Skagit Shoreline Needs Assessment- High Priority Areas Report

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Skagit MRC

Northwest Straits INITIATIVE

CONFLUENCE ENVIRONMENTAL COMPANY

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Skagit County Shoreline Needs Assessment – High Priority Areas
TECHNICAL REPORT

Prepared for:

Skagit County Marine Resources Committee
December 2025

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High Priority Areas
TECHNICAL REPORT

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TABLE OF CONTENTS

FIGURES

1.0 INTRODUCTION

The Skagit County Shoreline Needs Assessment Project (Confluence Environmental Company 2024) was conducted to identify priority shoreline and nearshore locations that are good candidates for restoration actions to improve the ecological function of critical habitats. This assessment focuses on the previously identified high priority areas to identify and describe potential restoration or enhancement opportunities.

The goal of this report was to provide the Skagit MRC with additional information to evaluate and communicate potential restoration opportunities to shoreline landowners, the public and funders. The intent is to help identify and evaluate suitable sites and types of restoration projects throughout Skagit County.

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2.0 HIGH PRIORITY AREAS

The following sections highlight specific locations in the highest or high priority tiers where the Skagit MRC may consider a restoration or preservation project. Each priority area was identified by systematically evaluating the prioritization results to identify areas where high priority areas were concentrated. A potential limitation to this approach is that it may not prioritize isolated individual parcels that may have high scores that are surrounded by lower priority parcels even though those individual parcels may represent high priorities. The identified locations provide examples and a guide for how the prioritization tool may be used by the Skagit MRC to identify project locations. While the locations and potential actions are conceptual at this phase, additional consideration of site-specific information and feasibility could lead to actionable restoration efforts.

2.1 Crandall Spit and March Point

The northern portion of March Point (from Crandall Spit on the west to an area just south of the northeast point of March Point) has been consistently identified by the Skagit MRC as a potentially important contributor to nearshore ecology and this analysis reaffirms that finding. Prior reports including the March Point Rapid Shoreline Inventory and Bays Blueprint (People for Puget Sound 2001, Bloch et al. 2006) identified this area as providing a combination of conservation and restoration opportunities. This area includes 3 of the 21 sites described in the 2005 Bays Blueprint (Bloch et al. 2006) including the West Side of March's Point above Crandall Spit, East side of March's Point, and Crandall Spit. The 2005 report identified these as sites that

scored highly for marine bird habitat and forage fish models, and in the secondary tiers for beach sediment and juvenile fish habitat.

While there are obvious impacts to this area from development associated with the two refineries located on March Point, and the associated infrastructure including pipelines, piers and roads, the point has no residential development and limited recreational use due to increased security needs for refinery infrastructure since 2001. Therefore, the large industrial landowners and limited agricultural use of adjacent lands have limited development and human activity along shorelines near the point. The site includes estuarine wetlands, bird roosting/nesting areas, forage fish spawning habitat for herring, surf smelt and sand lance, eelgrass habitat, and may provide important foraging areas for juvenile salmonids.

This is an area of ongoing conservation and restoration focus. The Skagit MRC has also pursued successful Olympia oyster restoration efforts in Fidalgo Bay, growing the population from an initial seed set of approximately 50,000 in 2002 to more than 5.5 million in 2023 (Skagit MRC 2024). WDNR has designated tideland areas south of Crandall Spit to be part of the Fidalgo Bay Aquatic Reserve (WDNR 2019). The Northwest Straits Foundation is currently initiating efforts to map and mark eelgrass beds adjacent to this area as potential voluntary eelgrass protection areas.

Initial evaluation (Confluence 2024) identified the following general activities as potential restoration and protection concepts for this area:

- Riparian planting around shore side of March Point Road
  - Shoreline habitat lacks shading or terrestrial prey (insect) sources in this area and increased riparian plantings will benefit beach spawning forage fish and may provide forage resources to fish and invertebrates that use the upper intertidal including juvenile salmon.
- Engagement with oil spill planning efforts
  - The area has oil spill risks due to its proximity to two oil refineries and their associated rail and marine transport networks. Engaging in oil spill planning and prevention efforts by identifying important resources to be protected in case of a spill and understanding the planning process would be beneficial. This may include consideration of spill potential and alternate routing for the pipeline connecting the Shell Pier to its refinery. The current routing is over intertidal and shoreline habitats for approximately 3,000 linear feet from south of Crandall Spit to the pier.
- Support strategic reduction of nearshore structures
  - Multiple boat ramps and parking areas are located in this area. Where possible, removing these or relocating these structures further upland and away from the nearshore zone would provide the potential for natural processes to support

shoreline processes. These structures appear to be in areas of historic estuarine wetland and shoreline riparian habitats that could be restored if removed.
  - Evaluate discharge pipes in the area to understand the purpose and water quality implications of each outfall.
- Green crab monitoring
  - A green crab molt was detected at Crandall Spit in 2016, prompting increased monitoring in the area. Continued monitoring would help understand how and whether green crab are present in the area and what the impacts are to native species.
- Coordination with Fidalgo Bay Aquatic Reserve and Conservation Landowners
  - Consider proposing expanding the boundary to include, at minimum, all tidelands adjacent to Crandall Spit including a buffer north of the spit.
  - Adding bird monitoring sites that include Crandall Spit to complement those associated with the Weaverling Spit/Tommy Thompson Bike Path Trestle and other areas further south in Fidalgo Bay.
  - Adding signage or public information about the importance of Crandall Spit and associated wetlands to birds and fish.
  - Working to secure long-term conservation status for Crandall Spit and associated wetlands.

Further evaluation has identified the following discrete restoration activities as opportunities:

- Riparian planting around shore side of March Point Road
  - Particularly along the southwest shoreline, the current vegetation south of Crandall Spit is dominated by non-native vegetation between the road edge and the shoreline. Replacing this vegetation with native vegetation and selectively planting woody vegetation that could grow to overhang the intertidal habitats would enhance nearshore food production and temperature regulation.
  - Skagit County has identified maintenance and repairs to March Point Road in their 6-year transportation improvement plan (TIP). There may be opportunities to engage with this design and construction effort to introduce environmental enhancements.
- Coordination with Fidalgo Bay Aquatic Reserve and Conservation Landowners
  - Northwest Straits Foundation has recently mapped eelgrass in the bay with an interest in marking and publicizing eelgrass areas as no anchorage areas and promoting protection of this sensitive resource.
  - The portion of Crandall Spit west of the oil pipeline has become a naturalized area with seasonally high bird use (several hundred birds). Aggregations like this are rare in areas with human activity and use. Approaches by boats or people can flush and disturb birds affecting their continued use of the site and

overall fitness. Public marking and recognition of this site may reduce disturbance at this site and promote bird use and fitness. If appropriate, a bird observation blind could be considered to support recreational observation.

- Strategic restoration along shoreline
  - Derelict structures and debris are noted on the wetland spit just south of Crandall Spit. Removal of these structures could prevent further impacts to this wetland and support wetland recovery.
  - The current Shell Puget Sound Refinery Employee Recreation Area which appears to be managed to support temporary housing/RV park on the spit south of Crandall Spit represents a high potential for habitat restoration and reduced conflicts with wildlife. Actions at this site could include:
    - Planting a riparian buffer between the recreation area and adjacent wetlands to the west.
    - Wetland restoration by removing paved areas and buildings.
  - At the NE corner of March point there is an historic boat ramp and associated parking area. While the site appears to continue to be used for public access to the shoreline, the use as a boat ramp has been abandoned. The site is marked on online maps as a Beach Access point and appears popular with users. However, there are restoration opportunities associated since the boat ramp has been abandoned. Consider removing the rip-rap which lines the former boat ramp and planting riparian vegetation to supplement the grasses at the site. The historic boat ramp could be further narrowed to a trail access point. The area may have limited groundwater and soil amendments may be necessary to support riparian vegetation due to extensive historic gravelling at the site. There is currently no riparian vegetation along this stretch of shoreline and overhanging vegetation would shade and provide food resources to shoreline dependent organisms.
  - At the southeast corner of March Point there is a substantial estuarine wetland complex upstream of March Point Road. The current culvert structure connecting the wetland complex to Swinomish Slough/Padilla Bay is undersized and likely a velocity barrier for fish movement during most tidal exchanges. This estuarine wetland represents a potentially valuable pocket estuary for rearing salmonids and is likely used by non-natal Chinook salmon for rearing. Replacing the undersized culvert with a bridge would enhance fish access and provide a more natural estuarine hydrograph. Additional restoration within the wetland including filling borrow ditches and reconfiguring channels could be considered after the hydraulic connection is addressed.

Figure 1. Riparian condition south of Crandall Spit. Opportunity for invasive species removal and riparian enhancement.

Figure 2. Wetland south of Crandall Spit. Employee recreational area and wooden debris within wetland.

Figure 3. Crandall Spit

Figure 4. March Point Beach Access Point/Historic Boat Ramp near NE corner of March Point.
Top picture: Looking from road towards water; Bottom Picture: Looking from water towards historic boat ramp.

Figure 5. Estuarine wetland at SE corner of March Point.

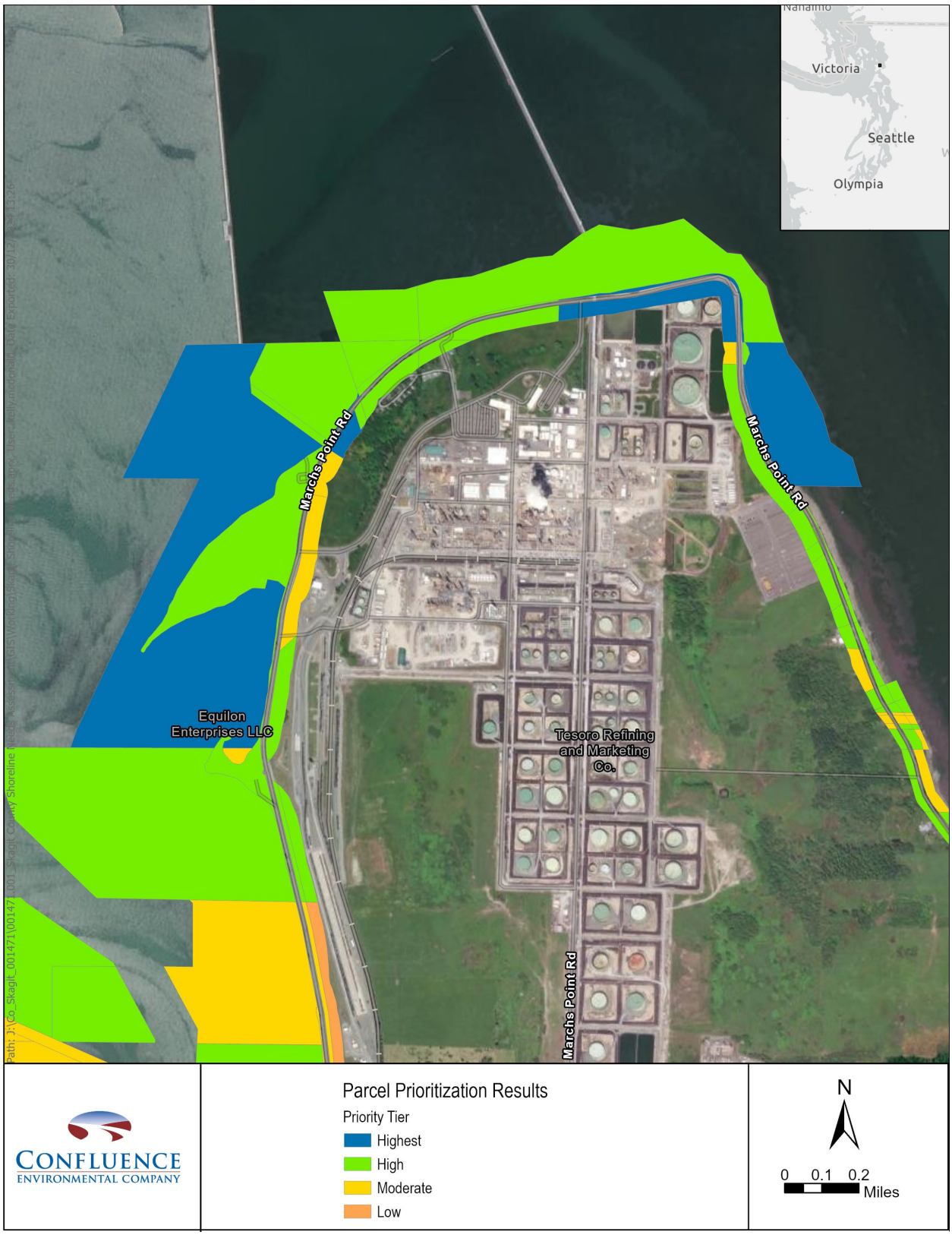

Figure 6. Crandall Spit and March Point high priority site

2.2 Samish Island and Outer Samish Bay

The northeast corner of Samish Island includes a stretch of low-bank shoreline adjacent to broad tideflats extending into Samish Bay that include the deepwater channel connecting to the Samish River. Prior reports including the Samish Island RSI and Bays Blueprint (Bloch et al. 2002 and Bloch et al. 2006) identified this area as providing a combination of conservation and restoration opportunities. Samish Bay is recognized by Washington Audubon as an important bird area that supports more than 220 species (Cullinan 2001). Many of these species are attracted by the expansive tideflats and eelgrass beds in this area, as well as the many nearshore species that use these habitats. Eelgrass beds in Samish Bay are the second largest in the state with more than 2,000 hectares (approximately 5,000 acres). This site represents an area where multiple resources are coming together: freshwater input and migration corridors to the Samish River, the outer edge of eelgrass beds associated with Samish Bay, and shorelines and riparian areas associated with Samish Island. Forage fish including beach spawning surf smelt and subtidal spawning herring are also documented to use this area. These diverse and highly productive resources come together at this site to create a site of high conservation interest and priority.

This area is also highly valued for human use with seasonal and year-round shoreline properties, boat moorage, and aquaculture. Many of these uses may be compatible with nearshore ecology, while others may constrain or prevent nearshore processes and functions.

Initial evaluation (Confluence 2024) identified potential conservation and restoration concepts including:

- Coordination with and education of shoreline landowners regarding the importance of nearshore habitats adjacent to their property and shore friendly development.
  - Existing bulkheads/shoreline armoring near the NE point.
  - Potential demand/interest in future shoreline armoring
  - Evaluation of lower impact boat docks/moorage
  - Riparian vegetation plantings
- Evaluation of sea level rise scenarios and potential impacts to
  - Shore spawning fish habitats
  - Eelgrass habitats
  - Aquaculture
  - Residential structures and infrastructure
- Coordination with landowners that own undeveloped shoreline just south of the Blue Heron Road/NE Point of Samish Island for long-term conservation of these shoreline areas.
- Development of a publicly accessible boat ramp and potential consolidation or removal of multiple private boat ramps.

Further evaluation has identified the following discrete restoration activities as opportunities:

- Re-evaluation of Freestad Lake estuary restoration concepts. Freestad Lake is a saltwater lagoon constructed as a recreational amenity for the Community of Christ Church campground on the east side of Samish Island. While initial designs for restoring a barrier lagoon were led by Skagit County Public Works circa 2015-2017, this project appears to be dormant and without a sponsor at present. Conceptual designs suggest the potential to restore functions of a pocket estuary while preserving existing uses.
- Evaluation of residential, commercial and recreational moorages along the north side of Samish Island suggest that there may be benefits to improved planning and management. While many of the vessels and buoys appear to be located outside of eelgrass or have de minimis effects on eelgrass, some appear to be having ongoing impacts to eelgrass beds.

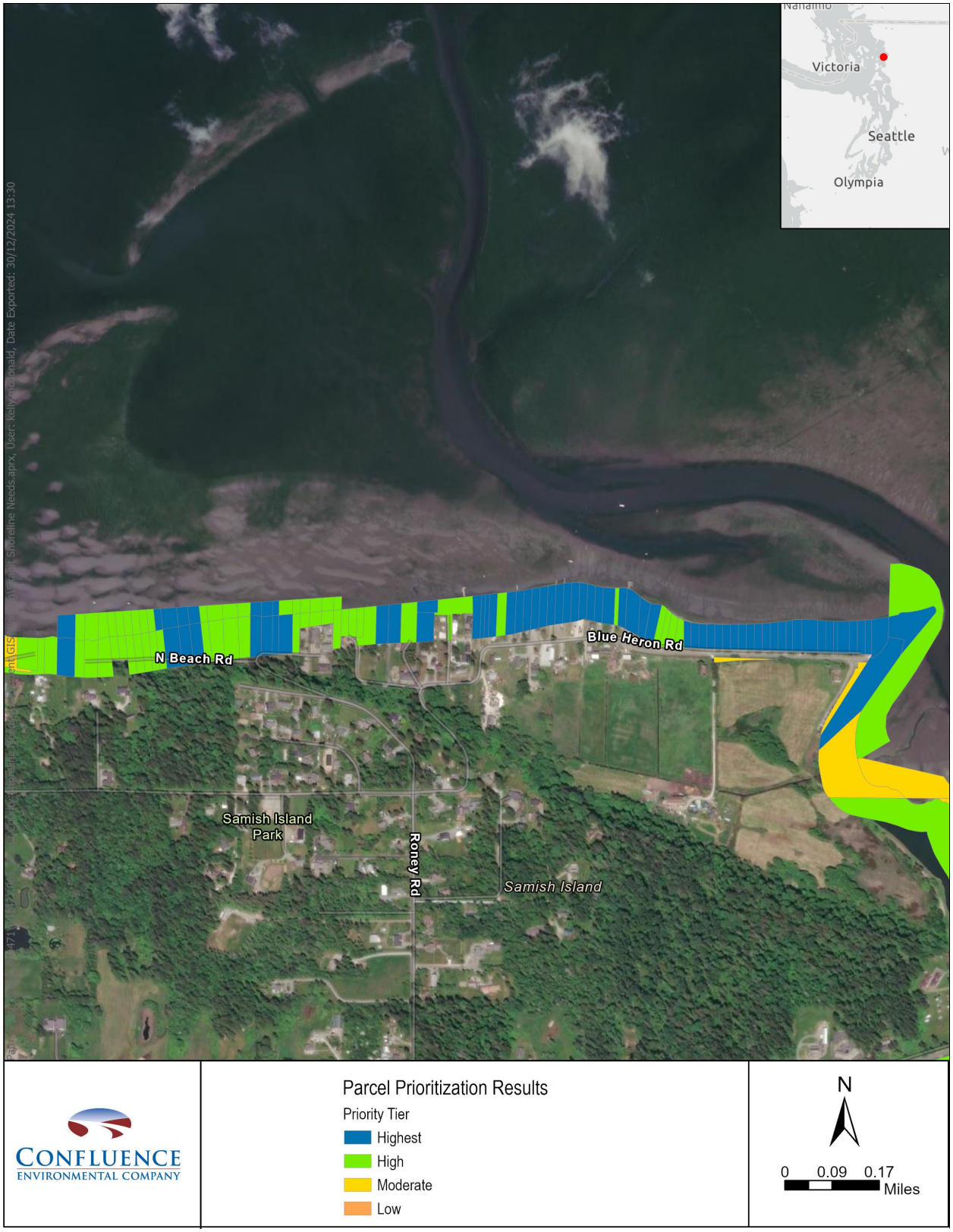

Figure 7. Samish Island and Outer Samish Bay high priority site

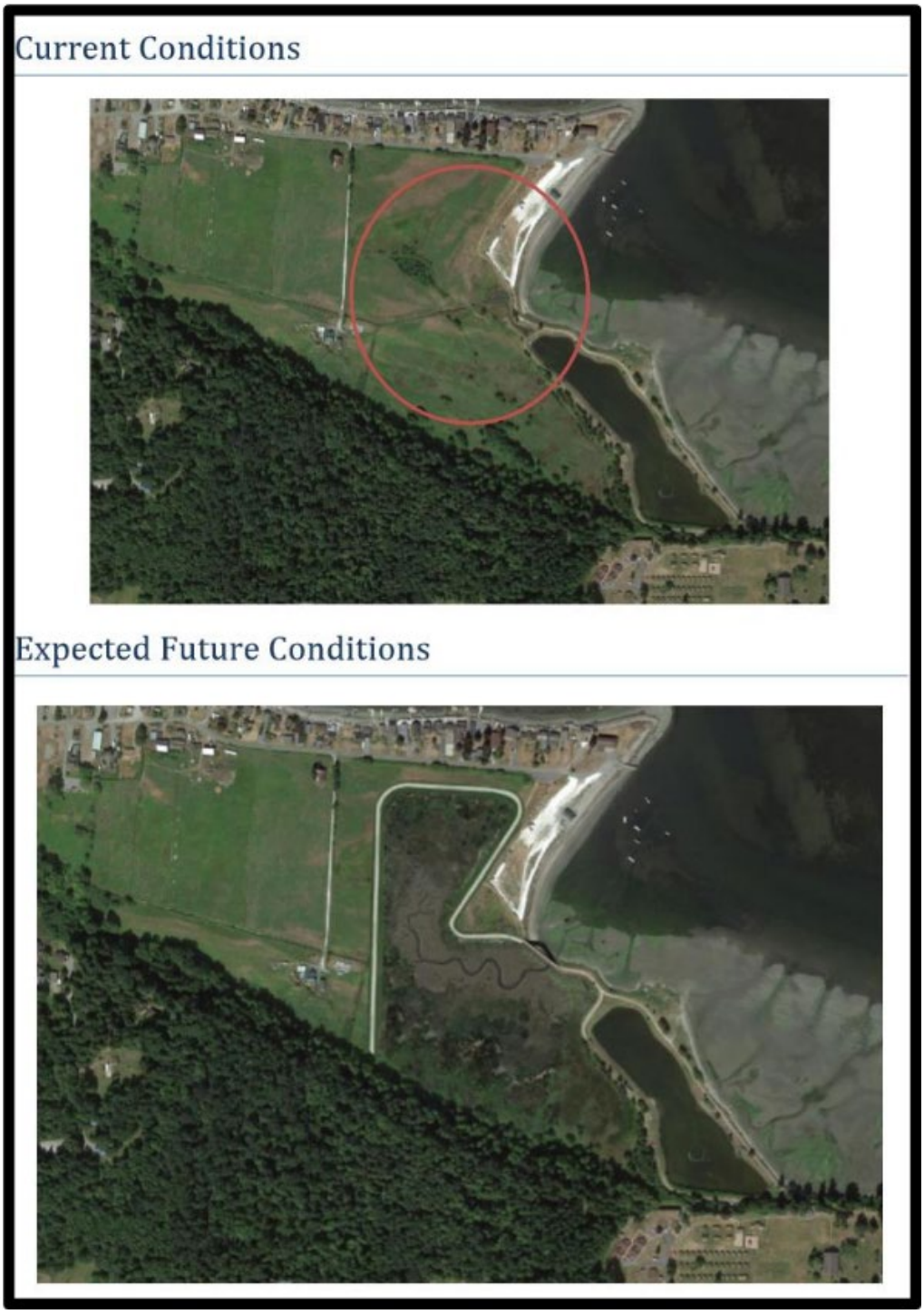

Figure 8. Freestad Lake – Restoration Concept

2.3 Gibralter/Campbell Creek Mouth

Campbell Creek drains the Campbell Lake Watershed into a portion of Similk Bay where Gibralter Road (formerly Erie Avenue) extends upland of the shoreline. This cove is near the southern extent of mapped herring spawning activity associated with the Similk Bay stock. The Skagit System Cooperative evaluated Campbell Creek for potential non-natal habitat use and detected juvenile Chinook salmon in the lower reaches of Campbell Creek (Beamer et al. 2013). The creek appears to discharge a significant amount of sediment to the nearshore as evidenced by its delta, a feature that appears in both current aerial photos and historic maps.

Initial evaluation (Confluence 2024) identified restoration and protection concepts for this area may include:

- Further evaluation the fish passage status of Deception Road Culvert. Initial evaluation noted that the culvert span is less than current design guidance, however presence of driftwood creates downstream controls that facilitate fish passage. WDFW has been developing guidance for tidal culverts like this one and it should be re-evaluated with that guidance.
- Evaluation of non-natal habitat use of Campbell Creek by juvenile salmon.
- Reports indicate that Campbell Lake may be impacted by excess nutrients. It is unclear whether these nutrients are also impacting downstream habitats. Given the potential linkages between excess nutrient inputs and loss of eelgrass in some areas, this should be further evaluated.
  - Map and monitor eelgrass in Gibralter Cove vicinity
  - Work with Skagit County Surface Water Management and Lake Management District #3 to understand implications of nutrients in Erie and Campbell lakes on downstream habitats and ecosystems.
  - Work with Skagit County Surface Water Management and Lake Management District #3 to understand implications of algae and vegetation management using herbicides on downstream habitats and ecosystems.
- Coordination with and education of shoreline landowners regarding the importance of nearshore habitats adjacent to their property and shore friendly development.
  - Riparian vegetation plantings
  - Identification and reduction of nutrient inputs

Figure 9. Gibralter/Lake Campbell Creek Mouth high priority site

Figure 10. Image of Campbell Lake Creek Mouth and delta.

Figure 11. Shoreline Armoring Restoration Opportunity – East of Creek Mouth

Figure 12. Representative example of soft bank armoring from within shoreline segment

Figure 13. Derelict pilings in intertidal.

Further evaluation has identified:

- Dewey Beach Armor Removal – Northwest Straits Foundation Project to remove 300 to 450 linear feet of shoreline armor and fill including relocation of shoreline cabin. Project costs estimated at $600k. Funding request not funded in 2024.
- Potential shoreline armor removal projects immediately north/west of the stream including properties including Skagit County parcels P73301 and P73296. Approximately 300 linear feet of shoreline armor appears to be suitable for removal which would provide benefits to in-stream fish (prey items) and potentially beach spawners.
- Piling removal associated with point east of Lake Campbell Creek. Approximately 37 derelict pilings are in the intertidal area and are likely creosote pilings.
- Immediately West of Campbell Creek, Deception Road is immediately adjacent to the shoreline and there may be chances for invasive species removal and riparian enhancement/planting.

2.4 Kiket Bay to Snee Oosh Point

The shorelines between Kiket Bay and Snee Oosh Point along the eastern shoreline just south of Similk Bay contain a high diversity of habitats that support nearshore species and resources. These start with the estuarine wetlands and a tombolo connecting the mainland to Kiket Island at the north, continue through the relatively intact tidal wetlands associated with Three Tree Point, and extend to the nearshore kelp communities and historic tidal wetland communities just south of Snee Oosh Point. These nearshore estuarine wetland communities are increasingly rare in the Salish Sea and estuarine wetland area has experienced the greatest loss and simplification due to development since the pre-contact period (Simenstad et al. 2011).

Restoration and protection concepts for this area may include:

- Partnership with Swinomish Indian Tribe to identify opportunities to support or partner for restoration near Kiket Island including:
  - Tombolo beach restoration
  - Clam gardening
- Support restoration and protection in Three Tree Point vicinity including:
  - Restoration of natural shoreline dynamics by addressing shoreline erosion, sediment loss and habitat degradation
  - Support native riparian plantings
  - Remove artificial structures along the shoreline and near creek mouths
  - Evaluate culverts for culvert and stream channel enhancements
- Support restoration and protection near Snee Oosh Point including:
  - Evaluate potential impacts of sea level rise on built and natural environment

- Evaluate restoration potential for historic estuarine wetland associated with Snee Oosh beach.
- Map kelp resources

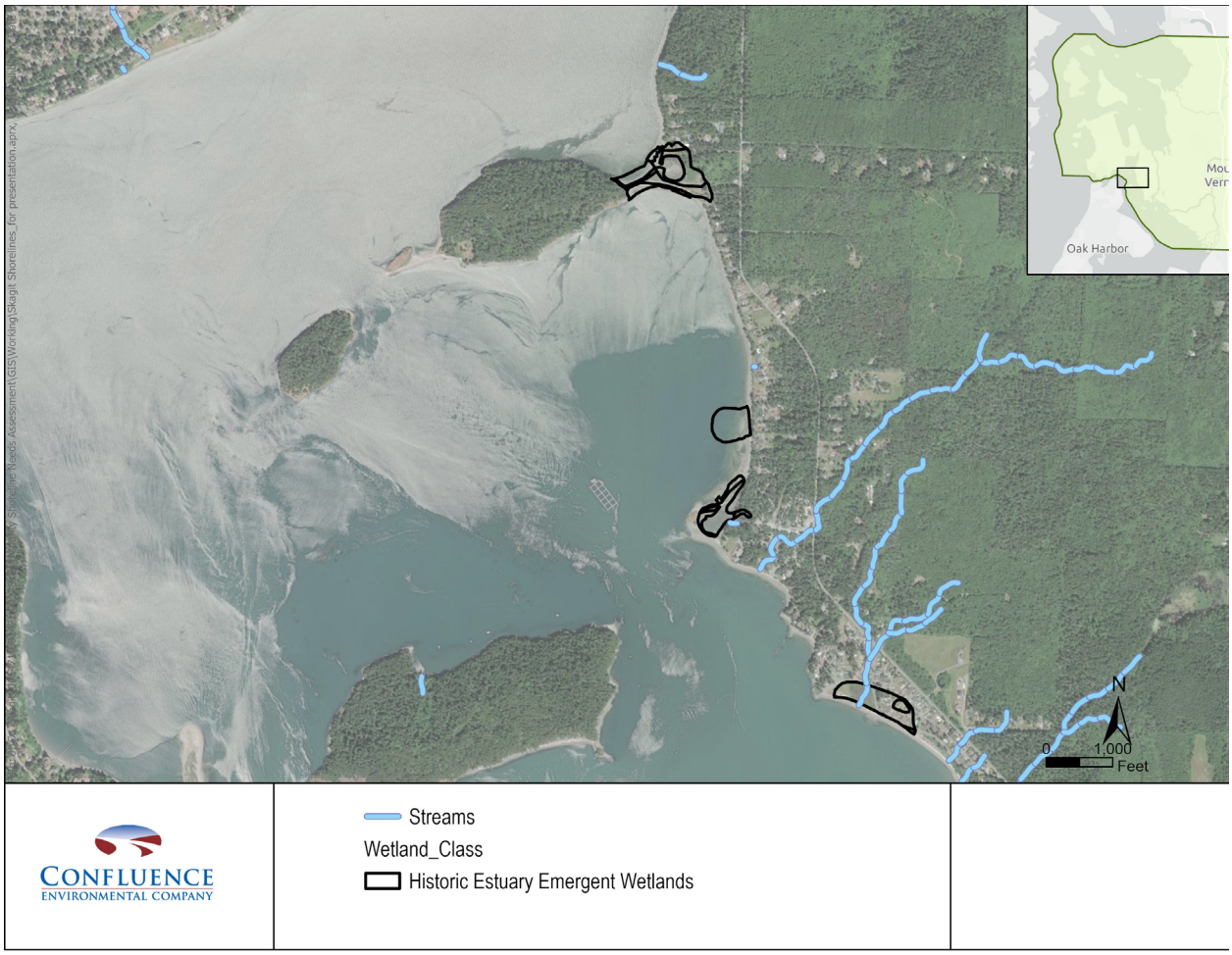

Figure 14. Kiket Bay to Snee Oosh Point high priority site

Figure 15. Swinomish Tribal Land Allotment associated with Lone Tree estuary wetland.

Figure 16. Kelp resources near Snee-Oosh Point.

2.5 Cranberry Lake Creek Mouth Vicinity

Cranberry Lake Creek drains into Guemes Channel through a perched culvert that is a complete fish passage barrier. A combination of culverts extending approximately 1,000 feet managed by WSDOT and the City of Anacortes appear to connect the flow from Cranberry Lake to Guemes Channel. Non-natal streams and freshwater inputs are relatively rare in this area and would likely create a refuge point for juvenile salmonids. Nearshore habitat mapping suggest that eelgrass communities are present and stable along this stretch. A substantial maritime facility is just east of this area that may be interrupting ecological processes and shoreline species movement linking shorelines on either side of the facility.

Restoration and protection concepts for this area may include:

- Coordination with the City of Anacortes and WSDOT to evaluate potential culvert or stream channel restoration opportunities.
- Mapping/monitoring eelgrass habitat along this section of shoreline
- Mapping/monitoring nearshore fish movement through this area
- Engaging La Merced maritime facility to identify restoration opportunities and opportunities to link habitats up- and down-drift of their facility.

2.5.1 La Merced Shoreline Restoration

The La Merced is a historic schooner that was built in 1917 and scuttled in 1966 to serve as shoreline protection breakwater for Guemes Channel Marina and Stabbert Marine & Industrial. The La Merced has been listed on the national historic register of historic places, and is now overgrown with vegetation.

Figure 17. La Merced Historic Vessel used as portion of breakwater

The breakwater and related structures comprise a major interruption to sediment movement along the shoreline with large amounts of sediment and broader intertidal west of the breakwater and evidence of sediment starved shorelines and much narrower intertidal areas east of this site. Ecology and Stabbert Marine and Industrial signed an agreement to initiate clean-up at the site in 2024. Stabbert Marine has been working to redevelop the site since its acquisition and has disposed of several derelict vessels, abandoned vehicles, scrap metal and truckloads of soil that were contaminated with solvents and other historic maritime chemicals.

With relatively new ownership in place that has a vision for maintaining the site as a deepwater moorage facility, there may be opportunities to consider shoreline enhancements and a long-term restoration plan for this site that facilitates both ecological restoration and preserves maritime use at this site.

2.5.2 Creek Restoration

Small Cranberry Lake Creek is a stream that outlets to Guemes Channel. At its outlet, this creek is identified by WDFW as expected to support Coho, steelhead, sea run cutthroat and resident trout. The current stream outlet is above OHWM for the Salish Sea and discharges through an undersized, 24-inch diameter, round PVC pipe. The upstream channel is identified as having an average width of 5.19 meters (17 foot) width. This suggests that the stream may convey substantial flows at times and likely that the culvert creates upstream impoundment during high flow events.

A short distance upstream, there are additional culverts under Oakes Avenue/SR 20. There are structures conveying the stream owned and managed by both WSDOT and City of Anacortes at this location. WSDOT determined that the relatively steep hillslope at and downstream of these culverts is a natural barrier at this point and that anadromous fish are unlikely to move upstream of these barriers. WDFW reports that there are approximately 2,382 m of lineal habitat upstream of this point including 717 m of spawning habitat and 20,179 square meters of rearing habitat.

Due to natural barriers in the vicinity of Oakes Avenue, fish passage to Little Cranberry Lake is not expected. Approximately 200 lineal feet of channel or potential channel exists between the marine shoreline and the natural barrier. Due to the relatively large watershed and regular flow to this channel, this stream channel could represent non-natal rearing habitat for a range of salmonid species and may be used by coho salmon.

Figure 18. Cranberry Lake Creek Outfall to shoreline.

Figure 19. Cranberry Creek outfall at roadway.

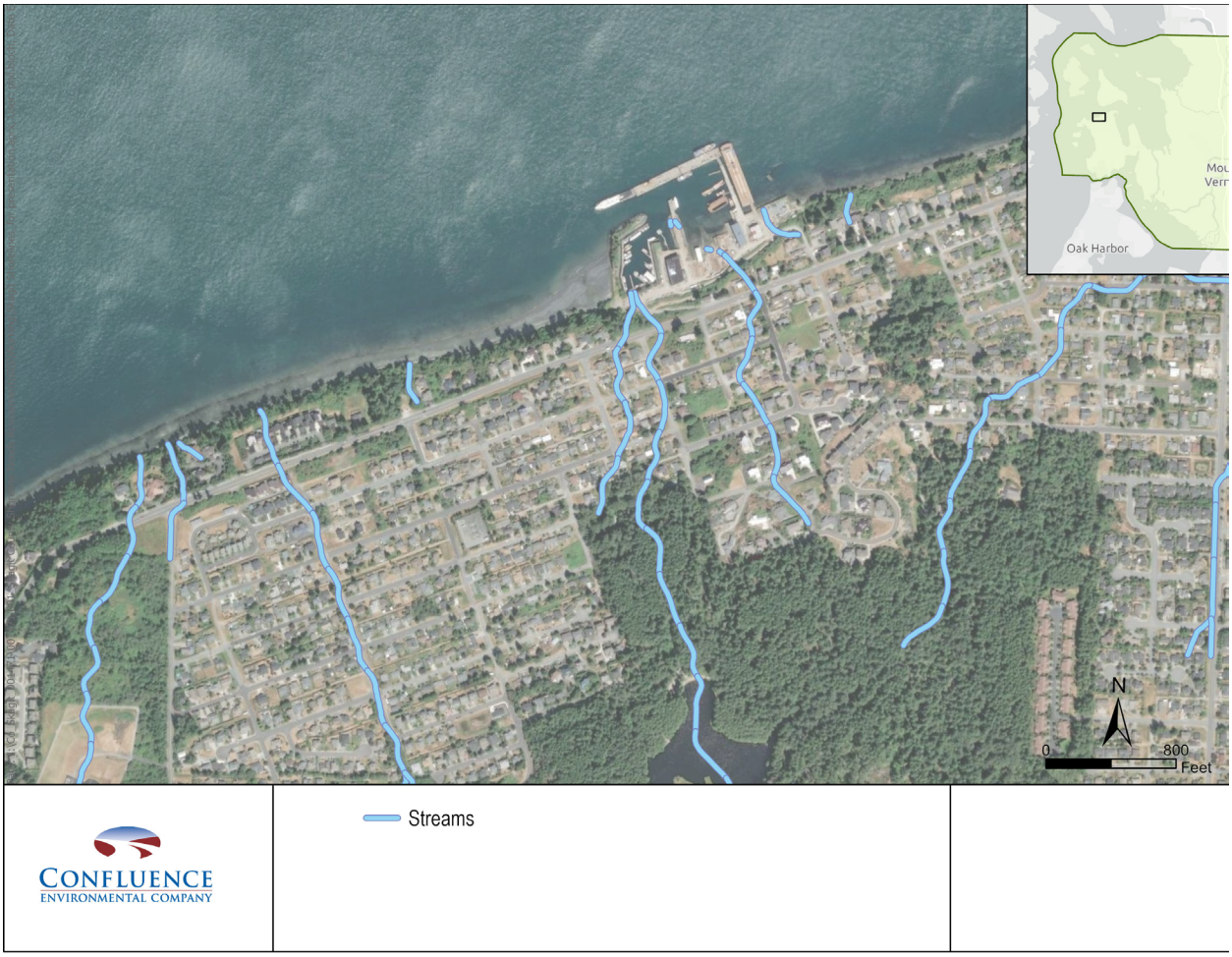

Figure 20. Cranberry Lake Creek Mouth Vicinity high priority site


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