Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board Meeting
December 11, 2024
6 – 8 pm
Agenda

1. Welcome and Introductions
2. Review and approve September 2024 meeting minutes
3. Distribute RAB charter amendment draft
4. Community Involvement Plan update
5. Next RAB meeting – tentative March 26
6. Presentation: Understanding Pathway Analysis and Groundwater Plumes
7. Questions and Answers

Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board Meeting

Oahu Veterans Center
Honolulu, Hawaii

11 December 2024

Agenda

- **Welcome, Pule, and Introductions**
  - **—Navy Co-Chair, Community Co-Chair, RAB Members, Audience Attendees**
  - **—Meeting Rules of Engagement**
- **Review and Approve September 2024 Meeting Minutes**
- **RAB Charter Amendment Discussion**
- **Community Involvement Plan Update**
- **Presentation: *Understanding Pathway Analysis and Groundwater Plumes***
- **Next RAB Meeting – March**
- **Questions and Answers**

Objectives of the Restoration Advisory Board

- **Promote community awareness and enable the flow of information, concerns, values and needs between the community and the installation**
- **Help ensure that all stakeholders have a voice and the ability to actively participate in the environmental restoration process**
- **Disseminate information about the Environmental Restoration Program (ERP)**
- **Ensure that ERP projects reflect diverse interests and concerns within the community**
- **Partner with both the regulated and regulating agencies on the ERP projects**
- **Provide meaningful input to the decision-makers on restoration issues**

Community Involvement Plan Update

- **Survey received 96 responses (June 26 – November 30)**
- **Chemicals of most concern are PFAS, petroleum, metals, and pesticides**
- **31% are not familiar with what Environmental Restoration does and 38% are not familiar with RABs**
- **63% rely on social media and 58% rely on news to keep informed about environmental cleanup**
- **Draft Community Involvement Plan will be distributed to RAB members for review and comment by the next meeting**

IMPORTANT

Community Involvement Plans outline the types of outreach and communication activities available to address community needs, concerns, and expectations

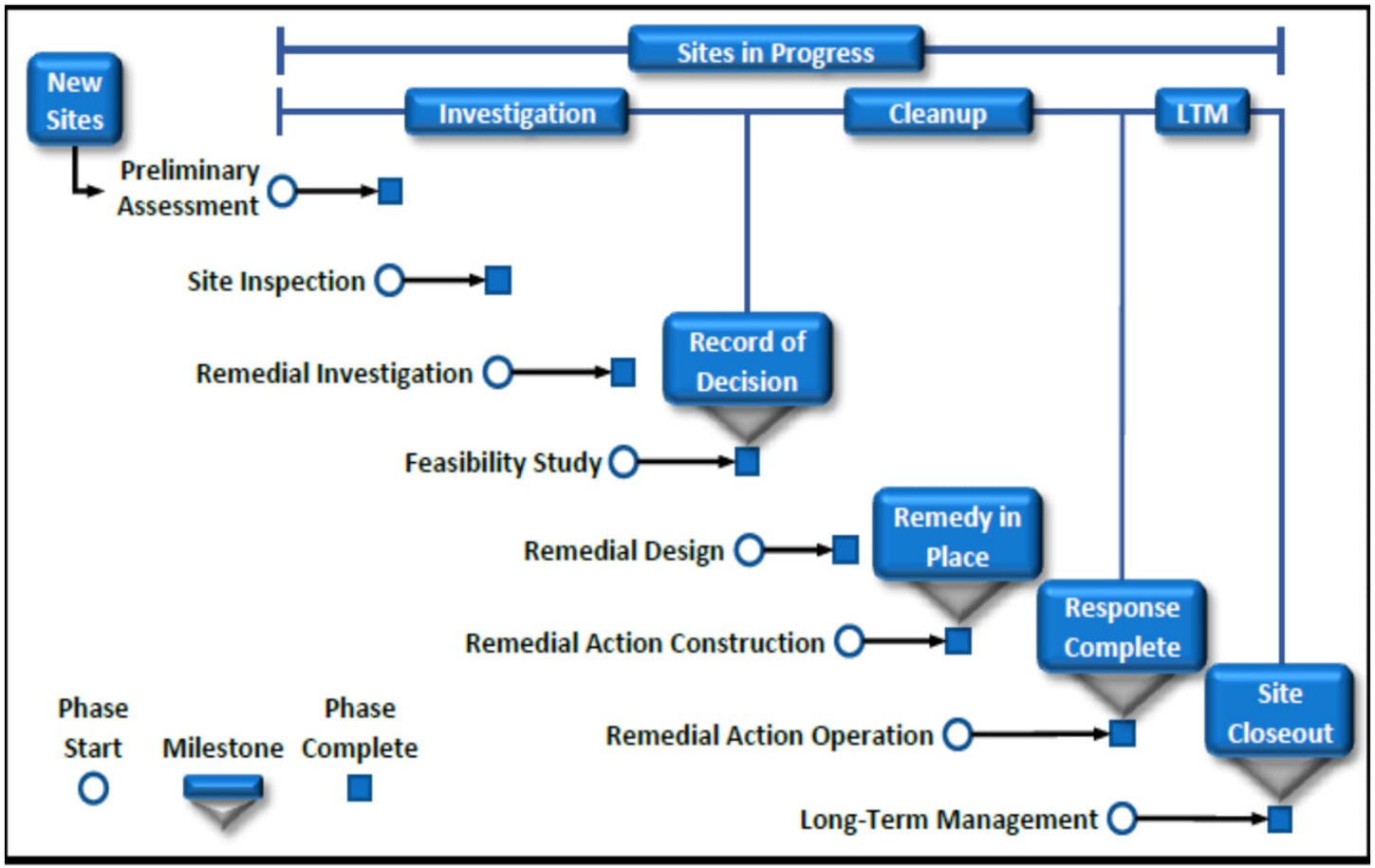
Understanding Pathway Analysis and Groundwater Plumes

11 December 2024

RAB Topics of Interest

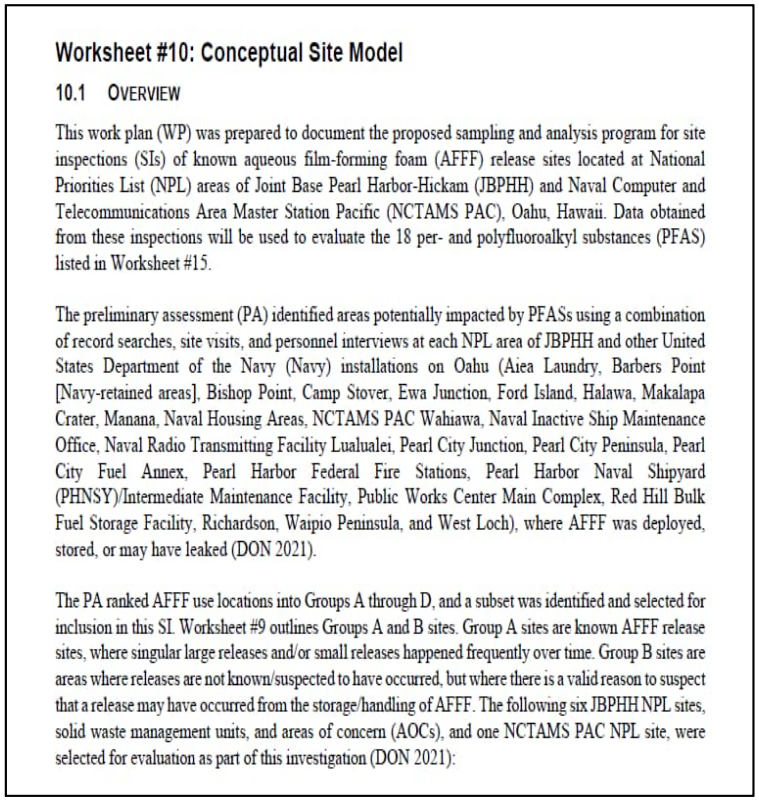
- **Navy Rationale for Pathway Analysis**
  - Rationale for potential pathway and testing in Pearl Harbor
- **Holistic Underground Plume Review**

DON Environmental Restoration Process: Phases and Milestones



Conceptual Site Model (CSM) 101

- A **CSM is a description of the known or expected relationships between contaminants in the environment and people, animals or plants that could be exposed (known as potential receptors)**
- **At its most basic level, the CSM connects contaminant sources, site geology, and how receptors might be exposed (known as potential exposure pathways)**
- **The site CSM can help:**
  - **—stakeholders to visualize complex site interactions**
  - **—achieve, communicate, and maintain stakeholder consensus on site understanding**
  - **—support decisions related to key project elements, such as cumulative risk, remedy selection, remedy implementation, site completion, and site reuse**
  - **—identify existing data gaps and uncertainties to determine subsequent data needs**



Worksheet #10: Conceptual Site Model

10.1 OVERVIEW

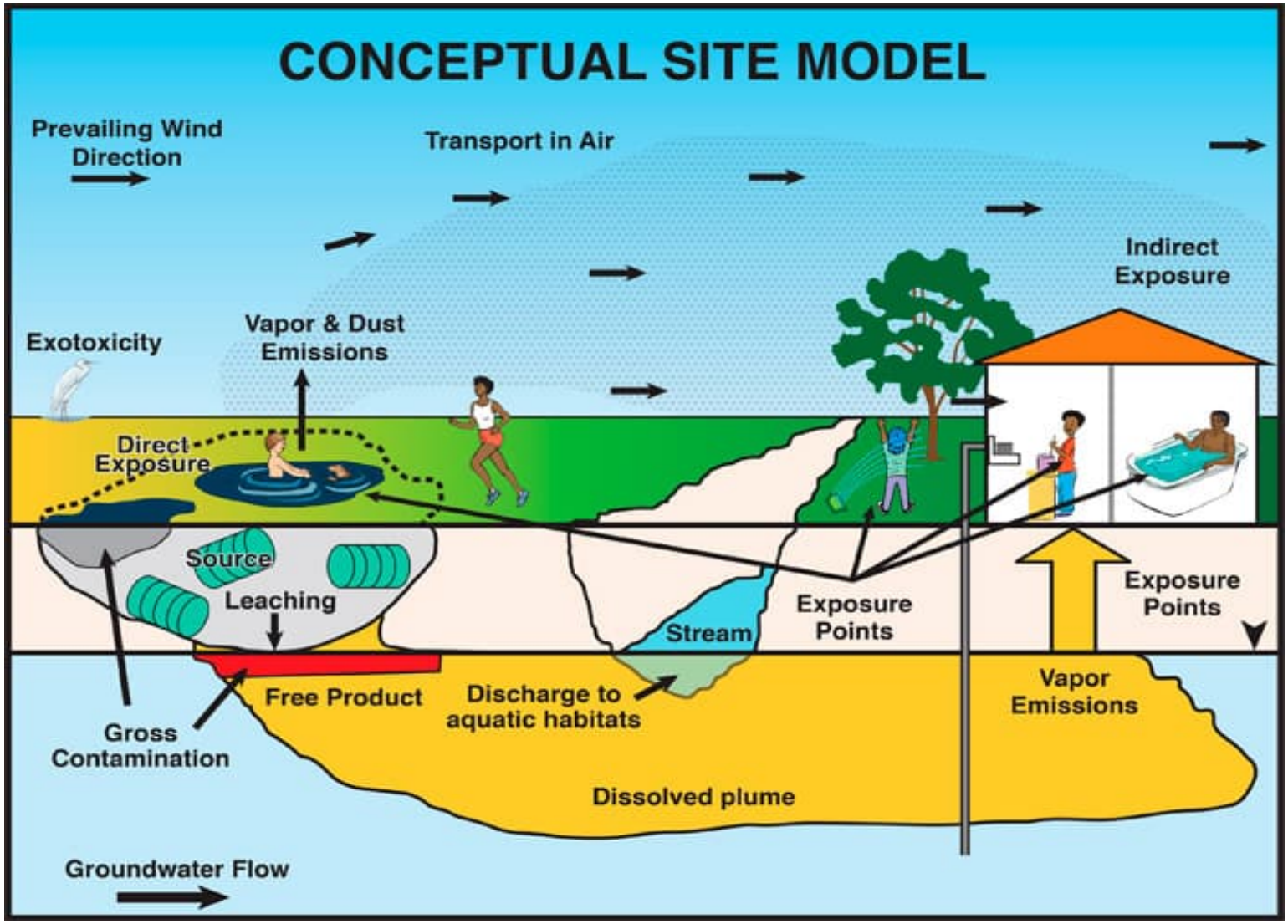
This work plan (WP) was prepared to document the proposed sampling and analysis program for site inspections (SIs) of known aqueous film-forming foam (AFFF) release sites located at National Priorities List (NPL) areas of Joint Base Pearl Harbor-Hickam (JBPHH) and Naval Computer and Telecommunications Area Master Station Pacific (NCTAMS PAC), Oahu, Hawaii. Data obtained from these inspections will be used to evaluate the 18 per- and polyfluoroalkyl substances (PFAS) listed in Worksheet #15.

The preliminary assessment (PA) identified areas potentially impacted by PFASs using a combination of record searches, site visits, and personnel interviews at each NPL area of JBPHH and other United States Department of the Navy (Navy) installations on Oahu (Aiea Laundry, Barbers Point [Navy-retained areas], Bishop Point, Camp Stover, Ewa Junction, Ford Island, Halawa, Makalapa Crater, Manana, Naval Housing Areas, NCTAMS PAC Wahiawa, Naval Inactive Ship Maintenance Office, Naval Radio Transmitting Facility Lualualei, Pearl City Junction, Pearl City Peninsula, Pearl City Fuel Annex, Pearl Harbor Federal Fire Stations, Pearl Harbor Naval Shipyard (PHNSY)/Intermediate Maintenance Facility, Public Works Center Main Complex, Red Hill Bulk Fuel Storage Facility, Richardson, Waipio Peninsula, and West Loch), where AFFF was deployed, stored, or may have leaked (DON 2021).

The PA ranked AFFF use locations into Groups A through D, and a subset was identified and selected for inclusion in this SI. Worksheet #9 outlines Groups A and B sites. Group A sites are known AFFF release sites, where singular large releases and/or small releases happened frequently over time. Group B sites are areas where releases are not known/suspected to have occurred, but where there is a valid reason to suspect that a release may have occurred from the storage/handling of AFFF. The following six JBPHH NPL sites, solid waste management units, and areas of concern (AOCs), and one NCTAMS PAC NPL site, were selected for evaluation as part of this investigation (DON 2021):

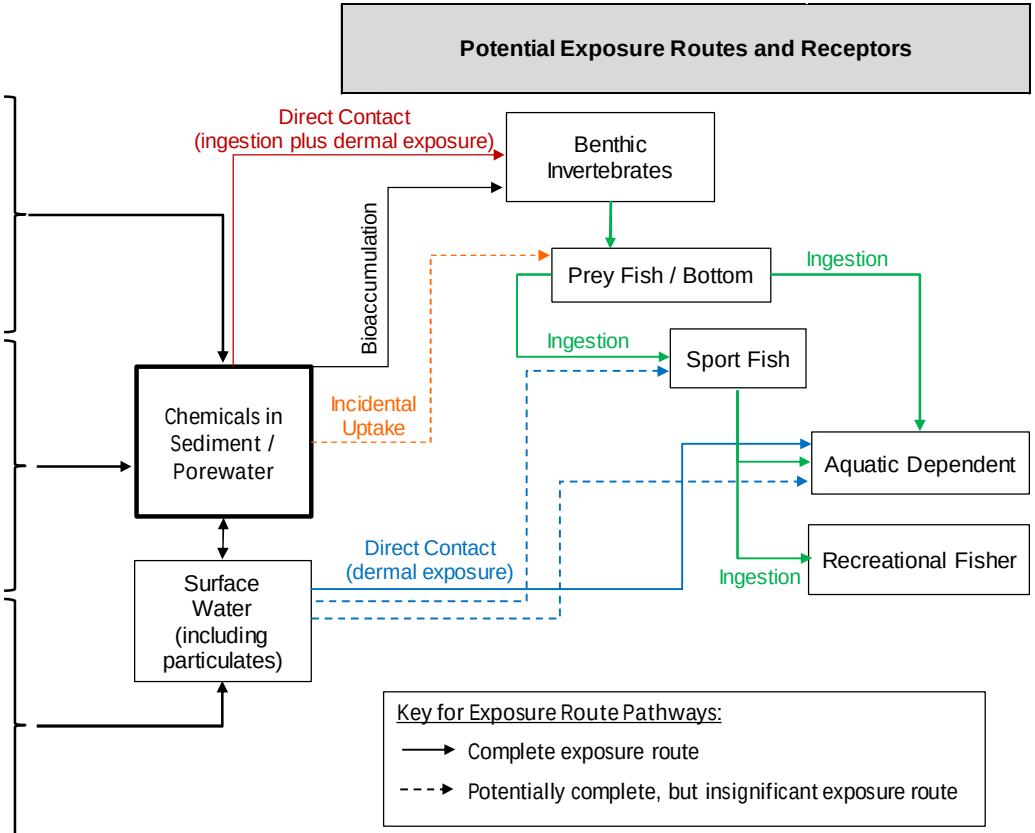
CSM example in a Work Plan

Example Graphical CSM



Example Tabular CSM

Area	Historical or Ongoing Activities & Transport Routes	Data Indicate Potential Source
IR Site	IR Site soil erosion / groundwater leachate	Yes
	Direct discharges/spills/liquid releases of wastes	Yes
	Direct discharges of stormwater	No
	Dry Dock Discharges	Unclear
	Creosote pier pilings	Unclear
	In-water activities	Yes
Non-Navy Point Sources	RCRA / CERCLA / contaminated soil - erosion and groundwater leachate	Yes
	Industrial Discharges	Yes
	Direct discharges of stormwater	No
	Dry Dock Discharges	Yes
	Creosote pier pilings	N/A
	In-water activities	Yes
Non-point Sources (Navy & Non-Navy)	Transport of contaminated sediment into site	Unclear
	Runoff from Roads / Impervious Surfaces	Unclear
	Combustion / Aerial deposition	Unclear
	Agricultural inputs / runoff	Unclear
	Stormwater runoff	Unclear
	Upstream/upgradient Industrial discharges	Unclear

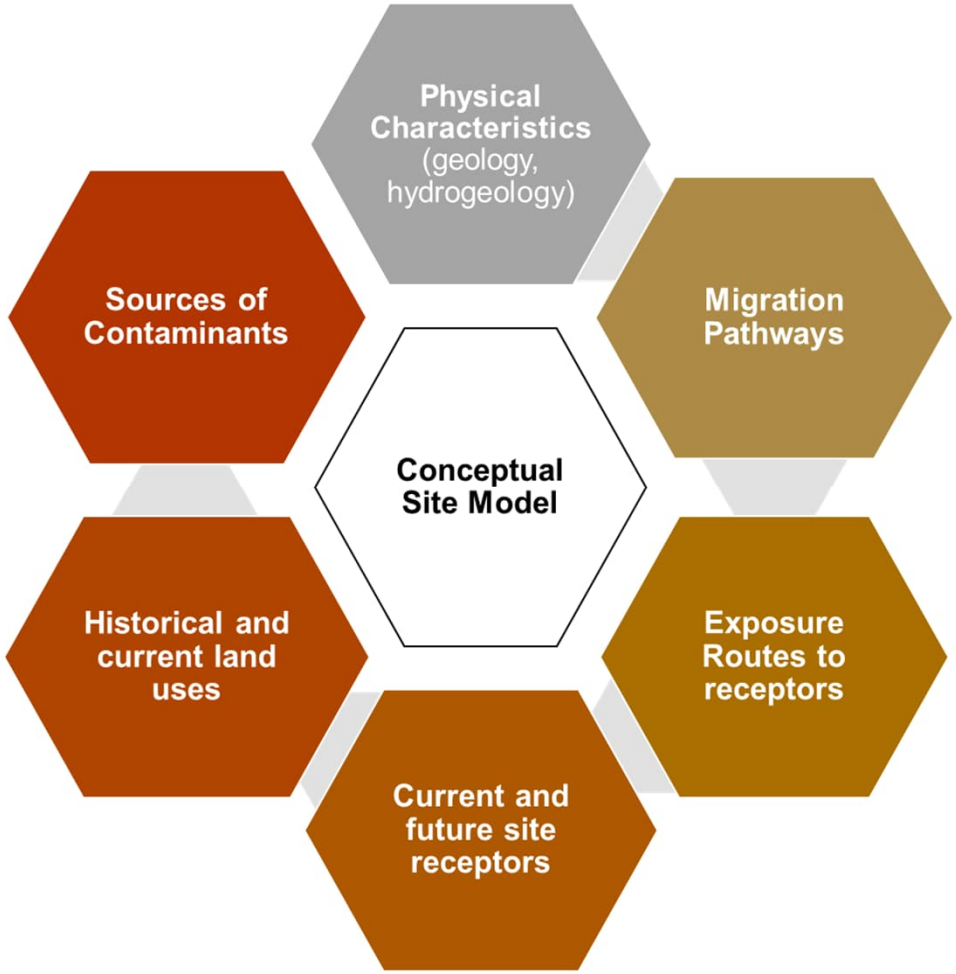


Example Conceptual Site Model Illustrating Potential Sources and Releases (both Navy and Non-Navy), Transport Mechanisms, Exposure Pathways, & Receptors

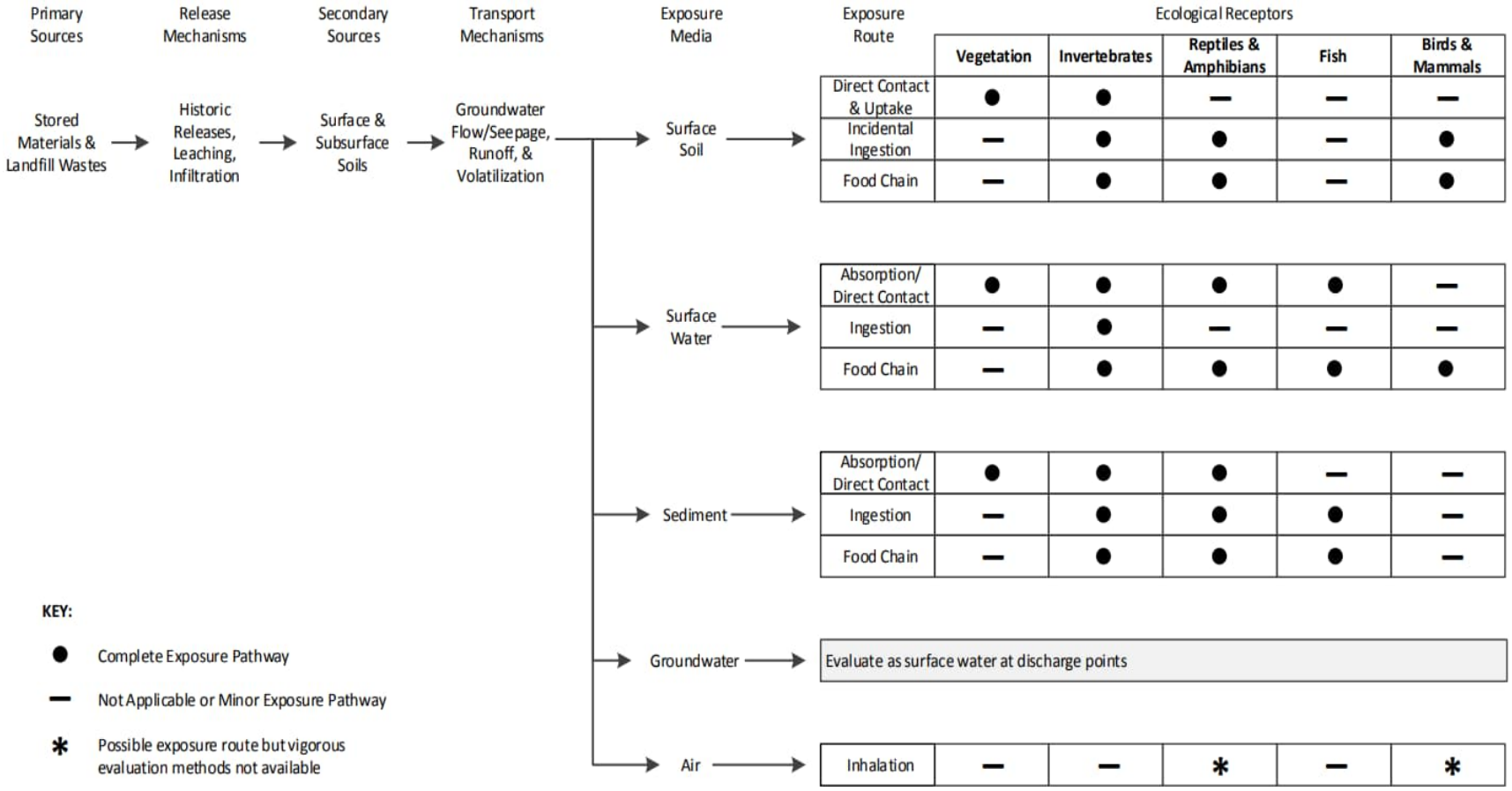
Elements of a CSM

CSMs should include information on:

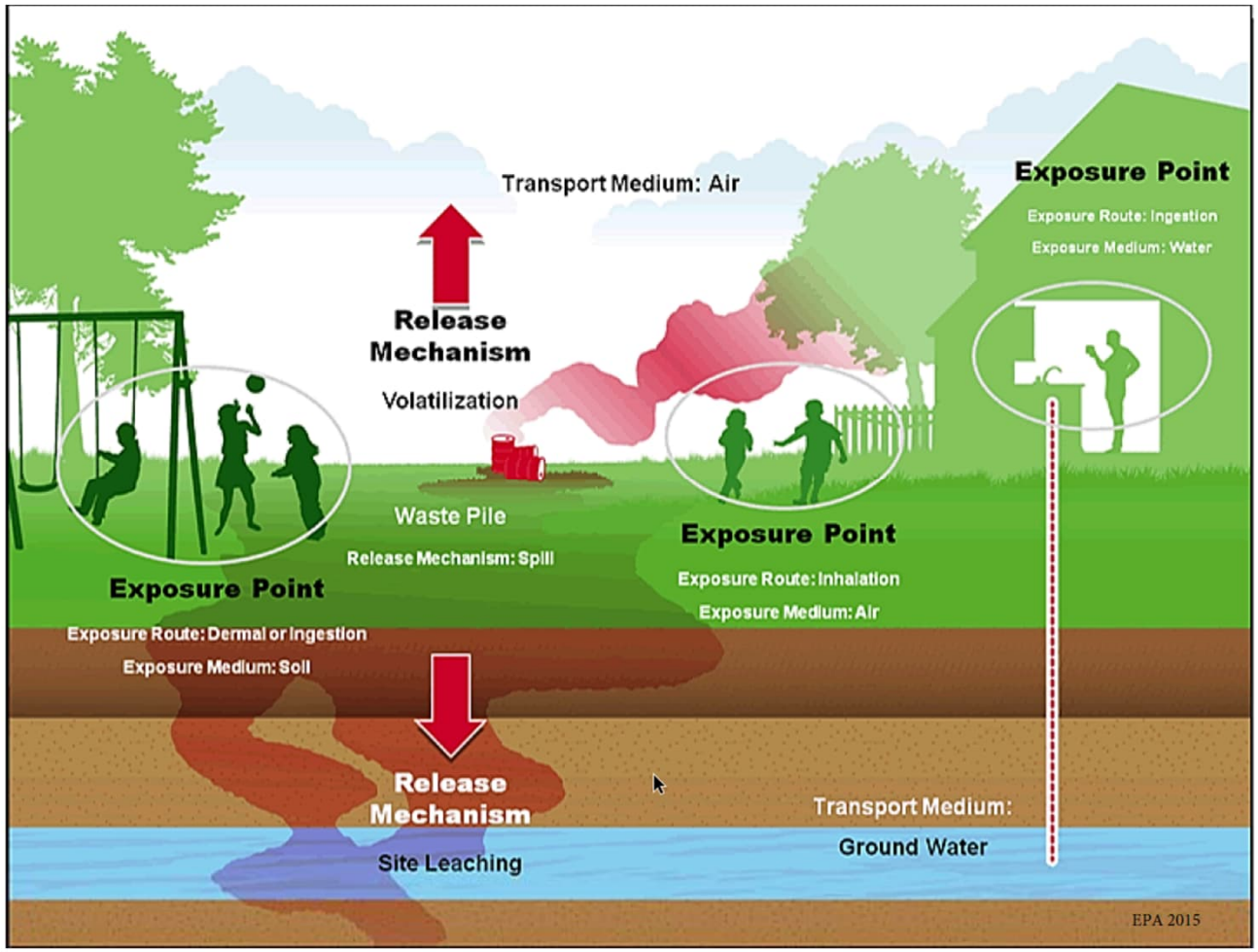
- **The local environment: Geology, hydrogeology, topography, etc.**
- **How can contaminants move in the local environment (Migration pathways)**
- **What was released to the environment and where? (Sources of Contaminants)**
- **Who or what might be exposed (Human/ecological site receptors)**
- **How can exposure occur? (Activities by those receptors that could result in exposure to site releases)**



Typical Ecological Risk Assessment CSM



Typical Human Health Risk Assessment CSM

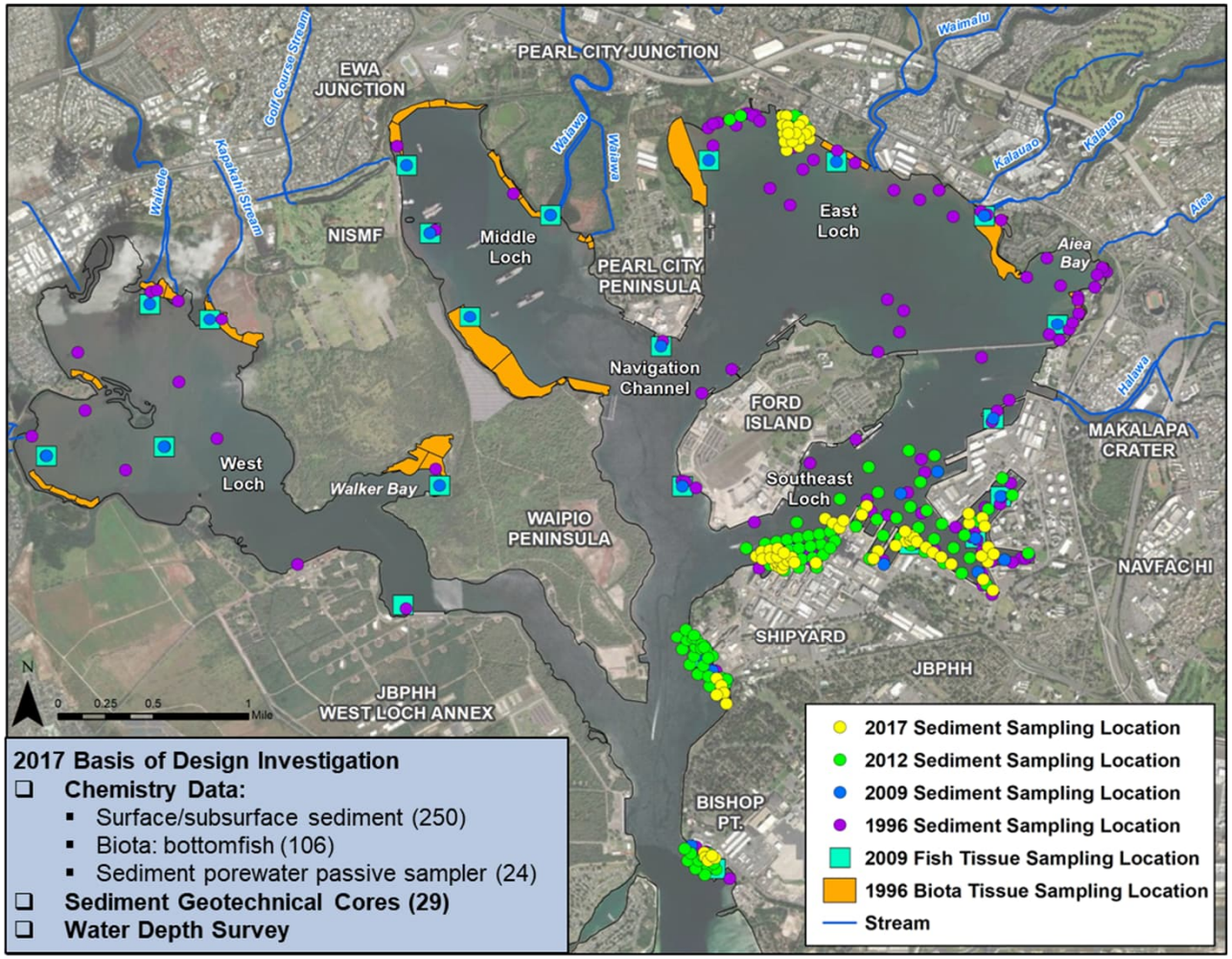


Pearl Harbor Sediment & Biota Testing

1996 Remedial Investigation
- ❑ ***Chemistry Data:***
  - Surface sediment (219)
  - Biota: bottomfish, crab, and shrimp (42)
  - Surface water (5)

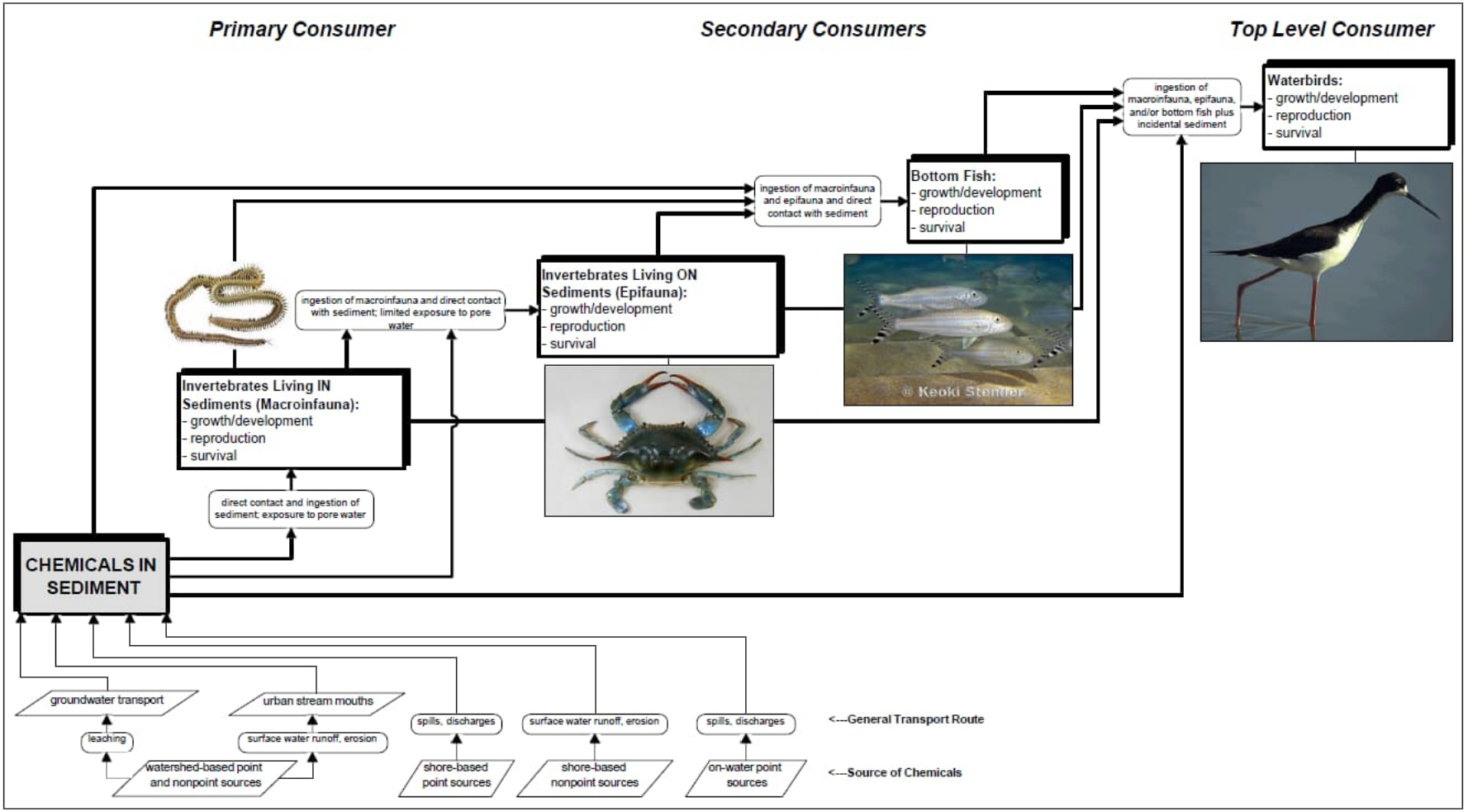
2009 Remedial Investigation Addendum
- ❑ ***Chemistry Data:***
  - Surface/subsurface sediment (119)
  - Biota: bottomfish (110)
- ❑ ***Sediment Transport:***
  - Waves and currents (2)
  - Sediment shear stress (7)
  - Sediment deposition rate (5)
  - Stream input water column (4)

2012 Feasibility Study
- ❑ **Chemistry Data:**
  - Surface/subsurface sediment (262)
  - Sediment porewater (7)
- ❑ **Sediment Transport:**
  - Waves and currents (2)
  - Sediment shear stress (4)
  - Sediment deposition rate (7)
- ❑ **Sediment Geotechnical Cores (20)**

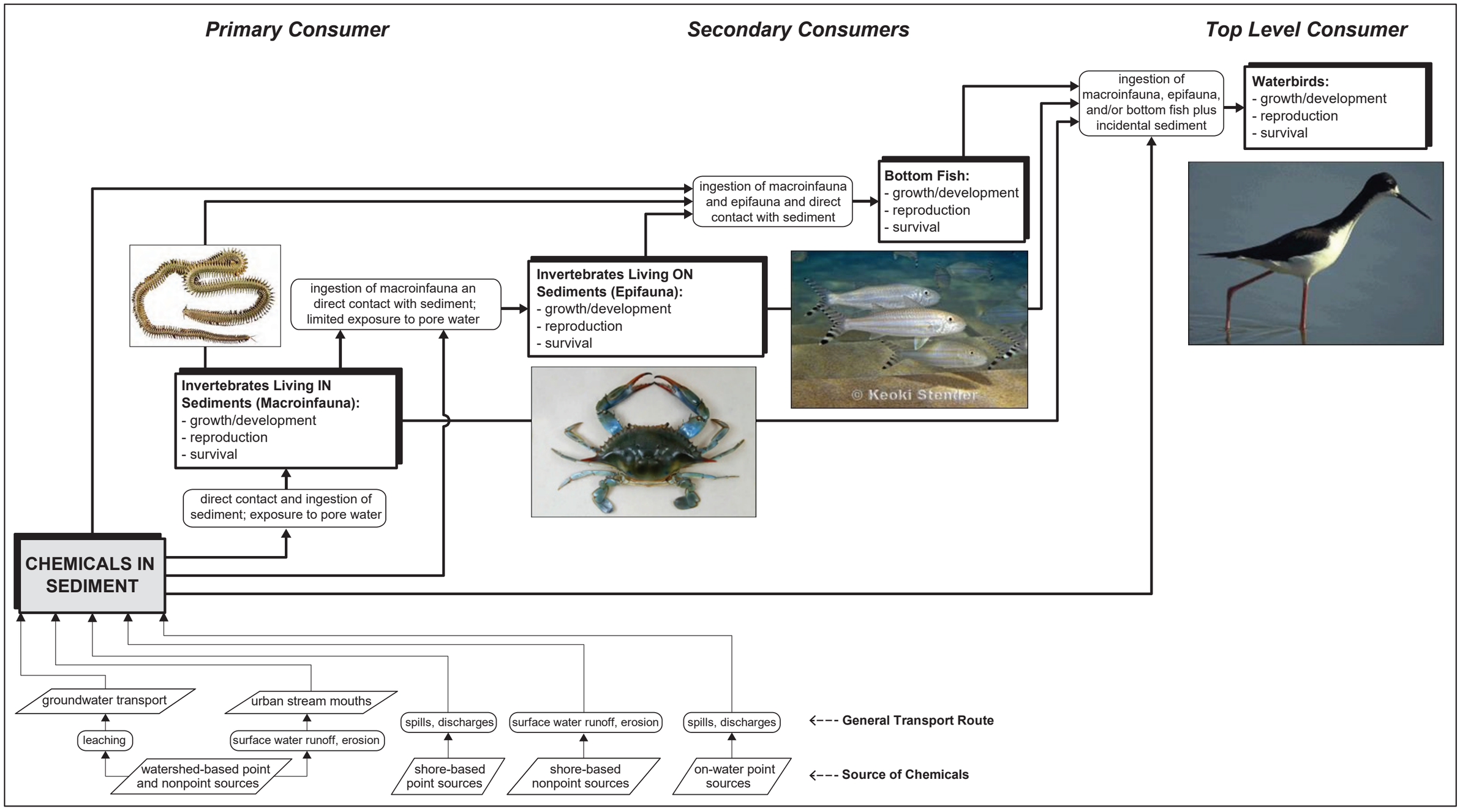


2017 Basis of Design Investigation
- ❑ **Chemistry Data:**
  - Surface/subsurface sediment (250)
  - Biota: bottomfish (106)
  - Sediment porewater passive sampler (24)
- ❑ **Sediment Geotechnical Cores (29)**
- ❑ **Water Depth Survey**

Pearl Harbor CSM – Ecological Receptors (11x17 handout)



Source: Pearl Harbor Sediment Record of Decision (DON 2018), Figure 2-5.



Source: Pearl Harbor Sediment Record of Decision (DON 2018), Figure 2-5

Pearl Harbor CSM – Assessment Endpoint (AE) for Eco Risk

- **AE-1: Invertebrates living in sediment (Macroinfauna)**
  - **Ghost Shrimp [‘opae kai]**
  - **Snapping Shrimp [‘opae ula]**
  - **Polychaete Worms [ko‘e or muiona]**

- **AE-2: Invertebrates living on sediment (Epifauna)**
  - **Blue-clawed stone crabs [papai]**

- **AE-3: Bottomfish**
  - **Bandtail goatfish [weke pueo, weke pahulu]**
- **AE-4: Waterbird**
  - **Hawaiian Stilt [ae‘o]**

IMPORTANT

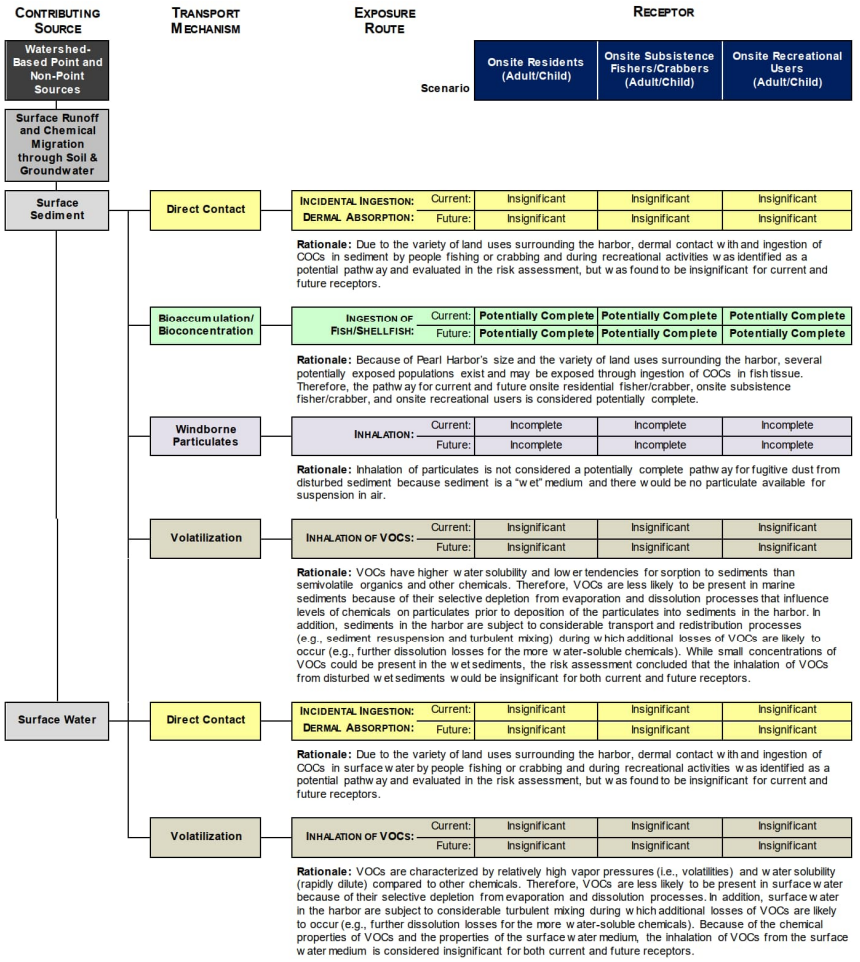
Potentially complete and significant pathway for risk to bottomfish is the greatest; addressing risk to this AE will also reduce risk to all others.

Pearl Harbor CSM – Human Health Risk Assessment (11x17 handout)

- **Risk to human health from exposure to COCs in sediment via:**
  - **Direct contact (incidental ingestion/dermal absorption)**
  - **Bioaccumulation (ingestion of fish/shellfish)**
  - **Inhalation of windborne particulates**
  - **Inhalation of VOCs**
- **Risk to human health from exposure to COCs in surface via:**
  - **Direct contact (incidental ingestion/dermal absorption)**
  - **Inhalation of VOCs**

IMPORTANT

Potentially complete and significant pathway for risk to human health is from ingestion of fish/shellfish



Contributing Source	Transport Mechanism	Exposure Route	Receptor: Scenario	Onsite Residents (Adult/Child)	Onsite Subsistence Fishers/Crabbers (Adult/Child)	Onsite Recreational Users (Adult/Child)
Watershed-Based Point and Non-Point Sources						
Surface Runoff and Chemical Migration through Soil & Groundwater						
Surface Sediment	Direct Contact	Incidental Ingestion: / Dermal Absorption:	Current:	Insignificant	Insignificant	Insignificant
			Future:	Insignificant	Insignificant	Insignificant
		Rationale: Due to the variety of land uses surrounding the harbor, dermal contact with and ingestion of COCs in sediment by people fishing or crabbing and during recreational activities was identified as a potential pathway and evaluated in the risk assessment, but was found to be insignificant for current and future receptors.				
	Bioaccumulation/ Bioconcentration	Ingestion of Fish/Shellfish:	Current:	Potentially Complete	Potentially Complete	Potentially Complete
			Future:	Potentially Complete	Potentially Complete	Potentially Complete
		Rationale: Because of Pearl Harbor's size and the variety of land uses surrounding the harbor, several potentially exposed populations exist and may be exposed through ingestion of COCs in fish tissue. Therefore, the pathway for current and future onsite residential fisher/crabber, onsite subsistence fisher/crabber, and onsite recreational users is considered potentially complete.				
	Windborne Particulates	Inhalation:	Current:	Incomplete	Incomplete	Incomplete
			Future:	Incomplete	Incomplete	Incomplete
		Rationale: Inhalation of particulates is not considered a potentially complete pathway for fugitive dust from disturbed sediment because sediment is a "wet" medium and there would be no particulate available for suspension in air.				
	Volatilization	Inhalation of VOCs:	Current:	Insignificant	Insignificant	Insignificant
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Source: Pearl Harbor Sediment Record of Decision (DON 2018), Figure 2-4.

Contributing Source	Transport Mechanism	Exposure Route	Scenario	Receptor: Onsite Residents (Adult/Child)	Receptor: Onsite Subsistence Fishers/Crabbers (Adult/Child)	Receptor: Onsite Recreational Users (Adult/Child)
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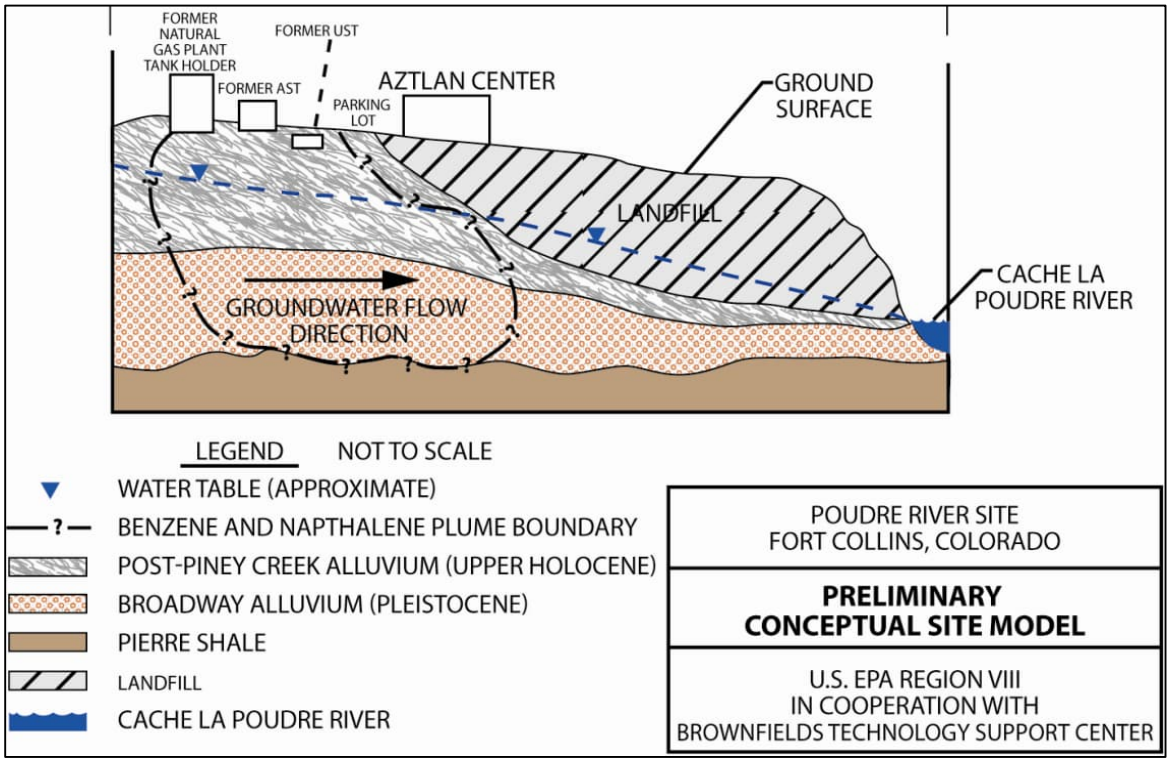
Figure 2-4
Conceptual Site Model for Human Health Risk Assessment for Pearl Harbor
Pearl Harbor Sediment ROD
PHNC National Priorities List Site
JBPHH, Oahu, Hawaii

CSM for Hydrogeology Evaluation

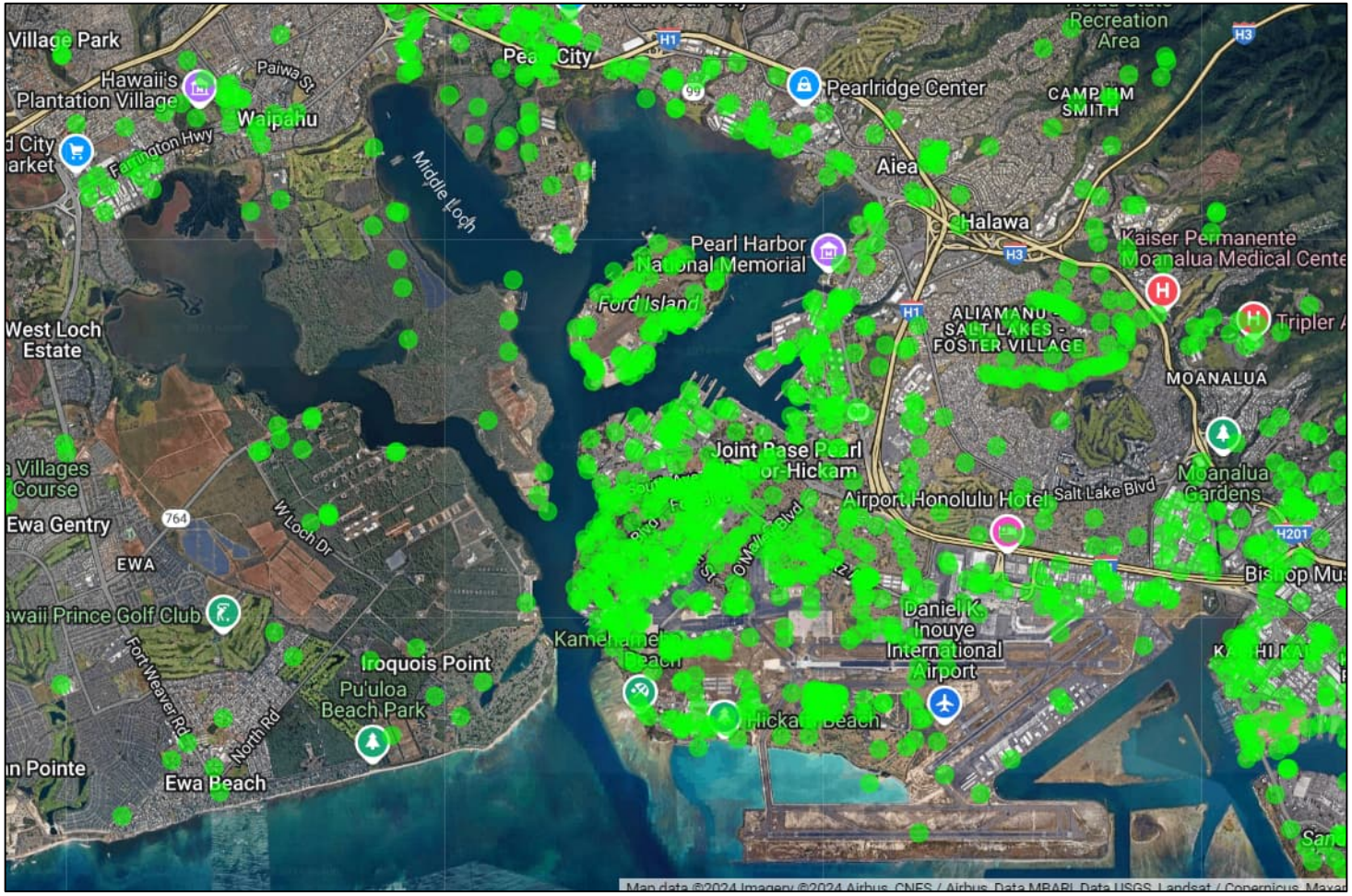
Include elements such as:

- **Site attributes (e.g., geologic stratigraphy, groundwater flow direction, groundwater-surface water interaction)**
- **Known and suspected contaminants**
- **Locations of probable source areas**
- **Affected environmental media**
- **Presumed extent of contamination**
- **Potential migration pathways**



Regional Groundwater Evaluation Limitations

- **Environmental Restoration sampling starts at the source to delineate the extent of contamination**
- **A regional evaluation of groundwater plumes does not identify the source**
- **Groundwater models are <u>qualitative</u> predictors of future plume behavior**
- **Regional models can miss plume behavior at the site level**



Green circles are hazardous releases identified in Department of Health database.

Additional Information

Environmental Restoration Program Manual (Department of the Navy, 2018)

https://fedfac-resources.astswmo.org/document/navy-environmental-restoration-program-manual/

Environmental Cleanup Best Management Practices: Effective Use of the Project Life Cycle Conceptual Site Model EPA 542-F-11-011 (USEPA, 2011)

https://www.epa.gov/sites/default/files/2015-04/documents/csm-life-cycle-fact-sheet-final.pdf

Superfund Technical Guidance for Regions: Model Site Conceptual Model for RI / FS Baseline Risk Assessments of Human and Ecological Health ES/ER/TM-186 (USEPA, 1996)

https://www.epa.gov/risk/superfund-technical-guidance-regions-model-site-conceptual-model-ri-fs-baseline-risk

Guidance on Developing Conceptual Site Models (State of Alaska Department of Environmental Conservation, 2017)

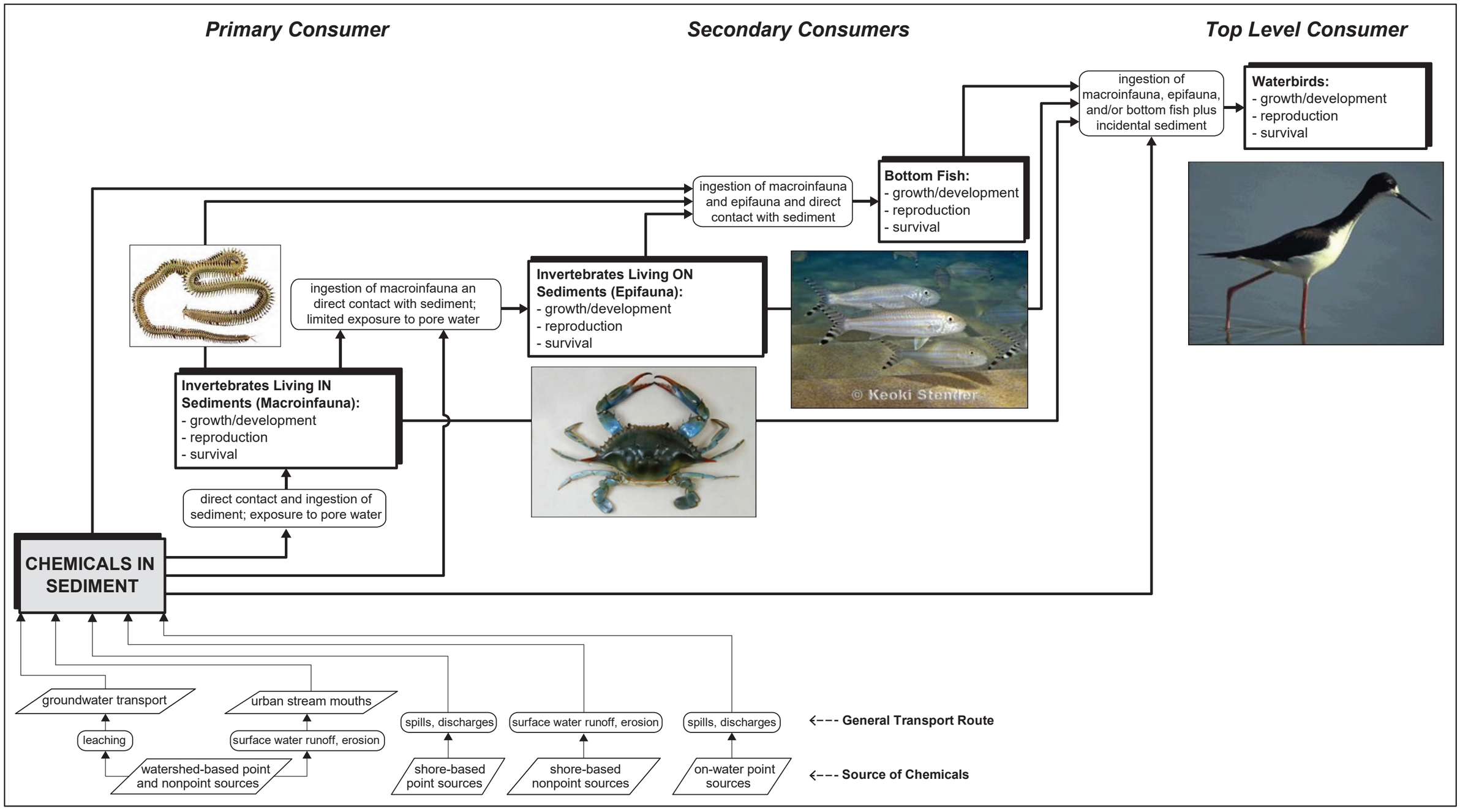
https://dec.alaska.gov/media/11926/adec-csm-guidance-222017.pdf

Joint Base Pearl Harbor-Hickam Administrative Record

- **Administrative Record (AR) is the official repository for environmental restoration cleanup sites**
- **AR files are available for the public to view documents at Navy and Marine Corps installations**
  - **Unless containing sensitive information: Personally Identifiable Information, National Security, etc.**

NAVFAC
Naval Facilities Engineering Systems Command

Questions?



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PHNC National Priorities List Site
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Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
JOINT BASE PEARL HARBOR-HICKAM (HICKAM)			
Fire Training Pit and Former Fire Protection Training Area, Hickam	This includes two separate areas at Hickam with similar past activities: a former fire protection training area, and a fire training pit. The former fire protection area was used from 1941 to 1977; the fire training pit is currently used and area was not lined prior to 2000. Sampling was conducted as part of an installation-wide site inspection (SI) in 2022 and groundwater (GW) and soil were found above screening levels. A remedial investigation (RI) is planned to evaluate per- and polyfluoroalkyl substances (PFAS) at the two locations.	Plan to initiate PFAS RI in 2026.	Plan to initiate PFAS RI in 2026.
Vickers Avenue area (ST32)	110 underground storage tanks (USTs)/fuel pipelines are located in the Vickers Avenue area. Chemicals of potential concern (COPCs) include total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene, and xylenes (BTEX), polynuclear aromatic hydrocarbons (PAHs), lead, and methane. Fuel contamination related to former flightline operations was found beneath Onizuka Village housing. COPCs include total petroleum hydrocarbons (TPH)-gasoline and methane.	No further action (NFA) approved by State of Hawaii Department of Health (DOH) August 2014 for Vickers Avenue USTs. Soil vapor extraction unit (SVE) constructed to address soil gas concerns in Onizuka Village. SVE System was shut down in June 2020 after remedial action cleanup goals had been met.	Draft environmental hazard management plan (EHMP) (2025).
Building (Bldg.) 2036H	Sampling was conducted as part of an installation-wide SI in 2022, and soil and GW were found above screening levels. A RI is planned to evaluate PFAS.	Plan to initiate PFAS RI in 2025.	Plan to initiate PFAS RI in 2025.
Bldg. 3004H & Bldg. 3006H	Sampling was conducted as part of an installation-wide SI in 2022, and soil and GW were found above screening levels. A RI is planned to evaluate PFAS.	Plan to initiate PFAS RI in 2025.	Plan to initiate PFAS RI in 2025.

Project Status Update Table			
Summary of Active Projects and Upcoming Documents/Events			
Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board			
December 11, 2024			
Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
Munitions Response Area (MRAs – 1X)	Made up of 2 munitions response sites, TS001 & TS01A, both Skeet Ranges. Chemicals of concern (COCs) include lead, arsenic, and PAHs.	Step-out sampling was conducted at munitions response site TS001 in December 2018 and October 2020, which indicated clay pigeon fragments to a depth of approximately 4 feet below ground surface and PAH and metals exceeding residential and commercial screening levels in soil, subsurface soil, and GW. Additional delineation is required and will be conducted as part of an RI Addendum (Summer 2025).	Final RI Addendum Work Plan for TS001 (March 2025).
Former Landfill Site (LF001)	Site LF01 is located between the Hickam Air Force Base (AFB) taxiways and Daniel K. Inouye International Airport taxiways. Site LF01 was the major on-Base landfill from approximately 1942 through the early 1950s. In addition to possible municipal and construction wastes, lubricants, paint wastes, solvents, and sludge were reportedly disposed of in the landfill. The current land use of Site LF01 is classified as "Airfield Clearance Surface" and "Airfield." COPCs include metals and dioxins.	Annual long-term monitoring (LTM) inspections and 5-year reviews required. Land use control (LUC) confirmation soil sampling to be conducted in January 2026.	Annual LTM inspections and reports.

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
Tri-Services Landfill (LF05)	LF05 was the primary on-base landfill (Former Tri-Services Landfill) from the late 1940s to 1965, located in the southeastern part of the Base within the active Malama Bay Golf Course. Potential contaminant sources include heavy-metal sludges from plating operations, petroleum hydrocarbon related wastes, solvents, residual paint and pesticides in empty containers, other industrial wastes, blasting grit, and buried glass bottles filled with liquid containing 1,1,2,2- tetrachloroethane and petroleum hydrocarbons. COCs include chlorinated solvents.	Record of decision (ROD) signed August 2005. Annual monitoring and LUC inspection continues. Additional cleanup is required to prevent trichloroethylene (TCE) and vinyl chloride from reaching Mamala Bay. ROD amendment signed May 2013. Bioreactor installed March 2015. Bioreactor operation ceased October 2019. Soil Investigation Tech Memo (July 2021) recommended in-situ chemical oxidation (ISCO) for destruction/removal of residual TCE source mass. ISCO injection wells were installed Febuary–March 2023. The first two injection events occurred October 2023 and March 2024.	Semi-annual GW monitoring; annual GW monitoring and LUC inspections. ISCO Oxidant Injection #3 (Fall 2024).

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
Inactive Landfill 2 (LF014)	Site LF14, formerly Inactive Landfill 2, covers approximately 30 acres in the eastern portion of Joint Base Pearl Harbor-Hickam (JBPHH), and is not a landfill by technical definition. The site is a former soil and debris disposal area, and portions of the site also received green waste. The origination of the debris is believed to be primarily from the demolition of World War II-era ammunition storage bunkers and possibly from other base facilities. Currently, the site is covered by well-established trees and thick grass. Current and expected future land use for the area is industrial because of the site's close proximity to active industrial activities and flightline areas. COPCs include metals, PAHs, TPH-diesel range organics, and pesticides.	Annual LTM inspections and 5-year reviews required.	Annual LTM inspections and reports.
Fuel Leak/Valve Pit (SS06)	Site SS06 is located near the flight line. Documentation regarding the repair and/or replacement of petroleum, oil, and lubricants (POL) fuel lines, valve pits, and hydrants dates back to 1968. Contamination in soil and GW was confirmed during a 1983 drilling program, in which fuel odor and a surface film were observed in a boring. In the early 1990s, fuel-impacted soil was discovered in the same general area that it was found in 1983. Land use in the vicinity of Site SS06 is industrial. GW beneath the site is not considered a drinking water resource. COPCs include volatile organic compounds (VOCs) and PAHs.	Annual LTM and 5-year reviews required.	Annual LTM and inspections and reports.

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
Fuel Leak Area 13 & 14 Area G & H (SS01)	A large fuel plume encompassing a majority of the commercial area of the Base and some adjacent Base housing areas in the northwest part of the Base. Potential contaminant sources include releases of leaded aviation gasoline to the environment from former USTs, aboveground storage tanks (ASTs), and subsurface fuel distribution pipelines and vaults. COCs include light non-aqueous phase liquid (LNAPL), VOCs, and lead.	EHMP completed in September 2021 combining the site with SS156E. Annual gauging is required.	Annual monitoring reports.
Par 3 (SS015)	Site SS15 is located in the north-central portion of Hickam AFB and covers approximately 25 acres. The Par 3 Golf Course comprises 80 percent of the site. To the west, across Engine Test Road, the site includes an area with wash racks and support facilities. Subsurface fuels contamination associated with pipelines traversing the site was identified during the 1970s. Land use in the vicinity of Site SS15 is industrial and recreational. GW beneath the site is not considered a drinking water resource. COPCs include VOCs and PAHs.	Annual LTM and 5-year reviews required.	Annual LTM and inspections and reports.
SS11 POL Area L	Site SS11 is located in the east-central portion of JBPHH, covers approximately 105 acres, and is separated into two portions: SS11 North and SS11 South. SS11 North consists of administrative buildings, maintenance shops, parking areas, and is generally used to support aircraft operation and maintenance. SS11 South consists of paved airfield and is used for aircraft operations and maintenance. Both SS11 North and SS11 South historically used USTs and fuel pipelines leading to past fuel releases in these areas.	Following extensive environmental investigations at the site, the final remedy for SS11 of continued GW monitoring for monitored natural attenuation and LUCs is documented in the site's ROD/response action memorandum signed in 2007. Following many years of GW monitoring, SS11's final remedy is currently undergoing optimization and re-evaluation.	Draft remedy optimization work plan (Summer 2025).

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
Hickam Runway area (ST28)	23 USTs/fuel pipelines in Hickam Runway area. COPCs include TPH, BTEX and PAHs.	All UST removals/pipeline abandonment completed. Since only petroleum was found, the site was transferred out of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and into the State Contingency Plan. Submitted Final Closure Summary Report, Environmental Hazard Evaluation (EHE)/EHMP for Site ST28 (April 2013). Received NFA with institutional control (IC) concurrence from DOH (September 2013). LUC inspection and annual monitoring are no longer required per DOH agreement.	None.
Aircraft Maintenance/Carburetor Cleaning Area (CG110)	CG110 consists of two contaminated areas located on the west portion of Hickam AFB, south of Vickers Road, near the active flight line. The site study area occupies approximately 19 acres and comprises two former Areas of Concern: EA10 and EA22. EA22 has petroleum constituents in soil and soil gas, and EA10 has TCE in soil gas, soil and GW.	Annual LTM Inspections and 5-year reviews required.	Annual LTM inspections and reports.
POL Valve Pits (SS156)	Fuel releases from POL Valve Pits in housing area (SS156E) and next to Air Mobility Command Passenger Terminal (SS156J). COCs include LNAPL, TPH and benzene.	*SS156J:* NFA. *SS156E:* EHMP Completed in September 2021 combining the site with SS01. Annual gauging is required.	Annual monitoring reports.

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
Signer Boulevard area (ST30)	29 USTs in Signer Boulevard area. COPCs include TPH, BTEX, and PAHs.	All UST removals completed. Since only petroleum was found, the site transferred out of CERCLA and into the State Contingency Plan. Submitted final closure summary report, EHE/EHMP for Site ST30 (August 2013). Received NFA with IC concurrence from DOH (November 2013).	Evaluation of IC requirements planned for 2024.
Hangar Avenue area (ST31)	48 USTs/fuel pipelines in Hangar Avenue area. COPCs include TPH, BTEX, PAHs, and lead.	All UST removals/pipeline abandonment completed. NFA with LUCs.	None.
Kuntz Avenue area (ST35)	81 USTs in Kuntz Avenue area. COPCs include TPH, BTEX, and PAHs.	All UST removals completed. Since only petroleum was found, the site was transferred out of CERCLA and into the State Contingency Plan. Received NFA with IC concurrence from DOH (November 2013).	None.

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Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
Former Mess Hall Area	Site CF023, the Former Mess Hall Area, is a 13-acre site located east of the Par 3 Golf Course within the housing and community service areas at the JBPHH. Historically, the site area contained airman dormitories, squadron headquarters, a mess hall, and supporting facilities. The site was initially investigated because several previous UST investigations conducted in the area reported that a buried debris layer containing black ash, of unknown origin, is present at some locations within the site. A SI and an RI were conducted and results indicated elevated levels of VOCs, PAHs, TPH, dioxins/furans, and metals present in subsurface soil. Elevated levels of TPH and dissolved metals are present in GW.	2012 ROD, LUC Inspections, and 5-year reviews.	Conduct LUC inspection and draft annual inspection report (Fall 2024).
Stripper Pit # 43	Stripper Pit #43 is located northeast of the Air Mobility Command Passenger Terminal. COCs include LNAPL, PAHs, VOCs, TPH-gasoline range organics, and TPH-diesel range organics.	EHMP finalized July 2018. Site has LUCs with LTM for soil gas.	Annual monitoring and inspection reports.

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Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
JOINT BASE PEARL HARBOR-HICKAM (SHIPYARD)			
Bldg. 394	Open air Pearl Harbor Naval Shipyard (PHNSY) facility used for lead/sulfuric acid battery maintenance from 1960 to 1991. Concerns are lead and antimony soil impacts from spent battery acid and lead residue discharged to an unlined settling pit and runoff to two onsite dry wells.	The site was addressed by a non-time-critical removal action (NTCRA) asphalt/concrete cover and LUCs as recommended in the final RI/feasibility study (FS) and documented in the final AM. The cover was completed and accepted in August 2014. Action documented in a final RVR submitted in April 2015; proposed plan (PP) (July 2015). Discussions with regulatory agencies regarding lead calculations to include in the ROD are in progress. Additional lead sampling will be conducted to evaluate LUC boundary.	Fieldwork (Spring 2025).

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
Bldg. 8 Site	Subsurface fuel plume from unknown source, but most likely an accumulation of historical spills from fuel pipelines and ASTs and USTs in the area. The plume is approximately 33 acres in size and portions of the plume contain polychlorinated biphenyls (PCBs) at levels up to almost 10 parts per million.	A product recovery system was installed in the late 90s that recovered ~40K gallons, but the system has become obsolete and hasn't been operational since 2018. There is quarterly well gauging performed to ensure the plume does not migrate to the harbor. The plume was originally thought to contain only low levels of PCBs (<2 parts per million), but recent sampling has found higher levels. The site is now managed as a CERCLA site (vs. petroleum-only) and is on the National Priorities List (NPL). The United States Environmental Protection Agency (EPA) is requesting that the United States Department of the Navy (Navy) determine if the PCBs could possibly be contributing to the harbor sediment PCB contamination.	An RI was completed in January 2022 and an FS is underway. The draft FS has been completed and is currently in review. Well gauging occurs on a quarterly basis and results are documented in a quarterly report.

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
Transportation Yard – PHNSY General Services Administration (GSA)	Former Shipyard Lower Tank Farm Area. Currently used for heavy service vehicle storage and maintenance and large equipment staging.	Regulatory agencies concur with recommended alternative of LUCs documented in Final RI/FS. Final PP submitted in June 2015 and concurred with by regulatory agencies. Discussions with regulatory agencies regarding lead calculations to include in Final ROD are in progress.	Final ROD (2025).
Bldg. 6	The Foundry Shop is located in Building 6, within the Controlled Industrial Area, approximately 1000 feet from Pearl Harbor. Contaminated soils were discovered during excavation work for installing new equipment. This site consists of two areas, an excavated area approximately 2100 square feet located inside Building 6, and a sparsely vegetated area approximately 200 square feet immediately adjacent to the Foundry Shop. The excavated area within the building once contained a furnace. This area also contained molding sands used for metal casting. The Shipyard collected samples and analyzed the soil and sand, and lead was found. Since the initial investigation was performed the foundry has been shut down and will no longer be used.	ROD signed in June 2012. Remedial action work plan (RAWP) prepared in March 2013. Controls include land use restrictions and notices placed around the perimeter of the site.	Annual LUC inspection reports.
Oscar 2 Pier	Subsurface fuel plume from former USTs used to fuel power plant. Fuel has been leaking into the harbor since the 1970s. A barrier wall installed in 1998 has not stopped the leaking.	Site is managed under an EHMP completed in November 2019. The site is managed by maintaining booms and absorbent material to contain the leakage, which is slow but continual.	Quarterly well gauging along with boom/pompom maintenance and extraction from collection sumps if buildup is sufficient is the selected alternative. SIs and observations are provided to Navy on a weekly basis.

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
LNAPL and PCBs on GW (Dry Docks)	Subsurface petroleum and PCB site that was discovered during a construction project near the Dry Docks.	An RI was completed in February 2022 to investigate the nature and extent of the petroleum non-aqueous-phase liquid within the site's subsurface. COPCs in soil and GW included metals, TPH, PCBs, and PAHs.The RI recommended further action to address non-aqueous-phase liquid at the site and identified the underground storm drain at the site a potential transport pathway for PCBs to Southeast Loch. A draft FS was completed in August 2022.	The upcoming deliverable is pending the determination for further evaluation.
Former PWC Industrial Wastewater Treatment Plant (IWTP)	The former IWTP site is located in the Shipyard Geographic Study Area. The southeastern portion of the former IWTP site is located within the administrative boundaries for the Lower Tank Farm, where the fuel plume with TPH, BTEX, and PAHs impacted the GW.	An RI was conducted in 2013 to investigate the potential impact of COPCs (VOCs, semivolatile organic compounds, metals, and PCBs) related to previous waste handling activities in soil, sediment, and GW. The RI recommended NFA at the site. PFAS investigation at the site started in 2018 and is on-going. In 2024, three nearby sites were added for PFAS investigation (Bldg. 1526, Bldg. 1665, and the former PHNSY firefighting training area).	Draft RI addendum work plan (2024).

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
Bldg. 67	System constructed about 1915 and was designed to manage surface water runoff. Past practices included disposal of liquid industrial waste into the storm drains, potential contaminants include semivolatile organic compounds, PCBs, metals, pesticides, and PFAS.	PFAS RI draft work plan in progress.	Draft RI work plan (2025).
Drain lines – various areas at PHNSY GSA	Storm drain inlets at 17 facility sites within PHNSY GSA identified as potential release sources to the storm drain system. COPCs which exceeded project action levels (PALs) include TPH, metals, and VOCs. Impacted media include surface soil, subsurface soil, GW, soil gas, and sediment (in storm drains). The Navy completed a NTCRA of sediment from various storm drain inlets in 2015, and a draft final FS in 2018 . As of June 2024, the site is pending further investigation on the extent of subsurface soil and GW contamination at or in the vicinity of these storm drain sites.	A technical memorandum was completed in 2022 to identify further investigation needed at various drain sites. A draft RI addendum work plan was completed in January 2023 for further investigation at select storm drain sites.	Draft final RI addendum work plan (2025).
Shoreline Asbestos Site Northwest of Dry Dock	Flat narrow piece of land approximately 800 feet (ft) long and 8 ft wide located along the shoreline in Controlled Industrial Area of the PHNSY and Intermediate Maintenance Facility. In 2000 time-critical removal action completed to remove asbestos contaminated soil to <1%.	ROD signed in Jul 2010. Remedial action to install signs and concrete cover over exposed soil completed in Oct 2011. Remedial action completion report (RACR) signed in Jul 2012, regulatory concurrence received in August 2012. LUCs and 5-year reviews required.	Annual LUC inspections.

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
Shipyard Petroleum	There are several potential sources of fuel releases in the Shipyard GSA: the Lower Tank Farm, pipeline corridors, and USTs. Two removal actions have been implemented in the Shipyard GSA, specifically at Bldg 8 (Naval Shipyard Site 37) and Oscar 2 Pier (Naval Shipyard Site 46), to address fuel releases that were visually migrating into Pearl Harbor.	Site is currently managed under the 2010 EHE/EHMP which recommends establishing an administrative boundary to prevent or limit exposure to site users. NFA with ICs recommended.	No upcoming deliverables.

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
Area North of Bldg. 1754, Shipyard GSA	GW contamination identified during previous investigations for UST NS-4, which was removed in 1991. COPCs include chlorinated VOCs and PAHs.	Regulatory agencies concur with recommended NFA in August 2016. Formal concurrence letter received in September 2017.	Monitoring well abandonment activities (2019).
JOINT BASE PEARL HARBOR-HICKAM (HALAWA-MAIN GATE)			
Remedial Action Area (RAA) 11, 12, 13 – Halawa main gate GSA, FISC area	The site is composed of RAAs 11, 12, and 13. RAA-11/13 are composed of a monitoring well at each location. Vinyl chloride was found in the GW at elevated concentrations. At RAA-12 TCE has been found in GW with potential vapor intrusion issues at 4 buildings.	The RAA-11/13 NFA ROD was completed in 2013. The RI/FS fieldwork for RAA-12 was completed in 2014. Preparation of a PP is pending Department of Defense (DoD) accepted screening levels which are compatible with the industrial/commercial use of the site. Interim VI monitoring at Bldg. 444, 416, 451K, and 1682 and GW monitoring at the site continues in order to verify that the site is safe for the current use.	Plans are to continue VI monitoring at Bldg. 444, 416, 451K, and 1682 and to continue to sample select GW wells to verify the GW plume is stable. The RAA-12 PP anticipated to incorporate upcoming DoD action level for indoor air.
Bldg. 1554, 1613 & 1721	In December 2019, aqueous film-forming foam (AFFF)-impacted water was released within Bldg. 1721 and flowed to the exterior area. In September 2020, approximately 5,000 gallons of AFFF impacted water was released and contained within an underground pump house due to an inadvertent trigger of the fire suppression system.	PFAS RI draft work plan in progress.	Draft RI work plan (2025).

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
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Drainlines – various areas at Halawa Main Gate GSA	Storm drain sites at five facility sites located within the Halawa Main Gate GSA identified as potential release sources to the storm drain system. COPCs which exceeded PALs include PCBs, TPH, PAHs, metals, and dimethylphathalate. Impacted media includes surface soil, subsurface soil, GW, and sediment (in storm drains). The Navy completed a NTCRA of sediment from various storm drain catch basins and clean sections of drain pipes in 2015. A final RI/FS of four storm drain sites was completed in 2019. As of June 2024, the site is pending further investigation on the extent of subsurface soil and GW contamination at or in the vicinity of these storm drain sites.	A technical memorandum was completed in 2022 to identify further investigation needed at various drain sites. A draft RI addendum work plan was completed in January 2023 for further investigation at select storm drain sites.	Draft final RI addendum work plan (2025).
Various Pearl Harbor Naval Complex (PHNC) Transformer sites: Ford Island, Waipio Peninsula, Halawa Main Gate	Transformer site with LUCs. ROD signed in 2010.	Annual inspections and 5-year reviews.	PHNC NPL 3rd five-year review report (Fall 2024).
Subsurface Fuel Sites	The site consists of several subsurface fuel plumes in the Halawa Main Gate area and the NAVSUP Fleet Logistics Center. The sites are divided into 10 RAAs. The plumes are being monitored and all plumes are currently stable. The fuel release in 2020 at Hotel Pier (RAA-1) is apparently not related to historical contamination.	The site is in long-term management phase. The EHE/management plan was updated in March 2014 to include information from the 2007 release. Each RAA has an agreement memorandum signed by DOH. All 10 RAAs have ICs in-place to deal with future projects. RAAs 1-4 have LTM requirements.	Monitoring reports for RAAs 1-4 are generated annually, semiannually, or on a 5-year basis depending on the site and the results from the monitoring efforts.

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
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Bldg. 644, Halawa Main Gate GSA	Former foundry building near Magazine Loch. The interior of building is mostly paved with asphalt or concrete, but contains two earthen areas covered with steel plates.	Final SI report completed in October 2011. NFA recommended under CERCLA. Petroleum contamination in subsurface managed as part of subsurface fuel sites.	None.
JOINT BASE PEARL HARBOR-HICKAM (PEARL CITY PENINSULA)			
Landfill, Waiawa Unit, and Burn Area Site	Pearl City Peninsula Landfill IR site includes a 67 acre landfill and a 25 acre wildlife refuge. The Burn Area Site encompasses approximately 100 acres. Landfill and Burn Area Site separated by Waiawa Stream. A portion of the landfill area extends onto approximately 4 acres of City and County of Honolulu property. Sites located on northwest side of peninsula. COPCs include metals, pesticides, herbicides, PCBs, petroleum, VOCs, PAHs, and dioxins.	Final Phase II RI Report completed in October 2012. Draft FS prepared in August 2013, and currently undergoing review; potential for part of the investigated site to be addressed under a separate environmental program. Additional soil sampling occurred in Summer 2019.	Draft FS work plan (Winter 2024).
FISC Fuel Annex	The Pearl City Fuel Annex is a 16.7-acre site on the Pearl City Peninsula (Pearl Harbor, Oahu, HI) that was used to receive, store, issue, and inventory bulk fuels. Potential sources of contamination include: product releases, the sandblasting and painting of above-ground storage tanks and associated pipelines, and past tank and sludge and condensate disposal practices. COPCs include arsenic, lead and antimony, PCBs, TPH, BTEX, PAHs, PFAS in soil and metals, TPH, BTEX, PAH, and PFAS in GW.	Additional RI addendum fieldwork to be started in Winter 2024.	Draft additional RI addendum work plan (2024).

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
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JOINT BASE PEARL HARBOR-HICKAM (FORD ISLAND)			
Ford Island Landfill	4.5 acre landfill located on west end of Ford Island. Landfill was used from 1930's to 1960's to dispose of waste from maintenance activities on Ford Island. Removal action to construct vegetated cap completed in 1997.	ROD signed in September 2011. LUCs, long-term maintenance and 5-year reviews required. RAWP completed May 2012. LTM plan completed and LUC signs installed in July 2013. Final RACR completed July 2016.	Annual LTM reports, annual inspections, and PHNC NPL 3rd five-year review report (Fall 2024).
Various PHNC Transformer sites: Ford Island, Waipio Peninsula, Halawa Main Gate	Transformer site with LUCs. ROD signed in 2010.	Annual inspections and 5-year reviews.	PHNC NPL 3rd five-year review report (Fall 2024).
Former Bldgs. 80 & 302	Former garage and grease ramp located on south end of Ford Island. Prior investigations found elevated concentrations of metals in soil. 2006 removal action performed to consolidate contaminated soil beneath asphalt and vegetated cover.	LUCs, long-term maintenance, and five-year reviews required. LTM plan completed and LUC signs installed in July 2013; Final RACR completed June 2016.	Annual LTM reports, annual inspections, PHNC NPL 3rd five-year review report (Fall 2024).
Bldg. 284	Bldg. 284 is a former engine test cell facility located on southwest corner of Ford Island. Prior investigations found elevated concentrations of metals in soil. 2006 removal action performed to construct vegetated cover.	LUCs, long-term maintenance and 5-year reviews required. LTM plan completed and LUC signs installed in July 2013; Final RACR completed June 2016.	Annual LTM reports, annual inspections, PHNC NPL 3rd Five Year Review Report (Fall 2024).

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
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JOINT BASE PEARL HARBOR-HICKAM (KALAELOA)			
Former Naval Air Station (NAS) Barbers Point Sanitary Landfill (SLF)	The former Barbers Point SLF is located at Former NAS Barbers Point, JBPHH, Kalaeloa, Oahu, Hawaii. The site is within a portion of the Naval Facilities Engineering Systems Command (NAVFAC) Hawaii Biosolids Treatment Facility, formerly referred to as the Solid Waste Management Facility, used by NAVFAC Hawaii for green waste composting operations or for storage and processing of biosolids and compost. The SLF waste limits encompass approximately 5 acres in an excavated coral pit. Historically, solid wastes including construction debris, municipal waste, pesticide containers, pesticide rinsates, rags contaminated with solvents and oils, and asbestos-containing materials were disposed of at the former Barbers Point SLF. The landfill is no longer in operation.	Final decision document (DD) (2021) selected remedy for impermeable landfill cover and LUCs.	Final design and work plan (August 2024). Landfill cover construction completed August 2024.
Coral Pit 1	Coral Pit 1 occupies 2 acres. It was excavated from 1960 to mid 1970s for fill material used in construction projects. It was then used from the mid-1970s through the early 1980s as an active disposal area for construction debris and vegetative waste. COPCs include metals, PCBs and PAHs in soil.	Annual LTM Inspections and five-year reviews required.	Annual LTM inspections and reports.
Coral Pit 2	Coral Pit 2 occupies 13 acres. It was excavated from 1940s to 1960s. It was then used for disposal of construction and demolition debris. It was also used as a stormwater collection area for runoff generated from the residential developments north of former NAS Barbers Point. The land is currently not being used. COPCs are: metals and PAHs in soil.	Annual LTM Inspections and five-year reviews required.	Annual LTM inspections and reports.

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
Consolidation Unit (CU)	The CU overlies the "Monofill" (existing special waste landfill containing contaminated soil, debris, and investigation-derived waste from multiple cleanup sites at the former NAS Barbers Point) at the NAVFAC Hawaii Biosolids Treatment Facility located in the southwestern portion of the former Naval Air Station Barbers Point bounded by the SLF to the southwest. The CU was constructed over the entire 5.2-acre footprint of the Monofill site and resembles an oval-shaped, grass-covered, flat-topped hill with sloping sides. The CU includes methane gas vents, monitoring wells, access roads, fencing, and stormwater drainage structures (swales and infiltration pond).	LUC Inspections, monitoring, and 5-year reviews.	Draft LTM plan (January 2025).
Barbers Point IR Transformer sites	Transformer site with LUCs. ROD signed in 1999.	Annual inspections and 5-year reviews.	JBPHH non-NPL five-year review report (Summer/Fall 2024).
JOINT BASE PEARL HARBOR-HICKAM (WEST LOCH)			
Former Burn Pit	The Former West Loch Burn Pit is approximately 0.4-acre site located about 400 feet west of Bldg. 484. The site was identified on archival maps, but information on types of items disposed of at the site during its use was not available. Known ordnance was burned at NMC EAD DET PH Lualualei Annex Burn Pit sites and it was initially considered that similar burning occurred at this site. There are no records of any munitions and explosives of concern and/or material potentially presenting an explosive hazard burned/buried/disposed or otherwise encountered at this site. The preliminary assessment (PA) and SI recommended further investigation to determine nature and extent of soil contamination.	Final RI work plan (July 2015). Step-out fieldwork continued through 2022. Draft RI (June 2017).	Draft RI report addendum (Summer 2024).

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
Electrical Component Disposal Area	The site is 0.3 acres in the West Loch and was historically used for disposal of miscellaneous materials including electrical components, munitions debris, and metal debris. In 2004, an SI was conducted to evaluate COPCs associated with electrical component and other debris disposal at the site. A practice bomb containing a phosphorus charge was discovered on the surface of a debris stockpile of electrical components during the 2004 SI and further evaluation was recommended. During a PA in 2007/2009, the practice bomb was confirmed by Navy explosive ordnance disposal and the site was transferred from Installation Restoration Program to the Munitions Response Program. Additional munitions debris was discovered during the PA and surface removal was recommended. In 2011 a munitions response program SI was conducted and 822 pounds of munitions debris and 4,000 of scrap metal were recovered. Ongoing RI/FS to delineate the extent of PCBs, metals, and explosives in soils with UXO avoidance during field sampling activities.	Final RI work plan (December 2013). Initial fieldwork started March 2015 and step-out sampling continued through 2021. Draft RI report (2021).	Draft Final RI report (2025).

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
4th St Coral Pit Landfill	Located at West Loch Branch between 4th St. and the old railway tracks. Approximately 1,000 ft in length with a maximum width of about 250 ft. Ground surface elevations range from approximately 15–25 ft above mean sea level. In 1930s, the landfill was excavated as a source of coral for use as road construction materials. During World War II, the coral pit was used as a waste disposal site for solvent cans, paint sludges, paint cans, empty transformers, acid-filled automobile batteries, and dunnage. In mid-1970s, the landfill was covered with coral rock by the Army Corps of Engineers to preclude further disposal of potentially hazardous materials. The landfill cover consists of graded coral rock which is presently 3-5 ft below the surrounding grade. Scrap metal disposal was permitted at the site later and unauthorized disposal continued.	Annual LUC inspections.	Annual LUC inspections.
West Loch Fuel Waste Storage Area	The West Loch Fuel Waste Storage Area is situated on the south side of 7th Street (at Bldg. 554). From the early 1970s to 1981, solid waste containing fuel designated for incineration was stored in this area to the east of the former incinerator unit (Building 484). Cyanide was detected above a screening criterion (California-designated maximum concentration of 1 milligram per kilogram cyanide in soil to protect marine waters) in a subsurface soil sample. Propylene glycol dinitrate was detected in the GW from one monitoring well.	Fieldwork completed in September 2012. Second round of GW sampling not conducted due to soil and 1st round GW sample results. Final RI report (November 2013). PP (June 2014). Final ROD signed (September 2016). Site closed out.	None.

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
Fuel Storage Facilities AST	The West Loch Fuel Storage Facilities area is comprised of two abandoned ASTs and distribution pipelines: AST at Bravo Road and G Avenue and the Abandoned Diesel Oil Distribution System AST. An SI was completed in June 2004. Only the surface soil samples along the pipeline extending westward from the AST, exhibited exceedances of benzo(a)pyrene. TPH (diesel range organics and motor oil range organics) and benzo(a)pyrene were detected above the screening criterion in the surface soil samples along the Abandoned Diesel Oil Distribution System AST.	Fieldwork was conducted in January 2012 and results for surface and subsurface soils were below the PALs. GW was not sampled since results of soil samples were below the PALs. Final RI report completed in April 2013. Obtained DOH concurrence letter for NFA in August 2013. Site closed out.	None.
JOINT BASE PEARL HARBOR-HICKAM (WAIPIO PENINSULA)			
Oahu Sugar Company Herbicide/ Fertilizer Mixing Area	The project site is a former pesticide mixing plant on Waipio Peninsula, that was operated by the former Oahu Sugar Company. Prior to 2022, investigations for the land areas were performed by others, and the Navy performed investigations for marine sediment adjacent to the site in Walker Bay. In 2022, legal issues with the successor to the Former OSC were settled and the Navy became the lead for all CERCLA investigations/actions for the site, including the land areas. An RI is planned to evaluate the extent of contamination for both land and marine sediment.	The Navy prepared a final RI work plan for sediment in Walker Bay in February 2019 and fieldwork was completed in June 2019. A draft RI/FS for sediment was prepared in January 2021. Based on resolution of legal issues in 2022, the Navy will take the lead on completing the RI for the entire site. This effort will require an evaluation of historical data collected by others and preparation of RI planning documents.	Draft RI work plan for land area (Spring 2025).

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
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Confined Disposal Area (CDA)	The CDA is located on the South end of Waipio Peninsula. During construction of a project in January 2001, abandoned metal pallets were discovered and the soils in the area were observed to contain metal and paint debris. Four surface soil samples were collected and the analytical results indicated concentrations of metals above the screening criterion in the surface soil samples.	Draft removal verification report (RVR) completed in November 2021. Currently addressing regulatory agency comments.	Final RVR (2025).
Waipahu Ash Landfill (WALF)	The WALF is located on the Waipio Peninsula and covers approximately 41 acres. It is located at the end of Waipahu Depot Street, opposite the former City and County of Honolulu Waipahu Incinerator. The southern two-thirds of the WALF is situated on the real property of the PHNC. The City and County of Honolulu operated the WALF as a modified area fill from the early 1960's until November 1991. The WALF was used for disposal of municipal solid waste until approximately 1972, after which it was used exclusively for the disposal of municipal waste combustion from the City and County of Honolulu's Waipahu Incinerator. The WALF was closed in 1991. A memorandum of understanding and administrative order on consent (AOC) was signed by Navy, DOH, EPA, and City under which City and County of Honolulu will conduct a CERCLA RI/FS action as responsible party. The announcement of the signed memorandum of understanding was published in the Federal Register in April 2014.	The City completed the second phase of the RI field investigation in May 2021. Results from the second phase are currently being evaluated and additional sampling is to be determined.	Final RI report (2025).

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
Sandblast Grit	The site consists of two non-continuous sandblast grit disposal locations along the Middle Loch shoreline; one is located off the Waipio Peninsula Access Road (middle of peninsula), and the other is at the southern portion of the peninsula near the Confined Disposal Facility (CDF). The origin of the sandblast grit is unknown, but the Waipio Peninsula was used during World War II as an operating base. Following the discovery and preliminary sample of the sandblast material in 2010, a Visual Site Inspection in 2011 was performed to delineate the visible extent due to exceedances of arsenic and lead. A Time-Critical Removal Action (TCRA) was completed in 2012 to remove the visible sandblast grit (a total of approximately 60 tons between the 2 areas). Confirmation sampling from the excavation areas concluded that delineation in the subsurface was required. There is an ongoing Remediation Investigation (RI) at the site to delineate the sandblast grit and perform a human health and ecological risk assessment.	A time-critical removal action was completed in May 2012. Final RVR (December 2012). Final RI work plan (April 2014). Draft RI report (June 2015). Step-out sampling was determined necessary to find the nature and extent of contamination. Fieldwork continued through 2022.	Draft Work Plan Addendum for RI (February 2025). Fieldwork anticipated April 2024). Biological monitoring began in December 2024.
Various PHNC Transformer sites: Ford Island, Waipio Peninsula, Halawa Main Gate	Transformer site with LUCs. ROD signed in 2010.	Annual inspections and five-year reviews	PHNC NPL 3rd five-year review report (Fall 2024).

Project Status Update Table			
Summary of Active Projects and Upcoming Documents/Events			
Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board			
December 11, 2024			
Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
JOINT BASE PEARL HARBOR-HICKAM (RICHARDSON FIELD AREA)			
Former Fleet Training Group Fire Fighting Training Area	Former fire-fighting training area (1940's to 1976) located at Richardson/Marina Park. Sampling was conducted as part of an installation-wide SI in 2022 and GW and soil were found above screening levels. In May 2019 a separate PFAS release occurred when AFFF was used during the emergency response for a barge fire at a nearby location. An RI is planned to evaluate the former fire fighting training area and the barge fire area.	PFAS RI planning efforts initiated in Summer 2024.	Draft RI work plan (Fall 2025).
Inactive Petroleum Pipelines at Halawa Landing	Site is located in an asphalt paved parking area southeast of the U.S.S. Bowfin Museum. Inactive 8-inch and 16-inch fuel oil pipelines were cleaned and closed in-place in 2004, as part of a removal action. Petroleum contamination was identified in soil at Access Pit #5 during the removal action. Contamination was confirmed with additional sampling in 2006.	NFA with ICs	None.

Project Status Update Table			
Summary of Active Projects and Upcoming Documents/Events			
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JOINT BASE PEARL HARBOR-HICKAM (NAVFAC HAWAII COMPOUND)			
Bldg. X-24 at NAVFAC HI Compound	Bldg. X-24 is a Quonset hut that was used for storage. A small tar spill was observed outside the building.	Small tar spill (de minimis release) housekeeping action completed. Lead and arsenic above screening levels remain. Final SI report (May 2019), followed by final RI report (April 2021). Lead-based paint flaking off of the building prevents an NFA determination. Currently working towards funding abatement.	Draft FS report (2026).
Makalapa Pesticide Rinsate Pit	Site is located near the Namur Road gate on the NAVFAC HI compound. Pesticide equipment was rinsed and the rinse water was released into the two unlined pits.	Final explanation of significant differences signed by both EPA and DOH (February 2016). Final RVR/RACR submitted to EPA and DOH. EPA's NFA letter received August 29, 2016. Site has been closed out.	None.

Project Status Update Table			
Summary of Active Projects and Upcoming Documents/Events			
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Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
JOINT BASE PEARL HARBOR-HICKAM (MAKALAPA CRATER AREA)			
Makalapa Crater Early Disposal Area, Former Pesticide Rinsate Area, Landfill Area, and Clean Fill Area	Site includes 4 AOCs: (1) an Early Disposal Area used to dispose of dredge spoils from the 1930's to 1940's and underlies other 3 AOCs; (2) a Former Pesticide Rinsate Area used for pesticide/herbicide container rinsate disposal from 1950's to 1974; (3) a Landfill Area used for general disposal in 1950's; and (4) a Clean Fill Area comprising five acres where private contractors disposed of construction debris in the mid 1970's. COPCs include munitions constituents, metals, pesticides, herbicides, PCBs, petroleum, VOCs, PAHs, and dioxins	RI field work completed in May 2013. Additional step-out soil gas samples collected in January 2015. Final RI completed November 2016. RI Addendum sampling was performed in 2020 to delineate contamination on northeast side of site. The Draft RI addendum report was completed in December 2020. Currently evaluating if additional sampling or site characterization is needed.	Draft final RI addendum (Spring 2025).
Time-Critical Removal Action for contaminated soil/debris at Radford High School	Subsurface soil contamination and debris encountered by State of Hawaii Department of Education during track renovation project in late 2013. Contamination associated with past disposal activities at a former salvage yard area on the northeast side of Makalapa Crater site. Time-critical removal action performed to remove contaminated soil stockpiles at Radford High School and address subsurface contamination to allow State of Hawaii Department of Education contractor to complete track renovation project and replace system on football field.	Navy has completed actions to over-excavate and cap areas of contaminated soil and debris. Navy completed final site restoration with placement of new sod on football field in April 2016.	None. Future environmental investigation of the former Navy property is being managed by the Army Corps of Engineers under the Formerly Used Defense Sites program.

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
FORMER WAIKELE BRANCH			
Burn Pit Site	The site is a former burn area for ordnance shipping materials and trash. Contaminated soil with lead and arsenic has been buried under a soil and vegetative cover.	Site has DD and LUCs in place. LTM was ongoing for SIs and maintenance of the soil and vegetative cover. In 2014, an FS was prepared to re-evaluate remedial alternatives to eliminate or reduce the risk posed to receptors by soil contamination. The remedial alternative to excavate, transport and dispose of material in a CERCLA-approved landfill was selected and would allow for unrestricted use of the site. An amended DD was completed in April 2015. Remedial action fieldwork began April 2015 and completed in February 2016. Final RVR completed in October 2016 and documented metal (lead and arsenic) concentrations met the clean-up goal. Final RACR completed in March 2019. NFA for site.	None.

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
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Bldg. 21	The former building was part of a transportation complex where vehicles were stored and maintained. POL associated waste was investigated.	Contaminated surface soils have been remediated. Contaminated GW for carbon tetrachloride is still a concern. DDs are in place and the site is in LTM. Annual GW sampling and LUC inspections are being done.	Annual LTM reports.
USTs 50/51	The site is the former automotive service station. Two leaking USTs (UST-50/51) were removed in 1993. Near surface POL contaminated soil has been removed and a SVE system used.	The SVE system has been removed with DOH concurrence. The site has received a conditional NFA from the DOH UST section.	None.
JOINT BASE PEARL HARBOR-HICKAM (VARIOUS AREAS)			
Pearl Harbor Sediments	Site extends within 5055 acres of the submerged lands of Pearl Harbor. Sediments have potential contamination from water and land-based Navy activities, past and present commercial and urban activities, current and past agricultural areas, and urban/industrial run-off. COCs include PCBs, and metals. Fish tissue samples indicate levels of PCBs in excess of the fish consumption-based screening criteria were present in the bottomfish in several areas within the harbor. A Department of Health Fish Advisory is in place for the entire estuary of Pearl Harbor. Approximately 92% of the harbor is safe for human health and the environment. Active remediation is required in 428 acres of submerged land. Remedies currently being implemented consist of monitored natural recovery, placement of activated carbon and sand, and dredging.	ROD signed on Sep 26, 2018. Basis of design finalized April 2019 and remedial design package finalized October 2019. RAWP and environmental monitoring and management plan finalized (September 2020). Amendments to the remedial action work plan and environmental monitoring and management plan (March 2022 and October 2023)	Final LTM work plan (Fall 2024) Final interim remedial action construction report (Fall 2024)

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
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Former Pearl City Junction	This site was used as a temporary storage area for miscellaneous DoD property from 1944 to 1984. From 1962 to 1984, an unpaved area at the site was reportedly used for storage of deteriorated and leaking materials, including transformers containing PCB-contaminated dielectric fluid. As the result of an SI conducted by the Navy in 1990, PCBs and the pesticide Dieldrin were identified as contaminants of concern in two different areas of the site.	Draft RAWP for LUCs is next, but issues concerning Navy access to non-Navy property have to be worked out.	Five-Year Review (2024). Final RAWP (TBD).
Various Transformer Sites, PHNC NPL	61 transformer sites with potential PCB contamination in soil and/or concrete. Sites located throughout areas of JBPHH. Sites investigated based on historical maintenance practice of discharging PCB-containing dielectric fluid to the ground.	Final RI report completed Nov 2016. RI Addendum planned for delineation sampling. Draft RI Addendum WP completed April 2018.	Draft Final RI Addendum Work Plan (Summer 2025).
Various Areas of Interest (AOIs) for PFAS (PHNC NPL)	A SI to evaluate potential historical releases of AFFF at various NPL areas at JBPHH. SI sampling includes collection of soil and GW samples at locations with a known or likely past release of AFFF.	Draft SI Plan was completed in Oct 2019. The AOIs planned for SI sampling was updated in a Revised Draft SI Work Plan completed in May 2021. Field work completed in 2022, and Draft SI reports prepared in Nov 2023.	Errata package (Winter 2024).
Various AOIs for PFAS (Non-NPL)	A SI to evaluate potential historical releases of AFFF at various non-NPL areas at JBPHH. SI sampling includes collection of soil and GW samples at locations with a known or likely past release of AFFF.	Draft SI Plan was completed in Oct 2019. The AOIs planned for SI sampling was updated in a Revised Draft SI Work Plan completed in May 2021. Field work completed in 2022, and Draft SI reports prepared in Nov 2023.	Errata package (Winter 2024).

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
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Various NPL Fire Stations (Ford Island, West Loch, Main Base)	Sampling was conducted as part of an installation-wide SI in 2022 and soil and GW were found above screening levels. A RI is planned to evaluate PFAS.	Plan to initiate PFAS RI in 2025.	Plan to initiate PFAS RI in 2025.
Underwater Munitions Site in the Pearl Harbor Navy Defensive Sea Area (NDSA)	In the early 20th century, the United States Army built batteries to protect the shores of Oahu. Historical records indicate as part of training, ordnance was fired from these positions into the Pearl Harbor NDSA. The Pearl Harbor NDSA is situated off Iroquois Point, Oahu, Hawaii and occupies an approximate area of 2,741 acres, including the submerged LUC site of approximately 1,933 acres.	Completed Final RI/FS (July 2015) and PP (November 2017) and DD (Nov 2019). Began installation of LUCs (2023).	LUC signage installation complete (September 2024), Final LUC WP (2025), Draft RACR (2025).
Various Sites in PHNC NPL Site	A CERCLA Five-Year review conducted for the PHNC NPL site. The Five-Year Review evaluated sites with LUCs to verify that current site conditions (soil/vegetated covers, asphalt/concrete caps, etc.) remain protective of human health and the environment.	Second Five-Year Review completed in Sep 2019.	PHNC NPL 3rd Five Year Review Report (Final anticipated in 2025).
Various Non-NPL Sites in JBPHH	A CERCLA Five-Year review conducted for Non-NPL sites. The Five-Year Review evaluated sites with LUCs to verify that current site conditions (soil/vegetated covers, asphalt/concrete caps, etc.) remain protective of human health and the environment.	Third Five-Year Review currently being finalized.	JBPHH Non-NPL Five Year Review Reports (Fall/Winter 2024).
OTHER OR OUTLYING AREAS			
Bldg. 612, Camp Smith	Bldg. 612 is located at Camp H.M. Smith. AFFF is stored on two fire trucks and AFFF is re-filled at this fire station. A reserve of AFFF was also previously stored at the fire station.	PFAS RI initiated in 2023.	Draft PFAS RI WP (December 2024).

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
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Former Bazooka Practice Range	The Bazooka Practice Area is located north of Baugh Road in the upland (mauka) portion of Camp H.M. Smith, a Marine Corps facility that occupies a total of 220 acres in the foothills of the Koolau Mountain Range on the island of Oahu, Hawaii. Camp H.M. Smith, located approximately 1.5 miles northeast of Pearl Harbor on a ridge known as Halawa Heights, is bounded to the northwest and southwest by residential housing areas. Land to the north and east consists of the steeper slopes of the Koolau Range, which includes a state park and forest reserve lands. The Bazooka Practice Area comprises a heavily vegetated area of approximately 11 acres with moderately steep terrain located north of the Smith Field Helipad in the northeastern portion of Camp H.M. Smith.	RI Fieldwork completed in Summer 2022.	Draft RI Report (December 2024).
Former Aiea Laundry	The Navy Exchange Service Center operated the Former Aiea Laundry Facility until 1998, when operations ceased and the buildings were demolished. Dry cleaning operations were conducted at the site from the early 1950s to mid-1970s using tetrachloroethene (PCE). Stoddard Solvent was then substituted as the primary dry cleaning solvent until 1994, when a self-contained PCE dry cleaning system was installed. PCE was found to have been released and has migrated off property.	The treatability study (TS) for soil vapor remediation is in-progress at the former Laundry Area and Backyard Area until the ROD is signed for the site. As part of the treatability study, the SVE system continues to operate for mitigation of subsurface vapor contamination. Routine vapor intrusion (air/vapor) and annual GW monitoring continues to be performed. Additional monitoring and investigation at the neighboring property continues.	A Draft PP is projected for Summer/Fall 2025, and a Draft ROD is projected for Winter 2026.

Project Status Update Table Summary of Active Projects and Upcoming Documents/Events Navy Environmental Restoration Program, Pearl Harbor-Hickam-Kalaeloa Restoration Advisory Board December 11, 2024			
Site Name (Green font = Final remedy is in-place**)**	**Site Description**	**Project Status**	**Upcoming Deliverables/Actions**
UST BP-1	The UST was first identified on a 1942 plan file drawing during a site summary evaluation and thought to have contained gasoline. Approximate location of the tank was discovered during 2008 renovation of Bldg 19. Investigation of the area detected lead in the soil and indicated 3 locations where the UST could have been based on the geophysical anomalies detected underground and lead contamination in the area. A dense debris layer was also found, which may have been contributed from the incinerator activities that occurred nearby in the 1930's.	RI (2015). FS (August 2016). PP (April 2017). Draft ROD (2018). Discussion with regulatory agencies regarding lead calculations is in progress.	Draft Final ROD (2027).
Former Oily Waste Disposal Facility (OWDF)	The Red Hill Former OWDF was constructed in the 1940s as a collection point for oily waste water generated by the cleaning of the Red Hill Bulk Fuel Storage Facility's 20, large-capacity USTs. Operations at the Former OWDF ceased in 1986. Environmental investigations at the Former OWDF began after an Initial Assessment in 1983. A two-phase RI and removal actions were conducted between 1991 and 2000. Following an additional soil investigation, a NFA determination was granted to the Former OWDF in 2005. After the NFA determination, all wells except one were subsequently abandoned. GW samples collected from the one remaining well between January 2010 and October 2015 reported presence of TPH at levels that exceeded regulatory criteria. These levels occurred both before and after a confirmed release of fuel from Red Hill Bulk Fuel Storage Facility's Tank No. 5 in 2014. The elevated levels of TPH prompted the Navy to proactively begin re-investigation of the Former OWDF in 2016 and initiate the Site Assessment that is currently underway. The Site Assessment Work Plan was approved and finalized in February 2021.	The Site Assessment is currently in-progress and in the data evaluation phase. Field work for the Site Assessment was completed, and status updates of activities and preliminary findings were provided to DOH and EPA in February 2024. The NFA determination for the site was subsequently rescinded by DOH in May 2024.	A Technical Memorandum is projected for Winter 2024, and the Draft Site Assessment Report is projected for Summer 2025.

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Red Hill PFAS Release	A documented release of 1,300 gallons of AFFF concentrate occurred at the Adit 6 location of Red Hill Bulk Storage Facility in November 2022. Spill response cleanup actions were performed to address concrete, asphalt, and soil impacted by the spill area, however additional long-term response actions are needed to evaluate impacts from PFAS as an emerging contaminant in soil and GW, as the site is located above a drinking water aquifer.	Spill response completed in January 2023.	Draft Work Plan (Summer 2024).

Joint Base Pearl Harbor-Hickam Administrative Record

- **Administrative Record (AR) is the official repository for environmental restoration cleanup sites**
- **AR files are available for the public to view documents at Navy and Marine Corps installations**
  - **Unless containing sensitive information: Personally Identifiable Information, National Security, etc.**

https://www.navfac.navy.mil/Divisions/Environmental/Products-and-Services/Environmental-Restoration/HAWAII/