

# Strategic Management Plan for private moorage in the Southern Gulf Islands and Southeast Vancouver Island **Draft for public engagement**



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## Land acknowledgement

The study area for this initiative is the traditional territory of numerous rights-holding First Nations who have stewarded its lands and waters since time immemorial, including:

- Quw'utsun Nation (including Cowichan Tribes, Stz'uminus First Nation, Penelakut Tribe, Halalt First Nation, Lyackson First Nation)
- Tsartlip First Nation
- Tseycum First Nation
- Tsawout First Nation
- Malahat First Nation
- Pauquachin First Nation
- Snuneymuxw First Nation
- Ts'uubaa-asatx First Nation
- Tsawwassen First Nation

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# 1. Introduction and background

The marine foreshore in the Southern Gulf Islands – Southeast Vancouver Island (the study area, Figure 1) supports diverse ecosystems, is of deep cultural, spiritual, and economic significance to First Nations, and provides recreational and economic benefits for residents and local businesses. Much of this area is publicly owned Crown land managed by the B.C. government. First Nations, the Islands Trust and other local governments, and various federal agencies also have governance roles.

First Nations have stewarded the lands and waters of the study area since time immemorial and continue to maintain strong relationships with the foreshore and marine environment. This is reflected in rights protected under section 35 of the Constitution Act, 1982, in treaties, and in ongoing food, social, and ceremonial practices and responsibilities to care for lands and waters.

Private moorages (private docks) are a longstanding feature of the study area and provide many waterfront residents with access to the marine environment. In some locations, they also provide access to properties without road connections and support emergency access and public safety. Private moorage is generally located on or extends over publicly owned foreshore (the area between high and low tide) and therefore exists within a shared marine and foreshore environment that supports ecological values, First Nations rights, navigation, recreation, and other public uses.

Waterfront property owners have a right to reasonable access to adjacent water (“riparian rights”) but these do not include the right to construct private moorage. The construction and use of private moorage requires authorization from the B.C. government and, where applicable, approvals from other regulatory authorities.

Private moorages in the study area have been constructed both with and without provincial authorization, and concerns about their individual and cumulative impacts on First Nations rights and ecological values have grown over the last decade. In 2021, the B.C. government implemented a Land Act s.10.1 application prohibition in the study area to temporarily pause new applications for private moorages. The pause reflected concerns about cumulative effects and the need for clearer, more consistent management approaches to support statutory decision-making.

This Strategic Management Plan for Private Moorage (SMP) has been developed to respond to that need. It was developed to support transparent, evidence-based decision-making for private moorage by establishing clear guidance, management tools, and application requirements that are scaled to ecological sensitivity.

The SMP is primarily an ecological management tool focused on mitigating and reducing the individual and cumulative impacts of private moorage through ecological zoning, best management practices, and improved consideration of cumulative effects in decision-making. It is also intended to align with broader provincial initiatives to protect marine ecosystems and reduce coastal pollution, including the Coastal Marine Strategy.

While First Nations engagement informed the SMP, the SMP does not represent their negotiated agreement or consent nor resolve broader discussions regarding foreshore stewardship and governance. The SMP does not alter existing B.C. government obligations to consult with First Nations or accommodate Aboriginal and treaty rights. Potential impacts on those rights continue to be addressed through government-to-government engagement and application-specific consultation. The SMP supports more consistent and transparent provincial decision-making while these other processes continue.

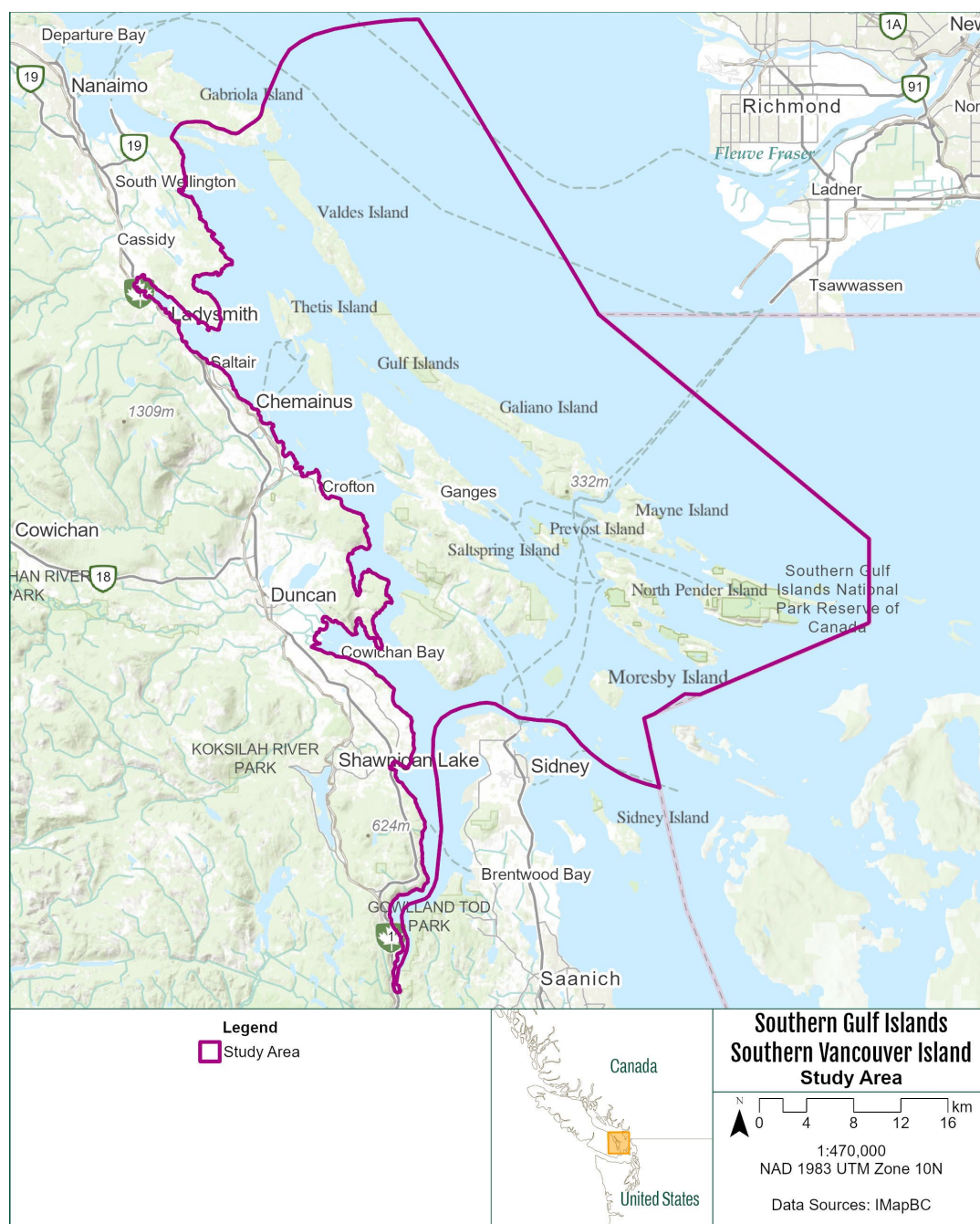


Figure 1: Southern Gulf Islands – Southeast Vancouver Island Study Area

## 1.1 Objectives

The SMP has the following primary objectives:

- Reduce and mitigate the cumulative ecological effects of private moorage, including effects that may impact the exercise of First Nations' rights
- Align with existing statutory decision-making and consultation processes to avoid or mitigate impacts upon asserted and established First Nations' rights
- Improve the consistency and predictability of statutory decision making by providing clear application requirements and management direction
- Align with provincial policies and initiatives that protect heritage values
- Contribute to broad provincial goals outlined in the Coastal Marine Strategy related to marine ecosystem protection and restoration, pollution prevention and reduction, and sustainable coastal management

These objectives are achieved through three complementary management tools:

- Ecologically informed zoning, based on the best available data and evidence regarding the sensitivity of nearshore ecosystems and the relative risk of adverse impacts from private moorage
- Best Management Practices (BMPs) that establish evidence-based requirements for the design, construction, maintenance, and operation of private moorage to avoid or reduce impacts on ecological and heritage values and foreshore access
- A cumulative effects framework that supports decision-making by evaluating proposed private moorage in the context of existing development patterns, ecological conditions, and potential impacts on ecological values and First Nations' rights

## 1.2 Scope

This SMP applies to private moorage located on provincial Crown land within the marine environment of the study area. It establishes requirements for new and, in some cases, replacement and existing authorized private moorage. Specifically, it applies to:

- Applications for new private moorage authorizations, including authorizations for previously constructed but unauthorized private moorage
- Applications for replacement authorizations for existing private moorage
- The modification or repair of existing private moorage including requirements for coming into compliance with certain BMPs over time

For the purposes of the SMP, private moorage has the same meaning as in the [Crown Land Use Operational Policy: Private Moorage \(PDF, 473KB\)](#) and refers to a dock, a permanent boat way (boat ramp or rail), or a stand-alone boat lift that is permanently affixed to aquatic Crown land and is intended for personal residential use. It does not include mooring buoys.

The SMP is not applicable to private moorage in freshwater environments, or to other types of moorage such as industrial docks, strata or group moorage, marinas, commercial docks, or community docks as defined in provincial policy.

The SMP does not prescribe the outcome of any individual application, and meeting its requirements does not guarantee approval of an application. Decisions on applications remain the discretion of B.C. government statutory decision-makers and may be influenced by considerations beyond the scope of the SMP such as other applicable laws and policies, consultation with impacted First Nations, outcomes of public notification, and input from other regulatory authorities.

### 1.3 Engagement

The SMP was developed by the Ministry of Water, Land and Resource Stewardship (WLRS) in consultation with impacted First Nations, interested and affected parties, and the public.

- **Input from First Nations rights holders** in the study area was gathered through engagement processes under existing government-to-government agreements and/or formal consultation. These processes did not constitute negotiated agreement or consent and do not replace consultation on individual applications or broader discussions related to First Nations rights, which continue through separate government-to-government processes
- **An Advisory Group** of interested and affected parties was convened from December 2025 until **DATE [placeholder until conclusion of Advisory Group]** to provide input on the development of the SMP. The Advisory Group included representatives of waterfront property owners and private moorage owners, science and conservation groups, recreation groups, tourism and economic development groups, and local governments.
- **Public** input was gathered through an online survey from September 3, 2026 until October 18, 2026.

## 2. How to use this document

This SMP helps property owners in the study area understand how existing private moorage must be maintained over time and what is expected when applying for a new authorization. Review the table below to understand how to use this document if:

- You are applying to construct new private moorage, or for authorization of private moorage that was constructed without authorization **or**
- You own an existing authorized private moorage or are applying for a replacement authorization for your existing private moorage

Keep in mind that the SMP does not prescribe the outcome of any individual application, and meeting its requirements does not guarantee approval of an application. Decisions on applications remain the discretion of B.C. government statutory decision-makers and may be influenced by considerations beyond the scope of the SMP such as other applicable laws and policies, consultation with impacted First Nations, outcomes of public notification, and input from other regulatory authorities.

Table 1: How to use this document

| Your scenario                                                                                | How to use this document                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Are applying for an authorization to construct a new private moorage.                        | Use this document to familiarize yourself with the key requirements of the SMP: <ol style="list-style-type: none"><li>1. Determine your zone by reviewing Section 5 (Zones) to identify whether your proposed location is in SMP Zone 1 (higher ecological sensitivity) or Zone 2 (lower ecological sensitivity)</li><li>2. Understand applicable design and application requirements by reviewing Section 5 (Zones) and Section 7 (Best Management Practices)</li><li>3. Understand how cumulative effects are considered by reviewing Section 6 (Cumulative Effects) and Appendix C: Cumulative Effects on Ecological Values</li></ol>                                                                                          |
| Are applying for an authorization for private moorage that was constructed without approval. | <p>Section 60 of the Land Act requires that those who occupy Crown land have authorization to do so. If you operate a private moorage that has not previously been authorized, you may apply for authorization following the same process as would be followed by someone seeking authorization to construct a new private moorage. Use this document in the same manner as an applicant for new private moorage: determine the applicable zone, review the applicable BMPs and application requirements, and understand how cumulative effects are considered.</p> <p>Section 59 of the Land Act provides the B.C. government with the ability to pursue enforcement mechanisms against those who do not have authorization.</p> |

| Your scenario                                                                                                                       | How to use this document                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Own an authorized private moorage</p> <p>Or</p> <p>Are applying for replacement of an expired private moorage authorization.</p> | <p>Use this document to understand whether, when, and how certain requirements apply to you:</p> <ol style="list-style-type: none"> <li>1. Understand what does not change: the SMP does not create requirements to remove or relocate a private moorage with an active or expired authorization</li> <li>2. Understand the SMP requirements that apply: SMP zoning requirements do not apply to applications for replacement authorizations or to existing private moorages with active authorization, however some BMPs must be met within specified time periods or when repairs, replacements, or maintenance are undertaken</li> <li>3. Plan to come into compliance: review Section 7 to see which BMPs apply immediately, apply when components are repaired or replaced, or must be achieved within specified timeframes. Establish a plan for future maintenance to comply with these requirements</li> </ol> |

### 3. Definitions

“Applicable Laws” means any legislation, regulations, rules, codes, guidelines, and standards of any federal, provincial, regional, municipal, or other governmental authority having jurisdiction, as may be amended from time to time;

“Applicant” means any individual or legal entity that formally applies, with adequate rationale, for authorization to place, maintain, or use a private moorage facility on Crown land or water;

“Authorization” means a licence, lease, permit, authorization or other approval issued by the B.C. government pursuant to the Land Act or other applicable laws;

“Authorization Area” means the area approved under an existing Authorization, or the area under application for an Authorization;

“Authorized Private Moorage” means a private moorage that has been granted an authorization;

“Best Management Practices” means the practices set out in Section 7 of this Strategic Management Plan;

“Deleterious Substance” means any substance that, when added to water frequented by fish, would degrade, alter, or form part of a process that degrades or alters the quality of that water so that it is harmful to fish, fish habitat, or the use of fish by humans. It also includes any substance that later becomes harmful when combined with other substances in the water. Fish defined under the Fisheries Act comprises all stages of the life cycle of fish (for example, from the egg to the adult); and includes all parts of the fish, such as shellfish, crustaceans, and marine mammals.

“Encapsulated Foam” means polystyrene foam which is fully enclosed in a solid, molded shell designed to prevent breakdown and discharge into the environment. It does not include polystyrene which is wrapped in soft or flexible plastic;

“Float” means a buoyant structure on the water surface which is secured by anchors, pilings, or similar means to locate it in a relatively fixed position to permit boat access or mooring;

“Float Stop” means a control device installed on a private moorage to limit how low the float can settle in the water. It prevents the float from dropping below a set elevation, ensuring a minimum water depth between the float and the sea floor;

“Foreshore” means that land in tidal areas lying between the high tide and the mean low tide and that land in non-tidal areas that is alternatively covered by water and exposed with the normal rise and fall of the level of the body of water, in essence that land between the ordinary high and low water mark;

“Pier” means the portion of a dock affixed to the land, which may overhang the water, especially at high tides;

"Private Moorage Facility" has the same meaning as in the Crown Land Use Operational Policy: Private Moorage and means: A dock, a permanent boat way (boat ramp or rail), or a stand-alone boat lift that is permanently affixed to aquatic Crown land intended for the personal and private residential use by one or a number of individuals or a family unit for boat moorage and does not include mooring buoys. If any discrepancies arise between this definition and that in provincial policy, the definition in provincial policy prevails. It is most typically a dock which is described as a system of one or more components which permits access from (a boat at) the water surface to the nearby uplands and consists of up to three main components: (a) 'pier' (b) 'ramp'; (c) 'float';

"Private Moorage Footprint" means the area that lies directly under the private moorage, and the area impacted or influenced by the shadow as determined by the Qualified Professional;

"Qualified Professional" means an applied scientist or technologist, including a Registered Professional Biologist or Registered Biological Technician, acting alone or together with another Qualified Professional, if:

- (a) The individual is registered and in good standing in B.C. with an appropriate professional organization constituted under an Act, is acting under that association's code of ethics, and is subject to disciplinary action by that association

- (b) The individual is acting within that individual's area of expertise

"Ramp" means the hinged section of a dock which connects a pier to a float, and the slope of which varies with tidal conditions;

"Replacement Authorization" means a subsequent authorization issued to the applicant for the same area and purpose as under the original authorization;

"Riparian" means the vegetated transitional area between terrestrial and aquatic ecosystems, and is delineated from the Natural Boundary upland for a distance of 15 metres;

"Sensitive Aquatic plant habitat" means eelgrass, kelp and saltmarsh;

"Sensitive Habitat" means marine or coastal fish species and habitat important for ecological functions and First Nations or community harvest or other uses;

"Submerged Aquatic Vegetation" means aquatic plants that grow entirely below the water surface in coastal or estuarine marine environments and are rooted in or attached to the seabed, remaining submerged for most or all of their life cycle;

"Unauthorized Private Moorage" means a private moorage that has been built, placed, or maintained on provincial Crown land (including submerged land) without the required Authorization. It is considered an unauthorized use of Crown land and may be subject to enforcement action, penalties, or removal.

"Unencapsulated Foam" means polystyrene foam which does not meet the definition of "encapsulated foam" (is not fully enclosed in a solid, molded shell that prevents breakdown and discharge of polystyrene into the environment).

## 4. Marine and foreshore values

### 4.1 What are “values”

Values refer to the biophysical, cultural, social, and economic elements that people care about protecting, maintaining, or enhancing over time. They form the basis for assessment, planning, and decision-making and are reference points for assessing risk, measuring change, and determining acceptable levels of impact.

To develop a management approach that reflects the ecological and cultural context of the study area, a first step was to identify the ecological and cultural values present within the study area and evaluate whether, and how, they may be affected by private moorage. This step was informed by a review of peer-reviewed literature, regulatory approaches from other North American jurisdictions, and available data, as well as by engagement with First Nations, the Advisory Group, and subject matter experts internal and external to WLRs.

### 4.2 First Nations’ Rights

First Nations have stewarded the lands and waters of the study area since time immemorial and continue to maintain strong relationships with the foreshore and marine environment. This is reflected in rights protected under section 35 of the Constitution Act, 1982, in treaties, and in ongoing food, social, and ceremonial practices and responsibilities to care for lands and waters. For Douglas Treaty Nations within the study area, treaty-protected rights include the right to “carry on fisheries as formerly”.

Through government-to-government engagement and consultation, First Nations raised concerns about the impacts of private moorage on their ability to exercise rights and identified the cumulative presence of private moorage across the shoreline as a key risk to the continued exercise of rights. The concerns identified included, but are not limited to:

- Physical barriers to foreshore access
- Loss or degradation of culturally important habitats
- Loss or damage to heritage sites
- Impacts to water quality that may affect the ability to safely harvest marine foods
- Observations that some private dock owners perceive that they have exclusive rights to adjacent foreshore, creating barriers to access and use by others

The SMP does not assess, define, or resolve impacts to First Nations’ rights, nor does it replace the B.C. government’s legal obligation to consult. Understanding how a particular private moorage proposal may affect rights requires location-specific knowledge held by First Nations and is addressed through an established consultation (referral) process on private moorage applications that occurs outside the SMP and occurs through broader and ongoing government-to-government initiatives. The SMP supports these processes by improving identification of ecological risks associated with private moorage, strengthening mitigation of ecological impacts, and providing a more consistent and transparent approach to considering cumulative effects.

The SMP includes a BMP not yet in force (Section 7.13), which outlines anticipated future measures to improve understanding of First Nations' rights and foreshore use among private moorage applicants and owners. The BMP is not currently in force but is included to signal the B.C. government's intent to work in partnership with First Nations toward additional tools that support respectful shared use of the foreshore.

### **4.3 Other values**

In addition to First Nations' rights, four other key values of importance in the study area were identified: heritage values, ecological values, commercial values, and recreational values and public access. Overall, the assessment found that heritage values, and ecological values are most vulnerable to the individual and cumulative impacts of private moorage in the study area, while impacts to commercial and public recreational use are generally limited and context-specific. More specific outcomes are described below. These findings are specific to the study area and may differ in other contexts.

#### **Heritage values**

The Heritage Conservation Act (HCA) defines heritage value as "the historical, cultural, aesthetic, scientific or educational worth or usefulness of a site or object".

Heritage sites, including archaeological sites are an irreplaceable part of British Columbia's history, and the study area contains a high concentration of sites associated with long-term Indigenous use and occupation. Many are located within or near the foreshore and intertidal zone, reflecting the importance of shoreline areas for settlement, harvesting, and travel. These sites may be culturally sensitive, may contain ancestral remains, and hold significant sacred and spiritual value for First Nations.

Research and engagement confirmed that private moorage construction and maintenance can damage or disturb archaeological values through ground disturbance, and that the risk of inadvertent impacts is elevated because many archaeological sites remain unrecorded, particularly in intertidal areas.

Review of legislation and practice identified that these risks are addressed through existing provincial policy and legislation. The HCA protects archaeological sites predating 1846, as well as burial and rock art sites regardless of age, on both public and private land, and establishes requirements for archaeological assessment, permitting, and chance find procedures. The application-by-application consultation (referral) process also provides an important opportunity to identify archaeological risks that may not be evident in existing records, including knowledge of unrecorded sites or cultural features.

As a result, the SMP does not introduce new measures to protect heritage values, including archaeological sites, but emphasizes awareness, understanding, and consistent application of existing HCA requirements, reinforcing applicant responsibilities and supporting compliance while reducing the risk of inadvertent impacts.

## **Ecological values**

The nearshore and intertidal environments of the study area support a range of ecologically important habitats, including eelgrass meadows, kelp beds, forage fish spawning beaches, and other features that contribute to overall marine ecosystem health. These habitats provide critical functions such as fish rearing and feeding, shoreline stabilization, and support biodiversity.

Evidence reviewed through the SMP process indicates that private moorage can affect ecological values through shading, physical disturbance of the seabed, changes in hydrodynamics, introduction of contaminants, and cumulative loss or degradation of habitat—particularly where docks are densely clustered. While the effects of an individual dock are typically concentrated at the site scale, cumulative impacts beyond the site scale are of increasing concern. These findings informed management approaches focused on establishing zones with policy requirements scaled to ecological sensitivity, clarifying how cumulative ecological effects are considered in decision-making, and applying evidence-based BMPs for private moorage design, construction, and operation to mitigate ecological impacts.

## **Commercial values**

Commercial values in the study area include activities such as marine-based businesses, navigation, and commercial harvesting. Engagement and available information suggest that private moorage generally has limited direct interaction with commercial values in this study area. Where commercial uses occur, they tend to be spatially separated from private moorage or adaptable to existing dock infrastructure.

As a result, private moorage was not identified as a significant source of negative impact to commercial values at the study-area scale. While site-specific conflicts may arise in some locations, these are typically managed through existing processes and did not warrant additional targeted management measures within the SMP beyond those already in place.

## **Public recreational values and public access**

The foreshore is an important setting for recreation and public enjoyment by residents and visitors, supporting activities such as walking, beachcombing, swimming, kayaking, and wildlife observation. Private moorage also supports some waterfront property owners to access and enjoy the marine environment by providing convenient boat access adjacent to their properties.

Engagement with the Advisory Group and review of available information indicated that private moorage is generally not perceived as a major constraint on public recreation opportunities or public access in the study area, particularly given the availability of parks and other publicly accessible shoreline areas.

In some locations, particularly along constrained shorelines or where multiple docks occur in close proximity to one another, private moorage may impede movement along the foreshore or create perceptions that the foreshore is private, despite the fact that ownership of adjacent upland property does not confer ownership of or private rights to access the foreshore. These impacts were identified as generally avoidable or mitigable through appropriate dock siting and design. As a result, the SMP places a focused emphasis on maintaining public access to the foreshore through dock design requirements.

## 5. Zones

Zones are mapped designations of the foreshore that are established based on the best available data and evidence about the location and sensitivity of ecological values that may be adversely impacted by private moorage development.

Zones help balance development opportunities with protection of ecological values and establish a transparent approach that improves clarity for applicants about what to expect based on the location of their proposed or existing private moorage. Specifically, they set out policy guidance describing zone-specific criteria that will be considered by the statutory decision-maker.

Zones do not predetermine the outcome of any application or establish areas where applications for private moorage are expressly prohibited. Instead, they reflect differing levels of ecological sensitivity and establish corresponding expectations for applicants. In areas of greater ecological sensitivity, applicants are expected to provide more information and demonstrate a greater degree of impact avoidance, minimization, and mitigation to support their proposal. The presence of ecological values, and the extent to which impacts are avoided, minimized, and mitigated, are important considerations in decisions regarding proposed private moorage.

The two zones established by this SMP are described below, including the method used to map them and the specific private moorage policies that apply within each. This information is summarized in Table 2. Maps of the zones are provided in Appendix A: SMP Zoning Maps. An interactive, online map is also available at [LINK](#). The interactive map can be used to identify the applicable zoning designation at specific locations of interest.

**Note:** the interactive map described in this paragraph is not yet available. It will be published and a link added when the SMP is finalized.

Zoning requirements apply to applications for new private moorage authorizations (including authorization for a previously built but unauthorized private moorage) but do not apply to existing authorized private moorages or applications for replacement authorizations.

Note that SMP zones are not established on foreshores adjacent to provincial parks and protected areas or adjacent to Indian Reserves. Zones established in the SMP are not the same as local government zoning designations, which remain in force and effect in alignment with local government jurisdiction throughout the study area.

Table 2: Summary of SMP zones and application requirements

| Zone | Description                                                                                       | Requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Application                                                                                                                                                                                                                                                                                                         |
|------|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | Higher sensitivity: ecological features with higher risk of adverse impacts from private moorage. | <ul style="list-style-type: none"> <li>• Demonstrate consideration of alternative mooring options</li> <li>• Marine habitat assessment by a Registered Professional Biologist</li> <li>• Target 10m setback of dock footprint from sensitive aquatic plant habitat</li> <li>• No overlap between dock footprint and sensitive aquatic plant habitats (eelgrass, kelp, and salt marsh)</li> <li>• Construction, operation and maintenance of the private moorage may not cause any harmful changes to marine mammals, fish, shellfish</li> </ul> | <ul style="list-style-type: none"> <li>• Applies to applications for new private moorage authorizations, including applications for a previously built but unauthorized private moorage</li> <li>• Does not apply to existing authorized private moorages or applications for replacement authorizations</li> </ul> |
| 2    | Lower sensitivity: ecological features with lower risk of adverse impacts from private moorage.   | <ul style="list-style-type: none"> <li>• Demonstrate consideration of alternative mooring options</li> <li>• Construction, operation and maintenance of the private moorage may not cause any harmful changes to marine mammals, fish, shellfish or sensitive aquatic plant habitats (eelgrass, kelp, and salt marsh)</li> </ul>                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                     |

### 5.1 Zone 1 (Purple - higher ecological sensitivity)

Zone 1 (Purple - Higher Ecological Sensitivity) was designed to encompass areas of higher ecological sensitivity and biodiversity features with higher risks of adverse impacts to ecological values from private moorage. It was identified based on the presence of:

- One of the following important species or habitats: forage fish (surf smelt and Pacific sand lance), herring, species at risk, and breeding bird colonies
- Critical habitat, as designated under the federal Species at Risk Act, including but not limited to Southern Resident Killer Whale habitat
- An estuary, which is a naturally complex ecosystem that supports multiple species and habitat types
- A functional ecosystem unit in places other than estuaries, defined as locations where at least one habitat-forming structure (including: kelp, eelgrass, or salt marsh) co-occurs with the high likelihood of occurrence of three or more food species (including: urchins, Dungeness crab, clam beds (including geoduck), and mussels and/or oysters)

As described below, applications in Zone 1 are subject to requirements that support the avoidance and minimization of impacts to the sensitive ecological values in these areas.

### **5.1.1 Zone 1 requirement: Consider other moorage options**

#### **Background and rationale**

New private moorage can contribute to ecological impacts and cumulative effects on the marine and foreshore environment. In some situations, alternative options such as existing marinas, mooring buoys, boat launches, or shared moorage facilities may meet a user's access needs and mitigate the need for new infrastructure. Requiring applicants to consider these options supports the avoidance and minimization of environmental impacts where feasible.

#### **Requirement**

Applications for new private moorage in Zone 1 must demonstrate that alternative moorage options (for example, the use of existing marinas, mooring buoys, or boat ramps) were considered. If these alternative options are not available or feasible, the application must explain why.

### **5.1.2 Zone 1 requirement: Marine habitat assessment**

#### **Background and rationale**

Assessments of marine habitat by qualified professionals have proven to be an effective tool to identify sensitive ecological features and inform impact avoidance and mitigation measures (B.C. government and shíshálh Nation 2023, VFPA 2024).

#### **Requirement**

Applications for new private moorage in Zone 1 must be accompanied by a marine habitat assessment completed by a Registered Professional Biologist in good standing with the College of Applied Biologists of British Columbia that meets the minimum requirements set out in Appendix B: Requirements for Marine Habitat Assessment Reports.

### **5.1.3 Zone 1 requirement: Habitat set-back**

#### **Background and rationale**

Sensitive aquatic plant habitats, including eelgrass beds, provide important ecological functions such as supporting fish production and nutrient cycling and serving as areas for prey production, refuge, and spawning for fish and shellfish species (Nightingale and Simenstad 2001; Eriander et al. 2017). These habitats can be affected by overwater structures such as private moorage, which alter environmental conditions including light availability, wave energy, and substrate characteristics (Nightingale and Simenstad 2001). Shading from private moorage structures can reduce eelgrass coverage, while construction activities may result in direct habitat loss and increased turbidity and sediment resuspension (Eriander et al. 2017). Private moorage can also cause both short-term impacts, such as turbidity during installation, and long-term impacts, including habitat alteration and loss of vegetated habitats due to chronic shading (Logan et al. 2022).

Scientific literature demonstrates that private moorage can contribute to declines in eelgrass coverage and associated vegetated habitats (Burdick and Short 1999; Eriander et al. 2017; Logan

et al. 2022). Studies have shown that eelgrass may be absent directly beneath floating private moorages and that coverage increases with distance from structures (Burdick and Short 1999; Eriander et al. 2017). Cumulative impacts from private moorage and foreshore development have been associated with reductions in seagrass meadow area (Cristiani et al. 2025). Similar impacts of shading and construction-related disturbance have been documented for other vegetated nearshore habitats, including salt marshes (Logan et al. 2022).

To reduce these impacts, guidance documents recommend avoiding construction in areas of sensitive aquatic plants and minimizing overlap between private moorage structures and these areas (HSBRIS 2025; Logan et al. 2022). Maintaining separation between private moorage and sensitive aquatic plants can help further limit exposure to these impacts.

### **Requirement**

Within Zone 1, applications for new private moorage must:

- Demonstrate that the proposed siting has been designed to achieve a minimum spatial buffer of 10 m between the dock footprint and sensitive aquatic plant habitats (eelgrass, kelp, and salt marsh). Where this buffer cannot be fully achieved, applicants must demonstrate that alternative siting, design, or mitigation measures were considered to minimize impacts. In no situation may the dock footprint of newly proposed private moorage in Zone 1 overlap with sensitive aquatic plant habitats (eelgrass, kelp, and salt marsh)
- Demonstrate that the construction, operation or ongoing maintenance of the private moorage will not cause harmful changes to marine mammals, fish or shellfish.

To support siting decisions and help identify potential site-specific constraints before submitting an application, property owners may wish to review mapping of ecological features at and around the proposed site, including sensitive aquatic plant habitats and other marine values. The B.C. government has published an interactive map online at [\[LINK\]](#). This information is provided for preliminary planning purposes only and does not constitute a final determination of site conditions, habitat boundaries, or compliance with SMP requirements. Applicants are responsible for verifying site-specific conditions and demonstrating through their application that the proposed private moorage can meet applicable SMP requirements.

**Note:** the interactive map described in this paragraph is not yet available. It will be published and a link added when the SMP is finalized.

## **5.2 Zone 2 (Yellow - lower ecological sensitivity)**

All areas within the study area that were not delineated in Zone 1 were assigned to Zone 2.

### **5.2.1 Zone 2 requirement: Consider other moorage options**

#### **Background and rationale**

New private moorage can contribute to ecological impacts and cumulative effects on the marine and foreshore environment. In some situations, alternative options such as existing marinas,

mooring buoys, boat launches, or shared moorage facilities may meet a user's access needs and mitigate the need for new infrastructure. Requiring applicants to consider these options supports the avoidance and minimization of environmental impacts where feasible.

### **Requirement**

Applications for new private moorage in Zone 2 must demonstrate that alternative moorage options (for example, the use of existing marinas, mooring buoys, or boat ramps) were considered. If these alternative options are not available or feasible, the application must explain why.

## **5.2.2 Zone 2 requirement: Habitat impacts**

### **Background and Rationale**

Zone 2 encompasses areas of lower ecological sensitivity and biodiversity, with relatively lower risk of adverse impacts from private moorage.

### **Requirement**

Applications for new private moorage in Zone 2 must site the proposed private moorage structure in such a way that the construction, operation or ongoing maintenance of the private moorage will not cause any harmful changes to marine mammals, fish, shellfish or sensitive aquatic plant habitats (eelgrass, kelp, and salt marsh).

Appropriate siting strategies to achieve this will vary on a site-specific basis and may include practices such as:

- Ensuring piles, anchor blocks and chains are not placed within sensitive aquatic plant habitats (as per BMP D-09)
- Ensuring that the depth of water beneath the float at the lowest low tide is sufficient to ensure that vessels moored at the private moorage will not ground or cause habitat disturbance with propellers (as per BMP D-03)
- Other measures as appropriate for the site

To support siting decisions and help identify potential site-specific constraints before submitting an application, property owners may wish to review mapping of ecological features at and around the proposed site, including sensitive aquatic plant habitats and other marine values. The B.C. government has published an interactive map online at [\[LINK\]](#). This information is provided for preliminary planning purposes only and does not constitute a final determination of site conditions, habitat boundaries, or compliance with SMP requirements. Applicants are responsible for verifying site-specific conditions and demonstrating through their application that the proposed private moorage can meet applicable SMP requirements.

**Note:** the interactive map described in this paragraph is not yet available. It will be published and a link added when the SMP is finalized.

## 6. Cumulative effects

Cumulative effects are defined as changes to environmental, social, and economic values caused by the combined effect of past, present, and reasonably foreseeable future human activities and natural processes (WLRs 2023). The B.C. government is legally required to consider cumulative effects as one factor in Crown land decision-making. In practice, this means Crown decisions are not made in isolation, but in the context of existing conditions and ongoing pressures in the surrounding area.

Private moorage is typically developed incrementally over time. While the effects of any single dock may be relatively localized, the combined effects of multiple docks, shoreline modifications, vessel use, and land-based activities can accumulate across the landscape.

Existing studies indicate that the study area experiences relatively high cumulative effects on ecological values compared to many other Canadian coastal waters (Murphy et al. 2026; Murray et al. 2024).

Incremental changes to shoreline use can also interfere with the meaningful exercise of First Nations' rights, even where individual projects are limited in scale. Additional private moorage may contribute to broader patterns of constraint, degradation, or displacement affecting First Nations' rights, use and stewardship of the foreshore and marine environment, harvesting opportunities, cultural and spiritual values, and culturally significant sites.

For these reasons, cumulative effects are an important consideration in reviewing private moorage applications.

### 6.1 How cumulative effects are assessed

In reviewing a private moorage application, the B.C. government assesses the effects of the proposed structure itself and how those effects may interact with existing conditions and other activities and impacts in the surrounding area. This means that the decision-maker will consider:

- The current condition and sensitivity of values in the study area (with a particular focus on ecological values and First Nations' rights)
- The potential effects of the proposed private moorage on those values
- The level of existing shoreline development including dock density

#### Ecological values

To assess cumulative impacts on ecological values, the B.C. government considers habitat conditions, vulnerability to disturbance, and the potential for cumulative loss or degradation at scales beyond that of the private moorage footprint itself.

The analysis considers information on baseline ecological conditions and existing levels of disturbance within the study area, including pressures from private moorage and other marine and land-based human activities. This includes consideration of development patterns, habitat fragmentation, remnant patches of undisturbed habitat, and habitat connectivity. Appendix C summarizes the condition of key ecological values in the study area, the existing pressures

affecting those values, and how private moorage may contribute to cumulative effects on those values.

For applications in Zone 1, information from the marine habitat assessment will also be used to help decision-makers understand the potential contribution of the proposed private moorage to cumulative effects.

### **First Nations' rights**

Information and responses provided by potentially impacted First Nations through the application-specific consultation and referral process provide the basis for reviewing cumulative impacts to First Nations' rights. This information helps the B.C. government understand how a proposed private moorage, together with existing development and other pressures, may affect the exercise of rights, access to the foreshore and marine environment, harvesting activities, culturally significant sites, and other interests. Information provided through consultation may include sensitive cultural, archaeological, or other confidential information that is not publicly disclosed as part of a decision.

Consideration is also given to areas that are not currently subject to federal shellfish harvesting closures, which can be particularly important locations for First Nations' to exercise their rights. These are relatively rare in the study area, and incremental shoreline development may contribute to cumulative impacts on access, habitat quality, water quality, and the long-term viability of food, social, and economic harvesting practices. In these areas, even small incremental effects may be significant when considered in combination with existing pressures and the sensitivity of the values present.

### **Existing dock density**

A single threshold at which additional docks may not be approved is not established because the relationship between dock density and cumulative effects is not consistent across the study area. Instead, it varies depending on the values present, their condition, and their sensitivity to disturbance. A level of development that may be compatible with the values present in one location may contribute to unacceptable cumulative effects in another. Rather than applying a single threshold for development across the study area, dock density within the vicinity of a given site is considered as one of several factors within the broader cumulative effects assessment for that application.

## **6.2 How cumulative effects assessment informs decision-making**

Results from the cumulative effects assessment are used by statutory decision-makers, together with other policy considerations, to inform whether private moorage is appropriate at a proposed location and, if allowable, to identify any siting, design, or mitigation measures needed to reduce impacts. As cumulative effects increase in an area, proposals may be subject to greater scrutiny, design expectations, or mitigation requirements, or may be disallowed.

### **6.3 Future refinement of cumulative effects data**

The B.C. government is currently developing cumulative effects assessment protocols and current condition assessments for ecological values in the marine environment. This work will improve understanding of the condition of ecological values in the marine environment and the pressures affecting them. The B.C. government is also working with First Nations through initiatives such as the Saanich Inlet Forum to improve understanding of cumulative effects on ecological values and First Nations' rights and interests within specific marine areas in the SMP study area.

Findings from this work may provide additional information to inform the assessment of the cumulative effects of private moorage in the future. The B.C. government may periodically review and update the cumulative effects components of this SMP to reflect new information, evolving policy direction, and the outcomes of collaborative cumulative effects initiatives where warranted.

DRAFT

## 7. Best Management Practices

Best Management Practices (BMPs) are evidence-based requirements or conditions applied to private moorage siting, design, construction, and operation that are intended to avoid or reduce impacts to heritage and ecological values, and to mitigate risks of marine pollution.

The BMPs outlined here have been developed based on a review of evidence from other jurisdictions and peer reviewed literature, and input through the engagement processes and selected based on their applicability to the study area. They build upon, rather than replicate, existing law and policies to strengthen protection of values.

The BMPs are described in detail below, including the background and supporting rationale for each as well as the specific requirements that must be met. BMPs are organized into four types:

- Application BMPs A-01 and a BMP not yet in force describe pre-application steps that must be completed and/or documentation that must be included in a private moorage application in the study area
- Design BMPs D-01 through D-09 describe private moorage design criteria that must be met in the study area
- Construction BMP C-01 describes steps that must be taken in the construction phase if a private moorage application is approved in the study area
- Operation BMP O-01 describes hazardous products storage prohibitions

All BMPs apply to applications for new private moorage authorizations. As specified under each BMP below some also apply to applications for replacement authorizations, and/or are requirements that existing authorized private moorages must achieve compliance with within specified time periods or when undergoing repair.

For a summary table of all BMPs, refer to Appendix D: Summary of Best Management Practices.

### 7.1 BMP A-01 Heritage and archaeological sites

#### **Background and rationale**

Heritage sites, including archaeological sites, are an irreplaceable part of British Columbia's history and often hold significant cultural, spiritual, and heritage value for First Nations. Given the long history of Indigenous use and stewardship of the Southern Gulf Islands and Southeast Vancouver Island, many archaeological sites are located within or near the foreshore in this area.

All archaeological resources in British Columbia that predate 1846 are protected under the HCA, including sites on both public and private land. Burial sites and rock art sites are protected regardless of age. These protections apply to both recorded and unrecorded sites. Ground disturbing activities such as the construction and maintenance of private moorage has the potential to damage and destroy an archaeological or heritage site. Property owners and

developers have a legal responsibility to ensure that historic and archaeological sites are not disturbed without appropriate permits in place.

The Crown land procedure [Archaeological Review \(PDF, 399KB\)](#) (WLRS 2024a) establishes the administrative process for ensuring that archaeological investigations associated with dispositions of Crown land comply with HCA and Archaeology Branch requirements. Under this policy, where a proposed development is located within 50 m of a recorded archaeological or historic site or within an area of significant archaeological potential, engaging a consulting archaeologist is a common and effective risk-reduction measure. Archaeologists determine the appropriate level of assessment—such as a Preliminary Archaeological Field Reconnaissance or, where warranted, an Archaeological Impact Assessment—to evaluate archaeological potential, identify features, and recommend mitigation or additional work as required to comply with the HCA (WLRS 2024a).

Because archaeological sites may remain undocumented until exposed, applicants must also be prepared to comply with the requirement of the HCA to stop work and respond appropriately if cultural materials are discovered during construction. A Chance Find Procedure (CFP) is a key tool for this purpose. CFPs establish protocols to stop work, protect discovered materials, and notify appropriate authorities, and have proven effective in protecting archaeological resources not identified during prior assessments (Province of BC 2014).

## Requirements

Applications for new private moorage authorizations must meet the below procedures related to archaeological resources. These procedures must also be met if any ground-disturbing maintenance or repair work is done on existing private moorages, including where applications have been made for replacement authorizations.

- Prior to submission of an application or beginning ground-disturbing maintenance or repair work, the applicant or existing private moorage owner must determine if the proposed or existing private moorage footprint is located within 50 m of a recorded archaeological or heritage site or within an area of significant archaeological potential as identified in the provincial “archaeological overview assessments”. This can be determined by talking to your local government, submitting a [free Archaeological Information Request to the B.C. government](#), or by contracting a qualified consulting archaeologist. If there is presence or possibility of an archaeological site, you will receive a report and information on next steps. In general:
  - **If the proposed or existing private moorage footprint is located within 50m of a recorded archaeological or heritage site or within an area of significant archaeological potential as identified in the provincial “archaeological overview assessments”,** applicants must engage a qualified consulting archaeologist to support their application or maintenance/repair work as this scenario is considered moderate or high risk per the provincial archaeological risk assessment process (WLRS 2024a). The consulting archaeologist will carry out an assessment in accordance with applicable provincial processes to determine if

impacts to archaeological or heritage resources can be avoided, if further study is needed, and if a Site Alteration Permit is required for construction

- **If no recorded archaeological site is present within 50 m of the proposed or existing private moorage footprint and it is not within an area of significant archaeological potential as identified in the provincial archaeological overview assessments,** applicants must include, as part of their application package, an Archaeological Chance Find Procedure (CFP) that aligns with the provincial Archaeological Chance Find Procedure document available at [LINK](#). All personnel involved with the private moorage application and construction must be aware of and committed to adhering to the CFP. Guidance on developing an appropriate CFP and a template is available in the provincial Archaeological Chance Find Procedure document. Further information can be obtained by contacting the provincial Archaeology Branch at [archaeology@gov.bc.ca](mailto:archaeology@gov.bc.ca) or 1-250-953-3334.

**Note:** the Archaeological Chance Find Procedure document described here is currently being updated and is not available online. A link to the document will be included in the final SMP.

For clarity on application of this BMP, refer to the following table.

Table 3: Application of BMP A-01

| Situation                                         | BMP applies?                                                         |
|---------------------------------------------------|----------------------------------------------------------------------|
| Application for new private moorage authorization | Yes at time of application                                           |
| Application for replacement authorization         | Yes when conducting any ground disturbing maintenance or repair work |
| Existing authorized private moorages              | Yes when conducting any ground disturbing maintenance or repair work |

## 7.2 BMP D-01 Light penetration to the water

### Background and evidence

Sunlight is a critical determinant of submerged aquatic plant survival, growth, and depth distribution, including for eelgrass and macroalgae (WRP 1999; Sanger et al. 2004; NOAA NMFS 2014; Logan et al. 2022; Szypulski 2018; Taylor 2022). Shading from in water structures such as private moorage can reduce growth, density, and spatial distribution of eelgrass and other submerged vegetation, alter macroalgal communities, and affect fish behaviour through reduced light availability and altered environmental conditions (WRP 1999; Sanger et al. 2004; Gladstone and Courtenay 2014; Ono and Simenstad 2014; Eriander et al. 2017; Logan et al. 2022; Szypulski 2018; Katla 2021; Taylor 2022; O'Regan et al. 2018).

Light-penetrating decking such as grating shown in Figure 6, is an effective mitigation measure to reduce shading impacts (shíshálh Nation 2018; VFPA 2024; HSBRIS 2025; NOAA NMFS 2014). Grating alone does not fully replicate ambient light conditions and may not be sufficient to maintain eelgrass growth or natural fish behaviour without additional design considerations (Fresh et al. 2006; WDNR 2014; Ono and Simenstad 2014; Taylor 2022).

The degree of ecological benefit is influenced by private moorage design variables including open area, width, height above the water surface, and orientation relative to sunlight (Kelty and Bliven 2003; Lambert et al. 2023; WDNR 2014; WRP 1999; Taylor 2022). Light-penetrating decking is most beneficial in shallow areas where light-sensitive aquatic plants are present, including eelgrass beds, kelp and macroalgae communities, and nearshore habitats used by juvenile fish (Islands Trust 2013; Logan et al. 2022; NOAA NMFS 2014; shíshálh Nation 2018; O'Regan et al. 2018).

### Requirements

Applications for new private moorage must comply with the following requirements with respect to light penetration. Private moorages with replacement authorizations and existing authorized private moorages must also achieve compliance with these requirements within ten years of the implementation of the SMP (, by 2036).

- Gangway, pier, and float decking must allow for a minimum of 43% of light to penetrate through. This can be achieved by using translucent decking materials, or material that has open space such as grating
- Construction materials should be as thin as possible to reduce shading
- Orient private moorage to minimize shading duration, including aligning decking with the sun's path where feasible (considering moorage should be constructed perpendicular to the upland boundary and not infringe on the riparian rights of others)

For clarity on application of this BMP, refer to the following table.

Table 4: Application of BMP D-01

| Situation                                         | BMP applies?                                                                                                               |
|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Application for new private moorage authorization | Yes at time of application                                                                                                 |
| Application for replacement authorization         | Not required at time of application. Must achieve compliance within ten years of the implementation of the SMP (, by 2036) |
| Existing authorized private moorages              | Must achieve compliance within ten years of the implementation of the SMP (by 2036)                                        |

## 7.3 BMP D-02 Maximum size

### Background and evidence

Limiting the size of private structures is a key design measure to reduce environmental impacts associated with private moorage, as footprint, length, and width directly influence the extent and duration of shading on the water surface and underlying habitats, making shading the primary pathway through which private moorages affect nearshore ecosystems (Kelty and Bliven 2003; NOAA NMFS 2014; WRP 1999; Logan et al. 2022; Gladstone and Courtenay 2014).

Shading from private moorage reduces vegetation density, productivity, and spatial distribution in vegetated habitats such as eelgrass beds and salt marshes (WRP 1999; Sanger et al. 2004; Fresh et al. 2006; Logan et al. 2022; Gladstone and Courtenay 2014; Eriander et al. 2017). Reduced light availability can result in decreased plant growth and, in some cases, loss of submerged aquatic plants (WRP 1999; Fresh et al. 2006; Eriander et al. 2017). Field studies in British Columbia have documented reduced or absent eelgrass growth beneath moorage structures due to insufficient light penetration (O'Regan et al. 2018). Shading impacts are influenced by moorage size and configuration, with larger footprints and wider structures resulting in greater reductions in light availability (Fresh et al. 2006; Sanger et al. 2004; Logan et al. 2022; Gladstone and Courtenay 2014).

Limiting moorage size reduces the spatial area and duration of shading, helping to maintain ecological functions such as primary productivity and habitat availability (NOAA NMFS 2014; Logan et al. 2022; WRP 1999; Gladstone and Courtenay 2014).

### Requirements

Applications for new private moorage must comply with the following requirements with respect to maximum size. Where possible given existing geographic or design constraints, private moorages with replacement authorizations and existing authorized private moorages must also achieve compliance with these requirements when replacing applicable private moorage components as part of routine repair/maintenance of the structure.

In addition to the requirements below, applicants are advised to refer to Transport Canada's Canadian Navigable Waters Act – [Designated class of minor works under the Minor Works Order](#).

- Total private moorage footprint area (calculated as the sum of the area of all private moorage structure components including but not limited to any gangways, piers, slips, or ramps) must be minimized to the smallest area necessary for safe and functional use
- Gangway width must not exceed 1.8 m
- Float area must be as small as possible, with a maximum area of 35 m<sup>2</sup>
- Total private moorage length must not exceed 60 m as measured from upland property boundary

For clarity on application of this BMP, refer to the following table.

Table 5: Application of BMP D-02

| Situation                                         | BMP applies?                                                                                                                                                            |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Application for new private moorage authorization | Yes at time of application                                                                                                                                              |
| Application for replacement authorization         | Not required at time of application. Where possible given existing geographic constraints, must achieve compliance when replacing applicable private moorage components |
| Existing authorized private moorages              | Where possible given existing geographic constraints, must achieve compliance when replacing applicable private moorage components                                      |

## 7.4 BMP D-03 Minimum clearance

### Background and evidence

Maintaining adequate vertical clearance between private moorage structures and the water surface is a design measure to reduce ecological impacts associated with overwater structures by improving light availability, maintaining habitat function, and reducing the risk of physical disturbance to the seabed (Fresh et al. 2006; NOAA NMFS 2014; Kelty and Bliven 2003; Logan et al. 2022; Nightingale and Simenstad 2001). Increasing clearance reduces the intensity and duration of shading beneath structures and supports ecological processes that depend on sufficient light penetration (Fresh et al. 2006; Kelty and Bliven 2003; Logan et al. 2022).

Insufficient clearance can also result in grounding of floating moorage or associated infrastructure during low tide, leading to disturbance of sediments and damage to vegetation such as eelgrass (NOAA NMFS 2014; Logan et al. 2022). It is especially important in shallow environments where floating moorage may rest closer to the seabed at low tide, increasing both shading impacts and the potential for grounding or disturbance (Kelty and Bliven 2003; NOAA NMFS 2014). Maintaining adequate clearance reduces the likelihood of these impacts and helps preserve substrate stability and associated habitat functions.

### Requirements

Applications for new private moorage must comply with the following requirement with respect to clearance from the high tide line and clearance from the seafloor. Existing, authorized private moorages must achieve compliance when replacing applicable components as part of routine maintenance:

- Clearance from the high tide line: a minimum clearance of 1.0m must be maintained between piers and gangways and the highest high water mark
- Clearance from the seafloor: the bottom of all private moorage components must be a minimum of 1.5 metres above the sea bed during the lowest tide
- For existing private moorages, if the siting is such that seawater levels at the lowest low tide are less than 1.5m deep, elevated piles or float stops designed to limit downward movement of floats will be permitted to be installed to meet the intent of this BMP

To support siting decisions and help identify potential site-specific constraints before applying, applicants may wish to review mapping illustrating areas where there may be potential for docks to ground at low tide. In these areas and others, it may be difficult to meet the existing provincial policy requirement that docks do not ground at low tide and the BMP D-03 requirement for 1.5 m clearance from the seafloor. Maps are available in Appendix E: Grounding Potential. This information is provided for preliminary planning purposes only and does not constitute a final determination of site conditions or compliance with provincial policy or BMP D-03. Applicants are responsible for verifying site-specific conditions and demonstrating through their application that the proposed private moorage can meet applicable requirements.

For clarity on application of this BMP, refer to the following table.

Table 6: Application of BMP D-03

| <b>Situation</b>                                  | <b>BMP applies</b>                                                                                |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Application for new private moorage authorization | Yes at time of application                                                                        |
| Application for replacement authorization         | Not required at time of application. Must achieve compliance when replacing applicable components |
| Existing authorized private moorages              | Must achieve compliance when replacing applicable components                                      |

## 7.5 BMP D-04 Construction materials

### Background and evidence

Materials used in private moorage construction, particularly treated wood products, can be a source of chemical contamination to the marine environment (NOAA 2009; NOAA NMFS 2014). Common wood preservatives such as creosote, pentachlorophenol, chromated copper arsenate, and copper naphthenate are known to leach contaminants into surrounding water and sediments over time, resulting in toxic effects to aquatic organisms and degradation of habitat quality (NOAA 2009; DFO 2001; NOAA NMFS 2014; Nightingale and Simenstad 2001 Logan et al. 2022).

Creosote-treated wood, in particular, is a well-documented source of polycyclic aromatic hydrocarbons (PAHs), which can accumulate in sediments and enter aquatic food webs, with documented effects on fish including impaired growth, reproductive disruption, and increased disease risk at elevated exposure levels (NOAA 2009; NOAA NMFS 2014; Nightingale and Simenstad 2001; Logan et al. 2021).

Avoidance of the use of these materials is the best strategy to reduce the risk of introducing harmful substances into the marine environment and improving ecological conditions (NOAA NMFS 2014; Logan et al. 2022). To minimize contamination, regulatory and best practice guidance consistently recommend the use of alternative materials such as concrete, steel, and untreated timber, prohibit the use of creosote-treated wood and restrict the use of wood treated with oil-based preservatives (USACE 2020; VFPA 2024; shíshálh Nation 2018; NOAA NMFS 2014;

ADFandG 2025; ODFW 2016; CA RWQCB 2018). The use of recycled materials is only appropriate where they are confirmed to be free of prohibited preservatives and meet applicable environmental requirements (B.C. government and shíshálh Nation 2024; VFPA 2024). In aquatic environments, leaching of chromated copper arsenate from treated wood occurs mostly in the first 3 weeks after the treated wood is submerged, after which time leaching declines to very low levels (Logan et al 2022).

## Requirements

Applications for new private moorage must comply with the following requirements with respect to construction material selection. Private moorages with replacement authorizations and existing authorized private moorages must also achieve compliance with these requirements when replacing applicable private moorage components as part of routine repair or maintenance of the structure.

- The use of wood treated with creosote or pentachlorophenol is prohibited
- The use of other oil based or chemically treated wood products, including those containing copper products is not recommended where viable alternatives such as concrete or steel are available. If required to be used, chromated copper arsenate is preferred to other copper products
- Treated recycled timber may be used only where it is demonstrated to be free of creosote or pentachlorophenol and otherwise meets the requirements of this BMP
- When materials are removed for replacement, they must be disposed of in an appropriate solid waste facility. Do not reuse, gift, or sell unapproved materials for reuse in other marine applications or where they are prohibited in the terrestrial environment

For clarity on application of this BMP, refer to the following table.

Table 7: Application of BMP D-04

| <b>Situation</b>                                  | <b>BMP applies</b>                                                                                                |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Application for new private moorage authorization | Yes at time of application                                                                                        |
| Application for replacement authorization         | Not required at time of application. Must achieve compliance when replacing applicable private moorage components |
| Existing authorized private moorages              | Must achieve compliance when replacing applicable private moorage components                                      |

## 7.6 BMP D-05 Piles

### Background and evidence

Private moorage piles are a necessary structural component of many overwater structures but can result in localized environmental impacts to nearshore habitats. Documented effects include shading, physical disturbance of the seabed, and changes to hydrodynamic processes (Nightingale and Simenstad 2001; NOAA NMFS 2014; Kelty and Bliven 2003; Logan et al. 2022). Piles contribute to reduced light availability beneath structures, which can affect submerged aquatic vegetation and associated ecological functions, while installation and presence can disturb sediments, increase turbidity, disrupt fish distribution and migration, and alter substrate and habitat conditions (Nightingale and Simenstad 2001; DFO 2001; NOAA NMFS 2014; Logan et al. 2022).

Piles may also alter local current flow and sediment transport, influencing substrate stability and ecological function in the surrounding area (Nightingale and Simenstad 2001; Logan et al. 2022; Kelty and Bliven 2003; NOAA NMFS 2014). The magnitude of these effects is closely related to pile density and diameter, with impacts increasing as the number and size of piles increases (Nightingale and Simenstad 2001; Kelty and Bliven 2003; NOAA NMFS 2014; Logan et al. 2022).

Scientific literature and management practice guidance consistently identify reduction in pile number and diameter as one of the most effective approaches for minimizing ecological impacts associated with pile-supported structures (Nightingale and Simenstad 2001; Kelty and Bliven 2003; NOAA NMFS 2014; Logan et al. 2022). Minimizing piles reduces direct habitat disturbance and shading while also limiting cumulative effects where multiple structures occur within the same nearshore area (Logan et al. 2022). Avoiding placing piles within areas of sensitive aquatic plants such as eelgrass meadows, kelp beds, and salt marshes further reduces ecological risks (Kelty and Bliven 2003; NOAA NMFS 2014; Logan et al. 2022).

## **Requirements**

Applications for new private moorage must comply with the following requirements with respect to piles. Private moorages with replacement authorizations and existing authorized private moorages must also achieve compliance with these requirements when replacing existing piles at their end of life or as part of routine repair/maintenance of the structure.

### **Pile installation**

- Pile installation must comply with the requirements of BMP C-01

### **Pile design**

- Use the fewest number of piles as is practicable while maintaining structural integrity and safety. Space piles as widely as practicable
- Limit pile diameter to the smallest size necessary to achieve required load-bearing capacity and structural integrity
- Consider alternative private moorage designs or construction methods that reduce the number of piles required, particularly in combination with other BMPs such as reducing overall private moorage footprint and increasing light penetration beneath structures

### **Pile siting**

- New piles must be placed in accordance with the applicable zoning requirements outlined in Section 5
- When replacing piles on existing private moorages, pile placement must avoid sensitive aquatic plant habitats such as eelgrass meadows, kelp beds, and salt marshes to the greatest extent possible

Pile materials:

- New and replacement piles must comply with the material requirements of BMP D-04.

Pile disposal

- Piles removed for replacement must be disposed of in an appropriate solid waste facility. Do not reuse, gift, or sell them for reuse in other marine applications or where they are prohibited in the terrestrial environment

For clarity on application of this BMP, refer to the following table.

Table 8: Application of BMP D-05

| <b>Situation</b>                                  | <b>BMP applies</b>                                                                                                                               |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Application for new private moorage authorization | Yes at time of application                                                                                                                       |
| Application for replacement authorization         | Not required at time of application. Where possible given existing dock footprint/design, must achieve compliance when replacing existing piles. |
| Existing authorized private moorages              | Where possible given existing dock footprint/design, must achieve compliance when replacing existing piles.                                      |

## 7.7 BMP D-06 Floatation systems

### Background and evidence

The use of unencapsulated or inadequately contained polystyrene foam (for example,, Styrofoam) in marine infrastructure in British Columbia is a leading source of marine pollution and cause of environmental degradation (HSBRIS 2025; WDE 2025; Ruiz 2022, Surfrider 2024). Polystyrene foam accounts for an estimated 50–80 percent of B.C.'s shoreline debris by volume, with most sources linked to marine infrastructure (Ruiz 2022). When exposed to physical wear, ultraviolet radiation, wave action, or waterlogging, polystyrene foam can fragment over time, releasing microplastics and associated contaminants into the marine environment (Fauna and Flora International 2020; B.C. government and shíshálh Nation 2024; WDE 2011).

These fragments contribute to secondary microplastic pollution, which is increasingly documented as a threat to marine ecosystems as these small particles can be ingested by fish, birds, and other aquatic organisms, posing risks through physical blockage, reduced feeding efficiency, and exposure to associated contaminants (Fauna and Flora International 2020; WDE 2025). Because private moorage floats are continuously exposed to environmental stressors,

inadequately protected polystyrene represents a persistent and preventable source of marine pollution.

Evidence-based guidance consistently identifies full encapsulation within a durable and rigid shell as an effective method for preventing fragmentation and material loss from polystyrene flotation (Fauna and Flora International 2020; HSBRIIS 2025; shíshálh Nation 2018; VFPA 2024). Durable encapsulation prevents direct exposure of foam to mechanical damage and environmental degradation, thereby reducing the likelihood of long-term pollution. Encapsulation approaches that rely solely on flexible plastic wrapping are insufficient, as they are prone to tearing, degradation, and failure over time (WDE 2025). At the same time, a range of alternative flotation materials and systems, such as air-filled devices, High-Density Polyethylene (HDPE) floats, and other durable non-foam options are increasingly available in B.C. and will further reduce pollution risks where substitution is feasible.

### **Requirements**

Applications for new private moorage must comply with the following requirements with respect to flotation systems. Private moorages with replacement authorizations and existing authorized private moorages must also achieve compliance with these requirements within ten years of the implementation of the SMP (by 2036), except for in cases where existing polystyrene foam flotation is deteriorating or spalling, compliance must be achieved within two years of implementation of the SMP (by 2028), or within two years within which spalling starts.

These timelines and requirements may be strengthened or refined over time to align with province-wide direction under the Coastal Marine Strategy, including more stringent controls on polystyrene flotation.

- The use of polystyrene foam that is soft plastic-wrapped, unencapsulated, exposed, or otherwise susceptible to fragmentation or material loss, is prohibited
- Applicants are encouraged to integrate the following approved flotation systems in their applications:
  - Air-Filled Flotation Devices: These are more robust and weather-resistant than EPS, with longer product life and reduced pollution risk. They are increasingly used in aquaculture and dock applications as durable substitutes
  - High-Density Polyethylene (HDPE) Floats: HDPE floats are UV-resistant, durable, and less prone to environmental degradation, making them popular alternatives in aquaculture and marine construction
  - Polypropylene Floats: Expanded polypropylene (EPP) is another plastic foam with high durability and resistance to environmental damage, used increasingly as an alternative flotation material
- The following flotation system will be accepted in instances where the above encouraged options are not feasible:
  - Polystyrene foam is flotation that is fully enclosed within a durable and rigid protective shell designed to prevent fragmentation and material release by resisting physical damage, water intrusion, and long-term degradation

- Floats removed for replacement must be disposed of in an appropriate solid waste facility. Do not reuse, gift, or sell these materials for reuse in other marine applications or where they are prohibited in the terrestrial environment

For clarity on application of this BMP, refer to the following table.

Table 9: Application of BMP D-06

| <b>Situation</b>                                   | <b>BMP applies</b>                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Application for new private moorage authorization. | Yes at time of application                                                                                                                                                                                                                                                                                                                                                                                |
| Application for replacement authorization.         | Not required at time of application. Where existing unencapsulated polystyrene is in good condition, must achieve compliance within ten years of the implementation of the SMP (, by 2036). Where existing polystyrene foam floatation is deteriorating or spalling, must achieve compliance within two years of implementation of the SMP (, by 2028), or within two years within which spalling starts. |
| Existing authorized private moorages .             | Where existing unencapsulated polystyrene is in good condition, must achieve compliance within ten years of the implementation of the SMP (, by 2036). Where existing polystyrene foam floatation is deteriorating or spalling, must achieve compliance within two years of implementation of the SMP (, by 2028), or within two years within which spalling starts.                                      |

## 7.8 BMP D-07 Foreshore access

### Background and evidence

Even where land next to the foreshore is privately owned in B.C., the public retains the privilege or "bare licence" to access the foreshore. This makes the foreshore an important place for First Nations to access for harvesting as well as peaceful enjoyment of nature and for recreational activities such as beachcombing, swimming, kayaking, and wildlife observation. In some cases, private moorage may reduce opportunities for First Nations or public use by obstructing access or making it appear that the foreshore is private. Ownership of upland property does not confer ownership of, or exclusive access to, the adjacent foreshore. Existing policies are in place for private moorage to allow for public access across an intertidal area (WLRS 2024b). However, challenges accessing foreshore areas from the water by vessel can also result from structures such as private moorage.

### Requirements

Applications for new private moorage must ensure the siting and design of the private moorage structure does not impede public access to the foreshore from the water, including the landing of vessels on the beach nor prevent public travel along the foreshore.

For clarity on application of this BMP, refer to the following table.

Table 10: Application of BMP D-07

| <b>Situation</b>                                  | <b>BMP applies</b>         |
|---------------------------------------------------|----------------------------|
| Application for new private moorage authorization | Yes at time of application |
| Application for replacement authorization         | No                         |
| Existing authorized private moorages              | No                         |

## **7.9 BMP D-08 Artificial above-deck lighting**

### **Background and evidence**

Artificial lighting in coastal and nearshore environments can alter natural light regimes and affect the behaviour, distribution, and ecological interactions of marine organisms (Davies et al. 2014; Marangoni et al. 2022). Increased light levels can alter fish behavior and movement patterns, with responses including both attraction and avoidance depending on light intensity, quality, and environmental context (Ono and Simenstad 2014; Nightingale et al. 2006). Minimizing artificial lighting on private moorage is therefore an important design consideration for reducing ecological impacts in nearshore habitats.

Scientific literature indicates that artificial light at night can alter ecological processes in marine environments, including species behaviour, habitat use, and trophic interactions (Davies et al. 2014; Marangoni et al. 2022). Artificial light can influence fish behavior and movement patterns, with responses including attraction or avoidance depending on light conditions and may affect predator-prey interactions (Ono and Simenstad 2014; Nightingale et al. 2006). Artificial lighting can also disrupt ecological interactions and natural light-dependent behaviour in coastal systems (Davies et al. 2014; Marangoni et al. 2022).

The intensity, spectrum, and direction of light influence the magnitude of ecological effects, with both light intensity and wavelength playing important roles in shaping biological responses (Davies et al. 2014; Marangoni et al. 2022). Avoiding blue (short wavelength) light is therefore recommended, as shorter wavelengths are more likely to affect behaviour and ecological interactions (Davies et al. 2014; Marangoni et al. 2022). Shielding light sources and reducing overall light intensity can reduce impacts to aquatic habitats by minimizing artificial light that may attract fish or disrupt migration behavior (WAC 220-660-380). Limiting lighting duration using timers or motion detectors can further reduce ecological disturbance by minimizing unnecessary exposure to artificial light.

### **Requirements**

Applications for new private moorage must comply with the following requirements with respect to artificial above-deck lighting. Private moorages with replacement authorizations and existing

authorized private moorages must also achieve compliance with these requirements within five years of the implementation of the SMP (, by 2031).

- Limit artificial above-deck lighting to what is necessary for safety and navigation
- Use low-intensity, shielded lighting that does not illuminate the water surface, and avoid blue-wavelength light
- Incorporate timers or motion detectors into systems to minimize duration of use and reduce unnecessary use during dark hours

For clarity on application of this BMP, refer to the following table.

Table 11: Application of BMP D-08

| Situation                                         | BMP applies                                                                                                                 |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Application for new private moorage authorization | Yes at time of application                                                                                                  |
| Application for replacement authorization         | Not required at time of application. Must achieve compliance within five years of the implementation of the SMP (, by 2031) |
| Existing authorized private moorages              | Must achieve compliance within five years of the implementation of the SMP (, by 2031)                                      |

## 7.10 BMP D-09 Mooring systems

### Background and evidence

Seabed scour from mooring systems (including anchors, chains, blocks, and associated components used to secure a float or dock) occurs when components contact, shift, or drag along the seabed, causing chronic disturbance to benthic habitats and sediments (Martini et al. 2023; Sagerman et al. 2019; DFO 2025). Conventional chain catenary moorings are a primary source of this disturbance because the anchor line or chain rests on the seafloor and moves with vessel swing, currents, and waves (Martini et al. 2023). This movement creates persistent “scars” that remove or suppress vegetation and alter sediment structure, particularly in seagrass meadows, including eelgrass meadows which are the most common seagrass in B.C., but also in other soft-bottom habitats (Martini et al. 2023; Sagerman et al. 2019). Because aquatic vegetation stabilizes sediment and reduces resuspension, seabed scour can contribute to erosion, turbidity, and loss of habitat function (Sagerman et al. 2019; Martini et al. 2023). Minimizing seabed scour is therefore an important design and management consideration for private moorages and moorings in shallow and nearshore environments that support aquatic habitats.

Evidence indicates that mooring designs which avoid direct seabed contact can reduce these impacts, although effectiveness depends on design, installation, and maintenance (Martini et al. 2023). Proper sizing, installation, and tensioning of mooring systems are required to ensure that components remain off the bed under expected environmental conditions (DFO 2025; Martini et al. 2023). Improper installation, inadequate sizing, or loss of system function (for example,, due

to biofouling) can result in continued seabed contact and reduced effectiveness (Martini et al. 2023).

Regular inspection and maintenance are also important to ensure continued performance and to prevent unintended seabed contact over time (Martini et al. 2023). It is particularly relevant in shallow coastal environments that support submerged aquatic vegetation or soft sediment habitats, where impacts from mooring infrastructure are well documented (Martini et al. 2023; Sagerman et al. 2019). It is also important in areas with multiple moorings, where cumulative scour can expand, merge, and increase habitat fragmentation and erosion over time (Martini et al. 2023).

### Requirements

Applications for new private moorage must comply with the following requirements related to seabed scour. Private moorages with replacement authorizations and existing authorized private moorages must also achieve compliance with these requirements when replacing private moorage components as part of routine repair/maintenance of the structure.

- Configure mooring systems to prevent anchors and chains from dragging along the seabed and appropriately size mooring anchors and chains to prevent the anchor or chain from shifting or dragging along the seabed
- Do not place anchor blocks within sensitive aquatic plant habitats (eelgrass, kelp, and salt marsh)
- Elastic moorage or heavy polypropylene rope with minimal chain at the bottom are supported alternatives where possible
- Conduct annual self-inspections of mooring systems to ensure ongoing performance

For clarity on application of this BMP, refer to the following table.

Table 12: Application of BMP D-09

| Situation                                          | BMP applies                                                                                                        |
|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Application for new private moorage authorization. | Yes at time of application.                                                                                        |
| Application for replacement authorization.         | Not required at time of application. Must achieve compliance when replacing applicable private moorage components. |
| Existing authorized private moorages.              | Must achieve compliance when replacing applicable private moorage components.                                      |

## 7.11 BMP C-01 Construction impacts

### Background and evidence

Construction activities associated with private moorage, including pile installation, anchoring, material handling, and equipment operation, can cause temporary but significant impacts to the aquatic and riparian environment. These activities may generate underwater noise, increase turbidity, disturb fish and fish habitat features, and introduce sediments or other deleterious

substances into the marine environment. Such effects can negatively affect fish, invertebrates, marine mammals, birds, and submerged aquatic vegetation. Impacts from construction are of particular concern during sensitive life stages such as spawning, migration, and early development, when aquatic species are more vulnerable to disturbance. Recent research has demonstrated measurable biological effects on Pacific sand lance resulting from underwater noise associated with construction activities (Carson et al. 2025).

This BMP is informed by the DFO Code of Practice for Boathouses, Docks and Moorings: Construction, Maintenance and Repair (DFO 2025), which identifies widely accepted measures to minimize construction-related impacts, including the use of timing windows for in-water works, protection of the riparian zone, sediment and erosion control, spill prevention, and underwater noise mitigation.

Timing windows for in-water works are a well-established mitigation measure used to reduce risks to aquatic species during sensitive periods such as spawning, migration, and early life stages. Federal regulatory and guidance documents identify timing windows as a key tool to reduce direct harm, behavioral disruption, and habitat degradation associated with construction activities. While timing windows do not eliminate all impacts, they are widely applied and effective at reducing short-term disturbances when combined with other mitigation measures (DFO 2025).

### **Requirements**

Applications for new private moorage must include a Construction Environmental Management Plan (CEMP) that meets the requirements below.

Owners of existing private moorage conducting maintenance and repair must also comply with the requirements below during maintenance and repair work but are not required to submit a CEMP to the B.C. government unless the scope of repairs triggers approval processes. Typically, a new application is triggered by any changes that were not part of a previously approved management plan such as changes to dock footprint (shape, size, location).

Requirements for the CEMP:

1. Complies with the [DFO Code of Practice for Boathouses, Docks and Moorings: Construction, Maintenance and Repair](#) (DFO 2025)
2. In-water works must be conducted only during the applicable DFO timing windows for the project location, unless otherwise authorized by Fisheries and Oceans Canada (DFO 2025). Timing windows that include the study area are published by DFO on their [Projects Near Water website](#)
3. Construction and equipment operation in the intertidal area will be conducted during out-of-water tidal conditions
4. Site access from adjacent upland property is preferable. If barge access to the site is required, barge spuds must not be deployed in eelgrass, marsh or kelp beds. Barges must not ground at low tide
5. When conducting any replacement, maintenance or repair work, any components or materials or waste removed from existing private moorages (such as but not limited to

decking, floats, piles) must be disposed of on land in an appropriate solid waste facility. Do not reuse, gift, or sell these materials for reuse in other marine applications or where they are prohibited in the terrestrial environment

6. Complies with other current requirements such as those set seasonally by [Transport Canada to protect Southern Resident Killer Whales](#) and [Killer whales in Canadian Pacific waters](#)

For clarity on application of this BMP, refer to the following table.

Table 13: Application of BMP C-01

| Situation                                          | BMP applies                                                    |
|----------------------------------------------------|----------------------------------------------------------------|
| Application for new private moorage authorization. | Yes at time of application.                                    |
| Application for replacement authorization.         | Yes when conducting any replacement, maintenance, repair work. |
| Existing authorized private moorages.              |                                                                |

## 7.12 BMP O-01 Hazardous products storage and handling

### Background and evidence

Storage of hazardous products such as fuels, oils, and chemicals on private moorage structures presents a risk of contamination to the marine environment due to the direct connectivity between private moorage surfaces and surrounding waters. Contaminants introduced to aquatic environments can adversely affect water quality and aquatic organisms, including fish, invertebrates, and aquatic vegetation, and may persist in sediments (Nightingale and Simenstad 2001). Preventing the storage of hazardous products on private moorages is therefore an important measure to reduce the likelihood of contamination during routine private moorage use. It is especially relevant in areas with vessel use, refueling activities, or maintenance operations where fuels, oils, or chemicals may be present. Clean Marine BC supports practices aimed at eliminating the release of contaminants to the water and promoting responsible environmental management in marine facilities (Clean Marine BC 2026).

For the purpose of this BMP, hazardous products are defined in accordance with the federal Hazardous Products Regulations (2026), which establish criteria for the classification and identification of hazardous substances.

### Requirement

All private moorage operators must comply with the following requirements with respect to storage of hazardous products.

- Hazardous products may not be stored on private moorage, including fuels, oils, and chemicals
- Conduct activities such as refueling or maintenance in a manner that prevents these substances from entering the marine environment

- Establish spill prevention and response measures, including having a basic spill kit stored on the dock, and be prepared to address accidental releases immediately if they occur. The plan should include stopping work, cleaning up with a spill kit and reporting any spills into the ocean to the DFO spill reporting number at: [1-800-465-4336](tel:1-800-465-4336)
- The private moorage must be kept in a safe, clean, and sanitary condition

For clarity on application of this BMP, refer to the following table.

Table 14: Application of BMP O-01

| Situation                              | BMP applies? |
|----------------------------------------|--------------|
| Any existing private moorage operator. | Yes.         |

### 7.13 BMP not yet in force: Foreshore rights and cultural context

This BMP is not yet in force but is anticipated to be phased into effect in the future, in coordination with First Nations. It is included in the SMP at this time to provide as much information as possible to current private moorage owners and applicants about what to expect in the future. When this BMP comes into force, this document will be updated, and private moorage owners and applicants will be notified of the implications. Some of the details outlined below are subject to change pending implementation approach.

#### Background and rationale

The foreshore in this area has been stewarded by First Nations since time immemorial, and many contemporary foreshore uses overlap with long-standing Indigenous harvesting areas, travel routes, village sites, and cultural places. Although waterfront property owners may hold title to upland parcels, the foreshore is almost entirely Crown land and remains closely connected to First Nations rights and interests, including Constitutional and treaty rights.

Private moorage and related shoreline works can affect First Nations' ability to exercise their rights including harvesting and accessing culturally important sites, particularly in the intertidal zone, and there is a lack of understanding about this issue among the public. As a result, First Nations people often face barriers to exercising their rights in the foreshore, including physical constraints and discriminatory interactions with non-Indigenous people. Improving understanding is a necessary step toward respectful shared use of the foreshore and more effective foreshore management.

To address this challenge, a short course to build awareness and understanding among waterfront property owners who wish to build or use existing private moorage in the study area will be designed and implemented in partnership with local First Nations. The course is anticipated to provide essential cultural and legal context so that applicants understand why additional requirements apply to foreshore development and how respectful, informed decision-making supports reconciliation and upholds First Nations' rights. The course is intended to promote awareness among waterfront property owners and the public, not to replace legal requirements or consultation processes carried out by the B.C. government.

**Requirements**

It is anticipated that, once developed, completion of the course will become a prerequisite that must be completed by all applicants for new private moorage authorizations before their authorization is issued, and that owners of existing private moorages will also be encouraged to complete the course.

DRAFT

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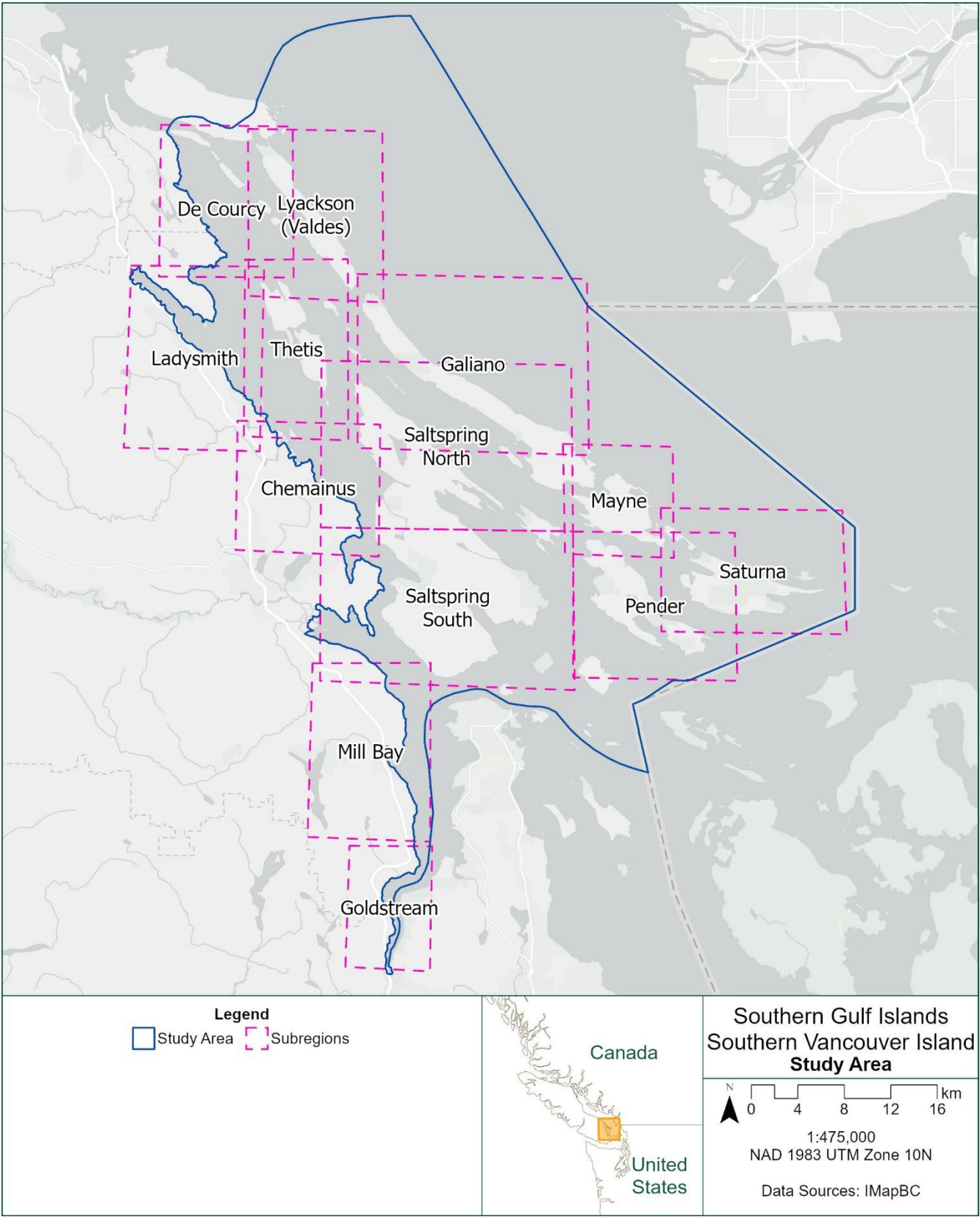
## Appendix A: SMP zoning maps

The maps in this section delineate the extent of SMP Zone 1 and Zone 2 within the study area. Refer to Section 5: Zones for detail on zoning methodology and requirements.

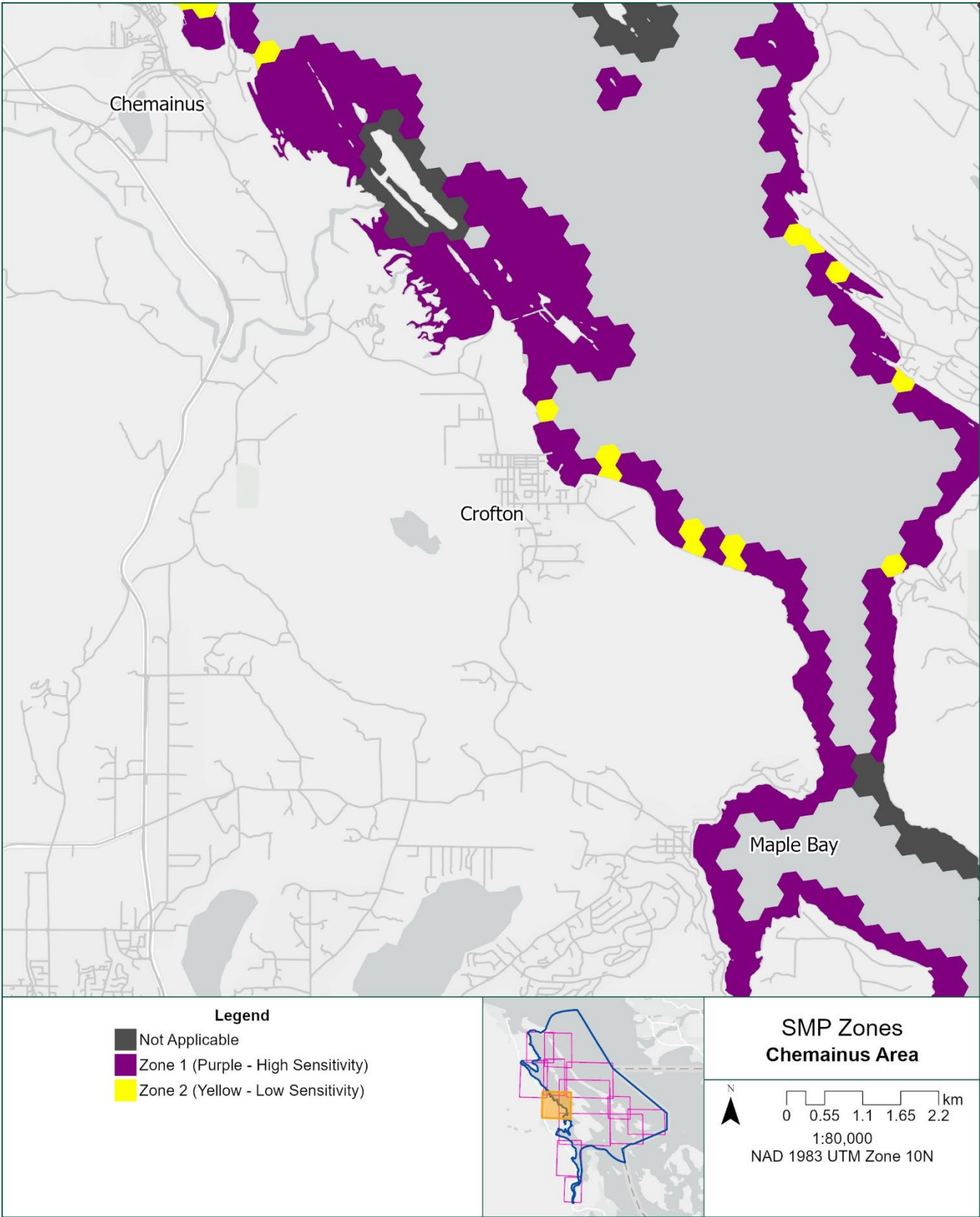
### Zoning Maps included:

- Study area overview
- Zoning map 1: Chemainus Area
- Zoning map 2: DeCourcy Island Area
- Zoning map 3: Galiano Island Area
- Zoning map 4: Goldstream Area
- Zoning map 5: Ladysmith Area
- Zoning map 6: Lyackson (Valdes) Island Area
- Zoning map 7: Mayne Island Area
- Zoning map 8: Mill Bay Area
- Zoning map 9: Pender Island Area
- Zoning map 10: Saltspring Island North Area
- Zoning map 11: Saltspring Island South Area
- Zoning map 12: Saturna Island Area
- Zoning map 13: Thetis Island Area

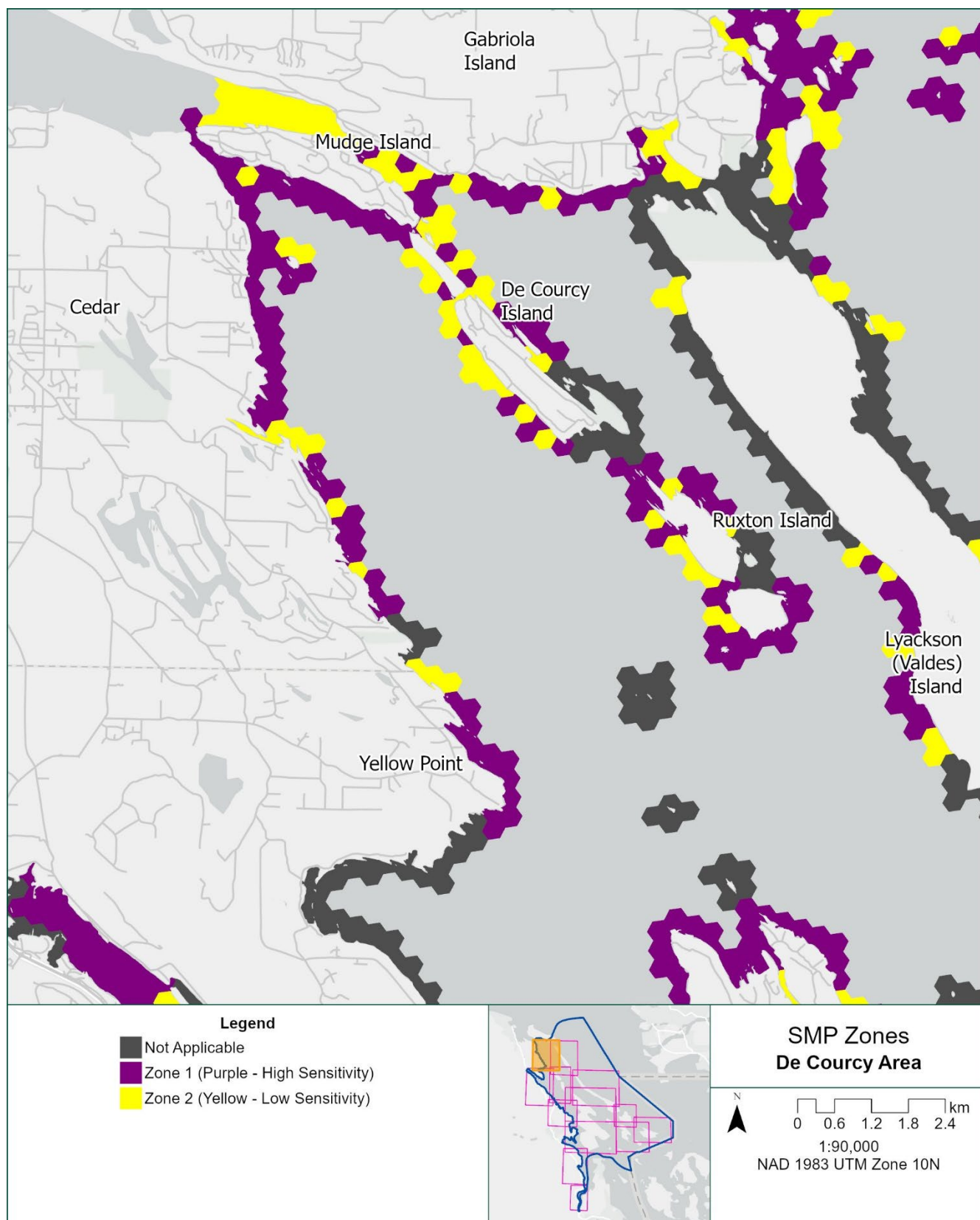
# Study area overview



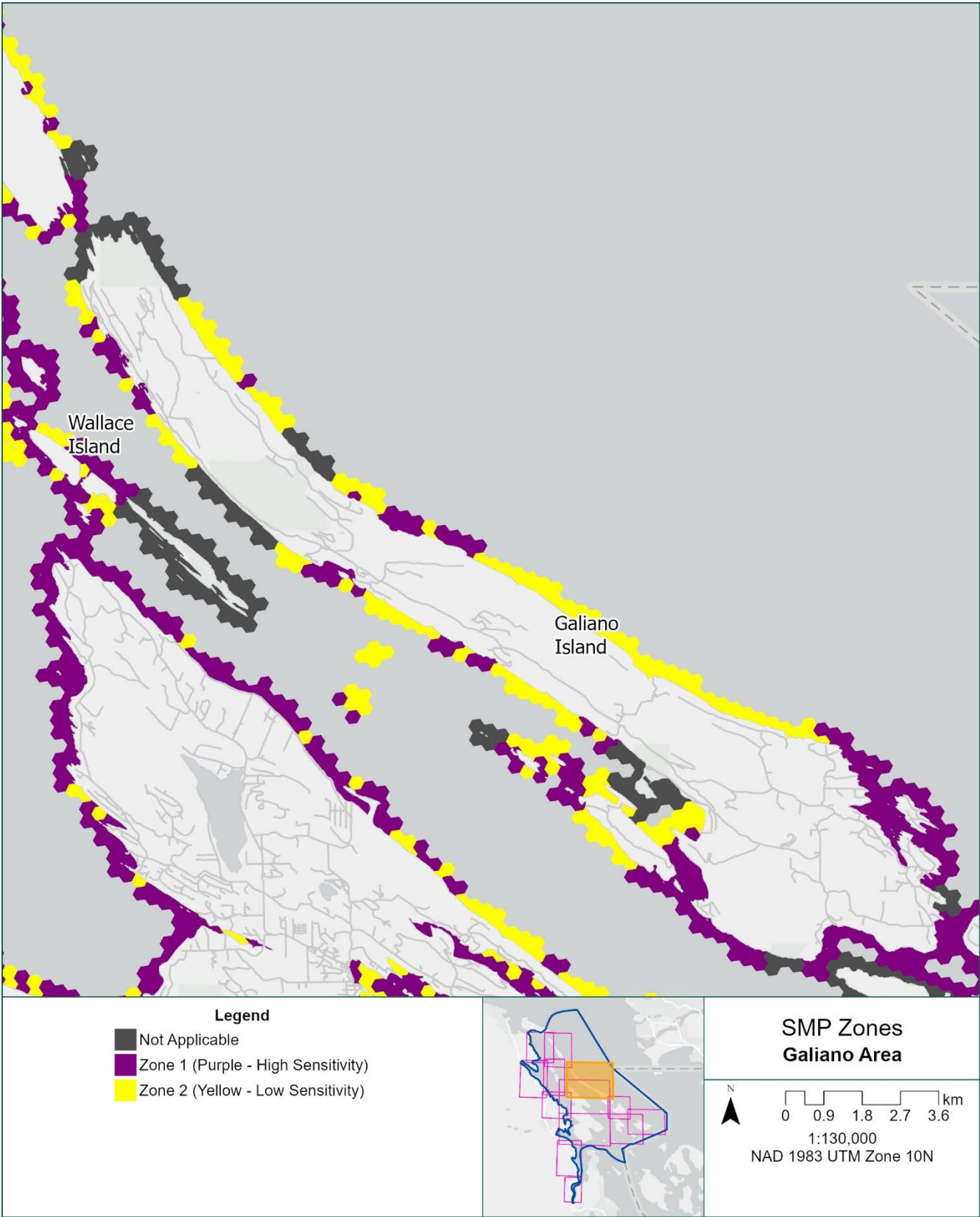
**Zoning Map 1: Chemainus area**



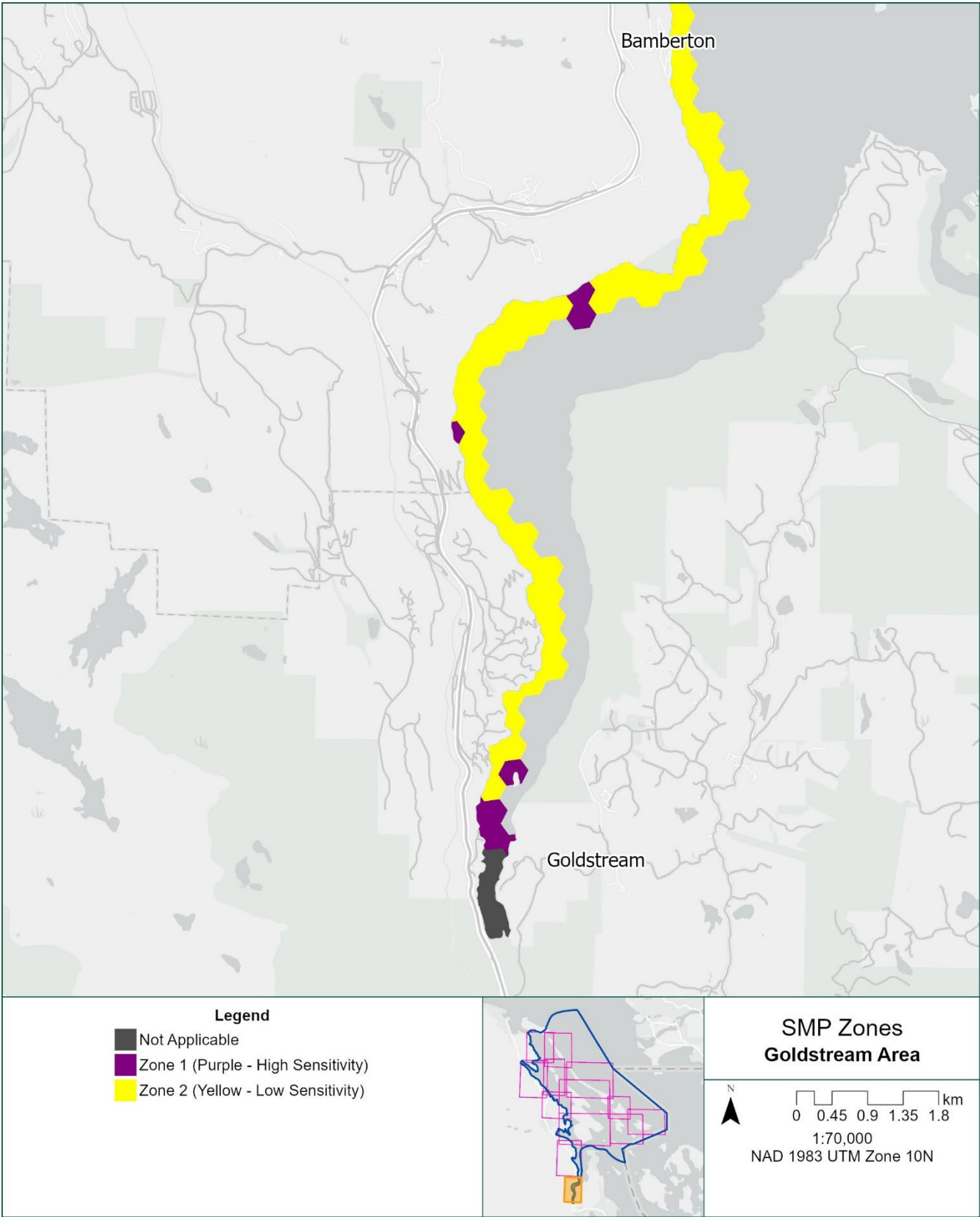
## Zoning map 2: DeCourcy Island Area



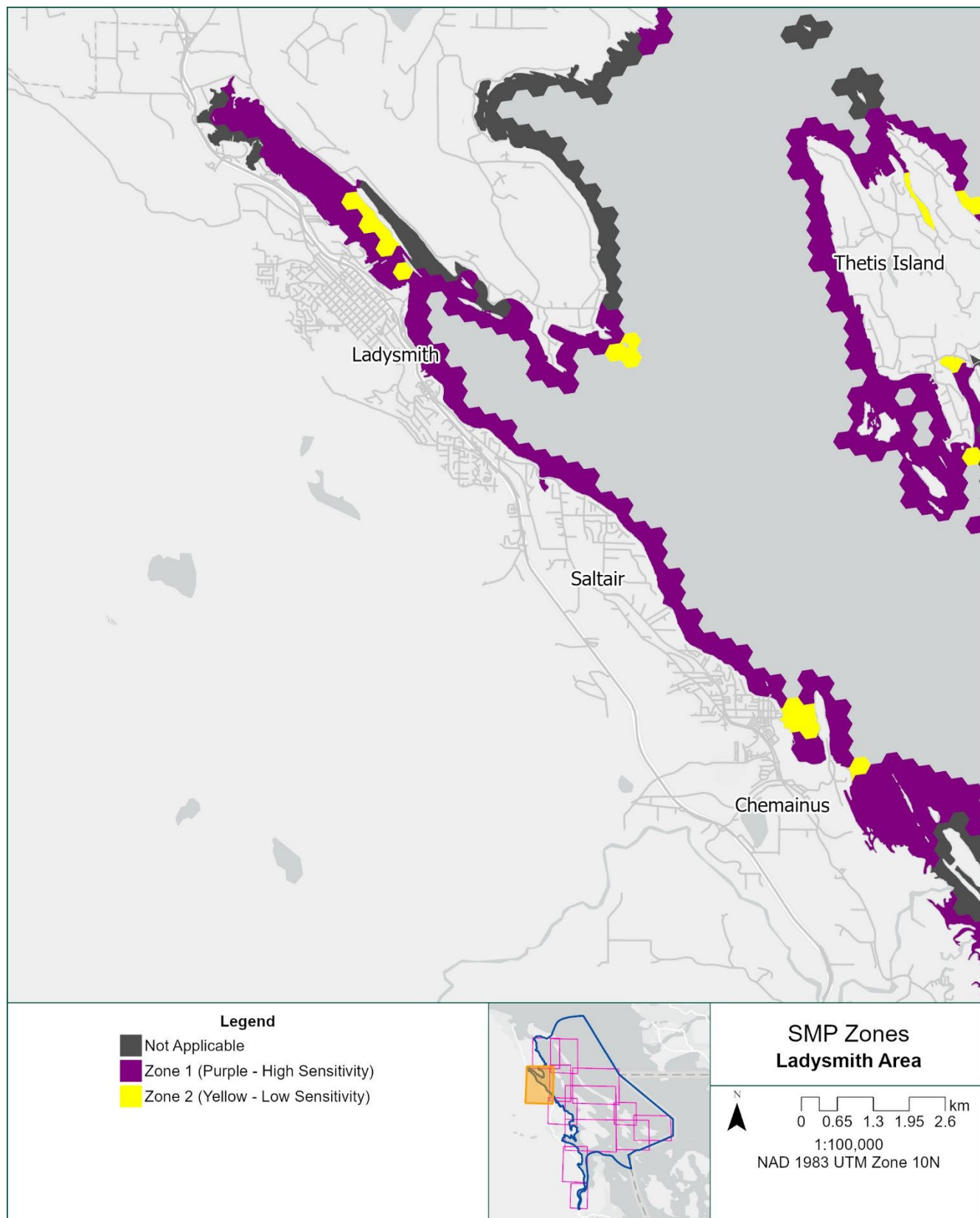
**Zoning map 3: Galiano Island Area**



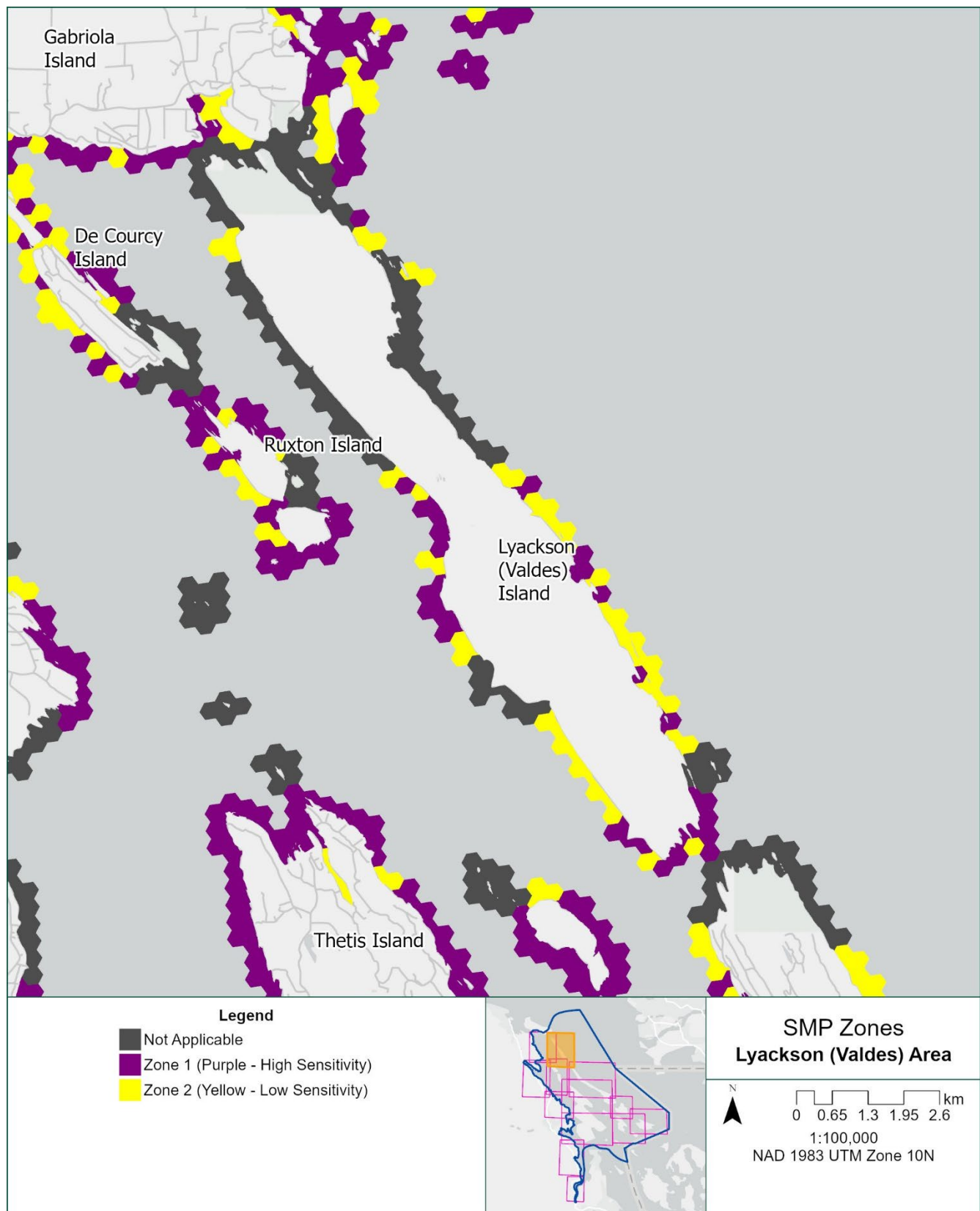
**Zoning map 4: Goldstream Area**



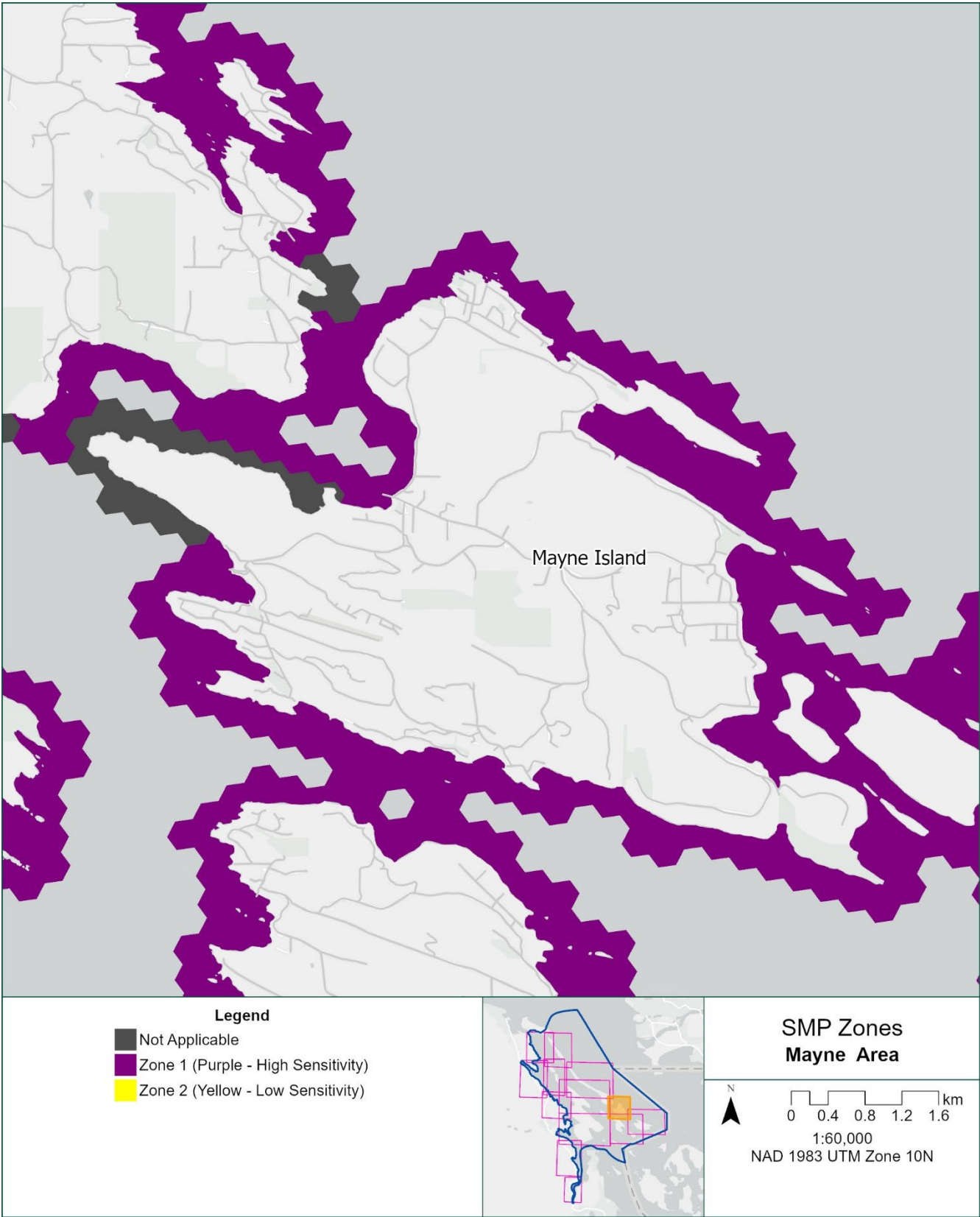
## Zoning map 5: Ladysmith Area



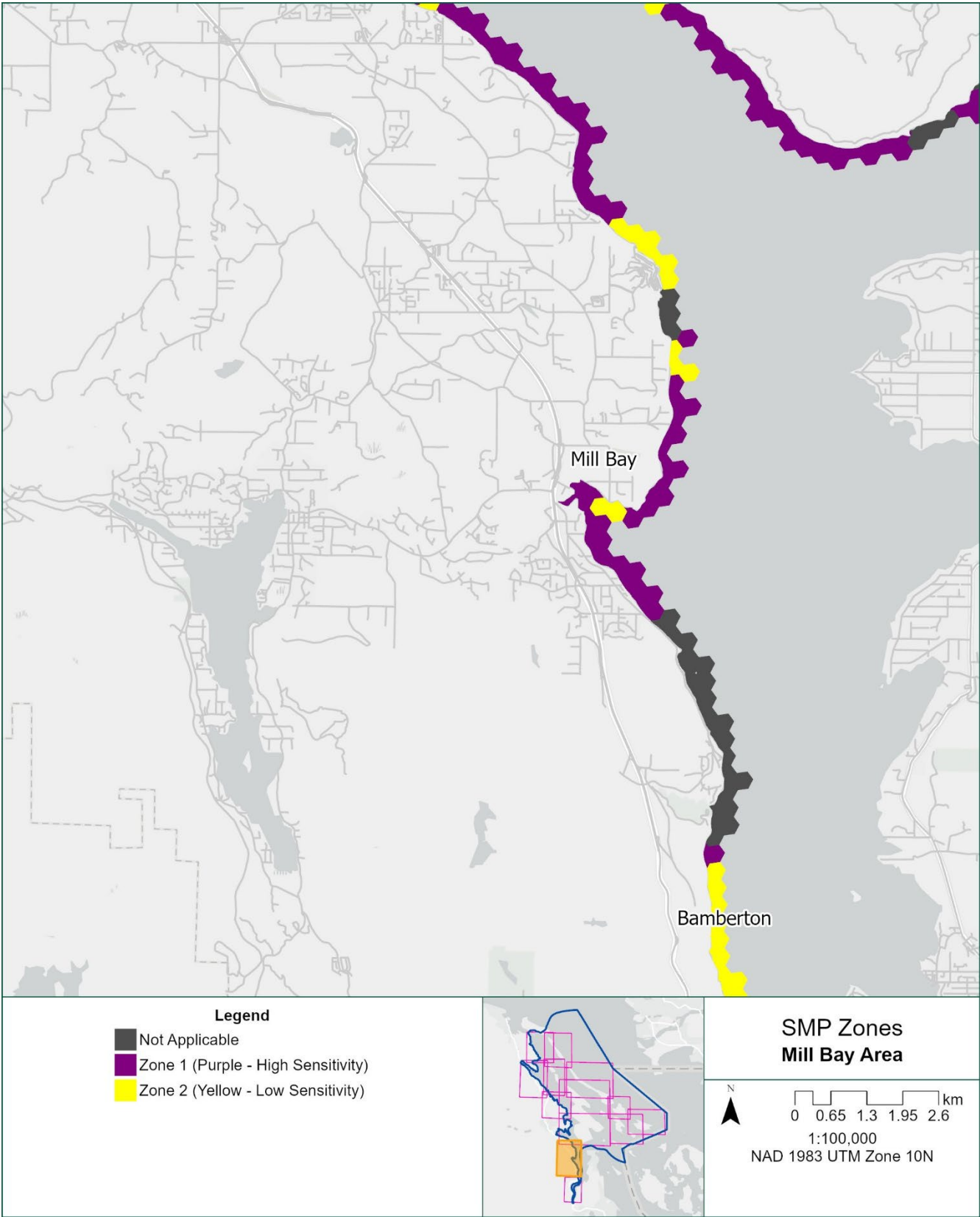
## Zoning map 6: Lyackson (Valdes) Island Area



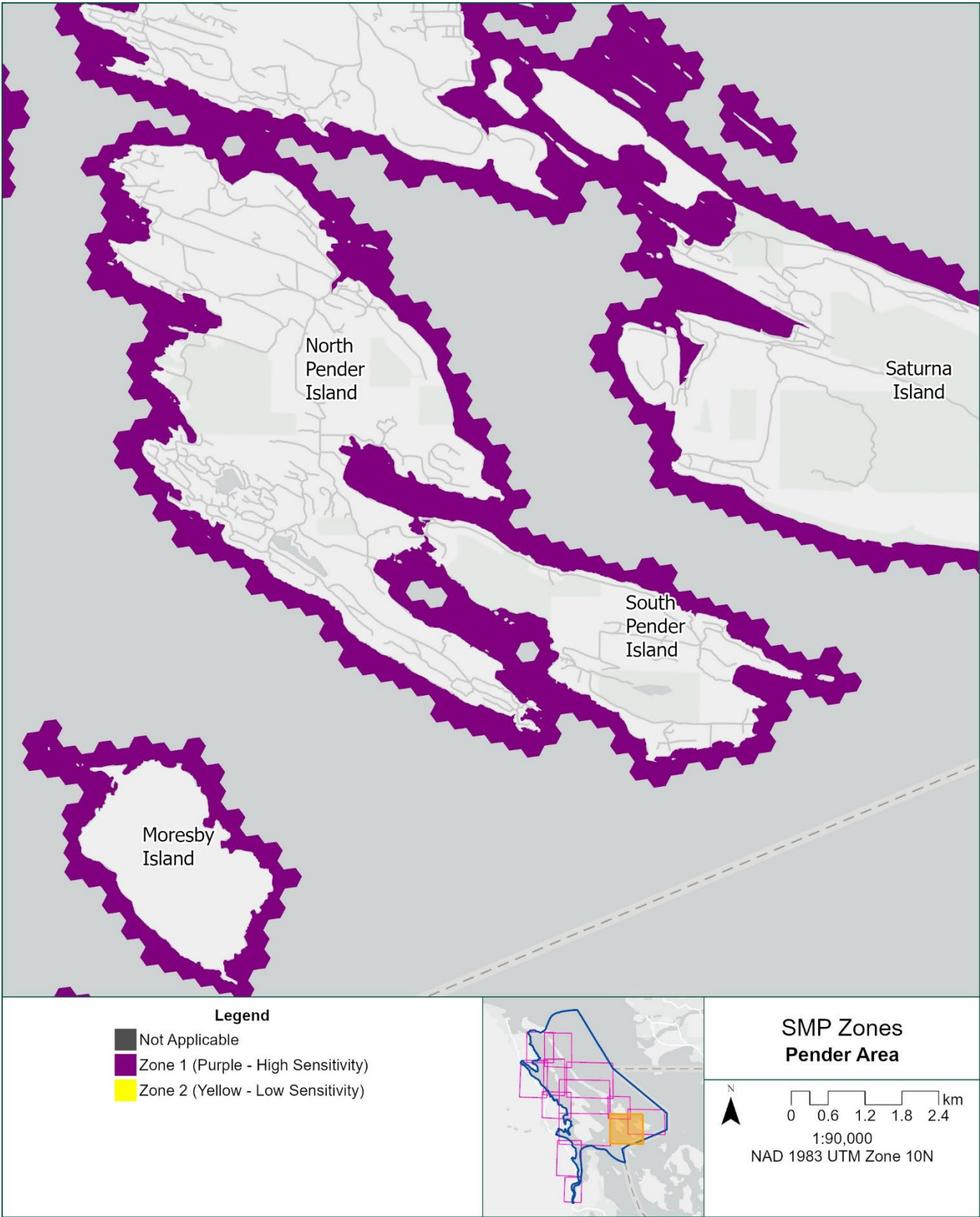
**Zoning map 7: Mayne Island Area**



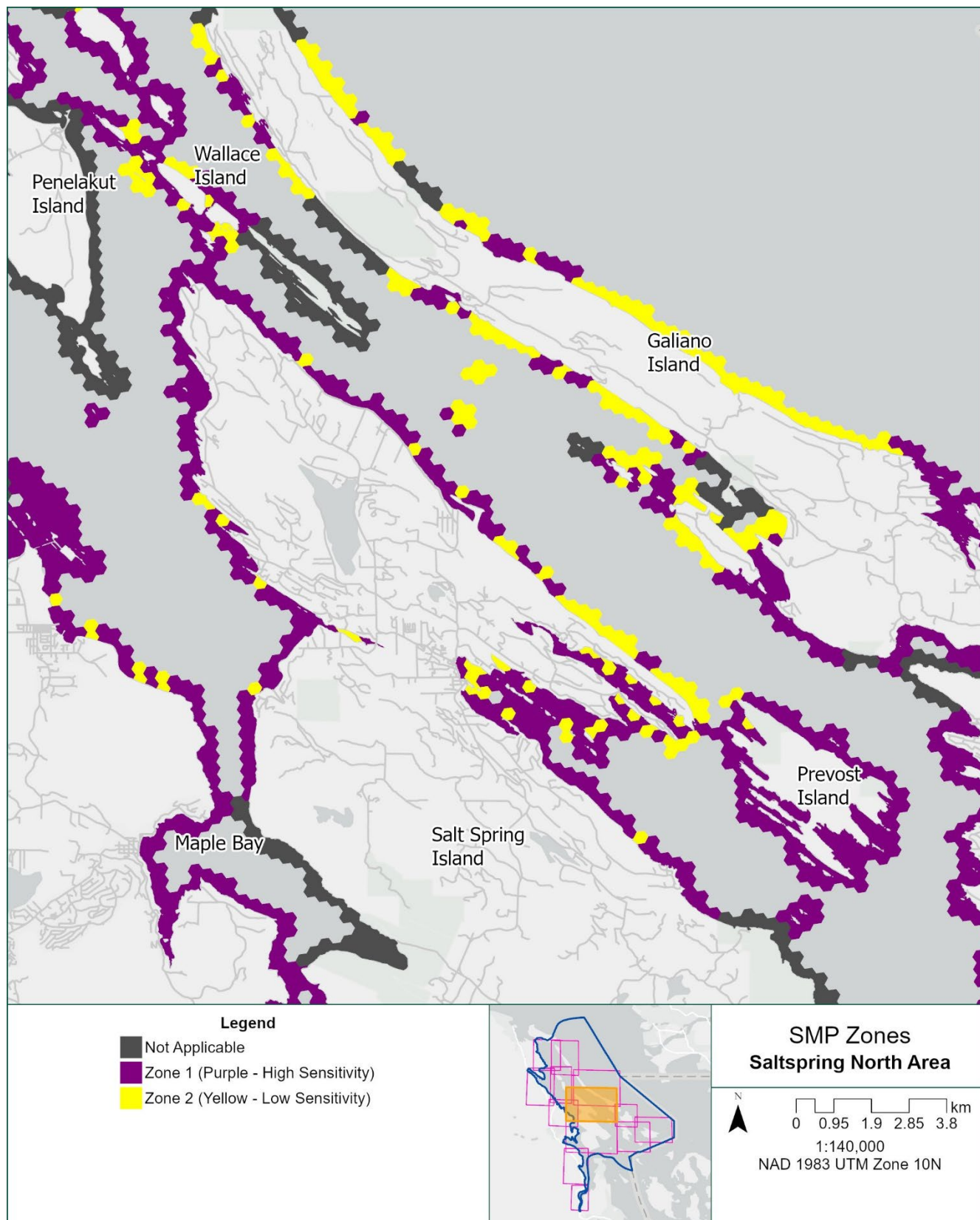
**Zoning map 8: Mill Bay Area**



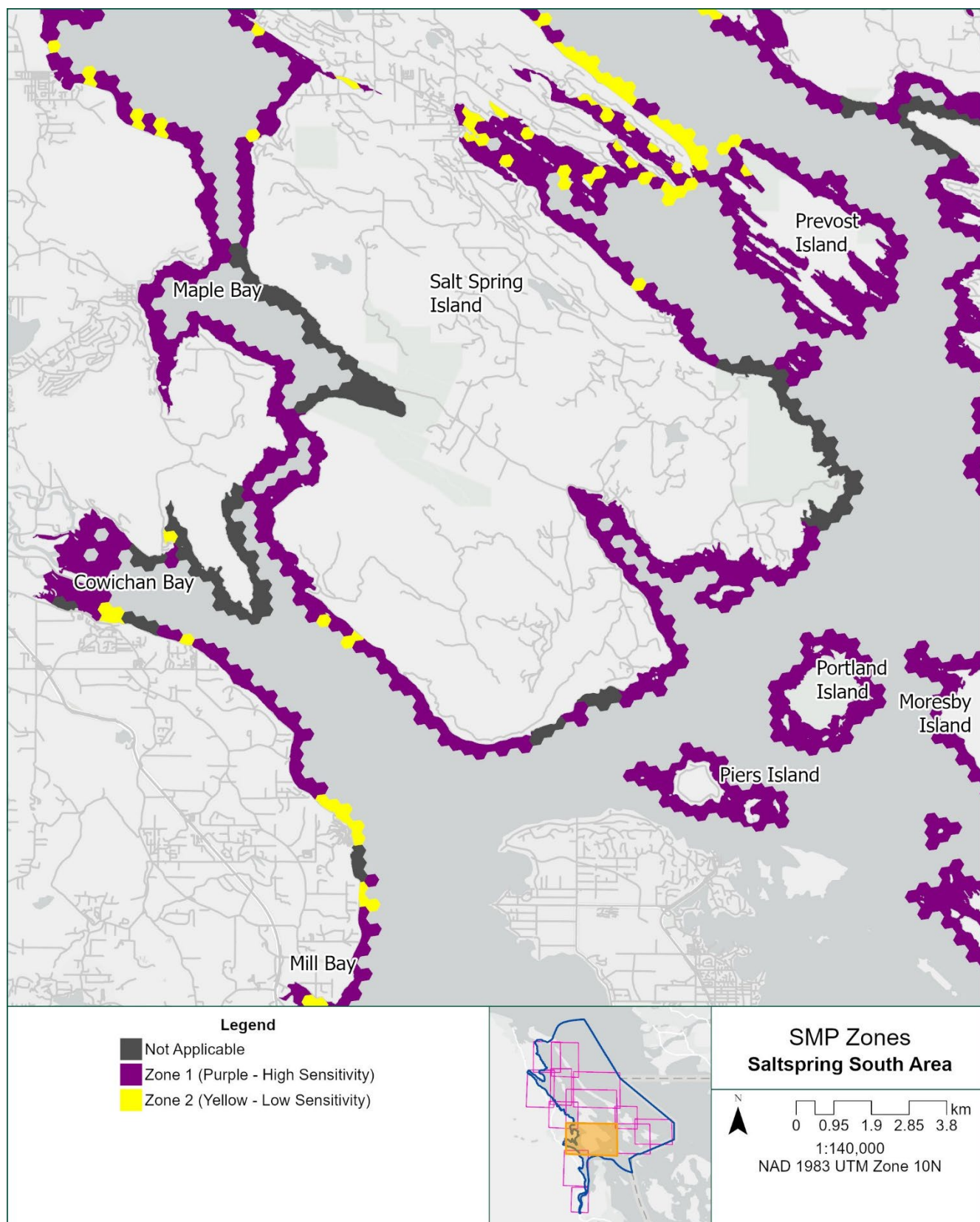
**Zoning map 9: Pender Island Area**



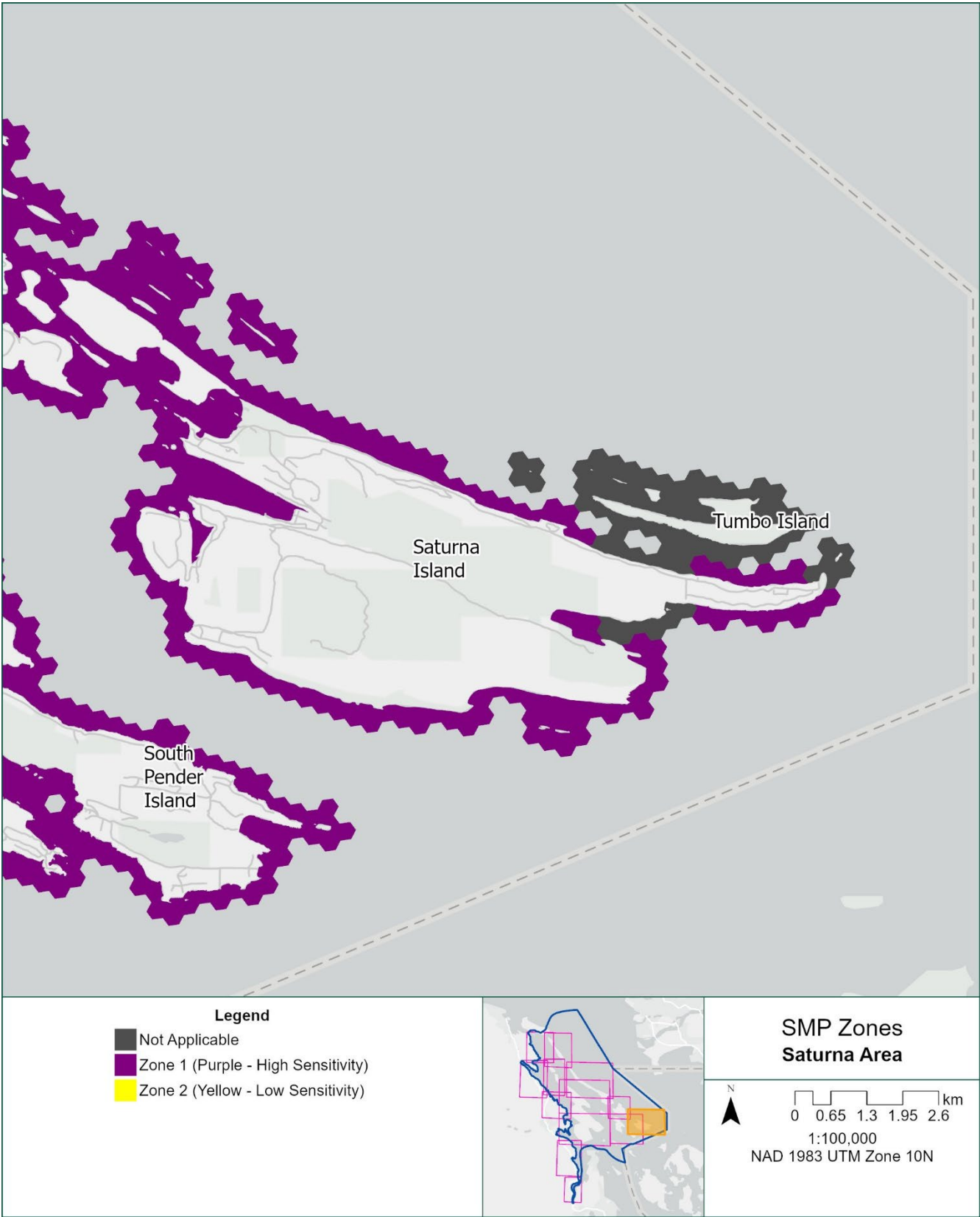
## Zoning map 10: Saltspring Island North Area



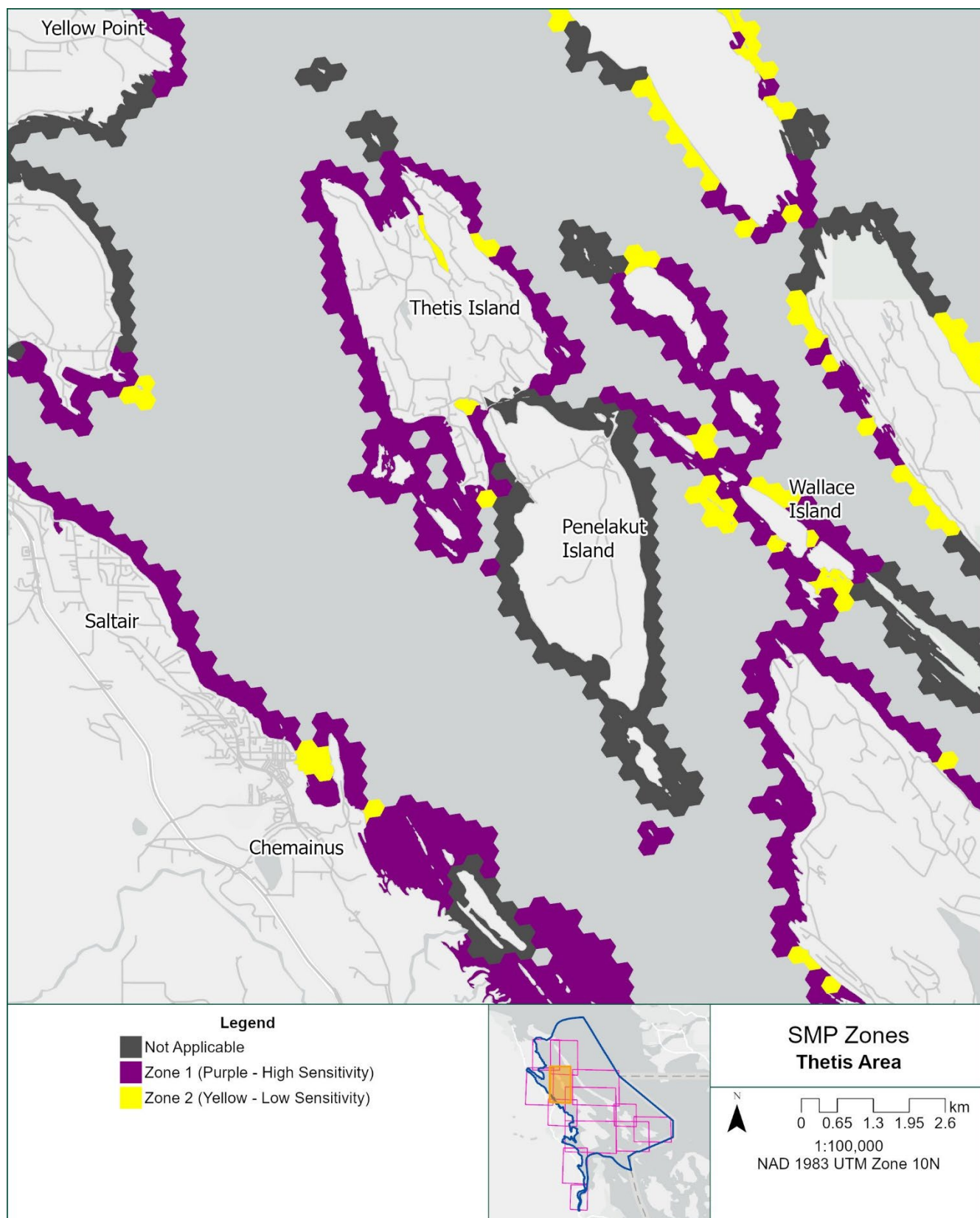
**Zoning map 11: Saltspring Island South Area**



**Zoning map 12: Saturna Island Area**



### Zoning map 13: Thetis Island Area



## Appendix B: Requirements for marine habitat assessment reports

As described in Section 5.1.2 (Zone 1 Requirement: Marine habitat assessment), applications for new private moorage in Zone 1 must be accompanied by a marine habitat assessment completed by a Registered Professional Biologist in good standing with the College of Applied Biologists of British Columbia. This requirement does not apply to applications to replace an existing tenure or existing, already tenured private moorage in Zone 1.

This appendix describes the requirements for the marine habitat assessment report.

### Registered Professional Biologist

A Professional Biologist (in good standing with the College of Applied Biologists of BC) must complete the assessment. Requiring a qualified biologist is standard practice for private moorage applications in other jurisdictions and helps protect sensitive habitats and species (B.C. government and shíshálh Nation 2023; VFPA 2024).

### Assessment method

At a minimum, the biologist will complete the following tasks:

- **Desktop review and mapping:** Review available information and map documented ecological values within the proposed tenure area and 100 m along the shoreline on both sides, including bird nests/nesting areas, species at risk and critical habitat, eelgrass, kelp, salt marsh, forage fish spawning areas (including herring), clam beds, sea urchins, Dungeness crab, mussel and oyster presence
- **Site visit (terrestrial):** Confirm and document shoreline and terrestrial habitat conditions and any wildlife observations, including bird nests near the property boundary
- **Intertidal and subtidal surveys:** Survey the proposed tenure area, plus 10 m to either side, and offshore to the deepest point (up to 10 m chart datum depth). Where helpful for siting and constructability, expand the survey area to support moorage planning around sensitive aquatic plants and important habitat features

### Survey approach

- **Intertidal:** Complete beach transects or quadrats. Include a species abundance estimate for each transect or quadrat and submit with report
- **Subtidal:** Use snorkel, scuba, or a drop camera. Complete one transect along the centreline of the proposed moorage, plus additional parallel transects at a spacing that provides a detailed, defensible habitat interpretation (for example, about every 10 m, depending on site conditions). Run transects as appropriate to location and topography, including along the applicant's property line and extending at least 10 m beyond the proposed tenure boundary

- **Record field data:** Note tidal stage, water depth, substrate type (see Table 1), presence and extent of aquatic plants, and observed marine life. **Transect documentation:** Record GPS coordinates at the start of each transect and a compass bearing showing transect direction. Use video or photo documentation to record the transect and submit with report

Appendix B Table 1. Substrate type classification

| Substrate        | Code | Definition                                                                         |
|------------------|------|------------------------------------------------------------------------------------|
| Silt,clay,mud    | SCM  | Loose sedimentary deposit, less than 0.06 mm diameter                              |
| Sand             | SD   | Loose granular material, 0.06 to 2 mm                                              |
| Gravel           | G    | Loose rounded fragments of rock; 2 to 64 mm                                        |
| Cobble           | C    | Loose stone, 64 to 256 mm                                                          |
| Boulder          | B    | Detached massive rock, greater than 256 mm                                         |
| Bedrock          | BR   | Solid rock underlying unconsolidated surface material                              |
| Organic detritus | D    | Organic materials such as logs, sticks, leaves, remnants of decayed aquatic plants |
| Shell Debris     | SD   | Shell fragments                                                                    |
| Aquatic plants   | AV   | Bottom vegetation and algae                                                        |

## Reporting requirements

At a minimum, the marine habitat assessment report must include:

- **Terrestrial habitat:** Desktop information and site visit findings, including mapping and photographs
- **Marine habitat and species (desktop review):** A summary and mapping of available information within the proposed tenure area and 100 m along the shoreline on both sides
- **Intertidal and subtidal survey results:** Findings supported by photographs and a plan-view map that shows the proposed moorage and tenure area, chart datum (for example,, a 5 m contour), and dominant/subdominant substrates. Describe eelgrass as continuous or patchy. Describe other aquatic plants as moderate or abundant. Document observed marine life and, where feasible, include counts for motile animals
- **Potential effects and mitigation:** Identify potential impacts during construction and during operation (in-use phase). Describe mitigation measures, including use of applicable BMPs, and how the proposed moorage avoids or minimizes effects on eelgrass, kelp beds, salt marsh, and other important areas identified through siting and construction access planning. Address potential effects on bird nesting, shoreline vegetation, marine habitat, and marine life. Specify distances from documented eelgrass, kelp beds, and salt marsh.

- **Cumulative effects:** Assess potential effects of the proposed private moorage on marine values in the context of (a) desktop mapping for 100 m along the shoreline on both sides of the proposed moorage and (b) cumulative effects information for marine values provided in Appendix C at the SMP study-area scale to provide information on existing level of risk to the values, how the moorage is expected to interact with key drivers of that risk and how the proposed activity may contribute to cumulative effects on the values after the proposed mitigation measures have been implemented. Refer to the Cumulative Effects Analysis Guidance for Qualified Environmental Professionals (WLRS 2026) as a guide for methodology
- Submit georeferenced locations of ecological values (for example,, GPS coordinates or shapefiles)

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## Appendix C: Cumulative effects on ecological values

As described in Section 6, the B.C. government considers cumulative effects as a required component of Crown land decision making, including statutory decision-making on private moorage applications. This appendix provides ecological context for that assessment. It summarizes the current condition of key ecological values in the study area, including the influence of broader marine and land-based human activities, and describes how private moorage may contribute additional cumulative effects on those values. The appendix is not intended to assess private moorage in isolation; rather, it supports consideration of private moorage within the broader context of existing ecological conditions and cumulative anthropogenic pressures in the study area.

The information in this appendix presents guidance on how cumulative effects of private moorage on ecological values will be considered in both Zone 1 and Zone 2 through three steps:

- In Step 1, the current status of ecological values in the study area which have the potential to be affected by private moorage is identified. This considers available information on existing conditions and cumulative pressures from broader marine and land-based human activities
- In Step 2, the nature and degree of known and potential impacts of private moorage to relevant values in the study area is identified
- In Step 3, the information from Steps 1 and 2 is brought together to characterize the relative cumulative effects risk associated with additional private moorage development for each ecological value. For each value, the risk of cumulative effects (CE) from private moorage development is ranked as low, increasing, or high in the Study Area

The following tables outline the information to support these steps.

### Step 1: Condition of values

In step 1, the current status of ecological values in the study area which have the potential to be affected by private moorage is identified. This is summarized in CE Table 1 below.

CE Table 1: Condition of ecological values in the study area which have the potential to be affected by private moorage

| Value    | Condition of value                                                                    | Evidence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eelgrass | Poor                                                                                  | In the Georgia Strait overall, eelgrass status was stable or recovering in most sites surveyed, but declining in some areas (Murphy et al 2021). However, data from the study area suggests poorer status. The majority of eelgrass meadows surveyed by Parks Canada in the past in the southern Gulf Islands were thin, patchy, and had a moderate to high epiphyte (encrusting organism) load which are indicative of poor health (Robinson and Martel 2007), and comparison of past and present eelgrass data around Mayne and Saturna Islands indicate marked declines in eelgrass area coinciding with increasing shoreline development (including marinas and private moorage) and residential housing density (Nahirnick et al. 2020). Increasing coastal development is expected to impact the population connectivity of eelgrasses, particularly in the more sheltered inside waters of the study area (Cristiani et al 2025). Dense eelgrass meadow core or regionally significant eelgrass connectivity nodes are most critical to conserve (Cristiani et al. 2025; Islands Trust 2013).                                                                                    |
| Kelp     | Poor<br>(Northern and inside waters)<br><br>Moderate<br>(Southern and outside waters) | Canopy kelp presence, including both Giant Kelp ( <i>Macrocystis pyrifera</i> ) and Bull Kelp ( <i>Nereocystis lutkeana</i> ) are present in patches throughout the study area. Kelp status and persistence has varied across the area over time, with lower persistence in more sheltered northern and western parts of the study area characterized by less current, higher temperatures (for example,, inside waters between Ladysmith, De Courcey Island, Lyackson (Valdes) Island, and Chemainus), and greater persistence around the southern (for example,, south coasts of Saturna, Pender, and Moresby islands); outside (e.g, eastern coasts of Galiano, Mayne, and Saturna islands facing the Georgia Strait) parts of the study area, which are more exposed to cool inflows from the Strait of Juan de Fuca; and narrow channels with high tidal exchange and current flows that also help to moderate temperatures (for example,, Sansum Narrows, Active Pass) (Starko et al. 2024, Mora-Soto 2024ab). Some of the most persistent beds in the study area occur around Mayne and Saturna Islands (Larsen 2025). However, despite favorable oceanographic conditions, even |

| Value                    | Condition of value               | Evidence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          |                                  | some kelp beds around Saturna, within the Southern Resident Killer Whale Interim Sanctuary Zone, are declining due to increasing predation from sea urchins (Checko 2024). At the provincial scale, kelp status in the most southern regions have declined more than elsewhere and are expected to face increasing challenges as a result of climate change and sea urchin predators (Starko et al. 2024, Timmer et al. 2026).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Salt Marsh               | Poor                             | Salt marsh habitat has high habitat value, is sensitive to trampling and development impacts, and is considered rare in the Strait of Georgia, comprising 5-10% of the shoreline and usually in low-energy areas associated with sandflats and mudflats (de Greef et al. 2011). A recent national assessment of salt marshes as part of Canada's Census of Environment found their status to be better in less populated areas and cited better status on BC's North Coast and North Vancouver Island than in Southern BC due to greater road density, population density, pollution, and coastal infrastructure in the south (Statistics Canada 2023). Furthermore, tidal marshes in estuaries of eastern Vancouver Island are considered among the most impacted by cumulative effects in British Columbia (Robb et al. 2025).                                                                                                                                                                                                                                                                                                                  |
| Herring Spawning Habitat | Moderate (North)<br>Poor (South) | While spawning in the Strait of Georgia management unit is considered stable, this trend is primarily driven by consistent and abundant spawning beyond the northern boundary of the study area (Hay et al. 2019; Rooper et al. 2023; DFO 2026a). Within the study area, spawning activity is most abundant and consistent in the northern portion from Gabriola Island south to North Saltspring, sporadic and less abundant but still occurring in the waters between Sansum Narrows and west Pender Island and in Saanich Inlet, and virtually absent between east Pender, Saturna, and Mayne islands following a sudden decline in the late 1980s, though spawning overall is much higher in the Strait of Georgia north of the study area (DFO 2026a). Spawning is most abundant and frequent in the northern portion of the study area, above Galiano, but pockets of intertidal and subtidal spawning occur throughout the Southern Gulf Islands and the eastern portion of Saanich Inlet (DFO 2026a). Aquatic vegetation, including eelgrass, kelp, and intertidal seaweeds, provides important spawning substrate (Haegele et al. 1981). |

| Value                                      | Condition of value | Evidence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Forage fish spawning habitat (non-herring) | Poor               | The population status of forage fish other than Pacific Herring, including beach-spawning Pacific sand lance (PSL) and surf smelt (SS), have not been formally assessed by Canadian environmental or fisheries agencies (Therriault et al. 2002, Huard et al. 2024). However, beach spawning surveys occurring in discrete parts of the study area have reported positive egg detections around Gabriola Island (PSL, SS), Pender and Mayne Islands (PSL), the north of the Saanich Peninsula (PSL), the east coast of Vancouver Island around Cherry Point (PSL) and Maple Bay (PSL,SS) (Tomlin et al. 2021, Huard et al. 2022), and grain size sampling suggests further spawning habitat around Saltspring Island (de Graaf 2017). However, field surveys are not comprehensive across the study area and have been used as a basis for habitat suitability modelling to fill in gaps in monitoring (Cook 2018, Huard et al. 2022). Such studies estimate that forage fish beach spawning habitat is rare, with moderate to high likelihood of PSL spawning occurring across only 5.4% of the intertidal zone of the Canadian Salish Sea and that only about 8% of the most suitable habitat falls within a protected area (Huard et al. 2022). Climate change, coastal development, sedimentation of spawning beaches, and pollution ranked among the highest threats to these species, and most experts consulted expect populations to decline over the next 25 years (Huard et al. 2024). |
| Breeding bird colonies                     | Moderate           | Seabirds nesting in the Southern Gulf Islands include Glaucous-winged Gull (accounting for a majority of individuals and breeding sites), Double-crested Cormorant, Brandt's Cormorant, Pelagic Cormorant, Black Oystercatcher, Pigeon Guillemot and Rhinoceros Auklet, with many sites used by multiple species. The total number of seabird breeding sites in the Southern Gulf Islands has declined modestly from a total of a total of 128 historical to 105 current breeding sites across all species as of 2023, with abandonment of 23 sites. Human disturbance (associated with population growth, vessel traffic, and visitation), declines of forage fish prey (like herring), and oil pollution have been cited as among the most important factors impacting nesting seabird populations and breeding site abandonment (Rodway et al 2024, Macklin et al. 2025), although some species may also nest in and around larger docks (for example,, Glaucous-winged Gulls, Pigeon Guillemots; Rodway et al 2024). The study area also contains several designated Important Bird Areas at Snake Island (near Nanaimo), Porlier Pass (north of Galiano), and Active Pass (south of                                                                                                                                                                                                                                                                                                         |

| Value          | Condition of value | Evidence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                |                    | Galiano) (Booth et al. 2001). Long-term trends of seabird populations themselves show range shifts and declines, particularly on the South Coast of BC and across several survey areas in the Southern Gulf Islands noted as not sufficiently safeguarded by protected areas (de Zwaan et al. 2023).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Dungeness crab | Moderate           | Recent stock assessments for Dungeness Crab by Fisheries and Oceans Canada have consistently found this stock to be in the healthy zone across the province (Aulthouse et al. 2023). The abundance of male crabs is naturally highly variable, and while the abundance of female crabs that are most important for population persistence has been stable for the past 15 years, it has declined by roughly half the levels observed at the beginning of surveys in 1990 and reached its lowest point in 2009 before a more modest recovery (Aulthouse et al. 2023). Given declines from historical abundance indicators, the status of this value is rated as moderate despite recent stability.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Clam beds      | Moderate           | <p>Wild clam stocks are highly dependent on recruitment that varies widely year to year, and there is no assessment program measuring population size or stock strength across all harvestable beaches (DFO 2026b). However, a recently developed Intertidal Clam Monitoring Program for the South Coast of BC has been conducting monitoring on select reference beaches to inform future stock assessment and reference points (including three beaches in the Study Area: O) Brickyard Beach, Kulleet Bay, and Erskine Point)(Ganton et al. 2024). Clam harvest in the study area has been significantly curtailed by public health closures due to sewage sanitary closures (frequently around areas of public marinas, moorage, and anchorage) and biotoxin closures due to red tide (which can also be influenced by nutrient inputs from sewage), and some harvests must now be conducted as decontamination fisheries through registered decontamination plants (DFO 2026b).</p> <p>More information is available for some high-value species. Recent stock assessments for Geoduck Clam across its range by Fisheries and Oceans Canada have found populations to be in the healthy zone and stable to increasing since 2018, with high population connectivity due to planktonic larval dispersal that along with rotational harvest management helps to prevent against local depletion (DFO 2026c).</p> |

| Value                                | Condition of value | Evidence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sea urchin                           | Good               | Sea urchins are fished and surveyed primarily in the southern portion of the study area (, around Saltspring, Mayne, Pender, and Saturna Islands). Recent stock assessments for by Fisheries and Oceans Canada have found populations of both Red Sea Urchin (DFO 2019) and Green Sea Urchin (DFO 2025) to be in the healthy zone with stable and tightly controlled fishing effort.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Oysters and mussels                  | Good               | Oysters and mussels are broadly distributed and abundant throughout the study area where they filter water, create complex physical habitat for other species, and are a food source for many consumers, including people (Gillespie et al. 2025). The vast majority of oysters present in the study area are non-native Pacific Oysters, which are not considered to have a conservation objective, but are managed for fisheries harvest and aquaculture (DFO 2024 Gillespie et al 2025). However, the native Olympia Oyster which are designated by the Species at Risk Act and the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as of Special Concern following large declines from historical levels, although populations are noted as stable in more recent years, with vulnerability to industrial pollution, sedimentation, invasive species (for example,, European green crab), and climate change noted as key threats to recovery (DFO 2009, COSEWIC 2011, Gillespie et al. 2025). A recent study mapping known locations Olympia oyster found records of its recent (2000-2020) presence scattered around the study area, often co-occurring with Pacific Oyster, around Gabriola, Ruxton Island, Ladysmith, Galiano, Saltspring, and Saturna, among other locations (Kornbluth et al. 2022). Mussels are widely cultured across the coast of BC, and while wild mussels are not commercially harvested in BC, they are harvested by First Nations and recreationally (Gillespie et al. 2025). |
| Critical habitat for species at risk | Poor               | Based on Canada's Species at Risk Public Registry and associated <a href="#">National Dataset</a> , the study area contains designated critical habitat for several species listed under the Species at Risk Act, including Southern Resident Killer Whale (SRKW) and Marbled Murrelets, as well as several at-risk foreshore plant species such as Lindley's False Silverpuffs, Slender Popcorn Flower, Macoun's Meadowfoam, and Coastal Scouler's Catchfly. The status of these species and their habitats is poor and at risk by definition, with active recovery planning measures underway.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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## Step 2: Cumulative effects outcomes

In step 2, the nature and degree of known and potential impacts of private moorage to relevant values in the study area is identified. This is summarized in CE Table 2 below.

CE Table 2: Nature and degree of known and potential impacts of private moorage on ecological values in the study area

| Value         | Level of impact from private moorage | Overview of potential impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eelgrass      | High                                 | Long-term shading from overwater structures reducing photosynthesis and shoot density, with greater impacts from larger structures lower to the waterline; scour from float grounding, anchor chain scour, and propeller wash; habitat fragmentation; and loss of nursery habitat. Effects are spatially cumulative and nonlinear, with evidence of acceleration after a tipping point is reached and low reversibility while shading from fixed private moorage remains in place (WRP 1999; DFO 2001; Gladstone et al. 2014; Eriander et al. 2017; Hansen et al. 2019; Sagerman et al. 2020; Lambert et al. 2023; Christiani et al. 2021, 2025). Studies suggest a setback of at least 8 m to mitigate shading effects on eelgrass (Sagerman et al. 2020). |
| Kelp          | Moderate                             | Long-term shading from overwater structures; physical damage from boats/mooring lines; localized canopy loss that increases with moorage density; moderate reversibility depending on the nature and type of disturbance (Katla 2001; Szypulski 2018; Lambert et al. 2023). Other jurisdictions recommend a vertical setback of roughly 1.5 m and a horizontal setback of at least 8 m to mitigate shading effects on kelp (Szypulski 2018).                                                                                                                                                                                                                                                                                                                |
| Salt marsh    | Moderate                             | Long-term shading from overwater structures reducing photosynthesis and stem density; with greater impacts from larger structures lower to the waterline; scour from grounding of moorage floats; habitat fragmentation; loss of nursery habitat. For these nearshore habitats, greater likelihood of damage during construction via walking or laying materials overtop of salt marsh (Adams 2002; Sanger et al. 2004, Logan et al. 2017; Taylor 2022)                                                                                                                                                                                                                                                                                                     |
| Herring spawn | High                                 | Loss of spawning vegetation (eelgrass, kelp, salt marsh) due to shading, although the presence of submerged vegetation does not guarantee use of habitat (Shelton et al. 2014; Dingwall et al. 2026); disturbance during particularly sensitive spawning windows; reduced egg adherence and larval survival from sedimentation during construction or operation (Griffin et al. 2009, 2012);                                                                                                                                                                                                                                                                                                                                                                |

| Value                     | Level of impact from private moorage | Overview of potential impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                           |                                      | altered fish behaviour; disruption of natural circadian rhythms; and increased vulnerability to predation from attraction to artificial light (Nightingale and Simenstad 2002; Ferretti et al. 2025).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Forage fish (non herring) | Moderate                             | Altered fish behaviour; disruption of natural circadian rhythms and increased vulnerability to predation from attraction to artificial light (Nightingale and Simenstad 2002, Ferretti et al. 2025); biological effects from noise (Carson et al 2025); reduced suitability of already restricted beach spawning habitats due to altered sediment transport and siltation of interstices between grains where eggs are deposited (Heery et al. 2017, 2018; Martinez et al. 2022; Huard et al. 2022, 2024).                                                                                                                                                                                                                                                    |
| Breeding bird colonies    | Moderate                             | Disturbance from noise and human activity, particularly during breeding season, including vessel traffic, landing, and foot traffic, can lead to stress responses such as startling, flushing, and eventually nesting-site abandonment (Hockin et al. 1992; Hentze et al. 2006; Ruddock and Whitfield 2007; Borgmann 2011; Chatwin et al. 2013; Marcella et al. 2017; Hart et al. 2026). Work in the Salish Sea recommends setbacks of vessel traffic or other human activities of at least 50 m to protect nesting behaviours for most seabirds and 70 m to protect the more sensitive Brandt's Cormorant (Chatwin et al. 2013).                                                                                                                             |
| Dungeness crab            | Low                                  | Very high tolerance for sedimentation (Anchor Environmental 2003), but vulnerable to cumulative loss of important feeding and rearing habitats (particularly estuaries, salt marsh, and eelgrass) which can increase with moorage density and limit population growth, and vulnerable to contaminants which can also affect safety to consumers, including humans (Washington Dept. of Fish and Wildlife 2008).                                                                                                                                                                                                                                                                                                                                               |
| Clam beds                 | High                                 | Clams are filter feeders sensitive to sediment disturbance and sedimentation; physical displacement by moorage infrastructure; and alteration in sediment transport and sedimentation associated with construction and piling structures, which can affect feeding and larval development (NOAA NMFS 2014; Hemmera 2013, Heery et al. 2018; Martinez et al. 2022). They are also impacted by reduced water quality and contaminants which can also affect safety to consumers, including humans. Among these contaminants, copper-based antifouling paints sloughing off of the hulls of vessels associated with private moorage can accumulate in sediment and affect the health and survival of clams which are particularly susceptible to these compounds |

| Value                            | Level of impact from private moorage | Overview of potential impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                  |                                      | that have broad efficacy on invertebrates (Amara et al. 2018, Torres et al. 2021, Cima and Varello 2023, Mahmoodi and Shi 2023).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Sea urchin                       | Low                                  | Physical disturbance from anchors possible but likely limited; more likely to experience cumulative indirect effects from loss of food sources, kelp and understory algae, to shading (see above).                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Oysters and mussels              | Moderate                             | These filter feeders are sensitive to sediment disturbance and sedimentation; physical displacement by moorage infrastructure; reduced water quality and contaminants which can also affect safety to consumers, including humans, though these species are widespread, have high reproductive potential, and considered to have a strong ability to recover from environmental disturbance (Hemmera 2013, NOAA NMFS 2014, Mainwaring et al. 2014, Heery et al. 2018; Martinez et al. 2022). Although antifouling paint toxicity is also a concern for these rocky shore bivalves, mussels have been found to be less sensitive to them than clams (Cima and Varello 2023). |
| Species at risk critical habitat | High                                 | Degradation and fragmentation of limited remaining high-quality critical habitat; for rare foreshore vegetation, impacts are primarily through direct damage or habitat loss due to private moorage construction and footprint, and for Southern Resident Killer Whale through construction associated noise for driving piles as well as vessel traffic noise associated with private moorage usage. Cumulative effects can be significant with overlapping stressors, low reversibility, and high ecological importance for these at-risk species.                                                                                                                        |

### Step 3: Cumulative effects outcomes

In step 3, the information collected in Tables 1 and 2 is brought together to determine the outcomes of private moorage development on each value in the Study Area. For each value, Table 3 reports whether risk of CE from private moorage development is low, increasing, or high in the Study Area.

CE Table 3: Cumulative effects outcomes

| Level of effect from private moorage (table 2) | Condition of the value (table 1)                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                               |                                                                                                                                                                                          |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                | Poor<br>(Highly Disturbed)<br>Risks are increasing, limit new disturbance if still managing for the value at this location.                                                                                                                                                                                                                                                       | Moderate<br>(Moderately Disturbed)<br>Maintain or work towards improving the condition of the value.                                                                                                                                          | Good<br>(Abundant, persistent, and in good health)<br>Mitigate disturbance, assess the appropriateness/relative effect of the land use at this location                                  |
| Nil or Negligible                              | <b>Risk of CE is Low</b> <ul style="list-style-type: none"> <li>As required, apply best management practices; mitigate indirect value impacts and maintain ecosystem function</li> </ul>                                                                                                                                                                                          | <b>Risk of CE is Low</b> <ul style="list-style-type: none"> <li>As required, apply best management practices; mitigate indirect value impacts and maintain ecosystem function</li> </ul>                                                      | <b>Risk of CE is Low</b> <ul style="list-style-type: none"> <li>As required, apply best management practices; mitigate indirect value impacts and maintain ecosystem function</li> </ul> |
|                                                | <b>Values that fall in this cell:</b> <ul style="list-style-type: none"> <li>None that were assessed</li> </ul>                                                                                                                                                                                                                                                                   | <b>Values that fall in this cell:</b> <ul style="list-style-type: none"> <li>None that were assessed</li> </ul>                                                                                                                               | <b>Values that fall in this cell:</b> <ul style="list-style-type: none"> <li>None that were assessed</li> </ul>                                                                          |
| Low                                            | <b>Risk of CE is High</b> <ul style="list-style-type: none"> <li>Maintain intact high value areas; minimize new disturbance and fragmentation; use caution to maintain any remnant, intact areas, and connectivity</li> <li>Apply best management practices</li> <li>Strong consideration of value-specific mitigation</li> <li>Identify opportunities for restoration</li> </ul> | <b>Risk of CE is Increasing.</b> <ul style="list-style-type: none"> <li>Apply best management practices</li> <li>Apply mitigation of direct or indirect impacts to specific values</li> <li>Identify opportunities for restoration</li> </ul> | <b>Risk of CE is Low</b> <ul style="list-style-type: none"> <li>Apply best management practices</li> <li>Consideration of value-specific mitigation</li> </ul>                           |

|          |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                     |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | <b>Values that fall in this cell:</b> <ul style="list-style-type: none"> <li>None that were assessed</li> </ul>                                                                                                                                                                                                                                                                                                             | <b>Values that fall in this cell:</b> <ul style="list-style-type: none"> <li>Dungeness crab</li> </ul>                                                                                                                                                                                                                                                                                                                      | <b>Values that fall in this cell:</b> <ul style="list-style-type: none"> <li>Sea urchin</li> </ul>                                                                                                                                                                                                                                                  |
| Moderate | <b>Risk of CE is high</b> <ul style="list-style-type: none"> <li>Maintain areas that are intact with high values; minimize new disturbance and fragmentation; use caution to maintain any remnant, intact areas, and connectivity</li> <li>Apply best management practices</li> <li>Strong consideration of value-specific mitigation; ensure ecosystem function</li> <li>Identify opportunities for restoration</li> </ul> | <b>Risk of CE is increasing</b> <ul style="list-style-type: none"> <li>Apply best management practices</li> <li>Consideration of value-specific mitigation</li> <li>Identify opportunities for restoration</li> </ul>                                                                                                                                                                                                       | <b>Risk of CE is increasing</b> <ul style="list-style-type: none"> <li>Apply best management practices</li> <li>Consideration of value-specific mitigation</li> </ul>                                                                                                                                                                               |
|          | <b>Values that fall in this cell:</b> <ul style="list-style-type: none"> <li>Kelp (North and interior study area)</li> <li>Salt marsh</li> </ul>                                                                                                                                                                                                                                                                            | <b>Values that fall in this cell:</b> <ul style="list-style-type: none"> <li>Kelp (South and outer study area)</li> <li>Breeding bird Colonies</li> </ul>                                                                                                                                                                                                                                                                   | <b>Values that fall in this cell:</b> <ul style="list-style-type: none"> <li>Oysters and mussels</li> </ul>                                                                                                                                                                                                                                         |
| High     | <b>Risk of CE is high</b> <ul style="list-style-type: none"> <li>Maintain areas that are intact with high values; minimize new disturbance and fragmentation; use caution to maintain any remnant, intact areas, and connectivity</li> <li>Apply best management practices</li> <li>Strong consideration of value-specific mitigation; ensure ecosystem function</li> <li>Identify opportunities for restoration</li> </ul> | <b>Risk of CE is high</b> <ul style="list-style-type: none"> <li>Maintain areas that are intact with high values; minimize new disturbance and fragmentation; use caution to maintain any remnant, intact areas, and connectivity</li> <li>Apply best management practices</li> <li>Strong consideration of value-specific mitigation; ensure ecosystem function</li> <li>Identify opportunities for restoration</li> </ul> | <b>Risk of CE is increasing.</b> <ul style="list-style-type: none"> <li>Apply best management practices</li> <li>Strong consideration of value-specific mitigation; ensure ecosystem function</li> <li>Identify opportunities for restoration</li> <li>Consult with regional cumulative effects expertise (where available) for guidance</li> </ul> |

|  |                                                                                                                                                              |                                                                                                                                                                                                                 |                                                                                                                          |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
|  | <ul style="list-style-type: none"> <li>Consult with Regional CE expertise (where available) for guidance</li> </ul>                                          | <ul style="list-style-type: none"> <li>Consult with regional CE expertise (where available) for guidance</li> </ul>                                                                                             |                                                                                                                          |
|  | <b>Values that fall in this cell:</b> <ul style="list-style-type: none"> <li>Eelgrass</li> <li>Herring spawning habitat (South end of study area)</li> </ul> | <b>Values that fall in this cell:</b> <ul style="list-style-type: none"> <li>Herring spawning habitat (North end of study area)</li> <li>Forage fish (other than Pacific Herring)</li> <li>Clam beds</li> </ul> | <b>Values that fall in this cell:</b> <ul style="list-style-type: none"> <li>Species at risk critical habitat</li> </ul> |

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## Appendix D: Summary of Best Management Practices

The table below summarizes the BMPs. For full details consult Section 7.

| BMP                                           | Summary                                                                                                                                                                                                                                                                                                                                                                                                                                           | Applies To         |                                                                               |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------|
|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                   | New authorizations | Replacement and existing authorizations                                       |
| <b>A-01 Heritage and archaeological sites</b> | Before submitting an application or undertaking ground-disturbing maintenance or repair work, applicants or dock owners must determine whether the private moorage footprint is within 50 m of a recorded archaeological or heritage site or within an area of significant archaeological potential. If yes, a qualified consulting archaeologist must be engaged. If no, an Archaeological Chance Find Procedure must be developed and followed. | Yes                | Yes – when carrying out ground-disturbing repairs or maintenance              |
| <b>D-01 Light penetration to the water</b>    | Requires the use of pier, gangway, and float decking that allows 43 percent of light to pass through. Materials should be as thin as possible, and structures should be oriented to minimize shading duration where feasible.                                                                                                                                                                                                                     | Yes                | Yes - by 2036                                                                 |
| <b>D-02 Maximum Size</b>                      | Private moorage footprint area must be minimized to the smallest area necessary for safe and functional use. Gangway width must not exceed 1.8 m, float area must not exceed 35 m <sup>2</sup> , and total private moorage length must not exceed 60 m from the upland property boundary.                                                                                                                                                         | Yes                | Yes - when replacing components (where possible given geographic constraints) |
| <b>D-03 Minimum clearance</b>                 | A minimum clearance of 1.0 m must be maintained between piers and gangways and the highest high-water mark. All private moorage components must remain at least 1.5 m above the seabed during the lowest tide. Existing structures may use elevated piles or float stops where necessary to achieve the intent of the BMP.                                                                                                                        | Yes                | Yes - when replacing components                                               |

| BMP                                | Summary                                                                                                                                                                                                                                                                                                                                                                                                         | Applies To         |                                                          |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------------------------------------------|
|                                    |                                                                                                                                                                                                                                                                                                                                                                                                                 | New authorizations | Replacement and existing authorizations                  |
| <b>D-04 Construction materials</b> | The use of wood treated with creosote or pentachlorophenol is prohibited. Other oil-based or chemically treated wood products are not recommended where viable alternatives are available, and chromated copper arsenate is preferred where treated wood must be used. Materials removed from existing docks for replacement must be disposed of at an appropriate solid waste facility.                        | Yes                | Yes - when replacing components                          |
| <b>D-05 Piles</b>                  | Establishes requirements for pile installation, design, siting, materials, and disposal. Piles must be minimized in number and diameter, spaced as widely as practicable, and placed in accordance with applicable zone requirements. New and replacement piles must comply with BMP D-04, and removed piles must be disposed of in an appropriate solid waste facility.                                        | Yes                | Yes - when piles replaced                                |
| <b>D-06 Floatation systems</b>     | Soft plastic-wrapped, unencapsulated, exposed, or otherwise deteriorating polystyrene foam flotation is prohibited. Air-filled, HDPE, and polypropylene flotation systems are encouraged, while encapsulated polystyrene may be used where alternatives are not feasible. Existing deteriorating or spalling foam must be replaced within two years, while other existing systems must comply within ten years. | Yes                | Yes - by 2036, or within two years of spalling beginning |
| <b>D-07 Foreshore access</b>       | Private moorage must be sited and designed so that it does not impede public access to the foreshore from the water, including the landing of vessels on the beach. Structures must also not prevent public travel along the foreshore.                                                                                                                                                                         | Yes                | No                                                       |

| BMP                                                 | Summary                                                                                                                                                                                                                                                                                                                                                            | Applies To         |                                                                 |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------------------------------------------------------|
|                                                     |                                                                                                                                                                                                                                                                                                                                                                    | New authorizations | Replacement and existing authorizations                         |
| <b>D-08 Artificial above-deck Lighting</b>          | Artificial lighting must be limited to what is necessary for safety and navigation. Lighting should be low intensity, shielded, and designed so that it does not illuminate the water surface, and blue wavelength lighting should be avoided. Timers or motion detectors should be used to minimize unnecessary lighting during dark hours.                       | Yes                | By 2031                                                         |
| <b>D-09 Mooring systems</b>                         | Mooring systems must be configured so that anchors, chains do not drag along the seabed, and anchor blocks must not be placed within eelgrass, kelp, or salt marsh habitats. Elastic moorage systems or heavy polypropylene rope with minimal chain are supported alternatives where possible. Annual self-inspections of mooring systems are required.            | Yes                | Yes - when replacing applicable private moorage components.     |
| <b>C-01 Construction impacts</b>                    | Requires compliance with the DFO Code of Practice for Boathouses, Docks and Moorings and additional SMP construction requirements. Applicants must submit a Construction Environmental Management Plan and follow requirements related to timing windows, intertidal work, site access, disposal of removed materials, and protection measures for marine species. | Yes                | Yes - when conducting any replacement, maintenance, repair work |
| <b>O-01 Hazardous products storage and handling</b> | Hazardous products, including fuels, oils, and chemicals, may not be stored on private moorage. Refuelling and maintenance activities must prevent contaminants from entering the marine environment. Spill prevention and response measures, including a basic spill kit and spill reporting procedures, must be in place.                                        | Yes                | Yes                                                             |

| BMP                                          | Summary                                                                                                                                                                                                              | Applies To                                                                 |                                                                  |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|------------------------------------------------------------------|
|                                              |                                                                                                                                                                                                                      | New authorizations                                                         | Replacement and existing authorizations                          |
| <b>Foreshore rights and cultural context</b> | Not yet in force. The B.C. government intends to develop a course in partnership with First Nations to improve awareness of First Nations rights, foreshore stewardship, and respectful shared use of the foreshore. | Anticipated to become a prerequisite before a new authorization is issued. | Anticipated that existing owners will be encouraged to complete. |

## Appendix E: Grounding potential

In some locations, shallow water depths may make it difficult for private moorage to comply with existing provincial policy requiring that docks do not ground at low tide and with BMP D-03, which requires the maintenance of at least 1.5 m of clearance from the seabed at the lowest tide. The following maps of “grounding potential” are provided to support preliminary planning and help identify areas where these challenges may be present.

To develop these maps, grounding potential was estimated within 60m of the shoreline using coastal elevation and bathymetric data from the Canada West Coast Topo-Bathymetric Digital Elevation Model (Kung 2021) and the Canadian Hydrographic Service high tide line. Areas that are predicted to be exposed (dry) during the lowest annual tide were classified as having high grounding potential, while all other areas within the 60m assessment area were classified as having low grounding potential.

As is the case with all amalgamated digital elevation models, the underlying elevation data contains some uncertainty and may not fully reflect local site conditions. The maps should therefore be used to identify potential constraints and areas where additional investigation may be warranted, rather than as a definitive assessment of whether a dock will ground. The maps are intended as a screening tool only and do not constitute a final determination of site conditions or compliance with provincial policy or BMP D-03. Site-specific conditions can vary considerably, and applicants are responsible for verifying conditions at their proposed location and demonstrating through their application that applicable requirements can be met.

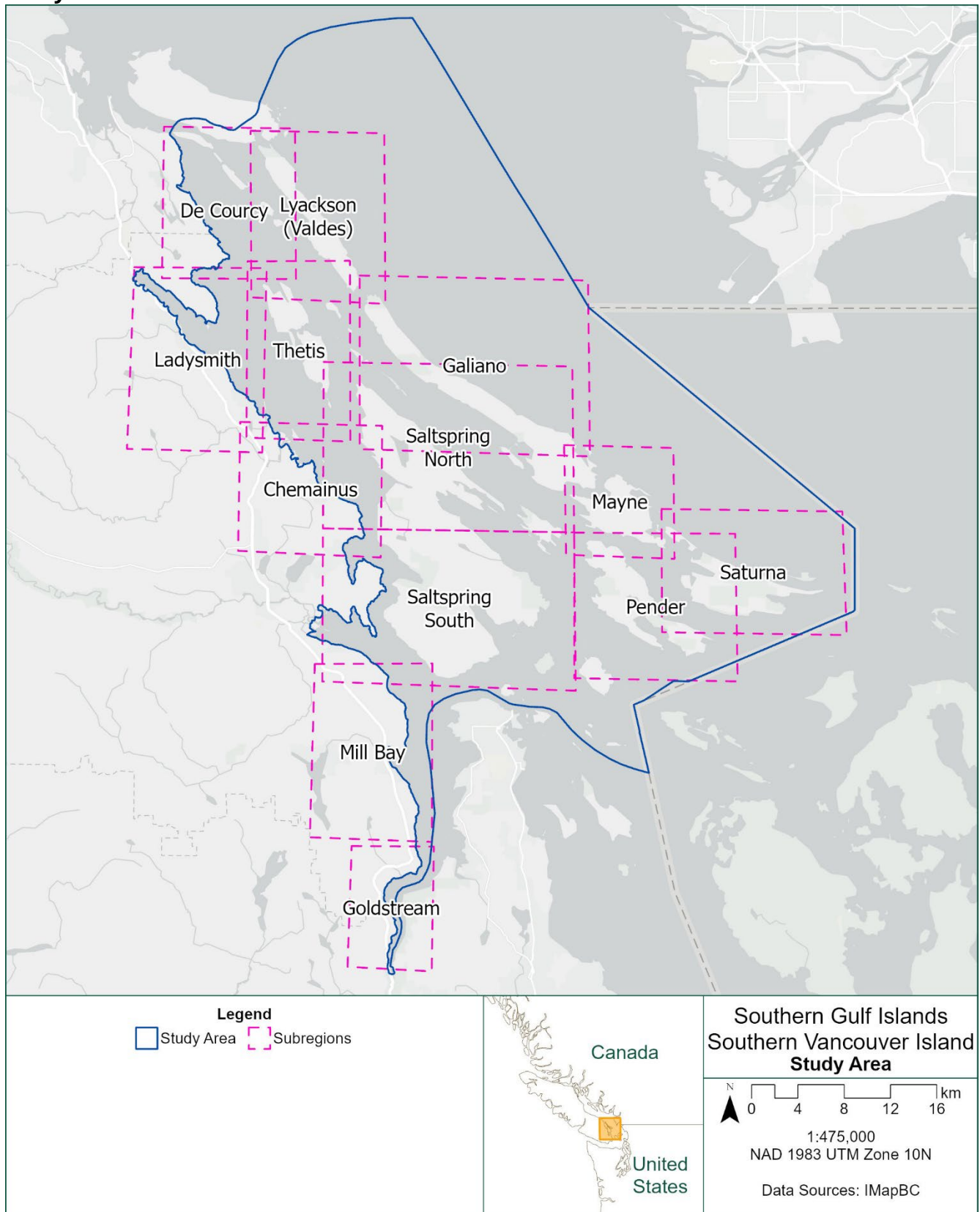
### Reference for Appendix E:

Kung, R. 2021. “Canada West Coast Topo-Bathymetric Digital Elevation Model”. Natural Resources Canada. Government of Canada Open Data Portal.

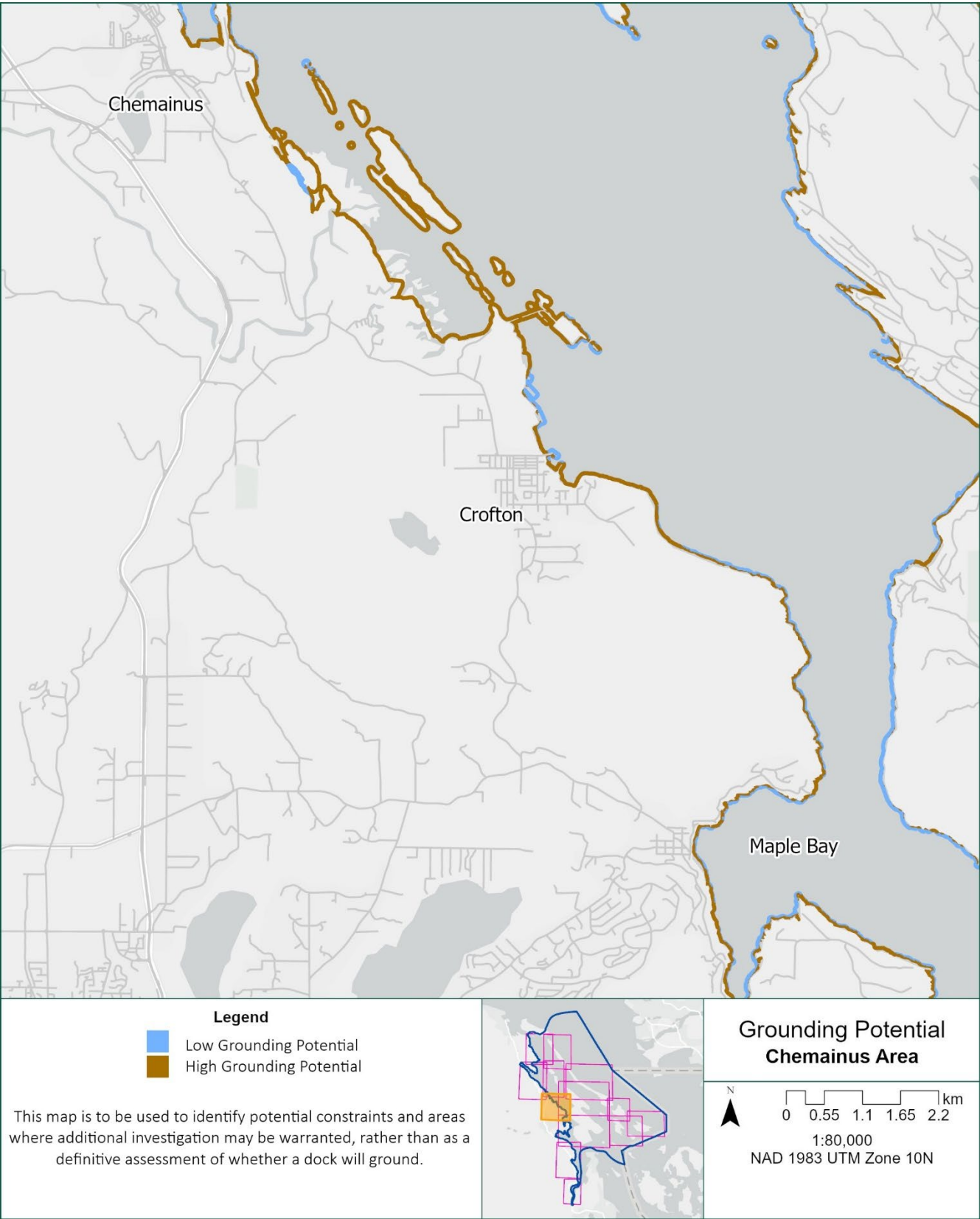
### Grounding potential maps included:

- Study area overview
- Grounding potential map 1: Chemainus Area
- Grounding potential map 2: DeCourcy Island Area
- Grounding potential map 3: Galiano Island Area
- Grounding potential map 4: Goldstream Area
- Grounding potential map 5: Ladysmith Area
- Grounding potential map 6: Lyackson (Valdes) Island Area
- Grounding potential map 7: Mayne Island Area
- Grounding potential map 8: Mill Bay Area
- Grounding potential map 9: Pender Island Area
- Grounding potential map 10: Saltspring Island North Area
- Grounding potential map 11: Saltspring Island South Area
- Grounding potential map 12: Saturna Island Area
- Grounding potential map 13: Thetis Island Area

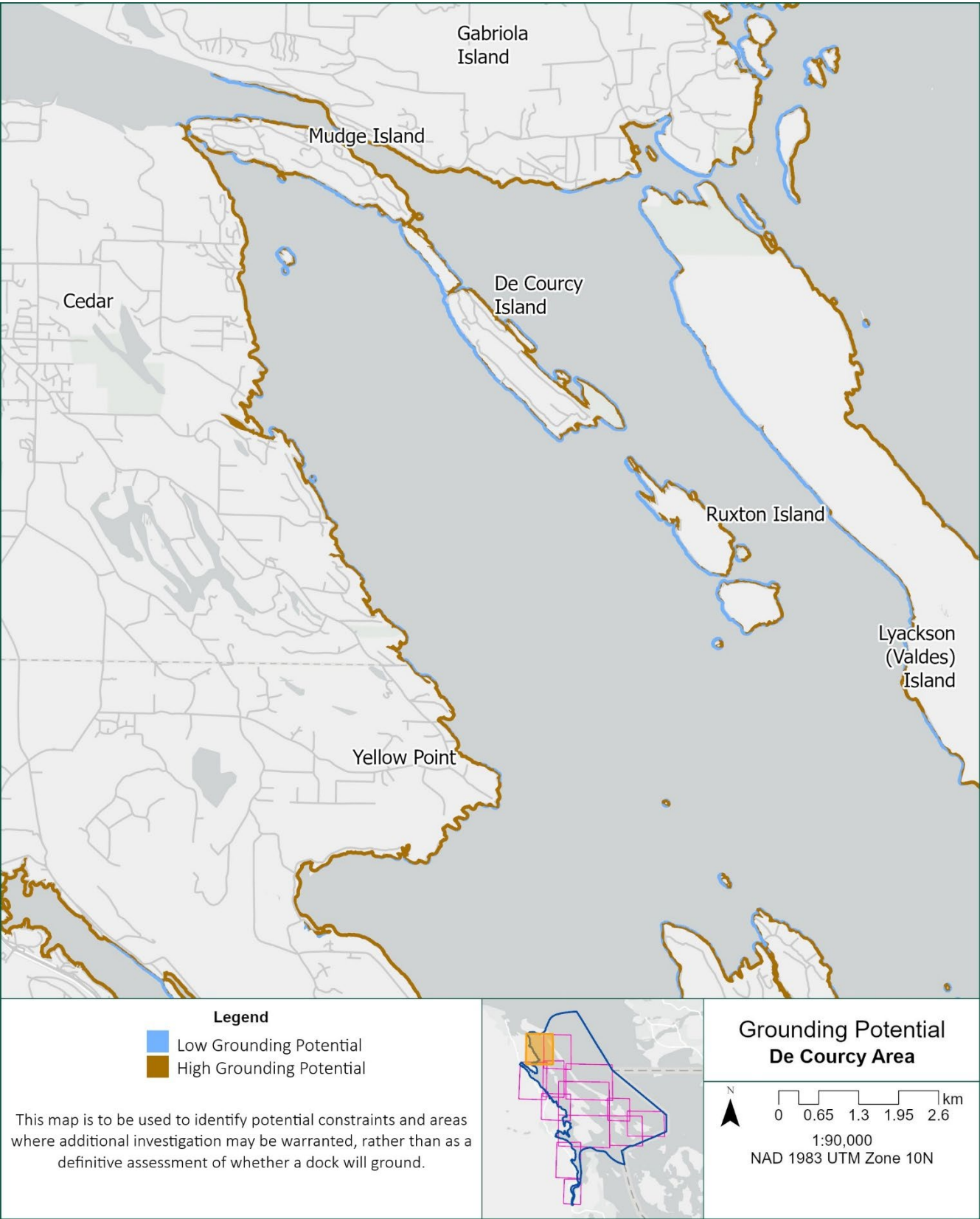
## Study area overview



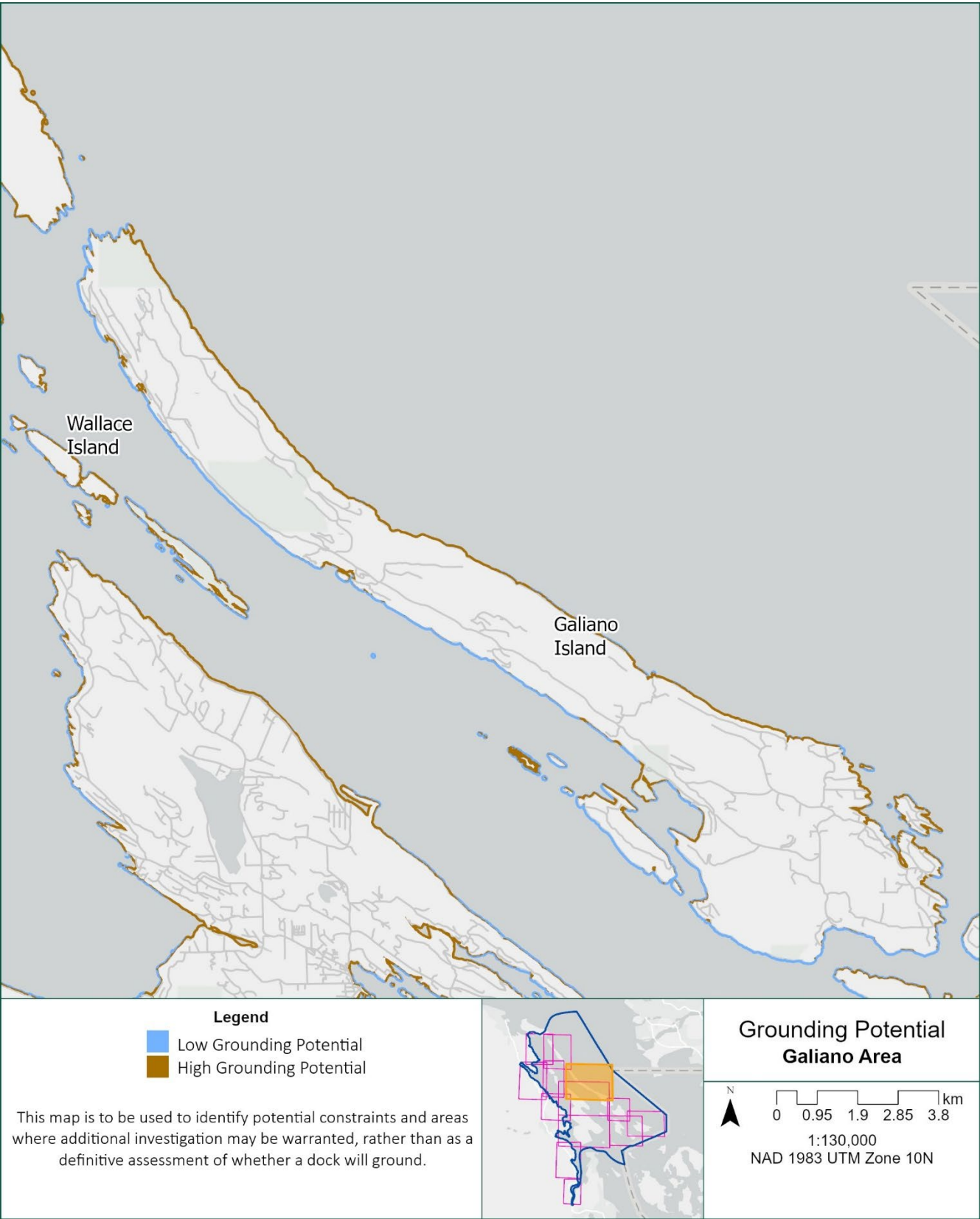
Grounding potential map 1: Chemainus Area



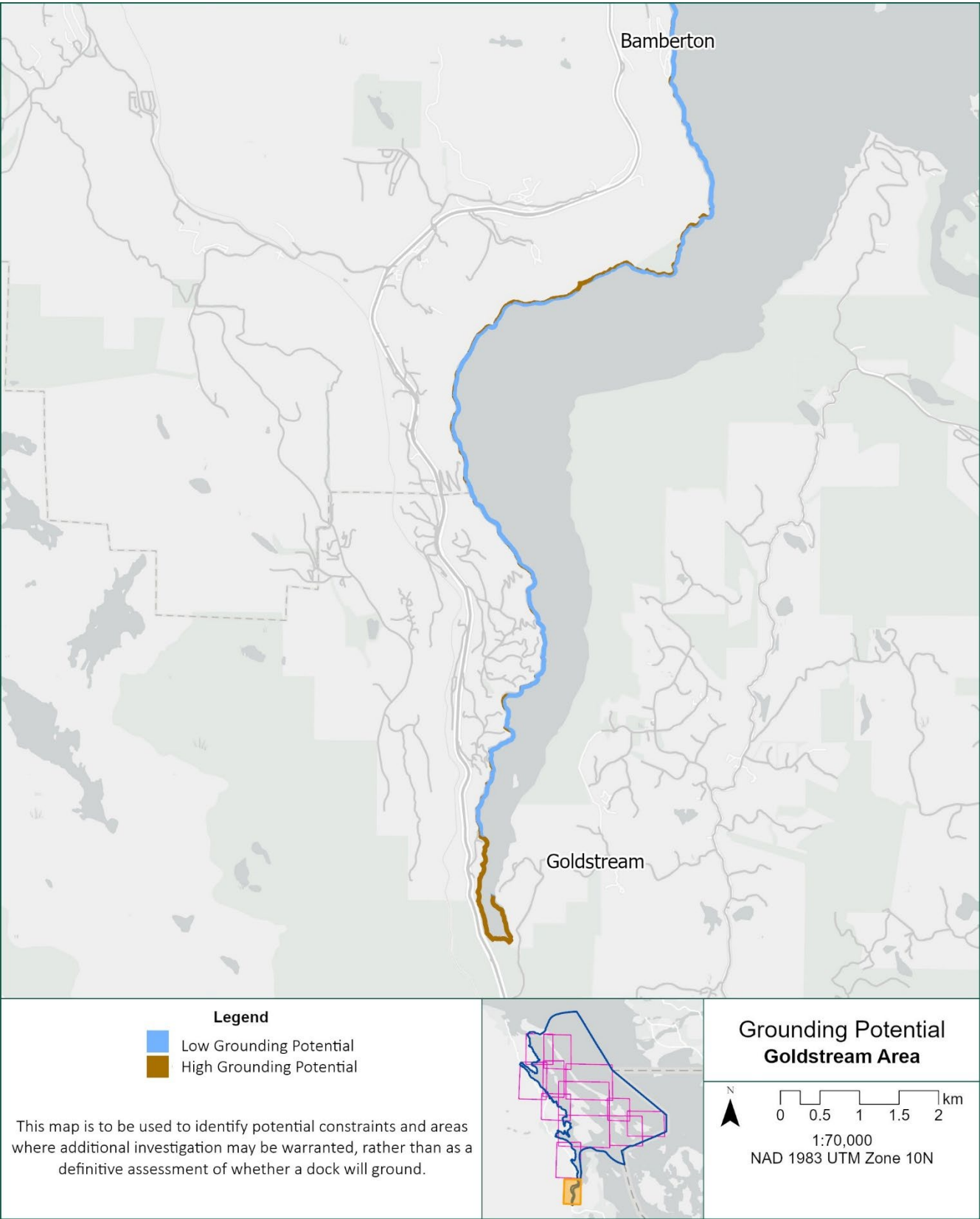
Grounding potential map 2: DeCourcy Island Area



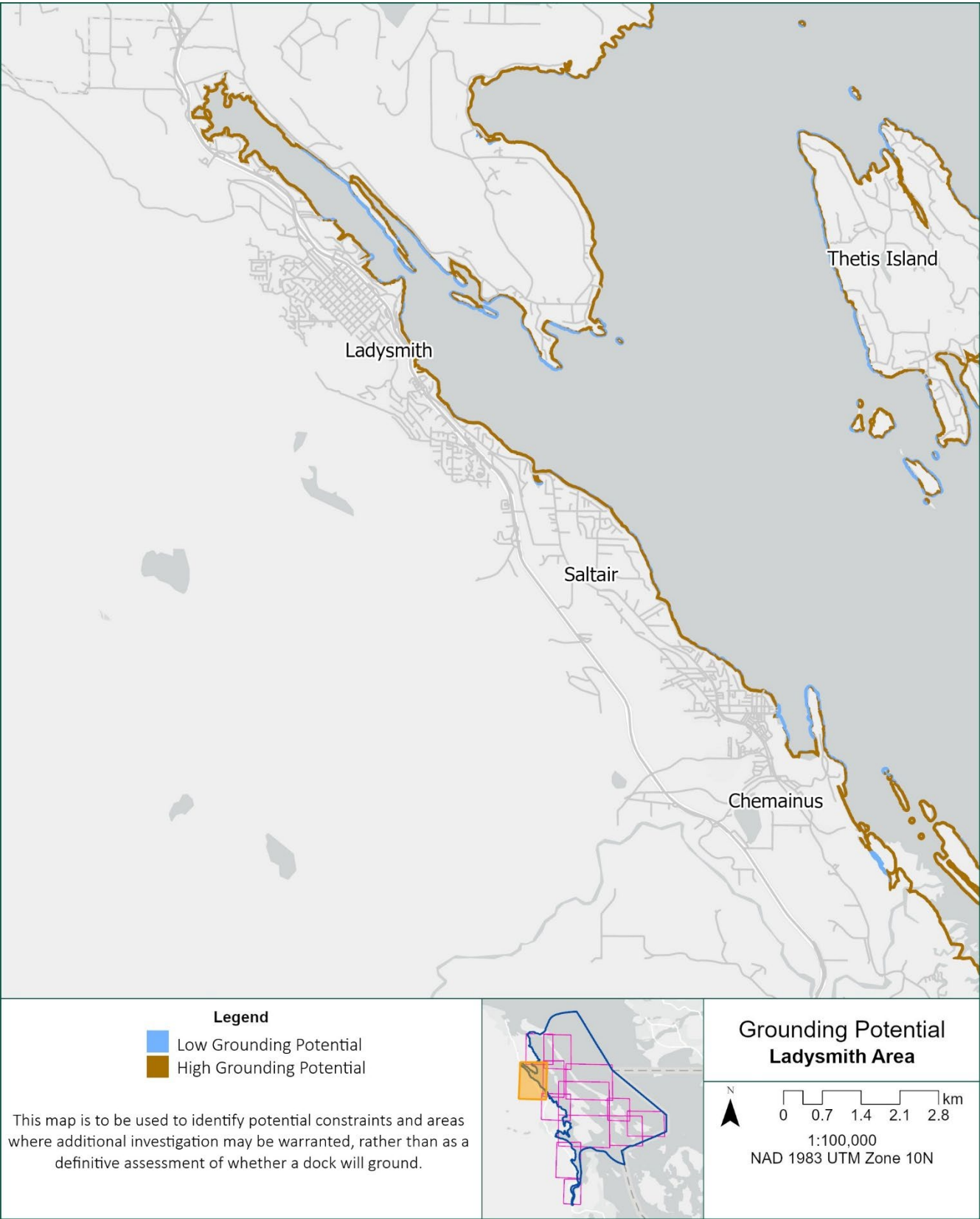
Grounding potential map 3: Galiano Island Area



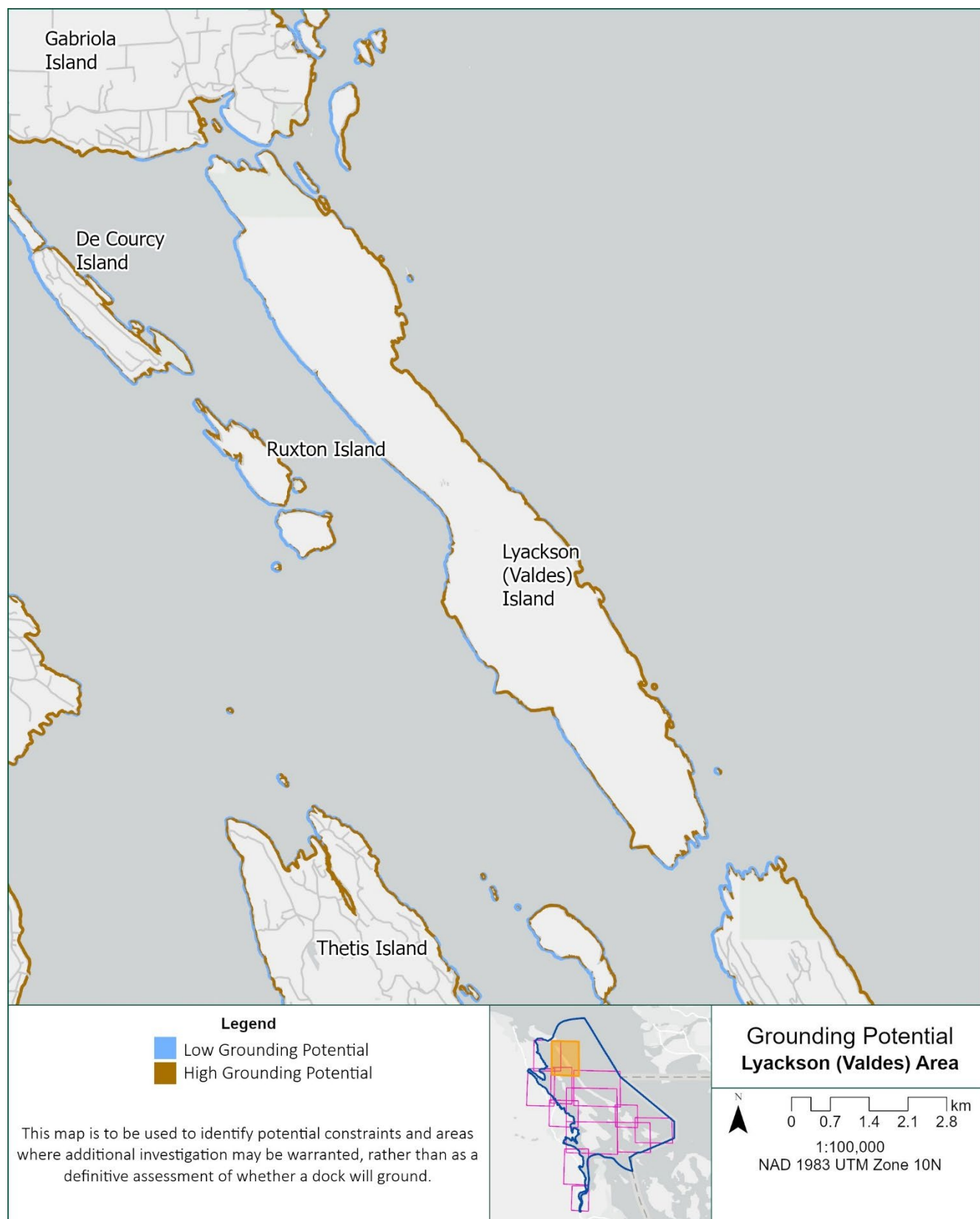
**Grounding potential map 4: Goldstream Area**



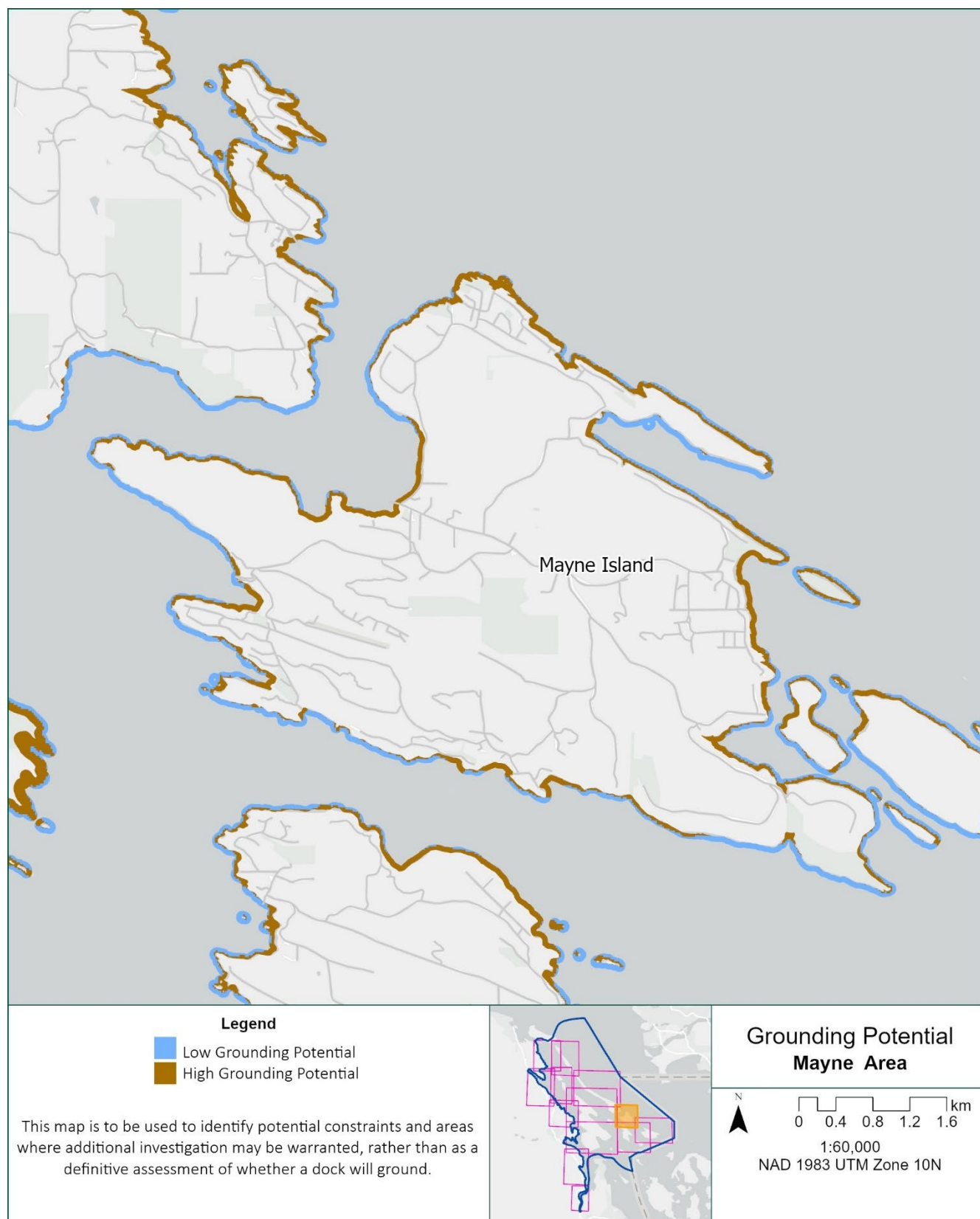
Grounding potential map 5: Ladysmith Area



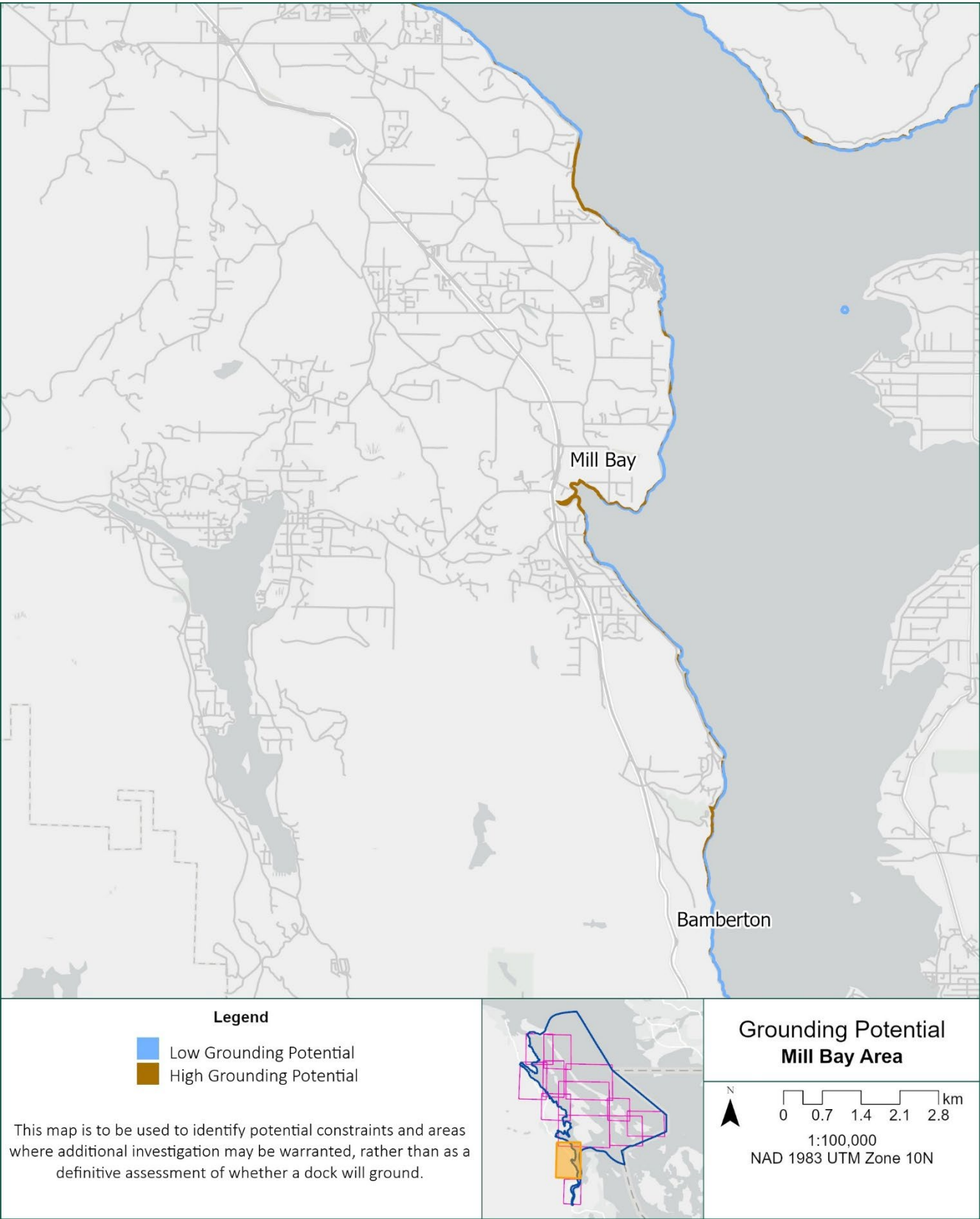
## Grounding potential map 6: Lyackson (Valdes) Island Area



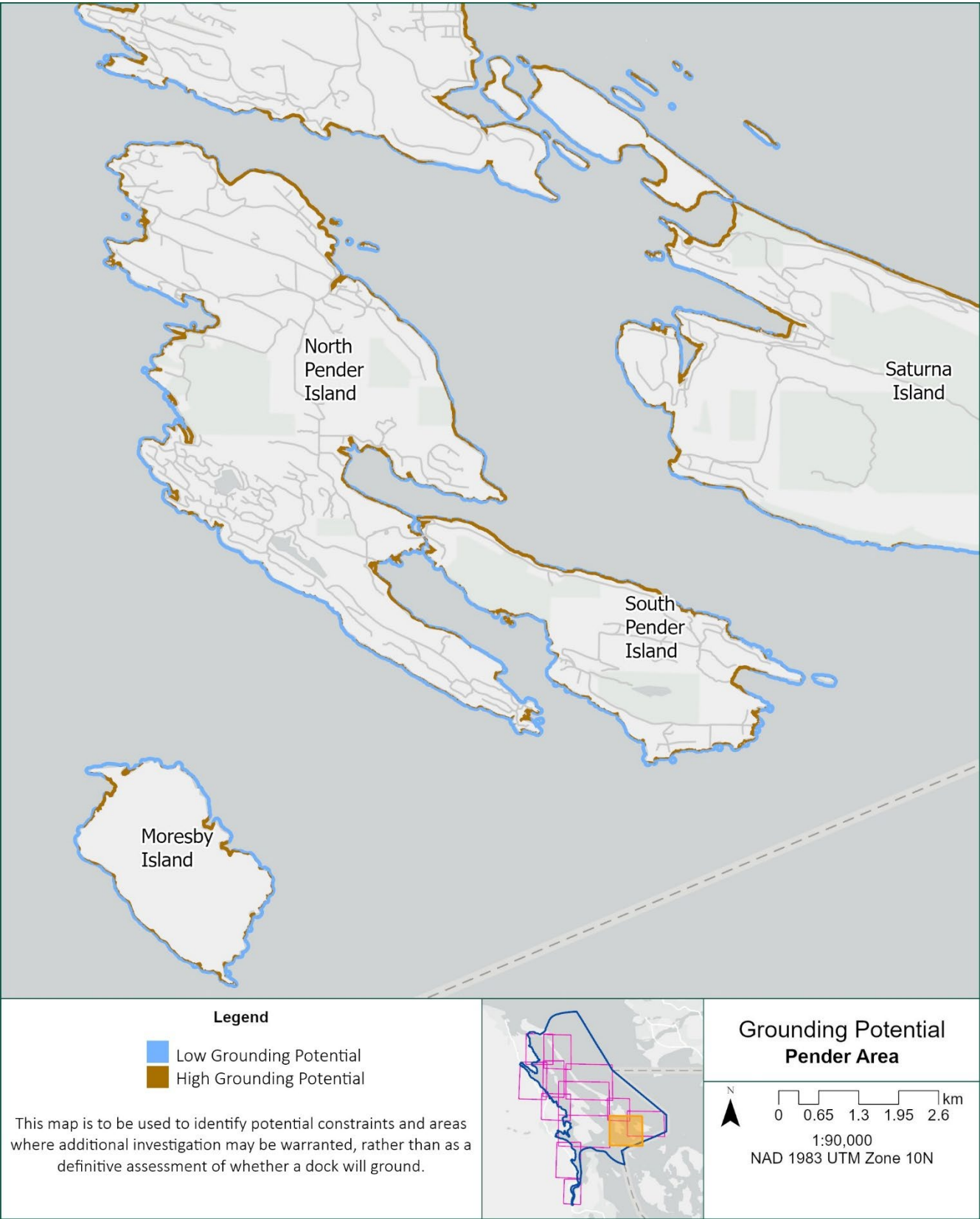
## Grounding potential map 7: Mayne Island Area



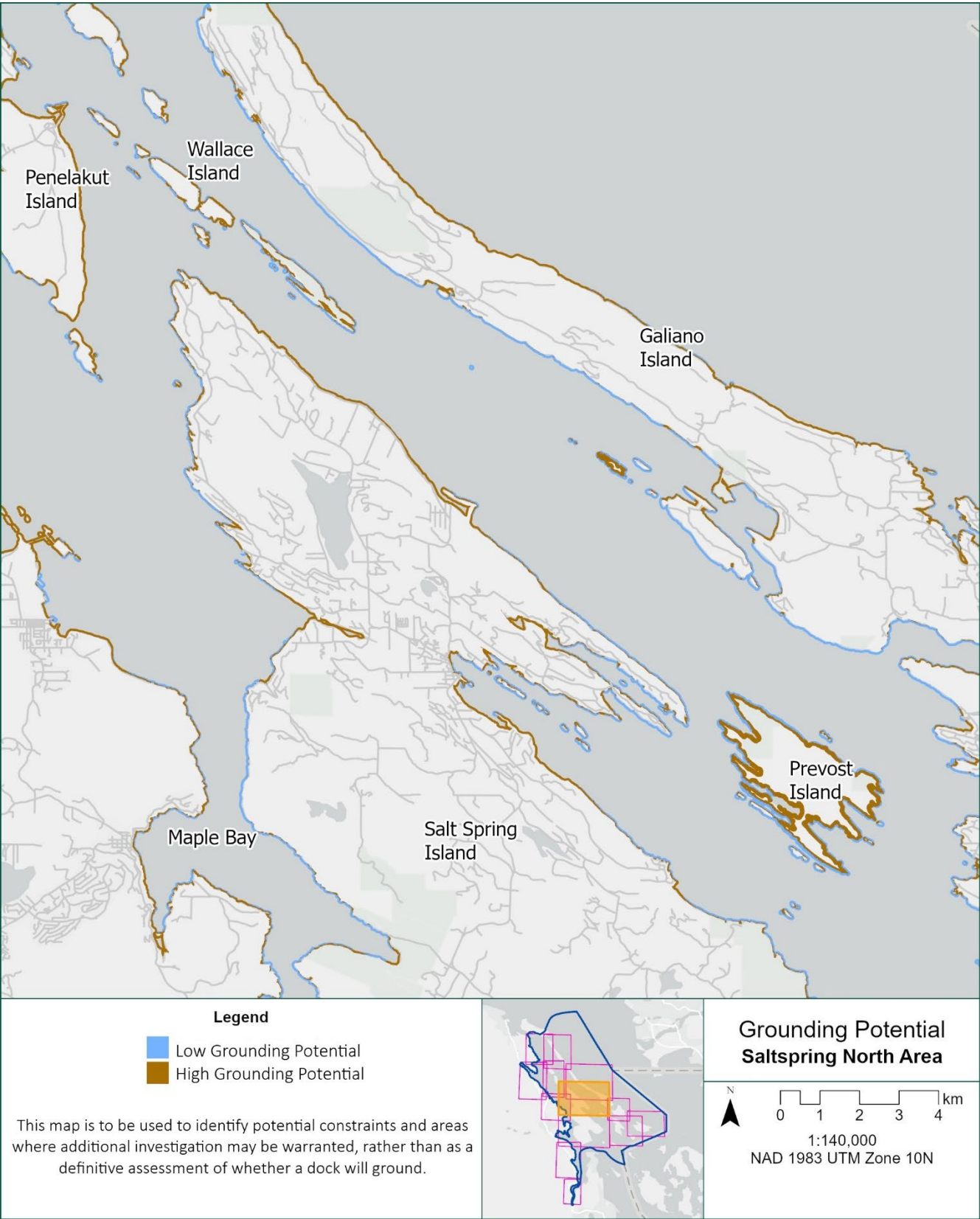
Grounding potential map 8: Mill Bay Area



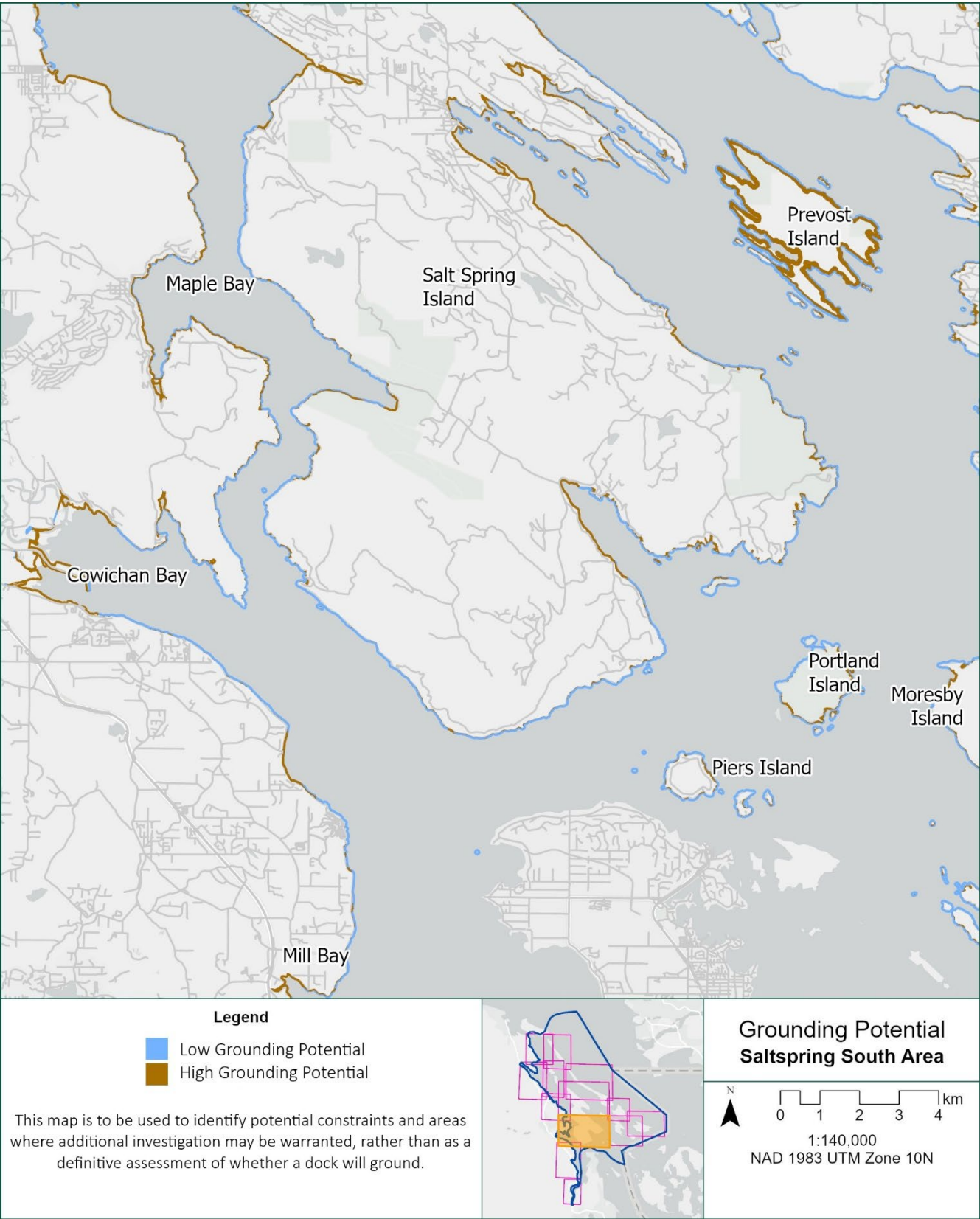
**Grounding potential map 9: Pender Island Area**



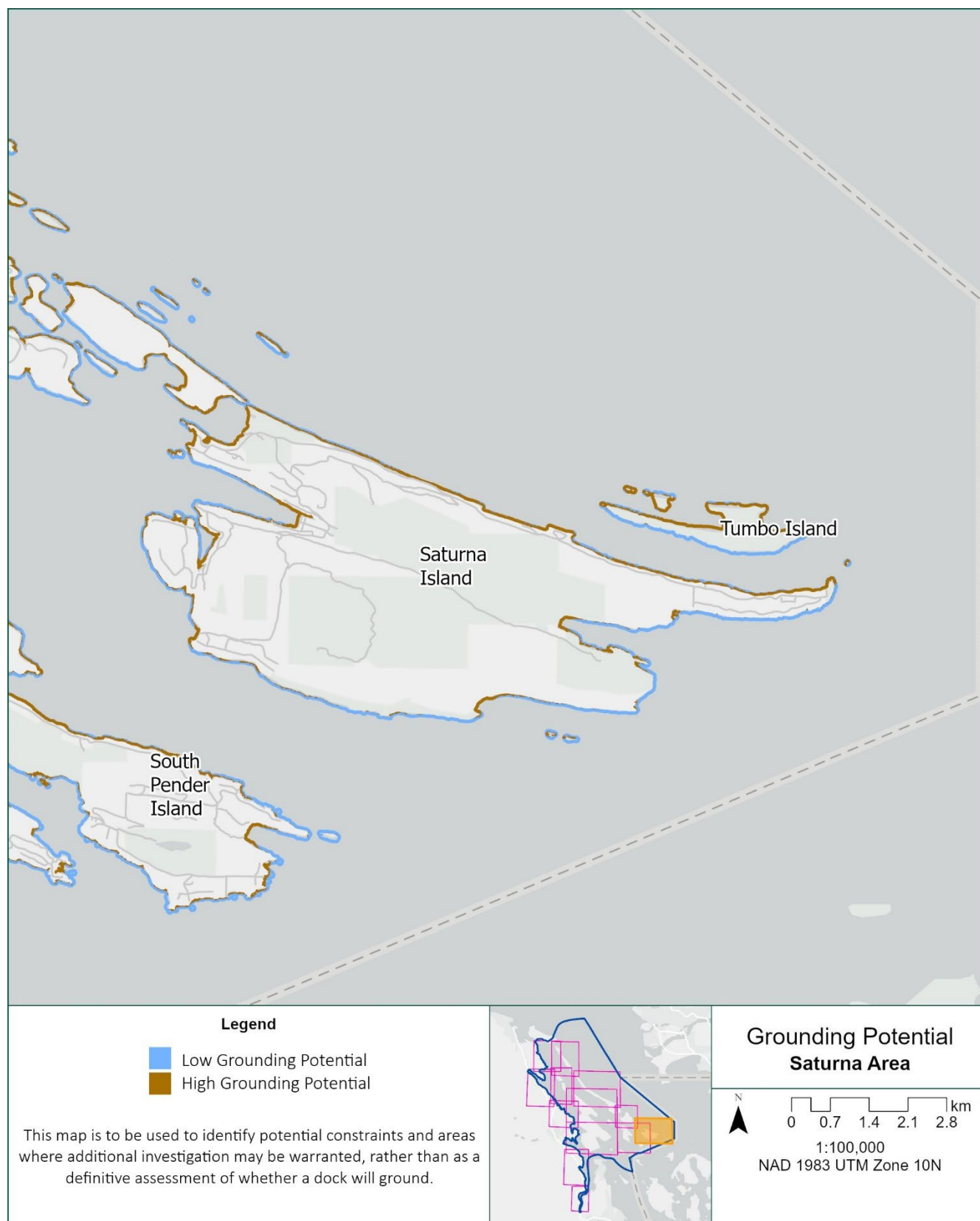
Grounding potential map 10: Saltspring Island North Area



**Grounding potential map 11: Saltspring Island South Area**



## Grounding potential map 12: Saturna Island Area



Grounding potential map 13: Thetis Island Area

