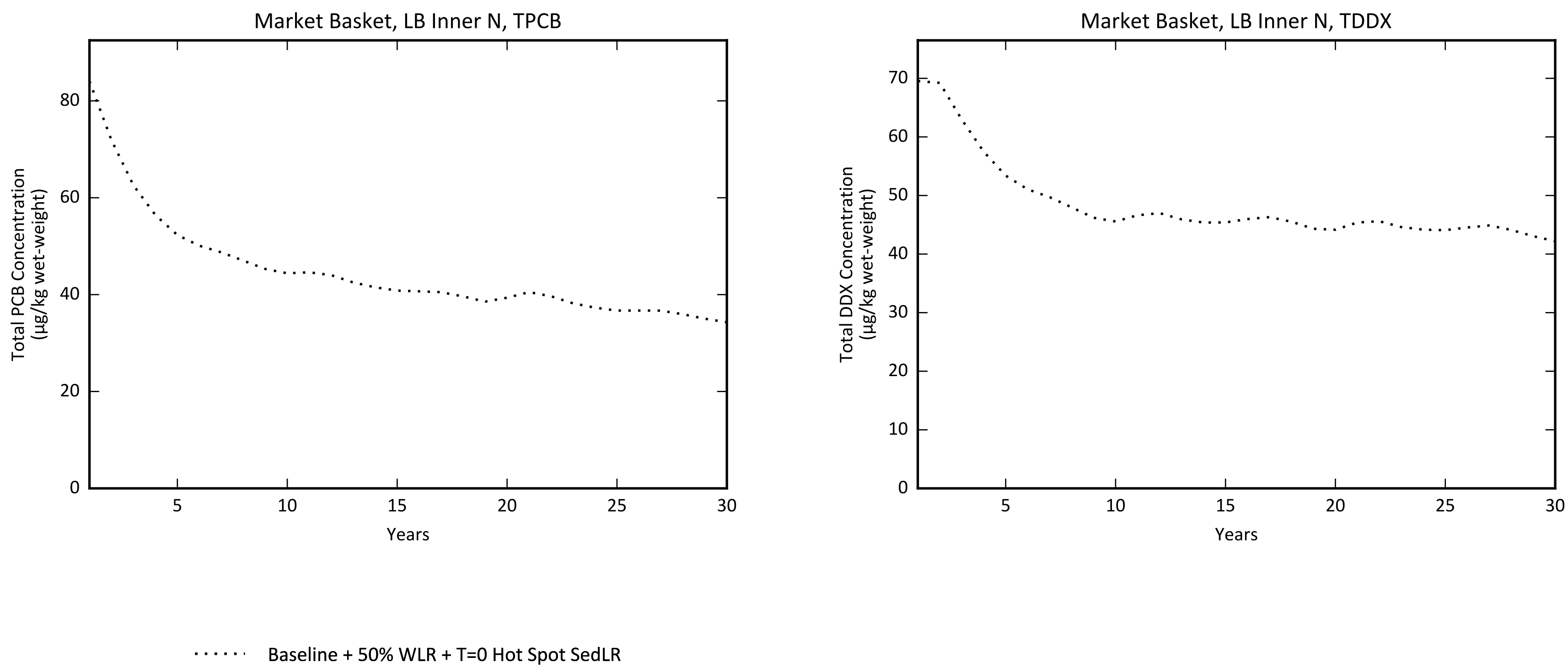
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1812 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:15 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-10g

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=0 Hot Spot SedLR in LB Inner N

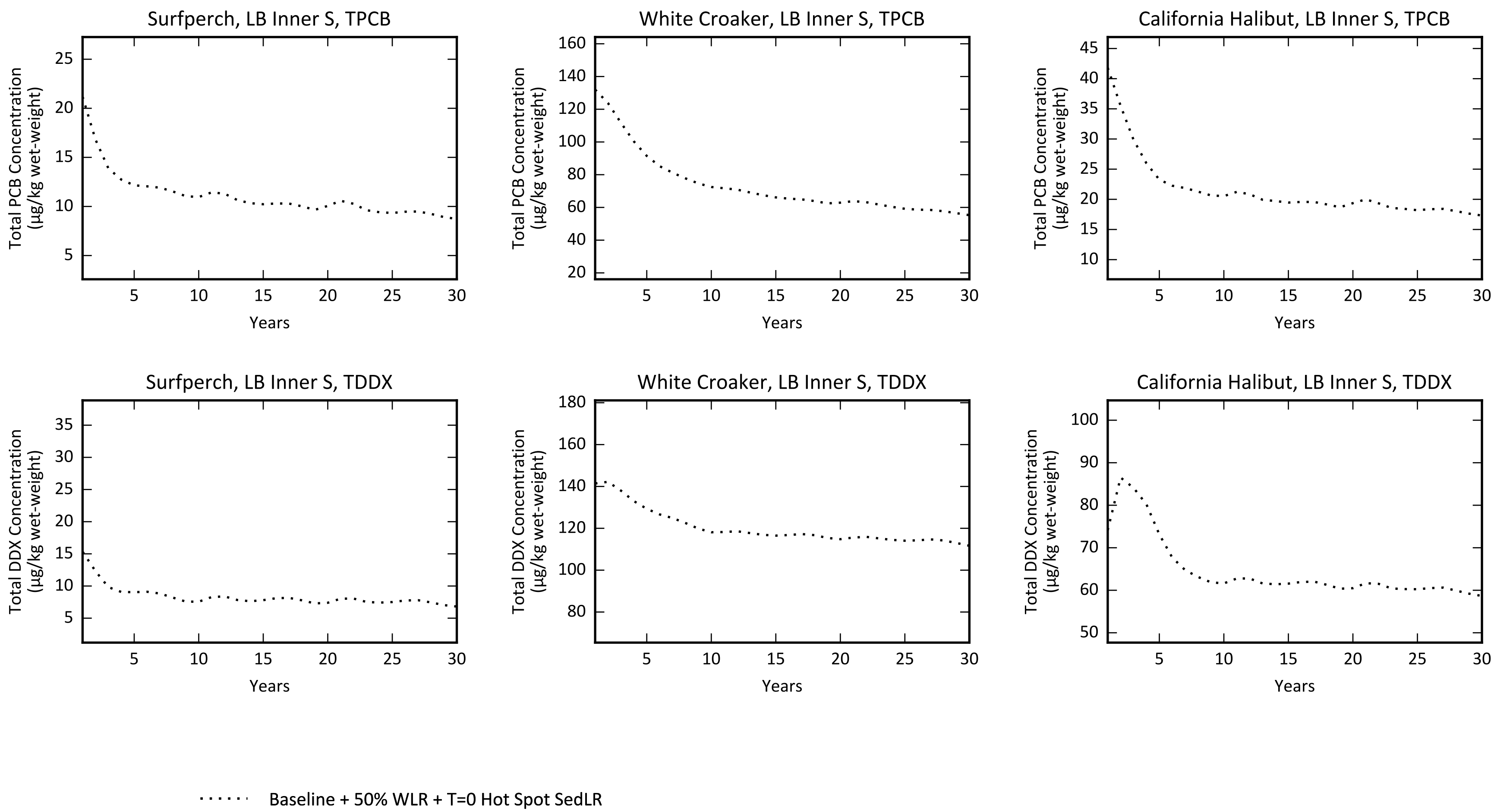


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1812 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:15 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-10g
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=0 Hot Spot SedLR in LB Inner N
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



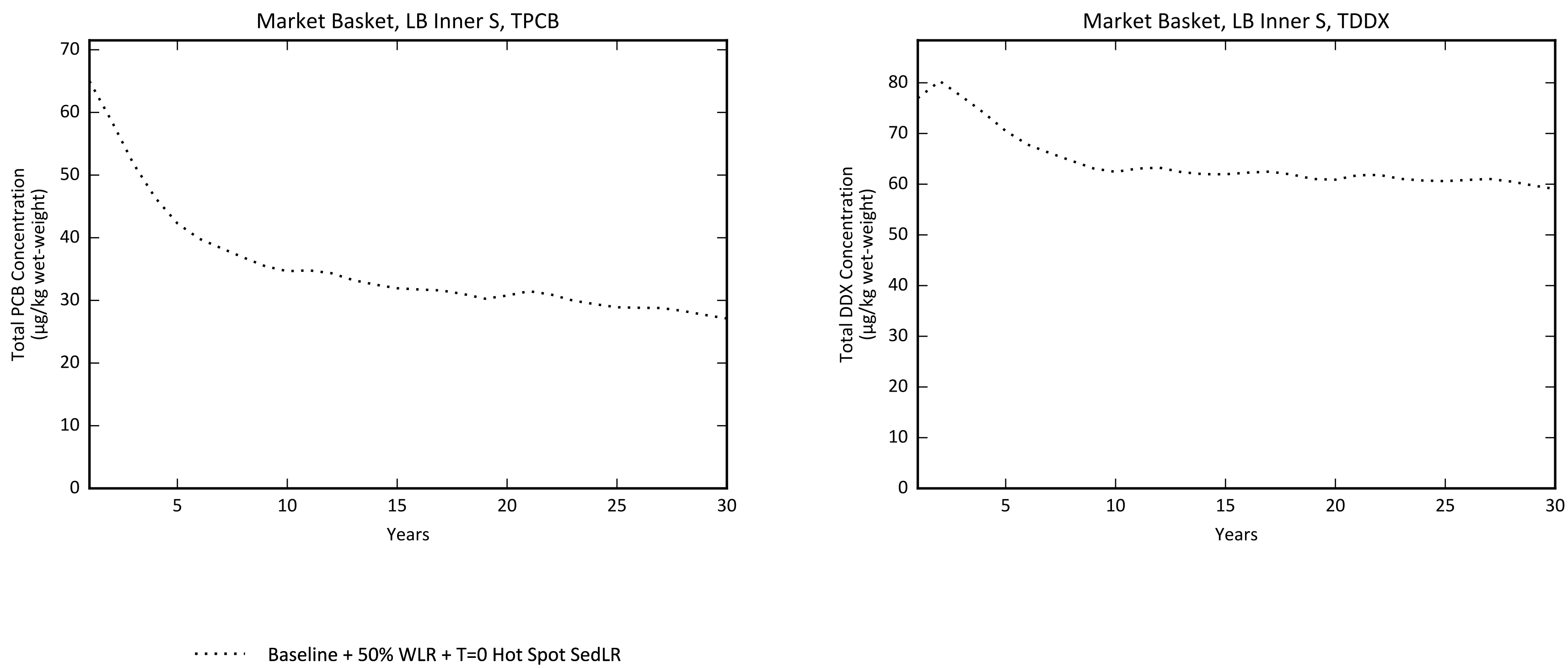
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1812 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:15 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-10h

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=0 Hot Spot SedLR in LB Inner S

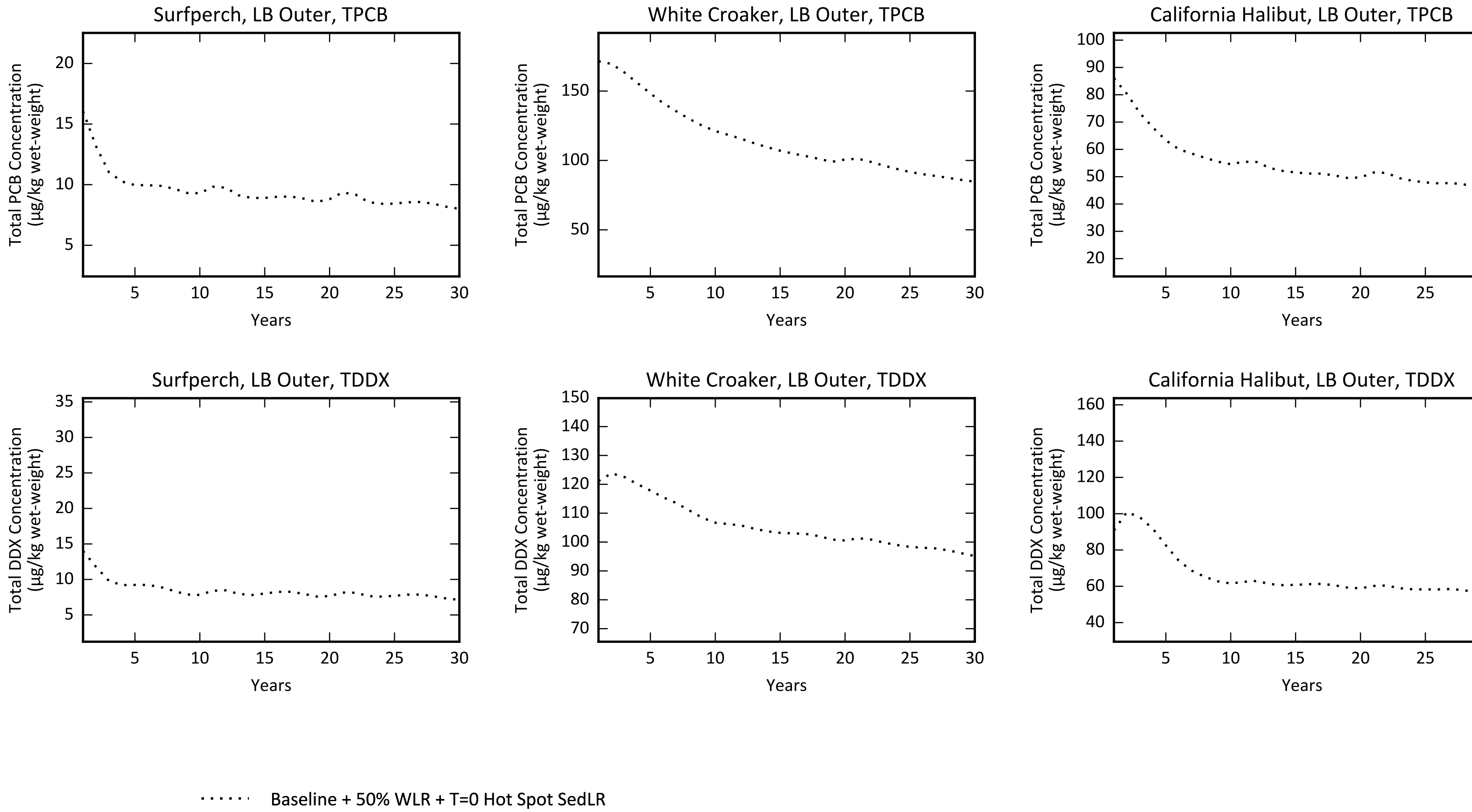


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1812 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:15 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

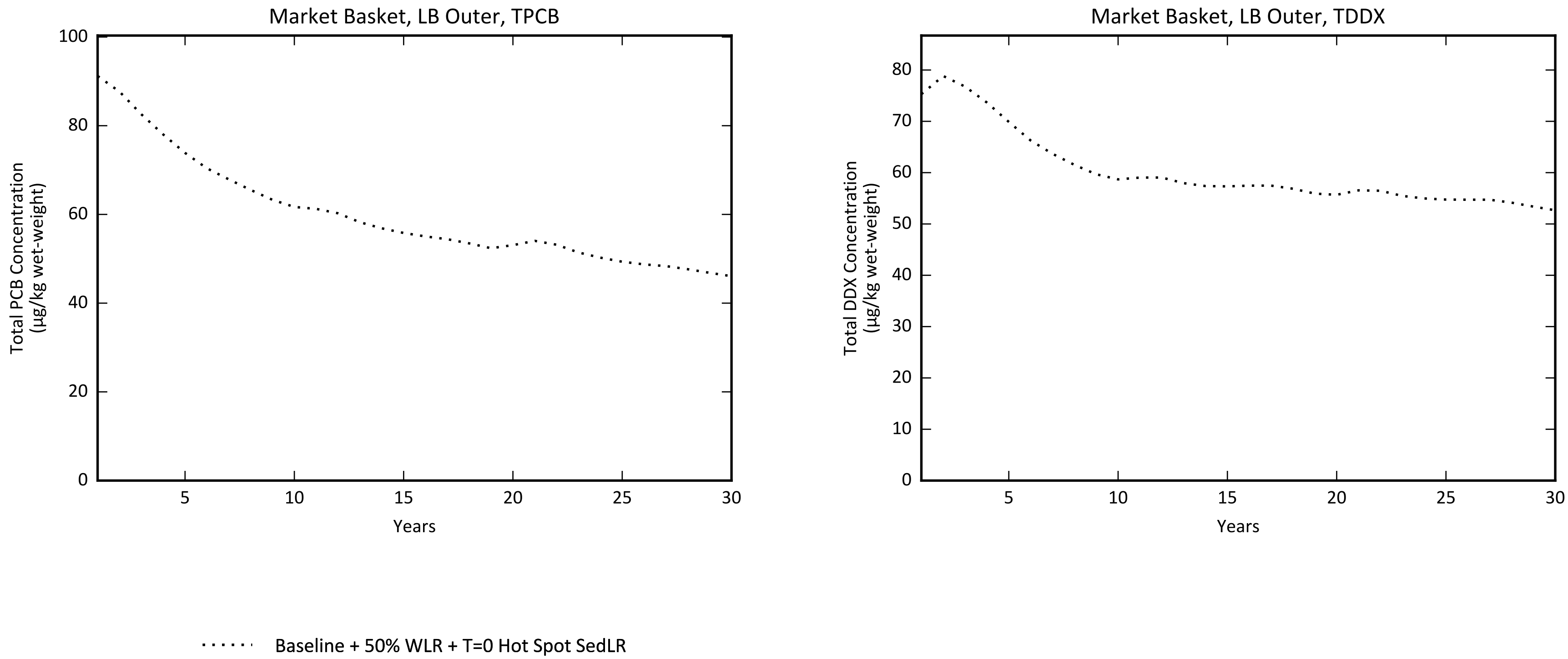
Figure B-10h
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=0 Hot Spot SedLR in LB Inner S



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1812 and biota files v.1801 used for model.

Figure B-10i

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=0 Hot Spot SedLR in LB Outer

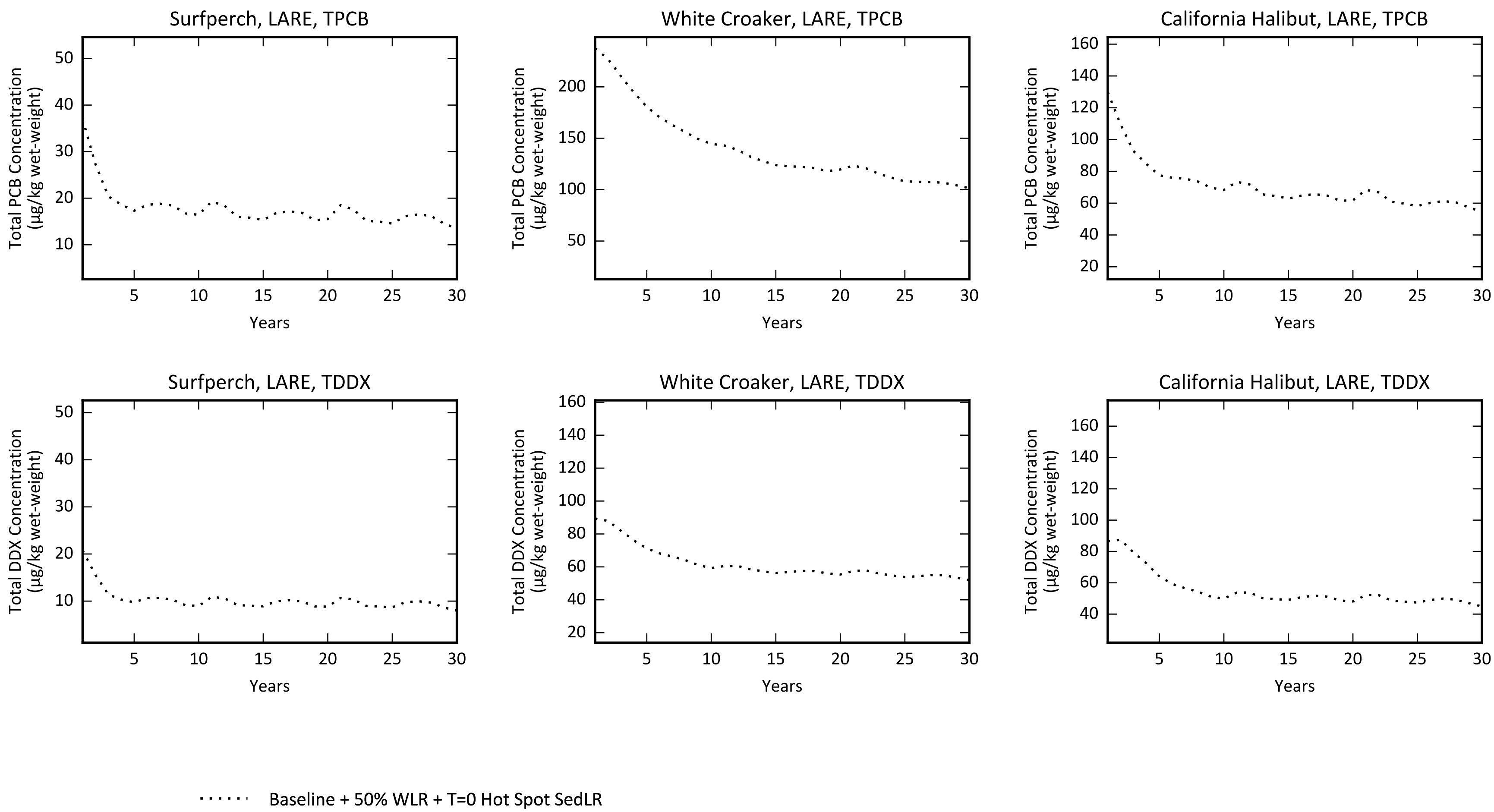


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1812 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:15 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-10i
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=0 Hot Spot SedLR in LB Outer
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

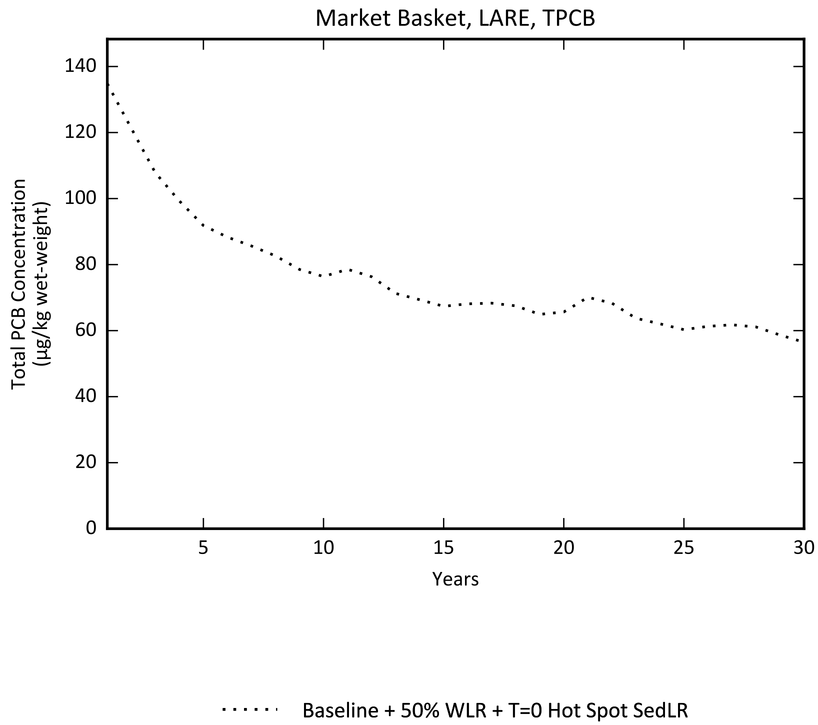


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1812 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:15 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-10j
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=0 Hot Spot SedLR in LARE
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



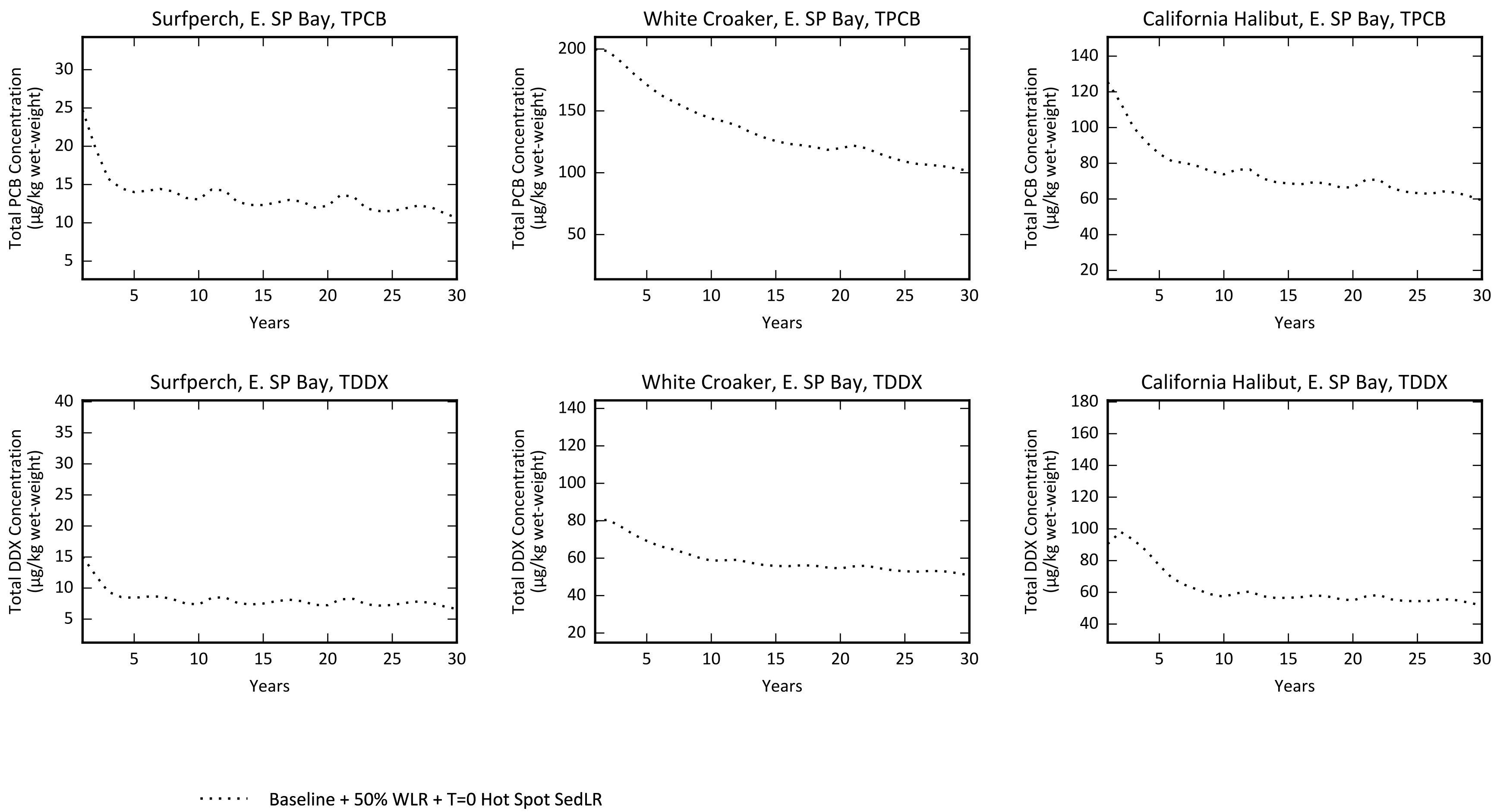
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1812 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:15 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-10j

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=0 Hot Spot SedLR in LARE

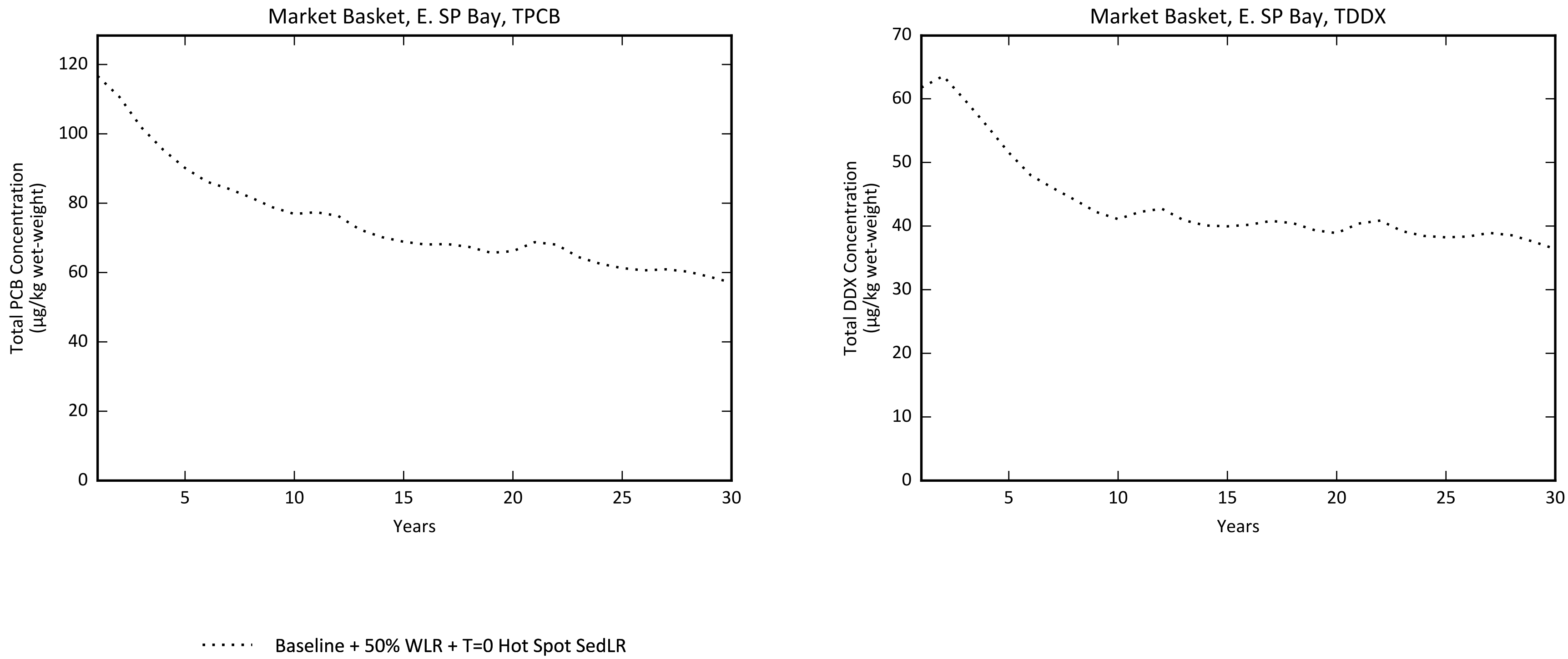


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1812 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:15 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-10k
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=0 Hot Spot SedLR in E. SP Bay



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1812 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:15 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

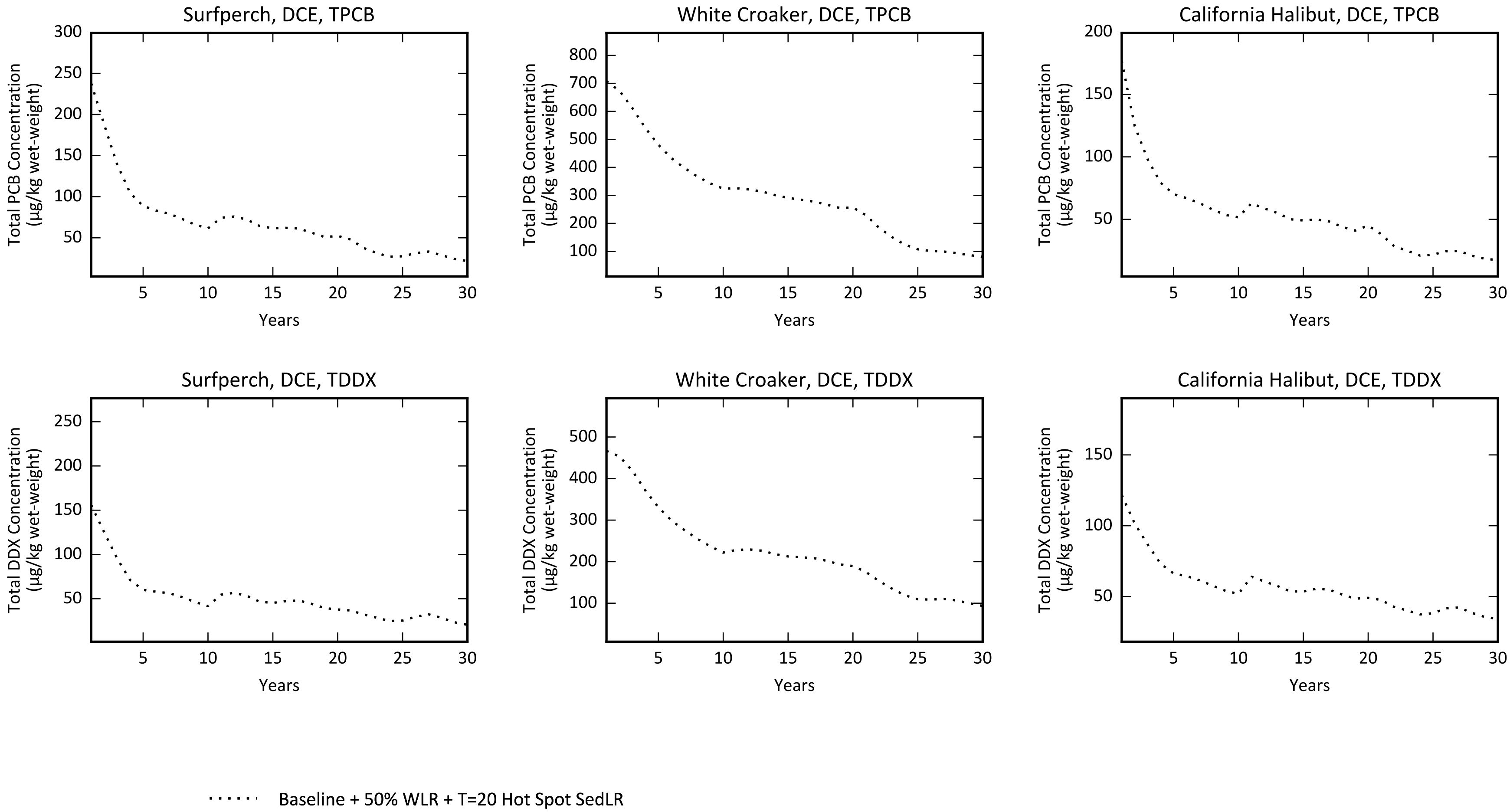
ANCHOR QEA

Figure B-10k

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=0 Hot Spot SedLR in E. SP Bay

Linked Model Data Summary Report

Greater Los Angeles and Long Beach Harbor Waters



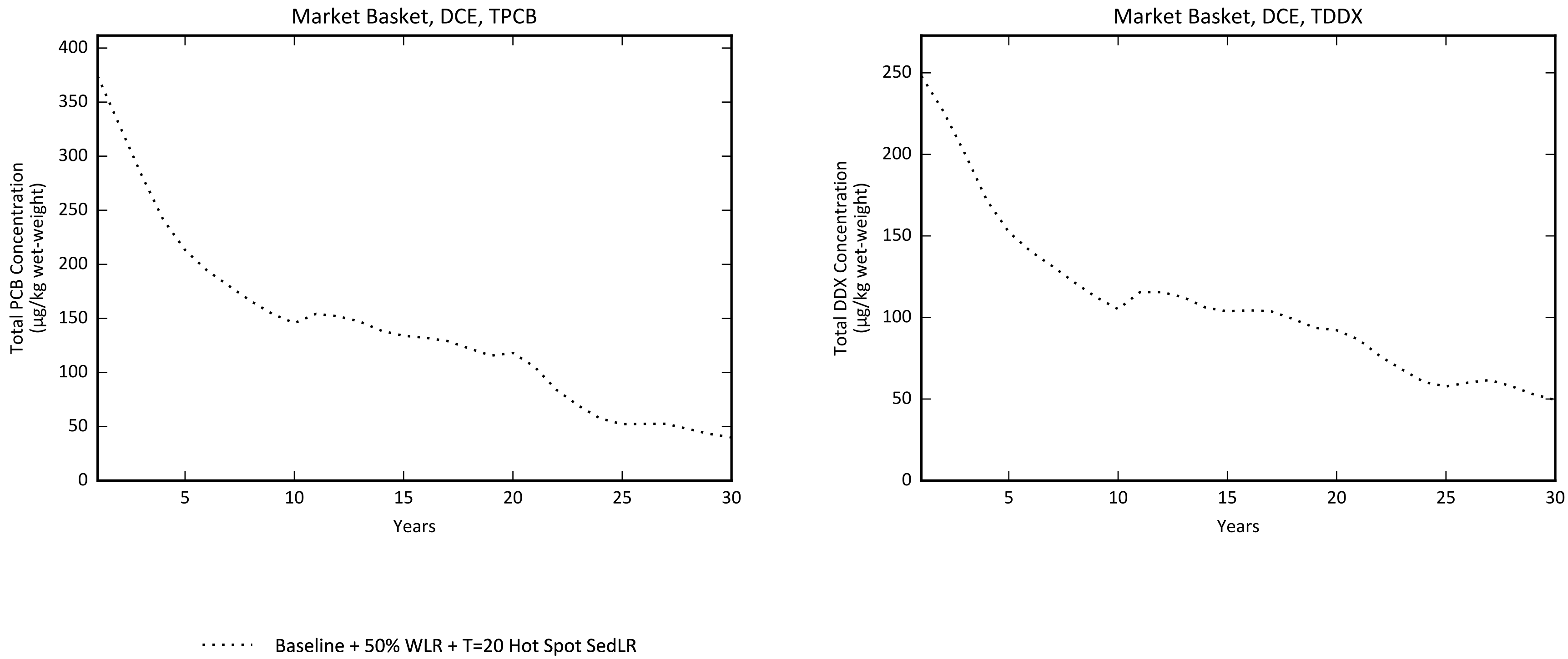
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1813 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:12 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-11a

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=20 Hot Spot SedLR in DCE



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1813 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:12 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

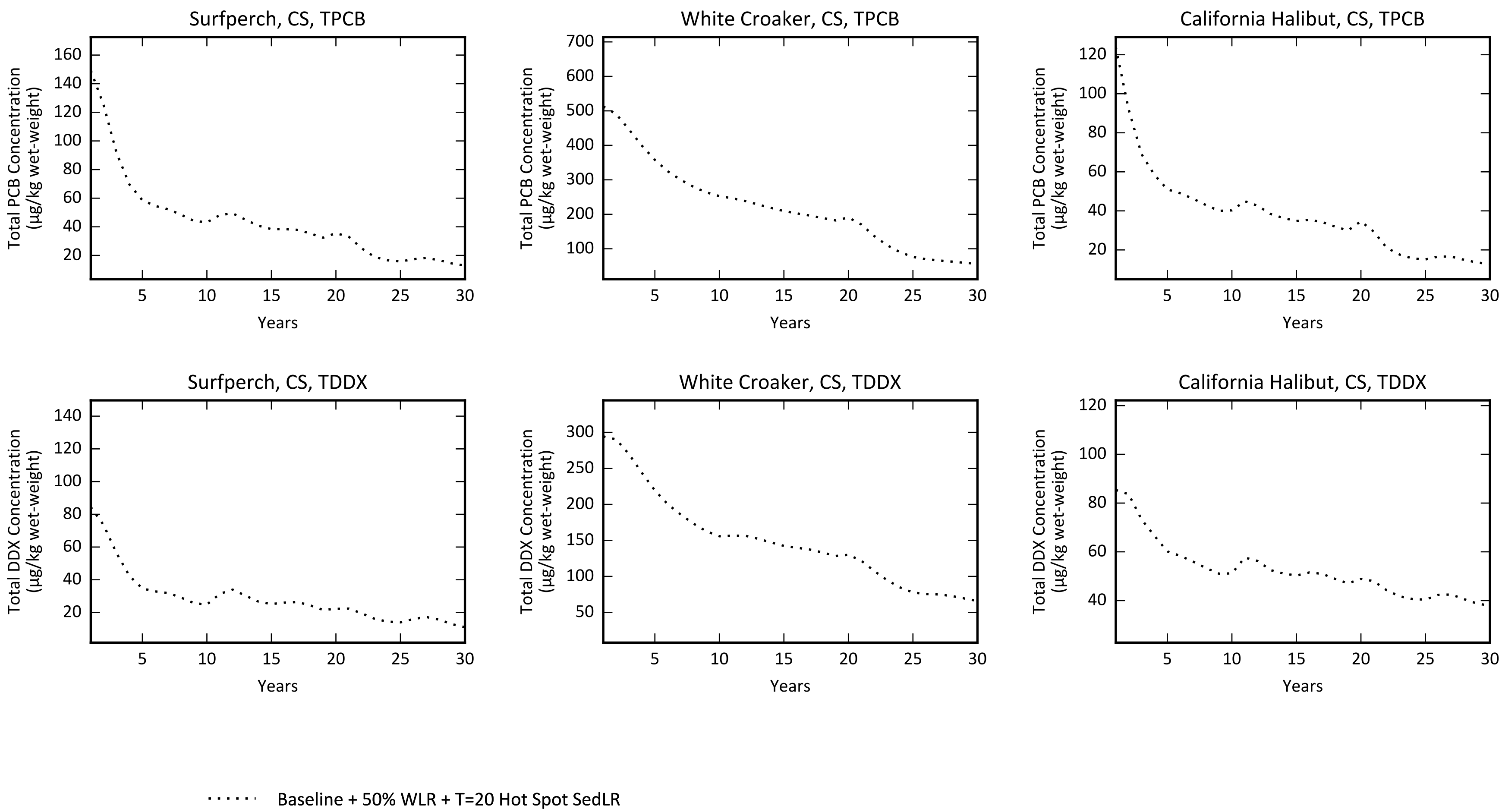
ANCHOR QEA

Figure B-11a

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=20 Hot Spot SedLR in DCE

Linked Model Data Summary Report

Greater Los Angeles and Long Beach Harbor Waters

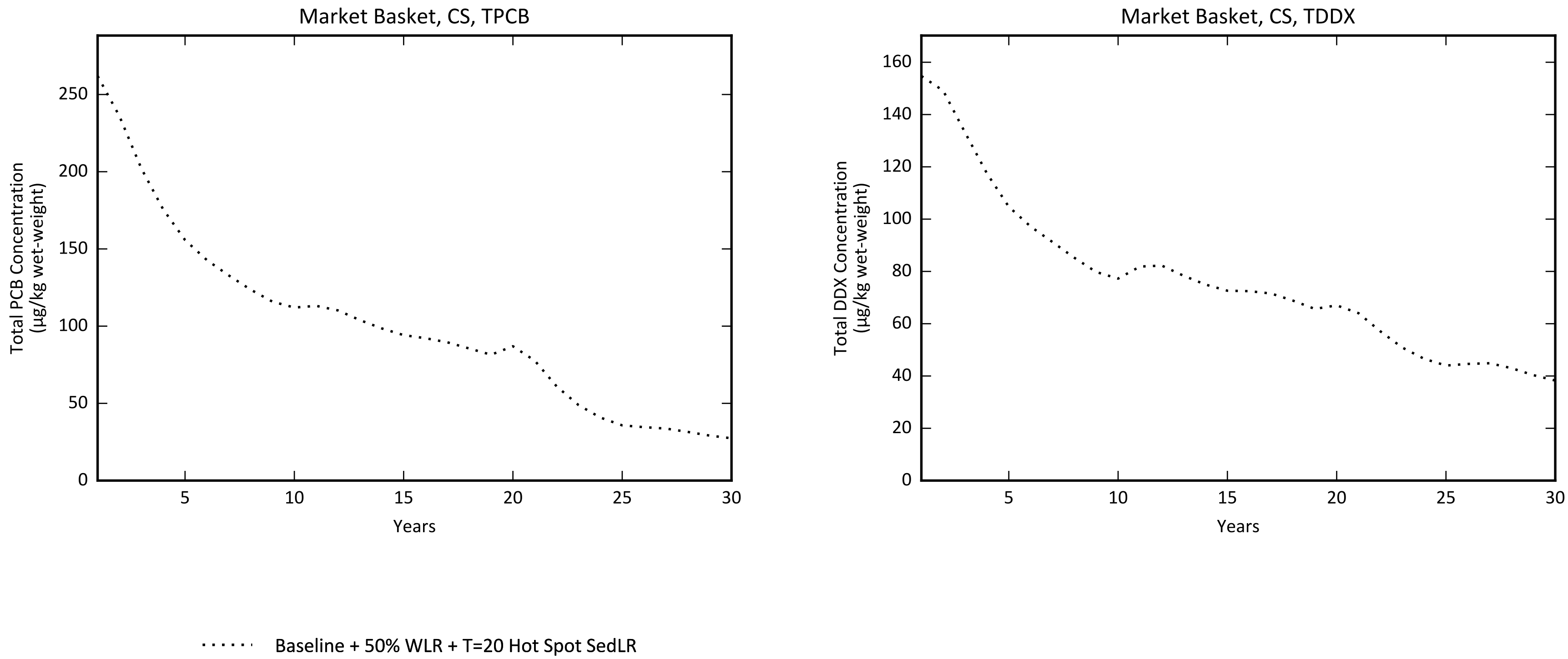


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1813 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:12 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-11b
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=20 Hot Spot SedLR in CS
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1813 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:12 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

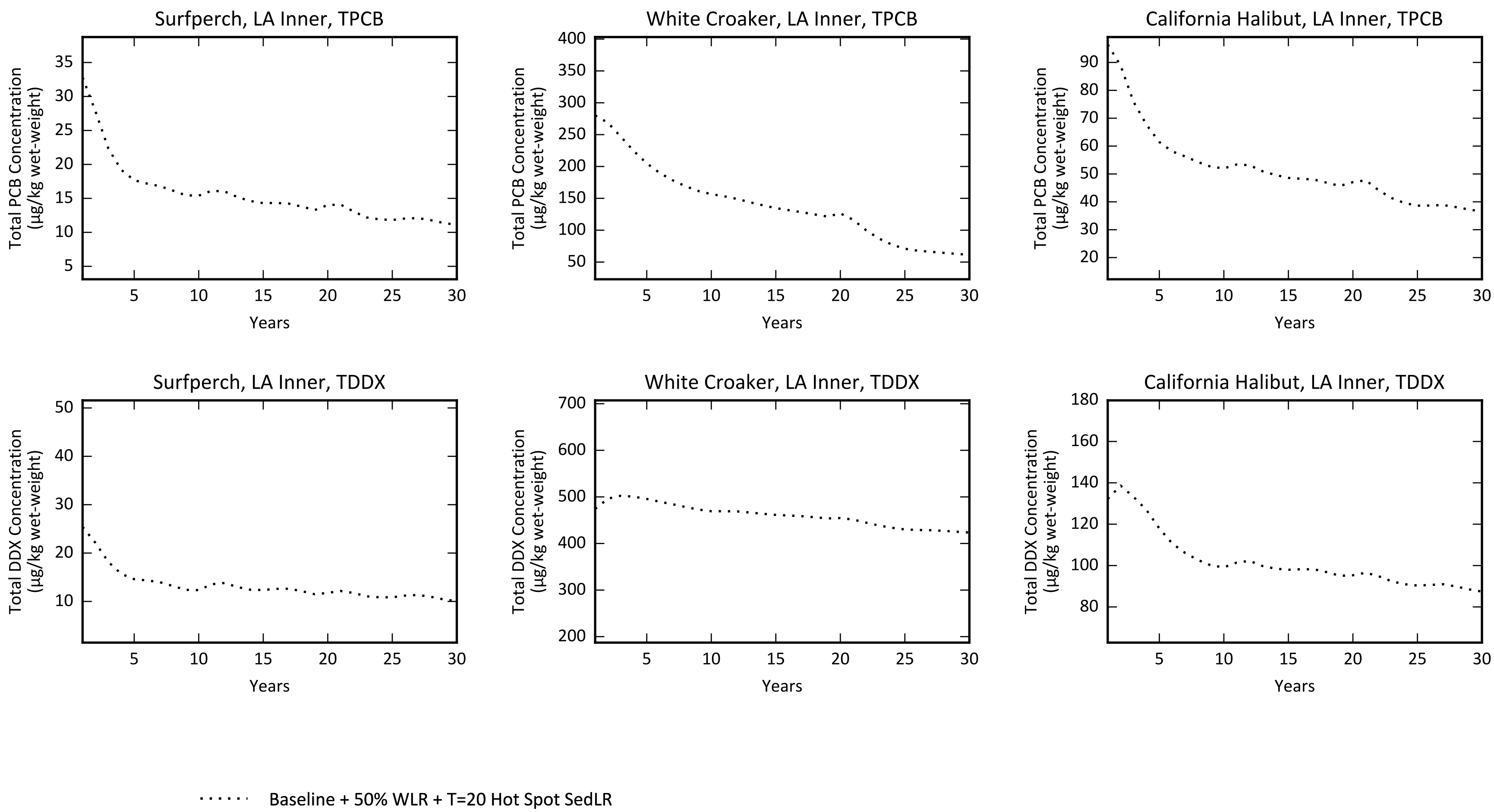
ANCHOR QEA

Figure B-11b

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=20 Hot Spot SedLR in CS

Linked Model Data Summary Report

Greater Los Angeles and Long Beach Harbor Waters



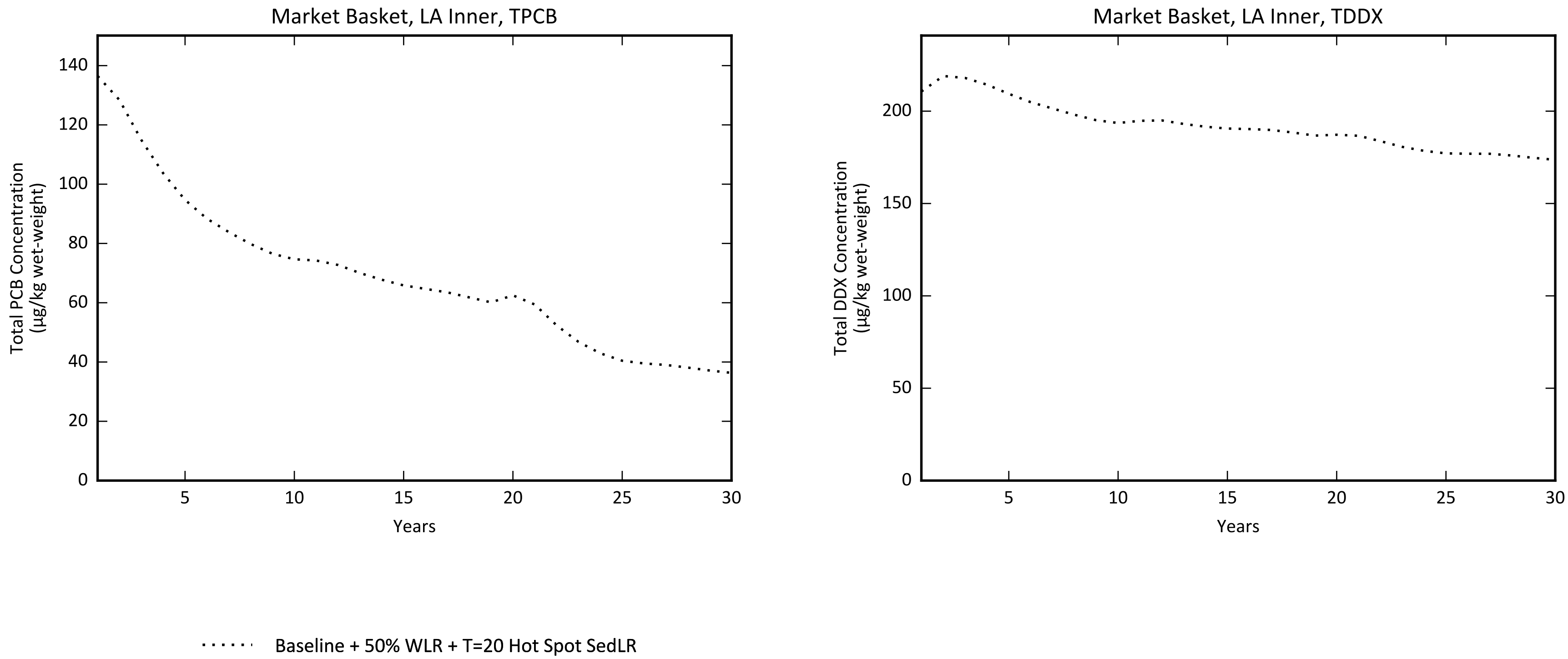
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1813 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:12 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-11c

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=20 Hot Spot SedLR in LA Inner



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1813 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:12 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

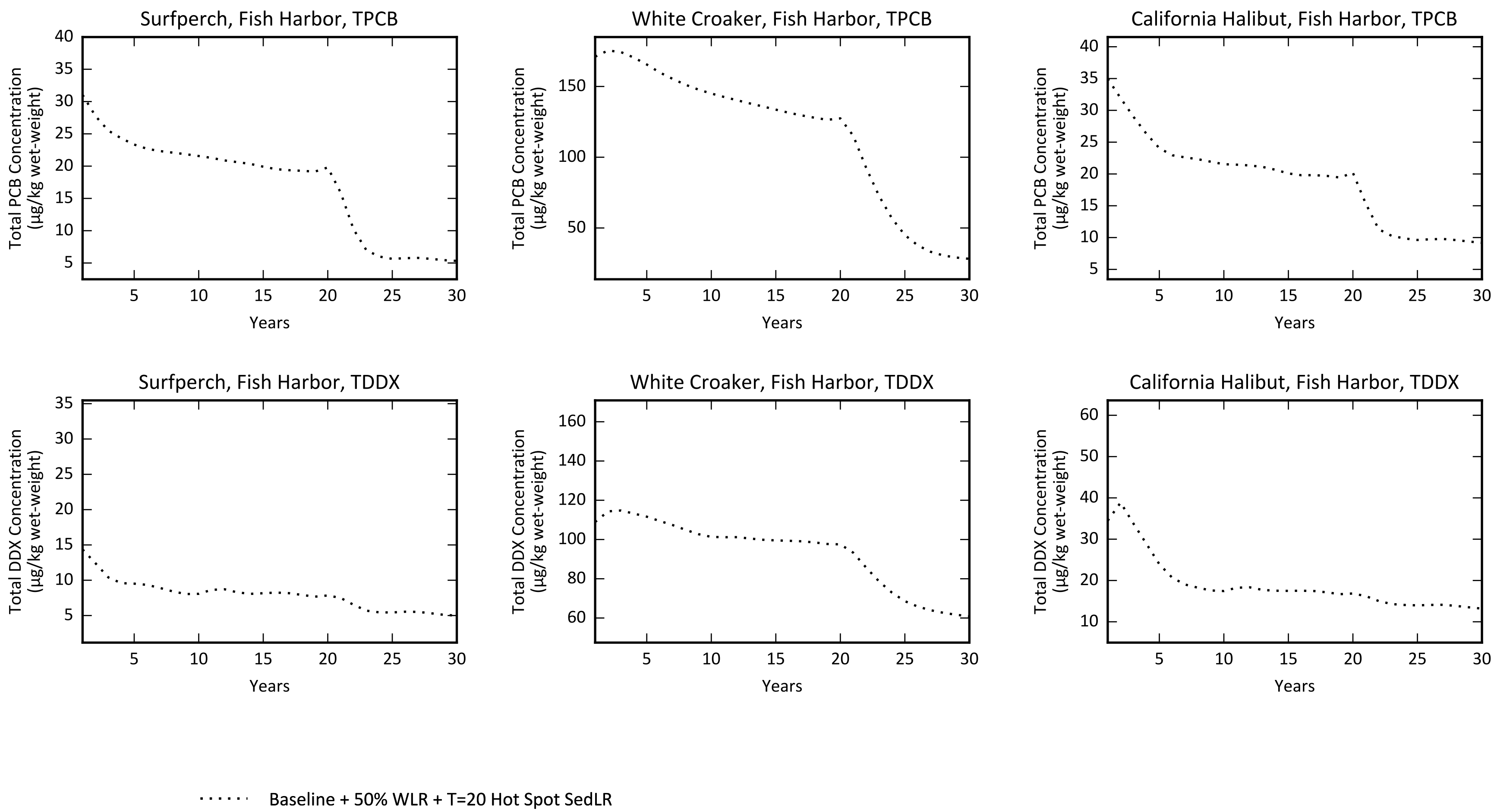
ANCHOR QEA

Figure B-11c

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=20 Hot Spot SedLR in LA Inner

Linked Model Data Summary Report

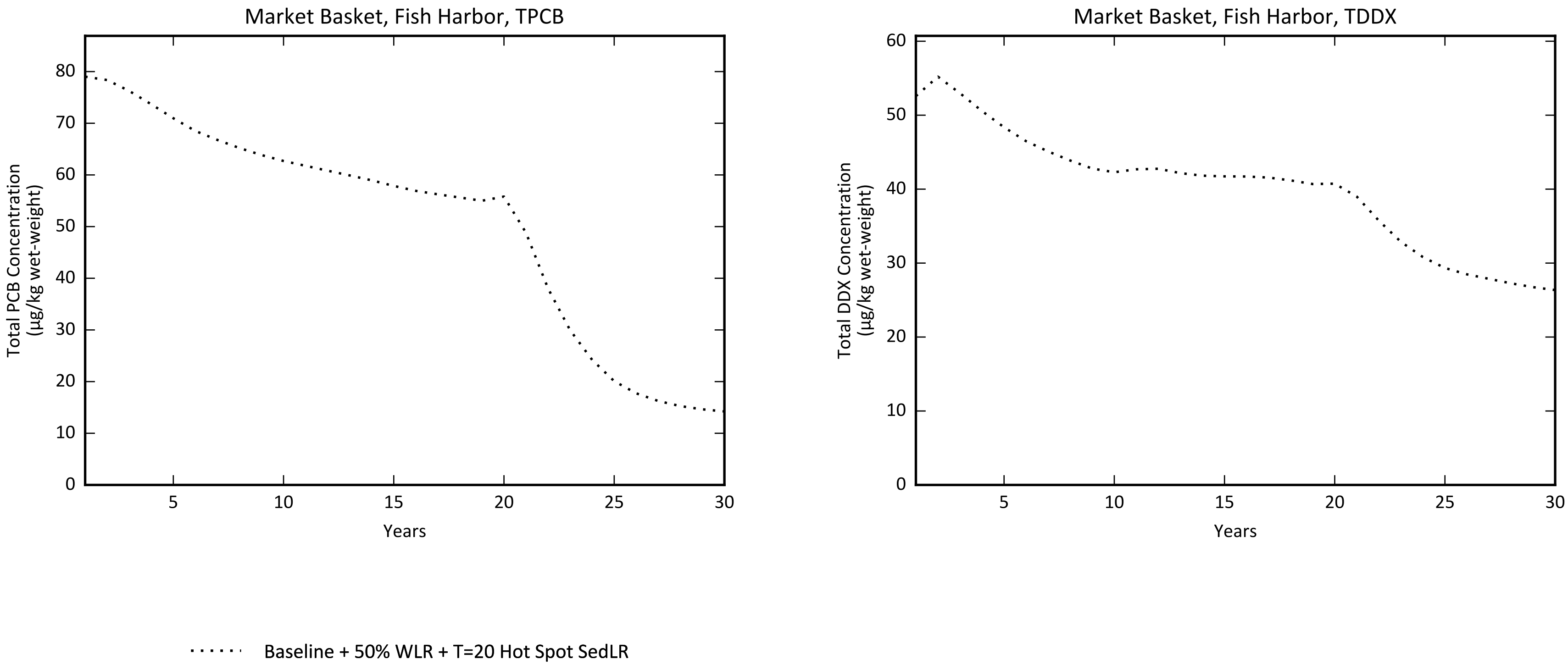
Greater Los Angeles and Long Beach Harbor Waters



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1813 and biota files v.1801 used for model.

Figure B-11d

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=20 Hot Spot SedLR in Fish Harbor

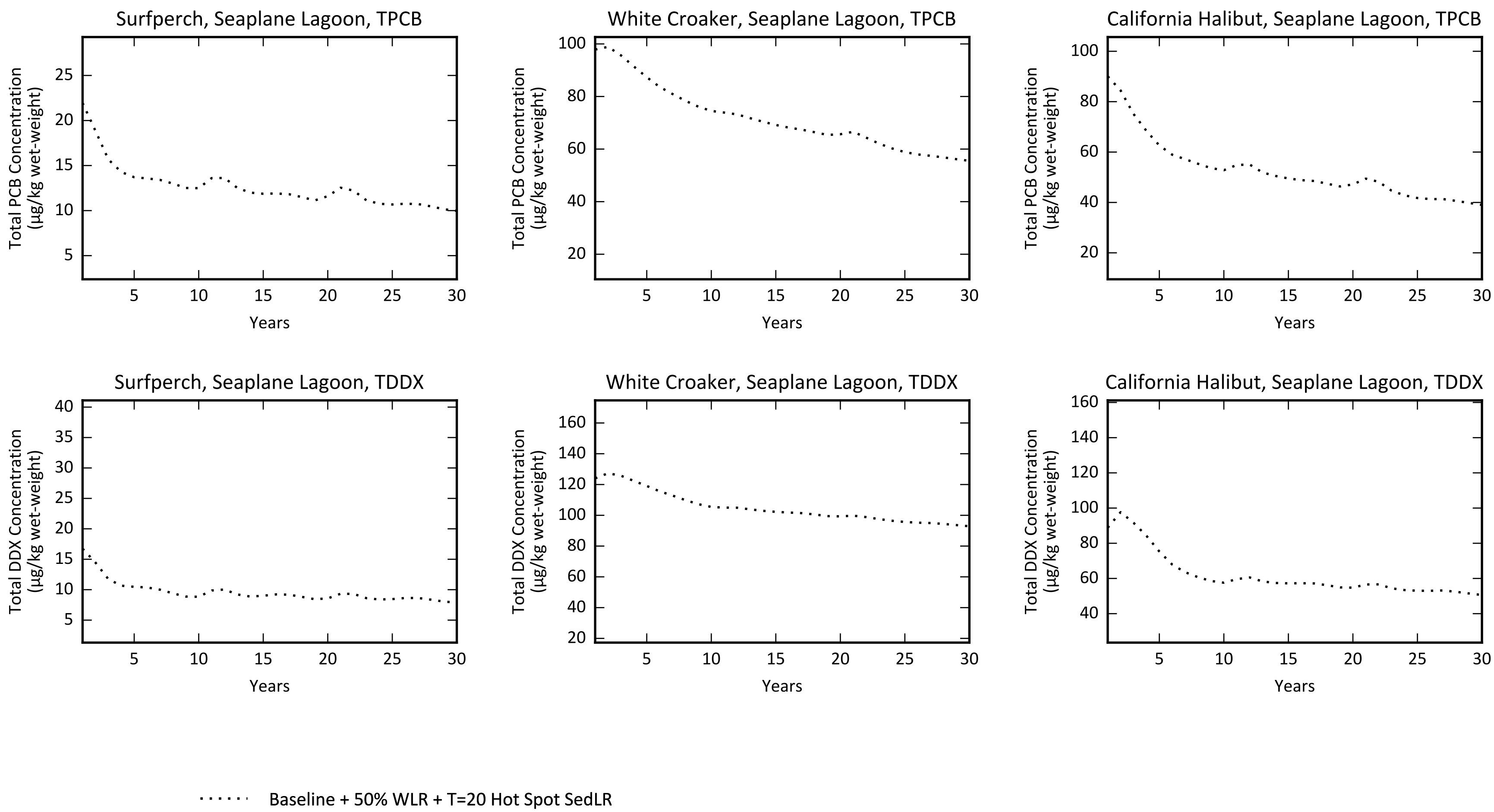


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1813 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:12 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-11d
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=20 Hot Spot SedLR in Fish Harbor

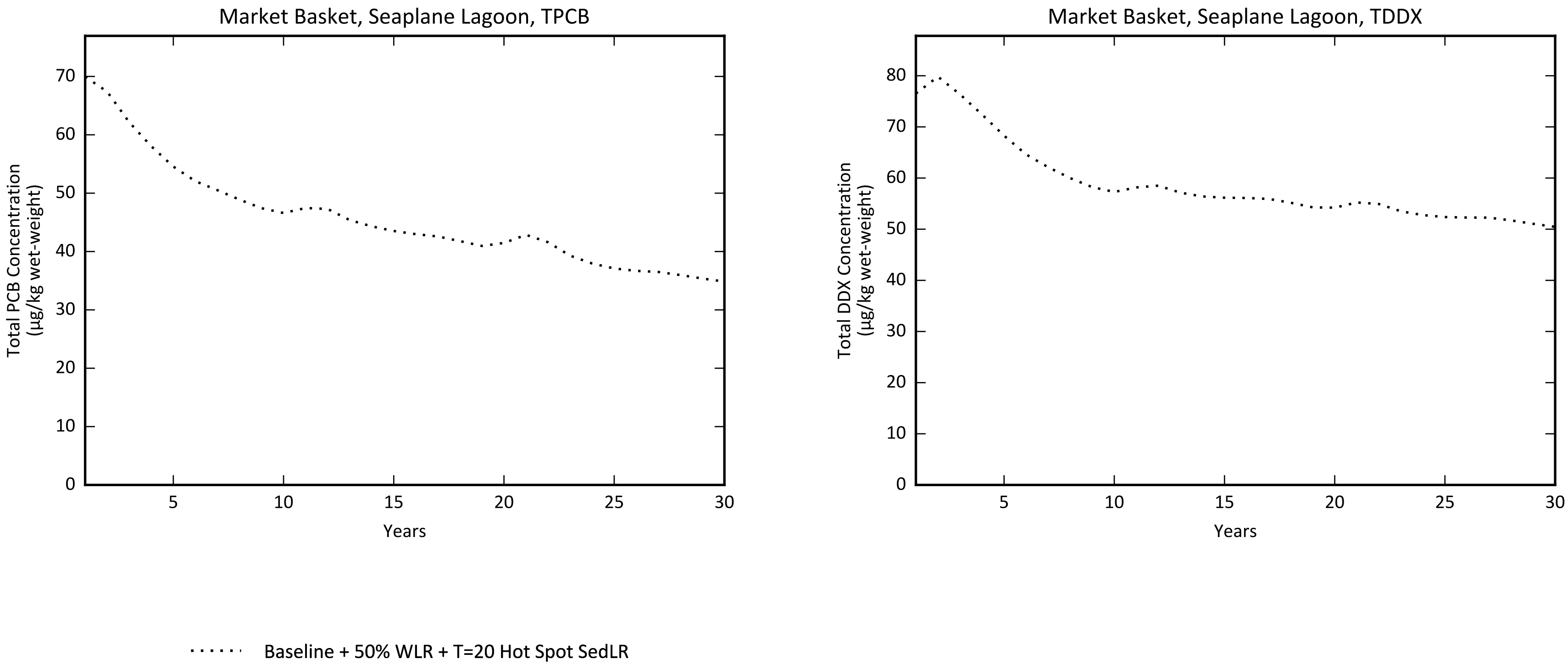


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1813 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:12 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-11e
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=20 Hot Spot SedLR in Seaplane Lagoon
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



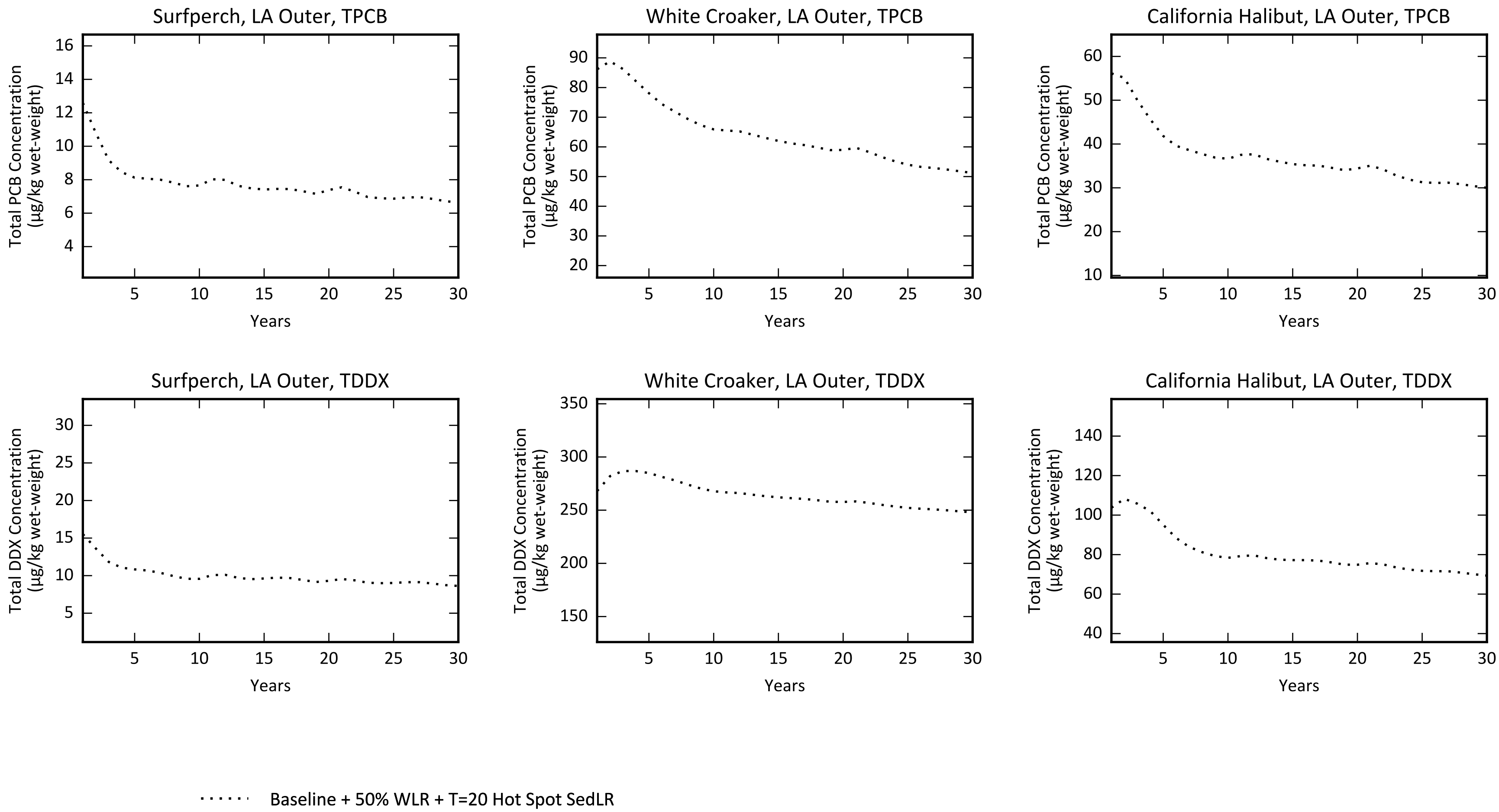
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1813 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:12 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-11e

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=20 Hot Spot SedLR in Seaplane Lagoon

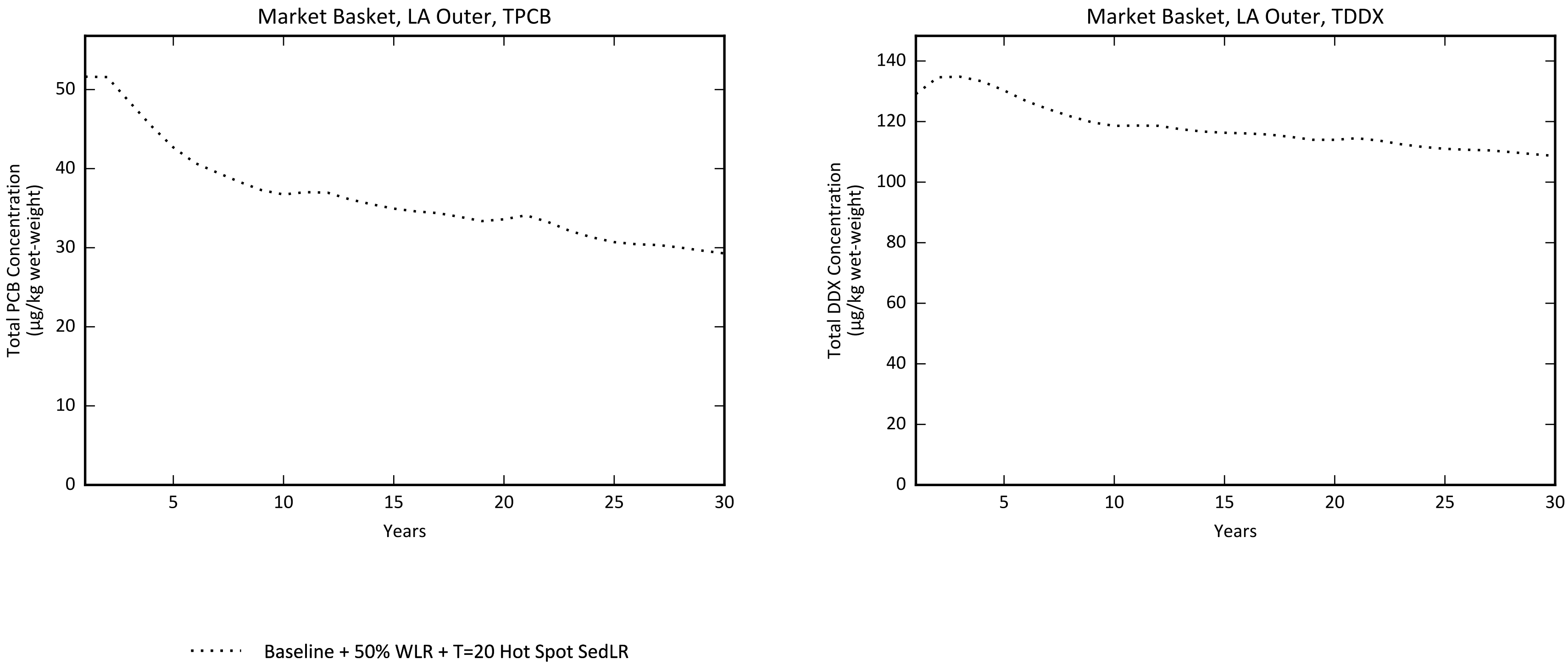


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1813 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:12 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-11f
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=20 Hot Spot SedLR in LA Outer

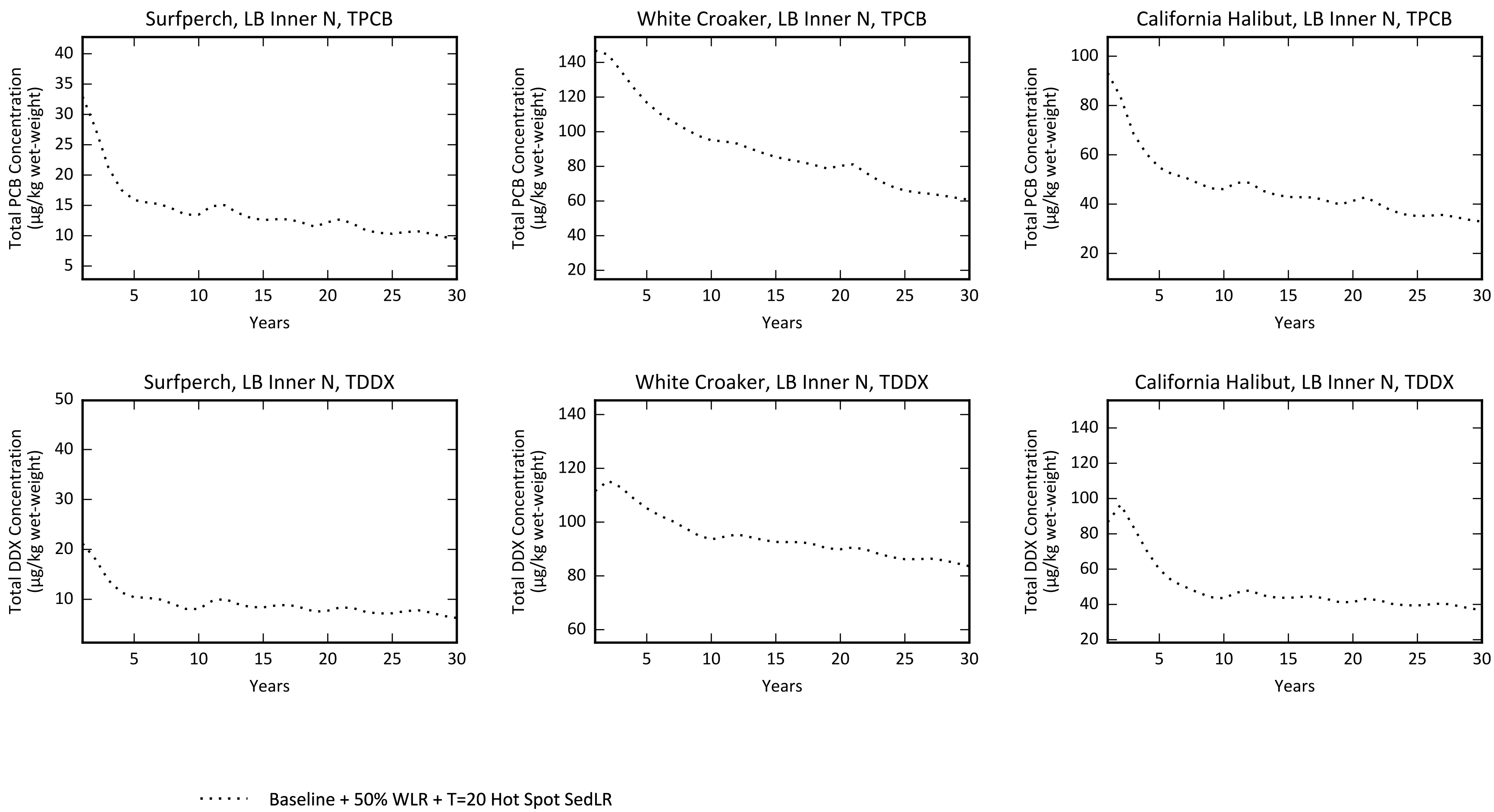


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1813 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:12 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-11f
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=20 Hot Spot SedLR in LA Outer

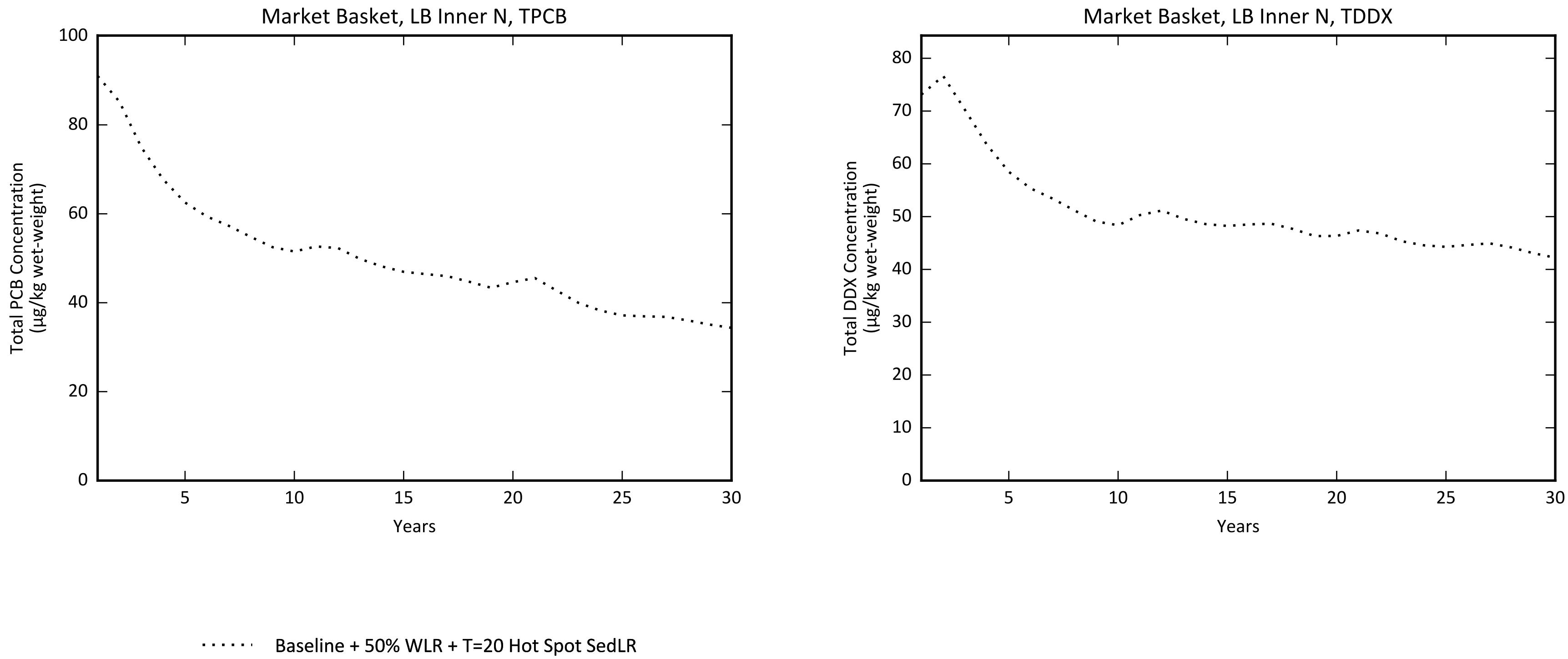


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1813 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:12 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-11g
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=20 Hot Spot SedLR in LB Inner N
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

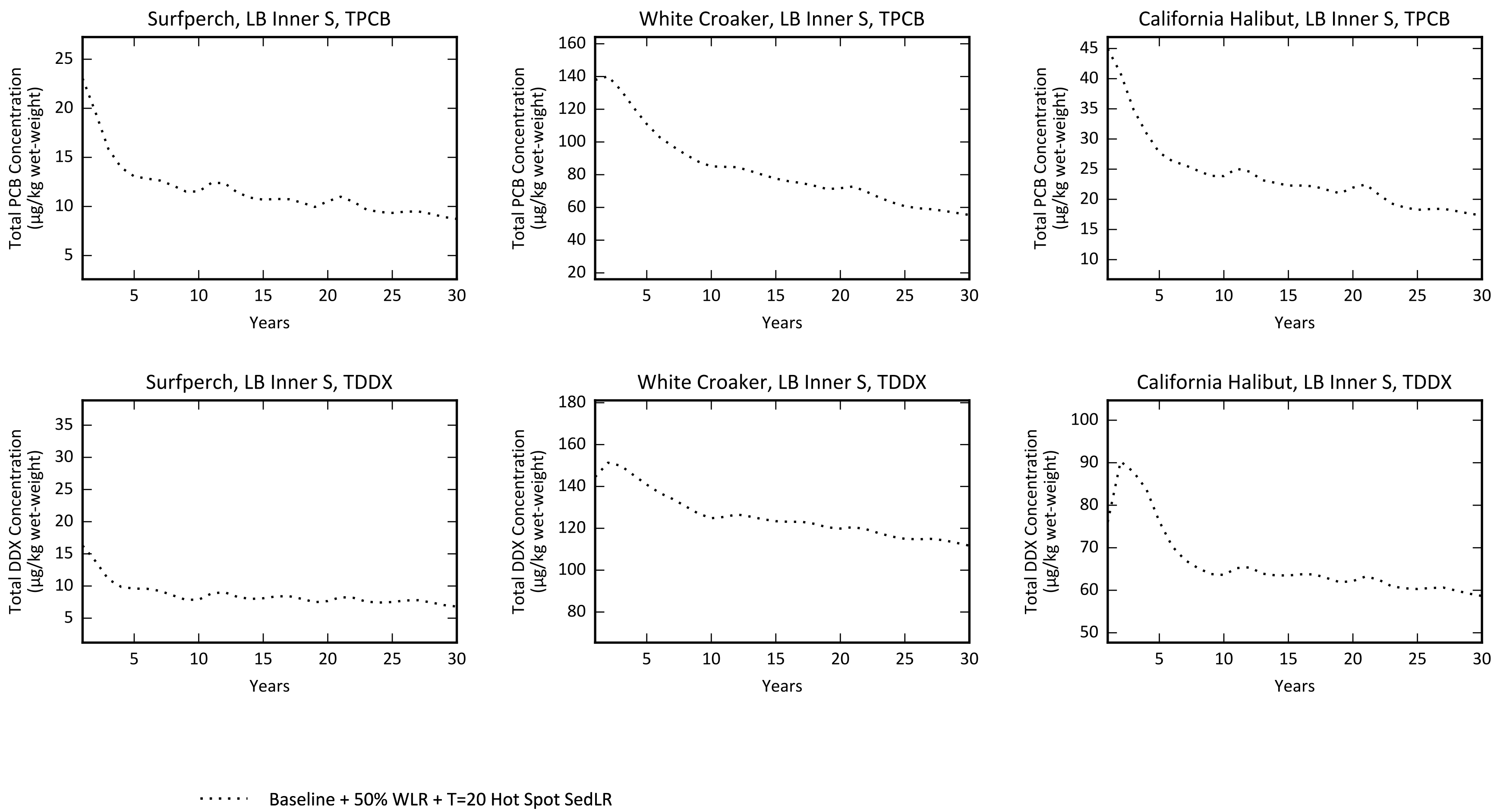


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1813 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:12 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-11g
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=20 Hot Spot SedLR in LB Inner N
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters

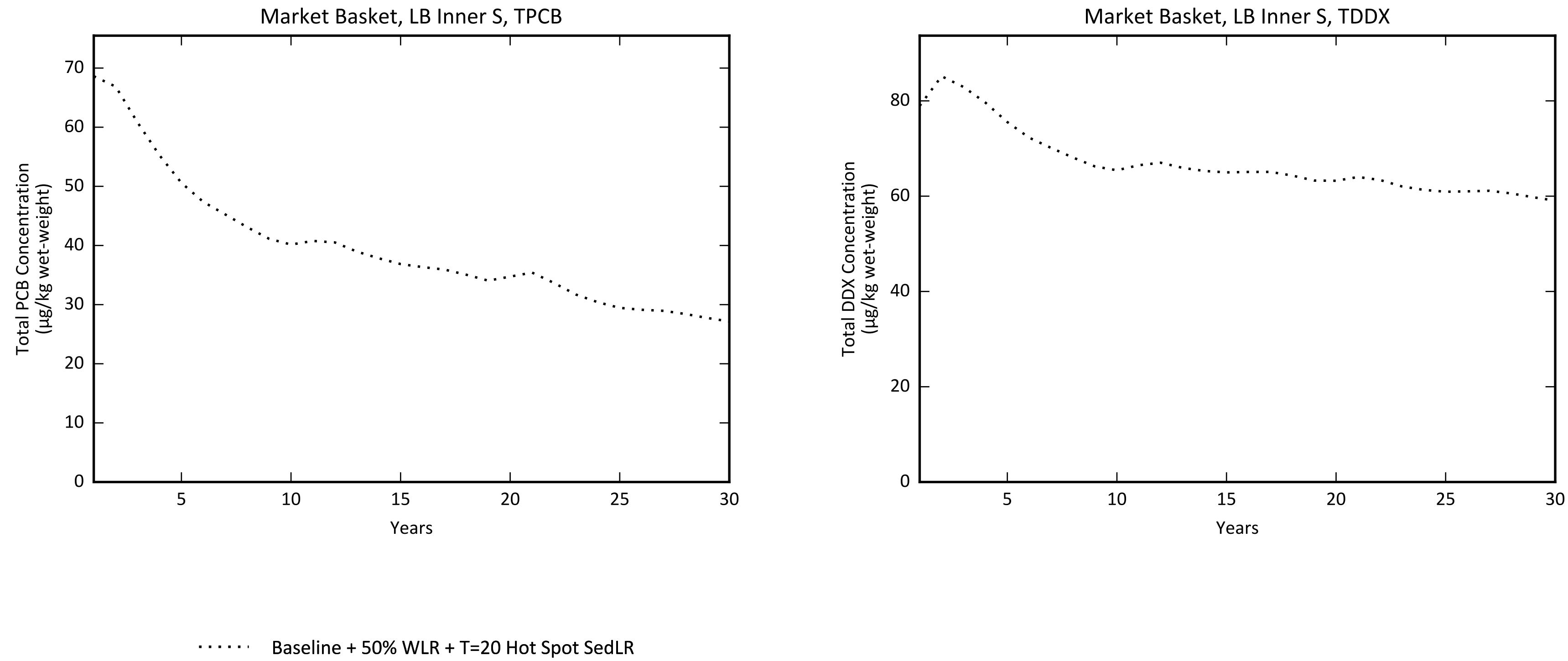


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1813 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:12 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-11h
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=20 Hot Spot SedLR in LB Inner S
Linked Model Data Summary Report
Greater Los Angeles and Long Beach Harbor Waters



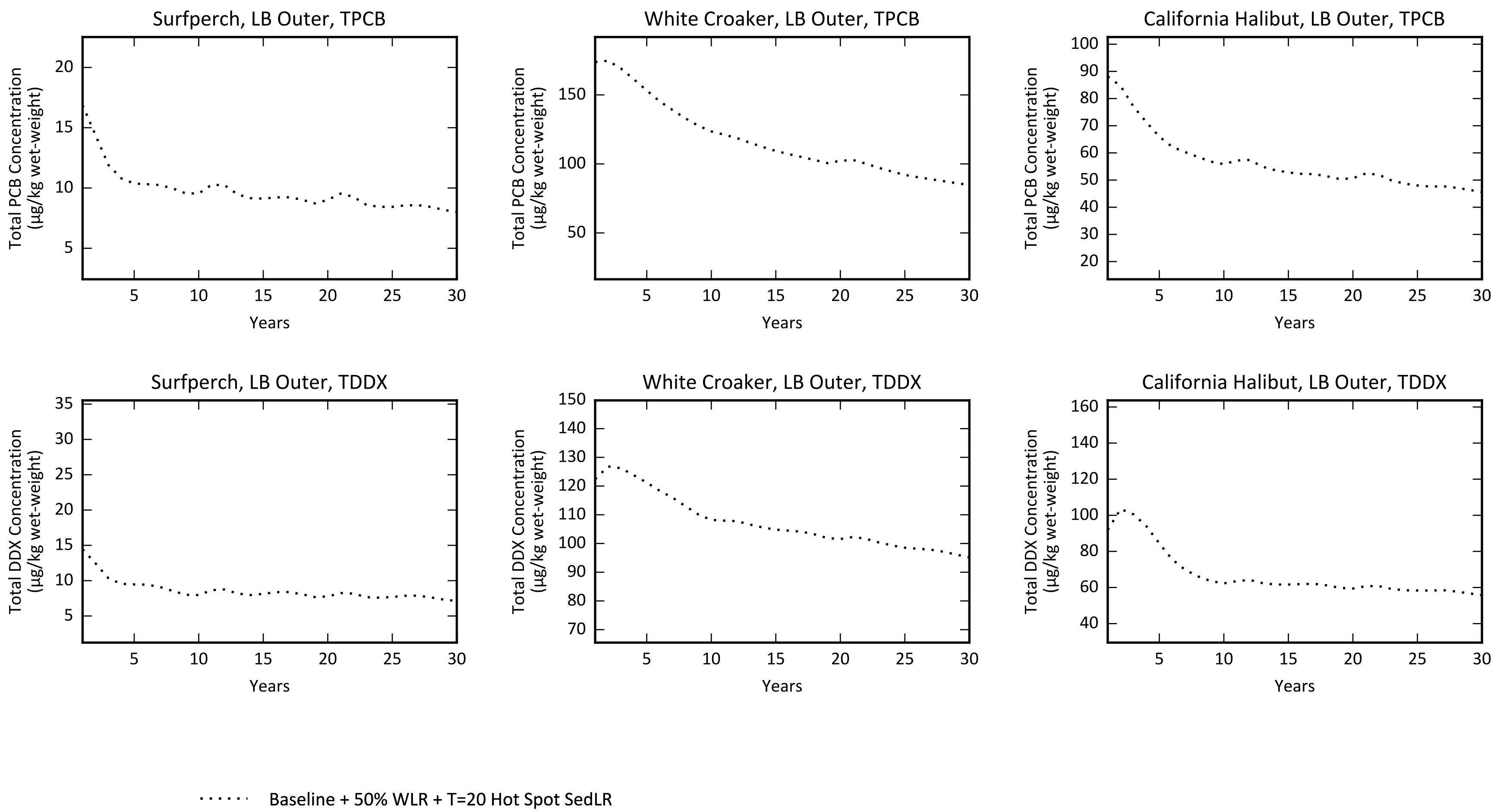
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1813 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:12 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-11h

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=20 Hot Spot SedLR in LB Inner S



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1813 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:12 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

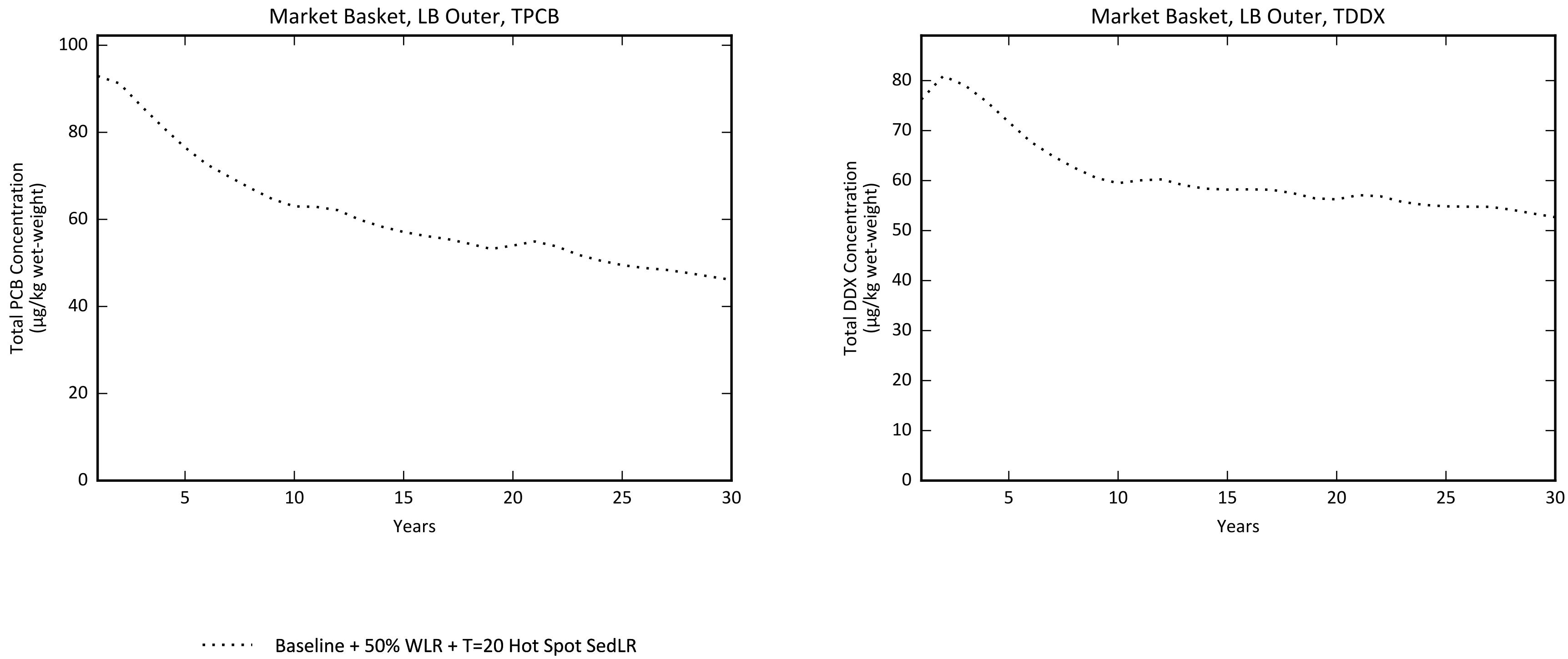
ANCHOR QEA

Figure B-11i

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=20 Hot Spot SedLR in LB Outer

Linked Model Data Summary Report

Greater Los Angeles and Long Beach Harbor Waters



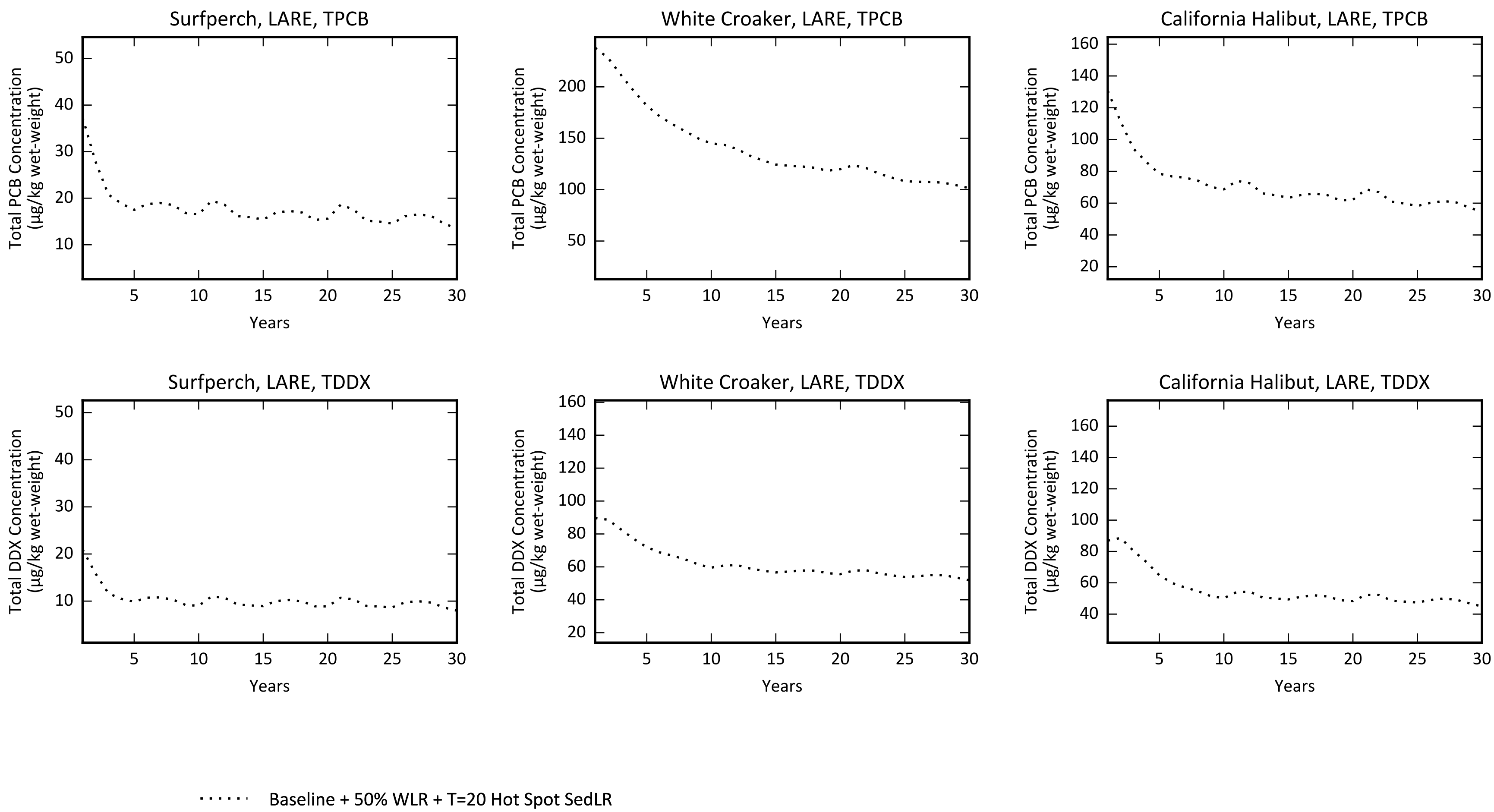
Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1813 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:12 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-11i

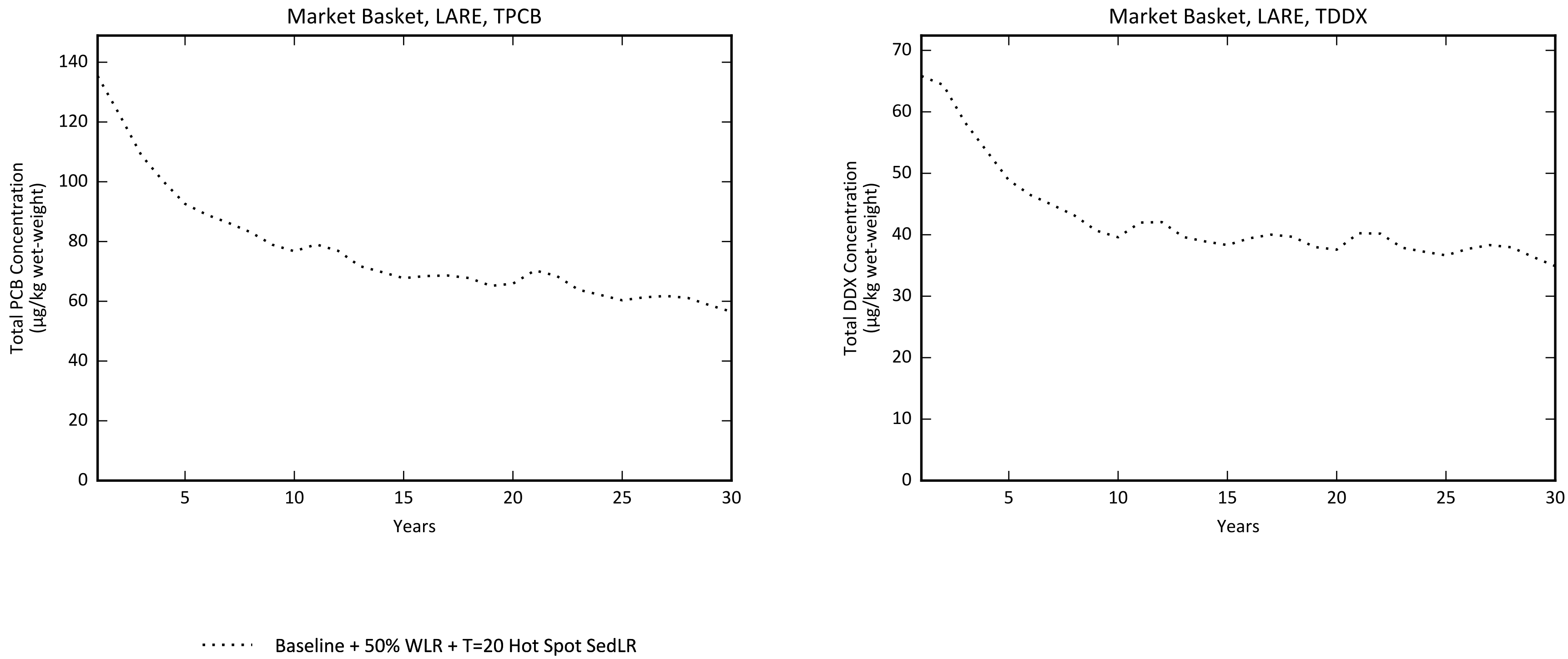
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=20 Hot Spot SedLR in LB Outer



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1813 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:12 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

Figure B-11j
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=20 Hot Spot SedLR in LARE



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1813 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:12 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

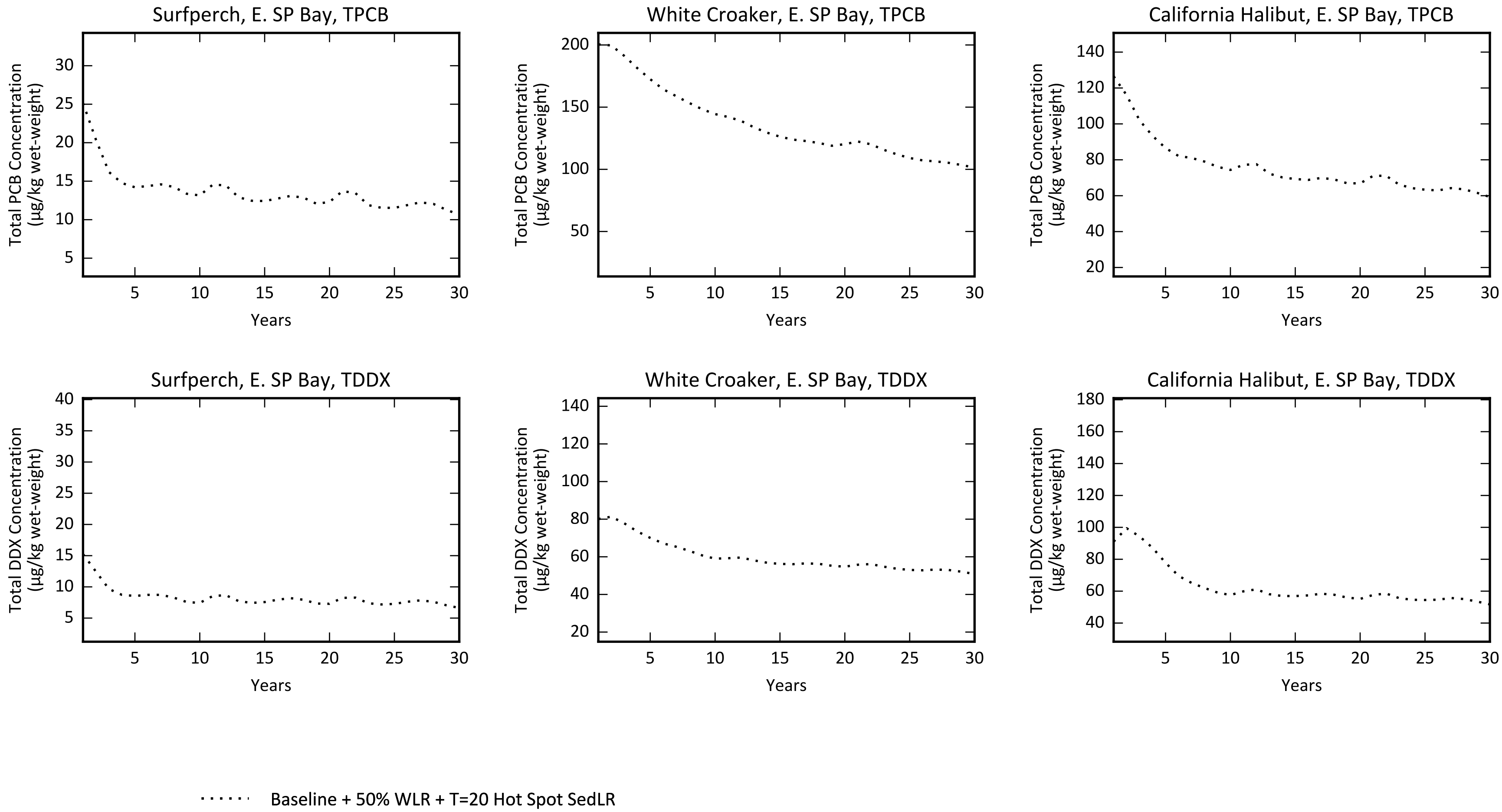
ANCHOR QEA

Figure B-11j

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=20 Hot Spot SedLR in LARE

Linked Model Data Summary Report

Greater Los Angeles and Long Beach Harbor Waters

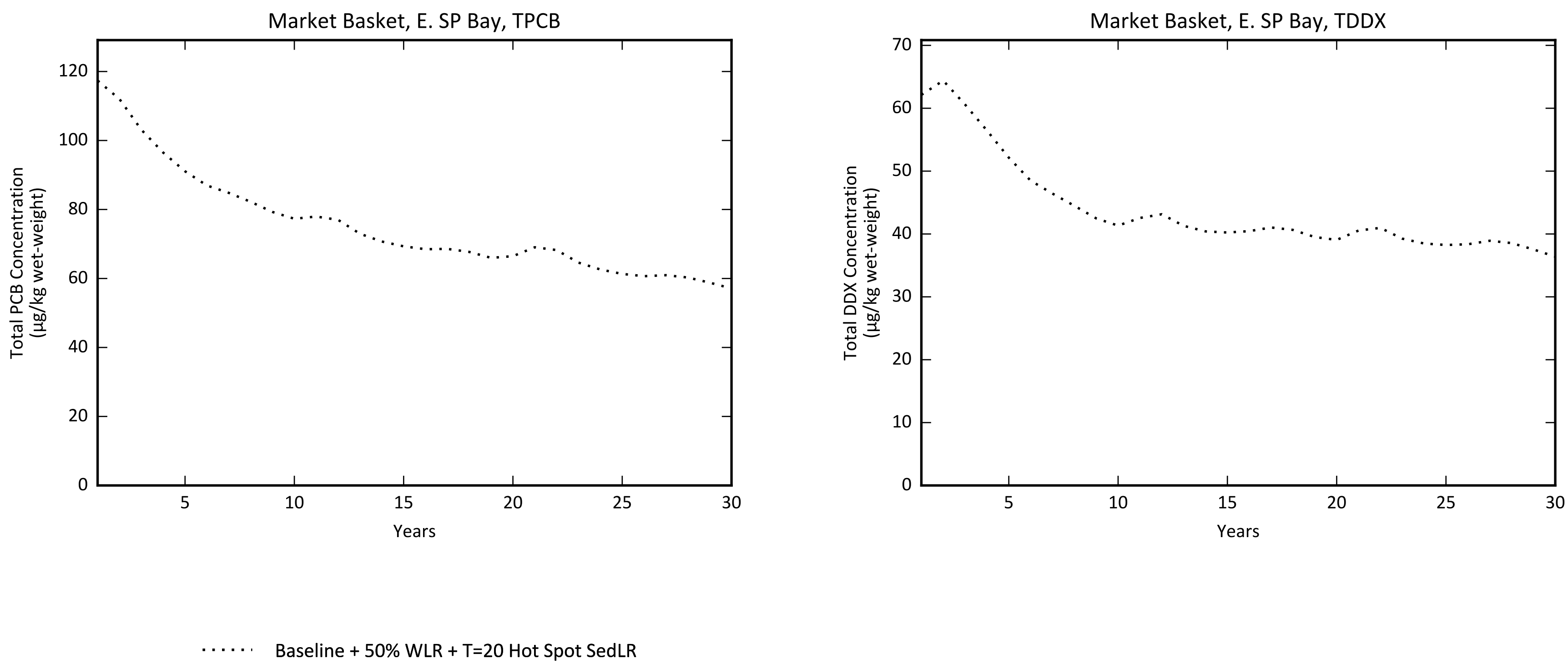


Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1813 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:12 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-11k
Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=20 Hot Spot SedLR in E. SP Bay



Notes: Model results are averaged over all days within each year of simulation and then shown as age-weighted averages over various age classes.
In all scenarios, it is assumed that there is no change in hydrodynamics or water depth. WQ files v.1813 and biota files v.1801 used for model.

Publish Date: 07/26/2018 17:12 PM | User: WCL-MMAT
File Path: \\IRIS\Woodcliff\Projects\PoLAPoLB_TMDL_2012\2012-2015_TMDL_Contract_(120343-01)\Model\LALB\Plots\fish\Temporals\Temporals_Scenarios_wMarketBasket.py

ANCHOR QEA

Figure B-11k

Total PCB and DDX Concentrations in Fish over Time for Baseline + 50% WLR + T=20 Hot Spot SedLR in E. SP Bay

Linked Model Data Summary Report

Greater Los Angeles and Long Beach Harbor Waters