COATS MARSH REGIONAL PARK

2011-2021 Management Plan





REGIONAL DISTRICT OF NANAIMO
RECREATION AND PARKS

August 29, 2011

ACKNOWLEDGEMENTS

The preparation of this plan was overseen by Wendy Marshall, RDN Manager of Parks Services, Graham Gidden, RDN Parks Planner, and Lesya Fesiak, RDN Parks Planner. Bufo Incorporated undertook initial research, site assessment, stakeholder and public consultation while Foul Bay Ecological Research Ltd completed an environmental overview of the park's ecological features.

The Coats Marsh Regional Park Management Plan Sub-Committee provided thoughtful input to this plan. The committee included:

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Maureen Young, RDN Director Electoral Area 'C'
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Geraldine Manson, Snuneymuxw First Nation
Tom Reid, The Nature Trust of BC

Many thanks are also extended to all the residents of Gabriola Island and other areas of the Regional District of Nanaimo who took the time to participate in the management planning process by attending public open house sessions, reviewing draft plans and providing feedback to project consultants and RDN staff on management goals and policies.

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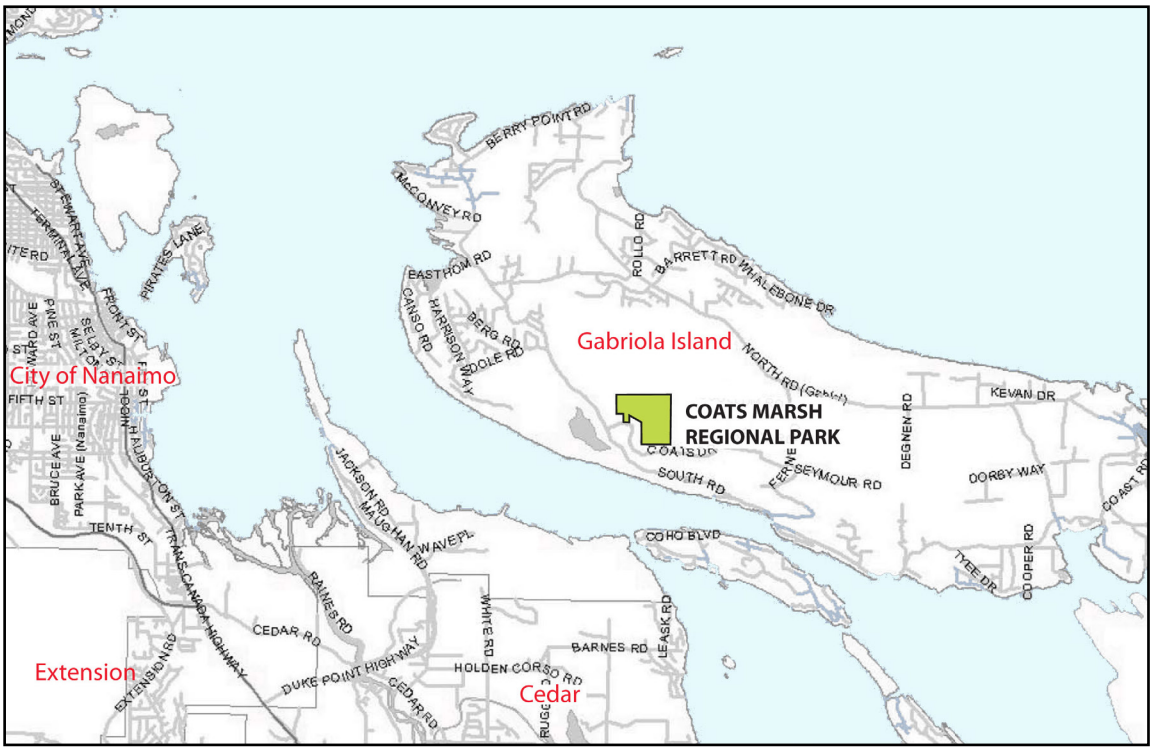


Figure 1.1 Coats Marsh Regional Park Location.

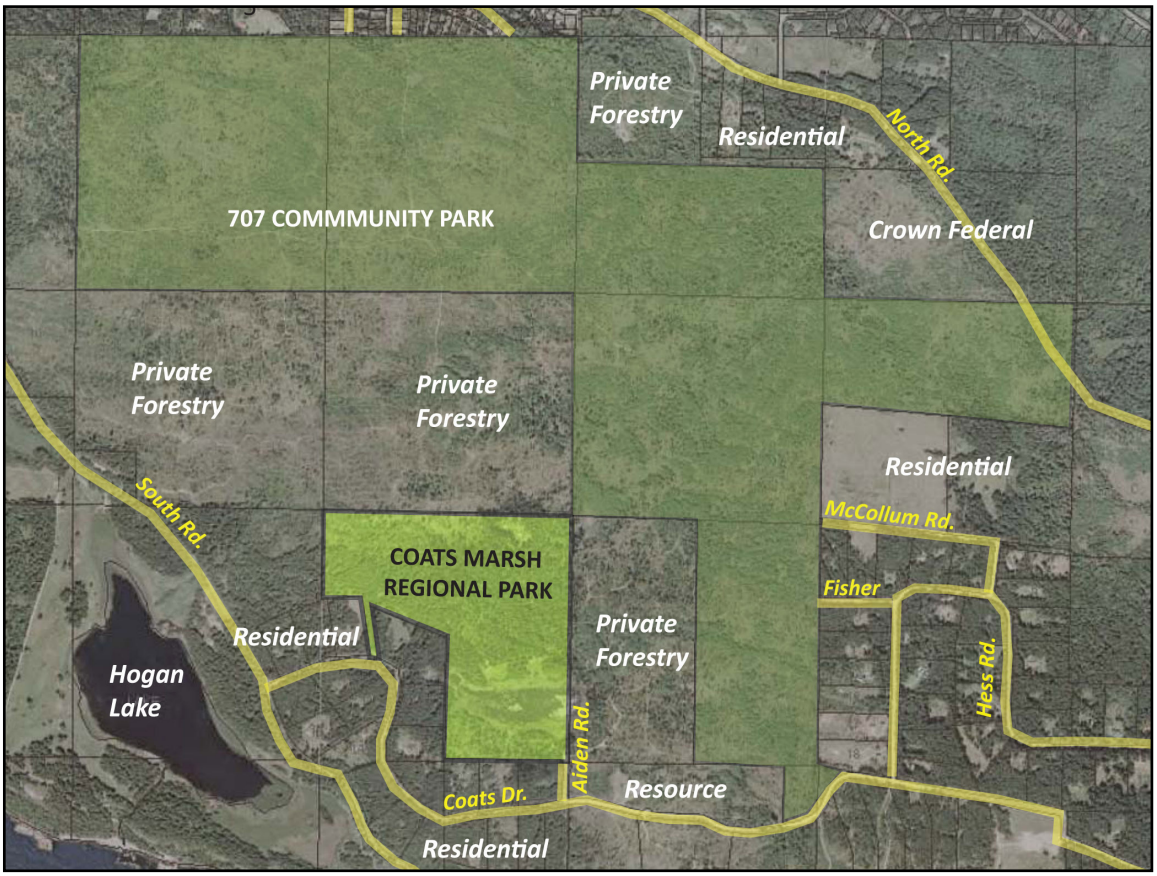


Figure 1.2 Coats Marsh Regional Park context.

1.1 Park Overview



Coats Marsh Regional Park (Coats Marsh RP) is located on Gabriola Island in the traditional territory of the Snuneymuxw First Nation. The park lies entirely within the Hoggan Lake watershed, in the southwestern portion of the island, and consists of two endangered ecosystems: a dry sub-maritime Coastal Douglas-fir forest in the north, and a rare Gulf Island freshwater wetland in south. The 707 Community Park, the largest park on Gabriola Island and the second largest park in the Regional District of Nanaimo, is located diagonally across from the northeast corner of Coats Marsh RP.



Prior to its designation as a Regional Park, Coats Marsh RP was a parcel of farmland owned by the Coats family and known locally as the "Stump Farm". Recognizing the significant conservation value of the property, Clyde Coats donated half the value of the current Coats Marsh RP parcel to The Nature Trust of BC (TNT) through the Environment Canada Ecological Gifts program. In 2008, TNT assumed ownership by purchasing the remaining value of the property; the Regional District of Nanaimo (RDN), in turn, agreed to purchase 50% of the property interest from TNT over a five year period. The Coats Marsh RP property is owned by both RDN and TNT, and managed by the RDN as a Regional Park through a 99-year lease agreement.



Although Coats Marsh Regional Park is largely undeveloped with no formal trail system, signage or amenities, evidence of the park's history and former uses are found throughout the site. An old abandoned barn and a small log cabin located in the northeast corner of the park (the "Stump Farm") are remembered by local residents as the site of a commune in the 1960s and 1970s, and concrete foundations for both a radio tower and electrical shed in the south end of the park are remnants of a radio station that was operated by the previous owner in the 1970s and 1980s. The Coats Marsh property has recovered from a series of human activities including logging, burning, draining and flooding; it is now a peaceful place where indigenous plants and wildlife thrive and where local residents come to appreciate the park's natural beauty and to remember with affection its endearing and eclectic past.



(All Photos: RDN)

As a Regional Park, Coats Marsh is funded by the entire Regional District: seven electoral area and the four municipalities of Nanaimo, Lantzville, Parksville and Qualicum Beach. The Regional Park function was established in 1989 in order to finance and protect larger areas of ecologically and culturally significant land for the benefit all RDN residents. As with other regional parks and trails, **environmental protection** (and the associated opportunity for outdoor education and recreation), is the underlying management guideline for Coats Marsh Regional Park.

1.2 Management Plan Purpose and Process

This document represents the first ten-year management plan for Coats Marsh Regional Park, for the period 2011 - 2021. The purpose of this plan is to establish sound management direction to guide park development and stewardship based on comprehensive site analyses, research and community consultation, thus ensuring protection of the Regional Park for the enjoyment of future generations.

Plan development was carried out between May 2010 and May 2011 by RDN park staff, TNT staff and project consultants (Bufo Inc. and Foul Bay Ecological Research Ltd.). The project was overseen by an Advisory Sub-Committee composed of RDN Board members, and representatives from TNT and the Snuneymuxw First Nation.



Park Opening Ceremony, May 2009 (RDN photo)

The following schedule of tasks outlines project development:

DATE	EVENT OR ACTIVITY
May 2010	First Advisory Sub-Committee Meeting with consultants, and RDN staff to discuss project schedule and process
June 2010	On-line public survey launched on RDN website and First Open House at Women's Institute Hall on Gabriola Island
July - Oct. 2010	Draft Plan following open house and survey results, and preliminary site assessment, completed by project consultants and reviewed by RDN and TNT staff
Nov - Dec. 2010	Ecological assessment of Coats Marsh site completed by project biologists
Jan. - March 2011	Continued Draft Plan development and review by RDN staff, TNT staff and Advisory Sub-Committee
April 2011	Draft Plan circulation and Second Open House for draft plan review, Women's Institute Hall, Gabriola Island
April - May 2011	Development and review of Final Draft of Plan by staff and Advisory Sub-Committee
September 2011	Final Managment Plan submitted to RDN board for approval

Table 1.1 Project Development Schedule

The Coats Marsh RP Management Plan is to be reviewed after a five-year period (2016), and formally updated after a ten-year period (2021).

1.3 Management Plan Parameters

The following documents serve as a framework for policies and actions established for the management of Coats Marsh Regional Park:

LEASE AGREEMENT, JUNE 25, 2009

The Nature Trust of BC and The Regional District of Nanaimo

Reflecting both the guidelines of the Environment Canada Ecological Gifts Program, and the management mandate of The Nature Trust of BC to protect British Columbia's plants, wildlife and habitats, the Lease Agreement between TNT and the RDN outlines conservation guidelines to which the RDN must adhere in terms of park management and operations. The lease agreement also stipulates the completion of a Management Plan for Coats Marsh RP by December 31, 2011.

PARK BYLAW NO. 1399

Regional District of Nanaimo

Park Use Bylaw No.1399 establishes regulations, prohibitions and requirements with respect to the management, maintenance, improvement, operation and use of RDN regional and community park and trials. Under Bylaw. 1399, Coats Marsh Regional park is currently classified as a Level 4 Park - "Undeveloped Park, Trail and Other Open Space". The bylaw can be found on the RDN website at www.rdn.bc.ca in the Bylaw Services - Regulatory Bylaws page.

REGIONAL PARKS AND TRAILS PLAN, 2005 - 2015

Regional District of Nanaimo

The Regional Parks and Trails Plan establishes the goals of the RDN with respect to land management, stewardship and recreational use of regionally significant properties. The vision outlined in the plan describes a system that protects and stewards natural values while providing rewarding recreational opportunities; fostering education and appreciation of the natural environment; and enhancing the livability of the Region. Management of Coats Marsh Regional Park should also reflect the greater vision the RDN's Regional Park system. The plan can be found on the RDN website at www.rdn.bc.ca in the Recreation and Parks - Parks and Trails Plans page.

1.4 Management Plan Structure

This document is organized into the following three sections:

1	INTRODUCTION	Introduction to the Coats Marsh Regional Park, the Regional Park system and the process of management plan development.
2	INVENTORY AND ANALYSIS	Outline of preparatory information derived from document analysis, site assessment, research and public consultation that inform policies guiding park development and management.
3	MANAGEMENT PLAN	Establishment of vision, goals, policies and operational actions for the management of Coats Marsh Regional Park from 2011-2021.

2.0 INVENTORY AND ANALYSIS

2.1 Public Consultation

Continuous public feedback on draft plan development and review for Coats Marsh Regional Park was provided by way of two Open House sessions, two on-line survey postings, website updates, email and phone correspondence.

2.1.1 First Public Open House and On-line Survey

The first Public Open House session was held on June 10, 2010 from 3pm - 8pm at the Women's Institute Hall on Gabriola Island with 25 attendees. The focus of the session was to explain the purpose and process of management plan development and to gather baseline information from local residents about the park's history, current activities, and recommended improvements through presentation and discussion. A majority of participants wanted the park maintained as a natural area with minimal facilities and trails. The only recreation activity that received significant support was walking / hiking. A few participants suggested that the park's heritage (the "Stump Farm" commune and Clyde Coat's role in the creation of the park) be commemorated through memorial design or signage in the park.

An on-line survey was available through the RDN parks website from June 2010 to January 2011. A total of 27 responses were received: 87% of respondents identified walking / hiking as the most suitable recreational activity for the park; 85% of respondents also believed that Ecosystem / Habitat Protection was the park's primary function. Most respondents felt that very little change was required to the park, however the following improvements were suggested: trail maps, interpretive information and directional signs , benches and boardwalk. Detailed survey results can be found in ***Appendix C: First On-line Survey, June 2010 - January 2011.***

2.1.2 Second Public Open House and Draft Plan Review

The second Public Open House session was held on April 19, 2011 from 3pm - 8pm at the Women's Institute Hall on Gabriola Island with 15 attendees. The purpose of the session was to receive direct public feedback on the draft plan which was made available on April 11, 2011 as a pdf file on the RDN website and as a paper document at the public library on Gabriola Island. Discussions with attendees were mostly positive and reinforced the issues and policies presented in the draft plan. However, two attendees did raise serious concern with regard to seasonal marsh flooding and impact on neighbouring residential property and the fact that neither the draft plan nor the associated ecological assessment report appropriately addressed this issue. In response to residents' concerns, Madrone Environmental Services Ltd was contracted to develop of a flood mitigation strategy for the wetland area in Coats Marsh Regional Park on July 18, 2011 with a completed report expected by October of 2011.



Private driveway access from South Rd to the north end of Coats Marsh RP and caretaker's residence (Bufo Inc photo)

Following the Open House session, park staff continued to receive public feedback until May 19, 2011 through feedback form, letter, email and phone. Park staff received a total of 13 responses: 4 feedback forms; 6 emails; 1 letter; 2 phone calls. Responses were generally positive and supportive of the draft management plan with only a few specific concerns being raised or reiterated: 4 respondents supported the need for a wetland flood mitigation strategy; 4 respondents supported a "No Dogs" policy while 2 respondents apposed it; 3 respondents stressed the need for minimal signage and amenities; 2 respondents raised concerns over trail alignments with regards to trespassing and wildlife disturbance; 1 respondent did not support the outlined role and responsibilities of the proposed resident caretaker.

2.2 Legal Status and Encumbrances

Coats Marsh Regional Park is legally described as THE NORTH WEST 1/4 OF SECTION 10, GABRIOLA ISLAND, NANAIMO DISTRICT, EXCEPT THOSE PARTS IN PLANS 29152, 30043 AND 30051.



Red marker indicating park boundary and extent of wetland area within neighbouring private residential land to the west of the Coats Marsh RP. (FBER Ltd photo)

The park's assigned address is 908 South Road, Gabriola Island, however, there is no public access into the park from South Road. An unpaved driveway through a private neighbouring property from South Rd to the north end of Coats Marsh RP provides maintenance access for RDN and TNT staff only through an easement agreement with the private landowner which was finalized in March, 2011.

The driveway access is also used by a long-term resident who lives in a log cabin on the north end of the Coats Marsh RP. The resident, who originally rented the cabin from Clyde Coats (the previous owner of the park property), will remain on site until 2017 based on an original tenancy agreement made between Clyde Coats and TNT at the time of park acquisition. During the tenancy term, the resident will take on additional responsibilities as a resident park caretaker . Caretaker duties will be outlined in a Caretaker Agreement between the resident and the RDN.



Concrete weir and pond leveler controlling water levels at the outflow of the wetland area on the west boundary of the Coats Marsh RP. (FBER Ltd photo)

The legal boundaries of Coats Marsh RP traverse natural ecosystem boundaries that are protected within the park: the wetland area in the southern half of the park is not contained entirely within park boundaries. Approximately 6,000 square meters of the marsh extend into neighouring private forestry land to the east of the park, and 300 square meters of marsh extend into a neighbouring private residential lot to the west of the park.

Concerns around seasonal water level fluctuation and flooding have been relayed to RDN and TNT staff by a neighbouring residential land owner. Because water outflow from the wetland area is currently controlled by a dam and water leveler system managed by the RDN, ecological assessments completed by project biologist for this management plan address specific issues related to appropriate marsh depths and boundaries and offer recommendations on flood mitigation.

2.3 Property History

The Coats Marsh Regional Park is part of the traditional territory of the Snuneymuxw First Nation, and although there are no archeological sites currently recorded within the Coats Marsh RP property, a site walk-through and assessment with a representative of the Snuneymuxw First Nation would be extremely valuable in terms of identifying pre-contact cultural artifacts and sites.

The title to the Coats Marsh RP property has been held privately since the late 19th Century. The first owner of the property was William Hoggan from 1883 - 1923, and the last private owner, after four subsequent title transfers, was Clyde Coats, from 1963-2008.

An examination of historic air photos indicates that the northern half of the park was logged approximately 60 years ago and has been steadily regenerating since. The barn and log cabin currently located in the northeast clearing were built shortly after logging. A small commune was established here in the 1960s - 1970s, referred to locally as the "Stump Farm".

Although the wetland complex in the southern half of the park property is a naturally occurring feature based on topography and soil composition, its properties have been manipulated over the course of private ownership by way of draining (beaver dam removal and ditching) and flooding (dam construction). Four radio transmitting towers were built in the drained wetland area for a radio station that was operated by Clyde Coats in the 1970s and 1980s. After the removal of the radio towers and associated structures, the area was again flooded by Clyde Coats with the construction of a concrete dam, and with the intent of establishing a cranberry farm. The cranberry farm, however, was never developed.

For approximately 20 years prior to park designation, woody debris was stockpiled on the northern margins of the wetland in the Coats Marsh RP property and burned annually in the autumn under permit from the BC Ministry of Environment. There are no known incidents of wildfire on the property.

2.4 Current Conditions and Features

The 47.5 ha Coats Marsh Regional Park property consists of more than 30 ha of second growth Douglas-fir forest in the northern portion, 10 ha of wetland in the southern portion, a 1 ha clearing containing an abandoned barn and vertical log cabin (caretaker's residence), and two smaller clearings on the north side of the wetland where tree stumps were once dumped and burned.

The topography of the park ranges from flat to gently rolling and there are two permanent creeks and two ephemeral creeks that flow westward from the marsh beyond park boundaries to Hoggan Lake. The park is situated entirely within the Hogan Lake watershed.

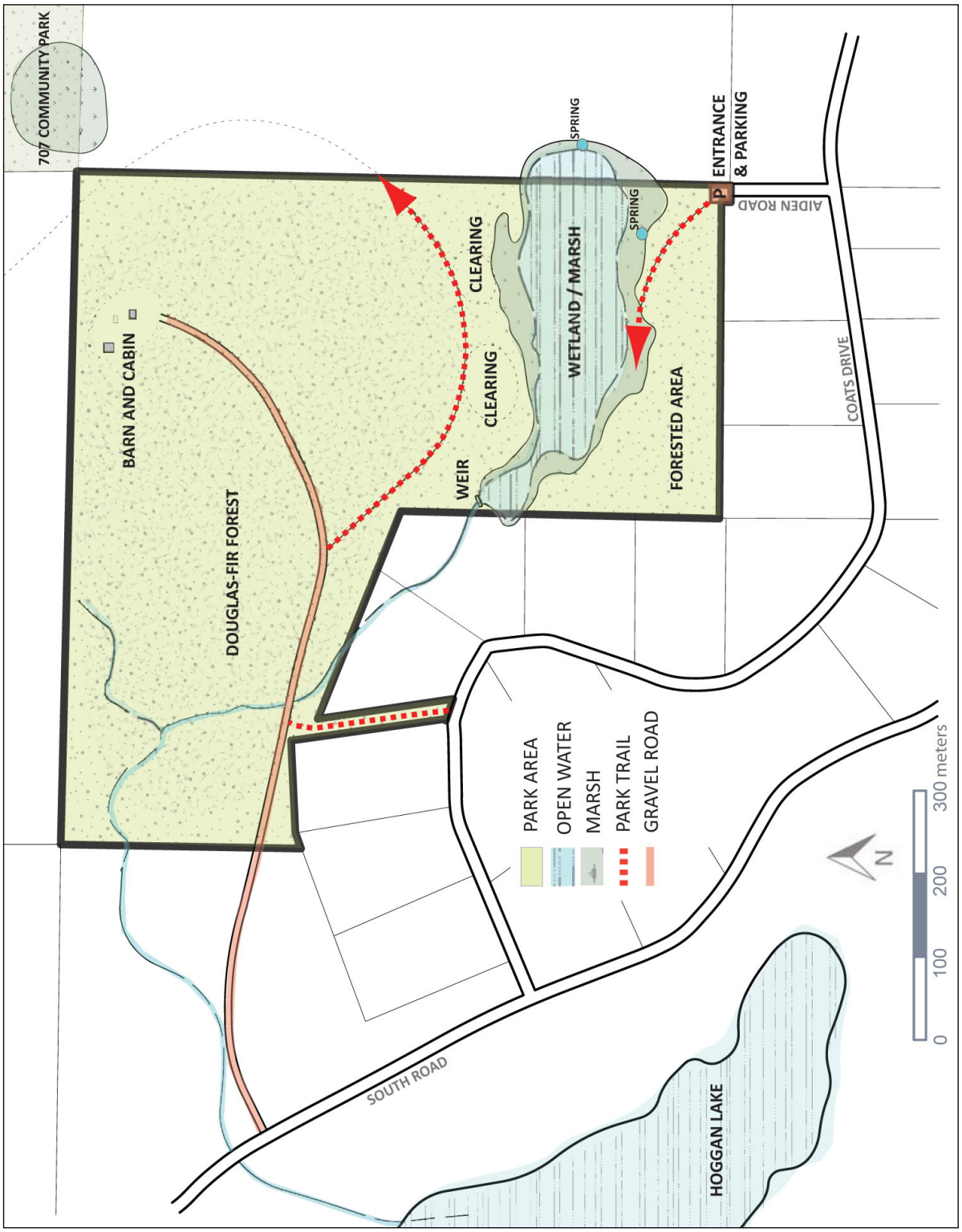


Figure 2.1 Coats Marsh Regional Park Site Plan of Existing Conditions

2.4.1 STRUCTURES

An abandoned barn and a vertical log cabin are located in a forest clearing in the northeast corner of the park. The structures were built approximately 50-60 years ago and are both in poor overall condition. The log cabin, which is heated by a wood stove, has no electricity or plumbing and is currently occupied by the park's long-term tenant and caretaker, is in need of significant structural improvements. A detailed report outlining building conditions and necessary improvements can be found in ***Appendix B: Coats Marsh Regional Park Building Condition Report 2010.***



Vertical log cabin (caretaker's residence) in the northeastern corner of the park (RDN photo)

2.4.2 TRAILS AND ACCESSES

There are currently two public accesses into Coats Marsh RP. A pedestrian access off of Coats Drive runs through a narrow park corridor (20m wide and 165 m long), to a trail in the north end of the park which leads to both the caretaker's residence and the north side of the wetland. A parking area and signed park entrance at the end of Aiden Rd lead to a foot-warn trail along the south end of the marsh. There are currently no public trail connections between Coats Marsh RP and 707 Community Park.



Parking area and public entrance into the south end of Coats Marsh RP from Aiden Rd (RDN photo)

2.4.3 RECREATIONAL USE

Coats Marsh RP is frequented mainly by residents of Gabriola Island. Current park activities, reflecting the tranquility and natural beauty of the site , include passive outdoor recreation and nature appreciation (walking, bird-watching, painting, photography, etc), There are currently no park amenities and no trail signage.

2.4.4 MAINTENANCE

RDN Parks Operations staff currently visit Coats Marsh Regional Park on monthly intervals to complete necessary maintenance tasks such as monitoring of wetland levels, litter removal and grass trimming. Staring in XX 2011, regular park maintenance tasks will be completed by the resident caretaker, as outlined in the Caretaker Agreement, and visits by park staff will be made as needs arise.



Installation of Clemson Pond Leveller in October 2009 by RDN and TNT staff (RDN photo)

2.4.5 NATURAL VALUES

An extensive assessment of the Park's natural features was completed by TNT prior to park acquisition. The assessment included an environmental audit, ecosensitivity assessment, timber valuation and a structural engineering assessment of the existing weir. An additional assessment and report was completed in 2010 by Foul Bay Ecological Research Ltd (FBER Ltd) specifically for the purpose of assessing the park's ecological features in terms of park management. The report describes the park's underlying geology, soil composition, hydrology, plant communities and wildlife and addresses issues related to recreational use, invasive plant removal and neighbouring residential properties. The full report can be found in ***Appendix A: Ecological Features and Management Recommendations.***

DOUGLAS-FIR FOREST

Under the Biogeoclimatic Ecosystem Classification (BEC) System, the Coats Marsh RP property is located in the Georgia Depression Ecoprovince and the South Gulf Islands Ecosection. The Park's 30ha of forest cover is primarily second and third growth Douglass-fir, classified by BEC as Coastal Douglas-fir moist maritime subzone (CDFmm). Most of the park was logged 50-60 years ago but has naturally regenerated and would now be classified as a "Young Forest". Two ephemeral watercourses drain westward through the forested area, eventually draining into Hoggan Lake.



60 year-old Young Forest (Bufo Inc. photo)

The Coats Marsh RP property represents a second, and in some areas a third growth forest falling into structural stage classes ranging from Shrub/Herb through Young Forest. A small area in the northwest corner of the park contains a veteran Douglas-fir and a Cedar snag amongst many dead or decaying trees which is high value avian habit, especially for cavity nesting birds and bats. Forest structural stage classes are described in the following table:

CLASS	DESCRIPTION
Non-Vegetated	< 10% cover of vascular plants
Herb	herb dominated communities, < 10% tree cover, <25% shrub cover
Shrub / Herb	**<20 year old forest, dominated by shrubs <10m tall including conifer regeneration, tree cover <10%, <20 years**
Pole / Sapling	**trees > 10 m tall and overtopping shrub and herb layer, generally 20 to 40 years**
Young Forest	**self-thinning evident, canopy layers developed, generally 40 to 80 years**
Mature Forest	co-dominant trees mature, well developed understory often including advanced regeneration, generally 80-250 years
Old Forest	old, structurally complex stands with snags and coarse woody debris, generally >250years

Table 2.1 Forest Structural Stage Classes in Coats Marsh RP indicated with bold type (FBER Ltd.)



Broom growing along edges of burn-pile clearings (FBER Ltd photo)

Six species of **invasive plants** were observed on forest peripheries during a site visit in December 2010 by FBER Ltd: Scotch broom, Canadian thistle, Himalayan blackberry, common mullein, tansy sp. An additional four invasive plant species were observed on neighbouring residential lots west of Coats Marsh RP: sowthistle, bull thistle, lamium and periwinkle.

WETLAND / MARSH

Coats Marsh evolved out of local geological conditions as a shallow palustrine basin wetland. Over the past century it was drained, farmed, and then re-flooded. It appears that for the past 15-20 years it has been allowed to naturally redevelop wetland characteristics. Because Hoggan Lake is known to contain fish, both Coats Marsh and the watercourse flowing from the marsh into Hoggan Lake would be defined as a "stream" under the Riparian Area Regulation (RAR) because of the connection to Hoggan Lake by surface water flow.

The water depth over the majority of the marsh area averages approximately 1m in the summer and 1.5m in the winter and is controlled by a pond leveller installed in 2009 by RDN and TNT staff to mitigate flooding caused by a resident beaver. The leveller and concrete weir are located at the outflow of the marsh at the west end of the property. Beyond the weir, water flows into a watercourse that has been trenched by digging or blasting and then joins a second watercourse at the northwest corner of the park that eventually empties into Hoggan Lake. Considering the underlying sandstone bedrock and the topography of surrounding lands, the water source in Coats Marsh RP is likely subsurface flow that has ponded in the marsh area. The location of two springs on the east end of the wetland were identified by planning consultants Bufo Inc, and are shown on Figure 2.1.



Yellow Pond Lily (Bufo Inc photo)

Reed canary grass is an ***invasive plant species*** that has already become established along most of the shore of the Coats Marsh area and throughout the wetland northeast of the park. Reed canary grass is very aggressive and once established can achieve near total dominance over native wetland species.



Water Smartweed (Bufo Inc photo)

SENSITIVE ECOSYSTEM INVENTORY

Six Sensitive Ecoysystem (SEI) Habitat Polygons associated with Coats Marsh Regional Park are outlined below in Table 2.1 and shown in Figure 2.3. Because habitat areas are identified using air photo interpretation and knowledge of local areas, developing natural areas excluded from the SEI inventory (such as the forested area along Watercourse 2), possess high habitat value nonetheless.

SEI POLYGON NUMBER	LOCATION	SEI DESCRIPTION
50207	Along the north park boundary and extending to the north	80% Non-sensitive Douglas fir – salal, shrub/herb structural stage; 20% Woodland: conifer dominated Douglas fir - Shore pine – Arbutus, shrub/herb structural stage
50230	The wetland area Immediately to the NE of the NE park boundary	100% Wetland: swamp Western Red Cedar – Indian Plum, pole/sapling structural stage
50235	Along north boundary along the route of Watercourse 1	50% Wetland: swamp Western Red Cedar – Indian Plum, young forest structural stage 50% Wetland: swamp Western Red Cedar – Indian Plum, shrub/herb structural stage
50252	Mostly within the park, along the east boundary	100% Wetland: swamp Western Red Cedar – Vanilla Leaf, young forest structural stage
50287	Coats Marsh	60% Wetland: marsh Cattail Marsh, herb structural stage 40% Wetland: shallow water Open Water <2m, no structural stage
50295	The perimeter of Coats Marsh on the north, east and south sides	90% Wetland: swamp Western Red Cedar – Indian Plum, young forest structural stage 10% Non-sensitive Rural Residential, no structural stage

Table 2.1 Sensitive Ecoysystem descriptions associated with Coats Marsh Regional Park (FBER Inc).



Bufflehead (RDN photo)

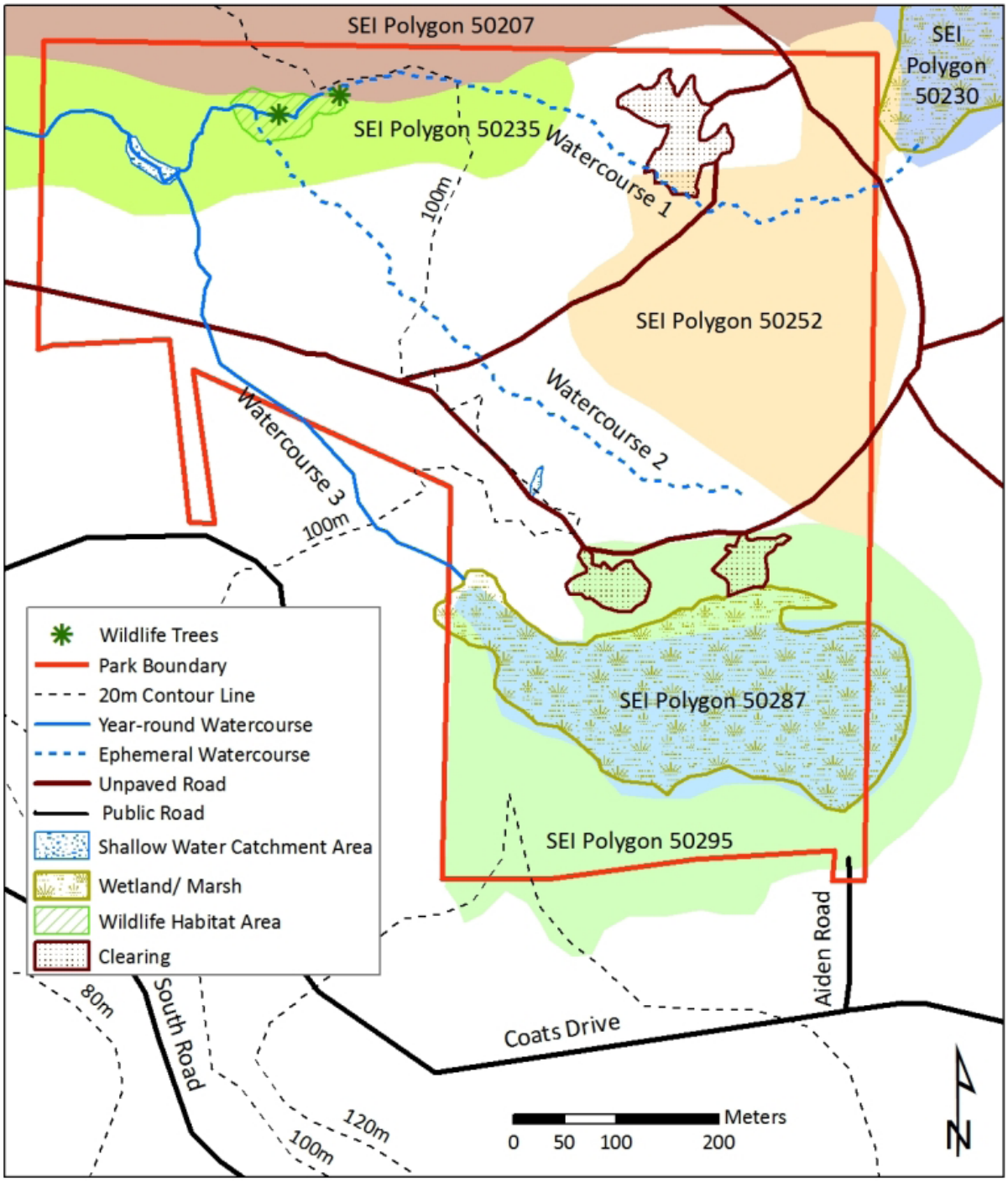


Figure 2.2 Sensitive Ecoysystem Inventory (SEI) associated with Coats Marsh Regional Park, polygon map (FBER Inc).

WILDLIFE HABITAT

The Conservation Data Centre (CDC 2010) publishes a list of species with designated protected status. Several amphibian, reptile, bird and mammal species, listed either federally (COSIWIC) or provincially (Red, Blue, or Yellow list) are potentially found within Coats Marsh Regional Park or have some aspect of their life cycle supported by the park habitat. The complete list is included in ***Appendix A: Ecological Features and Management Recommendations.***



Pileated Woodpecker (RDN photo)

Although no systematic wildlife inventory has been completed for Coat Marsh RP the following list of twenty-three bird species were recorded by Foul Bay Ecological Research Ltd. as encountered during a site visit to the park on December 1st and 2nd, 2010: Trumpeter swan, Mallard, Bufflehead, Bald Eagle, Sharp-shinned Hawk, Belted Kingfisher, Red-breasted Sapsucker, Downy Woodpecker, Hairy Woodpecker, Northern Flicker, Pileated Woodpecker, Steller's Jay, Common Raven, Chestnut-backed Chickadee, Red-breasted Nuthatch, Pacific Wren, Golden-crowned Kinglet, American Robin, Varied Thrush, Grosbeak, Rufous-sided Towhee, Song Sparrow and Dark-Eyed Junco.

3.0 MANAGEMENT PLAN

3.1 Vision



The following vision statement for the management of Coats Marsh Regional Park reflects covenants of the lease agreement between the RDN and TNT, as well as issues raised during the process of site analysis, research and public consultation:

Coats Marsh Regional Park is managed by the RDN, in partnership with TNT, local environmental groups and educational institutions, as a conservation area and education centre featuring two rare Gulf Island ecosystems - a Coastal Douglas-Fir forest and a freshwater wetland. Residents and visitors are welcome and encouraged to explore the park trail system and to participate in park programs in order to appreciate and learn from the its natural environment, cultural history, and management process.

3.2 Goals



The following three management goals reflect the vision statement for Coats Marsh RP and form the framework for policies and management actions for the ten-year period of park management from 2011-2021.

- **ENVIRONMENTAL PROTECTION AND ENHANCEMENT:**
  To ensure the long-term development of healthy forest and wetland ecosystems by minimizing recreational impact, restoring disturbed areas as necessary, and establishing a system of regular monitoring and stewardship.

- **PUBLIC ACCESS AND CIRCULATION:**
  To provide park access for the purpose of nature appreciation, education and low-impact recreation by developing delineated trails, installing maps and amenities in designated areas, and discouraging access to sensitive areas easily disturbed by human presence.



(All photos: RDN)

- **EDUCATION AND INTERPRETATION:**
  To facilitate ecological and cultural education related to the park's unique history and environment by restoring original park structures, creating educational facilities, installing interpretive signage and engaging local educational institutions and programs on research and enhancement.

3.3 Policies

The following Policies and Actions reflect themes of the Management Goals for the Coats Marsh Regional Park while addressing all park issues raised during Ecological Assessment and Public Consultation.

ENVIRONMENTAL PROTECTION AND ENHANCEMENT

3.3.1 FOREST MANAGEMENT AND ENHANCEMENT

Allow the park's Young Douglas-fir forest to mature naturally with minimal restoration.

The Coats Marsh RP property represents a second, and in some areas a third growth Douglas-fir forest. Protection of the forest area over time should allow for the natural development of Mature and Old Forest characteristics. Aside from spot locations of invasive species removal, the best management strategy for the forested area of the park is to leave it alone.



Looking north from the south side of the marsh towards the young Coast Douglas-fir forest in Coats Marsh RP (Bufo Inc. photo)

The main focus of terrestrial invasive plants in the forested area is within the two burn pile clearings north of the marsh. Invasive plants often upset the natural nutrient and substrate balance such that indigenous plants, animals and fish have lower productivity and survival rates. At this time the opportunity exists to contain, maintain and potentially eradicate some of the invasive species. Removal procedures for each of the six invasive plants found within the burn pile clearings (Scotch broom, Canadian thistle, Himalayan blackberry, common mullein, tansy sp.), are outlined in detail in ***Appendix A: Ecological Features and Management Recommendations.***

3.3.2 WETLAND MANAGEMENT AND ENHANCEMENT

Maintain existing wetland conditions through regular water level monitoring and invasive plant removal.



Himalayan Blackberry within burn-pile clearings (FBER Ltd photo)

A management priority for the wetland area in Coats Marsh RP is the completion of a detailed structural assessment of the existing concrete weir and the development of a flood mitigation strategy by fall of 2011.

The condition of the weir, which sets the water level of Coats Marsh, received a rudimentary engineering assessment at the time of park acquisition and may require renovation or replacement. Weir assessment will be conducted in conjunction with an environmental impact assessment for water level reduction and berm construction in order to prevent continued seasonal flooding of neighbouring residential properties due to beaver dam construction at the outflow of the wetland area and an inadequate pond levelling device.

In addition to water level reduction and berm construction, a system of regular water level monitoring and recording will need to be implemented to ensure ongoing effectiveness of the water levelling system. Water level monitoring and recording will likely be the responsibility of the resident caretaker and will be implemented once a Caretaker Agreement is signed between the current park resident and the Regional District of Nanaimo.



Reed Canary Grass (Bufo Inc photo)

Coats Marsh RP has naturally redeveloped wetland characteristics over the past 15-20 years after a series of draining, farming and reflooding. The ultimate goal for any future management or enhancement activities within Coats Marsh RP should result in a marsh wetland system that functions naturally and requires limited or no ongoing maintenance.

Although dredging is often used to maintain open shallow water habitat in marsh environments, it is not recommended for Coats Marsh. Dredging would disturb the thin layer of clay covering the permeable sandstone bedrock and would also greatly impact wildlife species that live and forage within wetland substrate and vegetation, this includes waterfowl, amphibians, and the invertebrates on which they depend. Dredging is also likely to introduce and increase the spread of non-native, invasive species.

Reed Canary Grass, which has already become established along the edge of the marsh, is very difficult to remove without the use of chemicals that may cause even greater harm to the infested area. It is suggested that hand removal in specific locations, coupled with planting of native shrubs and trees may produce enough shade to out compete some areas of reed canary grass.

3.3.3 WILDLIFE PROTECTION

Manage recreational use and access throughout the park to minimize disturbance to high value habitat areas.



Red-Winged Blackbird (Bufo Inc photo)

Most wildlife have a good tolerance towards the presence of humans when focused from a single direction (Foul Bay Ecological Research Inc). Although birds and wildlife view humans as a threat they can go about their activities quite comfortably as long as there is place for them to retreat or hide. Ideally, there should not be full perimeter trail or boardwalk around the shore of the Coats Marsh - trails should remain back from the marsh protecting wildlife form human disturbance. Also, the development of trails in the northwest corner of the park, in the vicinity of a valuable habitat area should be avoided.

A systematic inventory of wildlife species within Coats Marsh RP should be completed to assist in wildlife monitoring and protection efforts.

3.3.4 TRAIL DEVELOPMENT

Develop a park trail system that provides pedestrian access to key ecological and cultural park features while protecting areas of sensitive habitat from disturbance.

A system of clearly delineated paths, including boardwalk and viewing platforms in the wetland area, would provide a trail circuit throughout the park while directing pedestrian traffic within designated recreational areas.

Although existing informal trails on the south side of the marsh should be rerouted away from the shoreline to reduce habitat disturbance, a viewing platform off of Aiden Road would offer excellent long views of the marsh area while providing direct access to the edge of the wetland area within a designated area for educational purposes. Because the marsh is little more than a metre deep, it is possible to install a section of boardwalk on the west side of the wetland in order to connect the north and south ends of the park.

There are currently no trail connections to the east side of the marsh or to the 707 Community Park, however, the RDN and TNT will continue to work with willing property owners on future acquisition opportunities within the Hoggan Lake watershed to compliment existing conservation lands and trail networks within the larger park system.

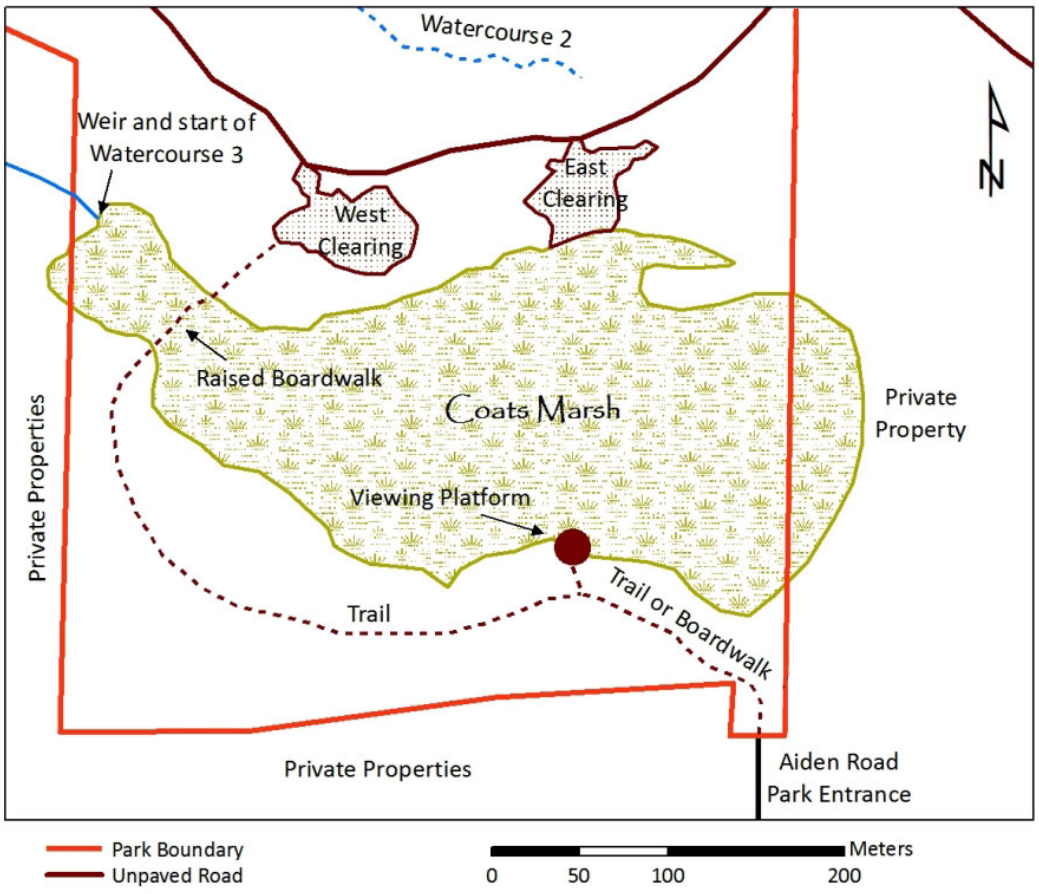


Figure 3.1 Trail, boardwalk and wildlife viewing locations as recommended by Foul Bay Ecological Research Ltd.

3.3.5 RECREATIONAL USE

Designate all park and trail access for pedestrian use only to minimize disturbance to park plants and wildlife.



Young bird watcher(BirdWatching Club.net photo)

The main management objective for the Coats Marsh Regional Park property - as identified by the Ecological Gifts program, the TNT/RDN Lease Agreement and community consensus - is environmental conservation. Human access to the park property is secondary but is provided for the purpose of maintenance and restoration, nature appreciation and education.

Because of the sensitivity of developing plant communities and wildlife species within the park, all park trails and designated recreational areas are for pedestrian use only, with no access for dogs and horses. As with all other Regional and Community Parks, off road vehicle and ATV use are prohibited.

3.3.6 TRAIL SIGNAGE AND AMENITIES

Install signage at key trail junctures and seating in designated wildlife viewing areas to facilitated circulation and authorized recreational use within designated trails and areas.



Simple directional signage (RDN image)

During the process of public consultation, most Open House participants and survey respondents felt that very little change was required to the park, however trail signage and maps were identified by 70% of park users as a necessary park improvement. Park amenities were asked to be kept to a minimum, but rustic benches along trails were considered appropriate.

Park use and navigational signage will be limited to park maps and authorized use signs at entrance points and simple directional signs at trail junctures. Wooden benches will be installed in the park at approximately 1km intervals along park trails (a total of 3 or 4 benches).



Rustic bench along trails and wildlife viewing areas (RDN photo)

3.3.7 PARK MAINTENANCE

Supplement park maintenance by RDN Operations staff with regular monitoring and maintenance tasks completed by a resident caretaker for the first 6 years of park management, from 2011-2017.

Based on a tenancy agreement made between Clyde Coats and TNT at the time of park acquisition, a long term park resident will remain on the property until 2017. A Caretaker Agreement between the RDN and the park resident will be finalized in the fall of 2011 and will outline maintenance and monitoring responsibilities of the resident caretaker which will supplement maintenance tasks by RDN Park staff for the first 6 years of park management. Caretaker responsibilities will include removal of invasive plant species, removal of park litter, monitoring of park uses by visitors and monitoring of weir and pond leveler.

3.3.8 FACILITY DEVELOPMENT

Construct park shelters and group seating in developed park areas to accommodate educational programs without impacting sensitive park environments.

Education and Research were identified by Open House and Survey participants as the most significant functions of Coats Marsh Regional Park (after conservation and passive recreation). Survey results also showed that "nature study" is the second most popular activity for current park users, the first being "walking/ hiking".



Outdoor presentation and lecture space with amphitheater seating (RDN photo)

Several areas in the park that are already developed or cleared provide an opportunity for facility development by way of renovation or construction. A clearing in the northeast corner of the park currently contains a vertical log cabin and dilapidated barn. The log cabin, which will be renovated in 2011 to accommodate the resident caretaker, can be converted to an **education centre** after 2017 for use by educational groups and individual park visitors, while the barn can be replaced with an adjacent **picnic shelter**. A burn pile clearing on the north edge of the marsh provides excellent views of the wetland area and is well suited to rustic **amphitheater seating** for lectures and presentations.

3.3.9 INTERPRETIVE AND COMMEMORATIVE SIGNAGE

Provide park visitors with information on the park's ecosystems and history by installing interpretive signage at key view points in the wetland, forest and residential areas.



Interpretive signage in Beacon Hill Park, Victoria (RDN photo)

Information on the park's natural environment and conservation strategy would provide park visitors with a better understanding of the importance and sensitivity of the park environment as well as their role within it. Small interpretive signs installed along the park's trail system, as opposed to large kiosks at park entrances, would make information readily available to park visitors.

In addition to nature interpretation, most Open House and Survey participants requested the installation of a plaque commemorating Clyde Coat's involvement in the creation of the park.

3.3.10 EDUCATIONAL PROGRAMS

Collaborate with local environmental groups and educational institutions to develop educational programs for visitors within the park and outreach program for the larger community.



Guided nature hike (Surrey Nature Centre photo)

The RDN Recreation and Parks department will work with organizations such as the Gabriola Land Conservancy and the Gabriola Land and Trails Trust to offer guided hikes and park lecture series to visitors within the park as well as information to park neighbours via internet and newsletter, on the ecological effects of residential gardens. Local land-owners should be informed of the disadvantages associated with cultivating exotic invasive plants and encouraged to replace these species with species that are compatible with our local, natural environment.

Because vegetation in the wetland area needs be inventoried, mapped and observed over time to help with any decision regarding marsh enhancement, involvement from institutions such as Vancouver Island University, as well as elementary and secondary schools, would benefit local students and the park environment equally.

3.4 Conceptual Park Design

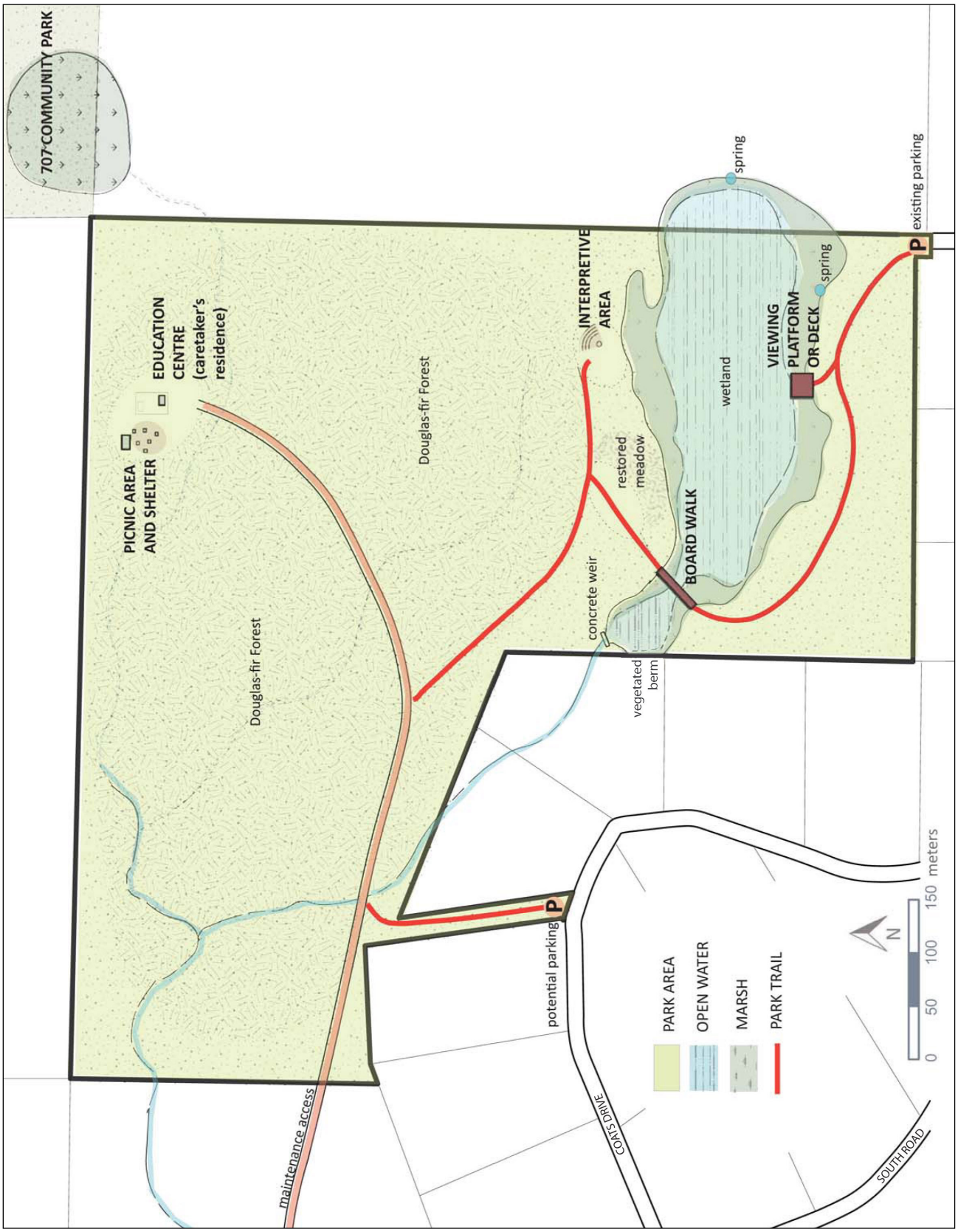


Figure 3.2 Coats Marsh Regional Park Conceptual Development Design

GOAL TOPIC		ACTIONS - LISTED IN ORDER OF PRIORITY	COST	PARTICIPATION
Environmental Protection and Enhancement	1	Complete Caretakers Agreement for 2011-2017 with outlined duties and responsibilities for resident caretaker, including regular water level monitoring in wetland area.	staff time	RDN management resident caretaker
	2	Conduct structural assessment of existing concrete weir and environmental impact assessment of water level reduction and berm construction.	labour - $10,000	Consultant
	3	Design and Install a vegetated berm along the west boundary of the Coats Marsh wetland area.	materials & labour - $16,000	Consultant and Contractors
	4	Restore log cabin on north edge of park to accommodate resident caretaker until 2017.	materials & labour - $10,000	RDN staff, contractors
	5	Remove exotic invasive plants in forest and wetland and replant with native shrubs and trees.	plant material - $2000	resident caretaker RDN staff
	6	Remove wire fence along north edge of wetland to allow wildlife access.	staff time	RDN staff
	7	Complete systematic inventory of park wildlife and plant communities.	labour - $5000	Consultant
Public Access and Circulation	1	Remove barn at north end of park due to issues of public safety.	staff time equipment - $2000	RDN staff
	2	Construct boardwalk across west end of wetland to provide pedestrian access between the north and south ends of the park.	staff time materials- $10,000	RDN staff, contractors
	3	Develop parking area at Coats Drive for direct access to north end of park.	staff time materials - $5000	RDN staff, volunteers, contractors
	4	Design and install a wayfinding system which includes maps at park entrances and signs along trails.	staff time materials - $5000	RDN staff, volunteers
	5	Install park benches at key locations along trails to designate rest stops.	staff time, material -$5000	RDN staff, volunteers
	6	Construct park shelter and picinic area at north end of park on old barn site.	staff time, material - $30,000	RDN staff, contractors
Education and Interpretation	1	Facilitate a site assessment with Snuneymuxw First Nation for cultural artifact and area identification.	staff time,	RDN staff Snuneymuxw Consultant
	2	Provide neighbouring landowners with information related to invasive plant management through residential garden control by way of website and pamphlets.	staff time, materials - $500	RDN Staff, resident caretaker
	3	Install interpretive signage providing information on the park's ecosystem at key locations throughout the park.	staff time materials - $5000	RDN staff resident caretaker
	4	Install a viewing platform on the south side of the wetland to provide access to water for educational use.	materials and labour -$5000	RDN Staff, contractors
	5	Construct amphitheater seating area in existing clearing on north side of wetland as an outdoor educational facility.	staff time materials - $5000	RDN staff, volunteers
	6	Redevelop caretaker's cabin in 2017 as an education centre and classroom.	materials & labour - $5000	RDN staff

Table 3.1 Operational Actions for 2011 - 2021 listed in order of priority