

Conceptual Site Model Considerations - Sediment/Surface Water	
Site Name	
Site Description	Location:
	Size:
	Site Status: <input type="checkbox"/> Active <input type="checkbox"/> Inactive <input type="checkbox"/> Unknown
General Site Conditions	
Current Conditions (Request maps of site and adjacent areas)	<p>Describe present site conditions using information obtained during property inspection or site-specific documents to identify:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Adjacent on-site land use (e.g. residential, recreational, industrial, etc.) <input type="checkbox"/> Adjacent off-site land use <input type="checkbox"/> Number/type of site occupants/users (adults, teens, children) <input type="checkbox"/> Relative location on-base (e.g., distance from base boundary) <input type="checkbox"/> Location relative to off-base land uses (e.g., distance to nearest off-base community [residential and non-residential]) <input type="checkbox"/> Undeveloped land (biological habitats such as wetlands, forests, or grasslands) present on and/or near the site <input type="checkbox"/> Water bodies present on and/or near the site <input type="checkbox"/> Presence of federal/state listed habitats or species of concern (e.g., rare, threatened or endangered; "watch" list) on and/or near the site and/or base <input type="checkbox"/> Fish/shellfish advisories <input type="checkbox"/> Land use controls or other institutional controls
Future Conditions (Request Master Plans and/or redevelopment plans)	Describe potential future conditions (obtain from Base Master Plans or redevelopment plans for property transfers), consider including information as was identified under "current conditions" above.
Nature and Extent of Contamination	
Identifying Navy and Non-Navy Sources and Inputs	<p>Has a Watershed Contaminated Source Document (WCSD) been completed for the site?</p> <p>Identify all potential past/current sources of contamination:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Upland discharges, leaks, and/or spills <input type="checkbox"/> Terrestrial watershed sources <input type="checkbox"/> Up river surface water and/or sediment <input type="checkbox"/> Groundwater <input type="checkbox"/> Submerged structures/surfaces

Conceptual Site Model Considerations - Sediment/Surface Water

<p align="center">Site Name</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Sediment scour and resuspension <input type="checkbox"/> Subsurface sediment <input type="checkbox"/> Outfalls (industrial process water, storm water, sewer) <input type="checkbox"/> Global, regional, and/or local atmospheric sources <input type="checkbox"/> Other: <p>Are chemical fingerprinting and/or chemical forensic studies available?</p> <p>Have chemical impacts been observed that are non-Navy related?</p> <p>For each source area, record the following information:</p> <p>Describe history of contamination</p> <p>Describe previous remedial/removal actions</p> <p>Location of source relative to site</p> <p>Distance to sensitive receptors (e.g., surface water bodies)</p> <p>Has the source been removed and/or controlled?</p>
<p align="center">Impacted Media</p>	<p>What media has been impacted?</p> <ul style="list-style-type: none"> <input type="checkbox"/> Subtidal sediment <input type="checkbox"/> Intertidal sediment <input type="checkbox"/> Surface water <input type="checkbox"/> Transition zone water (i.e., pore water) <input type="checkbox"/> Shoreline seeps <input type="checkbox"/> Biota (fish, shellfish, benthic invertebrates, aquatic vegetation)

Conceptual Site Model Considerations - Sediment/Surface Water

Site Name	
<p align="center">Background Concentrations and Reference Areas</p>	<p>Is sediment background/reference data available at the site? <input type="checkbox"/> Site-specific data <input type="checkbox"/> Base-wide data <input type="checkbox"/> Watershed data</p> <p>What media are background data available for? <input type="checkbox"/> Sediment <input type="checkbox"/> Surface water <input type="checkbox"/> Outfalls <input type="checkbox"/> Permitted discharges (e.g., TMDLs) <input type="checkbox"/> Biota</p> <p>Have reference areas been identified? <input type="checkbox"/> Sediment <input type="checkbox"/> Surface water <input type="checkbox"/> Habitat</p> <p>Are the designated reference areas representative of site conditions? <input type="checkbox"/> Similar degree of development <input type="checkbox"/> Similar ecology <input type="checkbox"/> Similar hydrodynamics <input type="checkbox"/> Consistent geomorphology <input type="checkbox"/> Consistent sediment grain size, TOC</p>
<p align="center">Data Quality</p>	<p><input type="checkbox"/> Age of the data <input type="checkbox"/> Media sampled <input type="checkbox"/> Sample collection methods <input type="checkbox"/> Number of sampling events <input type="checkbox"/> Analyses conducted relative to suspected chemical contaminants and degradation products <input type="checkbox"/> Detection/reporting limits relative to screening criteria <input type="checkbox"/> Sampling locations relative to source area(s) <input type="checkbox"/> Availability of validation reports and metadata</p> <p>Has the redox state of the sediment environment been considered when interpreting the chemistry data?</p>
<p align="center">Contaminant Transport Pathways/ Release Mechanisms</p>	<p>Has a sediment transport study been completed?</p> <p>Consider transport pathways/release mechanisms below as appropriate: <input type="checkbox"/> Sediment transport/resuspension</p>

Conceptual Site Model Considerations - Sediment/Surface Water

Site Name	
	<ul style="list-style-type: none"> <input type="checkbox"/> Surface water in-flow <input type="checkbox"/> Storm water discharge and runoff <input type="checkbox"/> Industrial discharges <input type="checkbox"/> Soil/riverbank erosion <input type="checkbox"/> Groundwater transport (dissolved/NAPL, particulate, colloidal) <input type="checkbox"/> Bioturbation in the Biologically Active Zone <input type="checkbox"/> Food chain/biological uptake <input type="checkbox"/> Atmospheric deposition/cycling <input type="checkbox"/> Sediment resuspension rates (dissolved and particulate organic carbon) <input type="checkbox"/> Volatilization/gas ebullition <input type="checkbox"/> Acid volatile sulfides <input type="checkbox"/> Leaching to water column <input type="checkbox"/> Partitioning to pore water/advection <p>Consider the factors below that might affect migration as appropriate:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Physical environment of the surface water body (hydrogeography, flow characteristics, tidal exchange) <input type="checkbox"/> Anthropogenic activity in and around surface water body (e.g., MILCON, maintenance dredging, construction/redevelopment) <input type="checkbox"/> Sediment lithology (i.e., fine-grained, medium-grained, coarse-grained) <input type="checkbox"/> Sedimentation rates (to understand vertical profiling/sediment chronologies) <input type="checkbox"/> Redox conditions <input type="checkbox"/> Potential electron acceptors for biodegradation <input type="checkbox"/> Organic carbon content <input type="checkbox"/> Prop scour <input type="checkbox"/> Migratory patterns of biota <input type="checkbox"/> Salinity/salt wedge <input type="checkbox"/> Seasonal effects (high tides) <input type="checkbox"/> Episodic events (storms, large-scale climate patterns such as El Niño/La Niña)
Bioavailability Considerations	Is the food chain/food web well understood?

Conceptual Site Model Considerations - Sediment/Surface Water

Site Name	
	<p>Have biological monitoring data or site-specific tissue data been collected at the site?</p> <p>Has the Navy performed any bioavailability/bioaccumulation studies for the site?</p>

Risk Assessment Exposure Pathways and Receptors

Current and Future Adjacent Land Use	<p>Current:</p> <p><input type="checkbox"/> residential <input type="checkbox"/> industrial <input type="checkbox"/> commercial <input type="checkbox"/> agricultural</p> <p><input type="checkbox"/> recreational <input type="checkbox"/> other</p> <p>Future:</p> <p><input type="checkbox"/> residential <input type="checkbox"/> industrial <input type="checkbox"/> commercial <input type="checkbox"/> agricultural</p> <p><input type="checkbox"/> recreational <input type="checkbox"/> other</p> <p>Surrounding:</p> <p><input type="checkbox"/> residential <input type="checkbox"/> industrial <input type="checkbox"/> commercial <input type="checkbox"/> agricultural</p> <p><input type="checkbox"/> recreational <input type="checkbox"/> other</p>
Exposure Media	<p><input type="checkbox"/> air <input type="checkbox"/> surface water <input type="checkbox"/> intertidal sediments</p> <p><input type="checkbox"/> subtidal sediment <input type="checkbox"/> tissue</p>
Potential Environmental Receptors^(a)	<p><u>Human</u></p> <p>Current:</p> <p><input type="checkbox"/> residents users (e.g., fishers/waders/swimmers/bird watchers)</p> <p><input type="checkbox"/> recreational users (e.g., fishers/waders/swimmers/bird watchers)</p> <p><input type="checkbox"/> subsistence anglers <input type="checkbox"/> workers <input type="checkbox"/> visitors</p> <p><input type="checkbox"/> other:</p> <p>Future:</p> <p><input type="checkbox"/> residents <input type="checkbox"/> recreational users (e.g., fishers/waders/swimmers/bird watchers)</p>

Conceptual Site Model Considerations - Sediment/Surface Water

Site Name	
	<p><input type="checkbox"/> subsistence anglers <input type="checkbox"/> workers <input type="checkbox"/> occasional trespasser</p> <p><input type="checkbox"/> other:</p> <p><u>Ecological</u></p> <p>Current :</p> <p><input type="checkbox"/> plants <input type="checkbox"/> pelagic microfauna <input type="checkbox"/> benthic/epibenthic invertebrates</p> <p><input type="checkbox"/> bottom dwelling/pelagic fish <input type="checkbox"/> reptiles <input type="checkbox"/> amphibians</p> <p><input type="checkbox"/> birds <input type="checkbox"/> mammals <input type="checkbox"/> other:</p> <p>Future:</p> <p><input type="checkbox"/> plants <input type="checkbox"/> pelagic microfauna <input type="checkbox"/> benthic/epibenthic invertebrates</p> <p><input type="checkbox"/> bottom dwelling/pelagic fish <input type="checkbox"/> reptiles <input type="checkbox"/> amphibians</p> <p><input type="checkbox"/> birds <input type="checkbox"/> mammals <input type="checkbox"/> other:</p>
<p>Potentially Complete Routes of Exposure for Environmental Receptors</p>	<p><u>Human</u></p> <p>Current:</p> <p><input type="checkbox"/> fish/shellfish ingestion <input type="checkbox"/> dermal uptake <input type="checkbox"/> inhalation</p> <p><input type="checkbox"/> surface water ingestion <input type="checkbox"/> incidental sediment ingestion</p> <p>Future:</p> <p><input type="checkbox"/> fish/shellfish ingestion <input type="checkbox"/> dermal uptake <input type="checkbox"/> inhalation</p> <p><input type="checkbox"/> surface water ingestion <input type="checkbox"/> incidental sediment ingestion</p> <p><u>Ecological</u></p> <p>Current :</p> <p><input type="checkbox"/> fish/shellfish/benthic invertebrate ingestion <input type="checkbox"/> incidental ingestion of sediment</p> <p><input type="checkbox"/> direct uptake from surface water <input type="checkbox"/> surface water ingestion</p> <p>Future:</p> <p><input type="checkbox"/> fish/shellfish/benthic invertebrate ingestion <input type="checkbox"/> incidental ingestion of sediment</p> <p><input type="checkbox"/> direct uptake from water <input type="checkbox"/> surface water ingestion</p>
<p>Appropriate Chemical-Specific Screening Level for Exposure</p>	

Conceptual Site Model Considerations - Sediment/Surface Water

<p align="center">Site Name</p>	
	<p>Human: <input type="checkbox"/> generic <input type="checkbox"/> site-specific</p> <p>Ecological: <input type="checkbox"/> generic <input type="checkbox"/> site-specific</p>
<p align="center">Is an Exposure Route Complete?</p>	<p><u>Human</u></p> <p>Current: <input type="checkbox"/> yes <input type="checkbox"/> no Rationale for exclusion of exposure pathway(s):</p> <p>Future: <input type="checkbox"/> yes <input type="checkbox"/> no Rationale for exclusion of exposure pathway(s):</p> <p><u>Ecological</u></p> <p>Current: <input type="checkbox"/> yes <input type="checkbox"/> no Rationale for exclusion of exposure pathway(s):</p> <p>Future: <input type="checkbox"/> yes <input type="checkbox"/> no Rationale for exclusion of exposure pathway(s):</p>