

2013

Galiano Learning Centre Management Plan



Photo by Henny Schnare

Prepared by: The Galiano Learning Centre
Management Committee on behalf of the
Galiano Conservancy Association
February 09th, 2013

Executive Summary

District Lot 57 (the Land) is a 76 hectare parcel that was acquired for conservation and as a site for the Galiano Learning Centre. The Galiano Learning Centre Management Plan (the Plan) describes the vision, goals and principles that the Galiano Conservancy uses to manage the property and provides broad direction and guidance for associated uses and activities.

The Plan uses an ecosystem-based approach that looks first at the most important areas for ecological protection and then at the suitability of remaining sites for desired uses, activities and infrastructure. It includes goals and objectives focused on:

- practicing ecological stewardship
- creating opportunities and providing facilities for learning, research and innovation
- contributing to local food security
- contributing to local economic development
- providing public access
- creating opportunities for recreation

The Plan also provides guidance for where identified uses, activities and infrastructure should be located on the Land. The designation and description of Management Areas is broadly based on the permaculture approach to “zones” with a graduation from high intensity use areas (facilities, intensive agriculture) to moderate intensity (integrated agriculture, agroforestry, eco-forestry) to low intensity use (hiking, outdoor learning sites, ecological protection). While ecological health and resiliency is considered in all areas, the degree to which this is considered and the intensity of suggested uses varies.

Table 1. Management Areas, sizes and associated uses.

Area	Size (Ha.)	% of Land	Main Uses
Ecological Protection	49.01	64.5	Ecological restoration, foot trails, education, research
Integrated Management	17.6	23.1	Integrated agriculture, agroforestry, forest use
Primary Agricultural	1.64	2.2	Intensive horticulture/annual crops, orchards
Multi-use Facility	6.05	8.0	Learning / research facilities, energy, water, waste systems, camping, staff accommodations
Public Road	1.7	2.2	Porlier Pass Road and associated utilities

The Plan provides a summary of recommended actions and a timeframe for their implementation. It recommends that a committee of the Galiano Conservancy Association Board will oversee, monitor and review the progress of ongoing management activities.

Preamble

The Galiano Conservancy Learning Centre lies in a valley behind a forested ridge that slopes in a series of mossy benches to sandstone cliffs along Trincomali channel. That mile-long seaward ridge is covered by largely undisturbed Douglas-fir and arbutus forest. It is one of the largest unbroken shoreline forests left in the Gulf Islands. The interior valley, and the inland ridge which runs parallel to it, has (like most of the Gulf Islands) been used in the past century for logging and agriculture.

The property will be linked by a cross-island trail to a great variety of other protected locations: rocky ridges, a large beaver marsh, streams draining to both sides of the island, two small coves on the Georgia Strait, and a variety of forest types, ranging from old-growth to plantation “tree farm”. These areas which together form over 500 hectares of protected network, have been the location for many years of ecological restoration as well as the centre of the Conservancy’s educational and scientific work with thousands of visiting students of all ages. The Learning Centre land will expand and diversify the Conservancy’s restorative and educational work in many ways:

- An overnight campground in the valley will allow groups to stay for longer periods and will permit more detailed and extensive programs in natural and human ecology through an outdoor immersion experience.
- Historical use of the land provides opportunity for practicing ecological restoration along with long-term ecological monitoring and research.
- The waters of the Trincomali channel and their interface with the land will allow visitors to learn about and research sustainable coastal living and marine biodiversity.
- The rich agricultural potential of the valley (with a significant portion within the Provincial Agricultural Land Reserve), which has a range of environments and soil/microclimate combinations, will allow for gardens and orchards and enable visitors to be more connected to their food.
- The construction of year-round facilities will not only expand capacity for residence, learning, and personal restoration, but will provide examples of ways of building which are in harmony with local places and materials, and which will incorporate environmentally-responsible building practices.
- The use of wind, solar, and other renewable energy forms will help model for visitors the possibility of lessening dependence on fossil fuels and increasing local self-reliance.
- The recent human history of the site, the Conservancy’s restoration and use of it, and the presence and help of local First Nations people, will provide insight into a range of different ways of living on the land.

Acknowledgement

This plan was made possible through the hard work and dedication of the members of the Galiano Learning Centre Planning Committee:

Ed Andrusiac - Ed Andrusiak, retired Manager of Metro Vancouver Regional Parks after a 35 year career with various park agencies and the private sector, is currently a member of the Galiano Island Parks and Recreation Commission and the CRD appointed Project Manager of Experience the Gulf Islands for the Southern Gulf Islands Economic Development Commission.

Keith Erickson – Conservation Coordinator, Galiano Conservancy: Keith Erickson is a professional biologist with experience in ecosystem-based planning, mapping, and ecological restoration.

Steve Goldberg - Steve Goldberg is a consultant-facilitator with multiple years of experience leading community planning and strategic initiatives nationally and internationally.

Emily Gonzales - Dr. Emily Gonzales is a Restoration Ecologist with Environment Canada and Adjunct Faculty at the University of Victoria, University of Guelph, and Queen's University.

Eric Higgs - Eric Higgs is a Professor in the School of Environmental Studies at the University of Victoria, with a focus on ecological restoration, novel ecosystems, and protected areas.

Mike Hoeble - Michael Hoebel is a retired provincial civil servant, with a background as an educator and ecologist, and current involvement in local community development initiatives.

Rose Longini – Board Member (Secretary): Rose Longini is an organic farmer & musician with almost 20 years experience with conservation on Galiano Island.

Ken Millard – Board Member (Coordinator): Ken Millard is a retired physicist and luthier with over 25 years experience in conservation on Galiano Island and in the Salish Sea region.

Risa B. Smith – Board Member: Risa Smith is an ecologist with 20 years of experience assessing status and trends of Canada's biodiversity and ecosystems.

Eric Touchburn – Board Member: Eric Touchburn is currently a kayak guide and massage therapist on Galiano Island with a background in volunteer and service management in the mental health sector and excursions management in the tourism industry.

Loren Wilkinson – Board Member: Loren Wilkinson is an author and theologian currently teaching at Regent College; his focus is on exploring the human relationship to the natural world in its environmental, aesthetic, scientific, and religious dimensions.

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Management Plan Context

Plan Purpose

This management plan is a general statement of how District Lot 57 (DL57 or 'the Land' or 'the Learning Centre') will be managed in the future. It states in a broad but comprehensive manner, the long-term management goals and objectives for the property as well as general guidelines and zoning that informs where and how intended uses of the land should be carried out. The document provides a framework from which, more detailed site specific planning can occur. General content should be viewed within the context of a timeline that spans several decades. The document also determines more specific short-term actions that are intended to be carried out over a five-year period.

Description of the Management Organization: Galiano Conservancy Association

The Galiano Conservancy was founded in 1989 as one of BC's first community-based land trusts. It is dedicated to the promotion of a human community that recognizes its role in a balanced natural system. Its mandate is to preserve, protect and enhance the quality of the human and natural environment in our region.

The Galiano Conservancy has successfully protected important ecological communities on Galiano Island through direct land purchase and cooperative partnerships. It has conducted extensive long-term biological monitoring and award-winning ecological restoration programs and has established its own native plant nursery. The Galiano Conservancy has sustained a dedicated staff and offered ongoing education programs for local and regional communities. It has hosted local environmental workshops and conferences, and maintains a provincially recognized conservation-based library, resource centre and GIS mapping facility.

The Galiano Conservancy has developed long-standing partnerships with a wide variety of conservation, environmental and educational organizations, several of which will provide key contributions to this plan.

Galiano Conservancy Association Organizational Capacity and Sustainability

Achieving the full range of goals and objectives determined in this plan will require additional capacity within the Galiano Conservancy Association. The Conservancy currently has a solid organizational structure, membership and volunteer base, committed leadership, and some key partnerships in place. The requirement for additional capacity is mostly financial – ongoing funds for additional staff and capital for the development of infrastructure – but will also depend on the continued development of partnerships with organizations and institutions that will both participate in and help to deliver ongoing programs of the Learning Centre. When an initial investment for staff and infrastructure is secured and partnerships are formalized, the Galiano Conservancy will have the capacity to manage the property in a manner that contributes financially, through social enterprise, to its ongoing operation, significantly reducing the need for outside sources of funding over the long-term.

This management plan is presented in a manner that assumes full organizational capacity. A business plan, separate from this document will provide guidance for how to achieve this capacity. However, the Management Plan includes a final section “Implementation and Monitoring” which provides direction for management should organizational capacity remain unchanged over the next five years.

Summary of Acquisition and Related Requirements

The Galiano Conservancy purchased DL57 in February 2012 from William (Bill) and Lennis Campbell. The parcel of waterfront land had remained subdivided since its original Crown Grant and was zoned for rural residential and agricultural use. Mr. Campbell had owned the Land since 1958, and had used it accordingly for residential, agricultural and forestry activities. The acquisition was accomplished with matching funds from the Natural Areas Conservation Program (NACP), administered by the Nature Conservancy of Canada (NCC) on behalf of Environment Canada. It fulfilled many ecological criteria but also provides a home for the Galiano Restorative Learning Centre. The purchase of the Land was assisted by a loan from the Vancity Resilient Capital program together with a substantial bequest from the Betty Kleiman Estate and many individuals who donated funds, guaranteed the loan and committed to servicing the loan payments. No mortgage has been registered on the Land to secure funds for its acquisition and the Land has not been used as collateral for any loans. A mortgage in favour of NCC is registered on the land title to secure the natural amenities secured through the NACP funding.

As a requirement of the NACP grant, the management plan must be reviewed and revised (if necessary) at least every five years or as otherwise agreed to by the Galiano Conservancy Association and NCC.

In accordance with the Kleiman Estate Bequest a covenant will be established to protect the marine / terrestrial interface for the enjoyment of kayakers. The covenant will restrict use of the shoreline forest ecosystem to protect sightlines from the water from visual impacts such as structures, tree cutting and vegetation clearing. Uses that do not require or create visual impacts such as trails, educational activities, research, landing and launching of kayaks etc. will be permitted within the covenant area.

Summary of Planning Process

The Management Plan was developed by a planning committee consisting of members of the Galiano Conservancy Association (Board of Directors and staff), faculty from the University of Victoria School of Environmental Studies and members of the Public. The planning committee completed an open planning process that included two public open houses for the Galiano Community and an Extraordinary General Meeting for the Galiano Conservancy Association membership. NCC (Tim Ennis, West Coast Program Manager, BC Region) was consulted throughout the planning process to ensure that the Management Plan was consistent with the Galiano Conservancy Association's proposal for acquisition funding through the NACP. The Islands Trust Fund and the owners of Retreat Cove Farms, as adjacent landowners were also directly informed and consulted throughout the process. Kate Emmings, Ecosystem Protection Specialist for the Islands Trust Fund, was also consulted with respect to how the management of DL57 ties into Islands Trust Fund Regional Conservation Plan goals and objectives. Kris Nichols, Island Planner for The Islands Trust was consulted regarding the general content of the plan to ensure familiarity with the Galiano Conservancy Association's goals and objectives in preparation for the initiation of a local rezoning process, required in order to accommodate the desired changes in use for the property. Expert advice regarding the agricultural capability of the land was provided by Gary Runka (P.Ag.). Herb Hammond (R.P.F.) provided expert advice regarding ecosystem-based planning and sustainable forest-based activities. Ecological analysis and planning was conducted by Keith Erickson (R.P.Bio.) (Galiano Conservancy Association) in consultation with a variety of local and provincial experts. The Management Plan was also informed through direct consultation with leaders and participants of groups that have past experience with the Galiano Conservancy Association's nature based education programs.

Management Philosophy¹

What is best for the ecosystems of the land should figure highly in any decisions. The land should be regarded as a community to which we belong that both sustains us and is sustained by us; to be honored, loved and respected. Activities on the land should bring us closer to natural processes, to ourselves and to one another.

Management Principles²

1. Focus on what to protect, then on what to use.
2. Recognize the hierarchical relationship between ecosystems, cultures, and economies - that economies are part of human cultures, which are part of ecosystems. Therefore, maintaining the integrity of ecosystems provides the basis for sustainable cultures, including their economies.
3. Apply the precautionary principle to all plans and activities.
4. Protect, maintain, and, where necessary, restore ecological connectivity, and the full range of composition, structure, and function of enduring features, natural plant communities, and animal habitats and ranges.
5. Facilitate the protection and/or restoration of Indigenous land use.
6. Ensure that planning is inclusive of the range of values and interests.
7. Contribute to diverse, ecologically sustainable, local economy.
8. Practice adaptive management.

¹ Based on excerpts from Aldo Leopold's 'A Sand County Almanac' and Eric Higgs', 'Nature by Design'

² Adapted from Silva Forest Foundation - Definition and Principles of Ecosystem Based Conservation Planning

Description of the Land

Lot Size

76.1 hectares (188 acres)

Title

Registered Owner in Fee Simple: Galiano Conservancy Association

Legal Description: District Lot 57, Galiano Island, Cowichan District

PID: 002-025-175

Legal Notations: Title may be affected by the *Agricultural Land Commission Act*: See Agricultural Land Reserve Plan No. 4, July 11, 1974

Mortgage: CA2394335, 2012-02-15, The Nature Conservancy of Canada

Location

The Land is located at 10825 Porlier Pass Road roughly in the middle of Galiano Island. From the ferry terminal, follow Sturdies Bay Road to the intersection ('Triangle') with Porlier Pass Road. Veer to the right onto Porlier Pass and follow for roughly 10.5 kilometers to the main access driveway on the left about 400 meters beyond the intersection with McClure Road. See Map 1 for the Location of DL57 on Galiano Island.

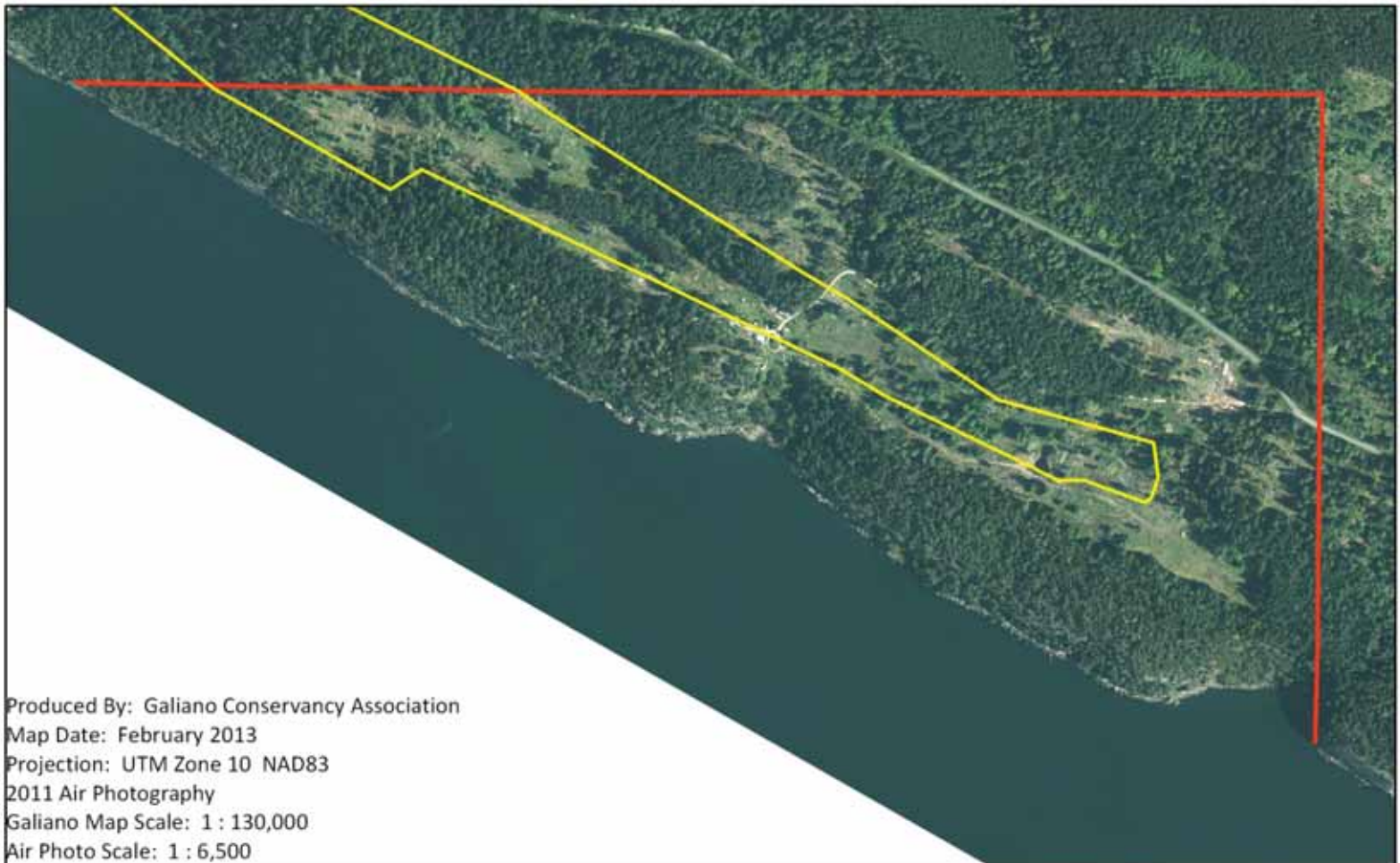
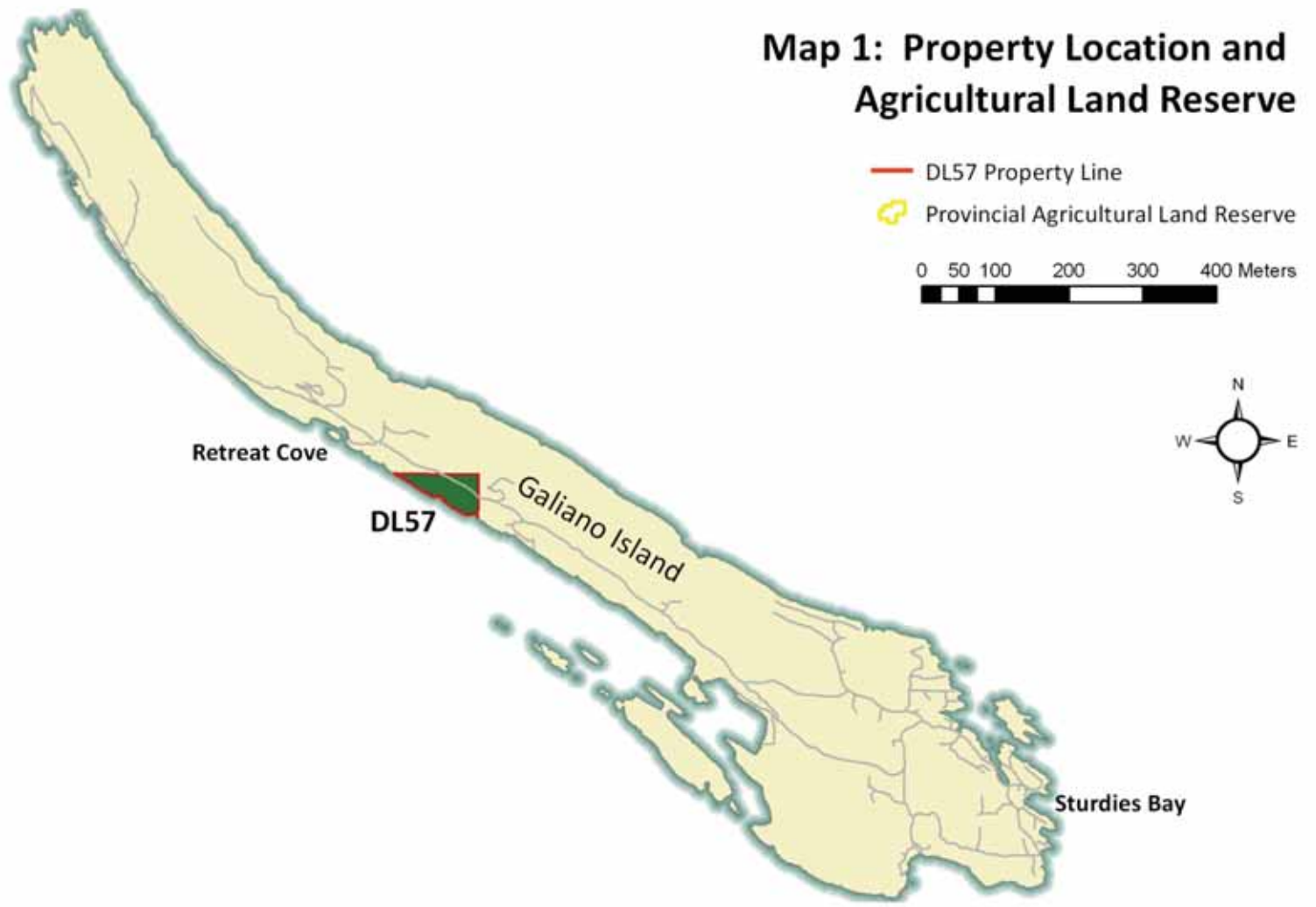
Local Land Use Designation and Zoning

Galiano Island Official Community Plan (Nov 25th, 2011): The property is split zoned; Rural (60.25 hectares) and Agriculture (15.85 hectares). Galiano Island Official Community Plan and Land use Bylaw documents can be found at <http://www.islandstrust.bc.ca/ltc/gl/>.

Provincial Agricultural Land Reserve

A portion (approximately 13.06 hectares) of the property is designated as Agricultural Land Reserve (ALR) under the Agricultural Land Commission Act. See Map 1 for ALR boundaries.

Map 1: Property Location and Agricultural Land Reserve



Produced By: Galiano Conservancy Association
Map Date: February 2013
Projection: UTM Zone 10 NAD83
2011 Air Photography
Galiano Map Scale: 1 : 130,000
Air Photo Scale: 1 : 6,500

Ecological Significance of the Land

District Lot 57 lies in the heart of the endangered Coastal Douglas-fir zone (CDF), an ecological classification that has recently been ranked as imperilled both provincially and globally.

“The Coastal Douglas-fir (CDF) biogeoclimatic zone is the smallest and rarest of the 16 biogeoclimatic zones in British Columbia and is of great conservation concern (Biodiversity BC, 2008)... Ecological communities throughout the CDF are currently listed as critically imperilled in a global context and provincially, the BC CDC lists 36 ecological communities and 218 species of wildlife and plants at risk in the CDF (2010). Their at-risk status is mainly due to the limited range of the CDF, growing human populations, existing threats and past habitat loss arising from anthropogenic disturbances.” Ministry of Forests, Lands and Natural Resource Operations, Coastal Douglas-fir (CDF) Stewardship Workshops Summary (Darryn McConkey, RPBio, June 2011).

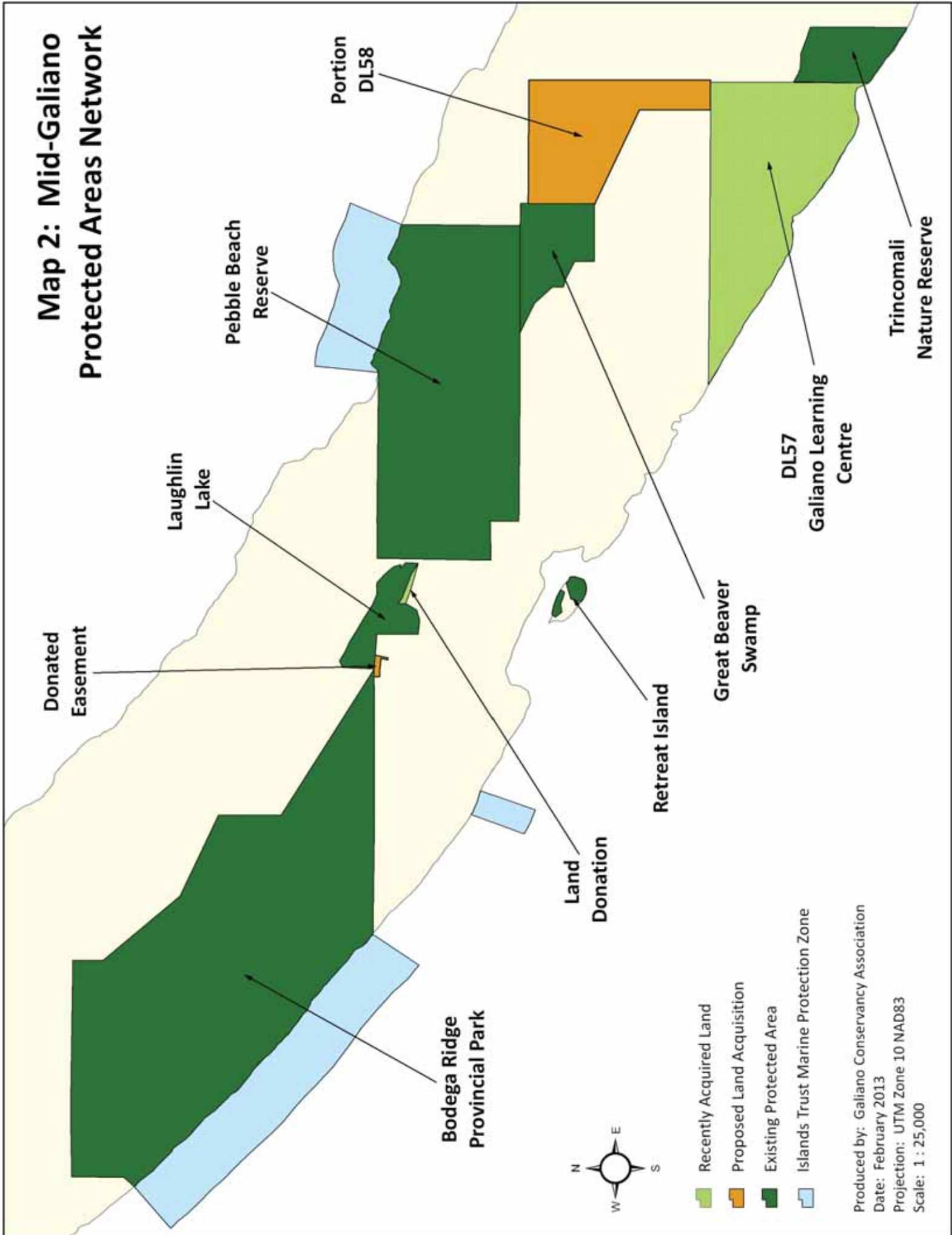
The protection of District Lot 57 (DL57) was identified as a high priority in the Islands Trust Fund’s Regional Conservation Plan (2011-2015), which was endorsed by the Islands Trust Council (December, 2010), and the protection of DL57 is consistent with the goals of NCC’s Salish Sea Natural Areas Conservation Plan. The property is part of the Mid-Galiano Island Protection Network, a 500+ hectare contiguous network of conservation properties that protects a significant portion of the island’s topographic variation and associated ecological diversity, and secures valuable pathways for plant and animal migration from sea level to Galiano’s highest ridgeline. The network also includes marine areas adjacent to its shoreline boundaries that have been designated for protection under local land use bylaws (Map 2 shows the network). While DL57 includes tracts of healthy old growth and mature forest, wetlands and sensitive coastal bluff, it also has an extensive history of agricultural use, grazing and small-scale forestry.

The context of landscape-level connectivity within the Mid-Galiano Island Protection Network, the high conservation value of the land and the history of land-use, make DL57 ideal for learning, research and demonstration focused on ecological restoration and sustainable rural living. The Land’s significance for this purpose is rooted in the close proximity of healthy, intact ecosystems to altered or damaged areas.

Significance of the Adjacent Marine Environment

Galiano Island lies within a proposed National Marine Conservation Area (NMCA) for the Southern Strait of Georgia, which will extend from the southern portion of Gabriola Island south to Haro Strait, near Victoria, with a total area of 1,400 km². The Canadian and BC governments have agreed to proceed with the NMCA and are currently completing a feasibility

Map 2: Mid-Galiano Protected Areas Network



Produced by: Galiano Conservancy Association
 Date: February 2013
 Projection: UTM Zone 10 NAD83
 Scale: 1 : 25,000

study that was launched in 2005. This area is considered significant in its capacity for marine biodiversity, and contains critical habitat for a wide variety of species from endangered southern resident orca and rockfish populations to migrating birds and sea lions. It is home to a number of the largest species of marine invertebrates, including the Giant Pacific Octopus, the Giant Nudibranch, Giant Acorn Barnacles, and many more. This area has also been flagged as having high human impact and marine traffic, with anthropogenic threats including coastal and shoreline development, shoreline and offshore industry, heavy marine traffic and direct harvesting of marine resources. The NMCA will promote best practices for the preservation of this important marine area, from the shoreline to the seabed.

The adjacent portion of the Trincomali Channel is also designated as a Rockfish Conservation Area (RCA 17-2) by Fisheries and Oceans Canada for the protection of sensitive rockfish populations.

Cultural History and Significance

First Nations use and history of the Land has not been documented or recounted. The Land lies within the traditional territories of the Hul’qumi’num Treaty Group (Chemainus, Cowichan Tribes, Halalt, Lake Cowichan, Lyackson and Penelakut), the Hwlitsum Nation, and Tsawwassen First Nation. Upon completion of the acquisition, a blessing ceremony performed by Penelakut Tribe elder, Thyus (Florence James) was conducted on the Land.

Since European settlement of the region, the Land has had an extensive history of ownership and use. Land clearing for farming and forestry is evident in aerial photography dating back to 1932. Residential use, food gardens, livestock grazing, subsistence fishing and hunting have been documented on the Land and associated waters back to the 1920’s. These uses continued on the land right up to the acquisition by the Galiano Conservancy Association, with an increase in intensity of small-scale forest harvesting and milling occurring over the past two decades.

Table 2. Comprehensive list of ownership since the first preemption of the Land.

NAME	Tenure	DATE
G. Dishaw	Preemption	?
Joseph Ganner	Preemption	6 March 1888
W. W. Beall	Preemption	25 February 1889
J. W. Walker	Preemption	9 May 1892
John W. Walker	Crown Grant	27 Nov. 1896
John Shaw	Fee Simple	6 January 1897
Edith Elizabeth Scholefield	Fee Simple	26 January 1932

Francis Austin Graham	Fee Simple	6 January 1948
The Olympia Co-operative Association later known as Galiano Co-operative Association	Fee Simple	6 January 1948
William Alexander Campbell	Fee Simple	14 March 1958
William Alexander Campbell and Lennis Shirley Campbell	Fee Simple	10 August 2007
Galiano Conservancy Association	Fee Simple	15 February 2012

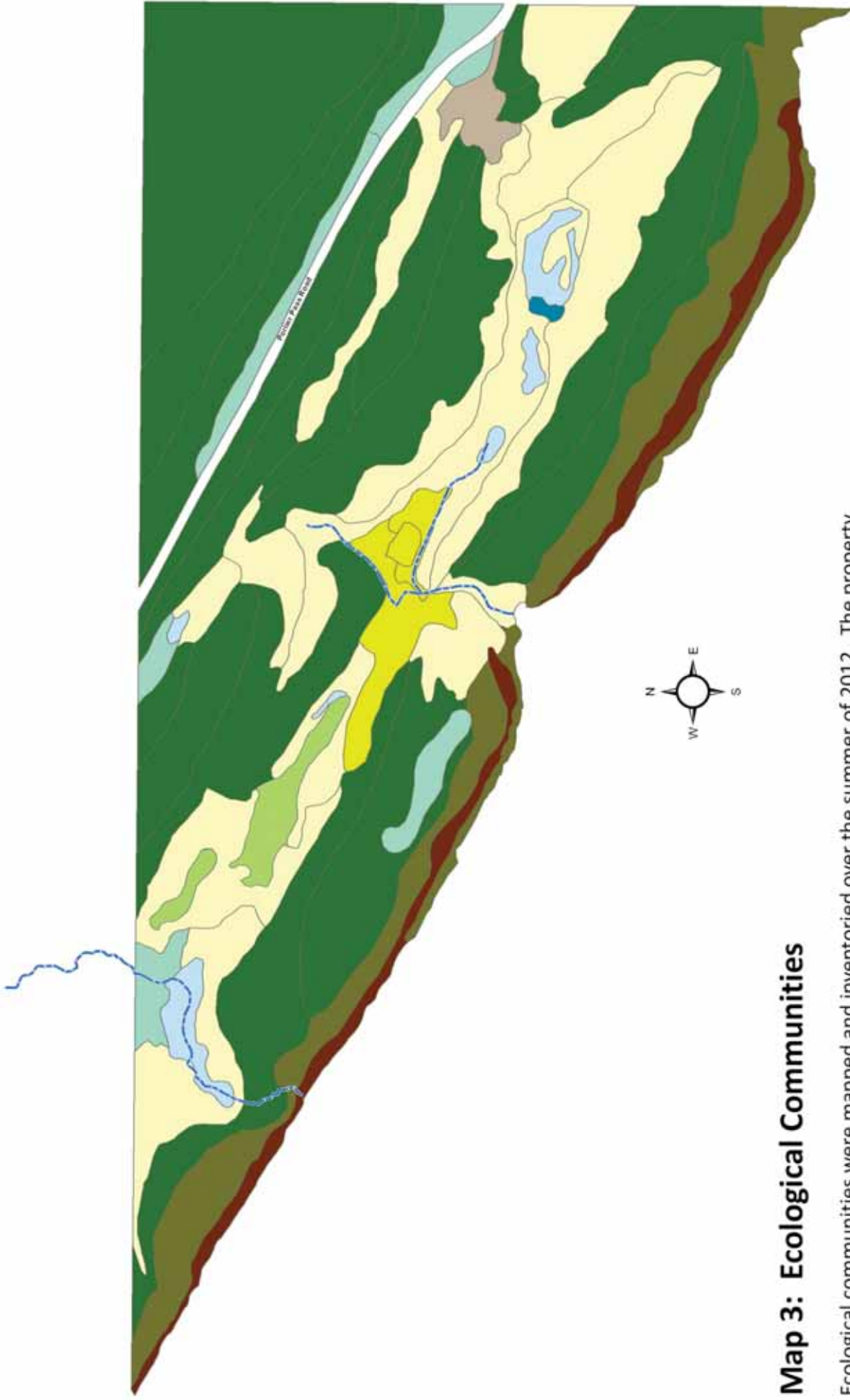
Current Ecological Conditions

A detailed baseline inventory and mapping of the property was conducted over the summer of 2012. Mapping of the property revealed 40 different ecological communities. These communities were delineated based on their position on the slope (i.e. valley vs. ridge), their history of disturbance (i.e. logged 10 years ago vs. logged 100 years ago), the steepness of the slope (i.e. Cliff vs. flat) and their aspect (i.e. north vs. south). Map 3 shows these communities grouped into broad categories.

Forest and Woodland: Almost 20 hectares (ha) of old growth and mature forested coastal ridge run the length of DL57's 2km shoreline, forming a matrix of red listed ecological communities. Below the forested ridge top lies approximately 7 ha of contiguous steep southwest facing coastal bluff including patches of red listed Garry oak communities, moss and herb dominated seepage sites, and exposed rock or cliff. A large portion of DL57 (28 ha) is characterized by 70 to 100 year old Douglas-fir and western redcedar dominated forest with scattered remnant old-growth trees and snags. Most of the moist valley bottoms and lower slopes on DL57 (22 ha) were logged over the past century and maintained through grazing as open grass, sedge and rush dominated fields. A small portion of this area (approximately 2 ha) was used for gardens and orchards.

Freshwater: There are two small seasonal creeks and a number of associated sedge and rush-dominated marsh and swamp communities in forested and cleared depression areas on DL57. One of the streams culminates in a 20 meter waterfall that cascades down a rocky bluff into the Trincomali Channel.

Species at Risk: The property provides habitat for several species at risk including the Olive-sided Flycatcher (*Contopus cooperi*; Blue listed), Barn Swallow (*Hirundo rustica*, Blue listed), Band-tailed Pigeon (*Columba fasciata*, Blue-listed), the Common Nighthawk (*Chordeiles minor*, Yellow listed), Peregrine Falcon (*Falco peregrinus*; Red listed), Double-crested Cormorant (*Phalacrocorax auritus*; Blue listed) Pelagic Cormorant (*Phalacrocorax pelagicus*; Yellow listed), and California hedge parsley (*Yabea microcarpa*; Red listed), red legged frog (*Rana aurora*; Blue listed), and Pacific sideband snail (*Monadenia fidelis*; Blue listed).



Map 3: Ecological Communities

Ecological communities were mapped and inventoried over the summer of 2012. The property boasts spectacular old-growth and mature forest ecosystems, a number of healthy freshwater streams and wetlands as well as large areas with a history of logging, grazing and agricultural use.

-  Seasonal Creek
-  Marsh Wetland
-  Forest / Wetland Complex
-  Pond
-  Cliff - Old Forest
-  Coastal Bluff - Old Forest
-  Mature Forest
-  Young Forest
-  Logged and Grazed - Grass Dominated
-  Rural Residential / Gardens
-  Industrial Mill Site

0 50 100 200 300 Meters

Produced By: Galiano Conservancy Association
 Map Date: February 2013
 Projection: UTM Zone 10, NAD83
 Scale: 1 : 6,500

Long-term Vision, Goals and Objectives

Vision

The Learning Centre will focus our learning about the remarkable coasts, islands and waters of Galiano and the Salish Sea. We aspire to learn the life lessons and history of this particular place, and look clearly and imaginatively into the future. This experience with the Land will reinforce the lesson that as we restore a place we also restore ourselves and our communities.

Mission

Steward the Land in a manner that restores and maintains healthy, resilient ecosystems and then models innovative approaches to sustainable living.

Goals and Objectives

Stewardship:

Maintain and restore the integrity of terrestrial, freshwater and marine ecosystems.

Objectives:

1. Create a protected ecosystem network that includes all endangered, threatened or at-risk ecological communities, is representative of more common ecosystems and contributes to wildlife corridors outward from the property.
2. Help to heal damaged or impacted areas through ongoing ecological restoration programs.
3. Protect and manage endangered, threatened or at-risk species and their habitat.
4. Maintain and restore hydrologic processes.
5. Control wildfire and manage fire risk with consideration of traditional disturbance regimes.
6. Control or eliminate, if possible, introduced and invasive plant and animal species and when necessary, manage native species, such as Columbia black-tailed deer (*Odocoileus hemionus columbianus*), to achieve long-term viability of ecological restoration programs.
7. Implement a collaborative stewardship outreach program with adjacent landowners and neighbours.
8. Explore opportunities to provide protection of the marine waters adjacent to the Land.

Sustainable Living and Nature Based Learning:

Provide opportunities for, and facilities to accommodate single and multi-day sustainable living and nature based learning for people of diverse age, culture, ability and background.

Objectives:

1. Provide experiential learning opportunities with a focus on ecology, applied ecological restoration and sustainable living.
2. Provide access to the diversity of ecosystems found on the property and to shoreline and marine ecosystems for the purpose of educational programming and research.
3. Develop facilities and infrastructure that support single and multi-day learning opportunities and model sustainable systems or green methods for energy and food production, waste management, water supply and construction.
4. Create publicly accessible nature interpretation and learning opportunities.

Research and Innovation:

Provide opportunities for research and innovation on effective methods in ecological restoration, conservation biology and sustainable living as well as the relationship between human well-being and time spent in nature.

Objectives:

1. Develop a collaborative, long-term research program on ecological, economic and social processes aimed at generating critical knowledge and innovation for sustainable living in the Southern Gulf Islands/Salish Sea.
2. Provide opportunities for long-term research into the relationship between human well-being and time spent in nature.
3. Provide opportunities for research into the physical and biological features of terrestrial and marine ecosystems.
4. Develop facilities and infrastructure that will support and encourage research opportunities and model sustainable systems or green methods for energy production, waste management, water supply and construction.

Food Production:

Contribute to food security through the practice of small-scale sustainable agriculture.

Objectives:

1. Develop appropriate partnerships and contribute to community food programs.

2. Establish garden and small-scale sustainable agricultural and agroforestry areas based on professional agricultural capability (soils/microclimate/hydrology) assessment.
3. Evaluate potential for livestock grazing use.
4. Explore opportunities for controlled, sustainable hunting for food of species such as Columbia black-tailed deer, which may threaten ecological restoration efforts because of over population and absence of natural controls.
5. Provide accommodations and infrastructure as necessary for the ongoing management of garden /sustainable agricultural and agroforestry areas and uses.

Economic Development:

Create opportunities for local economic initiatives and diversification based on development and operation of the Learning Centre, sustainably harvested resources and value added production.

Objectives:

1. Explore initiatives for social enterprise that offset management, educational program and operating costs.
2. Create opportunities for innovation and demonstration and explore opportunities for development, production and marketing of products derived from small-scale sustainable agriculture, agroforestry, and forest-use and from activities that contribute to ecological restoration.
3. Integrate the sustainable use of the Land's timber and non-timber forest resources into the development of facilities and infrastructure on the land.
4. Adopt a financial model(s) for the Learning Centre that demonstrates how social enterprises operating in an environmentally sound manner contribute to the long term economic viability of the Southern Gulf Islands.

Public Access:

Provide managed public access to the property that is compatible with program participant safety, security and privacy.

Objectives:

1. In consultation with neighbouring landowners, create publicly accessible trails that link to routes on adjoining lands.
2. Create publicly accessible interpretive information and educational opportunities.

Recreation:

Provide opportunities for low impact, typically self-propelled recreation for program participants.

Objectives:

1. In consultation with neighbouring landowners, create a trail network that incorporates specific routes designated for ongoing public use (linked with public trails on adjoining lands) and routes that can be closed to the public during programming sessions.
2. Provide access to the ocean for non-motorized personal water-craft.
3. Provide opportunities for swimming.
4. Provide outdoor recreational areas to accommodate group activities and games.

Guidelines and Actions

Generally Applicable Management Guidelines

1. Appropriate ecological assessment should be part of every use or decision.
2. Minimize fragmentation to natural areas and work to reduce existing fragmentation with a priority on rare and sensitive ecological communities.
3. Consideration should be given to using labour-intensive, non-motorized techniques.
4. Use of the land and development should draw from and demonstrate both new and old technologies.
5. Local materials and labour should be utilized whenever possible.
6. Machinery involved with any use should be scaled to the task being performed.
7. Opportunities for learning and/or demonstration should be explored at every stage of development and management.
8. Opportunities for contributing to ecological health and reducing the ecological footprint should be explored at every stage of development and management.

Management in Consideration of Climate Change

Management of the land should consider long-term ecosystem health in light of potential significant shifts in local climate conditions resulting from global warming. Minimizing the impacts of climate change will depend on the level of ecosystem resiliency or the ability of ecosystems to adapt to shifting conditions. In turn, ecosystem resiliency is dependent on a healthy biodiversity and maintaining connectivity or protecting pathways of species migration. Creation of the Ecosystem Protection Area supports ecosystem resilience at the property scale.

Guidelines

1. Management and use should contribute to ecological resiliency. If not possible, impacts to resiliency should be minimized.
2. Minimizing the carbon footprint of any management or use of the land is a priority.
3. Management of the land in a manner that sequesters carbon over the long-term is desired.

Ecological Management

Hydrology

The highly variable topography of the Land and the presence of bedrock fractures create complex patterns of sub-soil and surface water flow. The land exhibits a diverse mosaic of moist soils, dry soils, wetlands, springs and streams. Natural hydrological patterns have been highly disturbed over the past century through road building, ditching, vegetation removal and soil compaction. Map 4 shows an approximation of current significant surface water flow accumulations. Consideration of current hydrological condition as well as historical, pre-disturbance, condition is vital for ecological restoration and planning for all proposed uses in this plan. Areas characterized by moist soils are particularly sensitive to compaction from machinery, grazing or repeated use by large groups of people. Diversion, dispersal or concentration of surface and sub-surface water flow can cause major shifts in 'downstream' ecological composition, structure and function.

Guidelines

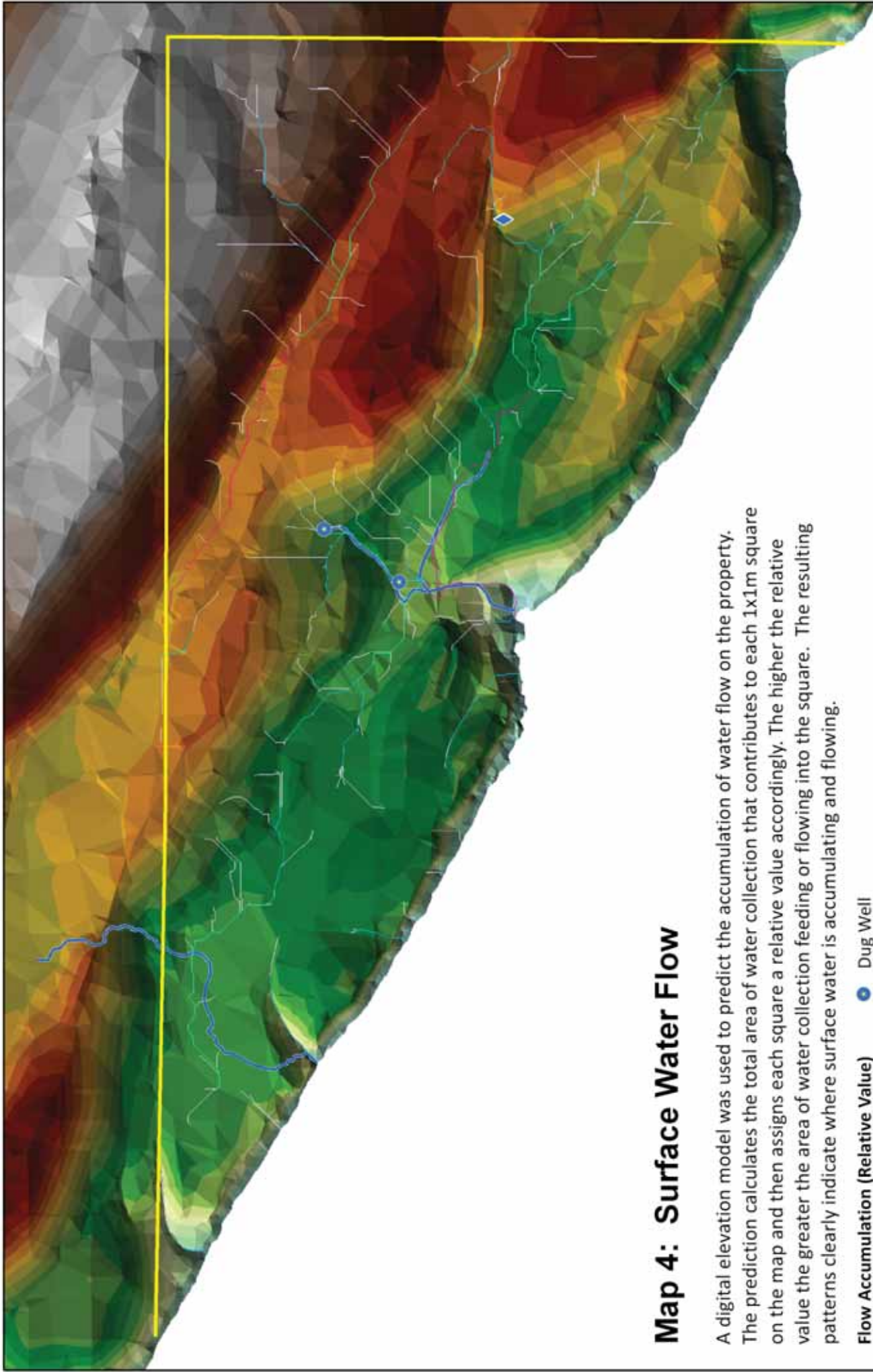
1. The restoration of hydrological conditions should be considered first, and should inform all ecological restoration treatments, forest use, agricultural activities and development.
2. Avoid locating infrastructure in areas characterized by moist soils.
3. Consider the cumulative impacts of development and use on hydrological conditions.

Actions

1. Complete a hydrological assessment of the Land that provides a comprehensive understanding of current conditions and helps to establish a picture or description of historical, pre-disturbance conditions. This assessment will provide key information for planning of all ecological restoration, forest use, agricultural and development activities.

Ecological Restoration

Small-scale forestry operations, road building, and agricultural use have resulted in damage to soils, alteration of hydrology, loss of wildlife habitat, the spread of invasive alien species and an overall reduction in native biotic diversity. A small flock of feral sheep currently live and roam freely on the Land, continuing to denude and degrade native vegetation and creating conditions that favour the spread of invasive alien vegetation. Sheep are a concern not only for the Land but for all adjacent lands and the island generally as they have the capacity to breed and spread. Over time, natural processes will heal the damaged landscape. However, there is potential for helping the land heal through the initiation of ecological restoration projects.



Map 4: Surface Water Flow

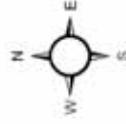
A digital elevation model was used to predict the accumulation of water flow on the property. The prediction calculates the total area of water collection that contributes to each 1x1m square on the map and then assigns each square a relative value accordingly. The higher the relative value the greater the area of water collection feeding or flowing into the square. The resulting patterns clearly indicate where surface water is accumulating and flowing.

Flow Accumulation (Relative Value)

- 0 - 1,000 (Transparent)
- 1,000 - 5,000
- 5,000 - 25,000
- 25,000 - 100,000
- 100,000 - 290,536

Flow Accumulation (Relative Value)

- Dug Well
- Spring (Perennial)
- Seasonal Creek (Ground survey with GPS)
- DL57 Property Line



Produced By: Galiano Conservancy Association
 Map Date: February 2013
 Projection: UTM Zone 10 NAD83
 Scale: 1 : 6,500

The Society for Ecological Restoration (SER) International Primer on Ecological Restoration (2004) defines ecological restoration as:

“The process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed. It is an intentional activity that initiates or accelerates ecosystem recovery with respect to its health (functional processes), integrity (species composition and community structure), and sustainability (resistance to disturbance and resilience).”

Guidelines

1. The integration of ecological restoration principles and/or activities into all aspects of the management of the land is a priority.
2. Proposed ecological restoration projects or programs should generally adhere to the International Union for Conservation of Nature’s (IUCN’s) World Commission on Protected Areas (WCPA) ‘Ecological Restoration for Protected Areas Principles, Guidelines and Best Practices’ (Prepared by the IUCN WCPA Ecological Restoration Taskforce, 2012). The degree to which projects or programs must adhere to the guidelines is dependent on the scope and impact of the proposal.
3. Ecological restoration should include long-term monitoring strategies that help to evaluate success and inform adaptive management.

Actions

1. Develop partnerships with the University of Victoria’s Restoration of Natural Systems Program as well as with other appropriate university programs, organizations and individuals - to help research, plan, carry out and monitor ecological restoration projects.
2. Develop a comprehensive restoration plan that identifies areas of the property that can benefit from restoration and specifies a range of treatments that will set the target ecosystems on a trajectory that more closely resembles a natural healthy system. Prescriptions in the plan should incorporate time lines and methodologies that lend themselves to providing hands-on work for participants in related educational programs. Long-term monitoring strategies should be designed to accommodate participation by a range of experience levels – from first graders to graduate students. Planning and monitoring should also support adaptive restoration that is able to respond to rapid drivers associated with climate change and shifting species assemblages. The restoration plan should provide the framework for ongoing educational and research programming associated with the Restorative Learning Centre.
3. Remove feral sheep from the Land, or, contain them in a fenced paddock located on a suitable site that has been determined as part of an agricultural plan.
4. Initiate planned ecological restoration treatments for the old mill site near the main access to the property. This initial project should provide a showcase for ecological restoration on

the property, creating direct learning, interpretive learning and community engagement opportunities.

5. Continue active removal of invasive alien vegetation in the main cove area as it represents the primary fragmentation of the otherwise continuous old growth Douglas-fir/Arbutus coastal bluff area.

Species and Ecosystems at Risk

The Land is home to several ecological communities and species at risk. A designation of 'at risk' identifies species that require immediate help from land managers, such as protection of habitat essential to the survival of the species. Maintaining or improving the health and resilience of the 'at risk' species and communities found on the Land will require their consideration in all aspects of planning and use.

Guidelines

1. Habitat deemed as critical to the survival of species or communities at risk should be protected from disturbance and designated as a high priority for restoration.
2. In the event of conflicting goals, objectives or actions, protecting the health and resilience of species or communities at risk should take precedence.

Actions

1. Initiate research and inventory directed at searching for, identifying and assisting in the recovery of species and ecosystems at risk.
2. Develop a prioritized list of SARA species and ecosystems to be restored.
3. Develop and follow site-specific protection and recovery plans for identified species or ecosystems at risk. When possible tie planning and actions to recognized Provincial and Federal recovery strategies.

Control of Invasive Species

Invasive alien species pose a threat to the ecological health of the land. Invasive alien vegetation such as common velvet-grass (*Holcus lanatus*) and Scotch broom (*Cytisus scoparius*) are dominant in cleared areas with disturbed soils or in naturally open areas along cliffs and ridgelines. Controlling the spread of invasive alien species will reduce impacts to biodiversity and improve the general ecological health of the land.

Invasive native species can also pose a threat to ecological health and resilience as well as to the success of ecological restoration treatments and agricultural activities. Native species can become invasive when humans facilitate their population growth to a point where they deplete or displace other native species. For example, on Galiano Island, Columbia black-

tailed deer exhibits this characteristic. The absence of large predators, past forest management practices and limited hunting on the island has released the deer population, which has resulted in changes to plant species abundance, community composition and the architecture of common palatable shrubs, which in turn affects populations of native bird species that use understory plant species for feeding or nesting.

Guidelines

1. Methods used to control invasive species should be chosen to minimize disturbance or negative impact to ecosystems.
2. Methods used to control invasive species should be humane.
3. Introduction of pesticides may only be considered under the following conditions:
 - a. There are no other effective options for treatment,
 - b. The ecological threat posed by the target invasive species far outweighs the threat posed by the control agent over the long-term,
 - c. There is high probability that the treatment will result in successful control or elimination of the target species, and
 - d. Authorization for their use has been provided through a resolution by the Galiano Conservancy Board of Directors.

Actions

1. Develop a strategic plan that prioritizes the removal or control of invasive alien species.
2. If resources are available, remove or control invasive alien species according to the strategic plan.
3. Encourage owners of neighbouring lands to undertake similar measures to control invasive alien species.
4. Conduct site-specific research into the effects of Columbia black-tailed deer browse on native plant communities and on the success of ecological restoration treatments.

Fire Management

There is a high risk of fire during months of low precipitation and warm temperatures. The risk is generally at its greatest in late July, August, and early September, before the autumn rains, and in many cases has been amplified by the cumulative impacts of fire suppression over the past century. The risks to property and ecosystems of uncontrolled wildfire on Galiano are high. At the same time, fire is one of the driving forces of natural successional processes in this area and its suppression has contributed to shifts in the composition, structure and function of ecological communities. The re-introduction of fire, in a controlled manner to certain areas, may provide a powerful tool for ecological restoration.

Guidelines

1. Controlled burning for ecological restoration or fuel reduction purposes should be undertaken in accordance with the policies of all appropriate authorities including the local volunteer fire department and the BC Forest Service Fire Protection Branch and should have guidance or oversight from a qualified and experienced Fire Boss.
2. Open fires should be limited to designated fire pits and occur only in accordance with local volunteer fire department regulations.
3. Public use of the land may be restricted in the event of an extreme forest fire rating.

Actions

1. Appropriate emergency access routes should be designated along with the creation of fire safety and evacuation plans for users of the land.
2. Investigate the potential for using controlled fires to achieve ecological restoration objectives as well as to reduce forest fuel loads.
3. Develop access to water resources for use in the event of a fire.

Chemical Pesticides and Fertilizers

No chemical pesticides or fertilizers shall be used or applied on the land with the exception of applications for ecological restoration purposes in accordance with the Guidelines under the "Control of Invasive Species" Section of this plan.

Marine Ecosystems

With over two kilometers of coastline, management of the Land must consider the health of surrounding marine ecosystems. The Land's shoreline and adjacent upland ecosystems provide habitat for a diversity of marine associated wildlife (i.e. bald eagle, double-crested cormorant, river otter) and significantly influence the health of intertidal and near shore ecosystems.

Guidelines

1. Management of the Land should provide a model for coastal living, following best practices for coastal development and providing learning and research opportunities on the surrounding marine environment.
2. Impacts to site lines from personal watercraft in the Trincomali Channel such as buildings, forest clearing or agricultural areas should be minimized.
3. Impacts from proposed learning, research and recreation activities that occur within marine riparian, intertidal and near shore ecosystems should be minimized. Consideration to the cumulative impacts of these activities over time should be given.

4. Any harvest of marine life from adjacent waters must be done in compliance with all applicable regulation in a manner which ensures that target populations are sustained over the long term and through use of current best practices.

Actions

1. Zone the shoreline and associated marine ecosystems as Marine Protection under the Galiano Island Official Community Plan and Land Use Bylaws.
2. Support the designation of the marine waters surrounding Galiano as part of the Southern Strait of Georgia National Marine Conservation Area.
3. Explore educational opportunities highlighting the marine waters and the marine/terrestrial interface contiguous to the Land.
4. Develop and register a conservation covenant in accordance with the Kleiman Estate bequest to ensure protection of the Land's coastal bluffs and associated forest. See Map 5 for the location of the proposed covenant area.
5. Inform users of the Land and its shoreline that a Rockfish Conservation Area exists along the full extent of the Land.

Coordinating Stewardship with Neighbouring Properties

Recognition of the fact that ecosystems do not coincide with property boundaries provides impetus for developing relationships and partnerships with stewards of properties neighbouring the Land.

Guidelines

1. Exploring opportunities for broadening the protection of ecosystems and coordinating stewardship activities is highly desired.


Actions

1. Contact and inform neighbouring landowners about the conservation of the Land, the locations of Management Areas and the intended uses and vision for the Land.
2. Provide information and/or advice to surrounding landowners regarding management activities that could benefit ecosystems on the Land.
3. Develop formal or informal stewardship agreements with adjacent landowners.
4. Ensure that property lines are well marked.
5. Conduct regular monitoring of areas that are accessible from adjacent private lands.

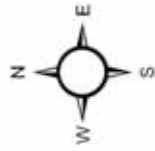


Map 5: Proposed Covenant Area for Kleiman Estate Bequest

 Kleiman Covenant Area  Seasonal Creek

 DL57 Property Line

0 50 100 200 300 400 Meters



Produced By: Galiano Conservancy Association

Map Date: February 2013

Projection: UTM Zone 10 NAD83

Scale: 1 : 6,500

Accessibility and Safety Management

Trail and Road Network

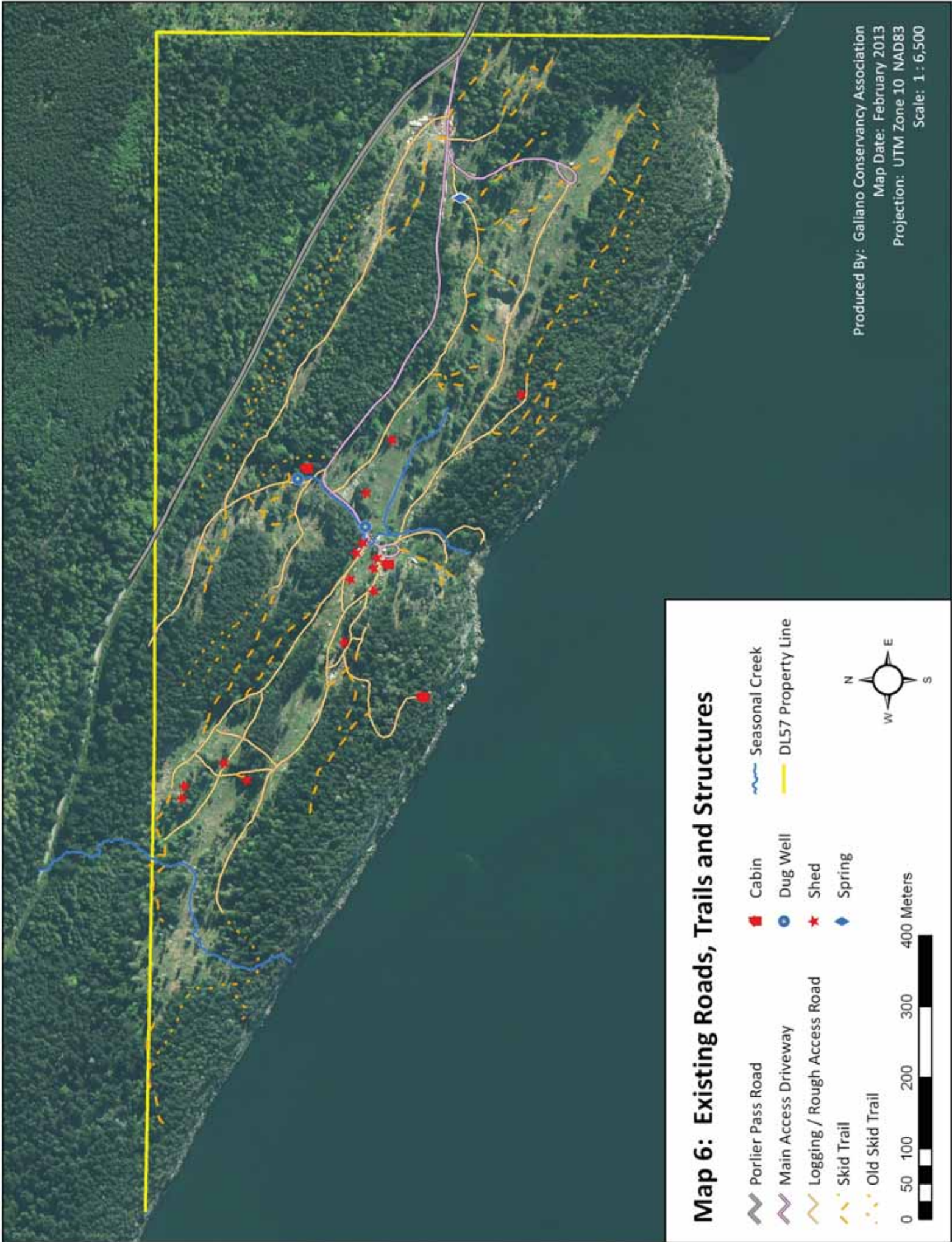
The network of trails and roads will provide critical access and infrastructure for the ongoing operation of all programs and uses on the Land. An extensive network of skid trails and logging roads were constructed over the past several decades. These routes currently exhibit a variety of conditions, some were well built on suitable ground and many were poorly built on soils that are seasonally wet. Depending on age and historical use, many of the older roads and trails are now densely vegetated while some remain wide open. There are also two major access routes or driveways that are generally well constructed, have been maintained and are suitable for ongoing use. A road and trail network must be designed to provide:

- Reliable vehicle, pedestrian (includes wheelchair users) and bicycle access to major facilities and infrastructure.
- Pedestrian and where appropriate bicycle access to areas of the land designated for learning.
- Pedestrian and where appropriate bicycle or vehicle access to active agricultural, ecological restoration and forest-use sites.
- Emergency vehicle access to areas in proximity of group learning or activity sites.
- Pedestrian access to marine ecosystems.
- Limited pedestrian access to the Land's natural features for the public.

Map 6 shows existing roads and skid trails, as well as currently maintained vehicle access roads.

Guidelines

1. In general, the least area of compaction and disturbance is desired for any road or trail, and routes should be in scale with the type of access required.
2. Access routes should be planned so as to minimize the total linear distance of road or trail required (with the exception of pedestrian trails designed for nature observation).
3. Roads should avoid areas with moist soils, shallow soils or steep slopes.
4. Non-motorized access and movement around the property is generally preferred.
5. The network should follow existing skid trails and roadbeds whenever possible.
6. Existing skid trails and roadbeds that are not part of the trail network should be decommissioned and considered for ecological restoration treatments.
7. Hiking routes should be clearly identified and easy to navigate.
8. Hiking routes must be safe and should minimize impacts to ecosystems. Use appropriate structural elements such as stairs, railings, bridges or boardwalks when required. Structural elements should blend in with the surrounding natural environment.



9. Guidance for development and maintenance of trails is provided by the BC Parks Trail Design and Construction Standards Manual
<http://www.trailstobuild.com/Articles/BC%20Trail%20Standards/contents.htm>
10. Emergency access roads should be designed and maintained at a standard that is acceptable to the local volunteer fire department.

Actions

1. Consult with neighbouring land owners about creating trails that link to locations beyond the boundaries of the property. Explore opportunities for both public and private routes.
2. Design a detailed trail and road network plan that shows route locations for current and future access requirements.
3. Establish and maintain key trails required for the delivery of learning programs.
4. Close roads and trails that are not being maintained and/or are not part of the detailed trail and road network plan, using signage or other appropriate means.
5. Maintain current vehicle access roads as required.

Parking

Areas designated for parking will be required to accommodate visitors and people working on the Land.

Guidelines

1. The area required for parking facilities should be minimized through requirements for car-pooling or group transportation and preference for bicycle and pedestrian transportation.
2. If possible, parking areas should use green techniques that minimize soil compaction, allow for absorption of surface water and provide habitat for limited vegetation growth.
3. Parking sites should be limited to existing areas of soil compaction, and using green techniques as above, should have a restorative rather than destructive impact.

Actions

1. Designate parking areas in conjunction with the Road and Trail Network Plan that will facilitate public and private use of the land for events, learning programs and ongoing management programs.

Community / Public Access

Access to some of the natural features of the Land and to interpretive learning sites for Galiano Island community members and visitors is a high priority. However, public access must be carefully balanced with requirements for the privacy and safety of participants in Learning Centre programs, the impacts of human disturbance on research programs, the security of

agricultural areas and infrastructure, as well as safety concerns arising from active land management such as eco-forestry. Taking this balance into consideration, uncontrolled public access must be limited to a small portion of the Land within the Ecosystem Protection Area. Public access to a broader portion of the Land and to additional interpretive sites may be achieved through coordination and control of trail openings/closures in manner which addresses the above concerns. Public use of the Land will require the creation of a trail network and a public parking site.

Guidelines

1. Public access to the property should not threaten the security or success of ongoing operations of the Learning Centre and should be evaluated on an ongoing basis.
2. Publicly accessible trails should be limited to pedestrian use.
3. With appropriate consultation, public access to the property should tie in to existing public trail networks and broader Galiano Island trail planning initiatives.

Actions

1. Conduct assessment of the privacy, security and safety needs of various uses on the property with regard to Public access and create an Access Plan.
2. Designate trails that are publicly accessible on a full time basis that link with a public parking area and with public trails on neighbouring properties.
3. Designate trails and interpretive sites that have limited access to the public. These trails should be clearly marked as "Limited Access" on any maps, and should be clearly signed and appropriately blocked when they are not available for public access. Consider community/public access associated with uses such as community gardens.

Derelict Buildings and Structures and Debris

Historical logging, agriculture and residential use of the Land have left behind a legacy of buildings, structures, and debris. The vast majority of garbage and debris was removed from the Land by the previous owner, though the odd pile or piece remains. Large piles of off-cuts and slabs remain on the mill site near the entrance to the Land. Smaller piles of rotting logs and slash are scattered throughout recently harvested areas. Most of the remaining buildings were constructed as temporary or movable structures and do not have solid foundations. Several of these pose serious safety hazards and must be de-constructed and removed, while others are structurally sound and may provide ongoing covered and/or enclosed storage facilities. Map 6 shows the locations of existing structures and buildings.

Guidelines

1. Materials from derelict or unsafe structures should be salvaged whenever possible.

2. Innovative use of debris for ecological restoration projects or other initiatives is encouraged.
3. Materials and/or debris should only be removed from the site when all other possibilities for their safe use or storage have been exhausted.

Actions

1. Large piles of off-cuts and slabs on the mill site should be processed and dispersed from the site (kindling program, chipping for tent pads etc.). Consider sales of processed wood products to provide revenue or cost recovery.
2. Inspect each structure on the Land for safety hazards and future utility and then develop detailed plans for leaving in place, deconstructing, or moving.
3. Assess log and slash piles for utility as future material for ecological restoration projects.
4. Locate, gather and store remaining garbage and non-composting debris. Remove from site for recycling or, if posing a safety hazard, for appropriate disposal.

Education and Research Management

Learning Programs and Experiential Learning

Managing the Land in a manner which creates opportunities for experiential learning programs is a primary goal of this plan. The ecosystems on the Land and within the terrestrial/marine interface will provide the foundation for study of the natural world. Programs will incorporate and contribute to ecological restoration, agriculture and forest use activities and will benefit from innovative methods used to develop infrastructure and operate systems.

Guidelines

1. Disturbance to sensitive areas such as those with steep slopes, shallow soils or wet soils by large groups should be minimized when access to these areas for learning is required.
2. Access for learning should generally be limited to established trails and to designated indoor or outdoor group learning areas and land-use or restoration sites.

Actions

1. Establish a comprehensive plan for learning programs that designates group learning trails and sites, addresses accessibility for participants of all ages and abilities, and makes recommendations for minimizing impacts on the health and resiliency of ecosystems.
2. Develop a safety plan and emergency protocol that identifies and addresses hazards, emergency access and evacuation.
3. Develop and offer learning programs on the Land.

Interpretive and Naturalist Activities

Self-guided interpretive and naturalist activities will provide key learning opportunities for both the public and for participants in Learning Centre programs. These activities will rely on the creation of a trail network and interpretive media.

Guidelines

1. The trail network should be designed to maximize opportunities for interpretive learning and for nature observation.
2. Interpretive signage should respect the natural aesthetic and generally blend in with the surroundings.

Actions

1. Create publicly accessible interpretive signage at the mill site near the entrance to the Land that documents historical, ecological and restoration information pertinent to the site.
2. Identify and plan for additional self-guided interpretive sites along both publicly accessible trails and trails designated for Learning Centre participants.

Research and Innovation Activities

Research activities are encouraged as a way of learning about the Land, our relationships with it, and ways of fulfilling the Vision, Mission and Principles of this Plan. They are also an important way of sharing information about the land with a broader audience and contributing to a larger body of knowledge about natural systems and the place of humans within those systems.

Guidelines

1. Research should originate from a wide variety of disciplines and approaches, covering the full range of human ingenuity.
2. Interdisciplinary research is encouraged to examine fascinating questions that lie at the boundaries of traditional approaches. Time-tested, interdisciplinary approaches are at the heart of environmental and sustainability research.
3. Research and learning are inextricably connected, and should be brought together through research apprenticeships, teaching opportunities, and other learning-based research programs.
4. Collaborative community-based research is encouraged as a means for bringing local and traditional knowledge to light, and to build knowledge capacity within the community.
5. Partnerships should be sought with diverse organizations, institutions and individuals.
6. All research should adhere to the highest standard of appropriate and ethical conduct.

Actions

1. Initiate a process to develop an initial scope of prospective research to guide the development of research programs and potential partnerships.
2. Cultivate partnerships with organizations, institutions and individuals who can make lasting contributions to understanding the ecological character of the Land and the social possibilities that can be created on the Land.
3. Establish a network of long-term biodiversity monitoring plots on the Land and collect baseline ecological data.

Agriculture, Agroforestry and Forest Use Management

Agriculture, agroforestry and forest use activities will contribute to food security objectives, provide materials for the development of facilities and infrastructure on the Land and generate opportunities for small-scale economic development. These uses will also provide opportunities for experiential learning, research programs and the development of innovative practices for sustainable production of food, timber and non-timber products. These activities should be managed in a holistic manner – always taking into account how each activity as well as the sum of all activities relates to the ecological processes on the Land.

Guidelines

1. Agricultural and agroforestry activities should integrate with surrounding ecosystems in a manner that will be sustainable over the long term. Activities should generally be carried out in accordance with the Canadian Standards Board “Organic Production Systems General Principles and Management Standards” <http://certifiedorganic.bc.ca/standards/docs/032-0310-2008-eng.pdf>. The general principles of organic production include the following:
 - a. Protect the environment, minimize soil degradation and erosion, decrease pollution, optimize biological productivity and promote a sound state of health.
 - b. Maintain long-term soil fertility by optimizing conditions for biological activity.
 - c. Maintain biological diversity within the system.
 - d. Recycle materials and resources to the greatest extent possible within the enterprise.
 - e. Provide care that promotes the health and meets the behavioural needs of livestock.
 - f. Prepare organic products, emphasizing careful processing, and handling in order to maintain the integrity and vital qualities of the products at all stages of production.
 - g. Rely on renewable resources in locally organized agricultural systems.
2. All timber related forestry activities should be carried out in accordance with the “*Summary of Silva Forest Foundation Standards for Ecologically Responsible Timber Management*” (April 1999) produced for the Silva Forest Foundation Ecosystem-Based Certification Program. <http://www.silvafor.org/assets/silva/PDF/Certification/ArchivesEcoCertSum.pdf>

While no specific guidelines are available for the harvest of Non Timber Forest Products (NTFP's), any such activity should generally follow the principles and criteria outlined in this document.

3. Activities should contribute to learning and research through demonstration and through opportunities for participation in monitoring, planning and operations.
4. Agricultural and forest use plans should integrate with planning for ecological restoration.

Actions

1. Develop a detailed agriculture and forest use plan for the Land that is based on soil, microclimate and hydrological assessments, historical use and current ecological conditions. The plan should determine the best sites for gardens and other agricultural activities, including livestock grazing and agroforestry as well as provide guidelines and targets for timber harvest and identify potential NTFP's.
2. Develop partnership with Silva Forest Foundation (or other appropriate organization) to aid in planning for forest use.
3. Develop a partnership with the Galiano Community Food Program to create a community garden site on the Land.
4. Establish an initial small garden site using existing resources and infrastructure on the Land in accordance with detailed planning.
5. Work with the Southern Gulf Islands Economic Development Commission to establish a role that the Centre can play in revitalizing and advancing agricultural practices/opportunities on the Southern Gulf Islands.
6. Explore opportunities for partnerships with local artisans and carpenters to develop value added products made with wood or non-timber forest products harvested from the Land.

Facilities and Infrastructure Management

The development of facilities and infrastructure is required to support the intended uses of the Land, from storage sheds for agricultural equipment, to covered workshops for processing of value added products, to a self-sustaining facility that provides group accommodations and learning space. Development of facilities and infrastructure will also contribute to learning opportunities focused on sustainable or green approaches to building, energy production, water and waste management.

Guidelines

1. The construction of major facilities and infrastructure should be guided by the International Living Future Institute Living Building Challenge Standard. <http://living-future.org/lbc>. The standard includes provisions for such desired outcomes as:

- a. The project will be constructed on previously developed sites.
 - b. The project should contribute towards the creation of pedestrian-oriented communities.
 - c. Water needs should be supplied by captured precipitation or other natural closed loop water systems that account for downstream ecosystem impacts, or by re-cycling used project water. Water must be appropriately purified without the use of chemicals.
 - d. Storm water and project water discharge will be managed onsite to feed the project's internal water demands or released onto adjacent sites for management through acceptable natural time-scale surface flow, groundwater recharge, or agricultural use.
 - e. Energy needs will be supplied by on-site renewable energy on a net annual basis.
 - f. The project will have a nourishing, highly productive and healthful indoor environment that includes fresh air, natural light and design elements that nurture the innate human attraction to natural systems and processes.
 - g. Materials will be sustainably harvested, procured on-site, locally or salvaged and will be third party certified whenever possible. Material waste will be minimized and toxic chemicals absent.
 - h. The project will contain design features intended solely for human delight and the celebration of culture, spirit and place appropriate to its function.
 - i. Educational materials about the operation and performance of the project should be provided to the public.
2. Infrastructure should generally serve multiple-purposes and be developed in a manner which provides the greatest utility using the least resources and creating the smallest ecological footprint over the long-term.
 3. Local labour should be utilized whenever reasonably possible.
 4. Ensure that waste is processed on site whenever possible and that it is contained and does not impact wildlife or water quality.

Actions

1. Create a conceptual plan for the development of facilities and infrastructure that identifies methods and site locations for water extraction/collection, storage and processing; methods and site locations for energy production; location and general footprint of indoor group accommodations and learning facility; location and design of initial camping facilities; locations for structures related to agriculture, agroforestry and forest-use, and; manager/staff/intern accommodations.
2. Utilize and if necessary repair existing, safe structures for storage of materials and equipment and to provide basic services to learning program participants.
3. In accordance with conceptual planning, develop gravity fed water system to supply initial camping use on the Land.

Recreation Management

Recreational activities are an important component of providing an enjoyable, healthy visitor experience to the Learning Centre. While not a primary Goal for the Land, the provision of recreational activities will create opportunities for informal learning, team building, self-growth, relaxation and general fun.

Guidelines

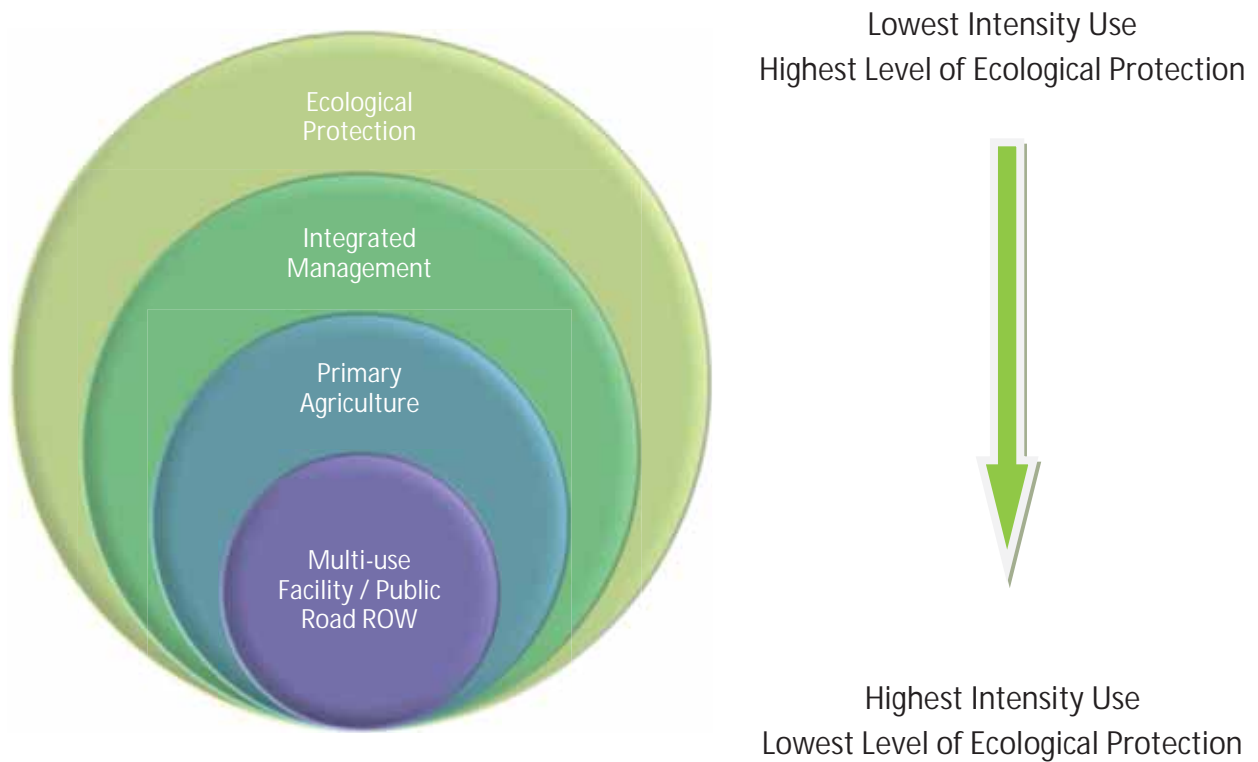
1. Infrastructure, resources or modifications to the Land required to support recreational activities should generally be smaller rather than larger in scale and secondary to any competing uses of the Land.
2. Appropriate precautions should be taken and improvements to the Land, where necessary, should be made in order to ensure participant safety during all recreational activities. Appropriate liability insurance must also be in place.

Actions

1. Create an even and relatively level, maintained playing field area to provide space for gathering and general play. The area should be associated with conceptual planning and design of initial camping facilities.
2. Explore opportunities and develop appropriate partnerships to provide guided sea kayaking or other non-motorized watercraft tours for visitors participating in organized Learning Centre programs.
3. Explore options for providing Learning Centre program participants access to the ocean and swimming opportunities.

Management Areas and Intended Use

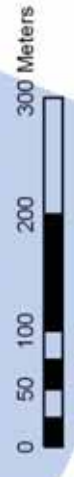
The Goals and Objectives of this Plan identify a wide variety of desired uses of the Land along with related activities and infrastructure. This section provides guidance for where identified uses, activities and infrastructure may be located on the Land through the designation and description of broad Management Areas. The areas, shown on Map 7, were created through extensive mapping and ground based analysis of the Land looking first at the most important areas for ecological protection and then at the suitability of remaining sites for desired uses, activities and infrastructure. The designation of Management Areas uses an ecosystem based approach with a graduation from high intensity use areas (facilities, intensive agriculture) to moderate intensity (integrated agriculture, agroforestry, eco-forestry) to low intensity use (hiking, outdoor learning sites, ecological protection). Five Management Areas were created: the Ecological Protection Area, the Integrated Management Area, the Primary Agriculture Area, the Multi-use Facility Area and the Public Road. While ecological health and resiliency is considered in all areas, the degree to which this is considered and the intensity of suggested uses varies.





Map 7: Management Areas

- Porlier Pass Road
- Main Access Driveway
- Logging / Rough Access Road
- Skid Trail
- Old Skid Trail
- Ecological Protection Area
- Integrated Management Area
- Primary Agriculture Area
- Multi-Use Facility Area
- Public Road Area
- Marine Protection Area
- Provincial Agricultural Land Reserve
- Kleiman Covenant Area (to shoreline)
- Seasonal Creek



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 Projection: UTM Zone 10 NAD83
 Scale: 1 : 6,500

Table 3. Size of Management Areas

Management Area	Size (Hectares)	% of total Area
Ecosystem Protection	49.01	64.5%
Integrated Management *includes agricultural, agroforestry and forest uses	17.6	23.1%
Agricultural	1.64	2.2%
Multi-use Facility	6.05	8.0%
Public Road	1.7	2.2%

Ecological Protection Area

The Ecological Protection Area was designed to protect the most ecologically important sites and to include representation of the diverse ecological communities found on the property. The area was delineated through extensive analysis and interpretation of baseline ecological, hydrological, human use and topographic data using ArcGIS software. The following criteria were used to identify the most ecologically important sites:

Current Condition of Ecological Community:

- Areas where historical disturbance is minimal were ranked very highly;
- Areas where logging or clearing occurred more than 80 years ago were ranked highly;
- Areas where logging or clearing occurred between 30 and 80 years ago were ranked moderately;
- Areas where logging or clearing occurred within the past 30 years were ranked low;
- Areas with a history of major, ongoing disturbance such as the mill site or residential area were ranked lowest.

Sensitivity to Disturbance and Rareness of Ecological Community:

- Rare ecological communities, wetlands and cliffs were ranked highly;
- Sensitive ecosystems with shallow and / or wet soils were moderately ranked;
- Abundant ecosystems with deep, well drained soils were ranked lowest;

Stream Riparian Areas:

Areas buffering seasonal creeks received additional value depending on whether they were within 30m, 60m or 90m of the creek channel.

Roads and Structures:

- Areas buffering roads were reduced in value according to the type and/or use of the road (old skid road vs. maintained access road).
- Areas within 15m of structures were reduced in value.

The following uses may occur within the Ecological Protection Area:

1. Education, research and ecological monitoring activities.
2. Ecological restoration.
3. Low impact, non-motorized recreational activities on designated trails.
4. The construction of foot trails for routes where no existing road bed or trails exist.
5. Controlled public access.
6. Removal of timber as part of an ecological restoration initiative that has as its primary objective the initiation or acceleration of the recovery of an ecosystem with respect to its health, integrity and sustainability.
7. Harvesting of non-timber forest products that are not readily available within any other Management Area. Such a product may only be harvested in a manner which does not compromise the integrity of the ecosystem from which it is being removed.
8. No permanent or fixed structures with the exception of minor improvements related to public safety on designated foot trails.
9. No vehicle access roads with the exception of the existing road bed that links to the 'satellite' Integrated Management Area on the coastal ridgeline just northwest of the cove. Temporary access routes specifically designed to aid with restoration programs are also allowed.

Integrated Management Area

This Area provides a focus for agriculture, agroforestry and forest use that contributes to ecosystem composition, structure and function in some way. It is transitional between areas designated for more intensive use (Multi-Use Facility and Primary Agricultural Areas) and the Ecological Protection Area. While a variety of uses and infrastructure are allowed, they must in some way reduce the ecological footprint of property-wide operations and/or contribute to the maintenance or recovery of ecosystems with respect to their health, integrity and sustainability. Site level and/or project specific planning within this Area must take into account the cumulative impacts of all uses on the Land, must be accounted for in the broader strategy for maintaining ecological processes over time and must be guided by the principles of adaptive management. This Area is primarily composed of historically cleared and heavily disturbed sites but includes some small swamp and marsh wetland pockets, a seasonal creek and some areas that are characterized by moist soils, more sensitive to disturbance. Uses in this area may include:

1. Timber harvest, NTFP harvest, and agroforestry areas.
2. Food and therapeutic gardens including raised beds and greenhouses for participant consumption and for educational and healing purposes.
3. Poultry and livestock raising and processing.
4. Tree cutting in consideration of infrastructure and activities occurring in other management areas.
5. Low impact, non-motorized recreational activities.
6. Controlled public access.
7. Maintenance and limited construction of vehicle access roads.
8. Small-scale infrastructure for delivery of outdoor education programming (boardwalk, outdoor seating, platform etc.) or required for agricultural activities.
9. Water extraction or collection (for use on the Land).
10. Construction and operation of infrastructure required for energy production (wind, solar, micro-hydro, etc.) and distribution, where a suitable location cannot be found within the Multi-use Facility Area.

Primary Agricultural Area

This area provides a focus for food production. In a broad level professional assessment of the property it was determined that the soils and microclimate/exposure within this area were the most suited for intensive horticulture and provide the widest range of opportunities for annual field cropping, perennial fruits and nuts with the least requirement for water table control and possibly irrigation. This area is within the Provincial Agricultural Land Reserve. The following uses may occur within the Primary Agricultural Area:

1. Intensive horticulture/annual crops, including salad crops, root crops, cole crops, corn, potatoes etc.
2. Growing and harvesting of tree fruits, berry fruits, nuts or other perennials.
3. Processing of harvested materials.
4. Poultry and livestock raising and processing.
5. Construction of infrastructure required for agricultural uses (i.e. Buildings, drainage, irrigation and compost).
6. Vehicle access roads and foot trails.
7. Controlled public access

Multi-use Facility Areas

The primary purpose of the Multi-use Facility Areas is to accommodate the buildings, systems and infrastructure required to support day and residential learning, research and retreat use of the property. Multi-use Facility Areas are generally located on previously logged and highly disturbed sites. They are accessible by existing maintained roads. Portions of the areas are characterized by moist soils that are more sensitive to disturbance and prone to surface runoff during winter months. A ditched and culverted seasonal creek also runs through one of the areas. Uses in this area may include:

1. Construction and use of learning facilities (classroom / theater / meeting areas, etc.), research facilities (labs, computer / internet access, etc.), retreat facilities (studio, treatment room, etc.) and indoor group residential facilities (commercial kitchen, dining, sleeping accommodations, washrooms, etc.)
2. Camping use and construction of supporting facilities (tent pads, yurts, fire-pit, food preparation and dining area, covered or indoor gathering space, toilets etc.)
3. Construction and operation of infrastructure required for energy production (wind, solar, micro-hydro, etc.) and distribution.
4. Water extraction (for use on the Land), collection, storage, filtration and processing.
5. Waste processing.
6. Construction and maintenance of a Manager's cottage (functional year-round residence).
7. Construction and maintenance of temporary staff / volunteer and long-term residence accommodations.
8. Construction and operation of Galiano Conservancy Association office and library facility.
9. Open space recreation areas suitable for playing.
10. Structures for storage and workshops.
11. Food and therapeutic gardens including raised beds and greenhouses for participant consumption and for educational and healing purposes.
12. Timber harvest, NTFP harvest, and agroforestry areas.
13. Processing and storage of harvested materials.
14. 'Roadside sales' of products harvested or processed on the land and construction of related structures or buildings.
15. Tree cutting in consideration of infrastructure and activities.
16. Low impact, non-motorized recreational activities.
17. Maintenance and construction of vehicle access roads.
18. Public parking.
19. Controlled public access.

Public Road Area

The Public Road Area includes the surface of Porlier Pass Road and the area 10m on either side of the centre line. While Porlier Pass road is currently designated as a Section 42 road allowing public use and maintenance of the surface of the road – any rezoning may require the designation of a 20m wide gazette public road to be owned and managed by the Ministry of Transportation and Infrastructure. Uses within this area will include the maintenance of the road surface, ditches and vegetation for public safety and operation of BC Hydro Distribution Lines.

Implementation and Monitoring

Actions determined in this Plan will depend heavily on donations and project based financial support from public and private foundations and various other funding agencies and organizations. Monitoring and evaluation of implementation progress will be conducted by a Galiano Conservancy Association Board appointed committee responsible for the ongoing management of the Land. The committee will be informed of, and provide general oversight for, ongoing operations and management of the Learning Centre and will conduct annual progress reviews and will report to the Board. The committee will also have responsibility for the five-year review and update of the Management Plan. The following timeline provides guidance for the implementation of actions set out in this plan.

First two years

Planning and Assessment

- Hydrological assessment
- Ecological restoration plan including investigation into use of controlled fires
- Invasive species control plan
- Learning program risk assessment and plan for delivery, safety and emergency protocol
- Access plan with parking, trail and road network, emergency access and evacuation routes
- Safety and use plan for existing buildings and structures
- Public use assessment
- Conceptual plan for the development of facilities and infrastructure
- Develop an initial scope of prospective research and partners

Project Implementation

- Process and disperse piles of off-cuts and slabs on the mill site
- Implement ecological restoration and accompanying interpretive signage for the mill site
- Designate / construct a public parking area at the mill site
- Continue removal of invasive alien vegetation in the main cove area
- Remove or contain feral sheep
- Inventory Species at Risk
- Develop stewardship relationships with neighbouring landowners
- Establish key trails required for the delivery of learning programs and for public use
- Develop and offer pilot learning programs
- Create playing field area
- Develop gravity fed water system and access to water resources for use in the event of fire

- Utilize, and if necessary repair existing, safe structures.
- Establish an initial small garden site.
- Ensure that property lines are well marked.

Key Partnerships

- UVIC School of Environmental Studies – ecological restoration planning and implementation
- Islands Trust Fund – trail planning / stewardship
- Retreat Cove Farms – trail planning / stewardship
- Silva Forest Foundation - forest use planning and implementation
- Galiano Community Food Program – community garden planning and establishment

First five years:

Planning and Assessment

- Recovery plans for identified species or ecosystems at risk
- Agriculture and forest use plan
- Assess remaining log and slash piles
- Explore options for swimming and access to the ocean
- Document local effects of Columbia black-tailed deer on plant communities and restoration
- Plan self-guided interpretive trails and sites

Project Implementation

- Control invasive alien species
- Create Marine Protection Zone
- Support the creation of the Southern Strait of Georgia National Marine Conservation Area
- Register a conservation covenant in accordance with the Kleiman Estate bequest
- Maintain current access roads and close routes that are not part of the planned network
- Locate, gather and store or remove remaining garbage and non-composting debris
- Establish network of long-term biodiversity monitoring plots
- Develop stewardship agreements with neighbouring landowners
- Create interpretive trails and sites

Key Partnerships

- Sea kayaking or other non-motorized watercraft tour groups, organizations or individuals
- Partners who can contribute to understanding the Land's ecological and social character
- Southern Gulf Islands Economic Development Commission – advancing agriculture on SGI
- Local artisans and carpenters - develop value added products