ISLANDS TRUST CONSERVANCY

ISLANDS TRUST CONSERVANCY JANUARY 30, 2018

# REGIONAL CONSERVATION PLAN

## 2018—2027

# Acknowledgements

The Islands Trust Conservancy recognizes that its work takes place within the traditional territories of numerous First Nations. Since time immemorial First Nations have cared for the land and waters of this region and the Islands Trust Conservancy is grateful for this stewardship.

The 2018–2027 Regional Conservation Plan was developed with the input and support of Islands Trust and Islands Trust Conservancy staff, the Islands Trust Conservancy Board and Islands Trust trustees. Special thanks are due to those who provided valued input into the development of this plan, attending workshops and reviewing drafts, including representatives from the following:

## First Nations

Cowichan Tribes

Esquimalt Nation

Halalt First Nation

Lyackson First Nation

Tla'amin Nation (Sliammon First Nation)

Tsleil-Waututh Nation

## Island Organizations

Bowen Island Conservancy

Bowen Island Municipality

Conservancy Hornby Island

Denman Conservancy Association

Gabriola Land & Trails Trust

Galiano Conservancy Association

Gambier Island Conservancy

Lasqueti Island Nature Conservancy

Mayne Island Conservancy Society

Mudge Island Land Trust Association

Pender Islands Conservancy Association

Salt Spring Island Conservancy

Thetis Island Nature Conservancy

## Other Organizations

American Friends of Canadian Land Trusts

B.C. Conservation Data Centre

Capital Regional District

Coastal Douglas-fir & Associated Ecosystems Conservation Partnership (CDFCP)

Comox Valley Regional District

Cowichan Valley Regional District

Habitat Acquisition Trust

Nanaimo & Area Land Trust

Nature Conservancy of Canada

Nature Trust of British Columbia

Parks Canada-Gulf Islands National Park Reserve

Sunshine Coast Conservation Association

Sunshine Coast Regional District

TLC The Land Conservancy of British Columbia

COVER PHOTO: LOOKING OUT FROM ISABELLA POINT CONSERVATION COVENANT

# Overview

The Islands Trust Area is a region of undeniable beauty which has attracted people for thousands of years. It is also an area rich in biodiversity and under significant pressures from the surrounding high population areas of Vancouver, Victoria and Nanaimo. The Islands Trust Conservancy Regional Conservation Plan describes the Islands Trust Area, placing it in the context of the region ecologically and culturally, providing detail on land status and land use, current ecosystems, protected areas and changes to the landscape over the last ten years, and setting goals and areas of focus for the Islands Trust Conservancy for the next ten years.

CORMORANTS ON DENMAN ISLAND. PHOTO: KRISTINE MAYES

## Goals for the Next 10 Years

1. Identify, investigate and communicate about important natural areas to generate action on conservation priorities
2. Strengthen relationships with First Nations to identify and collaborate on shared conservation goals
3. Continue to secure and manage Islands Trust Conservancy Board lands and conservation covenants to maximize ecological integrity
4. Continue to build internal and shared organizational strength and resilience to ensure long-term nature conservation in the Islands Trust Area

## Geographical Areas of Focus

Because of limited resources, the Islands Trust Conservancy must conduct programs, including its outreach and fundraising, strategically. Based on the information available regarding ecosystem values, threats and current levels of conservation, the Islands Trust Conservancy will focus its outreach programs primarily on the Lasqueti Island, Salt Spring Island and Thetis Island local trust areas with a secondary focus on the Gabriola Island, Galiano Island and Gambier Island local trust areas. Program opportunities for local trust areas/island municipalities will be evaluated on a case by case basis according to priorities identified in the Regional Conservation Plan; however, because there are lands with high conservation values on all the islands, conservation proposals for land securement will continue to be evaluated according to ecological value and feasibility.

# Table of contents

## List of tables

## List of figures



## List of maps

## 1.1 Islands Trust Area and the Islands Trust Conservancy

In 1974, the Province of British Columbia recognized the islands between Vancouver Island and the mainland as a special place within the province where the unique beauty, rural character and diverse ecosystems should be protected for future generations. The Islands Trust Area covers approximately 79,000 hectares of land and 482,500 hectares of water on the south coast of British Columbia (Figure 1) and is currently home to approximately 26,200 residents (2016 Canada Census).

In 1990, the Islands Trust Conservancy was established as a conservation land trust to assist in carrying out the "preserve and protect" mandate as described in Part 6 of the *Islands Trust Act*. The Islands Trust Conservancy Board is one of sixteen bodies[1] charged to uphold the Object of the Islands Trust. It is responsible for the actions of the Islands Trust Conservancy and since 1990 has protected over 1,170 hectares of land as nature reserves or through conservation covenants.

The **vision of the Islands Trust Conservancy** is that the islands and waters of the Strait of Georgia and Howe Sound will be a vibrant tapestry of culture and ecology where humans live and work in harmony with the natural world. This special place will have a network of protected areas that preserve in perpetuity


**Figure 1. The Islands Trust Area including terrestrial and marine components.**

1 The bodies charged to carry out the Object of the Islands Trust include the Trust Council, the Executive Committee, thirteen local trust committees and the ITC Board. Under the *Islands Trust Act* a municipality in the trust area must have regard for the object of the trust in adopting a bylaw or issuing a permit or license.

the native species and natural systems of the islands. Engaged residents and conservation partners will work together to protect large natural areas and key wildlife habitat. Viable ecosystems will flourish alongside healthy island communities.

The **mission of the Islands Trust Conservancy** is to protect special places by encouraging, undertaking, and assisting in voluntary conservation initiatives within the Islands Trust Area.

## 1.2 First Nations

The Islands Trust Area is located within the asserted traditional territories of many First Nations. As of 2017, ten of these First Nations have Douglas Treaty rights, two have modern treaties, eight have reserve lands and many have unextinguished Rights and Title to the lands and waters of the Islands Trust Area.

The Islands Trust and Islands Trust Conservancy strive to build relationships with the many First Nations in the region and to find opportunities for collaboration and mutual support. In December 2016, Islands Trust Council approved Policy 6.1.1. First Nations Engagement Principles which states that the Islands Trust is committed to:

1. Becoming aware of what it does not know or understand about First Nations.
2. Proving sincere desire for reconciliation.
3. Integrating, where possible, activities that support First Nations reconnecting with the Trust Area lands and waters.

In light of court decisions such as *Tsilhqot'in Nation vs. British Columbia* (2014) and decisions that preceded it, it is probable that the land ownership model in the Islands Trust Area will evolve to better recognize Aboriginal Rights and Title.

Because of the recent history of land management in the Islands Trust Area, terminology associated with the land is typically culturally biased towards a settler or colonial perspective. The Islands Trust Conservancy recognizes that the language commonly used to refer to land may be disrespectful to First Nations and where possible makes efforts to use more neutral language. For example, what is commonly referred to as "Crown Land" has been referred to as "Provincially-managed land" throughout this plan.

The Islands Trust Conservancy will continue to adapt its work as it increases its awareness and understanding of First Nations perspectives. The Islands Trust Conservancy Board will initiate and maintain positive and respectful communications with First Nations, supporting collaborative activities that reconnect and maintain existing connection of First Nations with the land and waters of the region.

## 1.3 Conservation Significance of the Islands

The Islands Trust Area is a region of undeniable beauty which has attracted people for thousands of years. Part of the reason for its beauty is the rich biodiversity which makes the Islands Trust

Area ecologically significant, not only locally, but globally. The Islands Trust Area is home to many sensitive ecosystems and hundreds of rare terrestrial and marine ecosystems and species.

## Forests

Most of the Islands Trust region is within the Coastal Douglas-fir (CDF) zone, one of the rarest of British Columbia's 16 biogeoclimatic zones. The Douglas-fir ecosystems of this zone are globally rare — in the entire world many of the plant associations of the region occur only on the east coast of southern Vancouver Island, the islands of the Georgia Basin, and a small area of the B.C. mainland. These forests cover only 0.25% of British Columbia (Austin et al., 2008) and a quarter of the B.C. range lies within the Islands Trust Area. Because of a history of logging, less than 1% of CDF ecosystems remain in old growth and almost 50% has been converted to human uses such as housing, commercial and industrial, agriculture and roads. The CDF is rich in biodiversity and has the highest density of species of conservation concern of any of the biogeoclimatic zones in B.C. (Austin et al, 2008).

The remaining forests of the Islands Trust Area lie within the Coastal Western Hemlock (CWH) zone. This zone covers 11% (Austin et al., 2008) of the Province and less than 0.2% of it lies within the Islands Trust Area. The CWH zone occurs in Howe Sound and at higher elevations on Salt Spring Island. The CWH is considered globally secure with only 3% converted to human use (Austin et al., 2008); however, the very dry maritime subzone (CWHxm) found in the Islands Trust Area contains a high number of rare species and ecosystems, many of which are similar to those found in the CDF. Like the CDF, the CWHxm experiences high pressures from development.

## Sensitive Ecosystems

Sensitive ecosystems are considered sensitive because of their rarity and their fragility to disturbance (McPhee et al., 2000). Sensitive ecosystems in the Islands Trust Area[2] are described in Table 1.

2 The *Sensitive Ecosystems Inventory: East Vancouver Island and Gulf Islands* (SEI) (June 1998) identifies the following sensitive ecosystems: Coastal Bluff, Sparsely Vegetated, Terrestrial Herbaceous, Wetland, Riparian, Woodland, Older (over 100 yrs) Forests. Islands Trust has modified this classification to simplify some of these classes. Coastal Bluff, Sparsely Vegetated and Terrestrial Herbaceous ecosystems have been simplified into Herbaceous and Cliff ecosystems and Freshwater has been added as a class to recognize the importance of freshwater in the islands. The mapping available for older forests is divided into Old Forests (over 250 yrs) and Mature Forests (80–250 yrs); it is based on forest age classes mapped under Terrestrial Ecosystem Mapping (TEM) methodology. The SEI and the Islands Trust TEM also map Seasonally Flooded Fields as important areas for waterfowl. These ecosystems are not described here but are used in analyses for important conservation areas.

## Species and Ecosystems at Risk

Species and ecosystems at risk are those at risk of becoming extinct. Legal protections for species at risk and critical habitat for species at risk are provided in the federal Species at Risk Act. The Province of British Columbia can also designate species as endangered or threatened through regulation under the B.C. Wildlife Act; however, no regulations have been created at this time. Consequently, legal protection of species at risk only applies to species designated by the federal government. Protection of federally listed species is strongest on federal lands, but 'effective' protection of species at risk is required on private lands as well. Ecosystems at risk currently have no provincial or federal legal protection. Both federally and provincially designated species and ecosystems at risk may be found online through the B.C .Species and Ecosystems Explorer at env.gov.bc.ca/atrisk/toolintro.html. The number of species at risk that are potentially within the Islands Trust Area is shown in Table 2. The B.C. Conservation Data Centre has recorded observations of some species at risk and these are noted in Appendix II by local trust area/island municipality.

### What is the difference between sensitive and rare?

An ecosystem is a system of living species interacting with their non-living environment. Some ecosystems rely on a delicate mix of species and conditions that are easily affected by human activities. These ecosystems are termed "sensitive." Sensitive ecosystems are often rare and are home to rare species.

Rare species and ecosystems are living organisms or ecosystems that are scarce or very uncommon. The Government of Canada lists some rare species as threatened or endangered under the Species at Risk Act and the B.C. Conservation Data Centre classifies rare species and some ecological communities as red or blue listed.

**Table 1. Sensitive Ecosystems found in the Islands Trust Area.**

| Sensitive Ecosystem | Description |
|---|---|
| Cliff | Steep slopes, often with exposed bedrock. Very little soil accumulation, and only exceptionally hardy trees and plants. Cliffs are important vegetation refugia because they are often inaccessible to deer browsing or livestock grazing and can be important nesting habitat for birds. |
| Freshwater | Generally lakes and ponds with little or no floating vegetation with water depths of over two metres. |
| Herbaceous | Shallow soils characteristic of herbaceous ecosystems support low-growing vegetation, such as grasses, forbs (low, broad-leaved plants), wildflowers, mosses and lichens. Few trees and shrubs survive on these sites due to the fast-drying and often shallow nature of the exposed soils. |
| Old and Mature Forest | Dry to moist forests dominated by conifer or deciduous tree species with a canopy cover of over 30%. Old forests have a stand age of over 250 yrs.; Mature forests have a stand age of 80–250 yrs. |
| Riparian | Located adjacent to lakes, streams and rivers and characterized by plant communities and soils dependent on increased moisture. Influenced by erosion, sedimentation, flooding and seepage. |
| Wetland | Feature moisture-dependent plants that thrive in an environment where water remains at or above the surface of the soil during most of the year. Can be bog, fen, marsh, swamp, shallow water, wet meadow or a mixture of these types. |
| Woodland | Dry and open forests dominated by a mix of broadleaf and coniferous tree species with canopy coverage of 10–30%. Generally restricted to south-facing slopes and ridges with shallow soils and bedrock outcroppings. |

**Table 2. Number of provincially and federally listed species at risk. (Numbers are determined by search criteria that isolate species by biogeoclimatic zone and regional district.) (B.C. C.D.C., 2017)**

| Provincially Listed Species | | Federally Listed Species (COSEWIC/SARA)* | | |
|---|---|---|---|---|
| Red List | Blue List | Endangered | Threatened | Special Concern |
| 149 | 162 | 61/58 | 23/12 | 30/22 |

*COSEWIC: Committee on the Status of Endangered Wildlife in Canada, SARA: *Species at Risk Act* (Canada)

## Marine Environment

The two major marine areas within the Islands Trust Area are the Strait of Georgia and Howe Sound. Both lie within the Georgia Basin Marine Ecosection, which is characterized by depths of 0 to 1000m. This Ecosection is influenced by local winds, the freshwater and sediment from the Fraser River and other smaller rivers, and its connection to the Pacific Ocean through the Strait of Juan de Fuca.

The Islands Trust Area is home to many notable marine species and habitats, a few of which are described below.

### Eelgrass Habitat

Eelgrass (*Zostera marina*) meadows serve as nursery habitat, providing food and protection for over 80% of commercially important fish and shellfish species at some point in their life-times. Eelgrass habitat is essential to the survival of all species of salmon along our coast and supports fish species that are critical in the diets of marine mammals and birds. Eelgrass habitat is found along 19% of the shoreline of the Islands Trust Area.

### Forage Fish Spawning Beaches

Forage fish are small fish that travel in large groups called 'schools' and are a food source or 'forage' for larger fish and marine mammals. Forage fish, including Pacific herring, Pacific sand lance and surf smelt, are a cornerstone of marine food webs. They, and other forage fish species play an important role in the diets of Humpback Whales, Porpoise, Sea Lions, Seals, Salmon and marine birds. In the Islands Trust Area, Surf smelt and Pacific sand lance lay tiny eggs (1mm) on pebble and sand beaches just below the high-tide line – an area called the intertidal zone. The number and health of these beaches play an important role in the lives of the salmon, whales and marine birds that rely on each generation of forage fish for food.

## Marine Species under Protection or Special Management

The Islands Trust Area is also home to:

- five species of rockfish (*Sebastes* sp.)
- recently discovered glass sponge reefs
- numerous shellfish species
- Southern Resident Killer Whales

These species and ecosystems have legally-designated protected or management areas (Table 3).

**Table 3: Notable species with specific marine protection and management.**

| Marine Protection or Management | Species | Description |
|---|---|---|
| **Rockfish Conservation Area** | Rockfish (*Sebastes* sp.) | Rockfish species found in the Islands Trust Area are at low levels of abundance. Rockfish Conservation Areas have been established to prevent further population declines (DFO, August 2017). |
| **Glass Sponge Reef Fishing Closure Area** | Glass Sponge | Glass Sponges are living animals which, until 1987, were thought to be extinct. In 2001 they were found in the Islands Trust Area (CPAWS, 2016). Some Glass Sponge Reef areas are designated fishing closure areas (DFO, December 2017). |
| **Bivalve Shellfish Closures** | Bivalve Molluscs (e.g. clams, oysters, scallops, mussels, etc.) | The Department of Fisheries and Oceans Canada can issue notices for sanitary closures and/or biotoxin closures for bivalve mollusc harvest (DFO, July 2017). Many areas in the Islands Trust region are closed to harvest for the entire year, affecting First Nations traditional shellfish harvesting and public harvesting. |
| **Critical Habitat** | Northeast Pacific southern resident population of Killer Whale | Southern resident Killer Whale populations have been in decline and in 2014 the total population consisted of only 78 individuals*. The southern residents have been listed as endangered under the *Species at Risk Act* (Canada). In 2011, Critical Habitat was designated. (Government of Canada, 2017) |

* Information here is reported from the Government of Canada, but the Orca Network from Freeland Washington, which records births and deaths online at https://www.orcanetwork.org, places the current population as of August 23, 2017 at 77 individuals in the wild.

MEDICINE BEACH NATURE RESERVE, NORTH PENDER ISLAND

## 1.4 Conservation Planning

With more than 65% of the Islands Trust Area managed by private landholders and over 3.3 million people living in the surrounding areas of Vancouver Island and the Lower Mainland, the pressure to develop and change the natural landscape in the Islands Trust is high. In addition to problems of ecosystem conversion, remaining natural areas in the region face threats from stresses such as climate change and invasive species. Because of the ecological significance combined with ecological threats and limited resources, conservation planning is essential to maintaining biodiversity in the region.

### Evolution of the Regional Conservation Plan

Conservation planning began almost immediately at the Islands Trust Conservancy with the collection of data in the early 1990s. It has evolved over the last quarter century to include more sophisticated ways of processing information and also a broader recognition of the regional and global significance of the area. Historic planning documents included:

- Trust Area Inventory of Special Areas and Features (March 1995)
- Key Areas for Conservation (July 2000)
- Regional Conservation Plans (2005–2010 & 2011–2017)

The Regional Conservation Plan is a tool used by the Islands Trust Conservancy to focus its resources — staff, board, financial — on areas with the highest biodiversity values and greatest

need for conservation. It can also be used by Islands Trust decision makers to support ecologically responsible land use planning and is a resource for citizens and organizations working towards conservation of biodiversity within the Islands Trust Area. The current Regional Conservation Plan spans a ten-year period (2018–2027) to allow the Islands Trust Conservancy a greater period of time to realize its goals before moving into the next planning cycle.

## Reviewing and Improving Our Work

Over the duration of the last regional conservation plan (2011–2017), over 1,267 ha of land in the Islands Trust Area were protected by various organizations — an area larger than Thetis Island. This resulted in an increase from 16.5% to 17.81% protected terrestrial habitat in the Islands Trust Area. The Islands Trust Conservancy was the primary securement agency for 173 ha (13.6%) of this land.

In February 2017, the Islands Trust Conservancy Board reviewed lessons learned through implementation of the 2011–2017 Regional Conservation Plan. Key lessons learned included the following:

- Funding availability is a key to meeting objectives for land securement. The Islands Trust Conservancy Board had an objective to secure 500 ha of conservation land. It was only able to secure 173 ha of land through covenants and land acquisition; however, it helped partners to secure an additional 331 ha of land. The ability of the Islands Trust Conservancy Board to fundraise was a challenge to land securement.
- The Islands Trust Conservancy Board piloted a landholder contact program and commissioned a study on the value of working lands conservation, such as forestry and farm lands. It determined that further exploration of landholder contact programs and potential tools for conservation of working landscapes may yield further conservation successes.
- The Islands Trust Conservancy is a key agency for the collection and analysis of ecosystem data in the region. Its terrestrial and marine datasets have been used by many agencies for a variety of purposes. Marine datasets have been most frequently requested.
- Working with local trust committees and island municipalities to further conservation goals requires political will as well as financial and human resources from elected officials and/or planning staff.
- Outreach to island communities is time and labour intensive for Islands Trust Conservancy staff and programs need to be strategic to reach desired audiences and meet conservation goals.
- Property management activities are labour intensive and require appropriate funds. Potential land securement opportunities must be carefully screened and evaluated against future management costs and the ratio of conservation value to ongoing cost should be maximized. Property management capacity, rather than conservation needs, may be the limiting factor for successful nature conservation for the Islands Trust Conservancy in the future.

## Global Conservation Targets

> *"…biological diversity underpins ecosystem functioning and the provision of ecosystem services essential for human well-being. It provides for food security, human health, the provision of clean air and water; it contributes to local livelihoods, and economic development and is essential for the achievement of the Millennium Development Goals[3], including poverty reduction."*
>
> (from the Key Elements of the Strategic Plan for Biodiversity 2011–2020, UN Convention on Biodiversity)

The United Nations Convention of Biological Diversity created a Strategic Plan for Biodiversity 2011–2020. There are five strategic goals under the plan (below) and twenty targets:

**Strategic Goal A:** Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society

**Strategic Goal B:** Reduce the direct pressures on biodiversity and promote sustainable use

**Strategic Goal C:** Enhance the benefits to all from biodiversity and ecosystem services

**Strategic Goal D:** Enhance implementation through participatory planning, knowledge management and capacity building

(United Nations, October 2010)

Particularly relevant to the Islands Trust Conservancy, Goal C, Target 11 states that: "by 2020, **at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved** through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes" (United Nations, October 2010). Canada is working to meet this target and as of 2013 approximately 10% of its terrestrial area and 1% of its marine area was conserved within protected areas (Government of Canada, November, 2017).

3 From the UN Millennium Project: The Millennium Development Goals are the world's time-bound and quantified targets for addressing extreme poverty in its many dimensions — income poverty, hunger, disease, lack of adequate shelter, and exclusion — while promoting gender equality, education, and environmental sustainability. See unmillenniumproject.org.

## Other Regional Conservation Planning Initiatives

The rich biodiversity of the region that includes the Islands Trust Area has resulted in other agencies taking an interest in conservation. Regional districts that operate in the Islands Trust Area, with the exception of the Cowichan Valley Regional District (Thetis and Valdes Islands), include a portion of the Islands Trust Area in their parks planning. The Nature Conservancy of Canada (NCC) Salish Sea Natural Area Conservation Plan and the Coastal Douglas-fir and Associated Ecosystems Conservation Partnership (CDFCP) Conservation Strategy (2015–2020) have identified priority lands for conservation within the Islands Trust Area (Appendix I for NCC and CDFCP boundaries).

GALIANO ISLAND. PHOTO: K MAYES

GARRY OAK ECOSYSTEM, HORNBY ISLAND

## 2.1 Land Status and Land Use

### Land Status

Over 67% of land within the Islands Trust Area is managed by private individuals or corporations. The remainder can be classified as protected areas (18%), public land under Provincial management (12%) or First Nations Reserve lands (3%). Over half of the landbase is in a natural state and managed by private individuals or corporations (Figure 2). Parks are the primary mechanism for creating protected lands, but nature reserves and conservation covenants held by land trusts, including the Islands Trust Conservancy, make up over 14% of protected areas.

For a map of Parks and Protected Areas as of December 2017, see Appendix IV.

As directed by the 2011–2017 Regional Conservation Plan, the Islands Trust Conservancy Board approved a method for identifying high conservation value lands and a Securement Strategy (2017). The Securement Strategy forms the basis for prioritizing Islands Trust Conservancy work with private landholders within the natural, unprotected landscape.

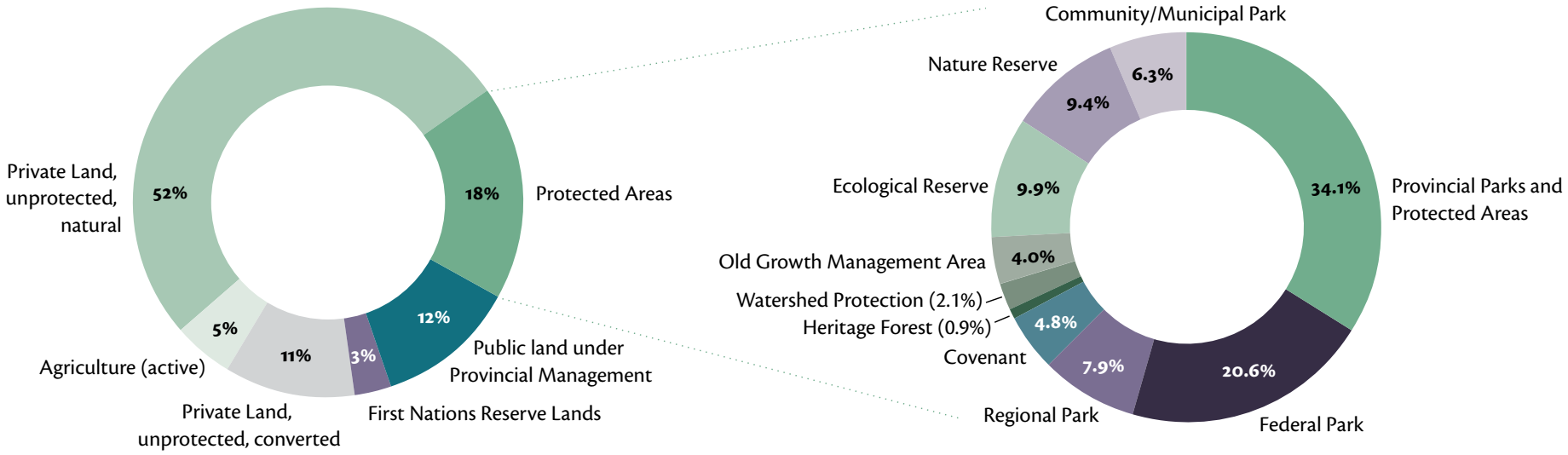



**Figure 2. Management of natural lands and protected areas in the Islands Trust Area.**

## Land Use

The Islands Trust Conservancy has mapped converted land[4] in the Islands Trust Area (Table 4). Most land use on converted land in the Islands Trust Area is attributed to rural development, roads and agriculture. The rural and urban development in the Islands Trust Area grew by approximately 270 ha between 2010 and 2017. For a breakdown of land uses by local trust area or island municipality see Appendix II. In 2017, the Islands Trust Conservancy procured building footprint mapping which identifies the number and area covered in buildings in the Islands Trust Area (Table 4).

4 Converted land is land that is no longer in a natural state and is unlikely to return to a natural state. For example, lands used for urban, rural residential, industrial, reservoir, agricultural, recreational uses are converted lands. Forestry lands, because they may recover to a natural state, are not considered 'converted.'

**Table 4. Mapped converted land uses in the Islands Trust Area.**

Note: reductions in converted land may be due to refinement of Terrestrial Ecosystem Mapping polygons which occurred in 2017 to better define sensitive ecosystems and agricultural areas and may not be indicative of an actual reduction in that land use. Source: Terrestrial Ecosystem Mapping and Islands Trust roads data.

| Land Use | Area (ha) | | Portion of Islands Trust Area (%) | |
|---|---|---|---|---|
| | 2010 | 2017 | 2010 | 2017 |
| Agriculture | 3,719.2 | 3,712.3 | 4.7 | 4.7 |
| Roads | 2053.4 | 2053.4* | 2.6 | 2.6* |
| Rural & Urban Development** | 6,314.5 | 6,584.9 | 7.9 | 8.3 |
| Other | 105.4 | 101.2 | 0.1 | 0.1 |
| **TOTAL** | **12,192.5** | **12,451.8** | **15.3** | **15.7** |

* From 2010 Islands Trust road analysis used in the 2011-2017 Regional Conservation Plan. This analysis was not replicated in 2017 due to limited resources.

** Building Footprints account for 445.4 ha of rural and urban development. The remainder of the area is gardens, yards and general use areas around homes and other buildings. *Source: Islands Trust building footprint mapping.*

The 57% of the landbase that is under private management and in natural lands or active agriculture (Figure 2, Section 2.1 above) includes land used for forestry, active agriculture, undeveloped Agricultural Land Reserve and undeveloped natural lands (private enjoyment, personal firewood harvest, recreation, etc.). To better understand the privately managed landscape and how to interact with its landholders, the Islands Trust Conservancy completed pilot landholder contact programs in 2014-2015 and worked with a masters student on a feasibility study for a working landscape conservation program, which was completed in 2017. The goals of both projects (described below) were to expand the tools available to the Islands Trust Conservancy for nature conservation and to investigate efficiencies of conservation outreach.

## Landholder Contact Programs

Islands Trust Conservancy engaged in two landholder contact programs in 2014-2015 (Table 5). Following evaluation of these programs in 2015, the Islands Trust Conservancy Board identified outreach to landholders as a key strategy for land securement in its Land Securement Strategy (2017).

**Table 5. Pilot programs for landholder outreach in 2014–2015.**

| Pilot Program | Description |
|---|---|
| Lasqueti Island Landholder Contact | In collaboration with the Lasqueti Island Nature Conservancy, the Islands Trust Conservancy conducted landholder outreach using direct mail, local advertising and a local stewardship event. Staff conducted site visits with interested landholders and followed up on information requests. |
| Pender Islands Real Estate Professionals Outreach | In collaboration with the Pender Islands Conservancy Association, Islands Trust Conservancy organized a land conservation outreach event for real estate professionals (realtors, lawyers, etc.) on North and South Pender Islands, which was well attended. |

## Working Lands

From 2014 to 2017 the Islands Trust Conservancy worked with a University of Victoria Masters of Public Administration student to develop a feasibility study for a working landscape conservation program. The report noted that working lands are a significant part of the natural landscape in the Islands Trust Area (Figure 3). Properties with some component of Agricultural Land Reserve, Private Managed Forest Land or Farm Status

account for 43% of the landbase in the Islands Trust Area.

Findings of the report indicated that the Island Trust Fund could design a working lands conservation program to advance the Board's conservation strategy, establish meaningful relationships with landholders buffering core conservation areas, and create more extensive conservation corridors. The study indicated that before proceeding with a working lands program, the Islands Trust Conservancy would require:

- **Development of policy:** The Islands Trust Conservancy does not have any current policy framework for acquiring and managing working lands, therefore would need to develop policy and procedures;
- **Working lands expertise (staff or contractor):** Currently, the Islands Trust Conservancy does not have staff expertise in farming or forestry and would need to address this gap before beginning a working lands conservation program; and
- **Increased funding:** Working landscapes are more expensive to secure and manage than natural areas and the Islands Trust Conservancy would need additional funding to expand into working lands conservation.

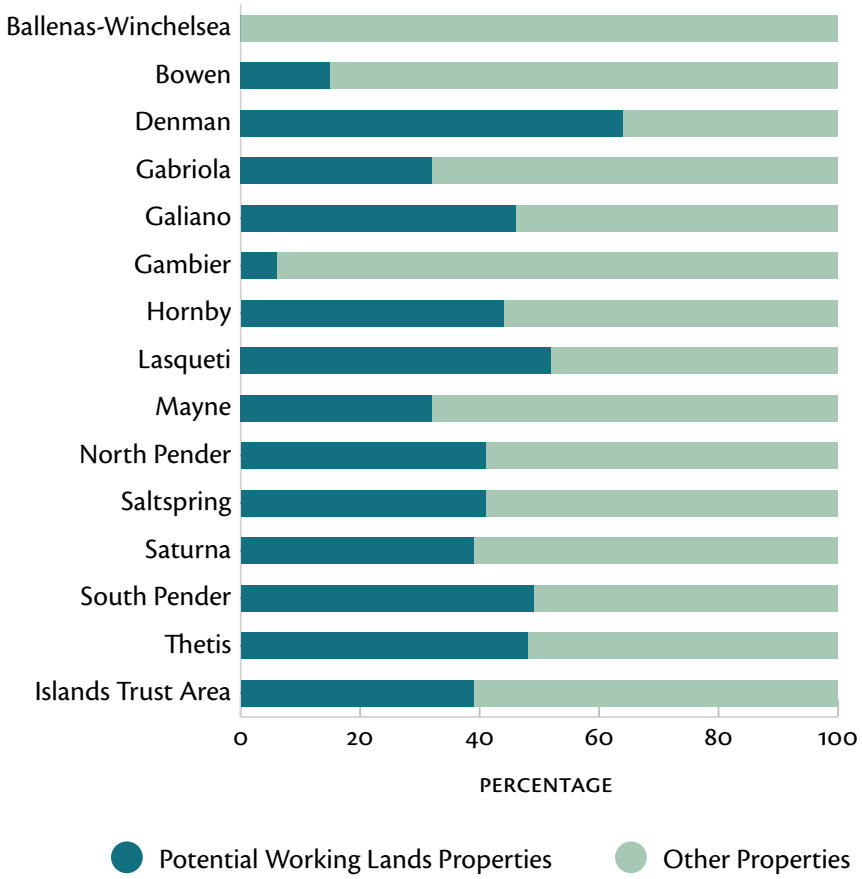



**Figure 3. Percentage of Local Trust Area/Island Municipality covered by potential working landscape.**

Note: A property can be partially or entirely in the ALR or PMFL. This graph shows the total area of all properties with some proportion designated ALR, PMFL or farm. For clarity, this graph indicates that properties with some form of ALR, PMFL, or farm designation make up 38% of the Islands Trust Area land base, not that 38% of the Islands Trust Area is in the ALR and/or PMFL. (Rikley, March 2017)

## 2.2 Ecosystems and Change in the Islands Trust Area

### Terrestrial Ecosystems

The Islands Trust Conservancy conducted terrestrial ecosystem mapping in 2017 to update ecosystem information for the Islands Trust Area landscape. This mapping can be used for many types of analyses, the most relevant of which are:

- analyses of sensitive ecosystems,
- structural stage (stand age) of forests, and
- anthropogenic disturbance of the landscape.

Data can be displayed for the whole Islands Trust Area (Figures 4 and 5 and Table 6) or by local trust committee/island municipality, as in Appendix II.

Sensitive Ecosystems (described in Section 1.3, above) account for over 40% of the land base of the Islands Trust Area. Most of this component of the landscape is forested, either in Woodlands (which have canopy closures of between 10% and 30%) or as denser Old and Mature Forests with canopy closures of over 30%. A smaller component of the landscape is in the other Sensitive Ecosystem types: Cliff, Freshwater, Herbaceous, Riparian and Wetland. Overall, approximately 21.4% of sensitive ecosystems lie within protected areas (Figure 4); however, this varies significantly by islands trust area/island municipality with Thetis having less than 5% and Saturna and South Pender have over 40% of sensitive ecosystems in protected areas.[5] See Appendix II for a breakdown of sensitive ecosystems by Islands Trust Area or Island Municipality.

5 Because up to three ecosystems may be present in the terrestrial ecosystem mapping data and because mapped areas (polygons) can overlap protected area boundaries, information used to calculate the percent of protected sensitive ecosystems may not be precise. However, in 2017, the Islands Trust Conservancy refined sensitive ecosystem mapping to delineate sensitive ecosystems more precisely and remaining mixed polygons are most likely homogenously mixed, lending more credibility to these numbers.

Forested ecosystems are a large component of the Islands Trust Area and comprise approximately 75% of the landscape. Less than one percent of the Islands Trust Area remains in old growth forest, indicating that almost all of the Islands Trust Area has been logged at some point in time. Remaining old forests are very important components of the landscape as are mature forests which have many of the same structural components, including remnant old growth trees. Mature forests make up approximately 24% of the Islands Trust Area (Figure 5). Old and Mature forests provide higher quality habitat for a broader number of species than younger forests. Currently, most of the forest landbase is classified as young forest between forty and eighty years of age and 19.7% of forests are in protected areas. As with sensitive ecosystems, protection varies significantly by islands trust area/ island municipality with Thetis having less than 5% and Saturna and South Pender having over 35% of forested ecosystems in protected areas.[6]

Through its recent disturbance mapping, the Islands Trust Conservancy was able to analyse the change in the landscape in the ten year period from 2004–2014. During that timeframe it is

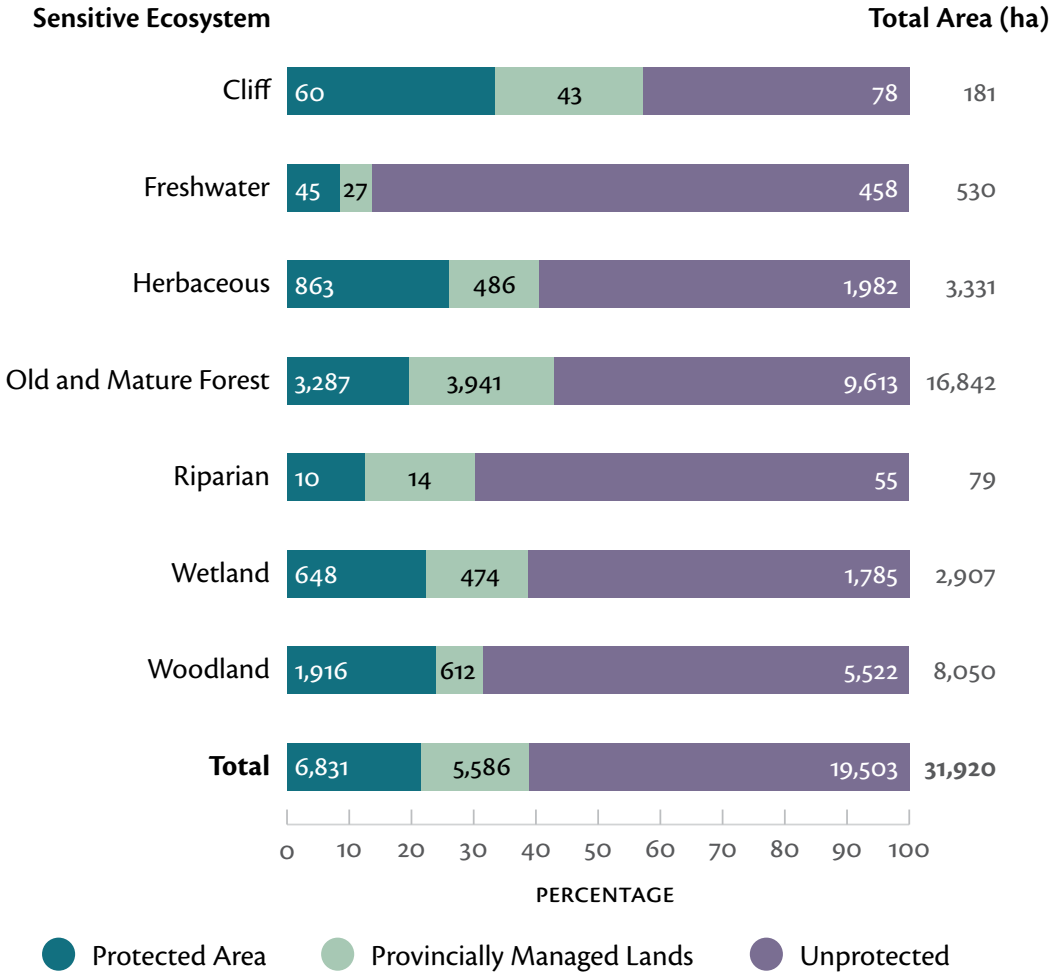



**Figure 4. Sensitive ecosystems within the Islands Trust Area and their level of protection by area and percent (Madrone, 2017).**

N.B. While Cliff, Riparian and Wetland ecosystems are expected to be smaller components of the landscape, limitations of the mapping also contribute to low representation. Cliff ecosystems are vertical ecosystems which can take up large amounts of vertical space which is not represented in two dimensional landscape mapping. Riparian and Wetland ecosystems are often found within forested ecosystems and are sometimes hard to distinguish below canopy cover when looking at aerial imagery.

6 See note 4.

estimated that approximately 1,070 ha of land were disturbed or lost through deforestation, vegetation clearing, creation of rural development and roads, wetland loss and disturbance to soils (Table 6). Approximately 640 ha of this disturbed area has been converted to non-natural uses and represents a loss of about 0.8% of the natural landbase. While this may seem an insignificant amount, if this rate continues, the Islands Trust Area can expect to reach land conversion levels of over 30% in the next 150-200 years. The 30% level of land conversion is considered a threshold for increased species loss within ecosystem types (Holt, February 2007). It is also important to note that some ecosystem types as well as some geographic locations (e.g. islands) are more heavily impacted by land conversion than others and this can result in elevated species loss in particular ecosystems despite remaining natural areas over the entire landscape. See Appendix II for a breakdown of disturbance type by local trust area or island municipality.

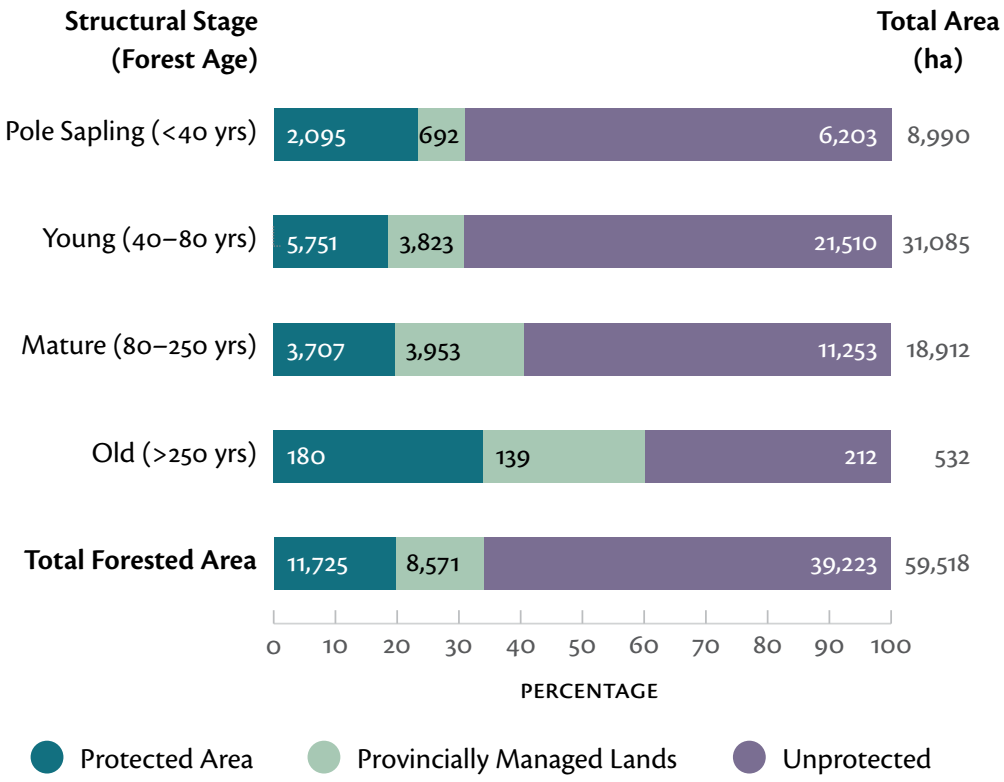



Figure 5. Structural stage (age) of forests in the Islands Trust Area by area and percent (Madrone, 2017).

**Table 6. Land disturbance type in the Islands Trust Area between 2004 and 2014 by area and percent (Madrone, 2017).**

| Disturbance Type | Area (ha) | Portion of Islands Trust Area (%) |
|---|---|---|
| Deforestation — forestry | 401.2 | 0.50 |
| Deforestation — rural development & roads | 590.0 | 0.74 |
| Deforestation — other | 2.4 | <0.01 |
| Cleared Vegetation — rural development & roads | 5.4 | 0.01 |
| Cleared Vegetation — other | 11.9 | 0.01 |
| New Roads/Buildings in non-vegetated areas | 49.9 | 0.06 |
| Wetland Loss | 2.6 | <0.01 |
| Soil disturbance | 6.6 | 0.01 |
| **TOTAL Disturbed Area** | **1,069.9** | **1.35** |

## Nearshore Ecosystems

Over the last five years, the Islands Trust Conservancy has been actively engaged in mapping shorelines to better understand important coastal ecosystems and the interplay between the land and the sea. Between 2012 and 2014, eelgrass ecosystems were mapped and, over the last five years, selected islands were mapped for suitable spawning habitat for surf smelt and Pacific sand lance. In 2017, the Islands Trust Conservancy also made efforts to better map sand ecosystems in the Islands Trust Area.

Eelgrass is an important component of the nearshore environment, providing habitat for many species and acting as a nursery for fish and invertebrates. Conservation of natural shorelines and backshore areas maintains healthy eelgrass beds and can have significant impacts on maintaining species diversity in the marine environment. Eelgrass was mapped by type and density throughout the Islands Trust Area and was present along 19% of Islands Trust Area shorelines. Approximately 19.5% of eelgrass shoreline in the Islands Trust Area has some form of protection;

however this varies by local trust area/island municipality with Thetis Island having less than 2.5% and Denman and Hornby having over 30% of their eelgrass shorelines protected. See Appendix II for a breakdown of eelgrass presence by local trust area and island municipality.

Forage fish are a vital component of marine food webs. Pacific herring spawn on vegetation present at or below the low tide, for example, eelgrass (see above). Surf smelt and Pacific sand lance spawn on beaches and spawning beaches have been confirmed in the Islands Trust Area. The Islands Trust Conservancy and Islands Trust have mapped suitable habitat for spawning on most of the major islands in the Islands Trust Area; however, the mapping is currently incomplete and estimates of suitable habitat for the Islands Trust Area are not yet available.

BIOLOGISTS MAPPING EELGRASS, GALIANO ISLAND

Sand Ecosystems are a small, unique and rare component of Islands Trust Area ecosystems. They account for approximately 230 ha across the Islands Trust Area and are found primarily on Denman Island, James and Sidney Islands within the North Pender Island Local Trust Area, with a notable presence in the Gambier Island Local Trust Area. Approximately 25.4% of sand ecosystems lie in protected areas. Protection levels vary by local trust area/island municipality with almost all of the mapped sand ecosystems in protected areas in the Saturna and Gabriola local trust areas, approximately 50% in protected areas in the Galiano and North Pender local trust areas, and smaller amounts in protected areas in other local trust areas and island municipalities.

## 2.3 Biodiversity Priorities and Threats

To identify important areas for conservation and to evaluate potential projects, areas of high biodiversity and areas that experience threats to biodiversity must be known. The Islands Trust Conservancy has identified key biodiversity priorities and threats and is mapping these on the landscape to inform decision-making.

ENTIRE-LEAVED GUMWEED, PYLADES ISLAND

## Biodiversity Priorities for the Islands Trust Area

The Islands Trust Conservancy has selected biodiversity priorities for the Islands Trust Area based on:

1. susceptibility of the landscape to damage,
2. representative levels of all ecosystems, and
3. inclusion of rare features and inclusion of unique regional features.

These priorities (Table 7) are used in modelling and evaluating appropriate areas for conservation and the data used for this modelling is noted below.

**Table 7. Biodiversity priorities in the Islands Trust Area.**

| Priority | Description | Data Available |
|---|---|---|
| Sensitive Ecosystems | Sensitive Ecosystems are those that are considered sensitive or rare. They often recover slower than other ecosystems following damage. | Yes — sensitive ecosystem mapping |
| Healthy Forests | Healthy forests are multi-aged, have canopy diversity, large woody debris (e.g. decaying logs of significant size), snags and have a diversity of tree and understorey species consistent with their growing site. | Yes — terrestrial ecosystem mapping |
| Species and Ecosystems at Risk | Species and ecosystems at risk are those identified by the BC Conservation Data Centre, COSEWIC and Schedule 1 of the federal *Species at Risk Act*. | Yes, but incomplete — species occurrence & critical habitat |
| Marine shorelines and nearshore areas | The interface between the ocean and the land is important for marine and terrestrial species. Of particular importance are shoreline areas that support foraging, reproduction and rearing of species, for example, eelgrass beds. Shorelines are also important cultural and harvesting areas for First Nations. | Yes — complete eelgrass data needs to be integrated into modelling |
| Islets and small islands | Islets and small islands can act as important refuges for species at risk and areas that are isolated from common threats. Conservation importance is often higher the further the islet or small island is from other land masses. Islets and small islands are also important cultural and harvesting areas for First Nations. | Yes — cadastral boundaries |
| Size, Corridors & Connectivity | Large protected areas, with connectivity between different types of ecosystems and connectivity to other species populations or other protected areas, are more robust and more likely to persist with high biodiversity into the future. | Yes — modelled with GIS tools |

## Common Threats to Biodiversity in the Islands Trust Area

The Islands Trust Conservancy has identified common ecosystem threats in the Islands Trust Area based on susceptibility of the landscape to damage, representative levels of all ecosystems, inclusion of rare features and inclusion of unique regional features (Table 8). These priorities are used in modelling and evaluating appropriate areas for conservation and the data used for this modelling is noted below.

**Table 8. Common threats to ecosystems in the Islands Trust Area and associated data available for mapping these threats on the landscape.**

| Threat | Description | Data Available |
|---|---|---|
| Ecosystem Conversion | Ecosystem conversion is the complete conversion of natural ecosystems to human use (e.g. buildings or pavement). | Yes — building footprint and terrestrial ecosystem mapping |
| Fragmentation | Fragmentation occurs when natural habitats are separated from each other. | Yes — roads |
| Invasive Alien & Problematic Native Species | Invasive alien species are those that are non-native to an area and take over the niche of native species, change the biology of an area or alter the succession of native species. Problematic native species have the same effects because of hyper abundance due to loss of population control factors like predators or other natural controls. | Yes — modelled using road proximity |
| Resource Use | Resource use in the Islands Trust is often timber removal, but also includes mineral extraction (e.g. rock, gravel & soil), water extraction (e.g. wells or water licenses) and removal of other natural resources and species (e.g. for food or decoration). | No — limited data |
| Natural System Modification | Natural system modification occurs when human beings change natural processes such as fire regimes, hydrology, erosion and sedimentation. | No — no known data |

| | | |
|---|---|---|
| Environmental Contaminants | Environmental contaminants can enter natural systems through point sources and non-point sources. Most contaminants in the Islands Trust Area are from non-point sources and come from run-off, seepage and drainage, e.g. nutrients from agricultural fertilizers and residential septic fields, sediments from construction sites or forestry areas. | No — no known data |
| Species Disturbance & Mortality | Disturbance occurs when species are required to alter their behaviours because of human activities such as increases or decreases in light, sound and smells (e.g. disturbance of bird nesting during construction). Mortality occurs when species are killed directly, for example road kill or birds killed by cats. | No — species disturbance, no known data, Yes – mortality modelled using road proximity |
| Climate Change & Variability | Climate varies seasonally and from year to year. It is occurring at a rapid rate due to human produced greenhouse gasses. Climate change scientists predict hotter, dryer summers and warmer, wetter winters in the Islands Trust Area. These changes will stress local ecosystems and species making them less resilient, more vulnerable to extirpation, and shifting their patterns and movements. | No — no known dataset available at regional scale for threat, carbon storage & sequestration mapping available |

## 3.1 Conservation Goals and Objectives

The Islands Trust Conservancy worked with conservation groups, government agencies and First Nations through a set of workshops in May 2017 (see Appendix III for represented groups) to seek input on conservation goals and objectives. These goals and objectives were further refined by the Islands Trust Conservancy staff and the Islands Trust Conservancy Board.

### 1. Identify, investigate and communicate about important natural areas to generate action on conservation priorities

In order to contribute to effective conservation of biodiversity and ecological integrity in the Islands Trust Area, the Islands Trust Conservancy needs an understanding of the status of ecosystems and species in the region. Additionally, the Islands Trust Conservancy Board manages over 1,200 ha of land and can use data to improve and inform its land stewardship. The Islands Trust Conservancy will continue to invest in research and data acquisition that supports the conservation of island ecosystems. Types of data that may be useful include ecosystem mapping, species at risk mapping, invasive species mapping, other species mapping (e.g. keystone species or problematic native species), land conversion mapping, climate change data, etc.

#### Objectives:

1.1 Identify data that will support better decision-making for land securement and land management and collaborate with partners to source and acquire it

1.2 Analyse data and update conservation area modelling every three years to identify important conservation areas and land management strategies on Islands Trust Conservancy Board managed lands

1.3 Investigate opportunities for protection of important conservation areas with partners

1.4 Share information with partners and others through Islands Trust online data and mapping repositories and through data sharing agreements

1.5 Seek opportunities to provide information to landholders to support voluntary conservation initiatives

### 2. Strengthen relationships with First Nations to identify and collaborate on shared conservation goals

The Islands Trust Area is located within the asserted traditional territories of many First Nations. As of 2017, ten of these First Nations have Douglas Treaty rights, two have modern treaties, eight have reserve lands and many have unextinguished Rights and Title to the lands and waters of the Islands Trust Area. As

part of its current practice, the Islands Trust Conservancy Board invites comment from First Nations in management planning processes and refers public conservation proposals to First Nations where archaeological sites are identified. The Islands Trust Conservancy seeks to establish and deepen relationships with First Nations and will work towards building trust and finding opportunities to collaborate with First Nations on projects where there are opportunities for shared benefits.

### Objectives:

2.1 Amend or redraft policies, procedures, plans, document templates and reports to include acknowledgement and consideration of First Nations

2.2 Include First Nations place names and/or Traditional Ecological Knowledge (TEK) on property signage where appropriate

2.3 Integrate Traditional Ecological Knowledge (TEK) into existing programs as appropriate

2.4 In consultation with the Islands Trust, source funds and determine mechanisms to support First Nations collaboration (financial and capacity)

2.5 Continue to share information and engage with new conservation projects in partnership with First Nations

2.6 Research options for protection of cultural sites and culturally important species

## 3. Continue to secure and manage Islands Trust Conservancy Board lands and conservation covenants to maximize ecological integrity

The core work of the Islands Trust Conservancy is to maintain and contribute to protected area networks which preserve ecological function and high levels of biodiversity in the Islands Trust Area. The Islands Trust Conservancy's conservation area modelling and Securement Strategy will support Islands Trust Conservancy Board decision-making processes to ensure resources are focused on those areas most in need of protection. The Islands Trust Conservancy Board will continue to consider new nature reserves and conservation covenants as well as other tools for conserving nature while ensuring that it cares for the lands that it is trusted to manage.

### Objectives:

3.1 Manage Islands Trust Conservancy Board conservation areas responsibly and strategically for ecological integrity, species and ecosystems at risk, known threats, public safety and protection of identified features using the Property Management Strategy

3.2 Identify and restore damaged ecosystems on Islands Trust Conservancy managed land

3.3 Using conservation area modelling and the Islands Trust Conservancy Board's Securement Strategy as guides,

conserve land with high levels of biodiversity priorities and manageable threat levels, in nature reserves and through conservation covenants

3.4 Explore increasingly complex strategies for land securement, including those that would protect biodiversity priorities on working landscapes (i.e. agriculture and forestry lands) and those that proactively engage landholders in stewardship activities

3.5 Promote Islands Trust Conservancy land conservation programs to land use planners, decision makers and landholders

3.6 Participate in significant ecosystem conservation opportunities related to land use planning in collaboration with local trust committees and island municipalities

3.7 Continue to support land conservation projects of partner agencies through the Opportunity Fund

## 4. Continue to build internal and shared organizational strength and resilience to ensure long-term nature conservation in the Islands Trust Area

The Islands Trust Conservancy was established in 1990 and has been a consistent presence in conservation of species and ecosystems in the Islands Trust Area for almost thirty years. As it moves into the fourth decade of its work, the Islands Trust Conservancy will ensure that it is a long lasting agency that can responsibly care for its management responsibilities and participate effectively in partnership opportunities. It will also work to be resilient enough to gracefully navigate change, both on the landscape and as an organization.

### Objectives:

4.1 Develop and expand fundraising strategies to support Islands Trust Conservancy programs

4.2 Share funding and learning opportunities with partners working on nature conservation in the Islands Trust Area

4.3 Continue to develop the Islands Trust Conservancy brand and promote organizational recognition through telling of the Islands Trust Conservancy story

4.4 Focus, refine and creatively enhance outreach using up to date tools and strategies

4.5 Engage audiences and partners beyond the Islands Trust Area to increase support for species and ecosystem conservation within the region

4.6 Use partnerships and new technologies to enhance efficiencies in Islands Trust Conservancy operations

4.7 Explore ways in which the provincial object to preserve and protect the Islands Trust Area can be manifested through support of the work of the Islands Trust Conservancy

## 3.2 Areas of Conservation Focus

The United Nations Convention of Biological Diversity Aichi targets of 17% terrestrial protected areas by 2020 have largely been achieved in the Islands Trust Area. Although some rare vegetation types are less represented, sensitive ecosystems, forests, eelgrass areas and overall protected areas are meeting this goal.

While Aichi targets are well in hand for the region, there are some local trust areas/island municipalities which are not meeting global targets (see Appendix II for information on protected areas by local trust area/island municipality). Additionally, protection of biodiversity globally and in the Islands Trust Area will require much higher levels of land conservation to minimize loss of species and to be able to allow for resilience of ecosystems to threats like climate change. Thresholds for species extinction and abundance suggest that the lowest risk for loss of species and species abundance requires maintenance of 60–70% of a given habitat type (Holt, 2007).

Because of limited resources, the Islands Trust Conservancy must conduct programs, including its outreach and fundraising, strategically. The Islands Trust Conservancy has evaluated each local trust area/island municipality to determine geographical areas for conservation focus using a decision matrix (Table 9). Based on the information available regarding ecosystem values, threats and current levels of conservation, the Islands Trust Conservancy will focus its outreach programs primarily on the Lasqueti Island, Salt Spring Island and Thetis Island local trust areas with a secondary focus on the Gabriola Island, Galiano Island and Gambier Island local trust areas. Program opportunities for local trust areas/island municipalities will be evaluated on a case-by-case basis according to priorities identified in the Regional Conservation Plan; however, because there are lands with high conservation values on all the islands, conservation proposals will be continue to be evaluated according to ecological value and feasibility.

MT. ERSKINE TRAIL, SALT SPRING ISLAND. PHOTO: K MAYES

**Table 9. Evaluation of conservation priority for each local trust area/island municipality within the Islands Trust Area using factors of need for sensitive, eelgrass and forested ecosystem protection, level of existing protection by area, disturbance threat and selection frequency in Islands Trust Conservancy conservation area modelling.**

| Local Trust Area/ Island Municipality | Need for Sensitive Ecosystem Protection[+] | Need for Forest Protection[#] | Need for Eelgrass Shoreline Protection[&] | Level of Unprotected Land[*] | Disturbance Threat[++] | Selection in Islands Trust Conservancy Modelling[##] | Priority[**] |
|---|---|---|---|---|---|---|---|
| Ballenas-Winchelsea | L | L | L | H | L | L | L |
| Bowen | H | M | L | M | H | L | M |
| Denman | M | M | M | L | M | M | M |
| Gabriola | M | M | M | H | H | M | H |
| Galiano | M | H | M | M | M | H | H |
| Gambier | H | H | H | M | H | L | H |
| Hornby | L | L | L | L | M | L | L |
| Lasqueti | H | H | M | H | M | H | VH |
| Mayne | L | L | L | H | M | L | M |
| North Pender | M | M | H | M | L | M | M |
| Saturna | L | L | L | L | L | L | L |
| South Pender | L | L | L | L | L | L | L |
| Salt Spring | H | H | H | M | H | H | VH |
| Thetis | H | M | H | H | H | M | VH |

**Rankings:**

L Low M Medium H High VH Very High

Note, natural breaks are used to determine the rankings within each category. VH is only used for conservation priority.

## 3.3 Setting Work Plans, Measuring Progress and Adaptive Management

The Islands Trust Conservancy Board has elected to create a ten year Regional Conservation Plan, but acknowledges that a plan of this length requires opportunities for evaluation and change if needed. The Islands Trust Conservancy Board will set priorities and review work plans to maximize effective and efficient use of resources for the following periods and will evaluate and adapt its work as needed according to the following timeline:

| Work Plan # | Develop/Adapt Work Plan | Carry Out Work Plan | Evaluate Work Plan |
|---|---|---|---|
| 1 | February–March 2018 | April 2018–December 2020 | January 2021 |
| 2 | February–March 2021 | April 2021–December 2023 | January 2024 |
| 3 | February–March 2024 | April 2024–December 2026 | N/A |
| January–November 2027: Evaluate regional conservation plan and develop next conservation plan. | | | |

+ Each location ranked by area (ha) of unprotected sensitive ecosystems and using natural breaks to determine rank.

# Each location ranked by area (ha) of unprotected forest over 40yrs (structural stages 4–7) and using natural breaks to determine rank.

& Each location ranked by area (ha) of unprotected shoreline with eelgrass habitat and using natural breaks to determine rank.

* Each location ranked by percent of the landbase in unprotected areas and using natural breaks to determine rank.

++ Each location ranked by area (ha) of disturbance between 2004 and 2014 and using natural breaks to determine rank. Areas with highest disturbance were ranked highest.

## Each location ranked by number of parcels considered to be a high priority for conservation and using natural breaks to determine rank.

** Each location ranked by assigning a value to each assessed criteria of L=1, M=2, H=3, adding these values and scoring each location out of 18. Areas with scores: below 50% = L, 50%-75% = M,76%-85% = H, over 86% = VH.

# References


Austin, M.A., D.A. Buffett, D.J. Nicolson, G.G.E. Scudder and V. Stevens (eds.). 2008. Taking Nature's Pulse: The Status of Biodiversity in British Columbia, Biodiversity BC, Victoria, B.C. 268 pp. Available at: www.biodiversitybc.org

B.C. Conservation Data Centre (B.C. C.D.C.). 2017. BC Species and Ecosystems Explorer, B.C. Ministry of Environment, Victoria, B.C. URL: http://a100.gov.bc.ca/pub/eswp/ (accessed between August 15 and September 15, 2017).

British Columbia Statistics. 2017, Population Statistics. URL: http://www2.gov.bc.ca/gov/content/data/statistics/people-population-community/population

Canadian Parks and Wilderness Society. 2016. URL: http://glassspongereefs.com/the-discovery/ (accessed September 6, 2017).

Department of Fisheries and Oceans. August 28, 2017. Rockfish Conservation Areas. URL: http://www.pac.dfo-mpo.gc.ca/fm-gp/maps-cartes/rca-acs/index-eng.html (accessed September 6, 2017).

Department of Fisheries and Oceans. December 05, 2017. Strait of Georgia and Howe Sound Glass Sponge Reef Fishing Closures. URL: http://www.dfo-mpo.gc.ca/oceans/oeabcm-amcepz/refuges/georgia-georgie-eng.html (accessed December 23, 2017).

Department of Fisheries and Oceans. July 11, 2017. Shellfish contamination in the Pacific Region. URL: http://www.pac.dfo-mpo.gc.ca/fm-gp/contamination/index-eng.html (accessed December 20, 2017).

Fenger, M., T Manning, J. Cooper, S. Guy and P. Bradford. 2006. Wildlife & Trees in British Columbia. Lone Pine Publishing, Vancouver, BC.

Government of Canada. August 25, 2017. Species at Risk Public Registry: Species Profile, Killer Whale Northeast Pacific southern resident population. ULR: http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=699#ot29 (accessed September 6, 2017).

Government of Canada. November 29, 2017. 2020 Biodiversity Goals and Targets for Canada. URL: http://biodivcanada.ca/default.asp?lang=En&n=9B5793F6-1&offset=1 (accessed December 23, 2017).

Holt, R. February 2007. Conservation Planning and Targets for the Coastal Douglas-fir Ecosystem. A Science Review and Preliminary Approach. Prepared for the Integrated Land Management Bureau, Nanaimo, B.C.

McPhee, M., P. Ward, J. Kirkby, L. Wolfe, N. Page, K. Dunster, N.K. Dawe and I. Nykwist. 2000. Sensitive Ecosystems Inventory: East Vancouver Island and Gulf Islands, 1993–1997. Volume 2: Conservation Manual. Technical Report Series No. 345, Canadian Wildlife Service, Pacific and Yukon Region, British Columbia.

Madrone Environmental Services (Madrone). September 13, 2017. SEM/TEM Mapping Updates and Disturbance Mapping in the Islands Trust Area, prepared for the Islands Trust, Victoria, B.C. 30 pp. NatureServe Explorer, http://explorer.natureserve.org/.

Pojar, J., K. Klinka, and D. A. Demarchi. 1991. Chapter 6: Coastal Western Hemlock Zone. Pages 95–111 in D. Meidinger, and J. Pojar, editors. Ecosystems of British Columbia. Research Branch, Ministry of Forests, Victoria, B.C.

Rikley, C. March 2017. Working Landscape Conservation Program: A feasibility study for the Islands Trust Conservancy. Unpublished masters thesis prepared for the School of Public Administration, University of Victoria.

United Nations. October 2010. COP 10 Decision X/2: Strategic Plan for Biodiversity 2011–2020. URL: https://www.cbd.int/decision/cop/?id=12268 (accessed Dec 23, 2017).

VIEW FROM COVENANT AREA, HORNBY ISLAND

# Appendix I: Other Conservation Area Maps that include the Islands Trust Area

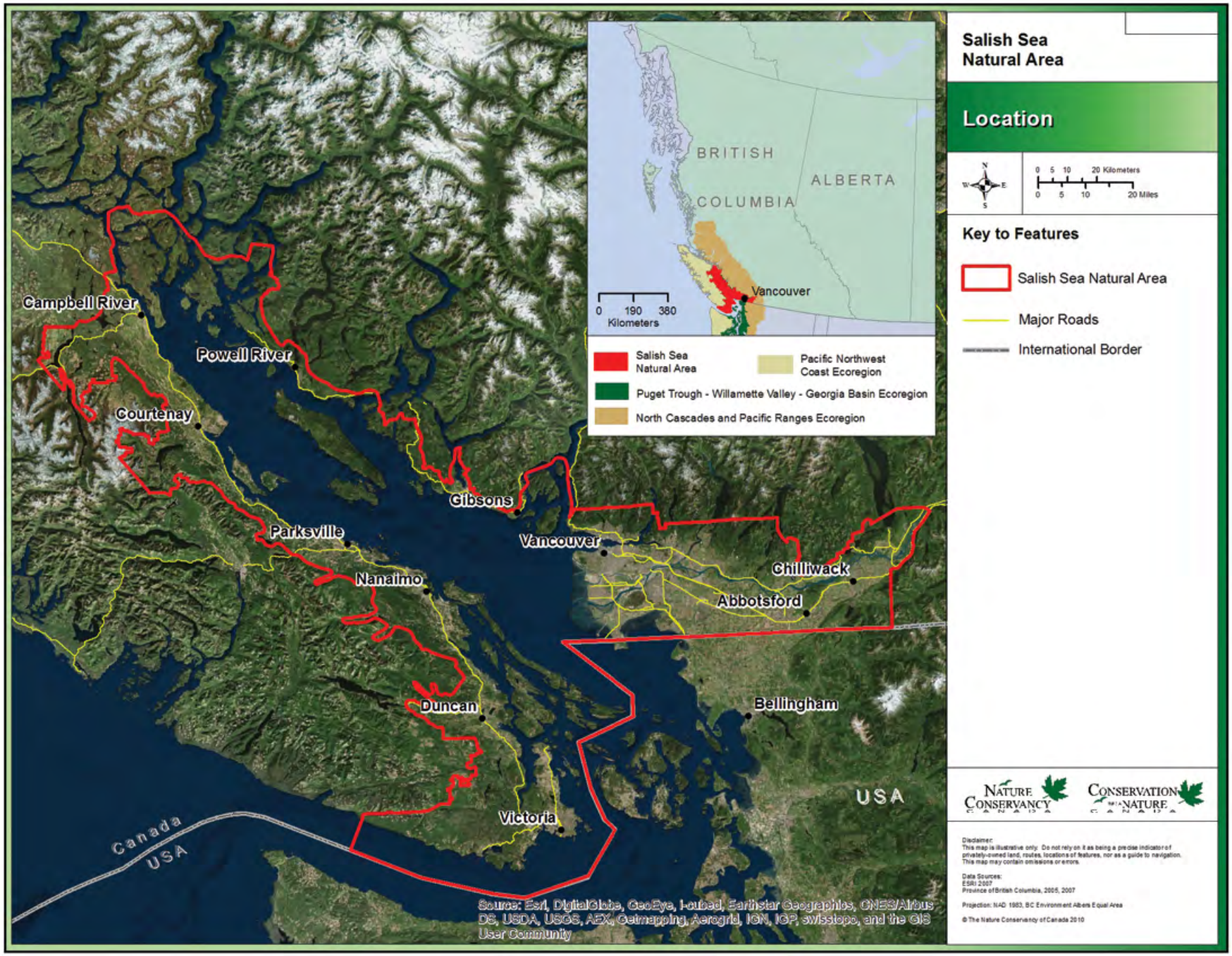



Figure 6. Salish Sea Natural Area used by the Nature Conservancy of Canada for conservation planning for the region.

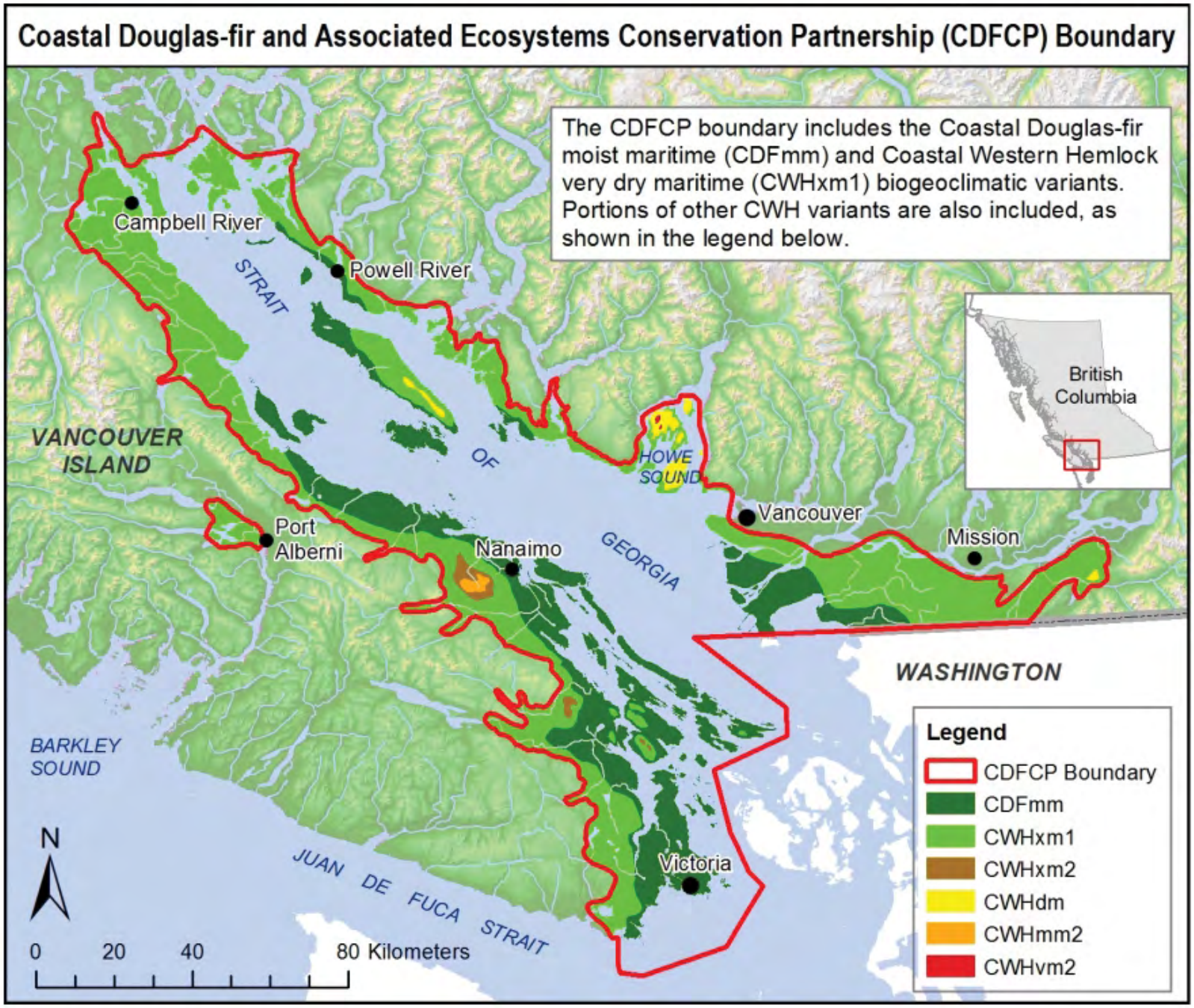



Figure 7. Coastal Douglas-fir and Associated Ecosystems Conservation Partnership (CDFCP) Boundary used by the CDFCP for conservation planning for the region.

# Appendix II: Local Trust Area Profiles

All information in Appendix II, unless otherwise stated, applies to the entire local trust area and is sourced from the following locations:

- **Habitat Composition Value Map (Ballenas-Winchelsea) or Important Natural Areas Maps (all other areas):** Islands Trust GIS Department display of modelling completed with updated protected areas and Terrestrial Ecosystem Mapping (2017), using methodology described in:

  Greene, R., J. Gallo, K. Emmings, N. Murphy & M. van Bakel. November 25, 2013. Methods for Determining High Value Biodiversity Areas and Identifying Land Securement Options within the Islands Trust Area: A Reference document for the Islands Trust Conservancy Spatial Decision Support System (LandscapeDST Islands Trust Version 3.0), prepared for the Islands Trust Conservancy, Victoria, B.C. 68 pp.

- **Size:** Islands Trust GIS Department
- **Population (2016):** Statistics Canada. 2017. Various Islands Trust Areas and Bowen Island, *British Columbia and British Columbia. Census Profile.* 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E (accessed December 7, 2017).
- **Number of Dwellings (2016):** Statistics Canada. 2017. Various Islands Trust Areas and Bowen Island, *British Columbia and British Columbia. Census Profile.* 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E (accessed December 7, 2017).
- **Number of Buildings (2014):** Building footprint mapping, Islands Trust GIS Department
- **Parcel Sizes (September, 2017):** Cadastral information, Islands Trust GIS Department
- **Access**: BC Ferries and information from Islands Trust staff, elected officials and the public
- **Protected Areas Distribution (January 2018):** Parks and protected areas data, Islands Trust GIS Department. Note that many Parks and fee simple Protected Areas are also protected with conservation covenants. These additional protections are not reflected here.
- **Sensitive Ecosystems (August, 2017):** Islands Trust GIS Department data analysis, derived from Terrestrial Ecosystem Mapping (TEM) updated September 2017 (Madrone, 2017) from the following TEM projects:

B.A. Blackwell and Associates Ltd. February 2011. Terrestrial Ecosystem Mapping Updates, prepared for the Islands Trust, Victoria, B.C., 5 pp.

Madrone Environmental Services. April 16, 2008. Terrestrial Ecosystem Mapping of Salt Spring Island, prepared for the Integrated Land Management Bureau, Nanaimo, B.C. 75 pp.

Madrone Environmental Services. June 21, 2008. Terrestrial Ecosystem Mapping of the Coastal Douglas-fir Biogeoclimatic Zone, prepared for the Integrated Land Management Bureau, Nanaimo, B.C. 75 pp.

Madrone Environmental Services. March 31, 2009. Conversion of Existing Southern Gulf Islands (SGI) Ecosystem Mapping to Provincial TEM Standards, prepared for the Islands Trust, Victoria, B.C., 18 pp.

Madrone Environmental Services. October 2, 2009. Terrestrial Ecosystem Mapping for Howe Sound Islands – Bowen, Gambier, Keats, Anvil and Other Associated Islands, prepared for the Islands Trust Conservancy, Victoria, B.C., 169 pp.

- **Species at Risk (September, 2017):** Occurrence data is from the BC Conservation Data Centre. Information regarding terrestrial Critical Habitat is from the Canadian Wildlife Service. Critical Habitat for Orca is from the Department of Fisheries and Oceans. All data is used with permission under data sharing arrangements with the Islands Trust and is subject to potential additions. See the Species at Risk Registry at https://www.registrelep-sararegistry.gc.ca for up to date information.
- **Forested Ecosystems (August, 2017):** Islands Trust GIS Department data analysis, derived from Terrestrial Ecosystem Mapping (TEM) updated September 2017 (see information above under Sensitive Ecosystems).
- **Marine Ecosystems:** Islands Trust GIS Department data analysis, derived from the following datasets and information:

British Columbia Marine Conservation and Research Society. March 30, 2014. Thetis, Hornby and Denman Islands Beach Spawning Forage Fish Habitat Suitability Assessments, prepared for the Islands Trust and Islands Trust Conservancy, Victoria, B.C., 75 pp.

British Columbia Marine Conservation and Research Society (Sea Watch Society). March, 2017. Lasqueti Island Surf smelt and Pacific sand lance Spawning Habitat Suitability Assessments, prepared for the Islands Trust Conservancy and Pacific Salmon Foundation, Victoria, B.C., 58 pp.

British Columbia Marine Conservation and Research Society. March, 2017. Valdes Island, British Columbia Surf smelt and Pacific sand lance Spawning Habitat Suitability Assessments, prepared for the Islands Trust and Islands Trust Conservancy, Victoria, B.C., 57 pp.

British Columbia Marine Conservation and Research Society. March, 2017. Galiano Island Surf smelt and Pacific sand lance Spawning Habitat Suitability Assessments, prepared for the Islands Trust and Islands Trust Conservancy, Victoria, B.C., 65 pp.

British Columbia Marine Conservation and Research Society. March, 2017. Salt Spring Island and Wallace Island Surf smelt and Pacific sand lance Spawning Habitat Suitability Assessments, prepared for the Islands Trust and Islands Trust Conservancy, Victoria, B.C., 69 pp.

Canadian Parks and Wilderness Society. 2016. Sea of Glass. URL: http://glassspongereefs.com/ (accessed September 6, 2017).

Emerald Sea Biological. April 8, 2013. North and South Pender Islands Beach Spawning Forage Fish Habitat Assessments, prepared for the Islands Trust Conservancy, Victoria, B.C., 32 pp.

Mayne Island Conservancy Society. April 2013. Mayne Island Shoreline Atlas Report, Mayne Island, B.C., 44 pp.

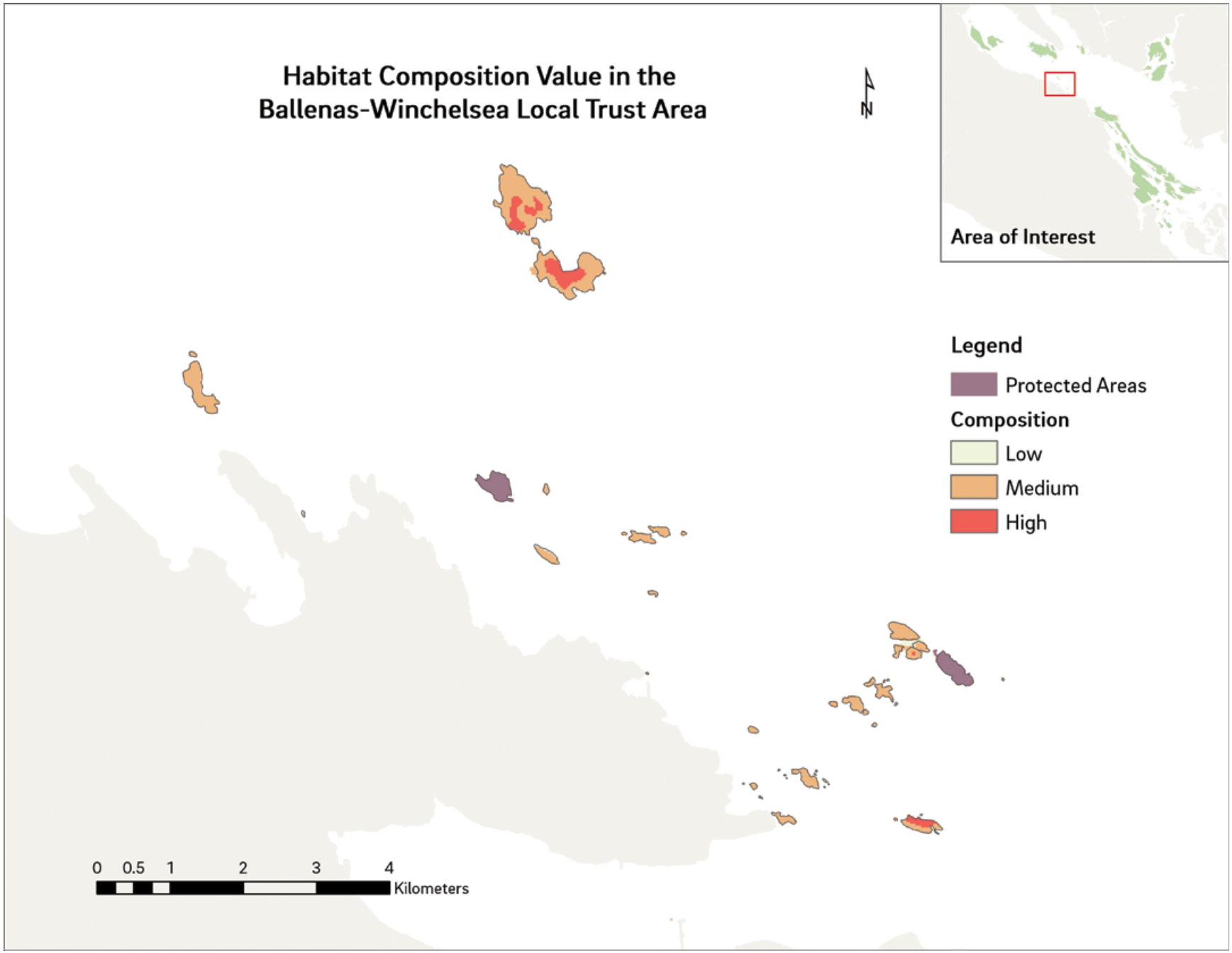
SeaChange Marine Conservation Society, Mayne Island Conservancy Society & Galiano Conservancy Association. 2012–2014. Final Report: Nearshore Eelgrass Inventory, prepared for the Islands Trust Conservancy, Victoria, B.C., 107 pp.

- **Modified Ecosystems (September, 2017):** Islands Trust GIS Department data analysis, derived from Terrestrial Ecosystem Mapping (TEM) updated September 2017 (see information above under Sensitive Ecosystems).
- **Ecosystem Disturbance (2004–2014):** Islands Trust GIS Department data analysis, derived from:

  Madrone Environmental Services. September 13, 2017. SEM/TEM Mapping Updates and Disturbance Mapping in the Islands Trust Area, prepared for the Islands Trust, Victoria, B.C. 30 pp.

- **Threats to Ecosystems:** Threats are those identified in the Regional Conservation Plan as having regional significance. Additional threats listed by local trust area/ island municipality.
- **Conservation Groups Known to be Working in the Area:** Derived from Islands Trust Conservancy existing partners and from local knowledge. These lists may be incomplete.

BELTED KINGFISHER, DENMAN ISLAND. PHOTO: K MAYES


Habitat Composition Value in the
Ballenas-Winchelsea Local Trust Area
N
Area of Interest
Legend
Protected Areas
Composition
Low
Medium
High
0 0.5 1 2 3 4
Kilometers

# Ballenas-Winchelsea (Executive) Local Trust Area

*Please see beginning of Appendix II for sources of data.*

**Size:** 168.1 hectares (415.3 acres)

**Population (2016):** not available

**Number of Dwellings (2016):** not available

**Number of Buildings (2014):** 16

**Parcel Sizes (September, 2017):**

| Parcel Size (hectares) | # of Parcels | Percent of Landbase |
|---|---|---|
| Less than 0.5 | 30 | 1.6 |
| 0.5–2 | 10 | 5.1 |
| 2–10 | 11 | 25.8 |
| 10–20 | 4 | 29.9 |
| 20–50 | 2 | 44.6 |
| More than 50 | 0 | 0 |

**Access:** Direct ferry

**Protected Areas Distribution (January 2018):**

| Type of Terrestrial Protected Area | Area (hectares) | Area as % of Local Trust Area |
|---|---|---|
| Nature Reserve | 11.4 | 6.4 |
| Park — Provincial | 12.0 | 6.7 |
| TOTAL | **23.4** | **13.1** |

| Type of Marine Protected Area | Area (hectares) |
|---|---|
| Provincial Marine Protected Area | 160.8 |
| Rockfish Conservation Area | 1,847.9 |
| Glass Sponge Reef Fishing Closure Area | 185.5 |
| TOTAL | **2,194.1** |

**Sensitive Ecosystems (August, 2017):**

| Sensitive Ecosystem | Area (ha) | Portion protected (%) | Portion managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Herbaceous | 115.0 | 13.8 | 50.7 | 62.7 |
| Woodland | 58.0 | 20.0 | 45.8 | 31.6 |
| **TOTAL** | **173.0** | **15.9** | **49.1** | **94.3** |

**Species at Risk (September, 2017):**

The B.C. Conservation Data Centre has recorded sightings of the following species in the Ballenas-Winchelsea (Executive) Local Trust Area:

- Slimleaf onion (*Allium amplectens*), blue listed
- Geyer's onion (*Allium geyeri* var. *tenerum*), blue listed
- Coastal wood fern (*Dryopteris arguta*), blue listed
- Water-plantain buttercup (*Ranunculus alismifolius* var. *alismifolius*), Endangered (SARA), red listed
- Graceful arrow-grass (*Triglochin concinna*), blue listed
- Steller Sea Lion (*Eumetopias jubatus*), blue listed
- Peregrine Falcon, *anatum* subspecies (*Falco peregrinus anatum*), species of concern (SARA), red listed

There may be additional species at risk that are not recorded with the B.C. Conservation Data Centre or whose locations are considered confidential information.

**Forested Ecosystems (August, 2017):**

The Ballenas-Winchelsea (Executive) Local Trust Area falls within the Coastal Douglas-fir Biogeoclimatic Zone which has less than 1.0% left in old growth stands. The breakdown of forests by age class is below.

| Forest Type | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Pole/Sapling Forest (<40 yrs) | 1.9 | 14.1 | 85.9 | 1.0 |
| Young Forest (40–80 yrs) | 34.1 | 22.1 | 49.2 | 18.6 |
| Mature Forest (80–250 yrs) | 5.7 | 0.0 | 0.0 | 3.1 |
| Old Forest (>250 years) | 0.0 | - | - | 0.0 |

**Marine Ecosystems (various dates):**

The Ballenas-Winchelsea (Executive) Local Trust Area has eelgrass beds along approximately 2.2% of its foreshore. There are also known locations of small glass sponge reefs offshore.

**Threats to Ecosystems:**

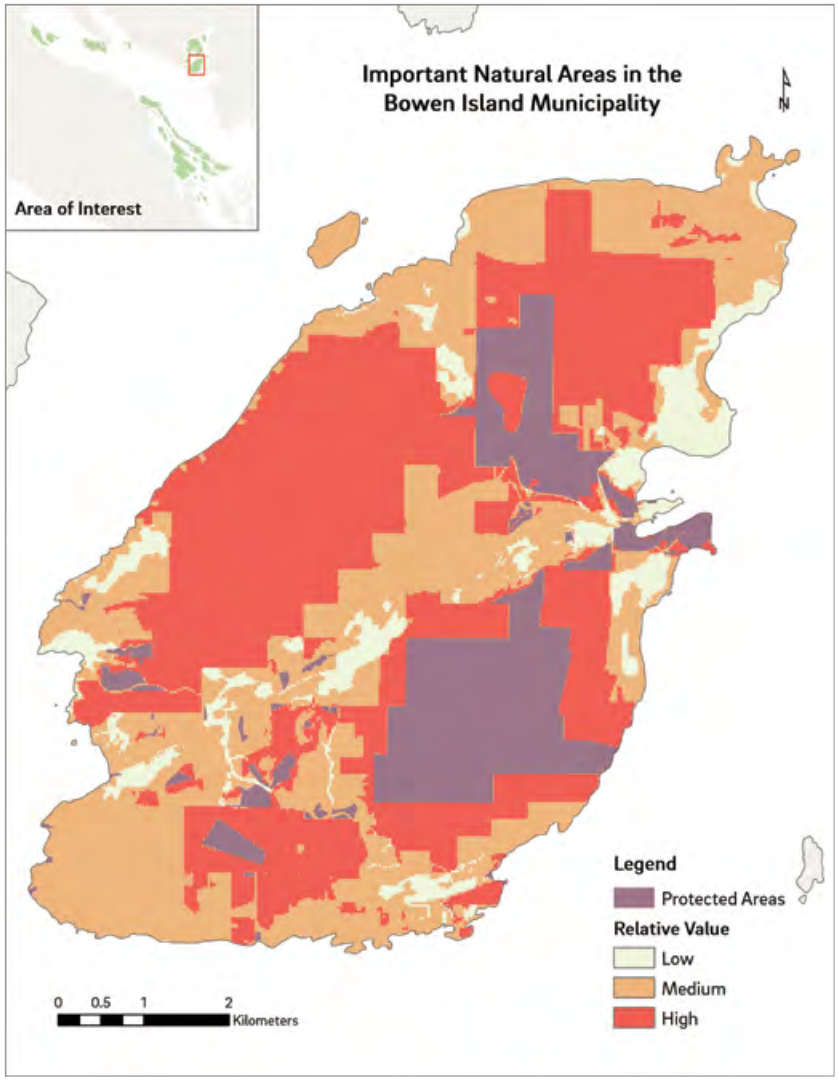
The threats to biodiversity found in the Islands Trust Area are described in section 2.3 of this report. These threats are pertinent to the Ballenas-Winchelsea Island (Executive) Local Trust Area.

**Conservation Groups Known to be Working in the Area:**

- Coastal Douglas-fir and Associated Ecosystems Conservation Partnership
- Islands Trust Conservancy
- Mount Arrowsmith Biosphere Region (Vancouver Island University)
- Nanaimo and Area Land Trust
- Nature Trust of British Columbia
- Nature Conservancy of Canada
- TLC The Land Conservancy of British Columbia

# Bowen Island Municipality

*Please see beginning of Appendix II for sources of data.*




**Size:** 5052.8 hectares (12,480 acres)

**Population (2016):** 3,680

**Number of Dwellings (2016):** 1,915

**Number of Buildings (2014):** 3,440

**Parcel Sizes (September, 2017):**

| Parcel Size (hectares) | # of Parcels | Percent of Landbase |
|---|---|---|
| Less than 0.5 | 1,672 | 6.3 |
| 0.5–2 | 415 | 8.2 |
| 2–10 | 232 | 18.3 |
| 10–20 | 23 | 7.0 |
| 20–50 | 18 | 11.6 |
| More than 50 | 12 | 44.9 |

**Access**: Ferry

Biodiversity on small islands and islets may be of higher value than indicated due to challenges with connectivity and contiguity analyses where no protected areas exist. When considering conservation value of smaller islands and islets, please refer to Islands Trust Conservancy Biodiversity Composition analysis from the Islands Trust Conservancy Spatial Decision Support System.

**Protected Areas Distribution (January 2018):**

| Type of Protected Area | Area (hectares) | Area as % of Island Municipality |
|---|---|---|
| Conservation Covenant (Conservancy held) | 2.1 | <0.1 |
| Ecological Reserve | 395.1 | 7.8 |
| Nature Reserve | 30.4 | 0.6 |
| Park — Municipal | 76.3 | 1.5 |
| Park — Provincial | 9.5 | 0.2 |
| Park — Regional | 220.4 | 4.4 |
| **TOTAL** | **733.8** | **14.5** |

Bowen Island Municipality has no marine protected areas and no Rockfish Conservation Areas in its waters.

**Sensitive Ecosystems (August, 2017):**

| Sensitive Ecosystem | Area (ha) | Portion protected (%) | Portion managed by Province (Crown) (%) | Portion of Municipality (%) |
|---|---|---|---|---|
| Freshwater | 60.1 | 33.3 | 0 | 1.2 |
| Herbaceous | 71.9 | 21.9 | 10.3 | 1.4 |
| Mature Forest | 2,477.4 | 20.0 | 37.9 | 49.0 |
| Old Forest | 47.8 | 0 | 100 | 1.0 |
| Riparian | 11.4 | 0.1 | 0 | 0.2 |
| Wetland | 76.2 | 28.1 | 33.9 | 1.5 |
| Woodland | 43.0 | 0 | 15.9 | 0.9 |
| **TOTAL** | **2,744.8** | **19.7** | **37.4** | **55.2** |

**Species at Risk (September, 2017):**

The Federal Government has mapped Critical Habitat for Marbled Murrelet (*Brachyramphus marmoratus*) on Bowen Island. Some of this is within provincially-managed land and some is on privately-managed land.

The B.C. Conservation Data Centre has a recorded sighting of the Blue dasher (*Pachydiplax longipennis*) on Bowen Island. The Blue dasher is a dragonfly that is provincially blue listed (Special Concern). Blue listed species have characteristics that make them particularly sensitive or vulnerable to human activities or natural events. There are also locally known occurrences of red legged frog and nesting sites for the Great Blue Heron (*Ardea herodias fannini*) that are not recorded in the B.C. Conservation Data Centre mapping at this time. There may be additional species at risk on Bowen Island that are not recorded with the B.C. Conservation Data Centre or whose locations are considered confidential information.

**Forested Ecosystems (August, 2017):**

Bowen Island is in the Coastal Western Hemlock Zone and has a particularly high level of mature and older forest compared with local trust areas located in the Coastal Douglas-fir biogeoclimatic zone — over 50% is in forests over 80 yrs of age. The breakdown of forests by age class is below.

| Forest Type | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Municipality (%) |
|---|---|---|---|---|
| Pole/Sapling Forest (<40 yrs) | 245.0 | 9.1 | 10.9 | 4.8 |
| Young Forest (40–80 yrs) | 1,491.5 | 10.2 | 30.9 | 35.0 |
| Mature Forest (80–250 yrs) | 2,472.2 | 20.1 | 38.2 | 58.1 |
| Old Forest (>250 years) | 49.6 | 0.0 | 100.0 | 1.2 |

**Marine Ecosystems (various dates):**

Bowen Island has eelgrass beds along approximately 10.5% of its foreshore and 8.1% of the shoreline is suitable spawning habitat for forage fish (Pacific sand lance and/or surf smelt). There are also known locations of small glass sponge reefs off of Bowen's shoreline.

**Modified Ecosystems (September, 2017):**

| Type of Modification | Area (ha) | Portion of Bowen Island Municipality (%) |
|---|---|---|
| Cultivated Field | 36.8 | 0.7 |
| Rural | 498.0 | 9.8 |
| Urban | 8.6 | 0.2 |
| Road | 155.2 | 3.1 |
| Golf Course | 19.1 | 0.4 |
| Gravel Pit | 1.2 | <0.1 |
| Industrial | 2.8 | 0.1 |
| Reservoir | 0.8 | <0.1 |
| **TOTAL** | **722.5** | **14.2** |

**Ecosystem Disturbance (2004–2014):**

| Disturbance Type | Area (ha) |
|---|---|
| Deforestation — rural development & roads | 111.3 |
| New Roads/Buildings in non-vegetated areas | 1.9 |
| **TOTAL** | **113.3** |

**Threats to Ecosystems:**

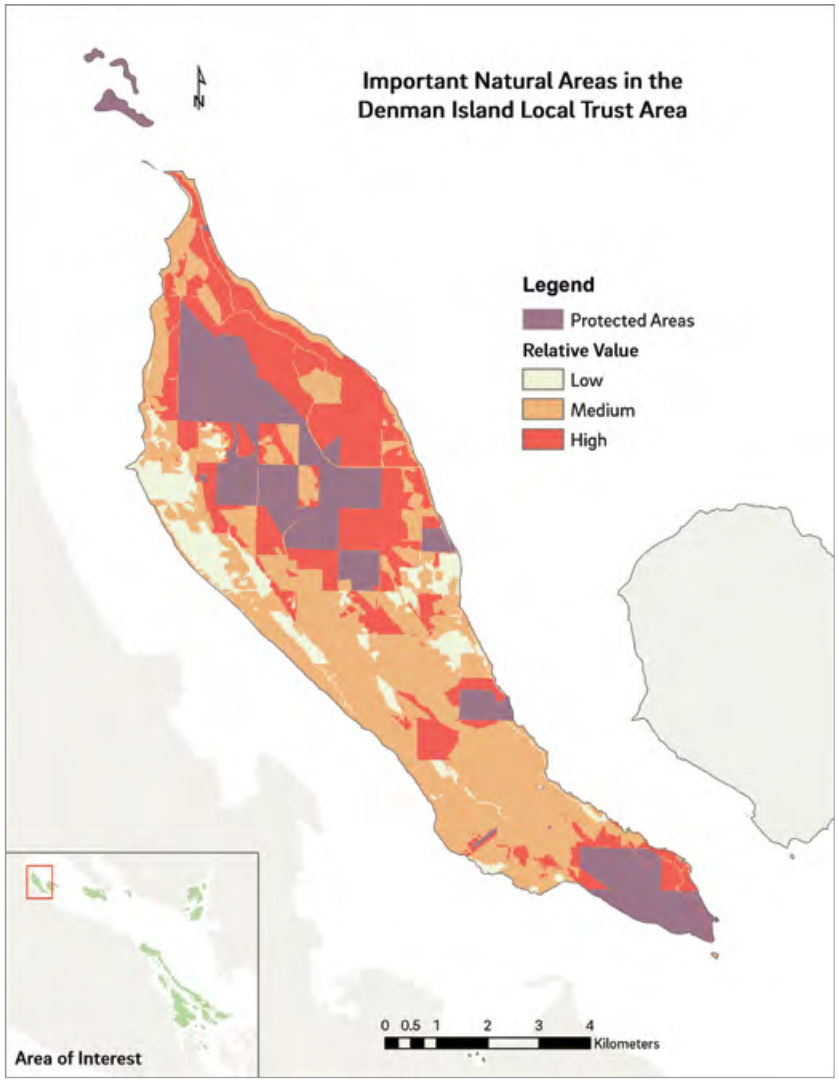
The threats to biodiversity found in the Islands Trust Area are described in section 2.3 of this report. These threats are pertinent to the Bowen Island Municipality. In particular, the Bowen Island Municipality is vulnerable to loss of natural ecosystems to residential and associated uses. Bowen Island itself is a short ferry ride from Horseshoe Bay and saw higher than average ecosystem disturbance than other islands in the Islands Trust Area.

**Conservation Groups Known to be Working in the Area:**

- Bowen Island Conservancy
- Bowen Island Fish and Wildlife Club
- Coastal Douglas-fir and Associated Ecosystems Conservation Partnership
- Islands Trust Conservancy
- Nature Trust of British Columbia
- Nature Conservancy of Canada
- South Coast Conservation Partnership
- TLC The Land Conservancy of British Columbia

# Denman Island Local Trust Area

*Please see beginning of Appendix II for sources of data.*




**Size:** 5,151.8 ha (12,724.9 acres)

**Population (2016):** 1,165

**Number of Dwellings (2016):** 832

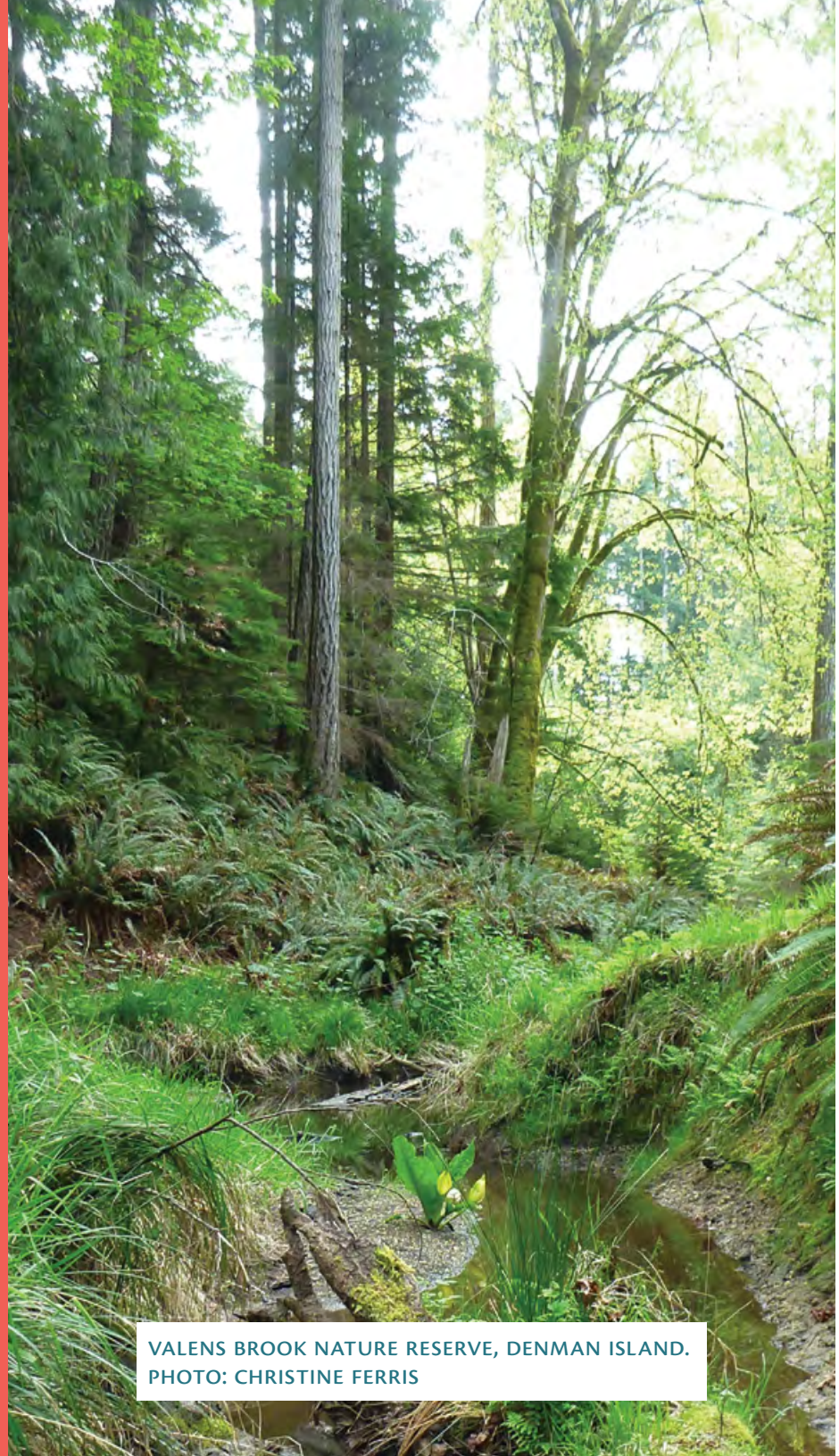
**Number of Buildings (2014):** 2,609

**Parcel Sizes (September, 2017):**

| Parcel Size (hectares) | # of Parcels | Percent of Landbase |
|---|---|---|
| Less than 0.5 | 280 | 1.4 |
| 0.5–2 | 239 | 5.4 |
| 2–10 | 301 | 23.5 |
| 10–20 | 54 | 15.2 |
| 20–50 | 36 | 20.5 |
| More than 50 | 19 | 29.6 |

**Access:** Direct ferry

Biodiversity on small islands and islets may be of higher value than indicated due to challenges with connectivity and contiguity analyses where no protected areas exist. When considering conservation value of smaller islands and islets, please refer to Islands Trust Conservancy Biodiversity Composition analysis from the Islands Trust Conservancy Spatial Decision Support System.



VALENS BROOK NATURE RESERVE, DENMAN ISLAND.
PHOTO: CHRISTINE FERRIS

**Protected Areas Distribution (January 2018):**

| Type of Terrestrial Protected Area | Area (hectares) | Area as % of Local Trust Area |
|---|---|---|
| Conservation Covenant | 91.2 | 1.8 |
| Nature Reserve | 241.0 | 4.7 |
| Provincial Protected Area | 101.9 | 2.0 |
| Park — Community | 1.5 | <0.1 |
| Park — Provincial | 800.3 | 15.5 |
| Park — Regional | 1.2 | <0.1 |
| **TOTAL** | **1,237.1** | **24.0** |

| Type of Marine Protected Area | Area (hectares) |
|---|---|
| Rockfish Conservation Area | 539.1 |
| **TOTAL** | **539.1** |

**Sensitive Ecosystems (August, 2017):**

| Sensitive Ecosystem | Area (ha) | Portion protected (%) | Portion managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Freshwater | 27.0 | 3.8 | 0 | 0.5 |
| Herbaceous | 515.1 | 14.8 | 0.9 | 9.3 |
| Mature Forest | 498.2 | 30.8 | 0.7 | 9.0 |
| Wetland | 255.8 | 41.8 | 17.4 | 4.6 |
| Woodland | 22.1 | 6.6 | 3.1 | 0.4 |
| **TOTAL** | **1,318.2** | **25.7** | **1.7** | **23.7** |

**Species at Risk (September, 2017):**

The Federal Government has mapped Critical Habitat for Dun Skipper *vestris* subspecies (*Euphyes vestris vestris*) and sand-verbena moth (*Copablepharon fuscum*). This Critical Habitat is found within Provincial Park, Denman Conservancy nature reserves, and Islands Trust Conservancy Board nature reserves and covenants. Some of the mapped Critical Habitat is also found on privately-managed land.

The B.C. Conservation Data Centre has recorded sightings of the following species in the Denman Island Local Trust Area:

- Yellow sand-verbena (*Abronia latifolia*), red listed
- Sand verbena moth (*Copablepharon fuscum*), Endangered (SARA), red listed
- Great Blue Heron, *fannini* subspecies (*Ardea herodias fannini*), special concern (SARA), blue listed
- Edith's Checkerspot butterfly, *taylori* subspecies (*Euphydryas editha taylori*), endangered (SARA), red listed
- Red-legged frog (*Rana aurora*), special concern (SARA), blue listed
- Coastal wood fern (*Dryopteris arguta*), blue listed
- Slimleaf onion (*Allium amplectens*), blue listed
- Nuttall's quillwort (*Isoetes nuttallii*), blue listed

- Chaffweed (*Anagallis minima*), blue listed
- Western Screech-Owl, *kennicottii* subspecies (*Megascops kennicottii kennicottii*), Threatened (SARA), blue listed
- Douglas-fir / dull Oregon-grape Ecological Community (*Pseudotsuga menziesii* / *Mahonia nervosa*), red listed

There may be additional species at risk in the Denman Island Local Trust Area that are not recorded with the B.C. Conservation Data Centre or whose locations are considered confidential information.

**Forested Ecosystems (August, 2017):**

The Denman Island Local Trust Area falls within the Coastal Douglas-fir Biogeoclimatic Zone which has less than 1.0% left in old growth stands. The breakdown of forests by age class is below.

| Forest Type | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Pole/Sapling Forest (<40 yrs) | 482.0 | 24.8 | 0.5 | 8.7 |
| Young Forest (40–80 yrs) | 1,637.0 | 22.2 | 0.7 | 29.4 |
| Mature Forest (80–250 yrs) | 529.3 | 29.8 | 0.8 | 9.5 |
| Old Forest (>250 years) | 0.0 | - | - | 0.0 |

**Marine Ecosystems (various dates):**

The Denman Island Local Trust Area has eelgrass beds along approximately 33.0% of its foreshore and 59.7% of the Denman Island shoreline is suitable spawning habitat for forage fish (Pacific sand lance and/or surf smelt). Denman Island has some of largest amounts of forage fish and eelgrass habitat in the Islands Trust Area.

**Modified Ecosystems (September, 2017):**

| Type of Modification | Area (ha) | Portion of Local Trust Area (%) |
|---|---|---|
| Cultivated Field | 575.1 | 10.3 |
| Rural | 541.8 | 9.7 |
| Urban | 17.6 | 0.3 |
| Road | 123.1 | 2.2 |
| Gravel Pit | 3.0 | 0.1 |
| **TOTAL** | **1,260.6** | **22.7** |

**Ecosystem Disturbance (2004–2014):**

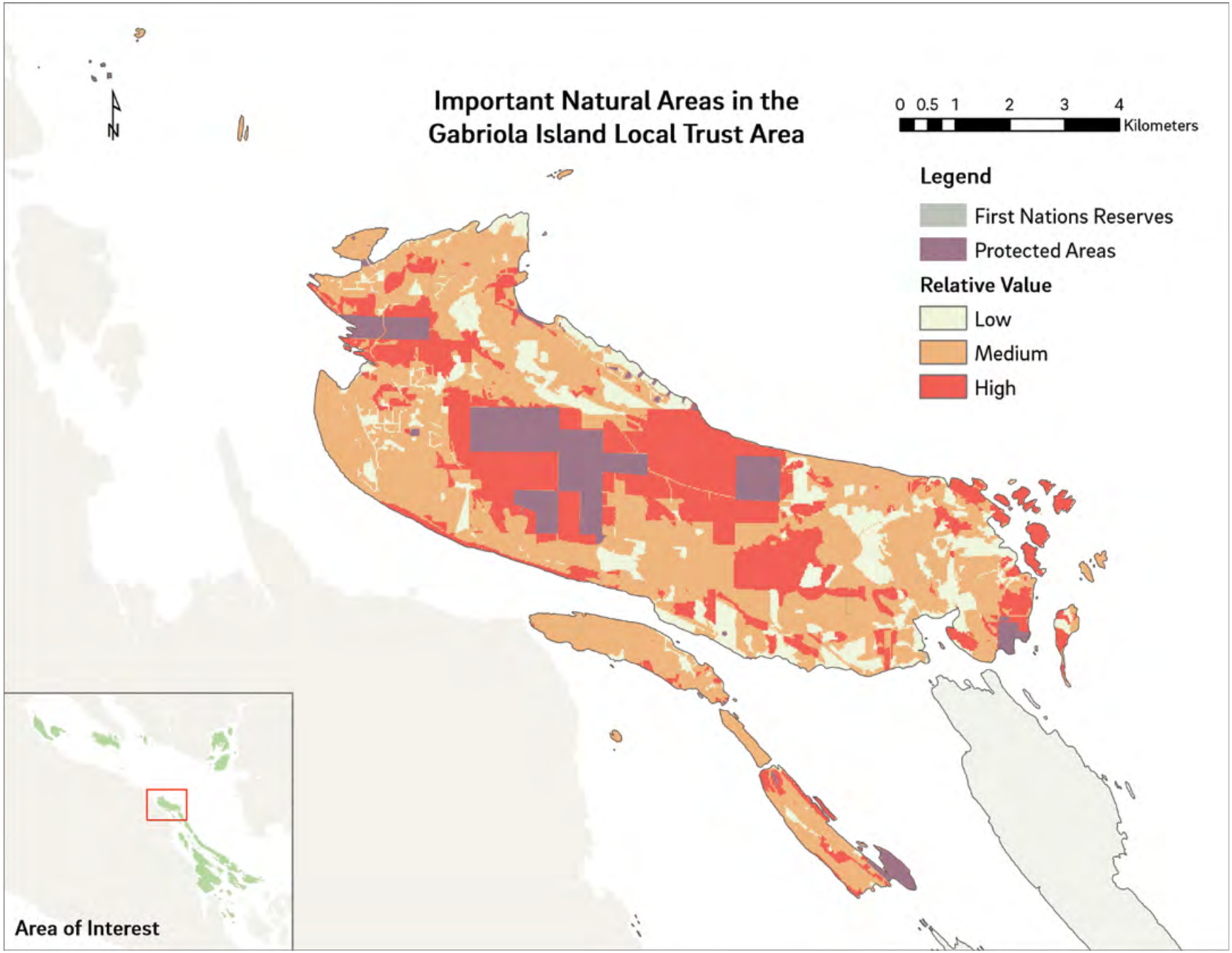
| Disturbance Type | Area (ha) |
|---|---|
| Deforestation — rural development & roads | 36.6 |
| New Roads/Buildings in non-vegetated areas | 14.6 |
| Deforestation — other | 0.2 |
| **TOTAL** | **51.4** |

**Threats to Ecosystems:**

The threats to biodiversity found in the Islands Trust Area are described in section 2.3 of this report. These threats are pertinent to the Denman Island Local Trust Area. In particular, because of the extent of its high value shoreline habitats, Denman Island Local Trust Area is susceptible to habitat loss due to modification of natural systems (e.g. erosion and accretion of shoreline sediments) and will likely also see impact dues to climate change (e.g. sea level rise). Aquaculture operations may also have negative impacts on the shoreline if not properly managed.

**Conservation Groups Known to be Working in the Area:**

- Association of Denman Island Marine Stewards
- Coastal Douglas-fir and Associated Ecosystems Conservation Partnership
- Denman Conservancy Association
- Ducks Unlimited Canada
- Islands Trust Conservancy
- Nature Trust of British Columbia
- Nature Conservancy of Canada
- TLC The Land Conservancy of British Columbia




Biodiversity on small islands and islets may be of higher value than indicated due to challenges with connectivity and contiguity analyses where no protected areas exist. When considering conservation value of smaller islands and islets, please refer to Islands Trust Conservancy Biodiversity Composition analysis from the Islands Trust Conservancy Spatial Decision Support System.

# Gabriola Island Local Trust Area

*Please see beginning of Appendix II for sources of data.*

**Size:** 5,817.3 (14,368.7 acres)

**Population (2016):** 4,033

**Number of Dwellings (2016):** 2,987

**Number of Buildings (2014):** 5,063

**Parcel Sizes (September, 2017):**

| Parcel Size (hectares) | # of Parcels | Percent of Landbase |
|---|---|---|
| Less than 0.5 | 2,901 | 11.0 |
| 0.5–2 | 342 | 6.4 |
| 2–10 | 645 | 33.5 |
| 10–20 | 42 | 10.1 |
| 20–50 | 36 | 20.0 |
| More than 50 | 12 | 12.8 |

**Access:** Direct ferry

**Protected Areas Distribution (January 2018):**

| Type of Terrestrial Protected Area | Area (hectares) | Area as % of Local Trust Area |
|---|---|---|
| Conservation Covenant | 16.3 | 0.3 |
| Ecological Reserve | 1.6 | <0.1 |
| Nature Reserve | 66.9 | 1.2 |
| Park — Community | 341.3 | 5.9 |
| Park — Provincial | 50.4 | 0.9 |
| Park — Regional | 58.4 | 1.0 |
| **TOTAL** | **534.8** | **9.2** |

| Type of Marine Protected Area | Area (hectares) |
|---|---|
| Provincial Marine Protected Area | 70.2 |
| Ecological Reserve (Marine) | 48.4 |
| Rockfish Conservation Area | 2,247.0 |
| Glass Sponge Reef Fishing Closure Area | 62.0 |
| **TOTAL** | **2,386.4** |

**Sensitive Ecosystems (August, 2017):**

| Sensitive Ecosystem | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Cliff | 24.4 | 2.3 | 20.2 | 0.4 |
| Freshwater | 21.2 | 0 | 0.3 | 0.4 |
| Herbaceous | 51.3 | 12.5 | 18.7 | 0.9 |
| Mature Forest | 660.0 | 14.3 | 11.3 | 11.4 |
| Riparian | 0.6 | 0 | 0 | <0.1 |
| Wetland | 903.3 | 8.8 | 36.6 | 15.7 |
| Woodland | 470.6 | 13.6 | 0.7 | 8.2 |
| **TOTAL** | **2,131.4** | **11.5** | **19.8** | **36.9** |

**Species at Risk (September, 2017):**

The Federal Government has mapped Critical Habitat for Marbled Murrelet (*Brachyramphus marmoratus*). This critical habitat is found on a Islands Trust Conservancy Board nature reserve, federally managed land and privately-managed land.

The B.C. Conservation Data Centre has recorded sightings of the following species in the Gabriola Island Local Trust Area:

- Double-crested Cormorant (*Phalacrocorax auritus*), blue listed
- Great Blue Heron, fannini subspecies (*Ardea herodias fannini*), special concern (SARA), blue listed
- Poison oak (Toxicodendron diversilobum), blue listed
- Propertius Duskywing (*Erynnis propertius*), red listed

- Macoun's meadow-foam (*Limnanthes macounii*), threatened (SARA), red listed
- Peregrine Falcon, *anatum* subspecies (*Falco peregrinus anatum*), special concern (SARA), red listed
- Douglas-fir / dull Oregon-grape Ecological Community (*Pseudotsuga menziesii / Mahonia nervosa*), red listed

There may be additional species at risk in the Gabriola Island Local Trust Area that are not recorded with the B.C. Conservation Data Centre or whose locations are considered confidential information.

**Forested Ecosystems (August, 2017):**

The Gabriola Island Local Trust Area falls within the Coastal Douglas-fir Biogeoclimatic Zone which has less than 1.0% left in old growth stands. The breakdown of forests by age class is below.

| Forest Type | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Pole/Sapling Forest (<40 yrs) | 501.3 | 26.0 | 2.2 | 8.7 |
| Young Forest (40–80 yrs) | 2,486.2 | 5.2 | 18.4 | 43.1 |
| Mature Forest (80–250 yrs) | 784.0 | 15.5 | 11.5 | 13.6 |
| Old Forest (>250 years) | 0.0 | - | - | 0.0 |

**Marine Ecosystems (various dates):**

Gabriola Island Local Trust Area has eelgrass beds along approximately 20.8% of its foreshore. There are also known locations of small glass sponge reefs offshore.

**Modified Ecosystems (September, 2017):**

| Type of Modification | Area (ha) | Portion of Local Trust Area (%) |
|---|---|---|
| Cultivated Field or Orchard | 359.7 | 6.2 |
| Rural | 876.9 | 15.2 |
| Road | 300.6 | 5.2 |
| Golf Course | 18.7 | 0.3 |
| Gravel Pit | 2.3 | <0.1 |
| Reservoir | 0.8 | <0.1 |
| **TOTAL** | **1,559.0** | **27.0** |

**Threats to Ecosystems:**

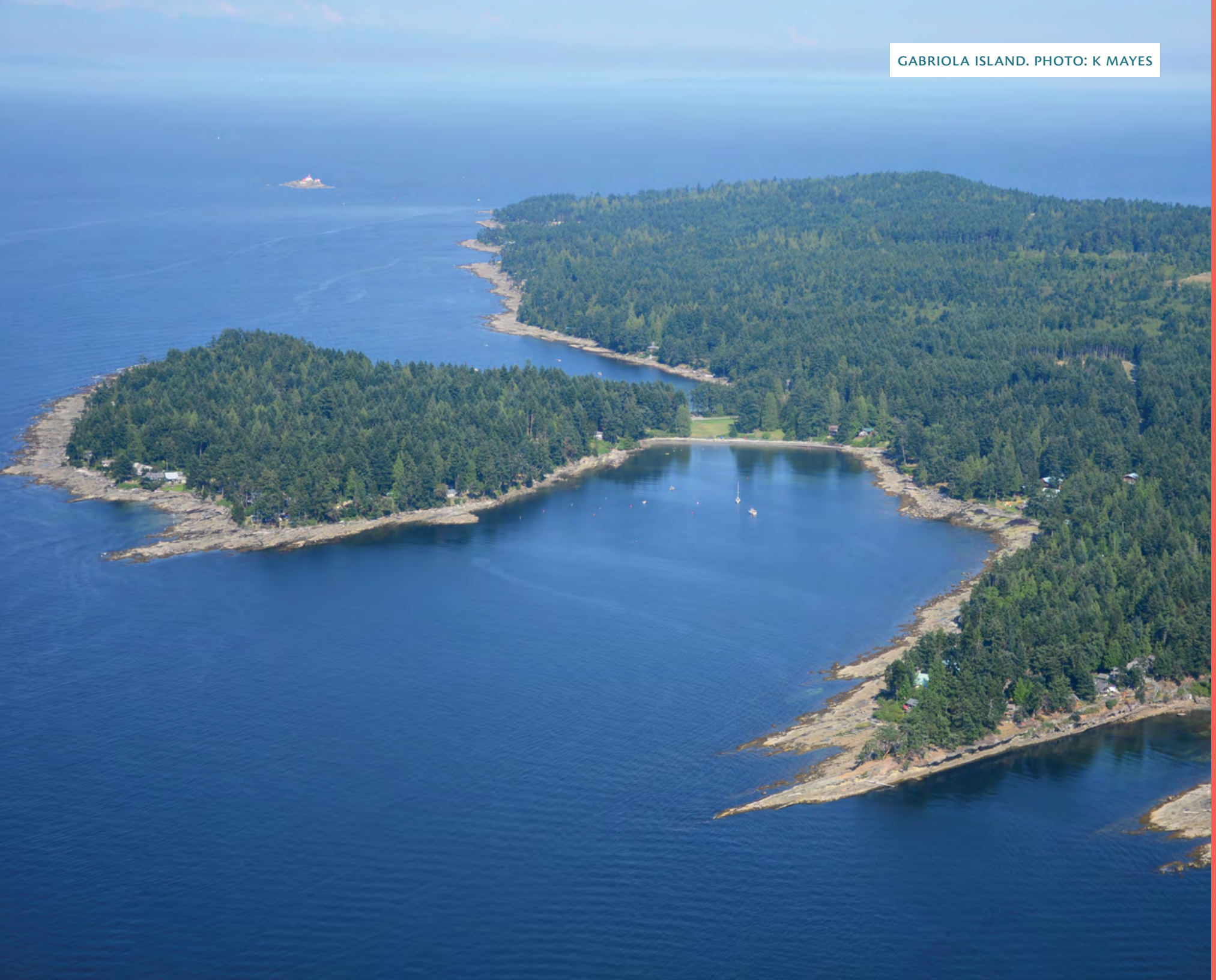
The threats to biodiversity found in the Islands Trust Area are described in section 2.3 of this report. These threats are pertinent to the Gabriola Island Local Trust Area. In particular, the Gabriola Island Local Trust Area is vulnerable to loss of natural ecosystems to residential and associated uses. Gabriola Island itself is a short ferry ride from Nanaimo and saw higher than average ecosystem disturbance between 2004 and 2014 compared with other islands in the Islands Trust Area. Most of this disturbance was deforestation for roads and rural development.

**Ecosystem Disturbance (2004–2014):**

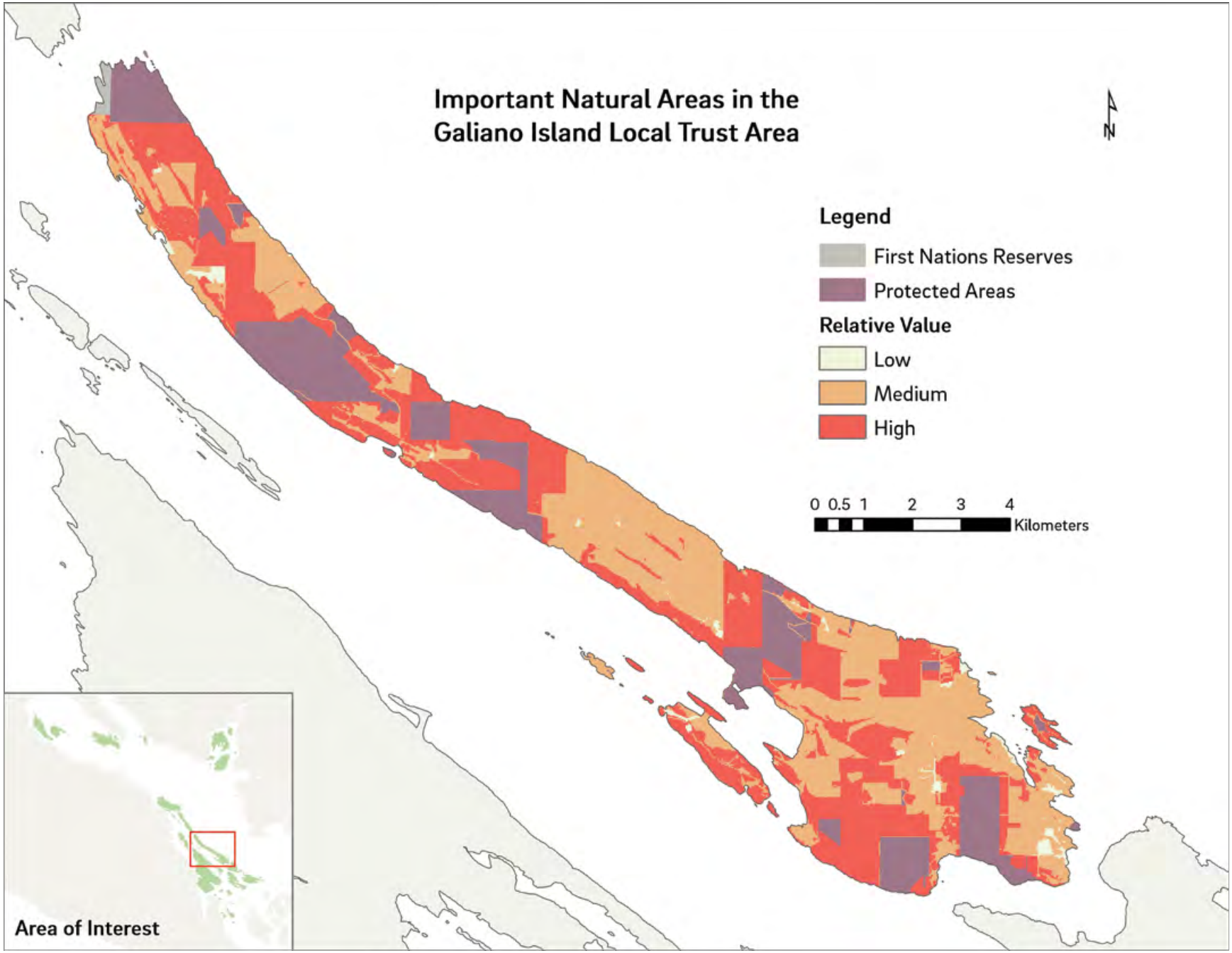
| Disturbance Type | Area (ha) |
|---|---|
| Deforestation — rural development & roads | 77.3 |
| Deforestation — other | 1.0 |
| New Roads/Buildings in non-vegetated areas | 4.3 |
| Cleared Vegetation – rural development & roads | 2.8 |
| Cleared Vegetation – other | 6.4 |
| Soil Disturbance | 0.7 |
| **TOTAL** | **95.5** |

**Conservation Groups Known to be Working in the Area:**

- Coastal Douglas-fir and Associated Ecosystems Conservation Partnership
- Ducks Unlimited Canada
- Gabriola Land and Trails Trust
- Islands Trust Conservancy
- Nanaimo and Area Land Trust
- Nature Trust of British Columbia
- Nature Conservancy of Canada
- TLC The Land Conservancy of British Columbia



GABRIOLA ISLAND. PHOTO: K MAYES




Biodiversity on small islands and islets may be of higher value than indicated due to challenges with connectivity and contiguity analyses where no protected areas exist. When considering conservation value of smaller islands and islets, please refer to Islands Trust Conservancy Biodiversity Composition analysis from the Islands Trust Conservancy Spatial Decision Support System.

# Galiano Island Local Trust Area

*Please see beginning of Appendix II for sources of data.*

**Size:** 6,034.2 ha (14,904.5 acres)

**Population (2016):** 1,044

**Number of Dwellings (2016):** 1,170

**Number of Buildings (2014):** 2,529

**Parcel Sizes (September, 2017):**

| Parcel Size (hectares) | # of Parcels | Percent of Landbase |
|---|---|---|
| Less than 0.5 | 533 | 2.2 |
| 0.5–2 | 454 | 7.2 |
| 2–10 | 384 | 25.6 |
| 10–20 | 21 | 4.8 |
| 20–50 | 51 | 25.9 |
| More than 50 | 27 | 30.5 |

**Access:** Direct ferry

**Protected Areas Distribution (January 2018):**

| Type of Terrestrial Protected Area | Area (hectares) | Area as % of Local Trust Area |
|---|---|---|
| Conservation Covenant | 65.6 | 1.1 |
| Ecological Reserve | 26.2 | 0.4 |
| Heritage Forest | 125.3 | 2.1 |
| Nature Reserve | 247.9 | 4.1 |
| Park — Community | 244.6 | 4.1 |
| Park — Provincial | 564.3 | 9.4 |
| Park — Regional | 24.7 | 0.4 |
| TOTAL | **1,298.9** | **21.5** |

| Type of Marine Protected Area | Area (hectares) |
|---|---|
| Provincial Marine Protected Area | 106.7 |
| Rockfish Conservation Area | 2,947.4 |
| Glass Sponge Reef Fishing Closure Area | 94.8 |
| TOTAL | **3,137.1** |

**Sensitive Ecosystems (August, 2017):**

| Sensitive Ecosystem | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Cliff | 25.1 | 42.4 | 0 | 0.4 |
| Freshwater | 8.7 | 89.0 | 6.1 | 0.1 |
| Herbaceous | 42.2 | 28.8 | 0.6 | 0.7 |
| Mature Forest | 906.0 | 8.1 | 7.6 | 15.0 |
| Old Forest | 34.4 | 23.6 | 2.0 | 0.6 |
| Wetland | 82.0 | 28.9 | 6.3 | 1.4 |
| Woodland | 786.4 | 28.2 | 2.8 | 13.0 |
| **TOTAL** | **1,884.9** | **30.6** | **5.2** | **31.2** |

**Species at Risk (September, 2017):**

The Federal Government has mapped Critical Habitat for Lindley's False Silverpuffs (*Uropappus lindleyi*) and Killer Whale Northeast Pacific southern resident population (*Orcinus orca*). This Critical Habitat is found within lands owned by the Galiano Club and the Capital Regional District. There is also mapped candidate Critical Habitat for batwing vinyl lichen (*Leptogium platynum*). The habitat mapped for this lichen is found on land owned by the Galiano Conservancy Association and private landholders.

The B.C. Conservation Data Centre has recorded sightings of the following species in the Galiano Island Local Trust Area:

- Red-legged frog (*Rana aurora*), special concern (SARA), blue listed
- Double-crested Cormorant (*Phalacrocorax auritus*), blue listed
- Batwing vinyl lichen (*Leptogium platynum*), endangered (SARA), red listed
- Erect Pygmyweed (*Crassula connata* var. *connata*), red listed

- Sharp-tailed snake (*Contia tenuis*), endangered (SARA), red listed
- Propertius Duskywing (*Erynnis propertius*), red listed
- Poison oak (*Toxicodendron diversilobum*), blue listed
- Slimleaf onion (*Allium amplectens*), blue listed
- Slender popcornflower (*Plagiobothrys tenellus*), threatened (SARA), red listed
- White meconella (*Meconella oregana*), endangered (SARA), red listed
- Oakes' pondweed (*Potamogeton oakesianus*), blue listed
- Twisted oak moss (*Syntrichia laevipila*), special concern (SARA), blue listed
- Western Screech-Owl, *kennicottii* subspecies (*Megascops kennicottii kennicottii*), Threatened (SARA), blue listed
- Gray's desert-parsley (*Lomatium grayi*), Threatened (SARA), red listed
- Purple sanicle (*Sanicula bipinnatifida*), Threatened (SARA), red listed
- Peregrine Falcon, *anatum* subspecies (*Falco peregrinus anatum*), Species of Concern (SARA), red listed
- Lindley's microseris (*Uropappus lindleyi*), endangered (SARA), red listed
- Douglas-fir / dull Oregon-grape Ecological Community (*Pseudotsuga menziesii / Mahonia nervosa*), red listed

There may be additional species at risk in the Galiano Island Local Trust Area that are not recorded with the B.C. Conservation Data Centre or whose locations are considered confidential information.

**Forested Ecosystems (August, 2017):**

The Galiano Island Local Trust Area falls within the Coastal Douglas-fir Biogeoclimatic Zone which has less than 1.0% left in old growth stands. The breakdown of forests by age class is below.

| Forest Type | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Pole/Sapling Forest (<40 yrs) | 1,499.3 | 18.6 | 3.9 | 24.8 |
| Young Forest (40–80 yrs) | 2,566.8 | 19.6 | 4.2 | 42.5 |
| Mature Forest (80–250 yrs) | 1,141.5 | 32.6 | 6.3 | 18.9 |
| Old Forest (>250 years) | 34.4 | 23.6 | 2.0 | 0.6 |

**Marine Ecosystems (various dates):**

The Galiano Island Local Trust Area has eelgrass beds along approximately 15.7% of its foreshore and 6.7% of the Galiano Island shoreline is suitable spawning habitat for forage fish (Pacific sand lance and/or surf smelt). There are also known locations of small glass sponge reefs offshore.

**Modified Ecosystems (September, 2017):**

| Type of Modification | Area (ha) | Portion of Local Trust Area (%) |
|---|---|---|
| Cultivated Field | 100.9 | 1.7 |
| Rural | 263.8 | 4.4 |
| Urban | 1.4 | <0.1 |
| Road | 164.6 | 2.7 |
| Transmission Line | 5.0 | 0.1 |
| Gravel Pit | 4.2 | 0.1 |
| Industrial | 1.2 | <0.1 |
| **TOTAL** | **541.1** | **9.0** |

**Ecosystem Disturbance (2004–2014):**

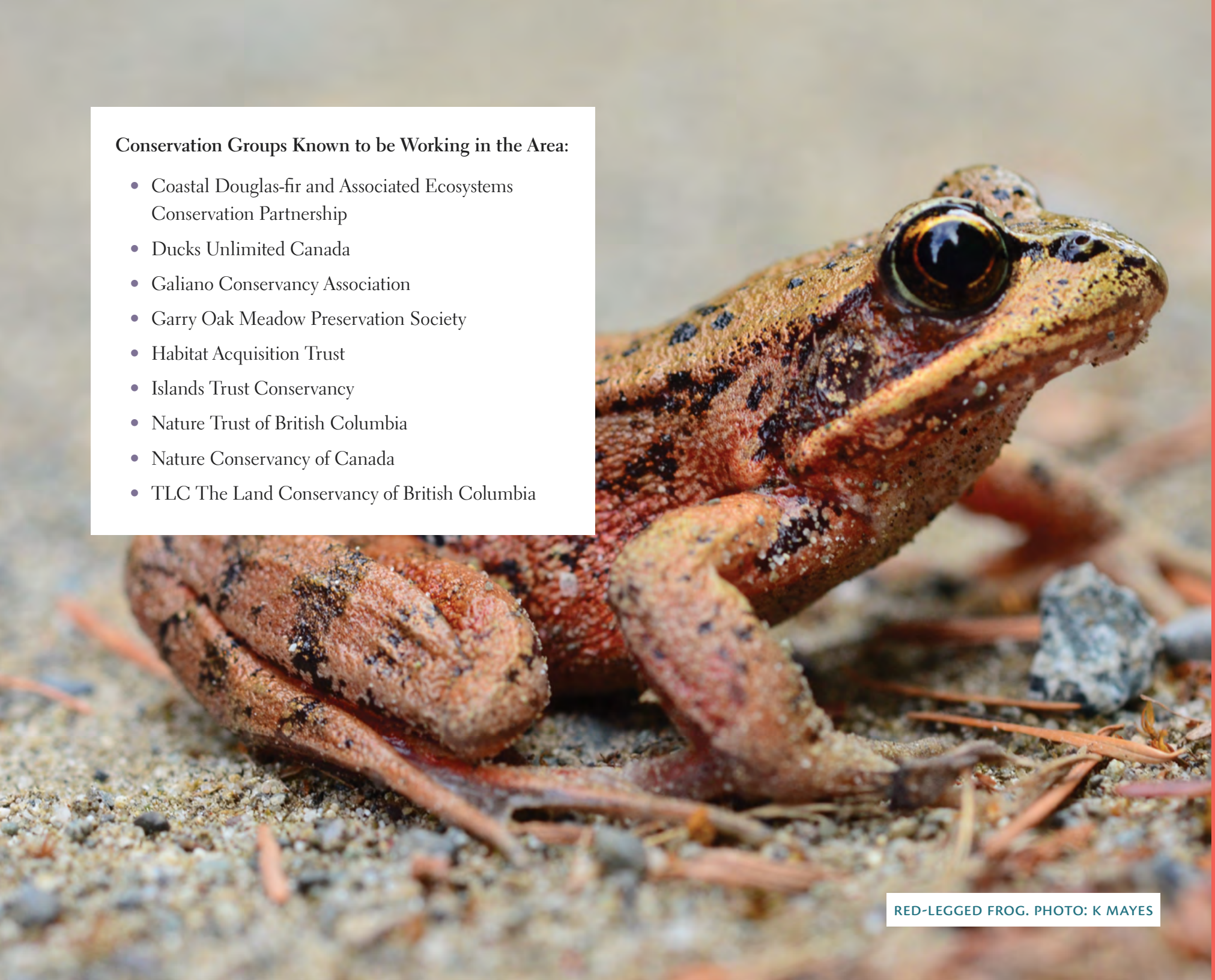
| Disturbance Type | Area (ha) |
|---|---|
| Deforestation — rural development & roads | 23.8 |
| Deforestation — forestry | 16.2 |
| Cleared Vegetation – rural development & roads | 0.7 |
| Cleared Vegetation – other | 1.1 |
| New Roads/Buildings in non-vegetated areas | 0.1 |
| **TOTAL** | **41.9** |

**Threats to Ecosystems:**

The threats to biodiversity found in the Islands Trust Area are described in section 2.3 of this report. These threats are pertinent to the Galiano Island Local Trust Area.

**Conservation Groups Known to be Working in the Area:**

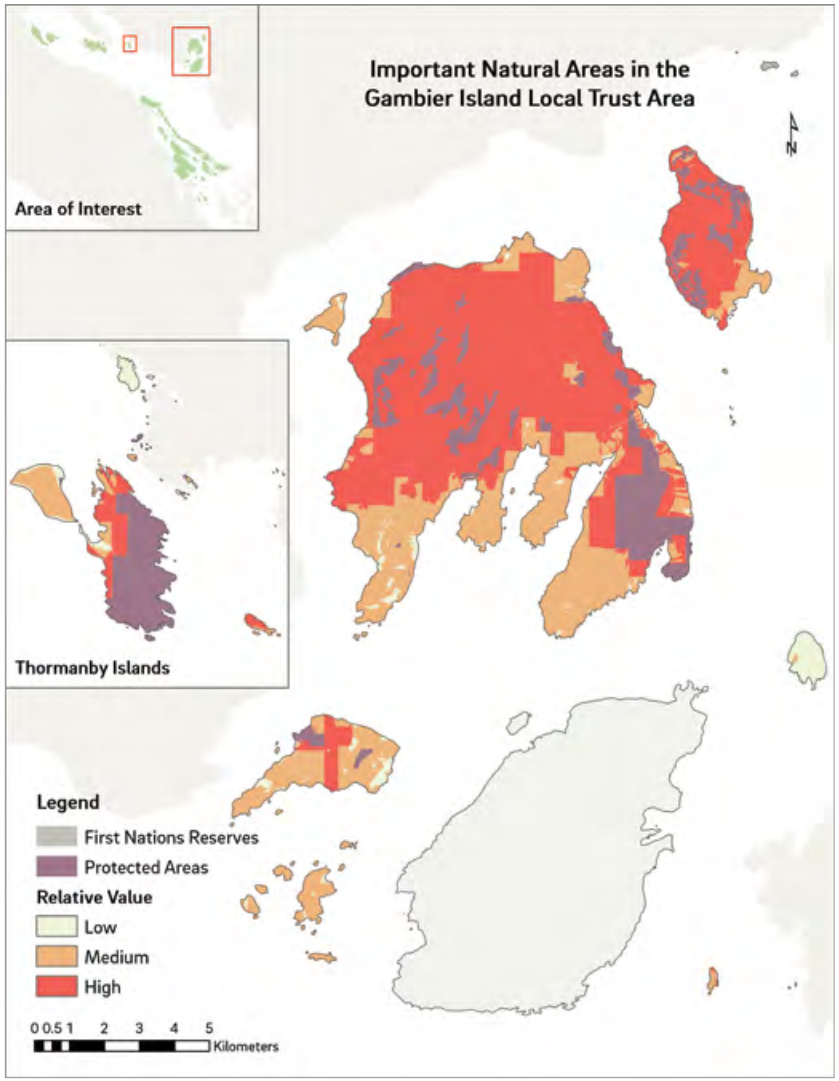
- Coastal Douglas-fir and Associated Ecosystems Conservation Partnership
- Ducks Unlimited Canada
- Galiano Conservancy Association
- Garry Oak Meadow Preservation Society
- Habitat Acquisition Trust
- Islands Trust Conservancy
- Nature Trust of British Columbia
- Nature Conservancy of Canada
- TLC The Land Conservancy of British Columbia



RED-LEGGED FROG. PHOTO: K MAYES

# Gambier Island Local Trust Area

*Please see beginning of Appendix II for sources of data.*




**Size:** 9,818.9 ha (24,252.7 acres)

**Population (2016):** 247

**Number of Dwellings (2016):** 1,092

**Number of Buildings (2014):** 2,312

**Parcel Sizes (September, 2017):**

| Parcel Size (hectares) | # of Parcels | Percent of Landbase |
|---|---|---|
| Less than 0.5 | 994 | 2.2 |
| 0.5–2 | 289 | 3.6 |
| 2–10 | 360 | 12.6 |
| 10–20 | 36 | 5.3 |
| 20–50 | 34 | 11.4 |
| More than 50 | 22 | 63.5 |

Biodiversity on small islands and islets may be of higher value than indicated due to challenges with connectivity and contiguity analyses where no protected areas exist. When considering conservation value of smaller islands and islets, please refer to Islands Trust Conservancy Biodiversity Composition analysis from the Islands Trust Conservancy Spatial Decision Support System.

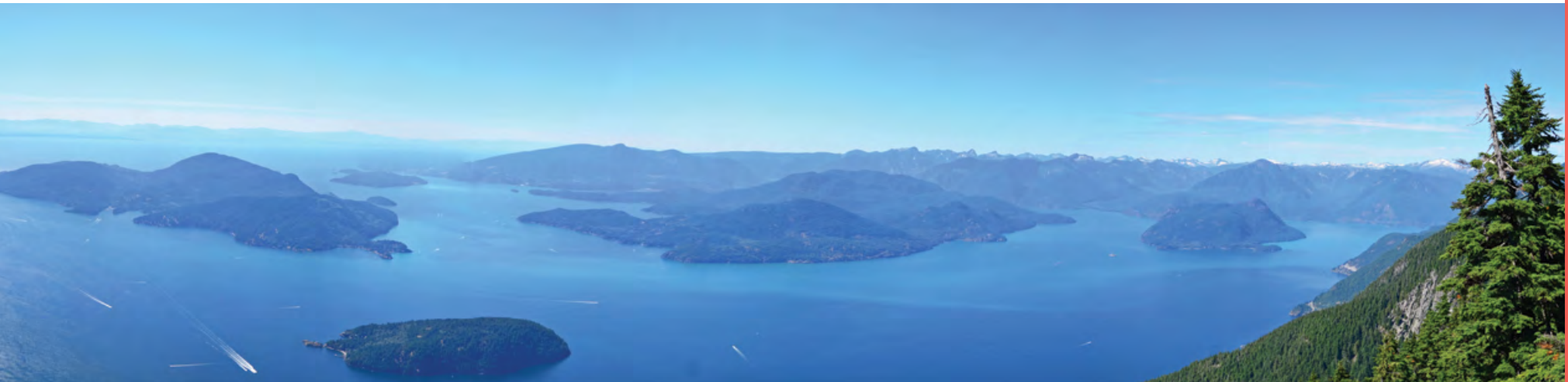
**Access:** Direct foot passenger ferry to Keats and Gambier from Sechelt and various scheduled and unscheduled water taxi services to many islands within the local trust area.

**Protected Areas Distribution (January 2018):**

| Type of Terrestrial Protected Area | Area (hectares) | Area as % of Local Trust Area |
|---|---|---|
| Conservation Covenant | 1.4 | <0.1 |
| Nature Reserve | 149.2 | 1.5 |
| Old Growth Management Area | 566.0 | 5.8 |
| Park — Provincial | 808.7 | 8.2 |
| Park — Regional | 80.6 | 0.8 |
| **TOTAL** | **1,605.9** | **16.4** |

| Type of Marine Protected Area | Area (hectares) |
|---|---|
| Provincial Marine Protected Area | 303.2 |
| Rockfish Conservation Area | 8,704.7 |
| Glass Sponge Reef Fishing Closure Area | 1,951.2 |
| **TOTAL** | **10,820.8** |

HOWE SOUND. PHOTO: K MAYES



**Sensitive Ecosystems (August, 2017):**

| Sensitive Ecosystem | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Cliff | 47.1 | 15.5 | 74.3 | 0.5 |
| Freshwater | 27.3 | 4.9 | 81.9 | 0.3 |
| Herbaceous | 605.4 | 29.0 | 33.6 | 6.1 |
| Mature Forest | 4,210.5 | 14.5 | 51.2 | 42.3 |
| Old Forest | 3.4 | 94.1 | 5.9 | <0.1 |
| Riparian | 13.5 | 1.5 | 87.2 | 0.1 |
| Wetland | 138.2 | 77.8 | 19.9 | 1.4 |
| Woodland | 338.2 | 42.3 | 5.5 | 3.4 |
| **TOTAL** | **5,383.6** | **19.5** | **45.8** | **54.1** |

**Species at Risk (September, 2017):**

The Federal Government has mapped Critical Habitat for Marbled Murrelet (*Brachyramphus marmoratus*). Some of this is within provincially-managed land and some is on privately-managed land.

The B.C. Conservation Data Centre has recorded sightings of the following species in the Gambier Island Local Trust Area:

- Slimleaf onion (*Allium amplectens*), blue listed
- Double-crested Cormorant (*Phalacrocorax auritus*), blue listed
- Steller Sea Lion (*Eumetopias jubatus*), blue listed
- Red-legged frog (*Rana aurora*), special concern (SARA), blue listed

- Roell's brotherella (*Brotherella roelli*), Endangered (COSEWIC), red listed
- Douglas-fir / dull Oregon-grape Ecological Community (*Pseudotsuga menziesii* / *Mahonia nervosa*), red listed

There may be additional species at risk in the Gambier Island Local Trust Area that are not recorded with the B.C. Conservation Data Centre or whose locations are considered confidential information.

**Forested Ecosystems (August, 2017):**

The Gambier Island Local Trust Area falls within both the Coastal Douglas-fir (CDF) Biogeoclimatic Zone and the Coastal Western Hemlock (CWH) Biogeoclimatic Zone. The CDF is found in the islands off of the Sunshine Coast, while the CWH is found in Howe Sound. The CDF has less than 1.0% left in old growth stands while the CWH has higher levels of older forest. The breakdown of forests by age class is below.

| Forest Type | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Pole/Sapling Forest (<40 yrs) | 435.9 | 13.6 | 38.9 | 4.4 |
| Young Forest (40–80 yrs) | 3,899.7 | 18.9 | 44.7 | 39.2 |
| Mature Forest (80–250 yrs) | 4,130.9 | 14.4 | 49.7 | 41.5 |
| Old Forest (>250 years) | 3.4 | 94.1 | 5.9 | <0.1 |

**Marine Ecosystems (various dates):**

The Gambier Island Local Trust Area has eelgrass beds along approximately 19.3% of its foreshore. Suitable forage fish (Pacific sand lance and/or surf smelt) spawning habitat is found along 3.0% of the Gambier Island shoreline and 14.4% of the shoreline of Keats Island. There are also known locations of small glass sponge reefs in the Gambier Island Local Trust Area.

**Modified Ecosystems (September, 2017):**

| Type of Modification | Area (ha) | Portion of Local Trust Area |
|---|---|---|
| Cultivated Field | 43.0 | 0.4 |
| Rural | 263.9 | 2.7 |
| Urban | 0.2 | <0.1 |
| Road | 135.8 | 1.4 |
| Gravel Pit | 0.6 | <0.1 |
| **TOTAL** | **179.6** | **1.8** |

**Ecosystem Disturbance (2004–2014):**

| Disturbance Type | Area (ha) |
|---|---|
| Deforestation — forestry | 44.6 |
| Deforestation — rural development & roads | 69.8 |
| New Roads/Buildings in non-vegetated areas | 0.3 |
| **TOTAL** | **114.7** |

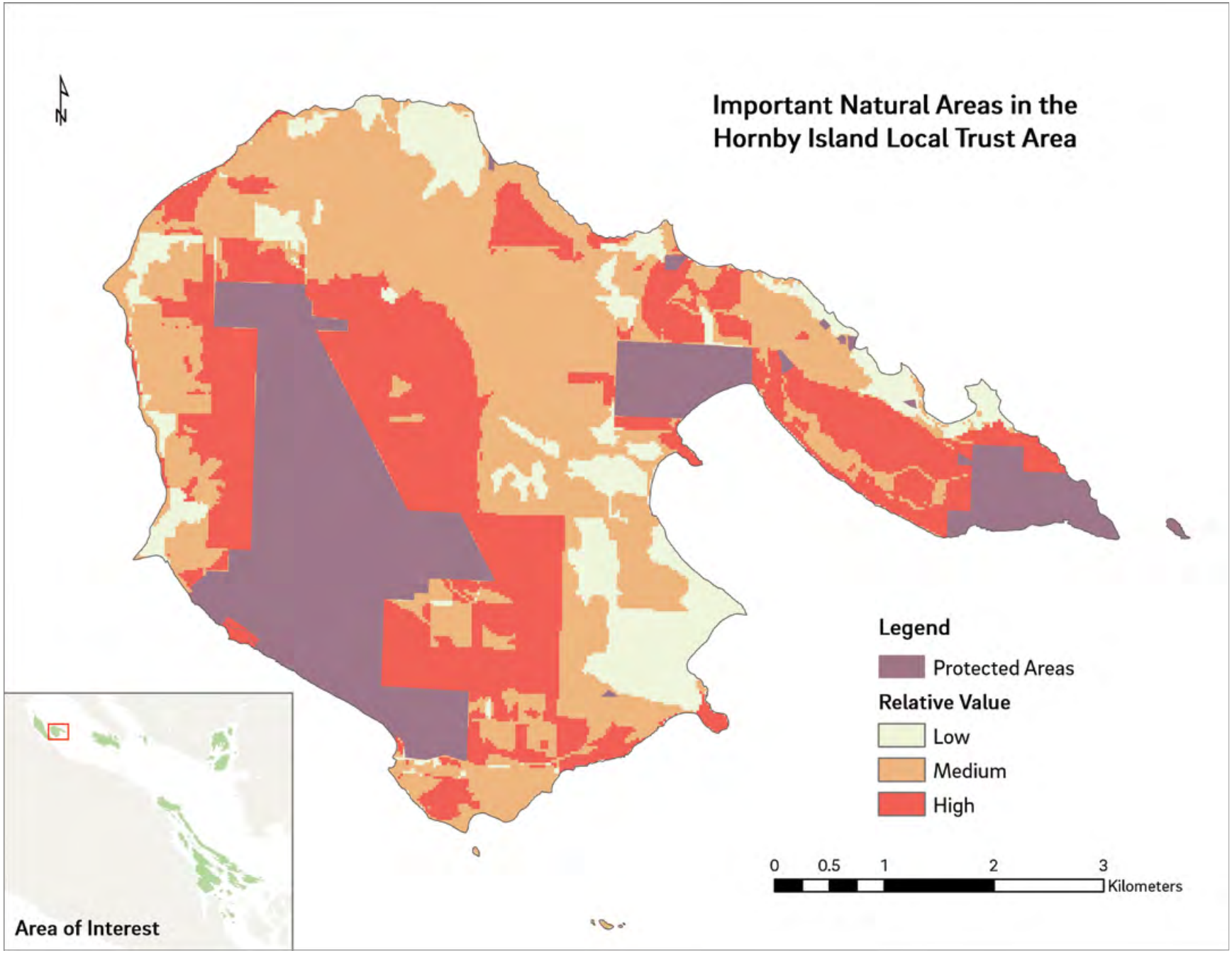
**Threats to Ecosystems:**

The threats to biodiversity found in the Islands Trust Area are described in section 2.3 of this report. These threats are pertinent to the Gambier Island Local Trust Area. In particular, the Gambier Island Local Trust Area has been subject to some of the higher levels of deforestation in the Islands Trust Area. Approximately 39% of the deforestation was attributed to forestry, but the remaining 61% was attributed to rural development. The Gambier Island Local Trust Area does not have a vehicle ferry and most of the development is clustered along the shoreline, making the shoreline susceptible to impacts from development and docks.

**Conservation Groups Known to be Working in the Area:**

- Coastal Douglas-fir and Associated Ecosystems Conservation Partnership
- Gambier Island Conservancy
- Islands Trust Conservancy
- Keats Island Conservation Committee
- Nature Trust of British Columbia
- Nature Conservancy of Canada
- South Coast Conservation Partnership
- Sunshine Coast Conservation Association
- TLC The Land Conservancy of British Columbia

VIEW FROM MT ARTABAN, GAMBIER ISLAND




Biodiversity on small islands and islets may be of higher value than indicated due to challenges with connectivity and contiguity analyses where no protected areas exist. When considering conservation value of smaller islands and islets, please refer to Islands Trust Conservancy Biodiversity Composition analysis from the Islands Trust Conservancy Spatial Decision Support System.

# Hornby Island Local Trust Area

*Please see beginning of Appendix II for sources of data.*

**Size:** 2,981.0 ha

**Population (2016):** 1,016

**Number of Dwellings (2016):** 1,104

**Number of Buildings (2014):** 2,458

**Parcel Sizes (September, 2017):**

| Parcel Size (hectares) | # of Parcels | Percent of Landbase |
|---|---|---|
| Less than 0.5 | 762 | 5.7 |
| 0.5–2 | 180 | 6.7 |
| 2–10 | 206 | 29.4 |
| 10–20 | 16 | 8.2 |
| 20–50 | 15 | 16.1 |
| More than 50 | 10 | 31.9 |

**Access:** Direct ferry

**Protected Areas Distribution (January 2018):**

| Type of Terrestrial Protected Area | Area (hectares) | Area as % of Local Trust Area |
|---|---|---|
| Conservation Covenant | 15.0 | 0.5 |
| Park — Community | 5.7 | 0.2 |
| Park — Provincial | 332.3 | 11.2 |
| Park — Regional | 337.5 | 11.3 |
| TOTAL | **690.5** | **23.2** |

| Type of Marine Protected Area | Area (hectares) |
|---|---|
| Provincial Marine Protected Area | 2,762.8 |
| Rockfish Conservation Area | 1,800.1 |
| Glass Sponge Reef Fishing Closure Area | 91.6 |
| TOTAL | **4,534.8** |

**Sensitive Ecosystems (August, 2017):**

| Sensitive Ecosystem | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Cliff | 25.5 | 75.4 | 0.3 | 0.8 |
| Freshwater | 1.2 | 0.0 | 0.0 | <0.1 |
| Herbaceous | 100.9 | 46.3 | 0.4 | 3.3 |
| Mature Forest | 245.9 | 20.0 | 11.6 | 8.1 |
| Wetland | 190.0 | 39.2 | 0.1 | 6.3 |
| Woodland | 131.1 | 49.6 | 0.0 | 4.3 |
| **TOTAL** | **694.6** | **36.7** | **4.2** | **22.9** |

**Species at Risk (September, 2017):**

The Federal Government has mapped Critical Habitat for Dun Skipper vestris subspecies (*Euphyes vestris vestris*), Marbled Murrelet (*Brachyramphus marmoratus*) and Fragrant popcorn flower (*Plagiobothrys figuratus*). Some of this is within provincially-managed land and some is on privately-managed land.

The B.C. Conservation Data Centre has recorded sightings of the following species in the Hornby Island Local Trust Area:

- Coastal wood fern (*Dryopteris arguta*), blue listed
- Peregrine Falcon, *anatum* subspecies (*Falco peregrinus anatum*), special concern (SARA), red listed
- Great Blue Heron, *fannini* subspecies (*Ardea herodias fannini*), special concern (SARA), blue listed
- Propertius Duskywing (*Erynnis propertius*), red listed
- Nuttall's quillwort (*Isoetes nuttallii*), blue listed
- Heterocodon (*Heterocodon rariflorum*), blue listed
- Western Screech-Owl, *kennicottii* subspecies (*Megascops kennicottii kennicottii*), threatened (SARA), blue listed

- Purple sanicle (*Sanicula bipinnatifida*), threatened (SARA), red listed
- Edith's Checkerspot butterfly, *taylori* subspecies (*Euphydryas editha taylori*), endangered (SARA), red listed
- White-top aster (*Sericocarpus rigidus*), special concern (SARA), red listed
- Douglas-fir / dull Oregon-grape Ecological Community (*Pseudotsuga menziesii* / *Mahonia nervosa*), red listed

There may be additional species at risk in the Hornby Island Local Trust Area that are not recorded with the B.C. Conservation Data Centre or whose locations are considered confidential information.

HORNBY ISLAND. PHOTO: K MAYES

**Forested Ecosystems (August, 2017):**

The Hornby Island Local Trust Area falls within the Coastal Douglas-fir Biogeoclimatic Zone which has less than 1.0% left in old growth stands. The breakdown of forests by age class is below.

| Forest Type | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Pole/Sapling Forest (<40 yrs) | 366.7 | 57.8 | 29.6 | 12.1 |
| Young Forest (40–80 yrs) | 1,482.7 | 21.1 | 17.4 | 48.8 |
| Mature Forest (80–250 yrs) | 308.5 | 28.9 | 9.3 | 10.2 |
| Old Forest (>250 years) | 0.0 | - | - | 0.0 |

**Marine Ecosystems (various dates):**

The Hornby Island Local Trust Area has eelgrass beds along approximately 30.3% of its foreshore and 21.7% of the shoreline of Hornby Island is suitable spawning habitat for forage fish (Pacific sand lance and/or surf smelt). There are also known locations of glass sponge reefs within the waters of the Hornby Island Local Trust Area.

**Modified Ecosystems (September, 2017):**

| Type of Modification | Area (ha) | Portion of Local Trust Area (%) |
|---|---|---|
| Cultivated Field | 284.1 | 9.4 |
| Rural | 391.6 | 12.9 |
| Urban | 51.1 | 1.7 |
| Road | 106.8 | 3.5 |
| **TOTAL** | **833.6** | **27.4** |

**Ecosystem Disturbance (2004–2014):**

| Disturbance Type | Area (ha) |
|---|---|
| Deforestation — rural development & roads | 36.3 |
| Deforestation — other | 1.1 |
| New Roads/Buildings in non-vegetated areas | 0.3 |
| **TOTAL** | **37.7** |

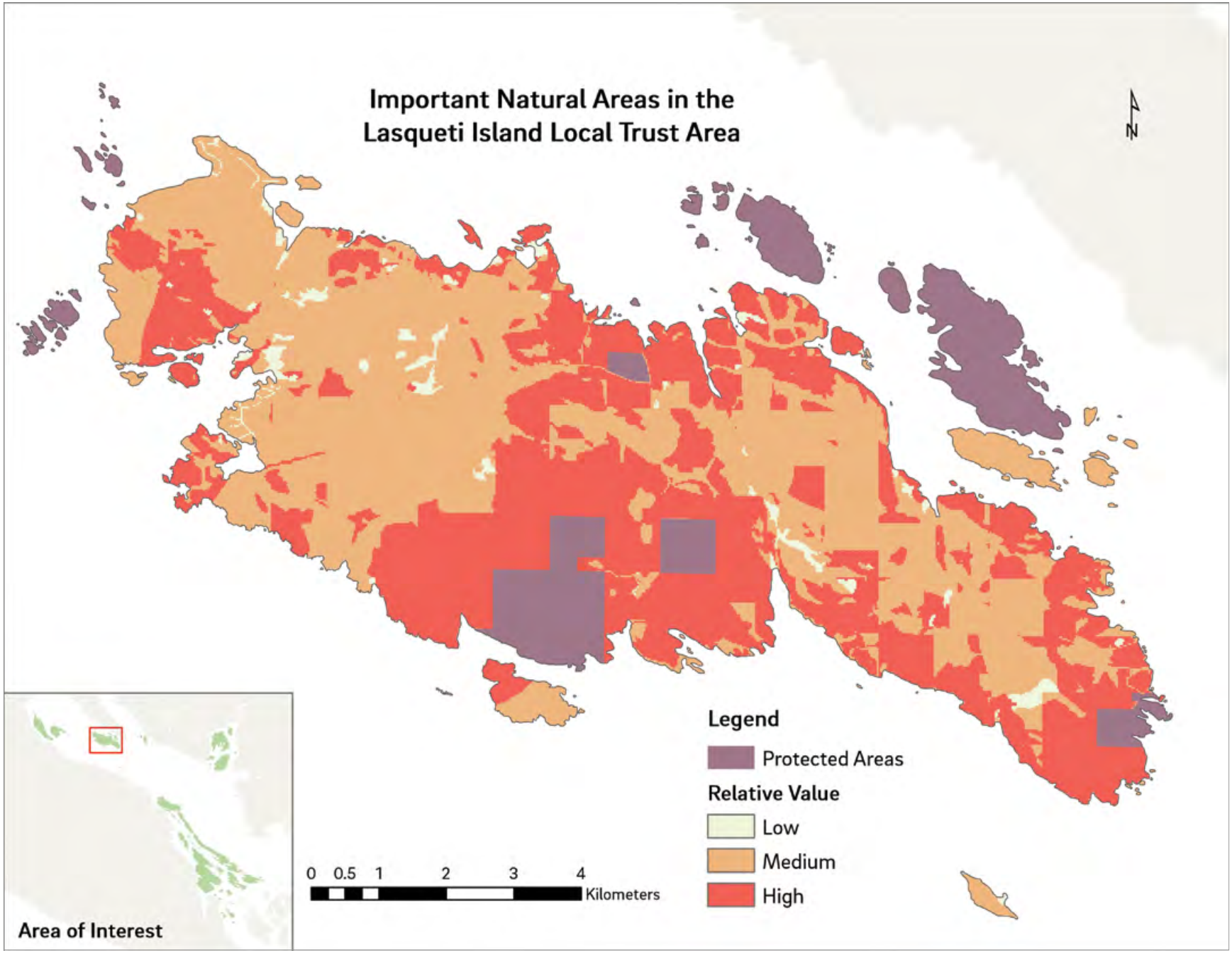
**Threats to Ecosystems:**

The threats to biodiversity found in the Islands Trust Area are described in section 2.3 of this report.

**Conservation Groups Known to be Working in the Area:**

- Coastal Douglas-fir and Associated Ecosystems Conservation Partnership
- CHI — Conservancy Hornby Island
- Islands Trust Conservancy
- Nature Trust of British Columbia
- Nature Conservancy of Canada
- TLC The Land Conservancy of British Columbia

TRIBUNE BAY, HORNBY ISLAND. PHOTO: K MAYES




Biodiversity on small islands and islets may be of higher value than indicated due to challenges with connectivity and contiguity analyses where no protected areas exist. When considering conservation value of smaller islands and islets, please refer to Islands Trust Conservancy Biodiversity Composition analysis from the Islands Trust Conservancy Spatial Decision Support System.

# Lasqueti Island Local Trust Area

*Please see beginning of Appendix II for sources of data.*

**Size:** 7,360.2 ha

**Population (2016):** 399

**Number of Dwellings (2016):** 407

**Number of Buildings (2014):** 1,244

**Parcel Sizes (September, 2017):**

| Parcel Size (hectares) | # of Parcels | Percent of Landbase |
|---|---|---|
| Less than 0.5 | 170 | 0.5 |
| 0.5–2 | 103 | 1.4 |
| 2–10 | 168 | 12.5 |
| 10–20 | 53 | 10.5 |
| 20–50 | 56 | 23.4 |
| More than 50 | 48 | 50.3 |

**Access:** Direct foot passenger only ferry

**Protected Areas Distribution (January 2018):**

| Type of Terrestrial Protected Area | Area (hectares) | Area as % of Local Trust Area |
|---|---|---|
| Conservation Covenant | 3.1 | <0.1 |
| Ecological Reserve | 216.6 | 2.9 |
| Nature Reserve | 145.0 | 2.0 |
| Park — Provincial | 508.4 | 6.9 |
| **TOTAL** | **873.2** | **11.9** |

| Type of Marine Protected Area | Area (hectares) |
|---|---|
| Provincial Marine Protected Area | 2,401.2 |
| Rockfish Conservation Area | 7,339.8 |
| Glass Sponge Reef Fishing Closure Area | 231.7 |
| **TOTAL** | **8,939.7** |

**Sensitive Ecosystems (August, 2017):**

| Sensitive Ecosystem | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Cliff | 2.8 | 0.6 | 79.6 | <0.1 |
| Freshwater | 29.3 | 0.0 | 0.0 | 0.4 |
| Herbaceous | 669.5 | 23.4 | 17.6 | 9.1 |
| Mature Forest | 2,572.8 | 9.5 | 16.6 | 35.0 |
| Old Forest | 307.0 | 41.9 | 25.1 | 4.2 |
| Riparian | 2.6 | 0.2 | 0.0 | <0.1 |
| Wetland | 370.6 | 5.7 | 7.1 | 5.0 |
| Woodland | 1,371.8 | 14.2 | 19.2 | 18.6 |
| **TOTAL** | **5,326.3** | **14.0** | **17.2** | **72.4** |

**Species at Risk (September, 2017):**

The Federal Government has mapped Critical Habitat for Marbled Murrelet (*Brachyramphus marmoratus*) on Lasqueti. This Critical Habitat is found within Islands Trust Conservancy Board nature reserves, provincially-managed land and on privately-managed land.

The B.C. Conservation Data Centre has recorded sightings of the following species in the Lasqueti Island Local Trust Area:

- Giant Chain Fern (*Woodwardia fimbriata*), blue listed
- Leafless Wintergreen (*Pyrola aphylla*), blue listed
- Heterocodon (*Heterocodon rariflorum*), blue listed
- Rigid apple moss (*Bartramia stricta*), endangered (SARA), red listed
- Douglas-fir / dull Oregon-grape Ecological Community (*Pseudotsuga menziesii* / *Mahonia nervosa*), red listed

DOUGLAS-FIR CONES. PHOTO: TOM BRANDT VIA FLICKR

There may be additional species at risk in the Lasqueti Island Local Trust Area that are not recorded with the B.C. Conservation Data Centre or whose locations are considered confidential information.

**Forested Ecosystems (August, 2017):**

The Lasqueti Island Local Trust Area falls within the Coastal Douglas-fir Biogeoclimatic Zone which has less than 1.0% left in old growth stands. The breakdown of forests by age class is below. While the Lasqueti Island Local Trust Area has some of the highest levels of older forest in the Islands Trust Area, it has less protected area than other islands.

| Forest Type | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Pole/Sapling Forest (<40 yrs) | 86.0 | 10.3 | 15.4 | 1.2 |
| Young Forest (40–80 yrs) | 2,066.2 | 6.5 | 13.7 | 28.1 |
| Mature Forest (80–250 yrs) | 3,531.0 | 10.5 | 17.1 | 48.0 |
| Old Forest (>250 years) | 311.7 | 41.3 | 24.8 | 4.2 |

**Marine Ecosystems (various dates):**

The Lasqueti Island Local Trust Area has eelgrass beds along approximately 16.7% of its foreshore and 3.6% of the Lasqueti Island shoreline is suitable spawning habitat for forage fish (Pacific sand lance and/or surf smelt).

**Modified Ecosystems (September, 2017):**

| Type of Modification | Area (ha) | Portion of Local Trust Area (%) |
|---|---|---|
| Cultivated Field | 108.2 | 1.5 |
| Rural | 288.1 | 3.9 |
| **TOTAL** | **396.3** | **5.4** |

**Ecosystem Disturbance (2004–2014):**

| Disturbance Type | Area (ha) |
|---|---|
| Deforestation — rural development & roads | 22.8 |
| Wetland Loss | 2.6 |
| **TOTAL** | **25.4** |

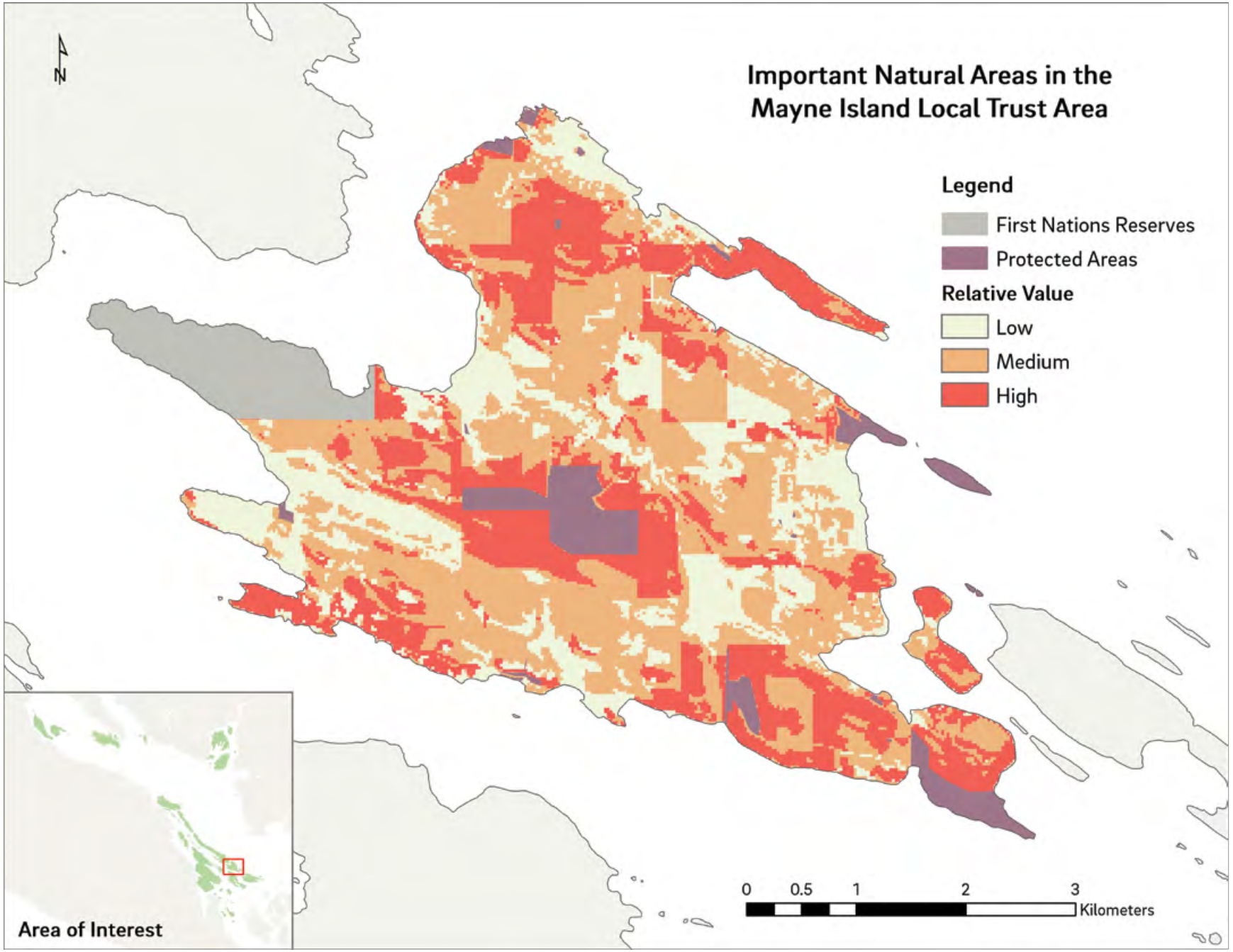
**Threats to Ecosystems:**

The threats to biodiversity found in the Islands Trust Area are described in section 2.3 of this report. These threats apply in the Lasqueti Island Local Trust Area. Plants on Lasqueti and its associated islands are under immense threat from feral sheep grazing and aquatic species are also threatened by the spread of American bullfrog. American bullfrog is considered one of the world's top 100 invasive species.

**Conservation Groups Known to be Working in the Area:**

- Coastal Douglas-fir and Associated Ecosystems Conservation Partnership
- Islands Trust Conservancy
- Lasqueti Island Nature Conservancy
- Nanaimo and Area Land Trust
- Nature Trust of British Columbia
- Nature Conservancy of Canada
- TLC The Land Conservancy of British Columbia

MARBLED MURRELETS. PHOTO: JOHN MATTHEWS VIA FLICKR




Biodiversity on small islands and islets may be of higher value than indicated due to challenges with connectivity and contiguity analyses where no protected areas exist. When considering conservation value of smaller islands and islets, please refer to Islands Trust Conservancy Biodiversity Composition analysis from the Islands Trust Conservancy Spatial Decision Support System.

# Mayne Island Local Trust Area

*Please see beginning of Appendix II for sources of data.*

**Size:** 2,370.1 ha

**Population (2016):** 949

**Number of Dwellings (2016):** 1,211

**Number of Buildings (2014):** 2,344

**Parcel Sizes (September, 2017):**

| Parcel Size (hectares) | # of Parcels | Percent of Landbase |
|---|---|---|
| Less than 0.5 | 1,264 | 10.2 |
| 0.5–2 | 222 | 8.5 |
| 2–10 | 170 | 29.6 |
| 10–20 | 22 | 13.4 |
| 20–50 | 18 | 22.6 |
| More than 50 | 3 | 10.7 |

**Access:** Direct ferry

**Protected Areas Distribution (January 2018):**

| Type of Terrestrial Protected Area | Area (hectares) | Area as % of Local Trust Area |
|---|---|---|
| Nature Reserve | 0.5 | <0.1 |
| Park — Community | 34.9 | 1.5 |
| Park — Federal | 19.5 | 0.8 |
| Park — Regional | 76.6 | 3.2 |
| **TOTAL** | **131.5** | **5.6** |

| Type of Marine Protected Area | Area (hectares) |
|---|---|
| Federal Marine Protected Area | 138.5 |
| Rockfish Conservation Area | 1,186.9 |
| Glass Sponge Reef Fishing Closure Area | 210.1 |
| **TOTAL** | **1,425.6** |

**Sensitive Ecosystems (August, 2017):**

| Sensitive Ecosystem | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Freshwater | 1.0 | 0.0 | 0.0 | <0.1 |
| Herbaceous | 28.9 | 14.1 | 0.4 | 1.2 |
| Mature Forest | 389.9 | 12.4 | 0.0 | 16.5 |
| Old Forest | 1.7 | 100.0 | 0.0 | 0.1 |
| Riparian | 0.6 | 9.0 | 3.7 | <0.1 |
| Wetland | 26.4 | 0.6 | 0.0 | 1.1 |
| Woodland | 94.3 | 6.3 | 0.1 | 4.0 |
| **TOTAL** | **542.8** | **11.1** | **<0.1** | **22.9** |

**Species at Risk (September, 2017):**

The Federal Government has mapped Critical Habitat for Killer Whale Northeast Pacific southern resident population (*Orcinus orca*). This Critical Habitat includes the entire shoreline for the Mayne Island Local Trust Area.

The B.C. Conservation Data Centre has recorded sightings of the following species in the Mayne Island Local Trust Area:

- Slender popcornflower (*Plagiobothrys tenellus*), threatened (SARA), red listed
- Propertius Duskywing (*Erynnis propertius*), red listed
- Slimleaf onion (*Allium amplectens*), blue listed
- Peregrine Falcon, *anatum* subspecies (*Falco peregrinus anatum*), species concern (SARA), red listed
- Douglas-fir / dull Oregon-grape Ecological Community (*Pseudotsuga menziesii* / *Mahonia nervosa*), red listed

There are also locally known occurrences of the following species reported by the Mayne Island Conservancy Association:

- Western Screech-owl (*Megascops kennicottii kennicottii*), threatened (SARA), blue listed
- Olive-sided Flycatcher (*Contopus cooperi*), threatened (SARA), blue listed
- Thin-lipped sunburst lichen (*Xanthomendoza* cf. *oregana*), red listed
- Carbuncular toad lichen (*Neofuscelia verrulifera*), red listed
- Texas toadflax (*Nuttalianthus texanus*), red listed
- Great Blue Heron (*Ardea herodias fannini*), special concern (SARA), blue listed
- Steller Sea Lion (*Eumetopias jubatus*), special concern (SARA), blue listed
- Red legged frog (*Rana aurora*), blue listed
- Blue-shift speckleback lichen (*Punctelia stictica*), blue listed
- Spotted beard lichen (*Usnea glabrescens*), blue listed
- Double-Crested Cormorant (*Phalacrocorax auritus*), blue listed
- Purple Martin (*Progne subis*), blue listed

There may be additional species at risk in the Mayne Island Local Trust Area that are not recorded with the B.C. Conservation Data Centre or whose locations are considered confidential information.

**Forested Ecosystems (August, 2017):**

The Mayne Island Local Trust Area falls within the Coastal Douglas-fir Biogeoclimatic Zone which has less than 1.0% left in old growth stands. The breakdown of forests by age class is below.

| Forest Type | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Pole/Sapling Forest (<40 yrs) | 41.6 | 1.0 | 0.0 | 1.8 |
| Young Forest (40–80 yrs) | 1,112.6 | 3.6 | <0.1 | 47.0 |
| Mature Forest (80–250 yrs) | 433.4 | 12.3 | 0.0 | 18.3 |
| Old Forest (>250 years) | 1.7 | 100.0 | 0.0 | 0.1 |

**Marine Ecosystems (various dates):**

Mayne Island LTC has eelgrass beds along approximately 21.8% of its foreshore and 7.1% of the shoreline is suitable spawning habitat for forage fish (Pacific sand lance and/or surf smelt). There are also known locations of glass sponge reefs off of Mayne Island's shoreline.

**Modified Ecosystems (September, 2017):**

| Type of Modification | Area (ha) | Portion of Local Trust Area (%) |
|---|---|---|
| Cultivated Field | 242.9 | 10.3 |
| Rural | 366.7 | 15.5 |
| Urban | 8.0 | 0.3 |
| Road | 126.2 | 5.3 |
| Gravel Pit | 0.4 | <0.1 |
| **TOTAL** | **744.2** | **31.4** |

**Threats to Ecosystems:**

The threats to biodiversity found in the Islands Trust Area are described in section 2.3 of this report. These apply to the Mayne Island Local Trust Area. In particular, Mayne Island Local Trust Area is vulnerable to loss of natural ecosystems to browsing of invasive Fallow deer.

**Ecosystem Disturbance (2004–2014):**

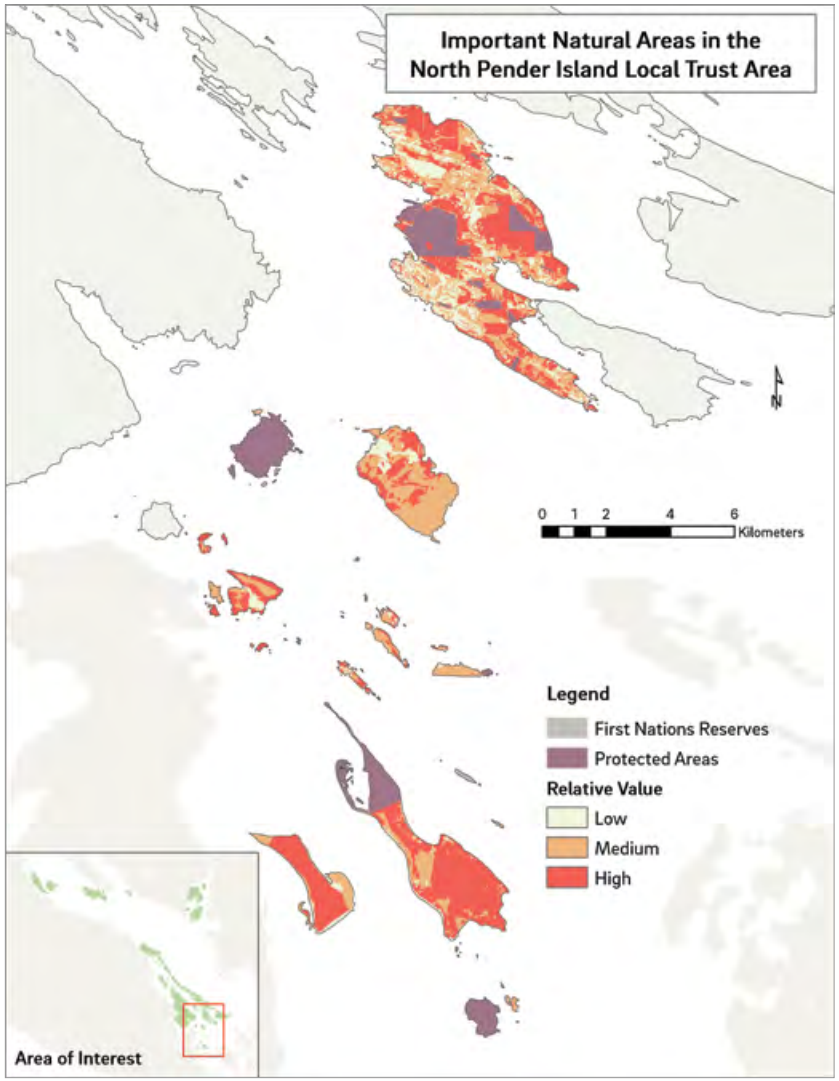
| Disturbance Type | Area (ha) |
|---|---|
| Deforestation — forestry | 0.4 |
| Deforestation — rural development & roads | 21.7 |
| New Roads/Buildings in non-vegetated areas | 0.1 |
| **TOTAL** | **22.2** |

**Conservation Groups Known to be Working in the Area:**

- Coastal Douglas-fir and Associated Ecosystems Conservation Partnership
- Islands Trust Conservancy
- Mayne Island Conservancy Society
- Nature Conservancy of Canada
- TLC The Land Conservancy of British Columbia

# North Pender Island Local Trust Area

*Please see beginning of Appendix II for sources of data.*




**Size:** 5,241.6

**Population (2016):** 2,067

**Number of Dwellings (2016):** 1,711

**Number of Buildings (2014):** 3,595

**Parcel Sizes (September, 2017):**

| Parcel Size (hectares) | # of Parcels | Percent of Landbase |
|---|---|---|
| Less than 0.5 | 1,696 | 6.7 |
| 0.5–2 | 498 | 9.3 |
| 2–10 | 258 | 20.6 |
| 10–20 | 33 | 9.3 |
| 20–50 | 30 | 17.9 |
| More than 50 | 21 | 32.1 |

**Access:** Direct ferry

Biodiversity on small islands and islets may be of higher value than indicated due to challenges with connectivity and contiguity analyses where no protected areas exist. When considering conservation value of smaller islands and islets, please refer to Islands Trust Conservancy Biodiversity Composition analysis from the Islands Trust Conservancy Spatial Decision Support System.

SCARLET WAXCAP MUSHROOMS. PHOTO: K MAYES

**Protected Areas Distribution (January 2018):**

| Type of Terrestrial Protected Area | Area (hectares) | Area as % of Local Trust Area |
|---|---|---|
| Conservation Covenant | 144.8 | 2.8 |
| Nature Reserve | 8.1 | 0.2 |
| Park — Community | 44.7 | 0.9 |
| Park — Federal | 812.9 | 15.5 |
| **TOTAL** | **1,010.5** | **19.3** |

| Type of Marine Protected Area | Area (hectares) |
|---|---|
| Federal Marine Protected Area | 1,365.4 |
| Rockfish Conservation Area | 5,506.0 |
| **TOTAL** | **6,529.3** |

**Sensitive Ecosystems (August, 2017):**

| Sensitive Ecosystem | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Cliff | 3.2 | 2.6 | 0 | 0.1 |
| Freshwater | 51.4 | 8.2 | 7.1 | 1.0 |
| Herbaceous | 386.0 | 38.9 | 0.7 | 7.4 |
| Mature Forest | 709.3 | 34.1 | <0.1 | 13.6 |
| Old Forest | 27.4 | 38.2 | 0 | 27.4 |
| Riparian | 0.1 | 0.1 | 0 | <0.1 |
| Wetland | 219.4 | 60.9 | 0 | 4.2 |
| Woodland | 533.8 | 16.8 | 0.1 | 10.2 |
| **TOTAL** | **1,930.5** | **28.9** | **0.4** | **37.0** |

**Species at Risk (September, 2017):**

The Federal Government has mapped Critical Habitat for Killer Whale Northeast Pacific southern resident population (*Orcinus orca*), Sand verbena moth (*Copablepharon fuscum*), Edward's Beach Moth (*Anarta edwardsii*), Foothill Sedge (*Carex tumulicola*) and Lindley's False Silverpuffs (*Uropappus lindleyi*). Critical Habitat in the North Pender Island Local Trust Area is found within Gulf Islands National Park Reserve, conservation covenants, a Capital Regional District community park and on privately-managed lands. Proposed Critical Habitat for Sharp-tailed snake (*Contia tenuis*) has also been mapped. The habitat mapped for this snake is found on privately-managed land, a Islands Trust Conservancy Board conservation covenant, and a Capital Regional District community park.

The B.C. Conservation Data Centre has recorded sightings of the following species in the North Pender Island Local Trust Area:

- Sand Verbena Moth (*Copablepharon fuscum*), endangered (SARA), red listed
- Erect Pygmyweed (*Crassula connata* var. *connata*), red listed
- Batwing vinyl lichen (*Leptogium platynum*), endangered (SARA), red listed
- Lindley's microseris (*Uropappus lindleyi*), endangered (SARA), red listed
- Propertius Duskywing (*Erynnis propertius*), red listed
- Slender popcornflower (*Plagiobothrys tenellus*), threatened (SARA), red listed
- Slimleaf onion (*Allium amplectens*), blue listed
- Coast manroot (*Marah oregana*), endangered (COSEWIC), red listed
- Henderson's checker-mallow (*Sidalcea hendersonii*), blue listed
- Macrae's clover (*Trifolium dichotomum*), blue listed
- Graceful arrow-grass (*Triglochin concinna*), blue listed
- Red-legged frog (*Rana aurora*), special concern (SARA), blue listed
- Olympic onion (*allium crenulatum*), blue listed
- Dense spike-primrose (*Epilobium densiflorum*), endangered (SARA), red listed
- Sharp-tailed snake (*contia tenuis*), endangered (SARA), red listed
- Great Blue Heron, *fannini* subspecies (*Ardea herodias fannini*), special concern (SARA), blue listed
- Moss' Elfin, *mossii* subspecies (*Callophrys mossii mossii*), blue listed
- Tufted Puffin (*Fratercula cirrhata*), blue listed
- Double-crested Cormorant (*Phalacrocorax auritus*), blue listed
- Brant (*Branta bernicla*), blue listed
- Fleshy jaumea (*Jaumea carnosa*), blue listed
- Contorted-pod evening-primrose (*Camissonia contorta*), endangered (SARA), red listed
- Yellow sand-verbena (*Abronia latifolia*), red listed
- Edward's Beach Moth (*anarta edwardsii*), endangered (SARA), red listed
- Black knotweed (*Polygonum paronychia*), blue listed
- Chaffweed (*Anagallis minima*), blue listed
- Rigid apple moss (*Bartramia stricta*), endangered (SARA), red listed
- Purple sanicle (*Sanicula bipinnatifida*), threatened (SARA), red listed
- Douglas-fir / dull Oregon-grape Ecological Community (*Pseudotsuga menziesii* / *Mahonia nervosa*), red listed

There may be additional species at risk in the North Pender Island Local Trust Area that are not recorded with the B.C. Conservation Data Centre or whose locations are considered confidential information.

**Forested Ecosystems (August, 2017):**

The North Pender Island Local Trust Area falls within the Coastal Douglas-fir Biogeoclimatic Zone which has less than 1.0% left in old growth stands. The breakdown of forests by age class is below.

| Forest Type | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Pole/Sapling Forest (<40 yrs) | 200.1 | 3.8 | 0.0 | 3.8 |
| Young Forest (40–80 yrs) | 2,512.2 | 20.1 | 0.3 | 48.1 |
| Mature Forest (80–250 yrs) | 938.8 | 31.7 | 0.0 | 18.0 |
| Old Forest (>250 years) | 28.8 | 41.6 | 0.0 | 0.6 |

**Marine Ecosystems (various dates):**

The North Pender Island Local Trust Area has eelgrass beds along approximately 19.8% of its foreshore and 8.9% of the North Pender Island shoreline is suitable spawning habitat for forage fish (Pacific sand lance and/or surf smelt).

**Modified Ecosystems (September, 2017):**

| Type of Modification | Area (ha) | Portion of Portion of Local Trust Area (%) |
|---|---|---|
| Cultivated Field, Orchard or Vineyard | 470.4 | 9.0 |
| Rural | 437.2 | 8.4 |
| Urban | 15.6 | 0.3 |
| Road | 142.7 | 2.7 |
| Gravel Pit | 1.8 | <0.1 |
| Reservoir | 0.5 | <0.1 |
| **TOTAL** | **1,068.2** | **20.5** |

**Ecosystem Disturbance (2004–2014):**

| Disturbance Type | Area (ha) |
|---|---|
| Deforestation — rural development & roads | 2.8 |
| **TOTAL** | **2.8** |

**Threats to Ecosystems:**

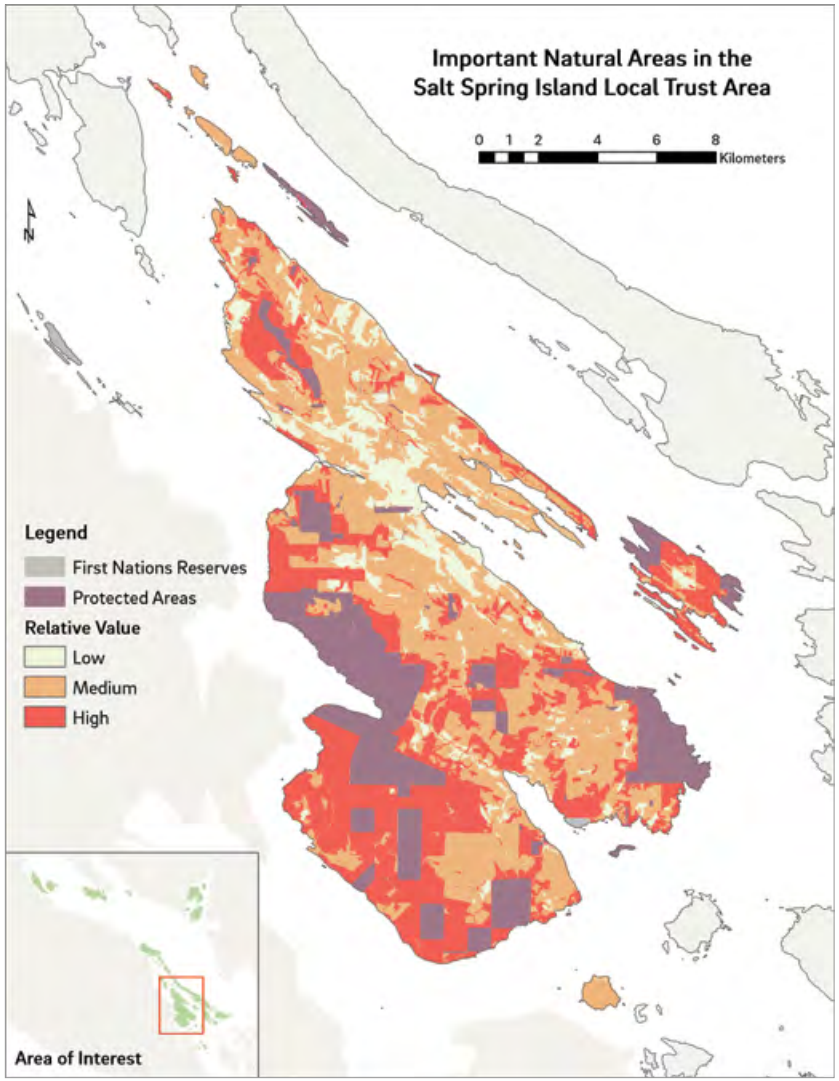
The threats to biodiversity found in the Islands Trust Area are described in section 2.3 of this report. In particular, North Pender aquatic species are also threatened by the spread of American bullfrog. American bullfrog is considered one of the world's top 100 invasive species.

**Conservation Groups Known to be Working in the Area:**

- Coastal Douglas-fir and Associated Ecosystems Conservation Partnership
- Islands Trust Conservancy
- Nature Trust of British Columbia
- Nature Conservancy of Canada
- Pender Islands Conservancy Association
- TLC The Land Conservancy of British Columbia

# Salt Spring Island Local Trust Area

*Please see beginning of Appendix II for sources of data.*




**Size:** 19,679.6 ha

**Population (2016):** 10,640

**Number of Dwellings (2016):** 6,050

**Number of Buildings (2014):** 12,880

**Parcel Sizes (September, 2017):**

| Parcel Size (hectares) | # of Parcels | Percent of Landbase |
|---|---|---|
| Less than 0.5 | 3,255 | 3.7 |
| 0.5–2 | 1,744 | 9.2 |
| 2–10 | 1,279 | 23.8 |
| 10–20 | 149 | 10.8 |
| 20–50 | 138 | 21.5 |
| More than 50 | 62 | 25.9 |

**Access:** Direct ferry

Biodiversity on small islands and islets may be of higher value than indicated due to challenges with connectivity and contiguity analyses where no protected areas exist. When considering conservation value of smaller islands and islets, please refer to Islands Trust Conservancy Biodiversity Composition analysis from the Islands Trust Conservancy Spatial Decision Support System.

ANNA'S HUMMINGBIRD, SALT SPRING ISLAND. PHOTO: K MAYES

**Protected Areas Distribution (January 2018):**

| Type of Terrestrial Protected Area | Area (hectares) | Area as % of Local Trust Area |
|---|---|---|
| Conservation Covenant (Conservancy held) | 329.7 | 1.7 |
| Ecological Reserve | 759.6 | 3.9 |
| Nature Reserve | 396.9 | 2.0 |
| Park — Community | 121.3 | 0.6 |
| Park — Federal | 195.5 | 1.0 |
| Park — Provincial | 1,483.5 | 7.5 |
| Park — Regional | 331.9 | 1.7 |
| Watershed Protection | 297.8 | 1.5 |
| **TOTAL** | **3,916.2** | **19.9** |

| Type of Marine Protected Area | Area (hectares) |
|---|---|
| Federal Marine Protected Area | 281.6 |
| Marine Ecological Reserve | 327.6 |
| Rockfish Conservation Area | 3,332.4 |
| **TOTAL** | **3,781.2** |

**Sensitive Ecosystems (August, 2017):**

| Sensitive Ecosystem | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Cliff | 28.1 | 66.3 | 0.0 | 0.1 |
| Freshwater | 279.9 | <0.1 | 0.1 | 1.4 |
| Herbaceous | 470.1 | 29.8 | 15.2 | 2.4 |
| Mature Forest | 1,495.8 | 25.4 | 2.0 | 7.6 |
| Old Forest | 55.5 | 3.5 | 20.6 | 0.3 |
| Riparian | 56.2 | 12.7 | 3.4 | 0.3 |
| Wetland | 340.7 | 31.2 | 3.7 | 1.7 |
| Woodland | 2,841.4 | 30.4 | 6.3 | 14.5 |
| **TOTAL** | **5,569.6** | **27.3** | **5.5** | **28.3** |

**Species at Risk (January 2018):**

The Federal Government has mapped Critical Habitat for Dun Skipper (*Euphyes vestris vestris*), Gray's Desert-parsley (*lomatium grayi*) and Killer Whale Northeast Pacific southern resident population (*Orcinus orca*) within the Salt Spring Island Local Trust Area. This Critical Habitat is found within Provincial Parks, Ecological Reserve, Capital Regional District Community Parks and on privately-managed lands. There is also mapped candidate Critical Habitat for batwing vinyl lichen (*Leptogium platynum*) and Barn Owl (*Tyto alba*) as well as proposed Critical Habitat for Sharp-tailed Snake (*Contia tenuis*) and Western Painted Turtle (*Chrysemys picta bellii*). The proposed and candidate Critical Habitat are found in Ecological Reserves, Provincial Parks, conservation covenants, nature reserves, Capital Regional District Community Parks and on privately-managed lands.

The B.C. Conservation Data Centre has recorded sightings of the following species in the Salt Spring Island Local Trust Area:

- Rigid apple moss (*Bartramia stricta*), endangered (SARA), red listed
- White Meconella (*Meconella oregana*), endangered (SARA), red listed
- Coastal Scouler's Catchfly (*Silene scouleri* ssp. *Scouleri*), endangered (SARA), red listed
- Wine-cup Clarkia (*Clarkia purpurea* ssp. *Quadrivulnera*), red listed
- Sharp-tailed snake (*Contia tenuis*), endangered (SARA), red listed
- Scalepod (*Idahoa scapigera*), blue listed
- Yellow Montane Violet (*Viola praemorsa* ssp. *Praemorsa*), endangered (SARA), red listed
- Slender popcornflower (*Plagiobothrys tenellus*), threatened (SARA), red listed
- Propertius Duskywing (*Erynnis propertius*), red listed
- Zerene Fritillary, *Bremnerii* Subspecies (*Speyeria zerene bremnerii*), red listed
- Slimleaf onion (*Allium amplectens*), blue listed
- Geyer's onion (*Allium geyeri* var. *tenerum*), blue listed
- Giant Chain Fern (*Woodwardia fimbriata*), blue listed
- Continuous ribbon (*Ramalina subleptocarpha*), blue listed
- Threaded Vertigo (*Nearctula* sp. 1), special concern (SARA), red listed
- Phantom orchid (*Cephalanthera austiniae*), endangered (SARA), red listed
- Leafless wintergreen (*Pyrola aphylla*), blue listed
- Western Screech-Owl, *kennicottii* subspecies (*Megascops kennicottii kennicottii*), Threatened (SARA), blue listed
- Northern Pygmy-Owl, *swarthi* subspecies (*Glaucidium gnoma swarthy*), blue listed
- Banded cord-moss (*Entosthodon fascicularis*), special concern (SARA), blue listed
- Red-legged frog (*Rana aurora* ), special concern (SARA), blue listed
- Oregon ash (*Fraxinus latifolia*), red listed
- Macoun's meadow-foam (*Limnanthes macounii*), threatened (SARA), red listed
- Coast manroot (*Marah oregana*), endangered (COSEWIC), red listed
- Moss' Elfin, *mossii* subspecies (*Callophrys mossii mossii*), blue listed
- Twisted oak moss (*Syntrichia laevipila*), special concern (SARA), blue listed
- Gray's desert-parsley (*Lomatium grayi*), threatened (SARA), red listed

- Dun Skipper (*Euphyes vestris vestris*), threatened (SARA), red listed
- Batwing vinyl lichen (*Leptogium platynum*), endangered (SARA), red listed
- Barn Owl (*Tyto alba*), threatened (SARA), red listed
- Green-sheathed sedge (*Carex feta*), blue listed
- Peacock vinyl (*Leptogium polycarpum*), special concern (COSEWIC), red listed
- Painted turtle — Pacific Coast population (*Chrysemys picta* pop. 1), endangered (SARA), red listed
- Surf Scoter (*Melanitta perspicillata*), blue listed
- Ovalpurse (*Hornungia procumbens*), blue listed
- Howell's Violet (*Viola howellii*), red listed
- Peregrine Falcon, *anatum* subspecies (*Falco peregrinus anatum*), special concern (SARA), red listed
- Great Blue Heron, *fannini* subspecies (*Ardea herodias fannini*), special concern (SARA), blue listed
- Sharp-tailed snake (*Contia tenuis*), endangered (SARA), red listed
- Slender-spiked mannagrass (*Glyceria leptostachya*), blue listed
- Double-crested Cormorant (*Phalacrocorax auritus*), blue listed
- Macrae's clover (*Trifolium dichotomum*), blue listed
- Douglas-fir / dull Oregon-grape Ecological Community (*Pseudotsuga menziesii / Mahonia nervosa*), red listed

There may be additional species at risk in the Salt Spring Island Local Trust Area that are not recorded with the B.C. Conservation Data Centre or whose locations are considered confidential information.

**Forested Ecosystems (August, 2017):**

The Salt Spring Island Local Trust Area falls within both the Coastal Douglas-fir (CDF) Biogeoclimatic Zone and the Coastal Western Hemlock (CWH) Biogeoclimatic Zone. The CDF is dominant in this local trust area, while the CWH is found at higher elevations such as Mount Maxwell. The CDF has less than 1.0% left in old growth stands. The breakdown of forests by age class is below.

| Forest Type | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Pole/Sapling Forest (<40 yrs) | 4,414.3 | 24.6 | 6.2 | 22.5 |
| Young Forest (40–80 yrs) | 7,702.2 | 22.6 | 4.3 | 39.2 |
| Mature Forest (80–250 yrs) | 1,989.9 | 26.4 | 2.9 | 10.0 |
| Old Forest (>250 years) | 55.5 | 3.5 | 20.6 | 0.3 |

**Marine Ecosystems (various dates):**

The Salt Spring Island Local Trust Area has eelgrass beds along approximately 18.1% of its foreshore and 11% of Salt Spring Island's shoreline is suitable spawning habitat for forage fish (Pacific sand lance and/or surf smelt).

BLADDERWRACK, SALT SPRING ISLAND. PHOTO: K MAYES

**Modified Ecosystems (September, 2017):**

| Type of Modification | Area (ha) | Portion of Local Trust Area (%) |
|---|---|---|
| Cultivated Field & Orchard | 1,202.9 | 6.1 |
| Rural | 2,204.1 | 11.2 |
| Urban | 81.9 | 0.4 |
| Road | 583.4 | 3.0 |
| Golf Course | 26.7 | 0.1 |
| Gravel Pit | 12.2 | 0.1 |
| **TOTAL** | **4,111.2** | **20.9** |

**Ecosystem Disturbance (2004–2014):**

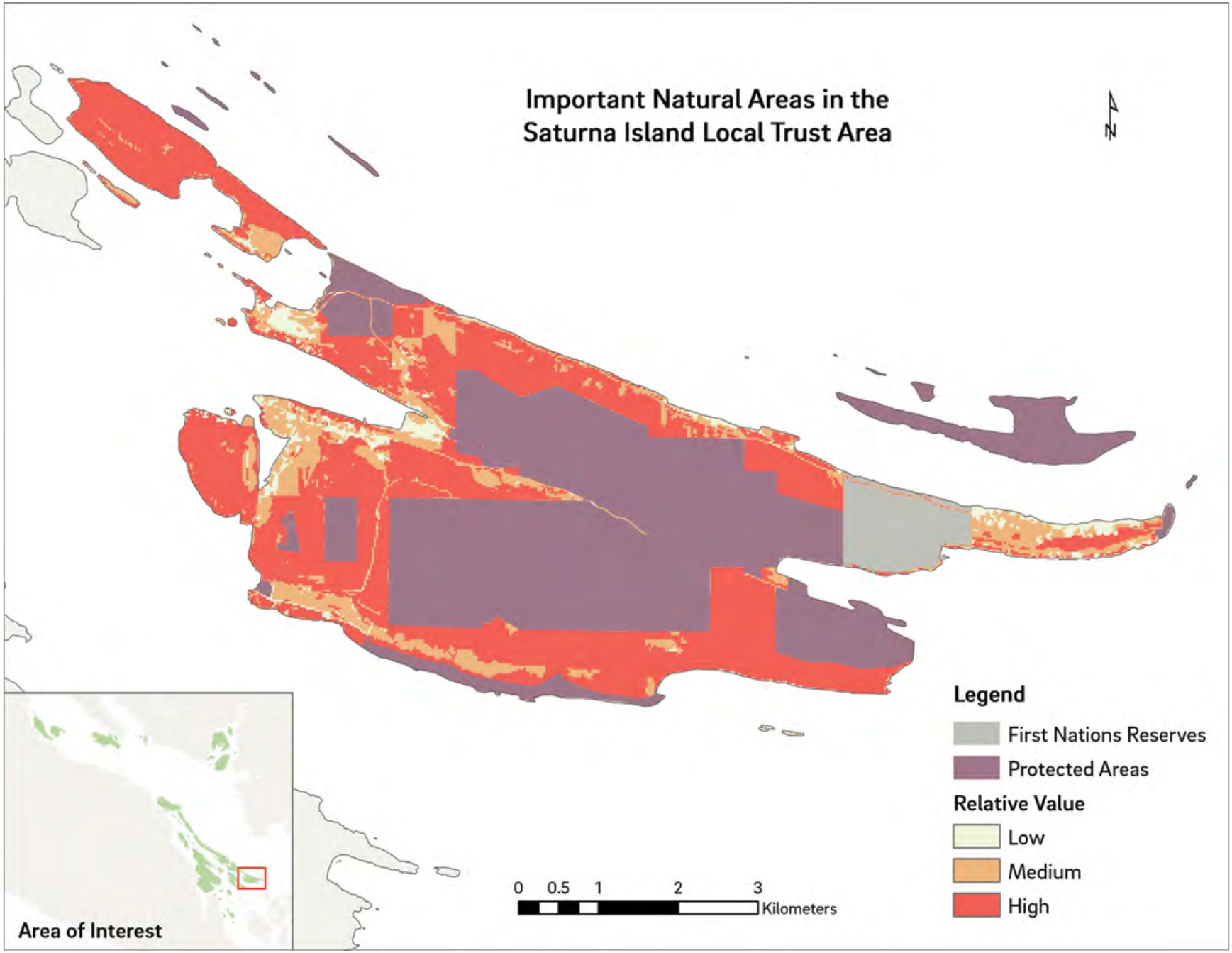
| Disturbance Type | Area (ha) |
|---|---|
| Deforestation — forestry | 34.9 |
| Deforestation — rural development & roads | 166.7 |
| Deforestation — other | 0.8 |
| Cleared Vegetation – rural development & roads | 1.9 |
| Cleared Vegetation – other | 4.4 |
| New Roads/Buildings in non-vegetated areas | 28.0 |
| Soil Disturbance | 2.7 |
| **TOTAL** | **239.3** |

**Threats to Ecosystems:**

The threats to biodiversity found in the Islands Trust Area are described in section 2.3 of this report. These threats apply to the Salt Spring Island Local Trust Area. In particular, the Salt Spring Island is vulnerable to loss of natural ecosystems to residential and associated uses, likely due to its easy ferry access and level of amenities. Salt Spring Island is also one of the islands where American bullfrog is found. American bullfrog is one of the world's top 100 invasive species.

**Conservation Groups Known to be Working in the Area:**

- Coastal Douglas-fir and Associated Ecosystems Conservation Partnership
- Ducks Unlimited Canada
- Islands Trust Conservancy
- Nature Trust of British Columbia
- Nature Conservancy of Canada
- Salt Spring Island Conservancy
- TLC The Land Conservancy of British Columbia
- Waterbird Watch Collective




Biodiversity on small islands and islets may be of higher value than indicated due to challenges with connectivity and contiguity analyses where no protected areas exist. When considering conservation value of smaller islands and islets, please refer to Islands Trust Conservancy Biodiversity Composition analysis from the Islands Trust Conservancy Spatial Decision Support System.

# Saturna Island Local Trust Area

*Please see beginning of Appendix II for sources of data.*

**Size:** 3,570.9 ha

**Population (2016):** 354

**Number of Dwellings (2016):** 464

**Number of Buildings (2014):** 923

**Parcel Sizes (September, 2017):**

| Parcel Size (hectares) | # of Parcels | Percent of Landbase |
|---|---|---|
| Less than 0.5 | 370 | 2.7 |
| 0.5–2 | 148 | 3.9 |
| 2–10 | 41 | 5.0 |
| 10–20 | 21 | 8.4 |
| 20–50 | 17 | 15.8 |
| More than 50 | 28 | 60.7 |

**Access:** Direct ferry

**Protected Areas Distribution (January 2018):**

| Type of Terrestrial Protected Area | Area (hectares) | Area as % of Local Trust Area |
|---|---|---|
| Conservation Covenant | 12.4 | 0.4 |
| Park — Community | 2.9 | 0.1 |
| Park — Federal | 1,594.5 | 44.7 |
| Park — Regional | 0.9 | <0.1 |
| TOTAL | **1,610.6** | **45.1** |

| Type of Marine Protected Area | Area (hectares) |
|---|---|
| Federal Marine Protected Area | 1,521.3 |
| Rockfish Conservation Area | 2,873.8 |
| Glass Sponge Reef Fishing Closure Area | 109.1 |
| TOTAL | **3,614.4** |

**Sensitive Ecosystems (August, 2017):**

| Sensitive Ecosystem | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Cliff | 4.4 | 24.7 | 0.0 | 0.1 |
| Freshwater | 6.3 | 10.4 | 0.1 | 0.2 |
| Herbaceous | 95.6 | 49.9 | 0.7 | 2.7 |
| Mature Forest | 869.5 | 46.6 | 0.0 | 24.7 |
| Old Forest | 20.2 | 85.9 | 0.0 | 0.6 |
| Riparian | 1.7 | 99.1 | 0.0 | <0.1 |
| Wetland | 66.3 | 44.6 | 0.0 | 1.9 |
| Woodland | 336.0 | 38.7 | <0.1 | 9.5 |
| **TOTAL** | **1,400.1** | **45.3** | **0.1** | **39.7** |

**Species at Risk (September, 2017):**

The Federal Government has mapped Critical Habitat for White Meconella (*Meconella oregana*), Lindley's False Silverpuffs (*Uropappus lindleyi*) and Killer Whale Northeast Pacific southern resident population (*Orcinus orca*) within the Saturna Island Local Trust Area. This terrestrial Critical Habitat is found on privately-managed lands.

The B.C. Conservation Data Centre has recorded sightings of the following species in the Saturna Island Local Trust Area:

- White Meconella (*Meconella oregana*), endangered (SARA), red listed
- Douglas-fir / dull Oregon-grape Ecological Community (*Pseudotsuga menziesii / Mahonia nervosa*), red listed
- Fleshy jaumea (*Jaumea carnosa*), blue listed

- Spanish-clover (*Acmispon americanus* var. *americanus*), blue listed
- California buttercup (*Ranunculus californicus*), endangered (SARA), red listed
- Banded cord-moss (*Entosthodon fascicularis*), special concern (SARA), blue listed
- Wine-cup clarkia (*Clarkia purpurea* ssp. *Quadrivulnera*), red listed
- Northern adder's-tongue (*Ophioglossum pusillum*), blue listed
- Two-edged water-starwort (*Callitriche heterophylla* var. *heterophylla*), blue listed
- Scalepod (*Idahoa scapigera*), blue listed
- Macrae's Clover (*Trifolium dichotomum*), blue listed
- Slender popcornflower (*Plagiobothrys tenellus*), threatened (SARA), red listed
- Slimleaf onion (*Allium amplectens*), blue listed
- Red-legged frog (*Rana aurora* ), special concern (SARA), blue listed
- Chaffweed (*Anagallis minima*), blue listed
- Great Blue Heron, *fannini* subspecies (*Ardea herodias fannini*), special concern (SARA), blue listed
- Graceful Arrow-grass (*Triglochin concinna*), blue listed
- Lindley's microseris (*Uropappus lindleyi*), endangered (SARA), red listed

There may be additional species at risk in the Saturna Island Local Trust Area that are not recorded with the B.C. Conservation Data Centre or whose locations are considered confidential information.

SCARLET PAINTBRUSH

**Forested Ecosystems (August, 2017):**

The Saturna Island Local Trust Area falls within the Coastal Douglas-fir Biogeoclimatic Zone which has less than 1.0% left in old growth stands. The breakdown of forests by age class is below.

| Forest Type | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Pole/Sapling Forest (<40 yrs) | 164.7 | 78.2 | 0.0 | 4.7 |
| Young Forest (40–80 yrs) | 1,806.8 | 48.2 | 0.0 | 51.2 |
| Mature Forest (80–250 yrs) | 1,079.8 | 44.8 | 0.0 | 30.6 |
| Old Forest (>250 years) | 25.0 | 80.0 | 0.0 | 0.7 |

**Marine Ecosystems (various dates):**

The Saturna Island Local Trust Area has eelgrass beds along approximately 12.1% of its foreshore. There are also known locations of small glass sponge reefs off of Saturna's shoreline.

**Modified Ecosystems (September, 2017):**

| Type of Modification | Area (ha) | Portion of Local Trust Area (%) |
|---|---|---|
| Cultivated Field or Vineyard | 125.7 | 3.6 |
| Rural | 89.3 | 2.5 |
| Urban | 9.8 | 0.3 |
| Road | 90.6 | 2.6 |
| Reservoir | 0.1 | <0.1 |
| TOTAL | **315.5** | **8.9** |

**Ecosystem Disturbance (2004–2014):**

| Disturbance Type | Area (ha) |
|---|---|
| Deforestation — forestry | 11.4 |
| Deforestation — rural development & roads | 4.2 |
| **TOTAL** | **15.5** |

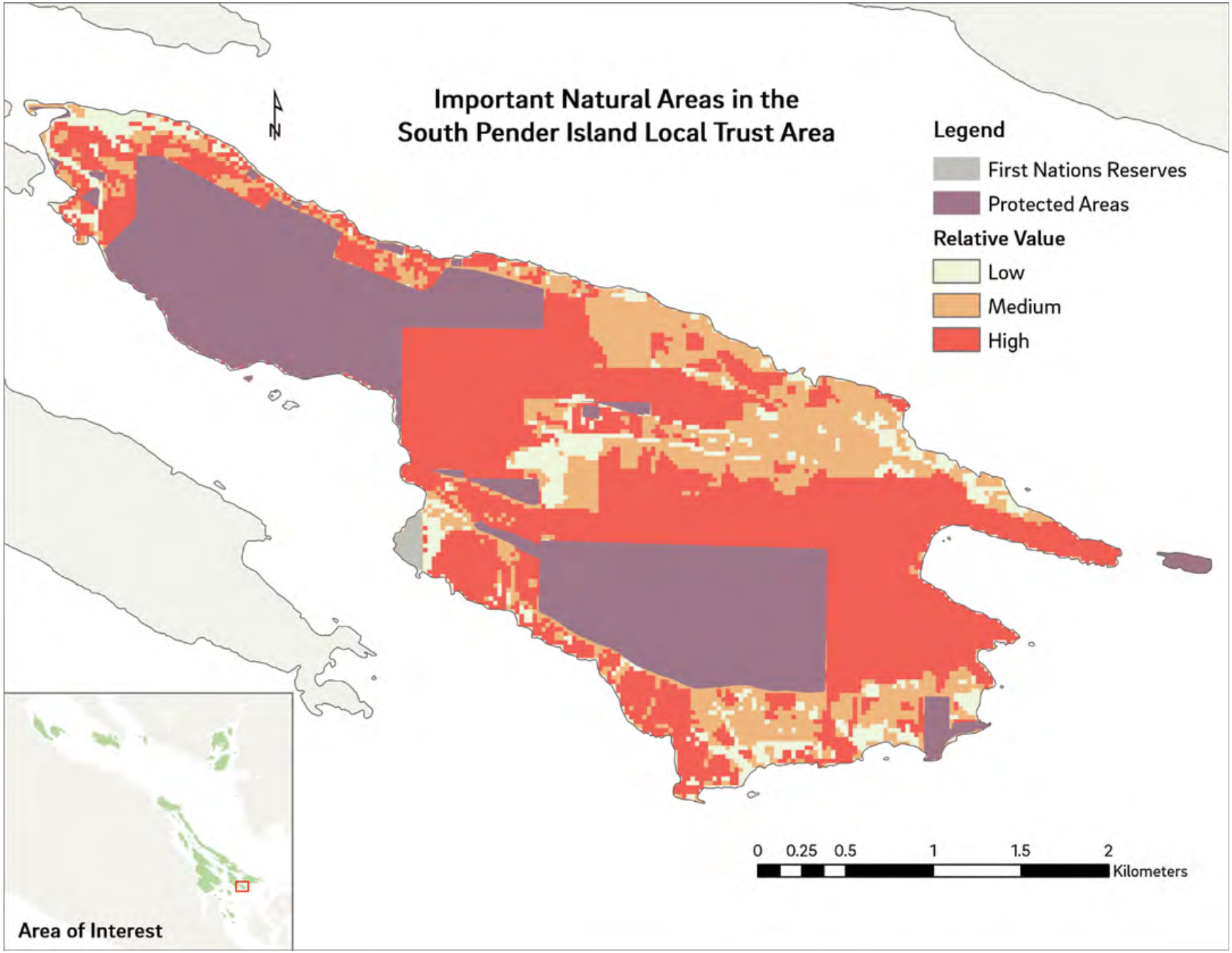
**Threats to Ecosystems:**

The threats to biodiversity found in the Islands Trust Area are described in section 2.3 of this report. These threats apply to the Saturna Island Local Trust Area. In particular, Saturna Island is susceptible to heavy grazing from feral goats. There have also been reports of Fallow Deer on Samuel Island which may also swim over to Saturna Island itself. Samuel Island may be experiencing high levels of browse from these feral, Fallow Deer.

**Conservation Groups Known to be Working in the Area:**

- Coastal Douglas-fir and Associated Ecosystems Conservation Partnership
- Islands Trust Conservancy
- Nature Conservancy of Canada
- TLC The Land Conservancy of British Columbia

FAWN LILIES, SATURNA ISLAND. PHOTO: K MAYES




Biodiversity on small islands and islets may be of higher value than indicated due to challenges with connectivity and contiguity analyses where no protected areas exist. When considering conservation value of smaller islands and islets, please refer to Islands Trust Conservancy Biodiversity Composition analysis from the Islands Trust Conservancy Spatial Decision Support System.

# South Pender Island Local Trust Area

*Please see beginning of Appendix II for sources of data.*

**Size:** 913.9 ha

**Population (2016):** 235

**Number of Dwellings (2016):** 210

**Number of Buildings (2014):** 486

**Parcel Sizes (September, 2017):**

| Parcel Size (hectares) | # of Parcels | Percent of Landbase |
|---|---|---|
| Less than 0.5 | 198 | 5.3 |
| 0.5–2 | 132 | 13.8 |
| 2–10 | 29 | 13.0 |
| 10–20 | 10 | 17.4 |
| 20–50 | 6 | 20.1 |
| More than 50 | 3 | 25.2 |

**Access:** Direct ferry

**Protected Areas Distribution (January 2018):**

| Type of Terrestrial Protected Area | Area (hectares) | Area as % of Local Trust Area |
|---|---|---|
| Park — Community | 9.0 | 1.0 |
| Park — Federal | 278.8 | 30.5 |
| Park — Regional | 6.0 | 0.7 |
| TOTAL | **293.9** | **32.2** |

| Type of Marine Protected Area | Area (hectares) |
|---|---|
| Federal Marine Protected Area | 90.5 |
| Rockfish Conservation Area | 1,403.5 |
| TOTAL | **1,438.9** |

**Sensitive Ecosystems (August, 2017):**

| Sensitive Ecosystem | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Cliff | 1.6 | 40.0 | 0.0 | 0.2 |
| Freshwater | 6.8 | 90.3 | 0.0 | 0.7 |
| Herbaceous | 29.4 | 51.5 | 0.0 | 3.2 |
| Mature Forest | 172.7 | 49.4 | 0.0 | 19.0 |
| Old Forest | 15.0 | 15.2 | 0.0 | 1.7 |
| Wetland | 29.6 | 9.5 | 0.0 | 3.3 |
| Woodland | 110.9 | 42.3 | 0.0 | 12.2 |
| **TOTAL** | **366.0** | **43.5** | **0.0** | **40.3** |

**Species at Risk (September, 2017):**

The Federal Government has mapped Critical Habitat for Killer Whale Northeast Pacific southern resident population (*Orcinus orca*) within the South Pender Island Local Trust Area. There is also mapped proposed Critical Habitat Sharp-tailed snake (*Contia tenuis*) (not displayed). The habitat mapped for this snake is found on privately-managed land, Federal Park and Capital Regional District Regional Park lands.

The B.C. Conservation Data Centre has recorded sightings of the following species in the South Pender Island Local Trust Area:

- Spanish-clover (*Acmispon americanus* var. *americanus*), blue listed
- Sharp-tailed snake (*Contia tenuis*), endangered (SARA), red listed
- Two-edged water-starwort (*Callitriche heterophylla* var. *heterophylla*), blue listed
- Coast manroot (*Marah oregana*), endangered (COSEWIC), red listed
- Slender popcornflower (*Plagiobothrys tenellus*), threatened (SARA), red listed

- Graceful arrow-grass (*Triglochin concinna*), blue listed
- Peregrine Falcon, *anatum* subspecies (*Falco peregrinus anatum*), special concern (SARA), red listed
- Douglas-fir / dull Oregon-grape Ecological Community (*Pseudotsuga menziesii* / *Mahonia nervosa*), red listed

**Forested Ecosystems (August, 2017):**

The South Pender Island Local Trust Area falls within the Coastal Douglas-fir Biogeoclimatic Zone which has less than 1.0% left in old growth stands. The breakdown of forests by age class is below.

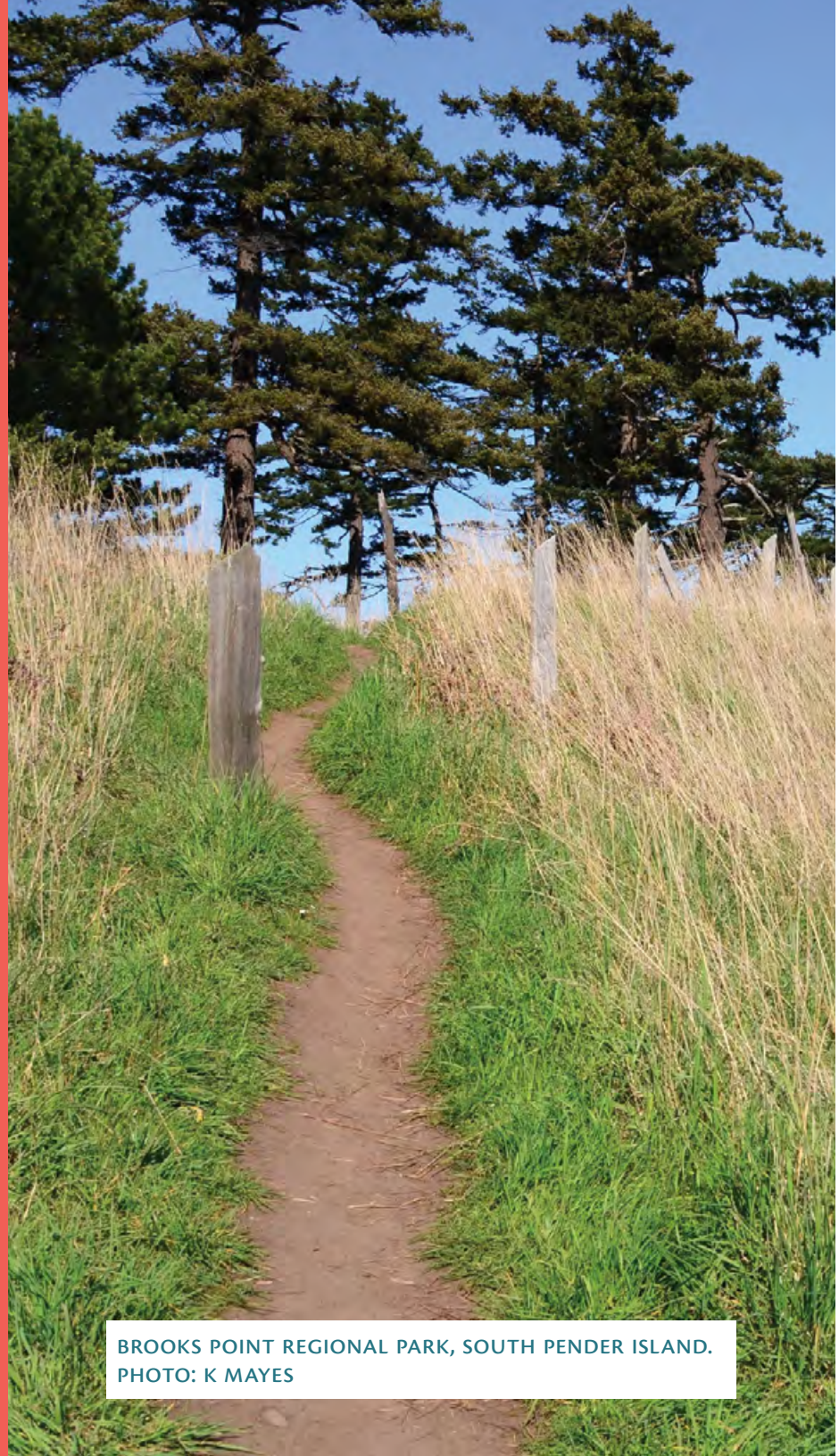
| Forest Type | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Pole/Sapling Forest (<40 yrs) | 28.9 | 73.2 | 0.0 | 3.2 |
| Young Forest (40–80 yrs) | 418.2 | 28.0 | 0.0 | 46.0 |
| Mature Forest (80–250 yrs) | 242.0 | 49.5 | 0.0 | 26.6 |
| Old Forest (>250 years) | 17.6 | 27.1 | 0.0 | 1.9 |

**Marine Ecosystems (various dates):**

The South Pender Island Local Trust Area has eelgrass beds along approximately 23.0% of its foreshore and 14.0% of the shoreline of South Pender Island is suitable spawning habitat for forage fish (Pacific sand lance and/or surf smelt).

**Modified Ecosystems (September, 2017):**

| Type of Modification | Area (ha) | Portion of Local Trust Area (%) |
|---|---|---|
| Cultivated Field | 59.7 | 6.6 |
| Rural | 68.2 | 7.5 |
| Road | 37.3 | 4.1 |
| TOTAL | **165.2** | **18.2** |



BROOKS POINT REGIONAL PARK, SOUTH PENDER ISLAND.
PHOTO: K MAYES

**Ecosystem Disturbance (2004–2014):**

| Disturbance Type | Area (ha) |
|---|---|
| Deforestation — rural development & roads | 1.7 |
| TOTAL | **1.7** |

**Threats to Ecosystems:**

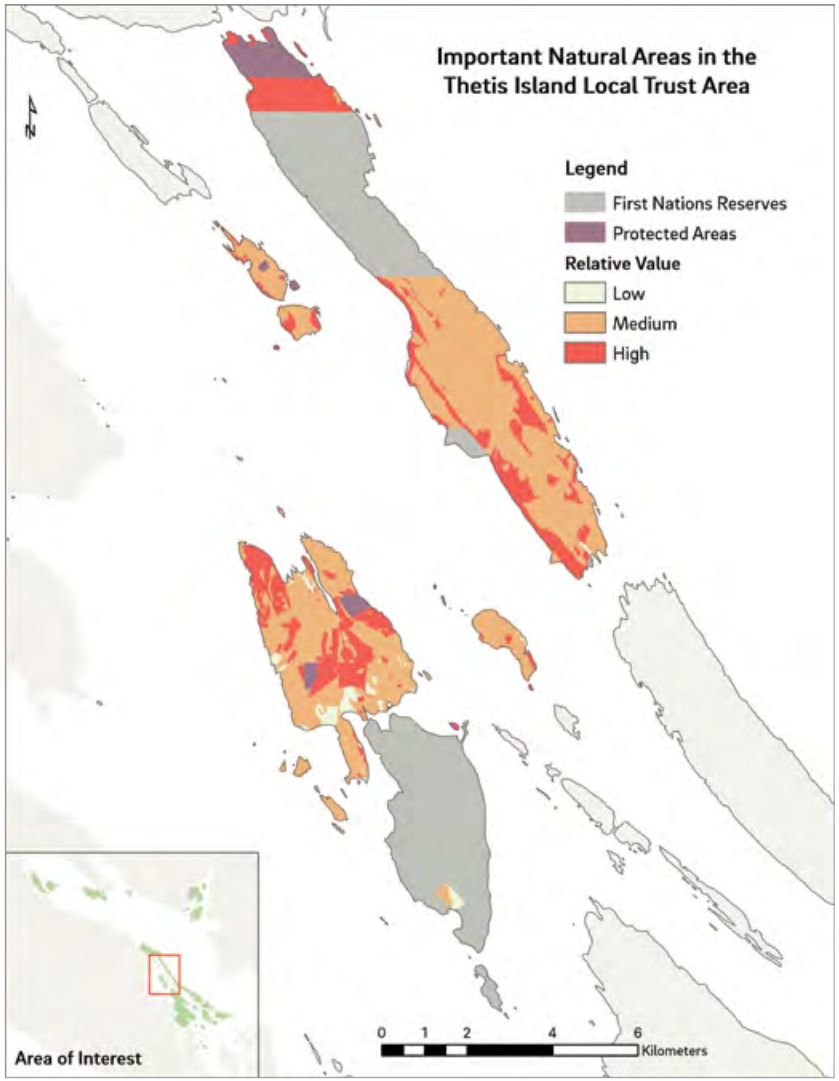
The threats to biodiversity found in the Islands Trust Area are described in section 2.3 of this report. These threats apply to the South Pender Island Local Trust Area. In particular, South Pender aquatic species are also threatened by the spread of American bullfrog. American bullfrog is considered one of the world's top 100 invasive species.

**Conservation Groups Known to be Working in the Area:**

- Coastal Douglas-fir and Associated Ecosystems Conservation Partnership
- Islands Trust Conservancy
- Nature Trust of British Columbia
- Nature Conservancy of Canada
- Pender Islands Conservancy Association
- TLC The Land Conservancy of British Columbia

# Thetis Island Local Trust Area

*Please see beginning of Appendix II for sources of data.*




**Size:** 4,864.6 ha

**Population (2016):** 389

**Number of Dwellings (2016):** 384

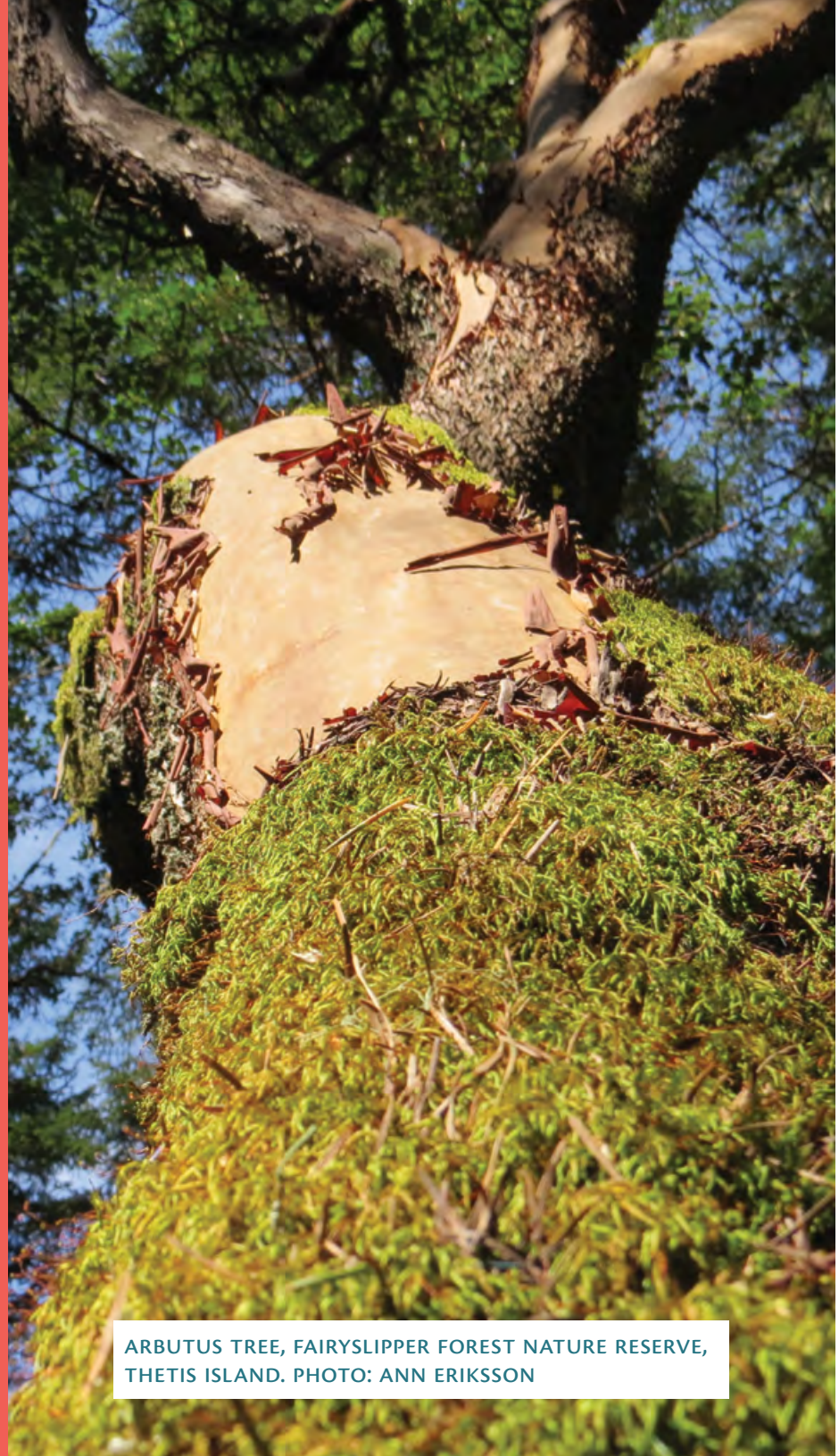
**Number of Buildings (2014):** 1,573

**Parcel Sizes (September, 2017):**

| Parcel Size (hectares) | # of Parcels | Percent of Landbase |
|---|---|---|
| Less than 0.5 | 321 | 1.6 |
| 0.5–2 | 336 | 7.1 |
| 2–10 | 130 | 10.4 |
| 10–20 | 16 | 4.9 |
| 20–50 | 25 | 15.9 |
| More than 50 | 17 | 58.8 |

**Access:** Direct ferry

Biodiversity on small islands and islets may be of higher value than indicated due to challenges with connectivity and contiguity analyses where no protected areas exist. When considering conservation value of smaller islands and islets, please refer to Islands Trust Conservancy Biodiversity Composition analysis from the Islands Trust Conservancy Spatial Decision Support System.



ARBUTUS TREE, FAIRYSLIPPER FOREST NATURE RESERVE, THETIS ISLAND. PHOTO: ANN ERIKSSON

**Protected Areas Distribution (January 2018):**

| Type of Terrestrial Protected Area | Area (hectares) | Area as % of Local Trust Area |
|---|---|---|
| Conservation Covenant | 8.7 | 0.2 |
| Ecological Reserve | 1.7 | <0.1 |
| Nature Reserve | 40.4 | 0.8 |
| Park — Community | 7.1 | 0.2 |
| Park — Provincial | 134.7 | 2.8 |
| **TOTAL** | **192.5** | **4.0** |

| Type of Marine Protected Area | Area (hectares) |
|---|---|
| Provincial Marine Protected Area | 77.1 |
| Rockfish Conservation Area | 4,642.2 |
| **TOTAL** | **4,656.6** |

**Sensitive Ecosystems (August, 2017):**

| Sensitive Ecosystem | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Cliff | 19.0 | 16.3 | 5.6 | 0.4 |
| Freshwater | 10.1 | 0.0 | 0.0 | 0.2 |
| Herbaceous | 152.3 | 10.3 | 8.5 | 3.1 |
| Mature Forest | 1,132.5 | 1.7 | 6.3 | 23.1 |
| Old Forest | 3.8 | 0.0 | 0.0 | 0.1 |
| Riparian | 1.7 | 0.0 | 12.7 | <0.1 |
| Wetland | 213.8 | 4.0 | 17.0 | 4.4 |
| Woodland | 912.5 | 7.9 | 10.1 | 18.6 |
| **TOTAL** | **2,445.8** | **4.8** | **8.8** | **49.9** |

**Species at Risk (September, 2017):**

There is no mapped Critical Habitat in the Thetis Island Local Trust Area at the time of the writing of this Regional Conservation Plan.

The B.C. Conservation Data Centre has recorded sightings of the following species in the Thetis Island Local Trust Area:

- Douglas-fir / dull Oregon-grape Ecological Community (*Pseudotsuga menziesii* / *Mahonia nervosa*), red listed
- Peregrine Falcon, *anatum* subspecies (*Falco peregrinus anatum*), special concern (SARA), red listed
- Edward's Beach Moth (*Anarta edwardsii*), endangered (SARA), red listed
- Double-crested Cormorant (*Phalacrocorax auritus*), blue listed
- Erect pygmyweed (*Crassula connata* var. *connata*), red listed

- Lindley's microseris (*Uropappus lindleyi*), endangered (SARA), red listed
- Poison oak (*Toxicodendron diversilobum*), blue listed

There may be additional species at risk in the Thetis Island Local Trust Area that are not recorded with the B.C. Conservation Data Centre or whose locations are considered confidential information.

**Forested Ecosystems (August, 2017):**

The Thetis Island Local Trust Area falls within the Coastal Douglas-fir Biogeoclimatic Zone which has less than 1.0% left in old growth stands. The breakdown of forests by age class is below.

| Forest Type | Area (ha) | Portion protected (%) | Portion Managed by Province (Crown) (%) | Portion of Local Trust Area (%) |
|---|---|---|---|---|
| Pole/Sapling Forest (<40 yrs) | 522.1 | 3.6 | 5.3 | 10.7 |
| Young Forest (40–80 yrs) | 1,868.2 | 7.0 | 7.9 | 38.1 |
| Mature Forest (80–250 yrs) | 1,325.3 | 2.4 | 6.8 | 27.0 |
| Old Forest (>250 years) | 3.8 | 0.0 | 0.0 | 0.1 |

**Marine Ecosystems (various dates):**

The Thetis Island Local Trust Area has eelgrass beds along approximately 25.2% of its foreshore and 11.9% of the Thetis Island shoreline is suitable spawning habitat for forage fish (Pacific sand lance and/or surf smelt).

**Modified Ecosystems (September, 2017):**

| Type of Modification | Area (ha) | Portion of Local Trust Area (%) |
|---|---|---|
| Cultivated Field | 102.9 | 2.1 |
| Rural | 101.3 | 2.1 |
| Road | 87.1 | 1.8 |
| Reservoir | <0.1 | <0.1 |
| TOTAL | 291.3 | 5.9 |

**Ecosystem Disturbance (2004–2014):**

| Disturbance Type | Area (ha) |
|---|---|
| Deforestation — forestry | 292.7 |
| Deforestation — rural development & roads | 14.9 |
| Deforestation — other | 0.3 |
| Cleared Vegetation – rural development & roads | 0.1 |
| New Roads/Buildings in non-vegetated areas | 0.3 |
| **TOTAL** | **308.3** |

**Threats to Ecosystems:**

The threats to biodiversity found in the Islands Trust Area are described in section 2.3 of this report. These threats are pertinent to the Thetis Island Local Trust Area. In particular, Valdes Island has seen habitat loss due to forestry.

**Conservation Groups Known to be Working in the Area:**

- Coastal Douglas-fir and Associated Ecosystems Conservation Partnership
- Comox Valley Land Trust
- Islands Trust Conservancy
- Nature Trust of British Columbia
- Nature Conservancy of Canada
- Thetis Island Nature Conservancy
- TLC The Land Conservancy of British Columbia

# Appendix III: Input and Partner Workshops

The Islands Trust Conservancy invited 36 First Nations, seven regional parks agencies, and many island, regional, provincial and national land trusts to participate in two workshops in May 2017 to discuss regional conservation planning and provide input on potential goals for the Regional Conservation Plan. Conversation notes were used to develop goals and objectives and to frame the Regional Conservation Plan. The themes of the conversations are represented in the graphic below.

Representatives from the following First Nations and agencies attended one of the two the workshops:

**First Nations**

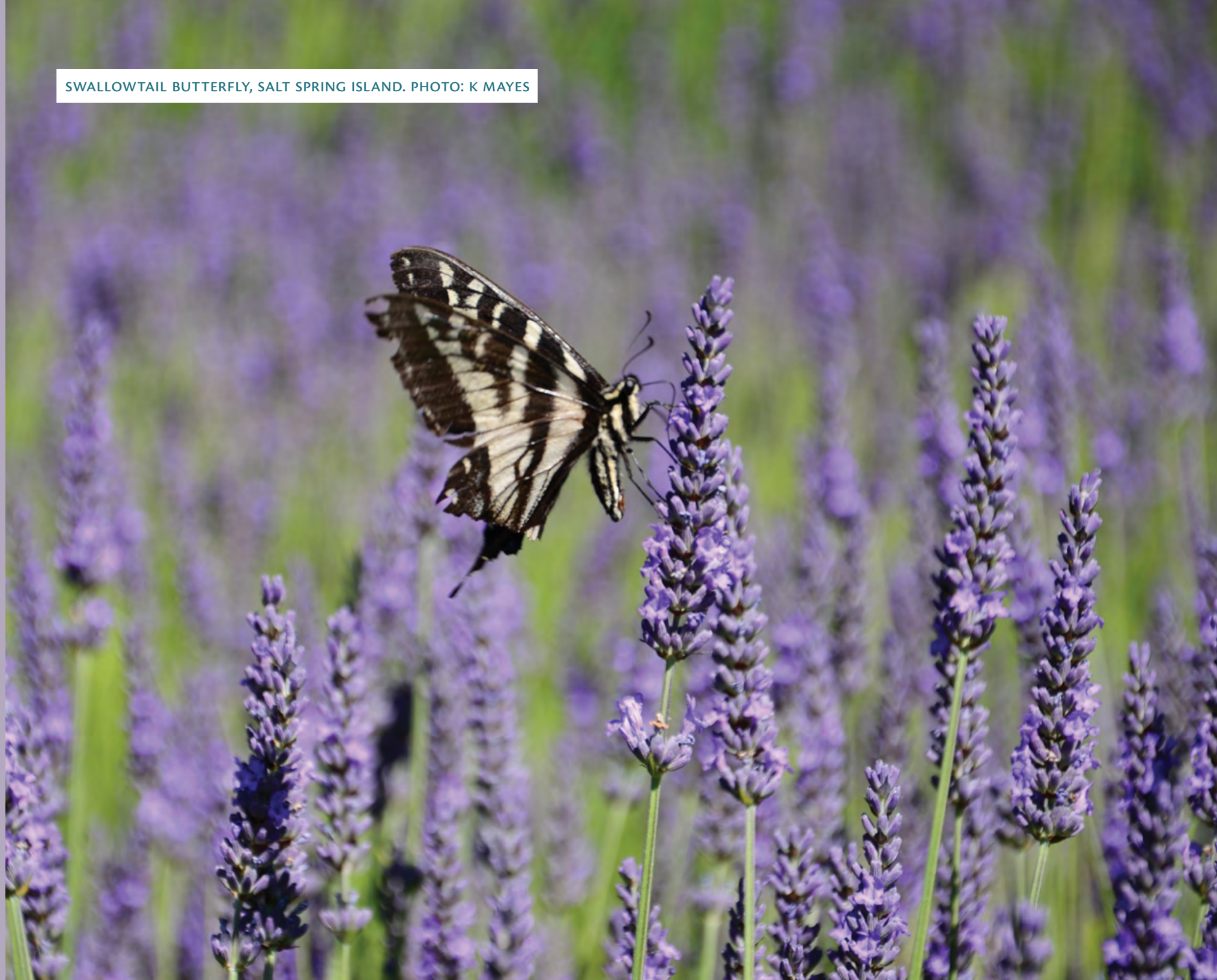
- Cowichan Tribes
- Esquimalt Nation
- Halalt First Nation
- Lyackson First Nation
- Tla'amin Nation (Sliammon First Nation)
- Tsleil-Waututh Nation

**Island Organizations**

- Bowen Island Conservancy
- Bowen Island Municipality
- Conservancy Hornby Island
- Denman Conservancy Association
- Gabriola Land & Trails Trust
- Galiano Conservancy Association
- Gambier Island Conservancy
- Lasqueti Island Nature Conservancy
- Mayne Island Conservancy Society
- Mudge Island Land Trust Association
- Pender Islands Conservancy Association
- Salt Spring Island Conservancy
- Thetis Island Nature Conservancy

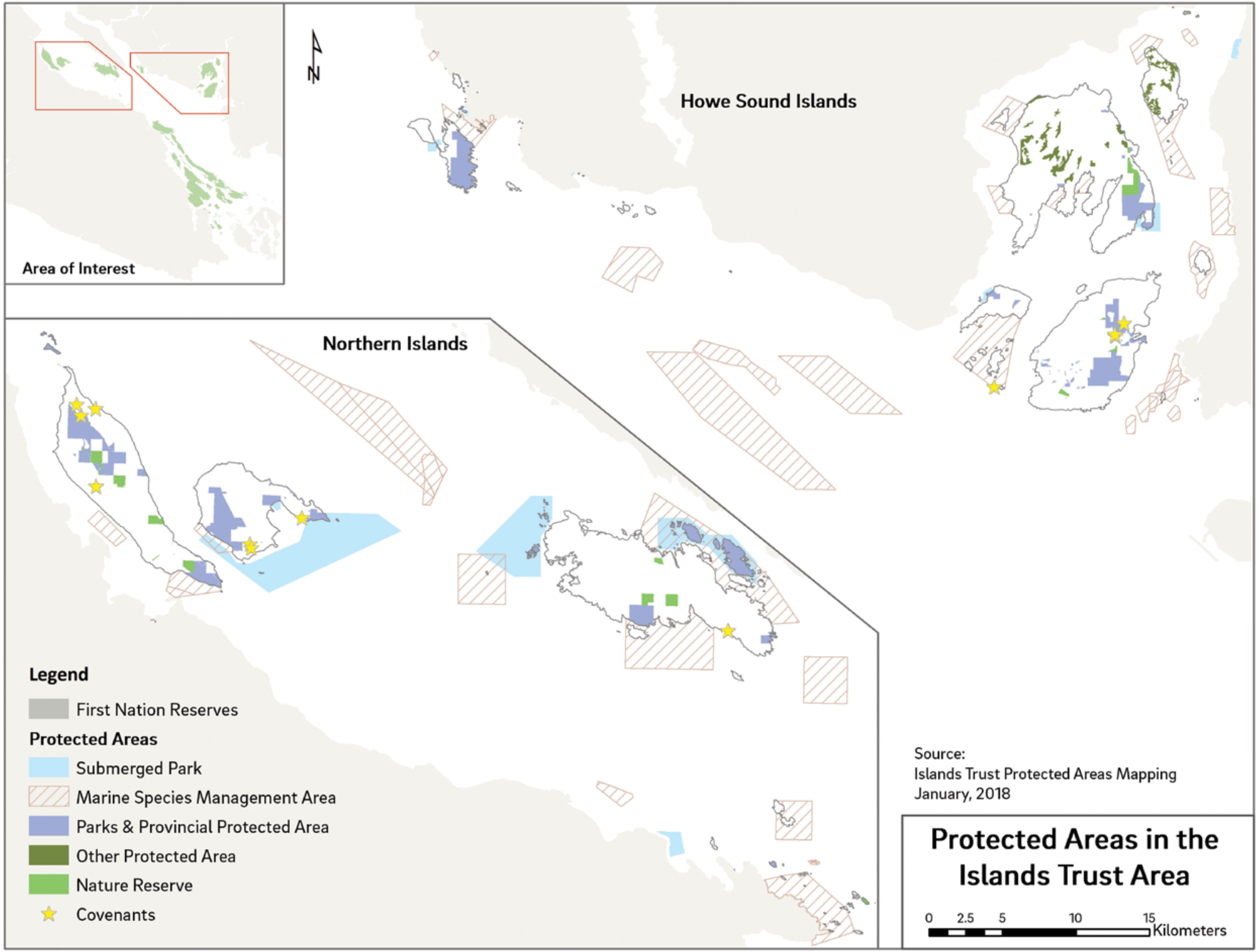
**Other Organizations**

- American Friends of Canadian Land Trusts
- Capital Regional District
- Coastal Douglas-fir & Associated Ecosystems Conservation Partnership (CDFCP)
- Comox Valley Regional District
- Cowichan Valley Regional District
- Habitat Acquisition Trust
- Nanaimo & Area Land Trust
- Nature Conservancy of Canada
- Nature Trust of British Columbia
- Sunshine Coast Conservation Association
- Sunshine Coast Regional District
- TLC The Land Conservancy of British Columbia



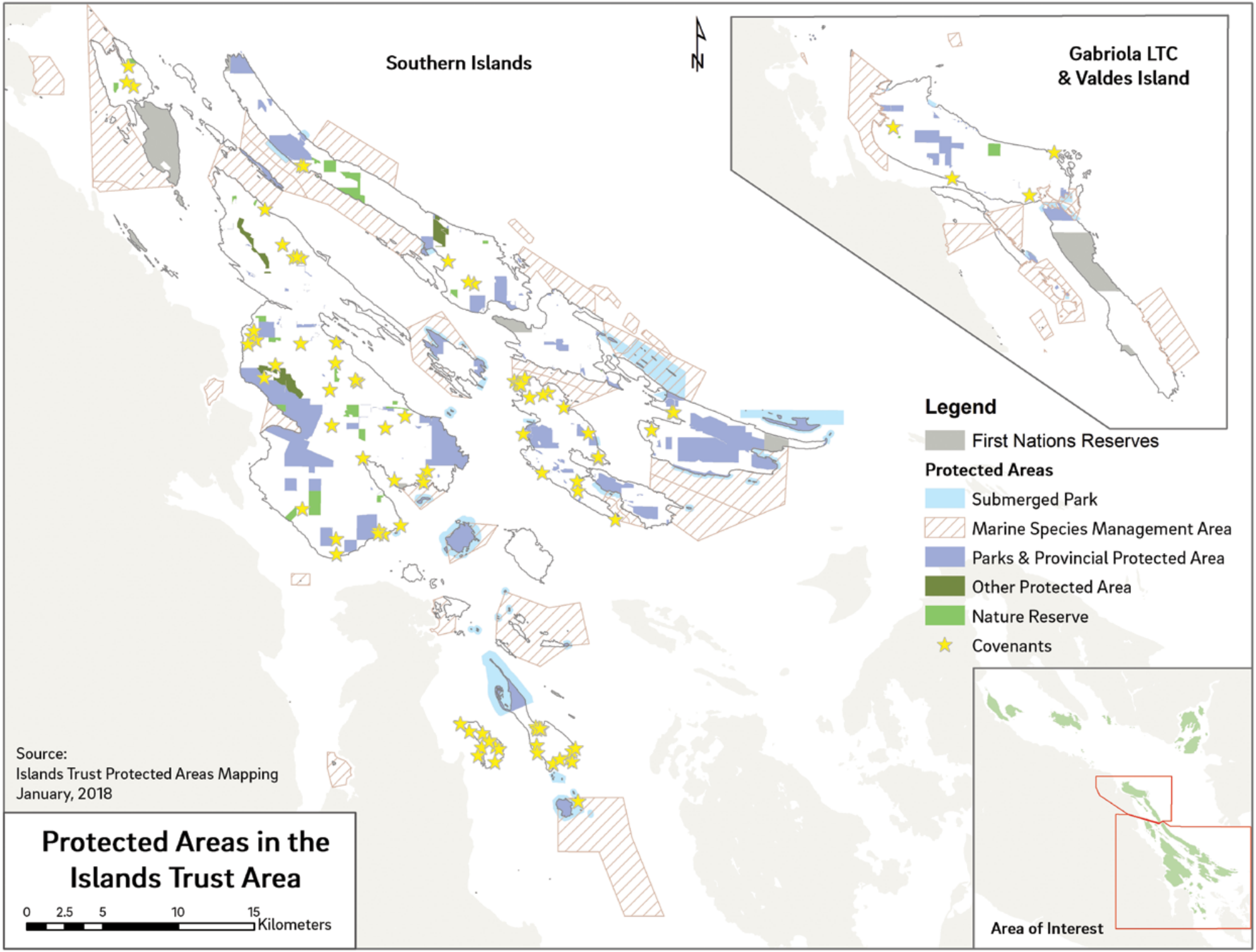
SWALLOWTAIL BUTTERFLY, SALT SPRING ISLAND. PHOTO: K MAYES

# Appendix IV: Maps

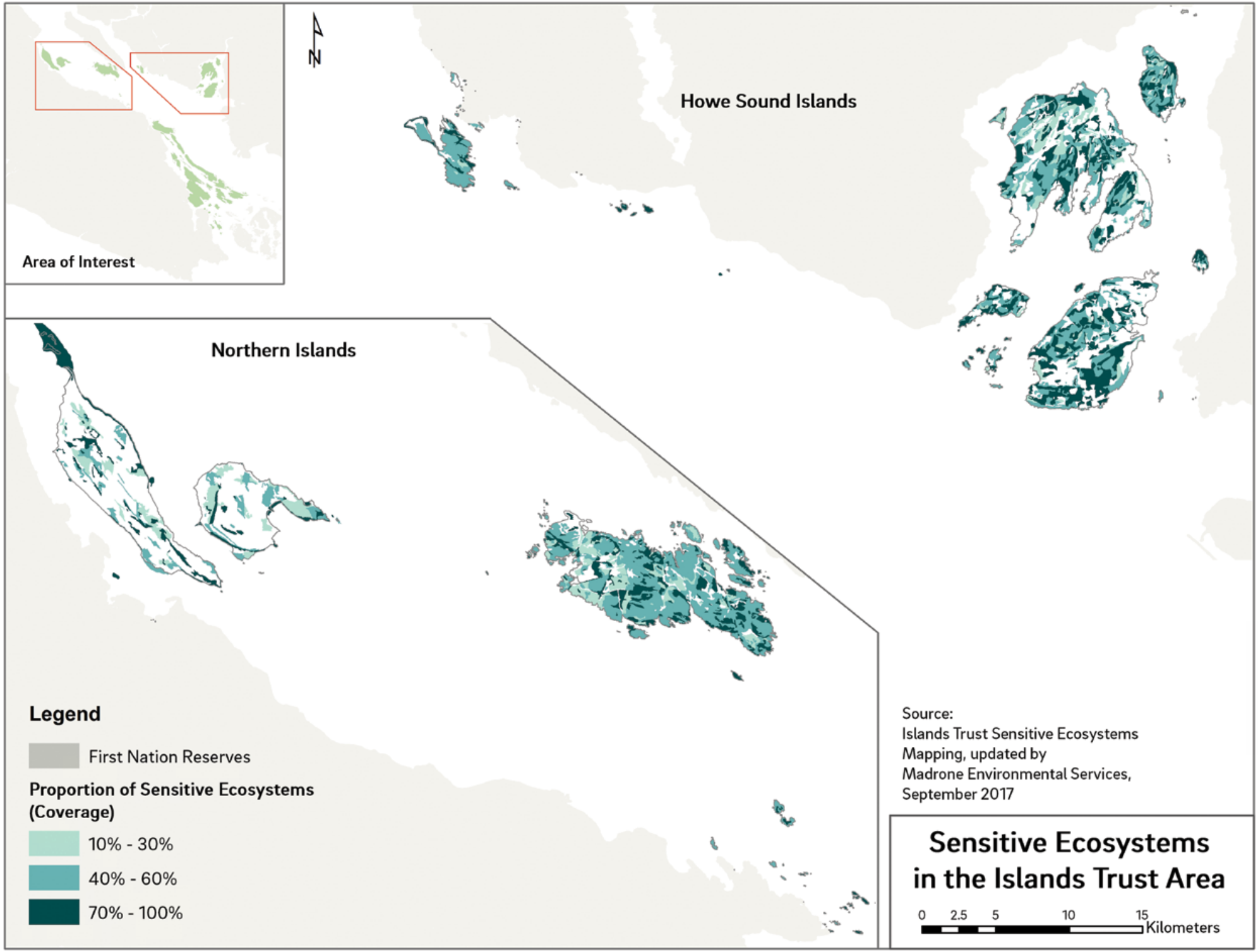





Map 1. Parks and Protected Areas in the Islands Trust Area

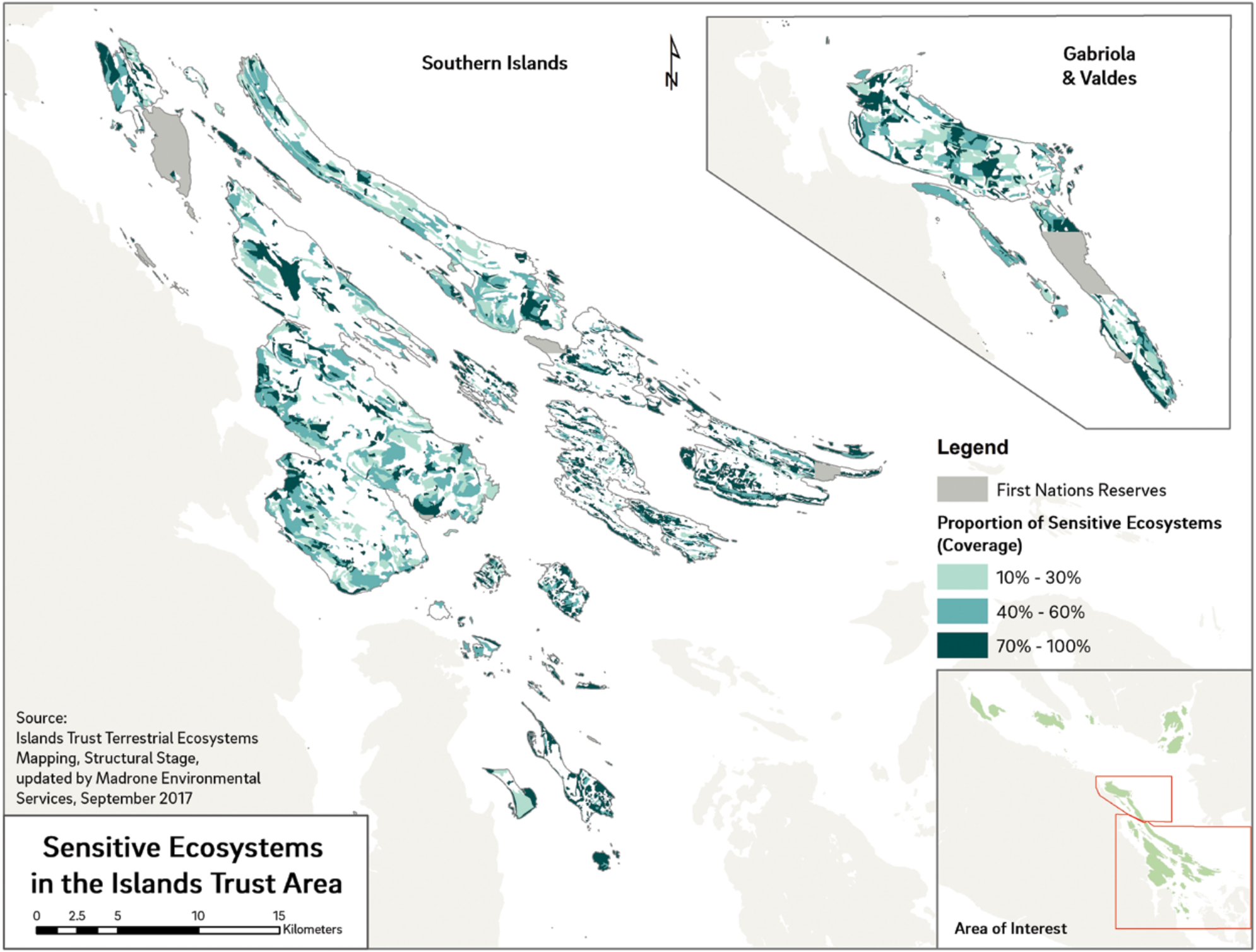



Map 1. Parks and Protected Areas in the Islands Trust Area

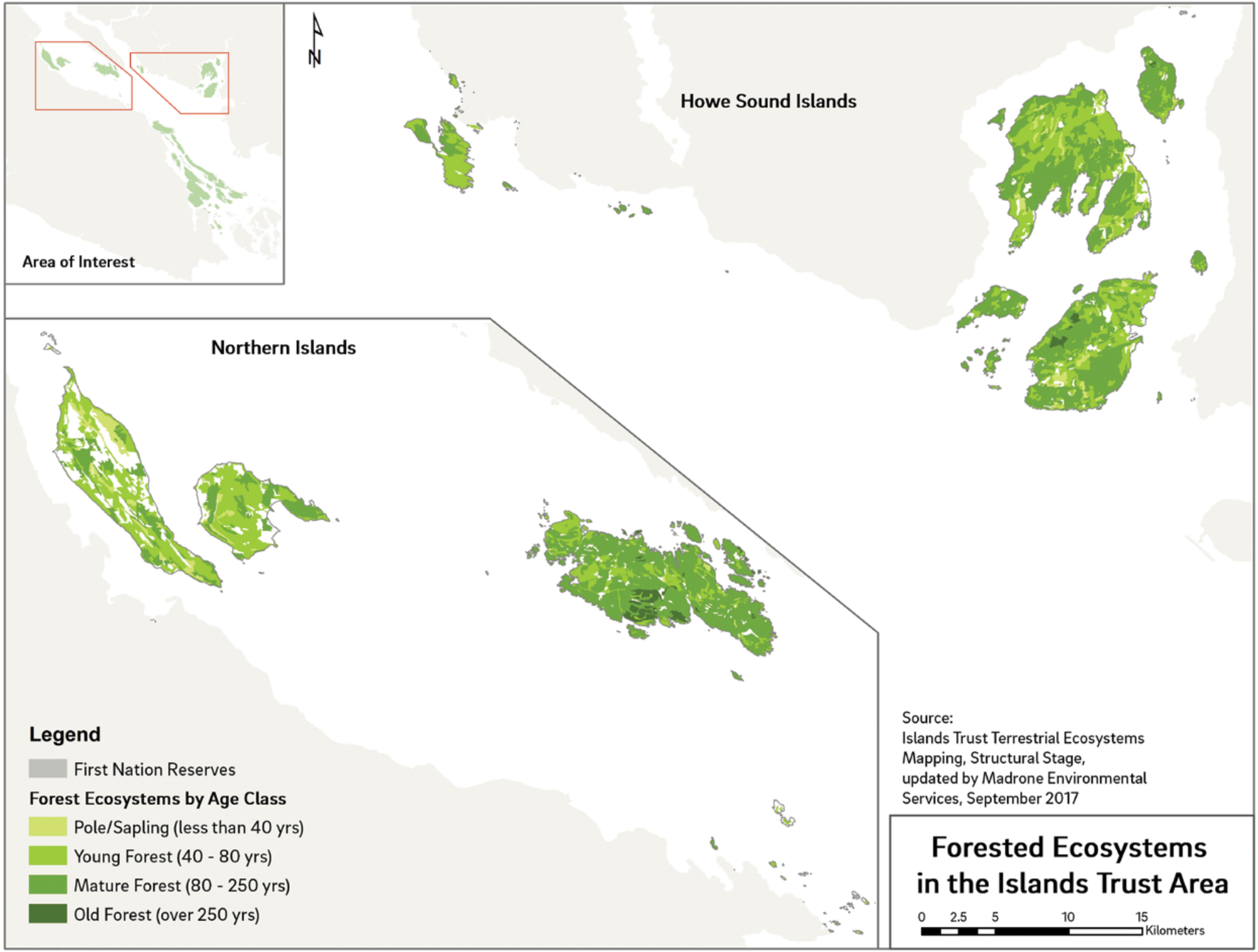





Map 2. Sensitive Ecosystems in the Islands Trust Area

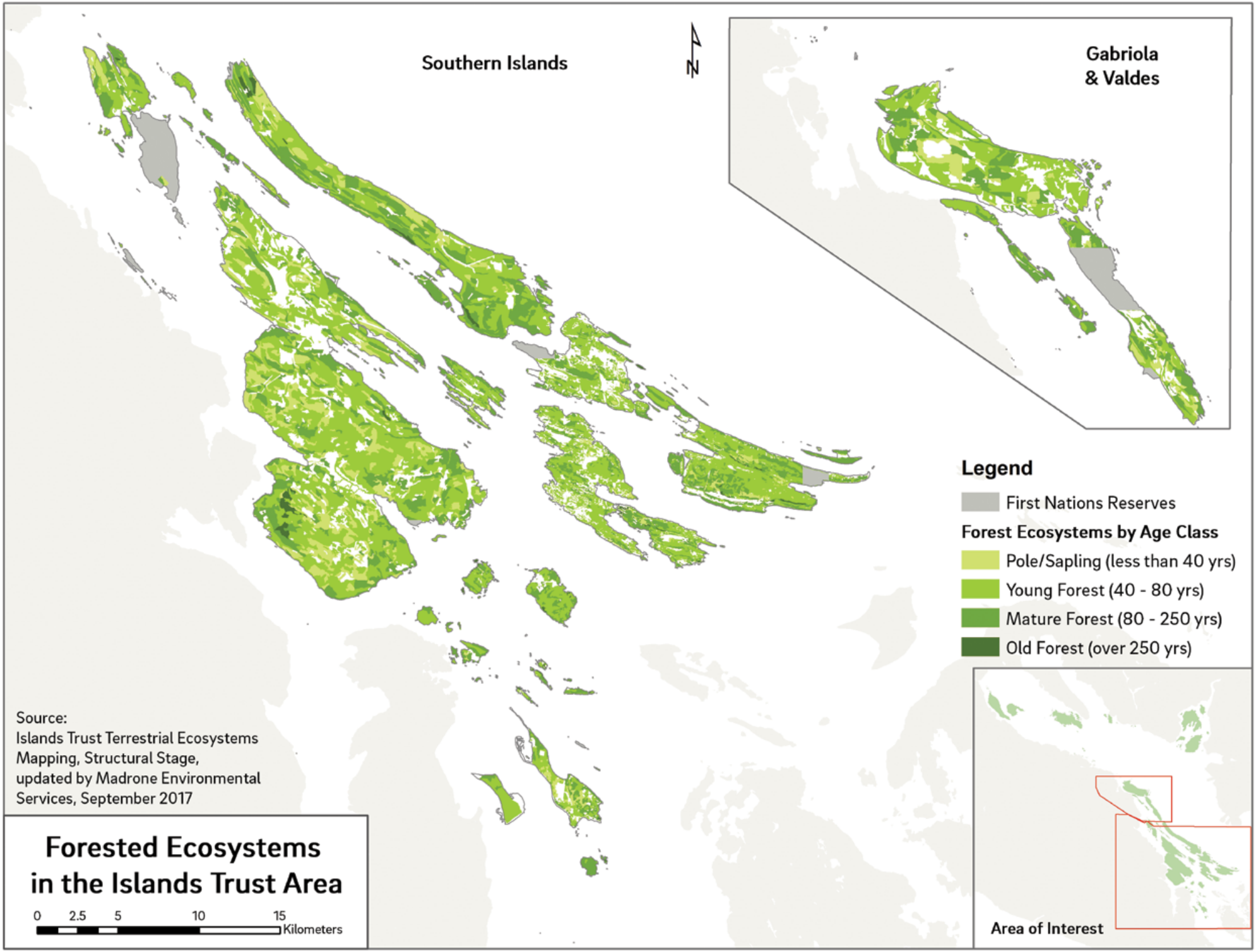



Map 2. Sensitive Ecosystems in the Islands Trust Area

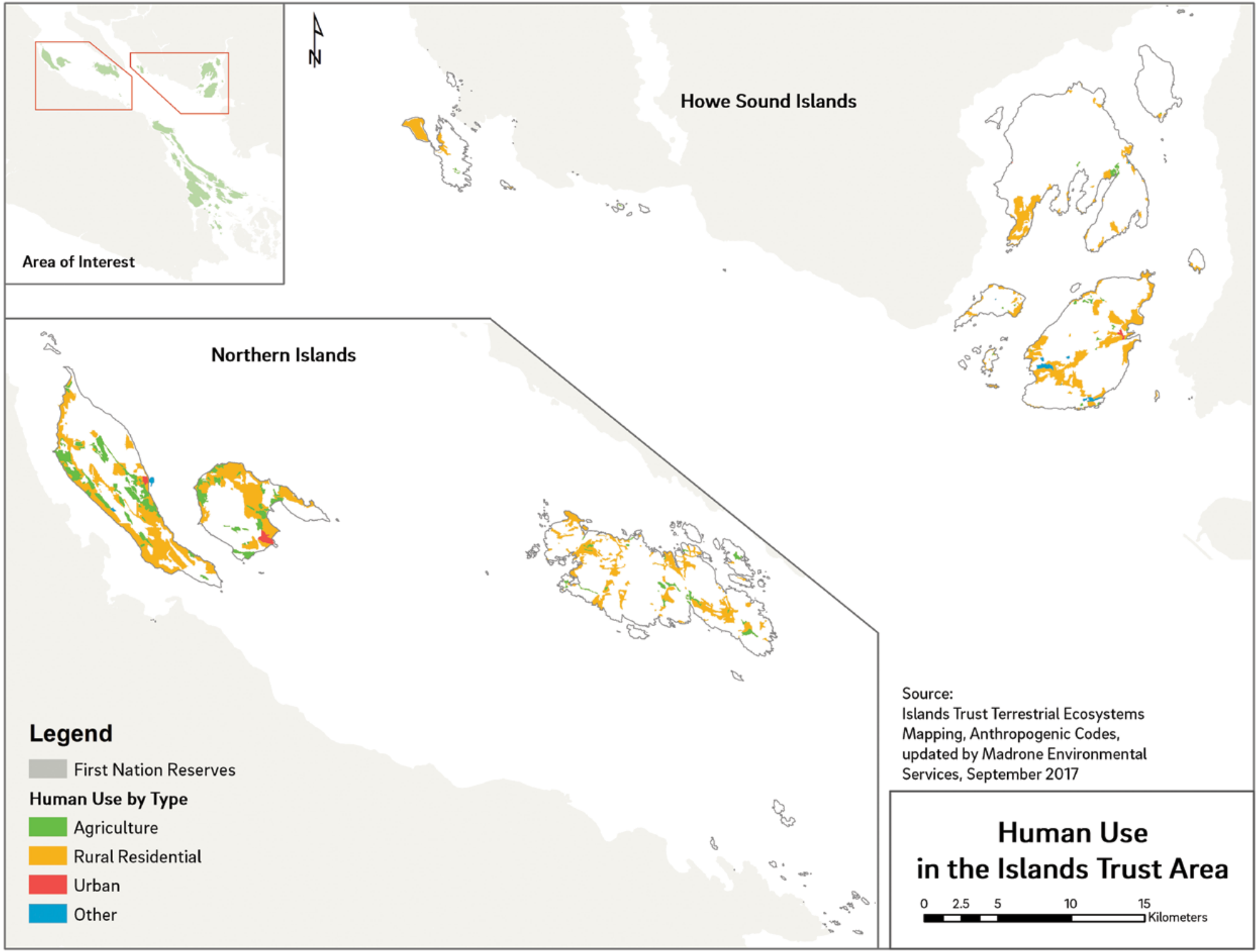





Map 3. Forested Ecosystems in the Islands Trust Area

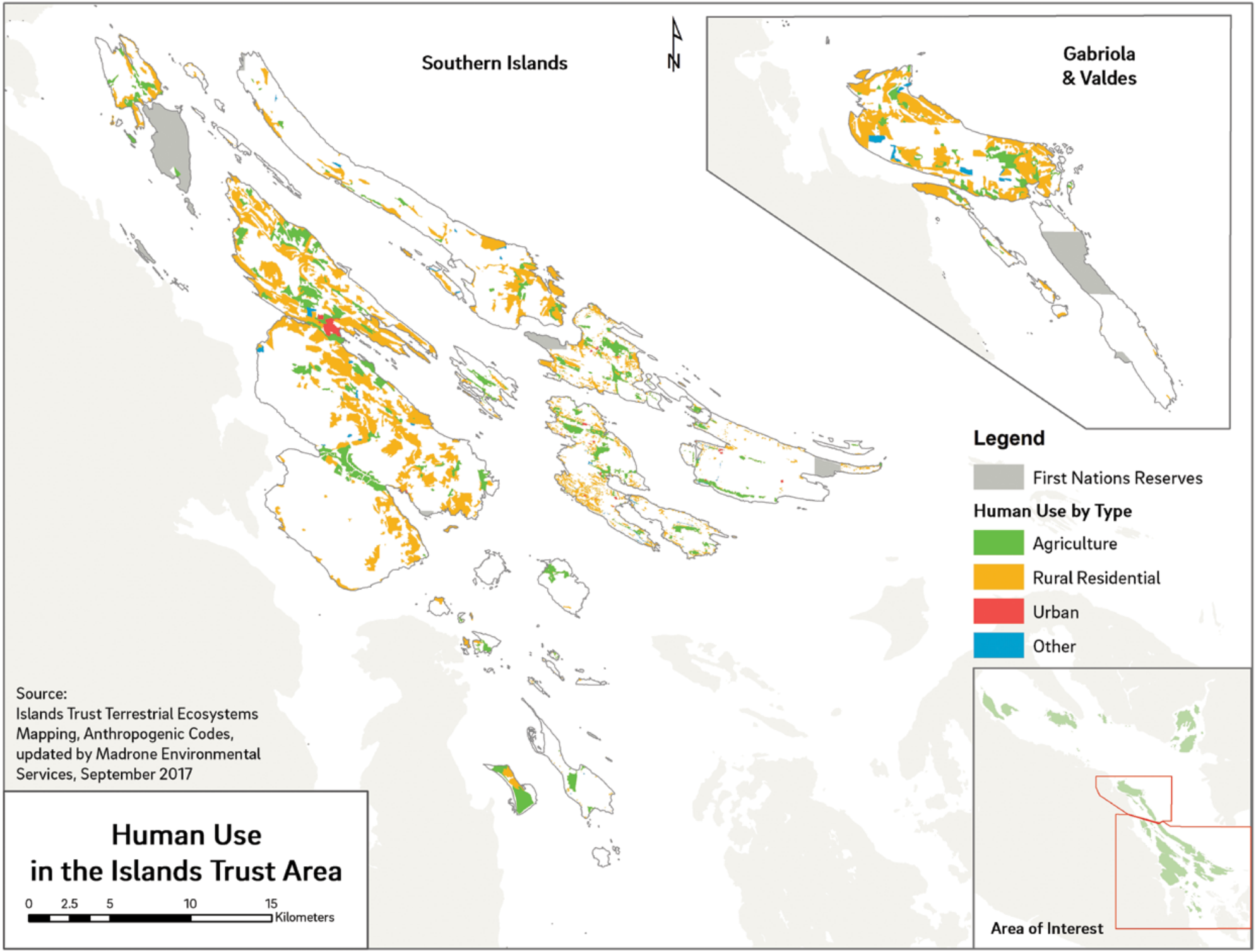



Map 3. Forested Ecosystems in the Islands Trust Area

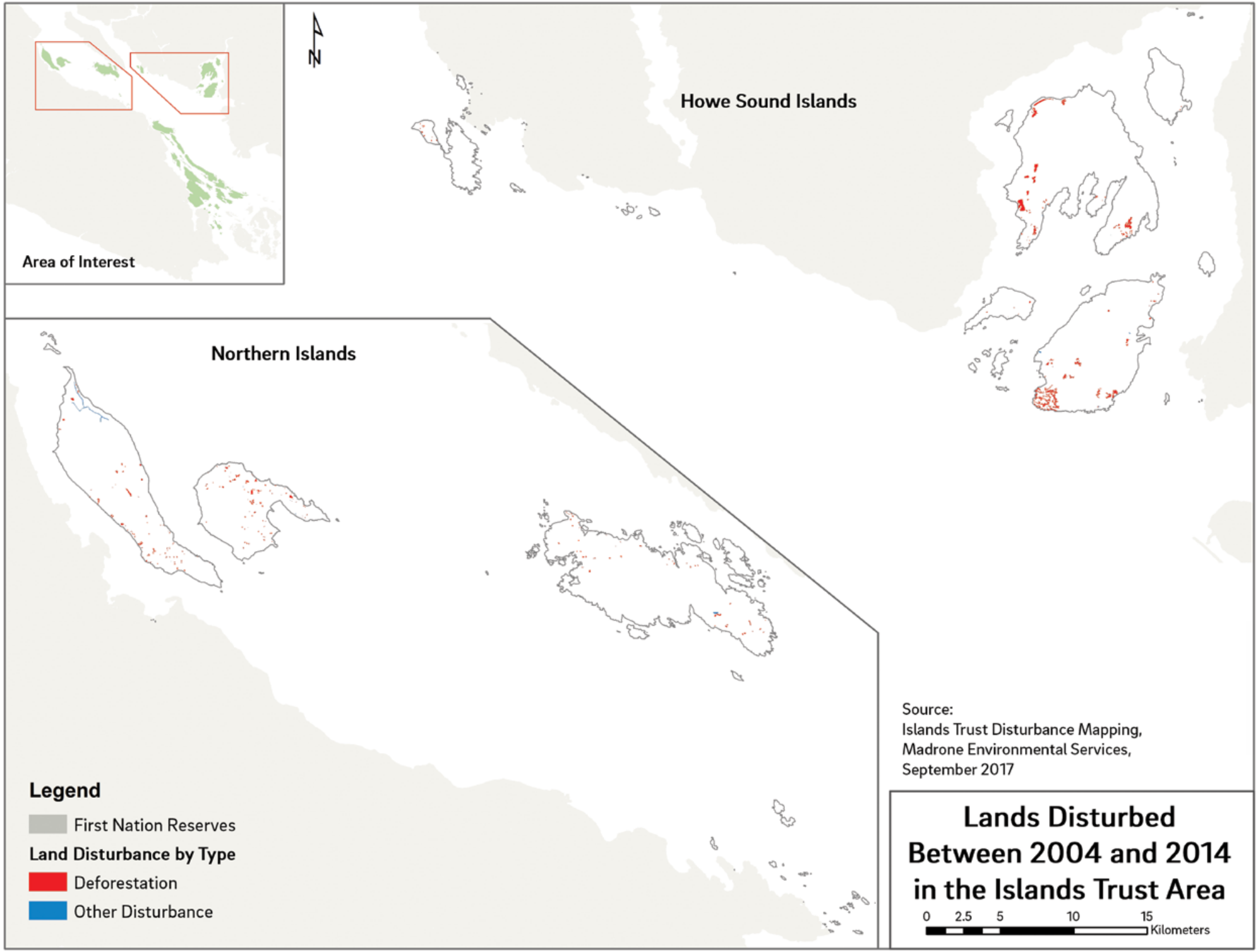





Map 4. Lands Converted to Human Use in the Islands Trust Area

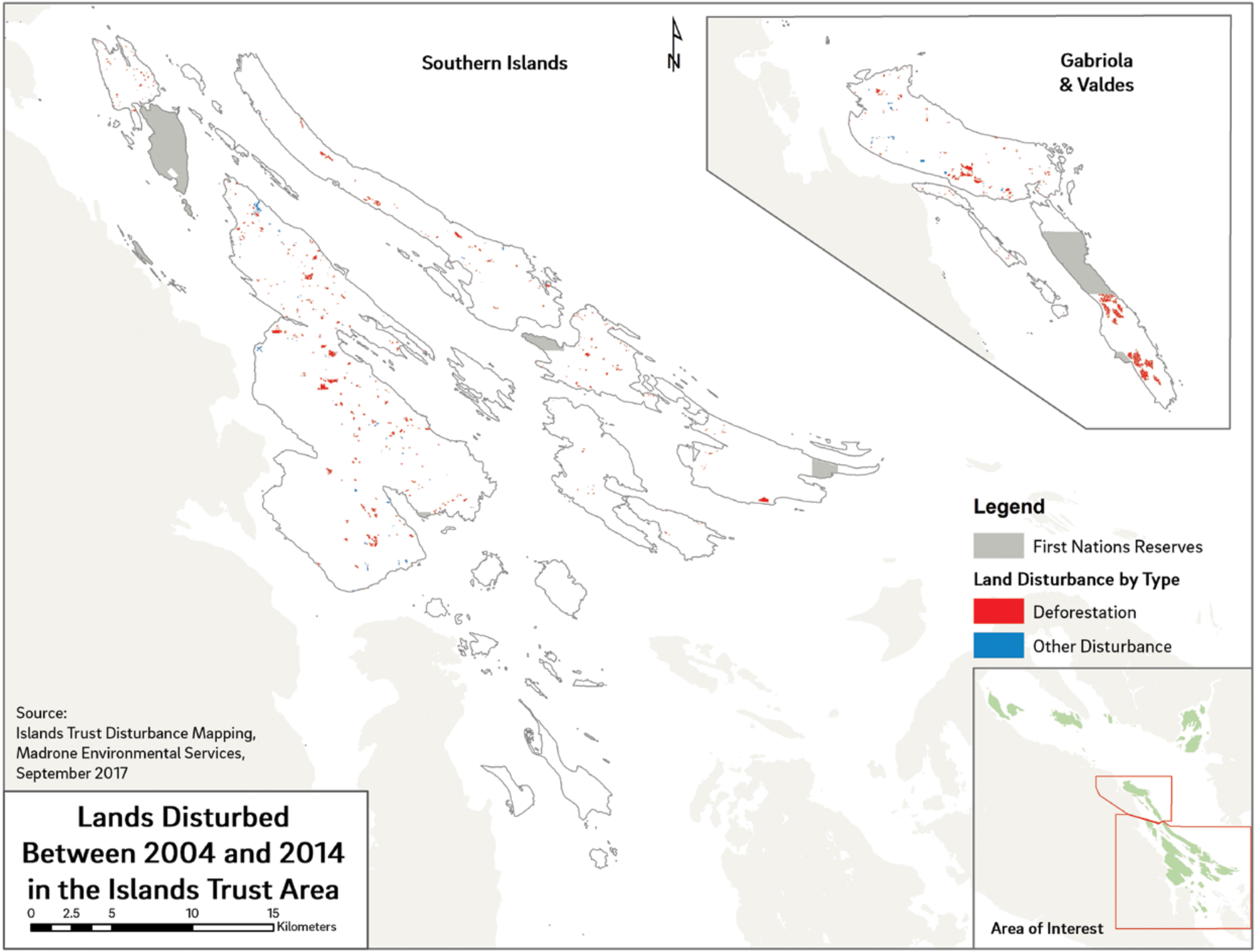



Map 4. Lands Converted to Human Use in the Islands Trust Area

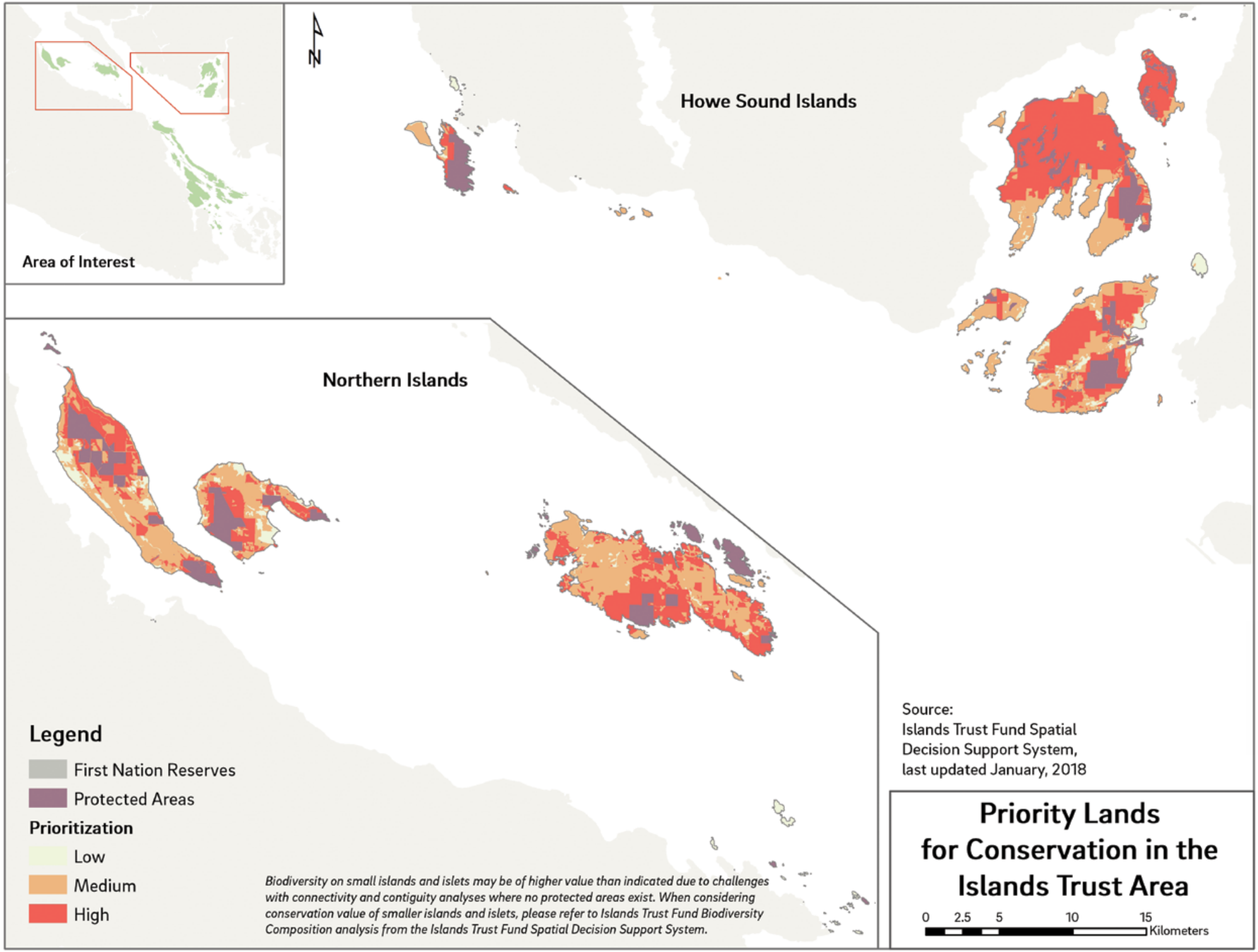





Map 5. Lands Disturbed Between 2004 and 2014 in the Islands Trust Area

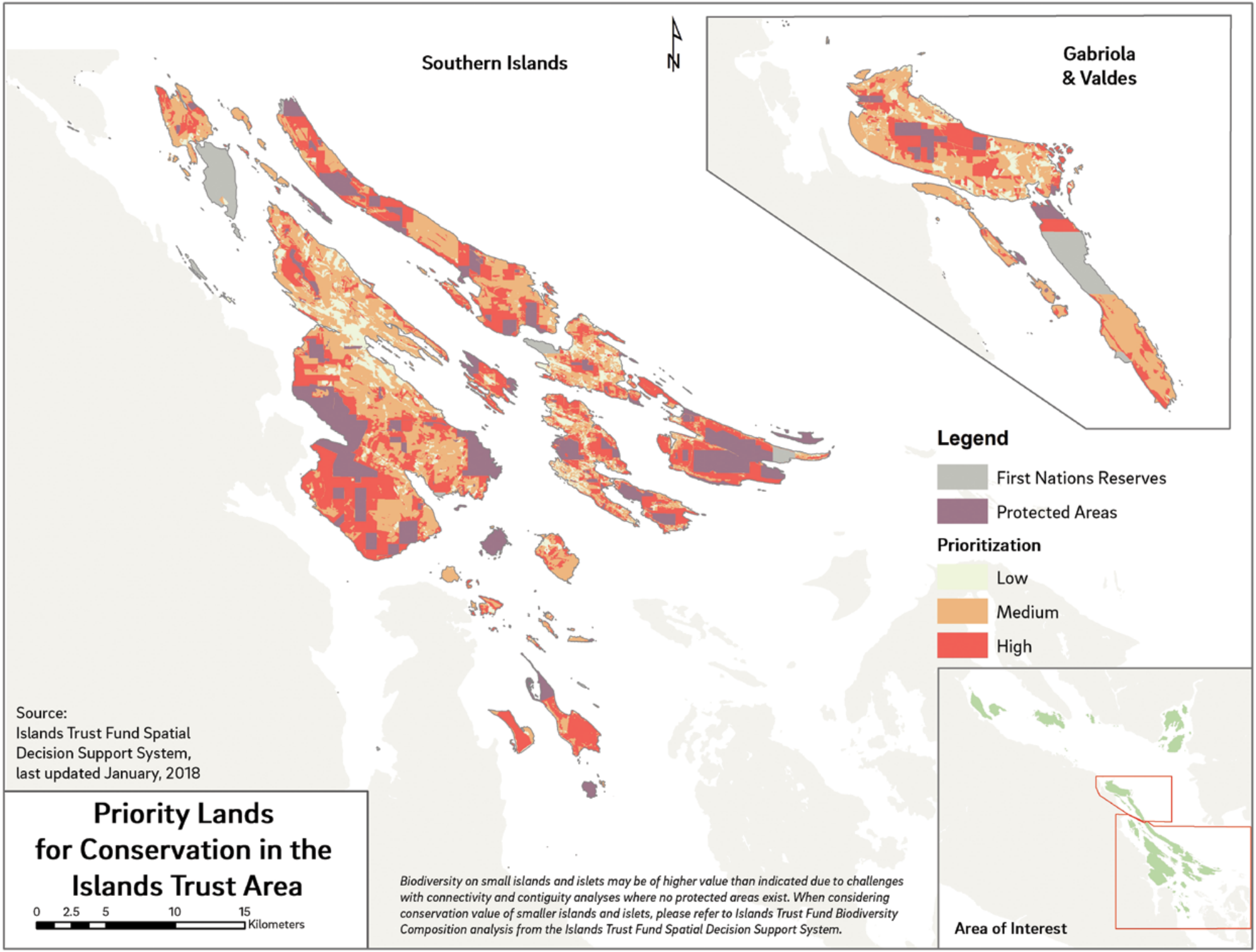



Map 5. Lands Disturbed Between 2004 and 2014 in the Islands Trust Area






Map 6. Priority Lands for Conservation in the Islands Trust Area




Map 6. Priority Lands for Conservation in the Islands Trust Area

MEDICINE BEACH NATURE SANCTUARY, NORTH PENDER ISLAND

ISLANDS TRUST CONSERVANCY

**Islands Trust Conservancy**
200–1627 Fort Street
Victoria, BC V8R 1H8

islandstrustconservancy.ca
itcmail@islandstrust.bc.ca
t. 250-405-5186
f. 250-405-5155