

Future of Site Profiles NERRS Science Transfer Project

Updated Site Profile Outline

May 31, 2023

Site Profile Landing Page *Example contents:* Engaging photos, statement or story that emphasizes the ecological and cultural significance of the Reserve; watershed map layer, orientation to the site profile content and purpose, instructional video to help users effectively navigate GIS maps, clear links to numbered subheadings below.

1. **Reserve Introduction (Required)** *example contents:* Map of the Reserve boundaries, Habitat Map layers
 - a. **Administrative overview**
 - i. Mission, site description, lead agency info
 - ii. Description of the NERRS program and significance of this site in the system
 - iii. Research facilities, costs, access, process/procedures
 - iv. Management priorities for research, monitoring, stewardship, education
 - b. **Estuary overview**
 - i. Estuarine type (links to 3.d. Ecological Setting)
 - ii. Estuarine habitats (links to 3.c.i Biotic Habitats)
 - iii. Ecological significance
 - iv. Overview of human dimensions

2. **Community and Historical Ecology (Optional):** *example contents:* Slider bar of historic to modern photos or imagery or map layer of historic aerial photos from the Reserve.
 - a. **Historic impacts and restoration efforts**
 - i. History of land and water management
 - ii. Restoration and remediation efforts within the Reserve
 - iii. Land and water stewardship and conservation activities
 - b. **Reserve resilience**
 - i. Coastal adaptations and living shorelines, including map layer with descriptions
 - ii. Circular economies related to Reserve focus and mission
 - iii. Disaster preparedness

3. **Estuary Characterization (Required):** *example contents:* Featured map layer of entire estuary, including NERR boundaries
 - a. **Environmental setting**
 - i. Estuarine geomorphology (including soils and sedimentary processes)
 - ii. Climate and weather
 - iii. Hydrology and Oceanography (watershed and tidal conditions)
 - iv. Water quality
 - b. **Socio-ecological setting (Required):** *example contents:* featured map layers- demographics, estuary access, culturally significant sites that may be publicly shared
 - i. Demographics and population trends of Reserve connected communities
 - ii. Subsistence, commercial and recreational activities and related significant species, ecosystems and locations
 - iii. Culturally significant sites and human dimensions within the Reserve

- c. **Biological communities and biocultural indicators**
 - i. Biotic habitats
 - ii. Microbiological components
 - iii. Plankton
 - iv. Vegetation
 - v. Invertebrates
 - vi. Fish, reptiles, and amphibians
 - vii. Birds and mammals
 - d. **Ecological setting and conditions**
 - i. Origin and evolution of the estuary
 - ii. Influence of physical environment on the biota
 - iii. Biological productivity
 - iv. Community structure and processes
4. **Research and Monitoring Activities (Required)** *example contents: Map layer of SWMP and Sentinel site locations and link to CDMO or other data access sites*
- a. **Research and monitoring priorities (Required):** Becomes an annual upload of Davidson Fellowship priorities and Science Collaborative priorities, with space to add priorities as needed.
 - b. **Guidance for appropriate engagement with Reserve communities (Required):** See [Kūlana Noi'i](#) for an example of guidance to engage with communities.
 - c. **Research and monitoring activities**
 - d. **Publications and online bibliography (Optional)** References organized by each key topic area in sections 1, 2, 3 and 5. When possible, may link out to Zotero or Mendeley, to maintain a bibliography without copyright restrictions. Citations in the Site Profile may link to the bibliography.
5. **Understanding and responding to future threats (Optional)** focusing on “state of knowledge”, climate change impacts, and gaps where future research is needed. *Example contents:* map layer features priority Research focus areas and gaps that can be georeferenced.
- a. Ecological responses to and impacts of climate change
 - b. Social responses to and impacts of climate change
 - c. Biological invasions
 - d. Pollution, marine debris and emerging contaminants
6. **Learning Extensions for Educators and Coastal Professionals (Optional)**
- a. For K-12 Educators: highlighting content that supports place-based or online learning
 - b. For Students: guided learning quests about the local Reserve using Site Profile content
 - c. For coastal decision makers: socio-economic data connections, relevant map layers curated for CTP audiences

This site profile outline was revised through an evaluation process with National Estuarine Research Reserve and NOAA OCM staff in 2020-21. It was approved for use by NOAA NERRS leadership on November 30, 2021. This work was sponsored by the National Estuarine Research Reserve System Science Collaborative, which supports collaborative research that addresses coastal management problems important to the Reserves. It was developed by staff at the Lake Superior and He'eia NERRS.