

APPENDIX H
VESSEL MANAGEMENT PLAN



VESSEL MANAGEMENT PLAN PORT GAMBLE BAY AND MILL SITE

Prepared by

Anchor QEA, LLC

Prepared for

Pope Resources, LP/OPG Properties, LLC

May 2015

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Prepared by

Anchor QEA, LLC

720 Olive Way, Suite 1900

Seattle, Washington 98101

On Behalf of

Pope Resources, LP/OPG Properties, LLC

19950 7th Avenue NE, Suite 200

Poulsbo, Washington 98370

May 2015

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LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|---------|--|
| BMP | best management practice |
| Ecology | Washington State Department of Ecology |
| EMNR | Enhanced Monitoring Natural Recovery |
| NWP | Nationwide Permit |
| PR/OPG | Pope Resources, LP/OPG Properties, LLC |
| SMA | Sediment Management Area |
| USACE | U.S. Army Corps of Engineers |

1 INTRODUCTION

The Washington State Department of Ecology (Ecology) and Pope Resources, LP/OPG Properties, LLC (PR/OPG) have worked collaboratively for more than 10 years to accomplish hazardous substance and wood debris cleanup in Port Gamble Bay. The culmination of the in-water cleanup in Port Gamble Bay will be performed by PR/OPG under a Model Toxics Control Act Consent Decree, which is herein referred to as the project. Dredging, capping, removal of creosote-treated piles and remnant and creosote-treated structures, and other actions will be performed to accomplish the sediment cleanup.

Ecology and PR/OPG have been coordinating with tribes, including the Port Gamble S’Klallam Tribe, Suquamish Tribe, Skokomish Tribe, Lower Elwha Klallam Tribe, and Jamestown S’Klallam Tribe, to implement the terms of the Consent Decree. This Vessel Management Plan was developed in response to comments from the Port Gamble S’Klallam Tribe and Suquamish Tribe on the Consent Decree and discussions during two meetings held on July 1 and July 21, 2014, with the U.S. Army Corps of Engineers (USACE), Port Gamble S’Klallam Tribe, Suquamish Tribe, Jamestown S’Klallam Tribe, and Northwest Indian Fisheries Commission as part of the Nationwide Permit (NWP) 38 process (NWS-2013-1270). Input from these discussions was incorporated into the development of this Vessel Management Plan. Additionally, the draft Vessel Management Plan was submitted to the Port Gamble S’Klallam Tribe, Suquamish Tribe, Skokomish Tribe, Lower Elwha Klallam Tribe, and Jamestown S’Klallam Tribe for review on August 13, 2014, for a 30-day comment period. The only tribe that provided comments was the Port Gamble S’Klallam Tribe. Comments received from the Port Gamble S’Klallam Tribe related to vessel operations have been incorporated into this Vessel Management Plan.

The purpose of this Vessel Management Plan is to describe anticipated vessel operations necessary to complete the cleanup, including plans to avoid and minimize impacts to fish and shellfish harvesting. The plan also includes information regarding vessel operations, including types of vessels, access points, and vessel frequency. A map of Port Gamble Bay resources, as provided by the Port Gamble S’Klallam Tribe (PGST Natural Resources 2014), is included as Figure 1. Anticipated vessel use within the bay is shown on Figure 2.

This Vessel Management Plan is based on the remedial design team's best professional judgment regarding the types of equipment typically needed to complete this work, the sizes of marine construction equipment typically available in Puget Sound, production rates that have been achieved for similar projects, and a prospective construction sequence that could be used to conduct the cleanup activities. The actual type, size, and quantity of equipment, production rates, work schedules, and project sequence will be determined collaboratively with the contractor that will be selected to complete the work. Thus, some of the details provided in this Vessel Management Plan may be superseded following contractor procurement and initial construction project planning activities. Further, marine construction projects are subject to factors such as weather, tides, and other encumbering issues that are beyond the control of the contractor and which may necessitate some changes to planned contractor vessel movements even after initial project planning has been completed.

A separate Construction Outreach Plan was prepared to address coordination during construction with the U.S. Navy, U.S. Coast Guard, tribes, and other vessel owners throughout the bay including non-tribal fishermen and personal watercraft and kayak users (Anchor QEA 2015). Any updates to the information contained within this Vessel Management Plan that may occur once the contractor is selected and/or during construction will be communicated per the protocols outlined in the Construction Outreach Plan.

1.1 Project Activities Requiring Barges

Activities performed for the project that may require the use of barges within Port Gamble Bay include the following elements:

- Creosote-treated pile removal and removal of remnant and creosote-treated structures (Figures 3a and 3b)
- Subtidal dredging/excavation in Sediment Management Area (SMA)-1 and SMA-2 (Figure 4)
- Intertidal and/or subtidal capping in SMA-1 and SMA-2 and placement of eelgrass habitat bench material in SMA-2 (Figure 5a)
- Enhanced monitored natural recovery (EMNR) in parts of SMA-2 and in SMA-3 (Figures 5a and 5b)

Beneficial reuse of clean navigational dredged material is the preferred source of the cap material, using materials that will support healthy benthic, forage fish, and shellfish communities, including geoduck.

1.2 Schedule

The remediation schedule will be more fully defined after all permits are received and the remedial contractor is selected. Remedial construction is currently anticipated to start in summer 2015 and is anticipated to be completed within two construction seasons. Work will occur during approved in-water work windows. The selected contractor will refine the construction schedule, subject to Ecology approval.

2 VESSEL OPERATIONS PLAN

Derrick barges, material barges, tugboats, and support boats (work skiffs, survey boats, etc.) will be used during all construction seasons (July 2015 through January 2017) and are expected to be operating on site throughout the in-water work window (July 16 through January 14). Barges are not expected to be needed in the project area outside of the approved work window. Best management practices (BMPs) for barge use will be implemented during project construction as described in Section 3 of this Vessel Management Plan.

2.1 Vessels

Barges of various sizes will likely be necessary to complete project construction, as shown in Figure 6. The following types of barges are anticipated to be used: derrick barges (flat deck) and material barges (flat deck or bottom dump). Derrick barges, flat deck material barges, or bottom dump material barges are the largest vessels to be used for the project.

On average, at least three barges will be needed on site at any one time (i.e., one derrick barge and two material barges) to support construction activities. However, additional barge support may be needed during construction and could include additional material barges or support barges as deemed appropriate by the contractor.

To support material loading and offloading, a derrick barge will need to be anchored to the seafloor with spuds or anchors and will remain in place during active periods of material loading and unloading. Except in limited cases to facilitate construction activities within SMA-1 and SMA-2, anchoring will not occur within the documented geoduck tracts shown on Figure 2.

2.2 Barge Access Points and Moorage

A primary navigation lane is proposed within the bay for ingress and egress to construction areas (Figure 2). The limits of the navigation lane are consistent with the USACE federally-authorized navigation channel that provides access to Port Gamble Bay. Except as needed to access cleanup areas within and adjacent to SMA-1 and SMA-2, barge ingress into and egress out of the navigation lane would not occur between 7:00 AM and 3:00 PM Monday through Friday to avoid potential conflicts with geoduck harvesting in the bay. This timeframe may

need to be extended by the contractor to include additional hours, including weekends, if necessary, to complete construction per the project schedule. This information will be conveyed to interested parties per the protocols outlined in the Construction Communication Plan.

Barge moorage could be necessary in SMA-1, SMA-2, and south of SMA-2 (Figure 2). No mooring dolphins are anticipated to be necessary for this project.

Preliminary construction estimates show that anywhere from 375 to 1,225 barge trips may occur in Port Gamble Bay over the anticipated 2-year construction period (July 2015 through January 2017). Barges are moved by tug boats; therefore, tug boat traffic to and from the bay is expected to be equivalent to that of the barge trips. The derrick barges will not leave the project site as frequently as material barges, as they will remain in place during active periods of loading and unloading. See Table 1 for an estimate of barge use by construction activity.

Table 1
Preliminary Barge Estimates

| Construction Site Area | Activity | Total Vessels (Min) | Total Vessels (Max) |
|-------------------------------|---|----------------------------|----------------------------|
| SMA-1 through SMA-5 | Demolition | 65 | 100 |
| SMA-1 | Subtidal Dredging | 25 | 75 |
| SMA-1 | Capping | 45 | 200 |
| SMA-2 | Subtidal Dredging | 50 | 200 |
| SMA-2 | Capping and Eelgrass Habitat Bench Material | 120 | 400 |
| SMA-3 | EMNR Placement | 70 | 250 |
| Total | | 375 | 1,225 |

3 BEST MANAGEMENT PRACTICES

The following demolition and vessel management BMPs will be employed during construction of the project:

- Pile removal will be sequenced with follow-on dredging or capping actions to maximize control of removal residuals. Areas of moderate to extensive pile removal that are not capped or dredged will be covered with 6 inches of sand to control residuals.
- Piles will be removed in accordance with applicable BMPs and the practices identified in: 1) the state-wide Hydraulic Project Approval – Creosote Piling and Structural Removal (WDFW 2011); and 2) the Washington Department of Natural Resources Puget Sound Initiative – Derelict Creosote Piling Removal, BMPs for Pile Removal and Disposal (WDNR 2011).
- All creosote-treated materials will be disposed of in a landfill approved to accept these types of materials.
- A turbidity curtain will be moved as necessary to accommodate vessel operations during cleanup activities.
- Work will occur during the joint regulatory agency-approved in-water work windows for the project, with an additional project-specific constraint that limits subtidal dredging to November 1 to January 14 of each year for site-specific reasons.
- Turbidity and other water quality parameters will be monitored to ensure construction activities are in compliance with Washington State Surface Water Quality Standards (Washington Administrative Code 173-201A). Compliance with Washington State Surface Water Quality Standards will be required if protective measures are not used or if they are moved during cleanup activities.
- The contractor will be responsible for the preparation of a Spill, Prevention, Control, and Countermeasure Plan to be used for the duration of the project to safeguard against an unintentional release of fuel, lubricants, or hydraulic fluid from construction equipment.
- Excess or waste materials will not be disposed of or abandoned waterward of mean higher high water or allowed to enter waters of the State.

- The contractor will be required to retrieve any floating debris generated during construction using a skiff and a net. Debris will be disposed of at an appropriate upland facility.
- Through the implementation of project communication protocols, PR/OPG and its contractor will ensure that construction and vessel movement activities will be appropriately communicated to interested parties so that potential impacts to tribal fish and shellfish harvesting and tribal ceremonial events can be minimized or avoided. These protocols are further described in the Construction Outreach Plan (Anchor QEA 2015).

4 REFERENCES

Anchor QEA, LLC, 2015. *Construction Outreach Plan*. Port Gamble Bay Cleanup Project. Appendix G to the Engineering Design Report.

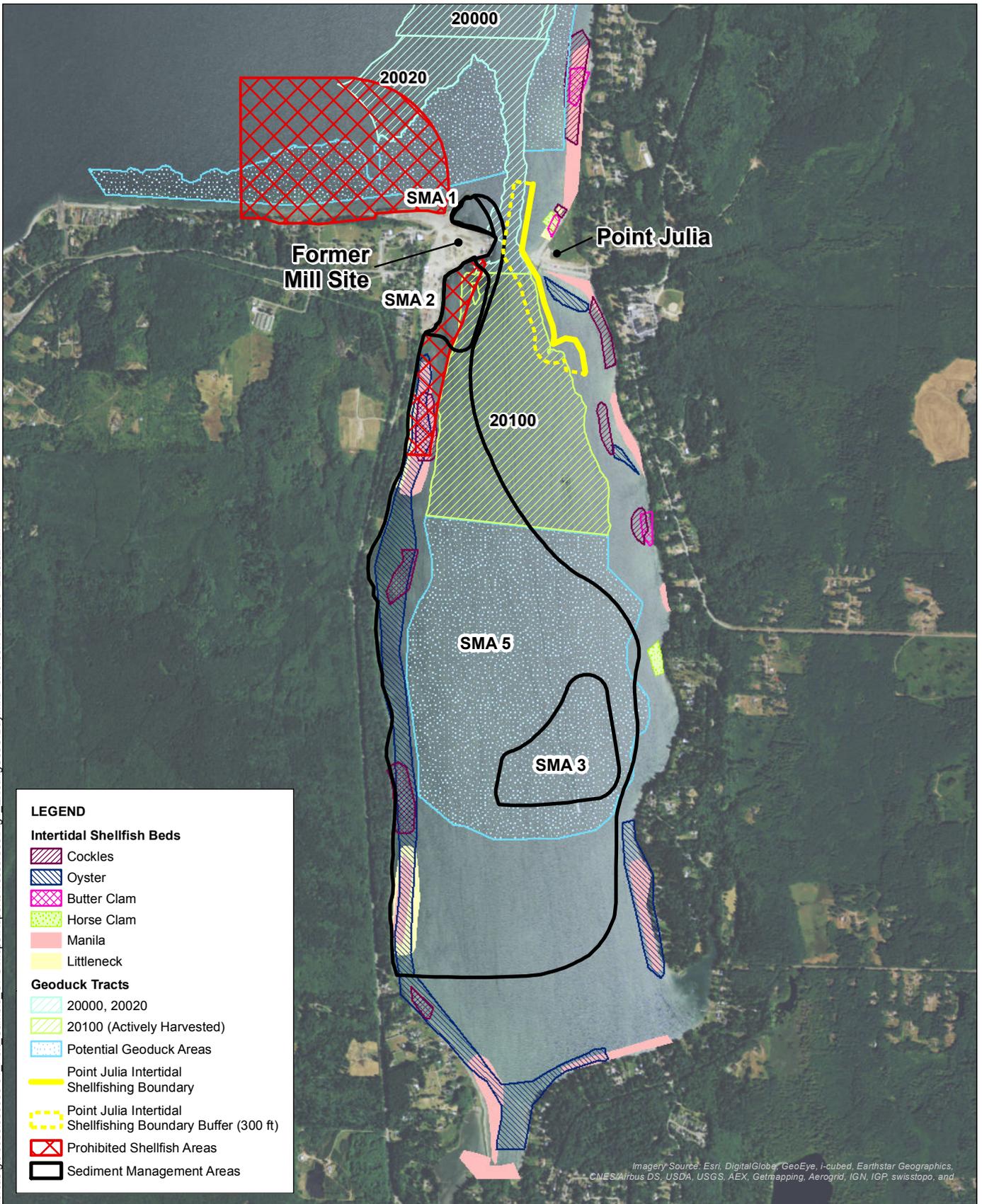
PGST Natural Resources, 2014. Regarding: Documents for Vessel Management Plan. E-mail to: Heather Page, Anchor QEA, from Roma Call, PGST Natural Resources. July 18, 2014.

WDFW (Washington Department of Fish and Wildlife), 2011. Hydraulic Project Approval (HPA) - Creosote Piling and Structural Removal, Control Number 125073-1, issued by the Washington Department of Fish and Wildlife to the Washington Department of Natural Resources, December 15, 2011.

WDNR (Washington Department of Natural Resources), 2011. Puget Sound Initiative – Derelict Creosote Piling Removal, Best Management Practices for Pile Removal and Disposal as attached to Hydraulic Project Approval (HPA) Control Number 125073-1, issued by the Washington Department of Fish and Wildlife to the Washington Department of Natural Resources, December 15, 2011.

FIGURES

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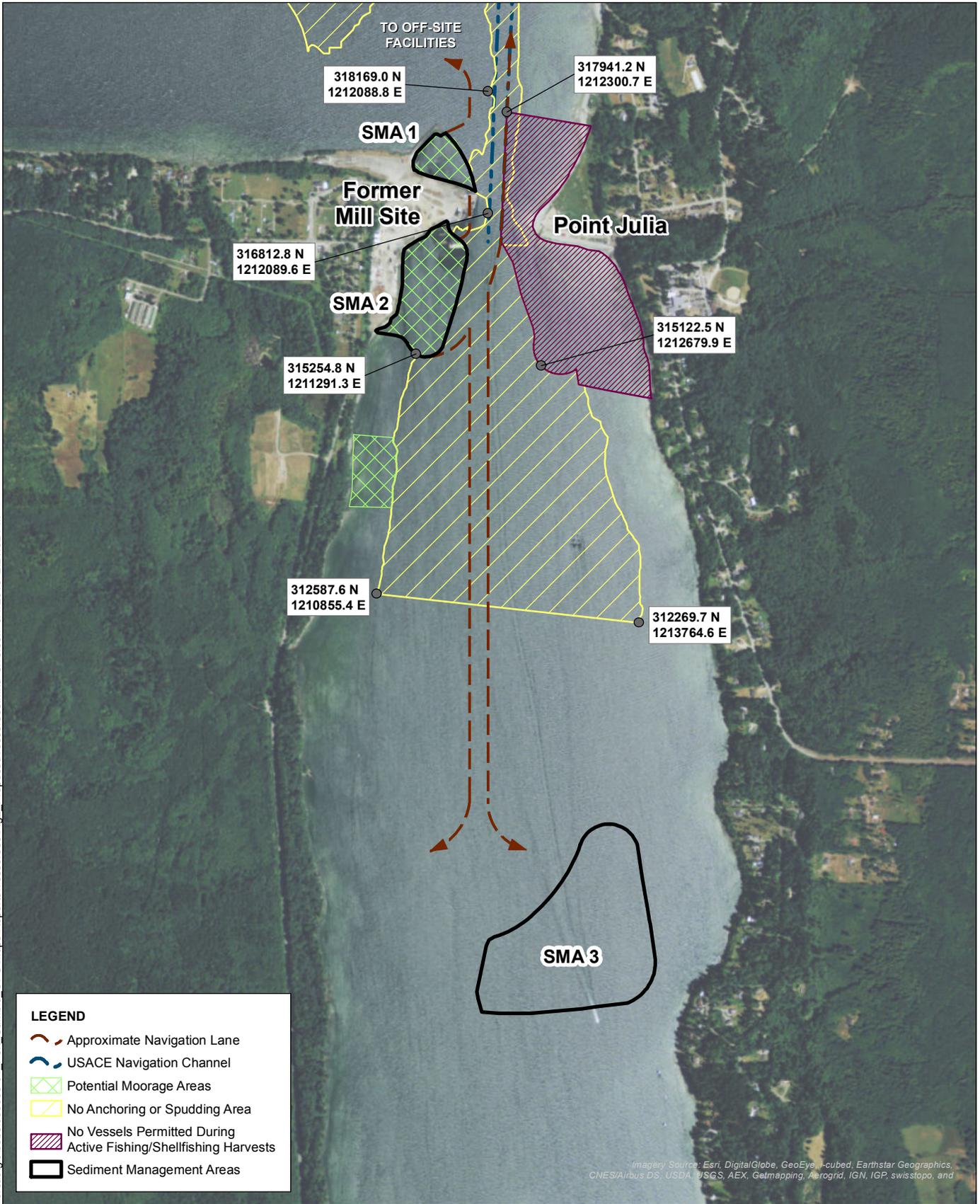


Source: Port Gamble Bay S'Klallam Tribe, July 2014



Figure 1
Existing Use of the Bay
Port Gamble Bay Cleanup Project

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Coordinates are in NAD83 US State Plane Washington North, U.S. Survey Feet.

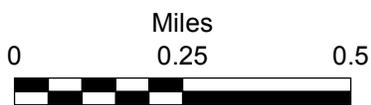
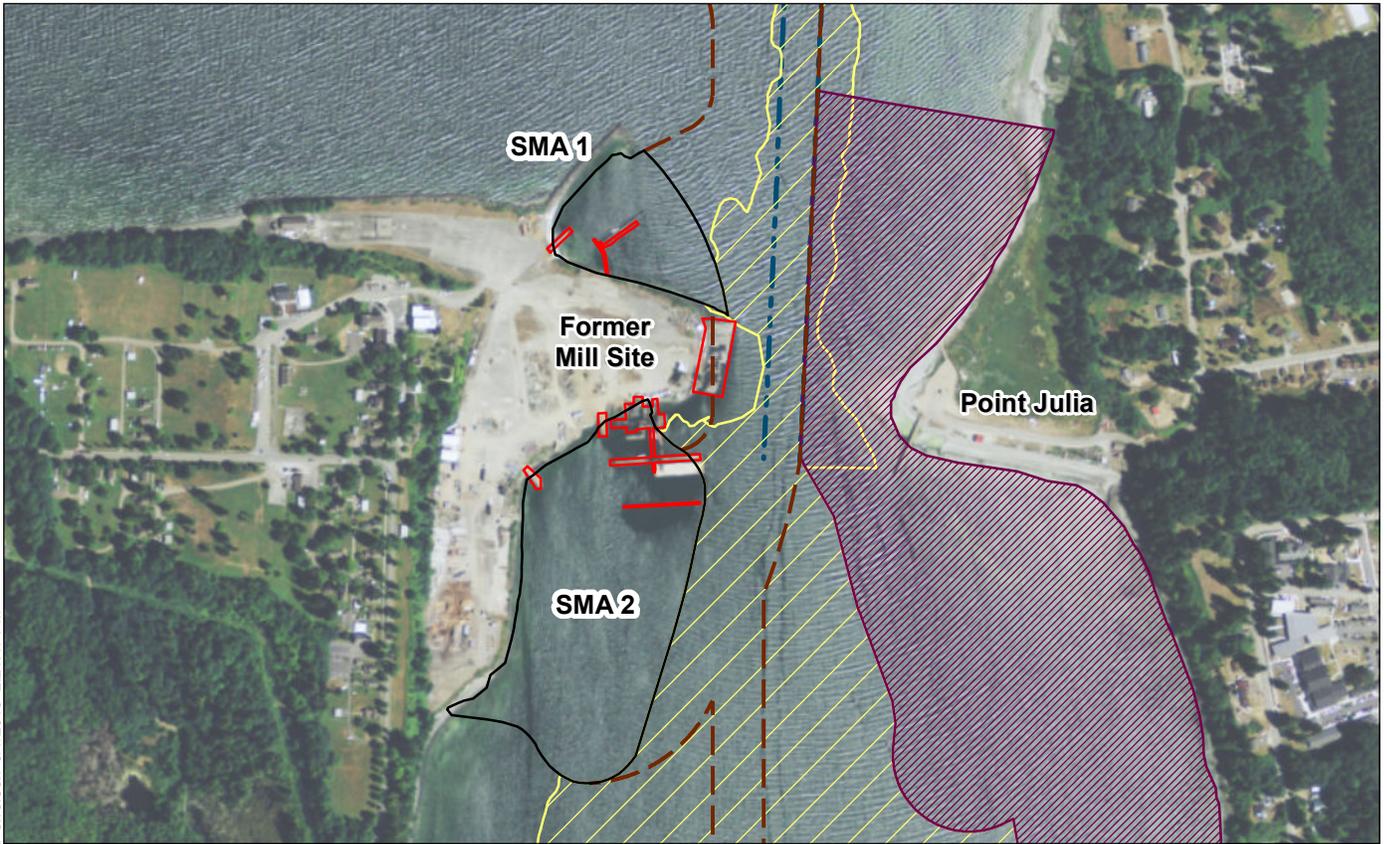


Figure 2
Proposed Vessel Use
Port Gamble Bay Cleanup Project

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Imagery Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar, Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and

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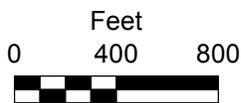
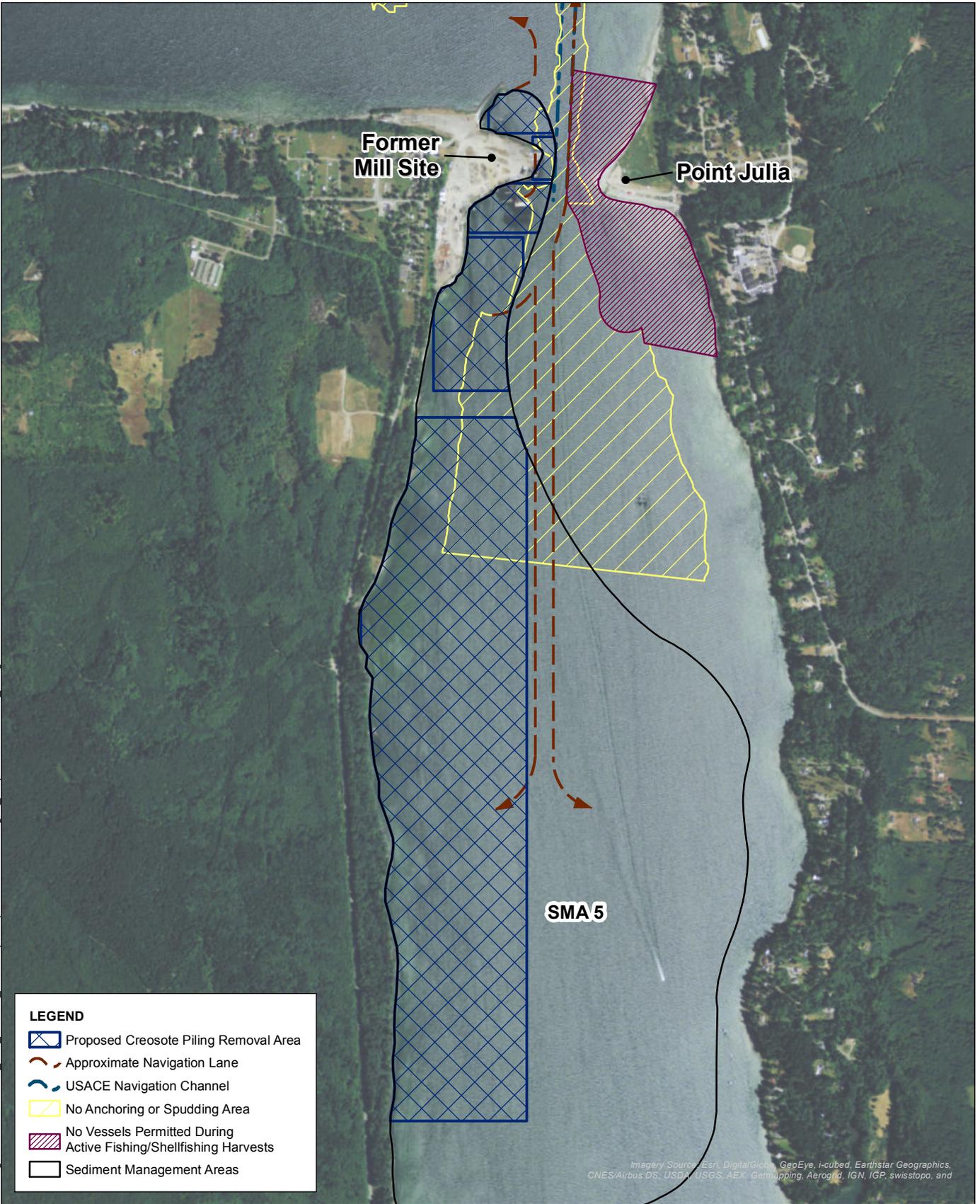


Figure 3a
Proposed Vessel Use
During Demolition
Port Gamble Bay Cleanup Project

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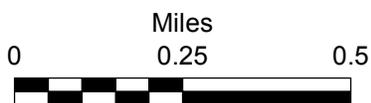
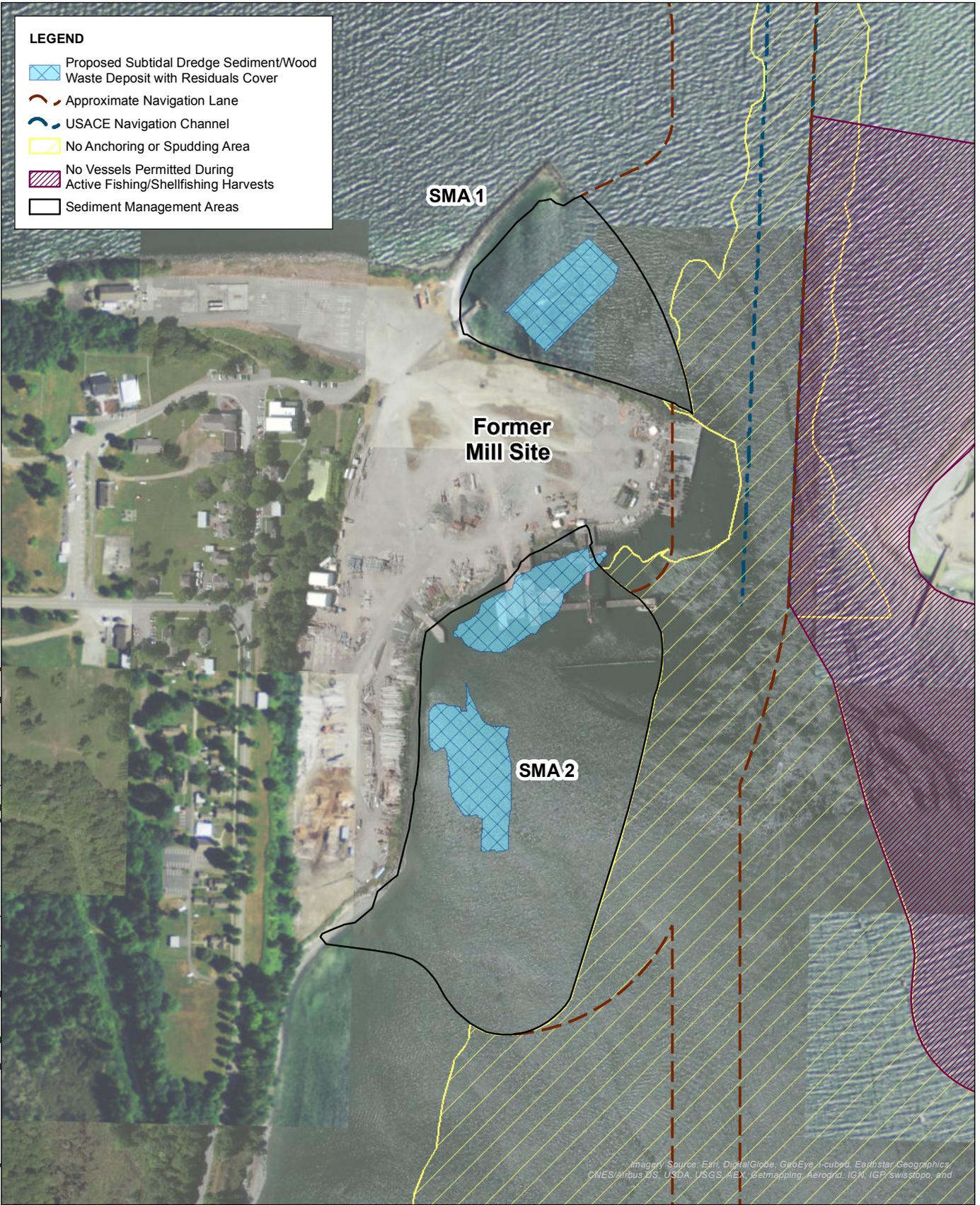


Figure 3b
Proposed Vessel Use
During Pile Removal
Port Gamble Bay Cleanup Project

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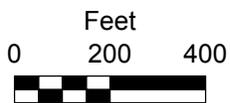
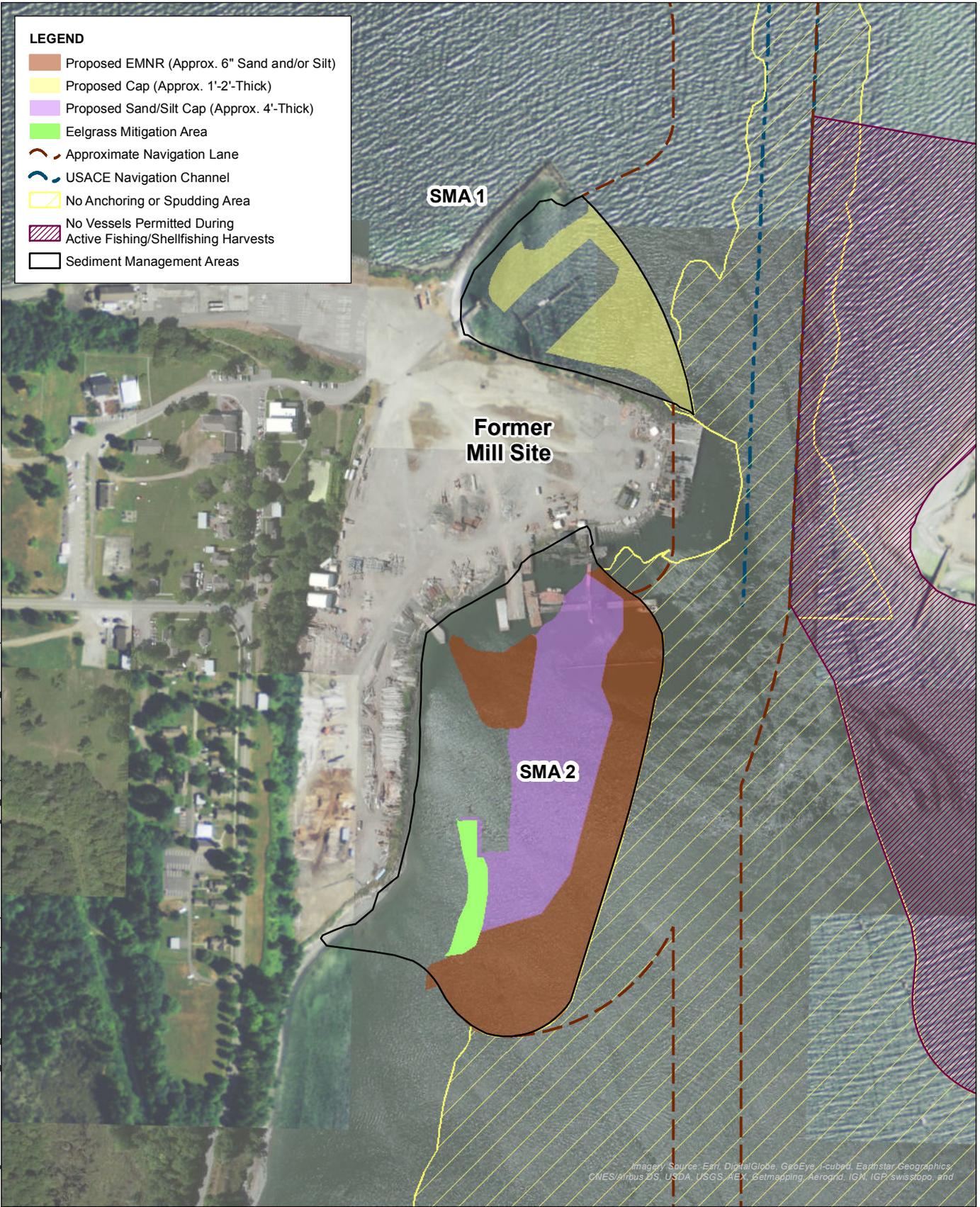


Figure 4
 Proposed Vessel Use
 During Subtidal Dredging and Excavation
 Port Gamble Bay Cleanup Project

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- LEGEND**
- Proposed EMNR (Approx. 6" Sand and/or Silt)
 - Proposed Cap (Approx. 1'-2'-Thick)
 - Proposed Sand/Silt Cap (Approx. 4'-Thick)
 - Eelgrass Mitigation Area
 - Approximate Navigation Lane
 - USACE Navigation Channel
 - No Anchoring or Spudding Area
 - No Vessels Permitted During Active Fishing/Shellfishing Harvests
 - Sediment Management Areas

Imagery Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and

Coordinates are in NAD83 US State Plane Washington North, U.S. Survey Feet.

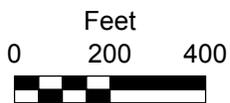


Figure 5a
Proposed Vessel Use
During Capping and EMNR
Port Gamble Bay Cleanup Project

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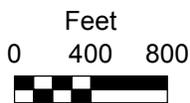
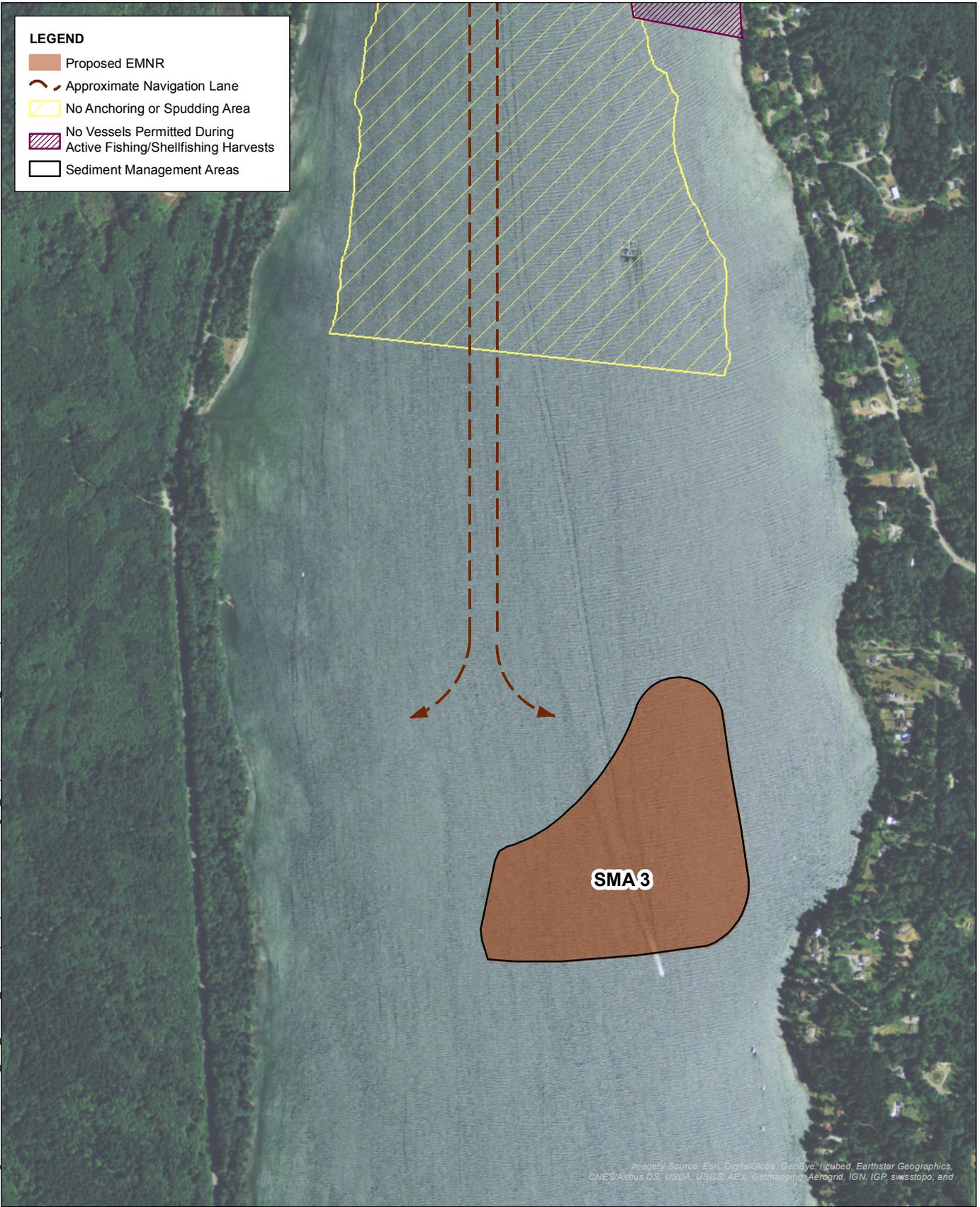
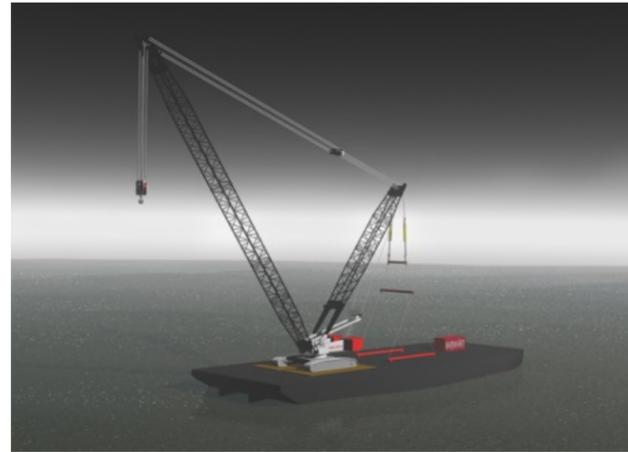


Figure 5b
 Proposed Vessel Use
 During Capping and EMNR
 Port Gamble Bay Cleanup Project



Typical derrick barge to be used for debris removal, dredging, and capping. Typical size ranges from:

- Small: 120' x 50' x 9'
- Medium: 210' x 68' x 15'
- Large: 300' x 100' x 18'



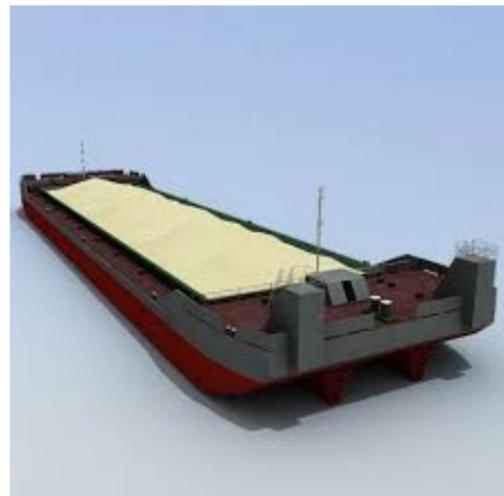
Pocket scow could be used for dredging, capping, or EMNR placement. Typical sizes range from:

- Medium: 168' x 43' x 14'
- Large: 218' x 43' x 16'



Split hull (bottom dump) barge could be used for dredging, capping, or EMNR placement. Typical size:

- 180' x 50' x 14'

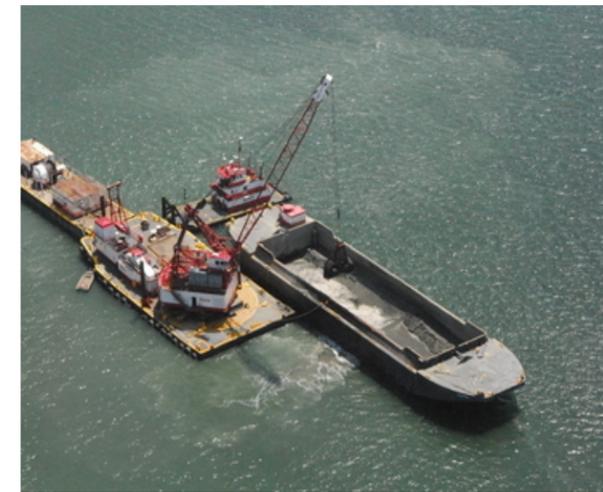


Flat deck barge to be used for demolition, capping, and MNR placement. Typical size ranges from:

- Small: 110' x 34' x 8'
- Medium: 160' x 50.5' x 13.5'
- Large: 210' x 54' x 14'



Tug boat to move barges.



Typical overhead view of dredging operations.

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