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APPENDIX 21-B

ECOLOGICAL RISK ASSESSMENT SCOPING CHECKLIST

ECOLOGICAL RISK ASSESSMENT SCOPING CHECKLIST

The purpose of this *Ecological Risk Assessment (ERA) Scoping Checklist* is to determine whether the target site requires an ERA based on known or suspected release of chemicals in sensitive coastal/marine habitat. The *Checklist* is intended to guide the preparer to assemble available data on conditions at the site and identify complete and potentially significant ecological exposure pathways. It is important that the *Checklist* be completed early in the investigation process to ensure coordination with the HEER Office on the need for additional data collection to support an ERA. This *Checklist* cross-references the HEER Office Technical Guidance Manual (TGM) for specific information on sampling design and other general topics, as needed.

Instructions for Completing the *ERA Scoping Checklist*:

When completing the *ERA Scoping Checklist*, all available relevant information/analytical data on known or suspected chemical releases to soil, groundwater, surface water, or sediment should be considered. Refer to the HEER Office TGM, particularly Section 21.0 (ERA Guidance), for information on sediment quality guidelines (SQG) and other screening levels, bioaccumulative chemicals, conceptual site models (CSM), typical habitats, and other components of this *Checklist*. Submit the completed *ERA Scoping Checklist* to the HEER Office for review. Note that the preparer is responsible for providing complete information to support the Checklist, including associated data tables, and must advise the HEER Office of any new data or information that becomes available during the review process that could alter the findings or conclusions of the *ERA Scoping Checklist*.

***Ecological Risk Assessment Scoping Checklist* (Coastal and Marine Sites)**

1. Site Name:

2. Location (County, City or Lat/Long):

3. Describe site history: List past uses, any known or suspected releases, visible signs of contamination, or other evidence that the site may be contaminated. Include any onshore area considered a source to the coastal/ marine site.

Note: Attach applicable site maps and photographs; a topographical map; a diagram of any adjacent on-shore facilities (if applicable) showing site boundaries and structures. Include a CSM identifying potential ecological receptors, release mechanisms, and exposure pathways. (See [TGM Subsection 21.3.3.5](#) [Step 1B, Task 5] for example CSMs.)

4. List previous studies/investigations conducted at the site and summarize their findings (add rows as needed):

Study/Investigation (Date)	Findings

5. Indicate the approximate size of the potentially affected area:

Acres:

Linear feet of shoreline:

Distance seaward from the shoreline:

6. Indicate whether the potentially affected area is in an erosional or depositional zone. Provide literature or site-specific data to support the designation. Data on coastal erosion and accretion (of

shorelines) is available at <http://pubs.usgs.gov/of/2011/1051/> (<http://pubs.usgs.gov/of/2011/1051/>), (Fletcher et al. 2012)

7. Indicate analytical data available at site:

Sediment: (No) (Yes) (Number of samples: _____)

Surface water: (No) (Yes) (Number of samples: _____)

Soil (source area): (No) (Yes) (Number of samples: _____)

Groundwater: (No) (Yes) (Number of samples: _____)

Sediment Pore Water: (No) (Yes) (Number of samples: _____)

Organisms/Tissue: (No) (Yes) (Number of samples: _____)

Briefly describe the available data for any “Yes” answer above. For example, include description of whether any sediment sample data represent MIS or discrete samples. Complete [Table 21-B-1](#) (attached; add rows as needed) and attach figures showing sample locations.

8. Complete Table 21B-2 (attached). In the notes section below the table, indicate the relative abundance of various habitat types, if known. Describe any potential offsite migration pathways.

9. Have the following site media been impacted or potentially impacted by site-related contamination?

Sediment:	No	Yes	If Yes, complete Table 21B-3 .
Surface water:	No	Yes	If Yes, complete Table 21B-4 .
Groundwater:	No	Yes	If Yes, complete Table 21B-4 .
Sediment Pore Water:	No	Yes	If Yes, complete Table 21B-4 .
Soil (source area):	No	Yes	Explain in notes below.
Tissue/Organisms:	No	Yes	Explain in notes below.

Provide notes below to identify any soil or tissue contamination:

10. Is any threatened, endangered or special status species known or suspected to occur at the site? (No) (Yes) (If yes, list below):

Scientific Name	Common Name	Hawaiian Name	Federal/State Status	Habitat

11. Check all of the statements below that are true at the site:

1. A known release of chemicals occurred at the site.
2. Signs of adverse effects are obvious at the site (diseased, deformed, dying, or dead organisms).
3. Bioaccumulating chemicals are present at the site.
4. Chemical concentrations at the site exceed screening levels and/or background concentrations.
5. Sensitive habitat (e.g. threatened or endangered species, spawning or nursery areas) occurs within or immediately adjacent to the site.

If any one of #1 through #4 are true, AND #5 is true, then the site is recommended for the ERA Program.

12. Recommendation

Is an ERA recommended for the site? No Yes

Please list any additional factors supporting this recommendation:

13. Preparer

Name:

Organization / Position or Role:

Address:

Email:

Phone:

Table 21B-1 – Potentially Site-Related Contaminants

Chemical Name	CAS No.	Bioaccumulative ¹		Potentially Affected Offshore Media		
		Yes	No	Sediment	Surface Water	Organisms

¹ See [Table 21-7](#) and [Appendix 21-E](#)

TABLE 21B-2 – Potential Contaminants in Marine Habitats

Habitat	Habitat	Presence of Site-Related Contamination	Source of Potential Contamination

	Present at Site									
	No	Yes	Documented	Suspected	Not Expected	Unknown	Direct Release	Migration from Soil	Migration from Groundwater	Other
Young Volcanic Substrate; Little Sediment										
Deep Channels										
Mixed Sediment Bays and Harbors										
Soft Sediment Bays										
Sandy Beach										
Anchialine Pools										
Stream-fed Estuarine Wetlands										
Coastal Fishponds										
Lagoon/Coastal Wetland										
Seagrass Beds										
Mangroves (Introduced)										
Mudflats										
Rocky Intertidal / Tidepools										
Subtidal Hardbottom										
Coral Reef										
Other:										
Other:										
Notes:										

Table 21B-3 – Initial Sediment Screening									
Chemical	Frequency of Detection	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detection ¹	Mean Concentration	Sediment Quality Guideline ¹		Maximum Hazard Quotient ²	Is Chemical Bioaccumulative ⁴
						Value	Source		Yes/No/ Basis ⁴

¹ Sediment Quality Guidelines (SQG) for selected chemicals are in [Table 21-7](#). For chemicals not listed in [Table 21-7](#), the preparer may recommend SQG from the literature and provide a source document.

² Hazard Quotient (HQ) = Maximum detected concentration / SQG

³ List of common bioaccumulative chemicals are in [Table 21-7](#).

⁴ Cite [Table 21-7](#) or other basis (e.g. log K_{ow}, tissue concentrations, other)

Table 21B-4 – Initial Surface Water, Groundwater, or Pore Water Screening									
Chemical	Frequency of Detection	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detection ¹	Mean Concentration	Water Quality Criterion ²		Maximum Hazard Quotient ³	Is Chemical Bioaccumulative ⁴
						Value	Source		Yes/No/ Basis ⁵

¹ For groundwater results, provide depth of well, if known.

² USEPA Water Quality Criteria (WQC) are available on-line at <http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm#altable>

³ Hazard Quotient (HQ) = Maximum detected concentration / WQC

⁴ List of common bioaccumulative chemicals are in [Table 21-6](#).

⁵ Cite [Table 21-7](#) or other basis (e.g. log K_{ow}, tissue concentrations, other)