GABRIOLA ISLAND LOCAL TRUST COMMITTEE
Business Meeting
Tuesday, February 14, 2012 at the Gabriola Community Hall,
2200 South Road, Gabriola Island, BC

AGENDA PACKAGE SECTION 2

PAGES 94 TO 238

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GABRIOLA ISLAND RIPARIAN AREA REGULATION STREAM IDENTIFICATION

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GABRIOLA ISLAND RAR STREAM IDENTIFICATION

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1.0 INTRODUCTION

The Riparian Areas Regulation (RAR) is the basis of streamside protection in British Columbia. The RAR was enacted in 2004 under Section 12 of the Fish Protection Act. The RAR is a joint initiative with Fisheries and Oceans Canada (DFO), the Ministry of Environment (MoE) and local government. The RAR uses a science-based approach to help ensure land development activities do not result in a harmful alteration, disruption or destruction (HADD) of fish habitat.

In BC, the definition of fish habitat includes all aquatic and terrestrial areas that affect fish life processes. Fish habitat, therefore, includes the area directly adjacent to a stream (*i.e.*, the riparian area) because it provides food, nutrients, and other functions vital to fish survival.

In order to become compliant with the provincial RAR, Islands Trust contracted Madrone Environmental Services Ltd. (Madrone) to conduct fieldwork to identify RAR-applicable drainages on Gabriola Island. Islands Trust will develop a process that recognizes focus areas adjacent to applicable streams (e.g. by incorporating Development Permit Areas or implementing other regulations).

The primary objective of the project was to map the location of streams with a high level of accuracy (within 1 m – 5 m), to allow Islands Trust to accurately identify the Riparian Assessment Area (RAA), which occurs within 30 m of applicable watercourses. The scope of this project did not include locating the High Water Mark (HWM) or, in the case of ravines, the Top of Ravine Bank (TORB), which is where the RAA would ultimately be measured from.

Any subsequent proposed development inside any RAA would trigger the RAR process. Development within the RAA would be permitted if a Qualified Environmental Professional (QEP) completes and submits a Riparian Assessment Report to the local government, DFO and the MoE.

2.0 METHODOLOGY

2.1 Background Research

Background research was carried out using the Fisheries Information Summary System (FISS) (http://www.env.gov.bc.ca/fish/fiss/index.html) and Habitat Wizard (http://webmaps.gov.bc.ca/imf5/imf.jsp?site=moe_habwizdatabases) to determine whether any documented stream information existed for the study area. Terrestrial Ecosystem Mapping (TEM) and Sensitive Ecosystem Inventory (SEI) (http://a100.gov.bc.ca/pub/acat/public/viewReport.do?reportId=2124) were also used to identify potential drainage locations prior to field assessments. Base maps provided by Islands Trust were also studied. Previous work on Gabriola Island by Madrone in the Coats Marsh area also added a valuable degree of knowledge regarding one of the main watercourses on Gabriola Island.

2.2 Photo Interpretation

Recent orthophotos were provided by the client prior to the field assessment. These photos were used as the base layer for detailed field map compilation, which included contour lines, TRIM stream data, watershed boundaries, park areas, lot lines and road networks. The orthophotos were studied prior to the initial field visit, in association with TEM/SEI data to highlight focal study areas. Given the degree of compiled background information and the high level of detail represented on the orthophoto field maps, a detailed air photo interpretation was not considered to be appropriate for the project.

2.3 Assessment Areas

The two watersheds identified by the MoE as "RAR watersheds" and the two "potential RAR watersheds" defined the study area (Figure 1). Drainages inside park areas were not assessed due to the scope of this project.

2.4 Definition of a "Stream" under the RAR

In order to identify applicable drainages in the field, the definition of a "stream" as listed under the provincial RAR, was used as a standard. As per Section 1.4.2 of the RAR Assessment Methodology; (http://www.env.gov.bc.ca/habitat/fish_protection_act/riparian/documents/assessment_methods.pdf), a "stream" is defined as follows:

"…any watercourse – natural or human made – that provides fish habitat that contains water on a perennial or seasonal basis, is scoured by water or contains observable deposits of mineral alluvium, or has a continuous channel bed including a watercourse that is obscured by overhanging or bridging vegetation or soil mats. A watercourse may not itself be inhabited by fish, but may provide water, food and nutrients to streams that do support fish."

The RAR further identifies a stream as:

"…any of the following that provides fish habitat:

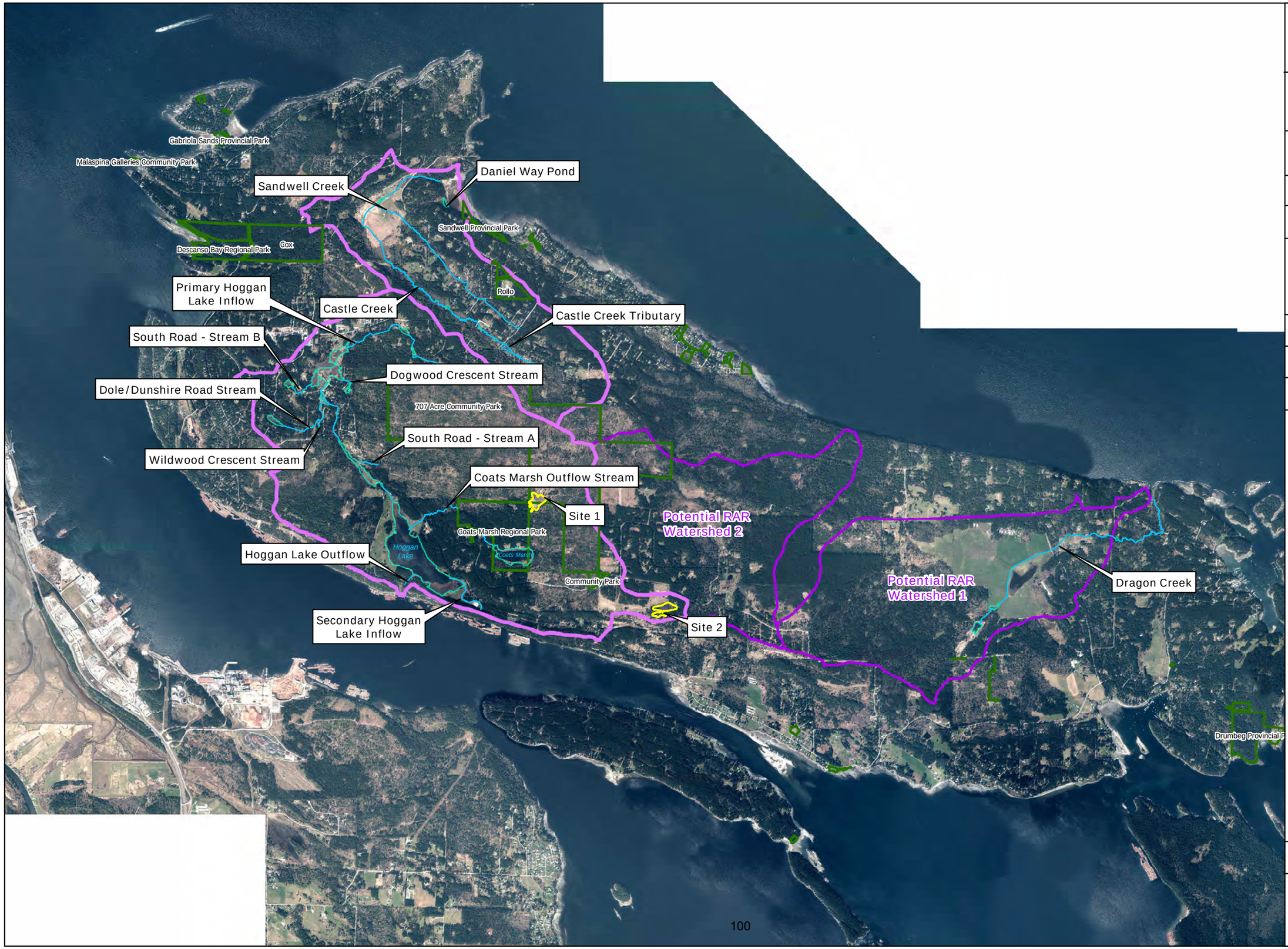
(a) a watercourse, whether it usually contains water or not;

(b) a pond, lake, river, creek, brook;

(c) a ditch, spring or wetland that is connected by surface flow to something referred to in paragraph (a) or (b).

If a barrier (either definitive or non-permanent) to the migration of fish is identified, a watercourse is classified as a stream above the barrier if there is potential fish habitat downstream of the barrier. Any part of a watercourse that is not inhabited by fish (e.g. above a barrier) that connects by surface flow to fish habitat is considered a stream under the RAR process.

Watercourses that do not support fish or connect by surface flow to fish habitat (e.g. isolated wetlands) are not considered "streams" under the RAR process. No focused mapping of isolated wetlands was carried out as part of this assessment, but where encountered, these features were identified. It should be noted that wetland ecosystem types still provide benefits to a range of species and provide important functions (e.g. stormwater retention).



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Figure 1: Overview of RAR Applicable Streams in Focus Watersheds

PROJECT:
Gabriola Island Riparian Area Regulation Stream Identification

CLIENT:
Gabriola Island Local Trust Committee

GEOGRAPHIC AREA:
Gabriola Island, BC

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ASSESSMENTS:
November 2011 & January 2012

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- Mapped RAR Applicable Streams
- RAR Watershed
- Potential RAR Watershed
- Waterbody
- Non-RAR Applicable Wetland

Protected Areas

- Provincial Park
- Regional Park
- Community Park

0 250 500 1,000 1,500 m

N W E S

2.5 Field Assessment Procedures

Field work for the Gabriola Island assessment was completed using two field crews (two people per crew) over the course of three visits to the island using ProMark 3 GPS units. The first set of surveys was conducted during the period November 22nd to November 24th, 2011. The field portion of the project was completed with single day site visits on November 29th, 2011 and January 6th, 2012. Stream surveys were carried out during the winter months, which represented the best season regarding the delineation of drainage networks, as flows were near maximum.

After viewing the original data an additional field visit was completed using a MobileMapper 100 GPS unit by a single field crew on January 25th, 2012 to obtain more accurate data for specific stream reaches. The MobileMapper 100 has the capability to track additional GLONASS satellites compared to the ProMark 3, which can improve reliability in poor GPS conditions such as dense canopy/shrub cover and ravines. The MobileMapper 100 also has the ability to set maximum PDOP values and elevational mask which refines the data collected. These values were set to a maximum PDOP of 8 and an elevational mask of 15°.

Each applicable drainage that was identified during the background work was assessed in the field with a two person crew, beginning from the downstream end where possible (e.g. tidal boundary or inflow into a lake). Traversing the drainages on foot helped to ensure that additional drainages that may not have been identified during the background work were not missed.

Stream locations were determined by physically following the creek centre line while carrying a ProMark 3 GPS unit and associated receiver, which met the GPS standards provided by Islands Trust. Initially, the GPS logged data every metre during the traverse of the stream. Once canopy closure was deemed to be an issue affecting data collection, the logging interval was changed to collect data every second, which is recommended for surveys under heavy canopy closure in BC, in order to obtain more reliable and accurate results. Number of satellites and Position Dilution of Precision (PDOP) values were monitored and every effort (including re-traversing multiple stream sections with the MobileMapper 100) was made to ensure conditions met the minimum standards (number of satellites >4; PDOP <8) while traversing streams.

Concurrently with stream mapping, basic habitat data was also collected along the stream. Data collected included gradient, channel morphology (e.g. riffle-pool/cascade pool or step-pool), extent of riparian vegetation and fish habitat

potential. Fish habitat attributes such as cover/security, Large Woody Debris (LWD) and spawning substrate were also noted. Representative site photographs were taken during each stream traverse (Appendix I). GPS way points were collected to depict the location of features such as barriers to upstream fish movement (e.g. waterfalls), culverts and bridges.

The edges of wetlands and lakes were not traversed, although their dimensions and attributes were recorded during the assessment. The level of orthophoto coverage, in addition to ground-truthing, allowed for the accurate digitizing of wetland/lake edges on the final maps.

In certain cases, watercourses were too deep to allow them to be practically (and safely) followed. In other instances, the density of vegetation growing in the watercourse did not make it feasible to follow the drainage with the GPS, as the external antenna would become significantly fouled and/or impeded, leading to poor GPS operating conditions. These riparian characteristics generally occurred in deeply incised agricultural ditches running through open fields, which could be clearly identified and digitized on the orthophoto layer. Small portions of many of the streams were unable to be followed due to dense vegetation cover or obstacles such as downed trees. In these cases, the GPS data collection was paused briefly and resumed on the other side of the obstacle. We have identified the portions of streams that could not be traversed due to adverse physical conditions (refer to Figures 2 – 15).

As many of the streams on Gabriola Island flow on private property, Islands Trust personnel were diligent in providing land owners with information packages to provide notice of the project. Field surveys were coordinated to be completed on dates after land owners had received the packages. The grace period was designed to allow the land owners time to understand the project and voice any concerns. In cases where land owners did not grant the survey crews permission to access the property, those streams were not surveyed.

Despite the fact that landowners had been informed of the project, in some cases fences were encountered that did not allow for streams to be traversed for short sections. In other cases, aggressive dogs were encountered that prevented access onto property. For areas where we could not gain access, or did not have permission to access, we tried to identify the stream through orthophoto interpretation. As with areas that could not be traversed as a result of physical constraints, we have indicated the portions of streams that could not be accessed due to lack of access permission (refer to Figures 2 – 15).

2.6 Assessing for Fish Presence or Potential Fish Presence

While background research using databases is useful in determining the general distribution of fish, it cannot be relied upon as a complete inventory. For example, a lack of data for any given stream or watershed cannot be interpreted as indicating that the stream or watershed does not contain fish. Proving non fish presence generally requires rigorous sampling procedures during optimal seasons. Given the fact that the project was focused on identifying fish bearing or **potential** fish bearing drainages, no detailed sampling procedure was carried out. Fish sampling, therefore, was beyond the scope of this assessment.

For low gradient streams that connected directly to the ocean, a default "potentially fish bearing" status was used (considering the potential for access to the drainage by anadromous fish). It should be noted that a stream is considered to be fish bearing even if it provides potential habitat for fish during a very short period of time, such as high flow ephemeral off-channel security habitat or seasonal spawning/rearing habitat.

The identification of barriers or high gradient reaches that could potentially limit the distribution of fish through a system was not the main focus of this assessment, as a "stream" under the RAR is not necessarily fish bearing. If a drainage connects by surface flow to fish habitat, it is considered a "stream" under the RAR. Identifying barriers to the upstream movement of fish became more of a focal issue when a barrier was encountered at tidewater, preventing access for anadromous fish.

Streams lacking perennial habitat for resident fish with barriers at tidewater were not considered "streams" under the scope of this assessment. If perennial habitat and/or a source of fish was identified upstream of a barrier, the drainage would be considered potentially fish bearing and, therefore, classified as a "stream".

The two potential RAR watersheds indicated on Figure 1 were assessed for applicability to the regulation. The inland portions of the main outlet stream (s) of the watersheds were assessed for potential fish habitat. Flow periodicity and the identification of potential fish "sources" (e.g. lakes or permanently wetted open water wetlands) were factors that were considered when assessing the potential for fish to occur. Based on a lack of habitat attributes for resident fish, the potential for seasonal use of the drainages by anadromous fish became the most important factor to consider. As a result, assessing the outlets of the watersheds at tidewater for potential habitat and also for barriers to anadromous fish was critical.

2.7 GPS Data Procedures and Data Limitations

After field assessments were completed, the GPS data was downloaded and viewed in MobileMapper Office software (which accompanies the ProMark 3 GPS unit). For each stream, the data was filtered to indicate point values along the streams in which the minimum number of satellites and/or PDOP values were not met. Results not meeting the minimum requirements were likely due to dense canopy/shrub cover, adjacent cliffs or ravines, and antennae shifts while negotiating obstacles in the creek bed. In these types of survey conditions, especially when completing a moving (dynamic) survey, it is often difficult or impossible to get accurate results, as the conditions, or geometric relationship above, are constantly changing (GeoBC 2011, RISC 2008). Inaccurate points, along with other obvious errors, such as "zingers" and "loops" were removed from the dataset.

The dataset was then post-processed, where necessary, using the closest permanent validated base station to the assessment area and approved by Islands Trust, located in Nanoose, BC (Appendix II). The data was converted to shapefiles and further cleaned in ArcGIS 10, using the orthophoto background as a guide. In cases where the creek line was found to be slightly shifted off a known feature (e.g. ditch evident on the orthophoto) the final creek lines and waypoints were adjusted to match the orthophoto wherever possible. In the majority of cases, these shifts were within 2 m – 3 m.

With the post-processed ProMark 3 data, in some cases the original raw data was found to be more accurate than the post-processed data. In these circumstances, the original data was used. The creek lines were also smoothed (0.001 metres) using the Smooth tool in the Advanced Editing Toolbar in ArcGIS. Smoothing the line features diminished the number of jagged stream segments, which were a result of high logging interval, and created a more natural stream appearance.

3.0 RESULTS

3.1 Documented Stream Data

Documented fish distribution data for the Gulf Islands is limited, although Hoggan Lake is listed under FISS. Hoggan Lake (watershed code 925-380000-26400; waterbody identifier 00020COWN) covers a surface area of 19.7 ha, has a perimeter of 2.2 km and is known to provide water to adjacent properties for agricultural use.

Fish stocking records for Hoggan Lake indicate that it was stocked with rainbow trout (*Oncorhynchus mykiss*) and coastal cutthroat trout (*Oncorhynchus clarkii clarkii*) in 1927 (Habitat Wizard 2011). Both these species were observed in the lake in 1972 (FISS 2011), indicating that either the fish that were stocked established a self-sustaining population, or that the lake has always contained a natural population of fish.

3.2 Drainage Descriptions – Identified RAR Watersheds

It should be noted that the majority of streams located during the project were previously unmapped and were, therefore, unnamed systems. Where appropriate, stream names were associated with each watercourse for reference purposes during the project and do not represent registered names. Figures 2 through 15 indicate each RAR-applicable stream and display waypoints of features collected during each stream traverse (e.g. barriers to fish migration and culvert inflows/outflows).

3.2.1 Sandwell Creek – Figures 2A and 2B

Although extensive stream alteration has resulted from past anthropogenic activities on Gabriola Island, portions of Sandwell Creek remain as some of the best potential fish habitat within the focal watersheds. Anecdotal evidence suggests that Sandwell Creek may have once supported a population of resident fish prior to incurring alterations to riparian habitat, channel morphology, water quality and water quantity. Due to a lack of habitat attributes, most notably a seasonal flow regime, no resident fish currently exist in the stream. It is possible, however, that seasonal anadromous fish use may occur downstream of the identified barrier. Species such as chum salmon (*Oncorhynchus keta*) or pink salmon (*O. gorbuscha*), which migrate to the ocean quickly after emergence from the gravel, could potentially occur. It is possible, however, that water quality limitations currently preclude the use of the stream by fish.

At its entry point into the ocean at Lock Bay, Sandwell Creek flows into an estuarine marsh, which is protected from oncoming wave action by a spit to the north. To the east, south and west, the marsh is contained by intact riparian vegetation, dominated by Douglas-fir (*Pseudotsuga menziesii*) and salal (*Gaultheria shallon*).

The substrate in the marsh is comprised of soft organics. The estuarine salt marsh habitat provides important fish and wildlife habitat. It is likely that the protected salt marsh is used by rearing juvenile salmonids from other fish-bearing systems. The salt marsh also supports a range of unique plant assemblages. Due to biological attributes,

the marsh has been divided into two identified Sensitive Ecosystems, listed under the Sensitive Ecosystem Inventory (SEI) as T1242A WN:ms (identified as a marsh) and T1242B WN:sp (swamp).

From its entry into the ocean, the stream flows as a low-gradient system with a wide active floodplain. The action of beavers (*Castor canadensis*), including a constructed beaver dam close to tidewater, has likely led to the widening of the stream in this area.

The lower reach grades into a more confined steep sided ravine, where the gradient of the stream increases to approximately 3% – 4% (riffle-pool channel type). The average channel width (at bankfull) in this area is 2 m – 4 m. Substrate consists of a mix of gravel and cobble, which provides potential spawning habitat for a range of salmonid fish (including suitably sized substrate for trout and larger adult salmon). Cover in the form of LWD is abundant; pools and undercut banks are also well represented, providing potential security habitat for fish. Riparian vegetation is intact and provides biological function in the form of shade, leaf/litter input, insect drop and bank stability.

Tree species within the riparian zone include bigleaf maple (*Acer macrophyllum*), Douglas-fir, western redcedar (*Thuja plicata*) and red alder (*Alnus rubra*). Shrub growth is dense and consists mainly of Indian-plum (*Oemleria cerasiformis*), trailing blackberry (*Rubus ursinus*), salmonberry (*Rubus spectabilis*) and oceanspray (*Holodiscus discolour*). The herb layer consists of common horsetail (*Equisetum arvense*), slough sedge (*Carex obnupta*), bracken fern (*Pteridium aquilinum*) and sword fern (*Polystichum munitum*).

Prior to the culvert under Daniel Way, a series of steps over bedrock creates a barrier to the upstream migration of fish. This feature represents a definitive barrier to the upstream movement of all fish. The most significant bedrock step has a gradient of 80% and a height of 2.5 m.

Upstream of Daniel Way, the drainage flows through agricultural pasture. In this area, the stream represents a constructed ditch. Due to historical anthropogenic activities, functioning riparian vegetation is limited. It was noted that a portion of the channel in this area appeared to have been excavated in the past to create a pond for irrigation purposes. The gradient of the stream throughout the pasture is minimal at 1% – 2% and the width of the channel is approximately 2 m – 3 m.

As the agricultural fields flood on a seasonal basis, important habitat types are created. Based on the value of this type of seasonally available habitat to a range of wildlife, especially overwintering waterfowl, the fields in this area have been designated under the SEI (listed ecosystem T1229 – FS).

From the edge of the pasture to Horseshoe Way, the drainage takes on the characteristics of a natural stream as it flows through an intact second growth forest, which provides shade, leaf/litter input, insect drop and bank stability. Tree growth documented within the riparian zone included Douglas-fir, western redcedar and red alder. Salal, trailing blackberry, dull Oregon-grape (*Mahonia nervosa*), salmonberry and oceanspray comprised the dominant species within the shrub layer. Herb growth consisted of bracken fern, sword fern, common horsetail and slough sedge. Isolated patches of the invasive Himalayan blackberry (*Rubus discolour*) were also noted.

This more natural portion of the drainage has an average width of approximately 1.5 m – 3.0 m and a gradient of 4%, consistent with a riffle-pool system. However, a short section of the stream can be classified as having step-pool morphology due to the fact that the gradient increases to 7% – 8%. Substrate consists mainly of small gravel and sand. Cover in the form of LWD is abundant and deeper pools and undercut banks are well represented.

The morphology of the drainage between Horseshoe Way and McClay Way is consistent with a maintained roadside ditch. Functioning riparian vegetation cover is sparse. From McClay Way to the origin near Barrett Road, the drainage flows through a series of residential properties and farm fields. The drainage has a consistent width of approximately 1.0 m – 2.0 m and flows as a low gradient system (1% – 2%). Substrate consists of soft organics. As the drainage has been historically ditched, cover in the form of LWD and deeper pools is lacking.

Riparian vegetation in the upper portion of the drainage is lacking due to past anthropogenic activities on many properties encroaching on the drainage. In most areas, manicured lawn has been established up to the high water mark of the drainage, and buildings (*i.e.,* sheds) have been placed within 2 m of the drainage. Although trees in the riparian area are uncommon, Douglas-fir, western redcedar and red alder occur sporadically. Shrub growth is also limited and consists mainly of common snowberry (*Symphoricarpos albus*), salmonberry and oceanspray. Comprising the herb layer is slough sedge, sword fern and common horsetail. Invasive plant species documented within the riparian zone include Himalayan blackberry, Daphne laurel (*Daphne laureola*) and English holly (*Ilex aquifolium*).

Approximately 50 m upstream of Barrett Road, the drainage has been altered by development of a small gravel access road. Placement of the road across the drainage has resulted in water being held back to create a small pound. It should be noted that during high flows, water breaches the road and seeps through the forest floor. No channel or continuous stretch of surface flow could be followed between the pond and Barrett Road. The topography of the area is subdued with water observed flowing subsurface and pooling within many forest floor depressions. At Barrett Road, water collects in the roadside ditch system and flows under the road from the east.



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Figure 2A: Sandwell Creek

PROJECT:
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CLIENT:
Gabriola Island Local Trust Committee

GEOGRAPHIC AREA:
Gabriola Island, BC

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ASSESSMENTS:
November 2011 & January 2012

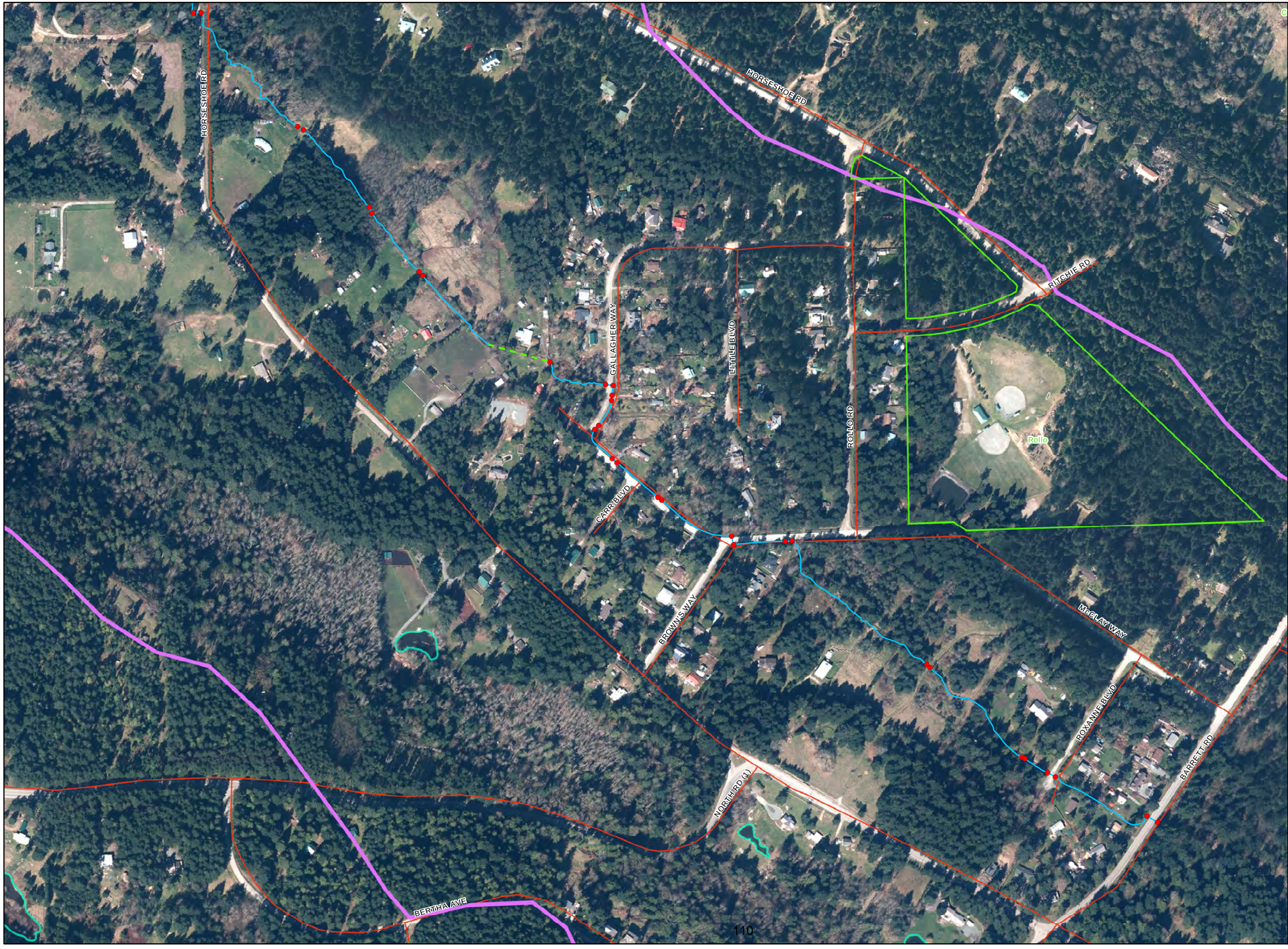
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DOSSIER NO:	DRAWN BY:
11.0348	Anna Jeffries

Streams
- Field Verified
- Unable to Field Verify due to physical constraints (e.g. water depth)
- Unable to Field Verify based on inability to access private property
- Barrier to upstream fish movement
- Culvert
- Waterbody
- Watershed Boundary
- Road

Protected Areas
- Provincial Park
- Regional Park
- Community Park

0 25 50 100 150 m

N W E S



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Figure 2B: Sandwell Creek

PROJECT:
Gabriola Island Riparian Area Regulation Stream Identification

CLIENT:
Gabriola Island Local Trust Committee

GEOGRAPHIC AREA:
Gabriola Island, BC

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Streams
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- Unable to Field Verify (due to physical constraints (e.g. water depth))
- Unable to Field Verify (based on inability to access private property)
- Barrier to upstream fish movement
- Culvert
- Waterbody
- Watershed Boundary
- Road

Protected Areas
- Provincial Park
- Regional Park
- Community Park

0 25 50 100 150 m

N W E S

3.2.2 Castle Creek – Figures 3A, 3B, and 3C

While not a gazetted name, the term "Castle Creek" was provided as a local name for this stream by a local resident. The stream connects with the main Sandwell Creek system that enters the ocean at Lock Bay. The stream was followed upstream from the edge of the extensive agricultural land adjacent to Daniel Way.

Based on the existence of the barrier to the upstream movement of fish located downstream of Daniel Way, a seasonal flow regime and lack of potential fish "sources", fish do not occur in Castle Creek. Upstream of the agricultural area, the stream flows as a well defined watercourse through continuous mature coniferous forest, which is providing proper riparian function. The stream exhibits short sections where it displays natural channel morphology in the form of meanders, pools and riffles. Between the natural portions of the channel, however, the stream has been historically straightened. Substrate consists mainly of organic material, but alluvial deposits also occur where the gradient increases (e.g. up to 3%). The stream is approximately 1.5 m – 2.0 m wide at bankfull.

Downstream of North Road, a significant slope follows the left bank of the drainage. The topography adjacent to the right bank, however, is flat. Due to the fact that the slope is not consistent on both sides of the drainage, the stream does not flow through a "ravine". Under the RAR, the definition of a ravine states that steep slopes must be consistent on both sides of a stream.

Approximately 250 m downstream of North Road, a pond has been excavated on private property. Upstream of the pond, the drainage spreads out into a poorly defined watercourse over an organic substrate prior to becoming more defined immediately downstream of North Road. Upstream of the culvert under North Road, the stream becomes poorly defined, and the riparian area becomes narrower and more disturbed.

An excavated pond has been dug approximately 30 m upstream of North Road, with the outflow from the pond consisting of surface flow over a rock wall/dam. Upstream of the pond, the watercourse becomes defined as a ditch flowing through residential areas. A second pond, with connectivity provided via an outflow culvert, exists approximately 70 m downstream of Bertha Road. The watercourse continues above the pond, where it represents a very poorly defined drainage (overland flow over grass).

The drainage becomes defined in an excavated ditch immediately downstream of Bertha Road. Upstream of the culvert under the road, the drainage continues as a roadside ditch, flowing northeast along Bertha Road, then northwest adjacent to Suzanne Road up to the culvert underneath Brydie Road. Upstream of Brydie Road, the watercourse is poorly defined over an organic substrate, with no discernible "channel". Undefined surface flow was followed over the organic substrate up to the limit of the assessment at the edge of inaccessible private property.

The specific origin of the stream could not be determined, based on lack of access permission. Due to the poorly defined nature of the stream above Brydie Road, and proximity of the edge of the watershed, the last point assessed likely represents the very upper limit of the watercourse.



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Figure 3A: Castle Creek

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CLIENT:
Gabriola Island Local Trust Committee

GEOGRAPHIC AREA:
Gabriola Island, BC

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11.0348	Anna Jeffries

Streams
- Field Verified
- Unable to Field Verify due to physical constraints (e.g. water depth)
- Unable to Field Verify based on inability to access private property
- Barrier to upstream fish movement
- Culvert
- Waterbody
- Watershed Boundary
- Road

Protected Areas
- Provincial Park
- Regional Park
- Community Park

0 25 50 100 m

N W E S



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Figure 3B: Castle Creek

PROJECT:
Gabriola Island Riparian Area Regulation Stream Identification

CLIENT:
Gabriola Island Local Trust Committee

GEOGRAPHIC AREA:
Gabriola Island, BC

ASSESSED BY:
Trystan Willmott, B.Sc., A.Sc.T.
Jackie Churchill, M.Sc., A.Sc.T., R.P.Bio.
Justin Lange, B.Sc., A.Sc.T., B.I.T.
Kyle Rezansoff, B.Sc., B.I.T.

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- Watershed Boundary
- Road

Protected Areas
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- Community Park

0 25 50 100 m

N W E S



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Figure 3C: Castle Creek

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- Culvert
- Waterbody
- Watershed Boundary
- Road

Protected Areas
- Provincial Park
- Regional Park
- Community Park

0 25 50 100 150 m

N W E S

3.2.3 Castle Creek Tributary – Figure 4

This extremely poorly defined watercourse joins the main Castle Creek drainage at the inflow of the culvert under Bertha Road. The watercourse, which flows through residential properties and under driveways, has been ditched and is less than 0.5m wide. Surface water flow was followed up to the origin of the drainage, which consists of a seepage area supporting vegetation indicative of moist areas, such as water parsley (*Oementhe sarmentosa*), skunk cabbage (*Lysichiton americanum*) and salmonberry.



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Figure 4:
Castle Creek Tributary

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Protected Areas
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- Community Park

0 25 50 m

N W E S

3.2.4 Daniel Way Pond – Figure 5

Anecdotal evidence indicates that this pond is likely the site of an old gravel or rock quarry. The pond is approximately 30 m wide and 50 m long. At the time of the assessment it was not possible to determine the depth of the water, as the bottom substrate was not visible due to poor water clarity.

The pond is situated approximately 10 m south of the salt marsh that is adjacent to Sandwell Park. The majority of the pond is contained by a 3 m – 5 m berm to the north and forested slopes to the east, south and west. Historically, there was a direct connection between the salt marsh and pond, as remnants of an old culvert and excavated ditch remain near the northeast corner of the pond. Although there is no connection during periods of average water levels, there is potential for water to breach the berm in the northeast corner of the pond during periods of extreme levels providing a connection to the estuarine salt marsh.

Riparian vegetation adjacent to the pond is mainly composed of a young regenerating forest. Douglas-fir, western redcedar and red alder comprise the tree layer. Shrub growth is dominated by red alder saplings, willow (*Salix* sp.), salmonberry, red huckleberry (*Vaccinium parvifolium*) and Himalayan blackberry. As this is a disturbed site, the herb layer is dominated by grasses and reed canary grass (*Phalaris arundinacea*); however, slough sedge, sword fern and common rush (*Juncus effusis*) also occur.

The pond has the potential to support fish, due to the fact that it holds water year round and the connection (albeit temporary) to the ocean. In addition, LWD is abundant within the pond and will contribute by providing cover and security habitat for fish. The majority of the LWD is a product of extensive beaver activity in the area. It should be noted that a previous RAR survey from 2010 conducted by an independent biologist indicated the presence of fish (species unknown) in the pond.



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Figure 5:
Daniel Way Pond

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- Watershed Boundary
- Road

Protected Areas
- Provincial Park
- Regional Park
- Community Park

0 25 50 100 m

N W E S

3.2.5 Primary Hoggan Lake Inflow – Figures 6A and 6B

This stream flows into the hardhack (*Spiraea douglasii*)-dominated margins of Hoggan Lake as a well defined watercourse. From the inflow into the north western end of Hoggan Lake, the stream flows through a golf course as a low gradient (approximately 1.5%) drainage that has been historically straightened. For approximately 150 m through the golf course, there is no functioning vegetation on either bank.

As there are no barriers preventing fish access, fish could potentially enter the drainage from Hoggan Lake. Fish habitat is limited, however, due to a lack of natural sinuosity and associated features (e.g. pools/riffles). On the day of assessment, it was impractical to ascertain the substrate type (and therefore spawning habitat potential), based on the depth, speed and high turbidity of the water.

From the north western end of the golf course, the stream flows underneath an access road via a concrete box-type culvert. This feature does not represent a barrier to the movement of fish. At the road crossing location, riparian vegetation becomes extensive, with young Douglas-fir, western redcedar and red alder occurring along both banks. Dense hardhack occurs within the immediate riparian zone.

The stream flows out of an extensive seasonally-inundated wetland approximately 100 m upstream of the golf course. This wetland consists of hardhack and reed canary grass and is surrounded by mature forest. The linear wetland extends for approximately 500 m. Due to its ecological importance, this extensive wetland area has been identified as a sensitive ecosystem under the SEI (T1222 – FS). Based on site-specific vegetation assemblages, this ecosystem actually represents more of a typical wetland as opposed to a seasonally flooded field, as described by the "FS" code in the SEI designation.

The stream is difficult to define through the wetland, as water spreads out on a seasonal basis over a significant area. Based on the spatial extent of the wetland, shallow water and lack of a defined channel, it is unlikely that fish originating from Hoggan Lake would be able to navigate through the wetland to enable access beyond the north western extremity of the wetland.

The stream enters the north western tip of the wetland via a well defined channel approximately 2 m wide at bankfull. The stream then flows through private property between the wetland and Crestwood Road, where it is well defined through mature

second growth forest. The stream lacks natural sinuosity, likely as a result of historical channel straightening activities.

Upstream of Crestwood Road, the drainage represents a well defined ditch, with steep side walls. Between Crestwood Road and the subsequent road crossing upstream, riparian vegetation consists of mature second growth forest, although clearing has occurred adjacent to the right bank for a distance of approximately 50 m. The drainage continues through residential properties as a steep-sided ditch prior to flowing through a wetland dominated by hardhack and reed canary grass downstream of South Road. Through the wetland, the drainage represents a well defined ditch. This wetland has also been recognized as a sensitive ecosystem under the SEI, with the code "T1222C – WN:fn" (fen).

From the north western edge of the wetland, the stream flows as a straightened channel under South Road via a culvert. Upstream of South Road, the watercourse flows through an extensive wetland area as a wide, low gradient channel that appears to have been historically excavated through the wetland. The channel becomes poorly defined in the north eastern portion of the wetland, where water spreads out over a significant area on a seasonal basis. The wetland consists mainly of willows, hardhack and reed canary grass and has been designated as a sensitive ecosystem as part of the SEI - T1222A R1 WN:fn (fen).

The stream flows into the north eastern tip of the wetland via a poorly-defined channel that flows over an organic substrate. Slough sedge occurs throughout the immediate riparian area, with mature coniferous forest occurring in the extended riparian area. The stream continues through the mature forest as a poorly defined watercourse that flows over the forest floor in places.

Approximately 400 m upstream of the inflow point into the wetland, the stream becomes extremely difficult to define, as it spreads out over an open, flat area. The drainage becomes defined again on residential property as a straightened channel prior to flowing through a wetland vegetated by dense hardhack.

Upstream of the wetland, the watercourse continues as a defined ditch flowing through young second growth coniferous forest. The drainage spreads out into an extensive wetland, characterized by dense concentrations of slough sedge, immediately downstream of Tansy Road. Upstream of the culvert under Tansy Road, the drainage continues as a poorly defined watercourse flowing over an organic

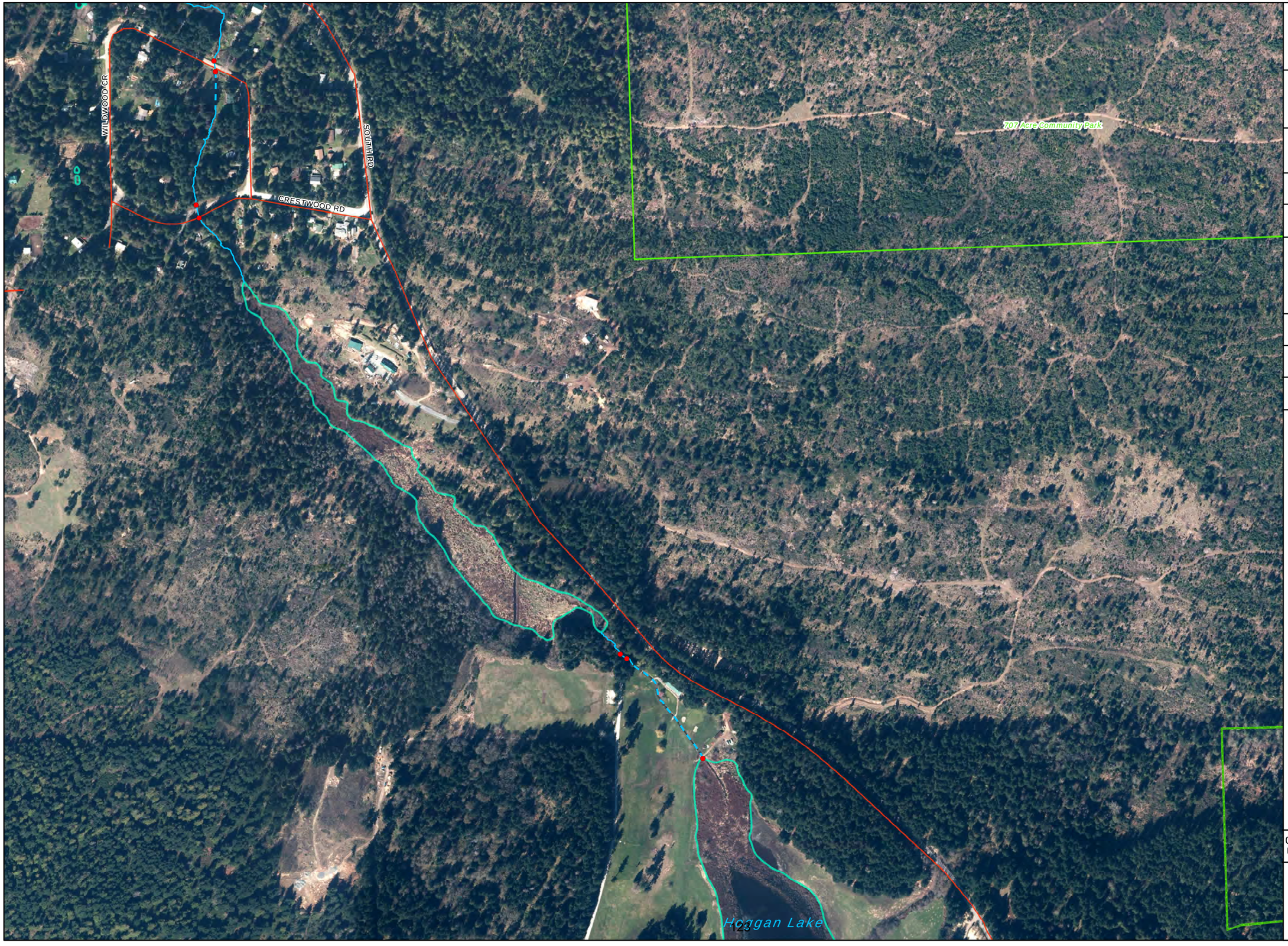
substrate. The drainage enters a small pond (approximately 10 m long and 5 m wide) constructed on private property approximately 20 m south of Tansy Road.

Upstream of the pond, the stream becomes defined as a ditch flowing through residential hobby farms. The drainage flows underground for at least 25 m via a plastic culvert through the farm area. The drainage was followed to a point where it resembled a narrow, shallow depression flowing over grass upstream of ornamental ponds located on residential property. At the head of the linear depression, groundwater comes to the surface via a small spring, representing the origin of the stream.

As this system flows into Hoggan Lake, there is the potential for fish to occur in the drainage. Fish could potentially access the lower reach of the stream from the lake through the golf course, although it is very unlikely that fish would occur beyond the first wetland, based on the physical characteristics of the wetland. Shallow water and lack of a defined channel through the wetland will likely prevent the movement of fish through the system. Even if fish were able to gain access through the first wetland, fish habitat attributes are extremely low throughout the upper drainage, based on the historical anthropogenic influences (mainly involving channel straightening and ditching).

The wetlands throughout the drainage system represent important ecological features, highlighted by the fact that many have been designated under the SEI. Valuable wildlife habitat exists throughout the wetlands, and each wetland also plays an important role in stormwater retention and natural filtration of water.

Hoggan Lake itself represents a significant feature, as it will provide potential fish habitat and also habitat for wildlife. During the assessment, numerous species of waterfowl were observed on the lake, including buffleheads (*Bucephala albeola*), trumpeter swans (*Cygnus buccinator*) and Canada geese (*Branta canadensis*). The extensive hardhack margins of the lake will support unique hydrophytic assemblages of plants, while also providing significant benefits to wildlife (e.g. nesting and forage habitat for birds and breeding/foraging habitat for amphibians). The hardhack-dominated margins have been identified under the SEI as three separate ecosystems: T1223 WN:sp:ms (swamp/marsh); T1233 WN:fn (fen); and T1223A WN:ms:sp (swamp/marsh). The seasonally flooded fields adjacent to the eastern margins of the lake are also recognized as a sensitive ecosystem (T1224A – FS).



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Figure 6A:

Primary Hoggan Lake Inflow

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Gabriola Island Riparian Area Regulation Stream Identification

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Gabriola Island, BC

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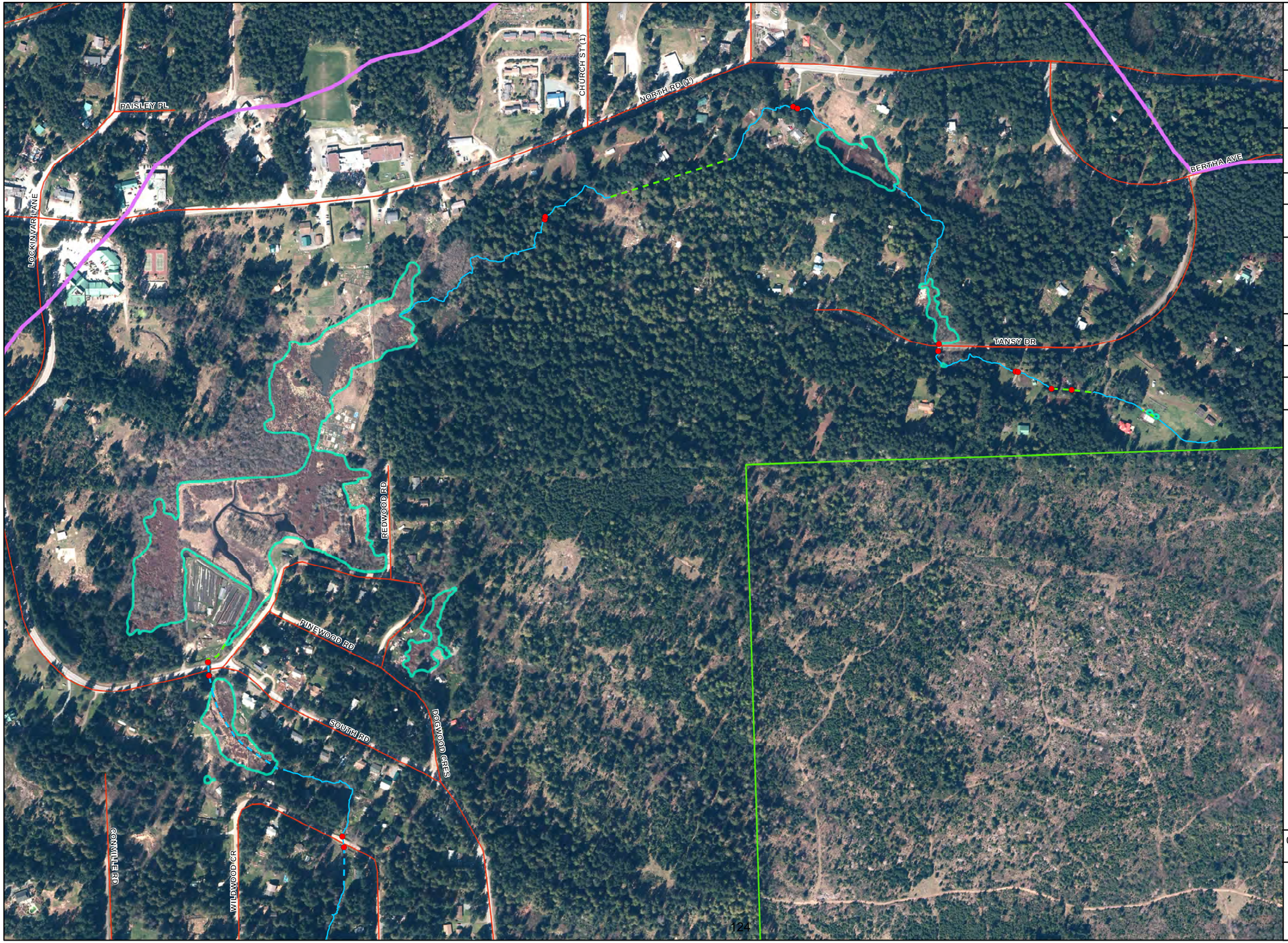
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1:5,000	January 31, 2012
DOSSIER NO:	*DRAWN BY:*
11.0348	Anna Jeffries

Streams
- Field Verified
- Unable to Field Verify due to physical constraints (e.g. water depth)
- Unable to Field Verify based on inability to access private property
- Barrier to upstream fish movement
- Culvert
- Waterbody
- Watershed Boundary
- Road

Protected Areas
- Provincial Park
- Regional Park
- Community Park

0 25 50 100 150 200 250 m

N W E S



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Figure 6B:
Primary Hoggan Lake Inflow

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Gabriola Island Riparian Area Regulation Stream Identification

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- Waterbody
- Watershed Boundary
- Road

Protected Areas
- Provincial Park
- Regional Park
- Community Park

0 25 50 100 150 200 250 m

N W E S

3.2.6 Secondary Hoggan Lake Inflow – Figure 7

This watercourse originates as a spring in agricultural land to the east of Hoggan Lake. A straight ditch has been excavated, which concentrates the flow of water to the north and west. The drainage has no fish habitat values at the origin, as it is functioning as a field drain.

The excavated ditch deepens approximately 250 m from Hoggan Lake, at which point fish could potentially be present, based on the direct connectivity with the lake. Fish habitat values are lacking, however, due to a lack of natural sinuosity, absence of spawning habitat and lack of instream cover. The ditch flows to the northwest through the moist hardhack-dominated margins of Hoggan Lake prior to entering the south eastern tip of the lake. The deeper portion of the ditch supports dense concentrations of hardhack.



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Figure 7:

Secondary Hoggan Lake Inflow

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Waterbody

Watershed Boundary

Road

Protected Areas
- Provincial Park
- Regional Park
- Community Park

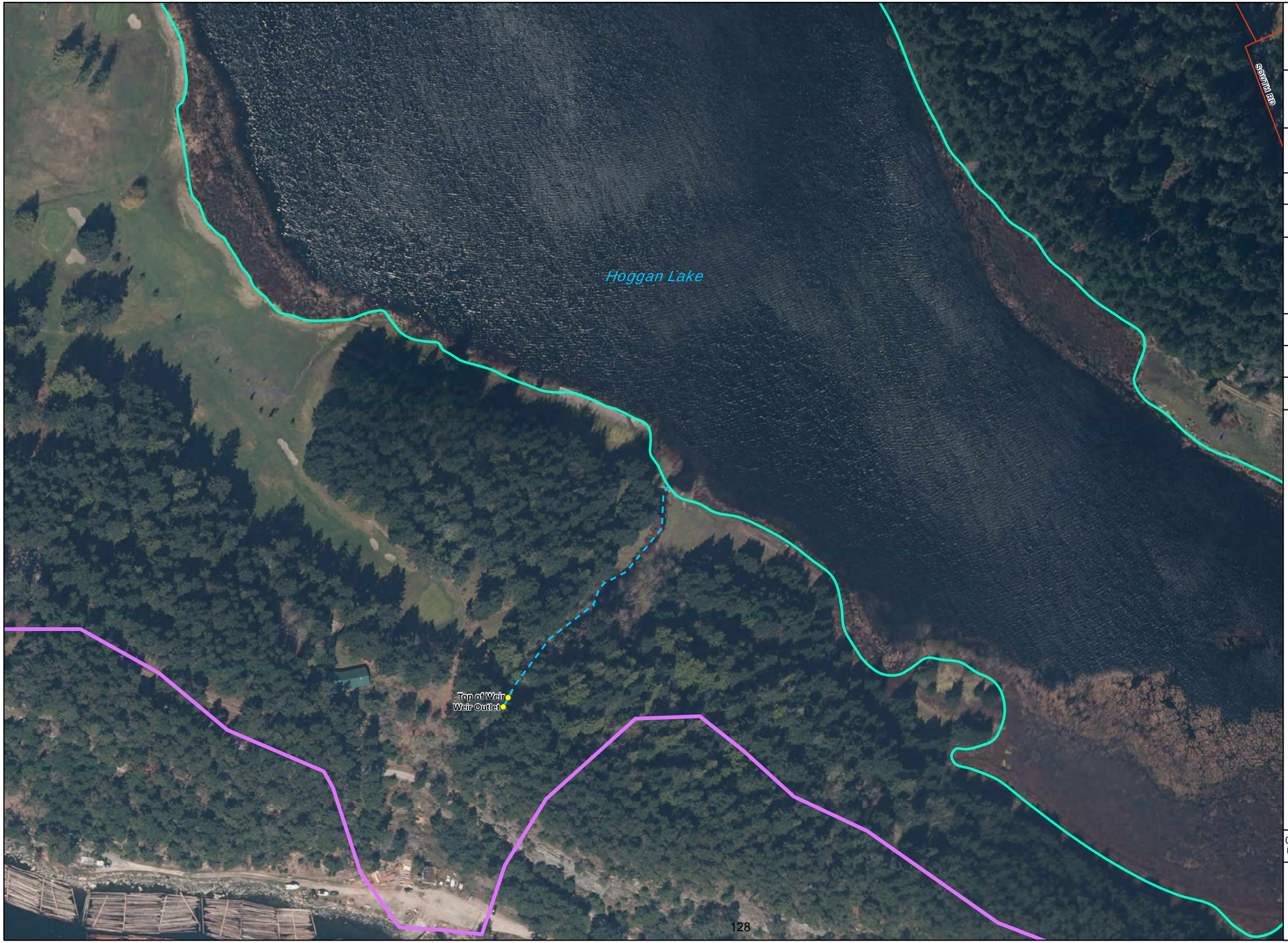
0 25 50 100 150 m

N W E S

3.2.7 Hoggan Lake Outflow – Figure 8

The location of the outflow is marked by a concrete box culvert at the edge of the lake. The outlet drainage is deep (in excess of 2 m) and approximately 3 m wide. The gradient of the stream is low (0.5%), with minimal surface flow. Fish habitat values are good in the first 150 m from the lake, due to the depth and presence of submerged vegetation, which provides cover. During the assessment, shoals of three-spine stickleback (*Gasterosteus aculeatus*) were observed. These fish represent a potential food source for piscivorous fish such as rainbow and cutthroat trout. Riparian vegetation consists of overhanging hardhack in the immediate riparian fringe and young red alder and Douglas-fir beyond.

Approximately 150 m from the lake, a dam has been constructed for hydro-electric power generation. A weir is located near the base of the dam, which is breached during periods of high flows. Potential fish habitat in the outflow drainage is truncated by the dam/weir structure. A pipe draws water that backs up behind the dam down a 100% gradient slope towards the ocean. There is no potential for the survival of fish downstream of the dam, even if fish were to be carried over the weir, due to the steep gradient and lack of a defined natural channel.



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Figure 8:

Hoggan Lake Outflow

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Waterbody

Watershed Boundary

Road

Protected Areas
- Provincial Park
- Regional Park
- Community Park

0 25 50 100 m

N W E S

3.2.8 Dole/Dunshire Road Stream – Figure 9

The Dole/Dunshire Road drainage is a tributary of the Hoggan Lake inflow stream. The drainage exhibits a seasonal flow regime, has been altered by past anthropogenic activities and is located upstream of the likely upper limit of fish in the main Hoggan Lake inflow stream. As a result, this drainage does not support a population of fish.

Near South Road, the drainage flows from the south and through a reed canary grass/hardhack wetland which forms part of the inflow drainage of Hoggan Lake. Approximately 50 m upstream of the confluence, a culvert drains an excavated pond. From the inflow of the pond, approximately 75 m upstream to Wildwood Crescent, the drainage has been directed underground and under houses by a series of culverts. The lower reach of the drainage downstream of Wildwood Crescent lacks functioning riparian vegetation, and manicured lawns extend up to the edge of the water.

At Wildwood Crescent the drainage flows from the south through a roadside ditch. Approximately 50 m upstream, the drainage turns and flows through a series of residential properties from the southwest. With the exception of one property having manicured lawn up to the edge of the drainage, dense riparian vegetation exists adjacent to the drainage in the middle reaches. Tree growth consists mainly of red alder, with western redcedar and Douglas-fir also occurring. The understory shrub layer consists mainly of salmonberry and the herb layer is comprised of sword fern. The width of the drainage is 1 m – 1.5 m on average, with a slope of 3% – 4%. Substrate is a mixture of gravel, cobble and soft organic material; however, a short portion of the drainage flows over bedrock.

The drainage continues under Conville Road. To the west of the road, the drainage lacks a defined channel, with water spreading out and flowing over grass and rushes for approximately 50 m before entering a roadside ditch. Upstream of the roadside ditch, the drainage has been ditched through residential properties. The ditch is approximately 1.5 m wide and 1 m deep, with a slope of 1% – 2%.

The origin of the drainage is a wetland adjacent to Dole Road. The wetland is approximately 30 m wide and 75 m long with a dense fringe of hardhack and willow. A deep pocket of open water occurs within the centre of the wetland. Riparian vegetation adjacent to the wetland is intact and dense, providing biological function to connected downstream fish habitat. The tree layer is composed of Douglas-fir, western redcedar and red alder. Dense salal growth dominates the understory shrub layer. Salmonberry, snowberry and oceanspray were also noted. The herb layer is sparse and composed mainly of sword fern.



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Figure 9:
Dole/Dunshire Road Stream

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- Waterbody
- Watershed Boundary
- Road

Protected Areas
- Provincial Park
- Regional Park
- Community Park

0 25 50 100 m

N W E S

3.2.9 Wildwood Crescent Stream – Figure 10

Approximately 30 m from Wildwood Crescent, a small constructed drainage ditch flows from the south into the Dole/Dunshire Road stream. Upstream (south) of the confluence, the ditch flows through two residential properties for approximately 40 m to a pond, which represents the origin of the stream. On average, the ditch is 0.5 m wide and 0.5 m deep, with a slope of 1% – 2%. Substrate within the ditch is comprised of soft organic material.

Functioning riparian vegetation is lacking, as newly established lawn extends up to the edge of the ditch. Adjacent to the pond, numerous western redcedar line the bank. In the centre of the pond, a gravel access road dissects the pond in two; however, a culvert provides connectivity under the road.



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Figure 10:
Wildwood Crescent Stream

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- Road

Protected Areas
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- Regional Park
- Community Park

0 25 50 m

N W E S

3.2.10 South Road Stream A – Figure 11

This drainage enters the first linear wetland located upstream of the golf course on the main Hoggan Lake inflow. The stream is poorly defined and does not provide habitat suitable for fish. As noted previously, it is unlikely that fish would be present at this point in the system, based on the fact that fish originating from Hoggan Lake would be unable to navigate through the wetland habitat.

The stream has a gradient of 3% over an organic substrate, which increases to 6% immediately downstream of South Road. Vegetation consists of dense salmonberry and Himalayan blackberry, with young coniferous forest adjacent. The drainage is carried under South Road via a culvert, and from the inlet of the culvert, the stream becomes extremely poorly defined.

Approximately 70 m upstream of the road, the stream could not be followed. At this point, water seeps out of the slope in multiple locations and collects to form the stream. The seepage occurs in an area supporting a relatively dry vegetation assemblage, with salal and sword fern dominating. No hydrophytes or wetland characteristics were noted at the origin of the stream.



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Figure 11:
South Road Stream A

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Waterbody

Watershed Boundary

Road

Protected Areas
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0 25 50 m

N W E S

3.2.11 South Road Stream B – Figure 12

This stream is a seasonal drainage lacking habitat diversity that is located above the likely upper limit of fish in the main Hoggan Lake inflow stream. From the confluence with the extensive wetland located to the north of South Road, the drainage flows through a second growth Douglas-fir forest. Shrub and herb growth is minimal, with sporadic salmonberry and sword fern occurring. The morphology of the lower reaches is consistent with a low gradient ditch. The drainage is 0.75 m wide and 0.3 m deep on average.

As the drainage nears South Road, the channel becomes undefined and water flows over grass from the culvert under the road. South of the road, the drainage flows through a residential property for approximately 75 m at a minimal (1% – 2%) slope. The portion of the drainage on the residential property is approximately 2 m wide and 1.5 m deep. The majority of the channel is composed of a bedrock substrate, with gravel and cobbles also occurring.

The origin of the drainage is a pond located on residential property. The pond is approximately 30 m wide and 75 m long and retains water on a perennial basis. The pond will feed the connected ditch only when the pond level reaches the height of the outflow culvert. Vegetation immediately adjacent to and in the pond consists mainly of reed canary grass, hardhack, common rush and red alder saplings. As the area has been subject to historical anthropogenic disturbance, grasses also extend up to the edge of the pond.



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Figure 12:
South Road Stream B

PROJECT:	Gabriola Island Riparian Area Regulation Stream Identification
CLIENT:	Gabriola Island Local Trust Committee
GEOGRAPHIC AREA:	Gabriola Island, BC
ASSESSED BY:	Trystan Willmott, B.Sc., A.Sc.T. Jackie Churchill, M.Sc., A.Sc.T., R.P.Bio. Justin Lange, B.Sc., A.Sc.T., B.I.T. Kyle Rezansoff, B.Sc., B.I.T.
ASSESSMENTS:	November 2011 & January 2012
MAP SCALE:	1:1,500
MAPPING DATE:	January 31, 2012
DOSSIER NO:	11.0348
DRAWN BY:	Anna Jeffries

Streams
- Field Verified
- Unable to Field Verify due to physical constraints (e.g. water depth)
- Unable to Field Verify based on inability to access private property
- Barrier to upstream fish movement
- Culvert
- Waterbody
- Watershed Boundary
- Road

Protected Areas
- Provincial Park
- Regional Park
- Community Park

0 25 50 m

N W E S

3.2.12 Dogwood Crescent Stream – Figure 13

This poorly defined stream flows into the extensive wetland located immediately upstream of South Road on the main Hoggan Lake inflow system. The stream will not support fish, due to the fact that it is located upstream of the likely upper limit of fish distribution on the Hoggan Lake inflow stream and also due to a complete lack of fish habitat attributes.

The drainage enters the wetland complex via a culvert under Redwood Road. Upstream of the confluence with the wetland, the drainage deepens and widens through private property prior to flowing underneath a driveway. Upstream of the driveway, the drainage represents an extensive wetland complex consisting of hardhack and willows. Upstream of the wetland that parallels Dogwood Crescent, an excavated pond has been built, above which the drainage could not be practically followed, as it represents an undefined shallow depression over lawn.



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Figure 13:
Dogwood Crescent Stream

PROJECT:
Gabriola Island Riparian Area Regulation Stream Identification

CLIENT:
Gabriola Island Local Trust Committee

GEOGRAPHIC AREA:
Gabriola Island, BC

ASSESSED BY:
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ASSESSMENTS:
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MAP SCALE:	MAPPING DATE:
1:1,500	January 31, 2012
DOSSIER NO:	DRAWN BY:
11.0348	Anna Jeffries

Streams
- Field Verified
- Unable to Field Verify due to physical constraints (e.g. water depth)
- Unable to Field Verify based on inability to access private property
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- Culvert
- Waterbody
- Watershed Boundary
- Road

Protected Areas
- Provincial Park
- Regional Park
- Community Park

0 25 50 m

N W E S

3.2.13 Coats Marsh Outflow Stream – Figure 14

This watercourse enters Hoggan Lake as a well defined, historically ditched system. The lower portion of the stream (downstream of South Road) flows through pasture land and is surrounded by a narrow, dense fringe of riparian vegetation consisting of hardhack, salmonberry and red alder. Fencing has been erected to prevent livestock access into the stream and associated riparian zone. Beaver activity in the form of foraging on deciduous trees and shrubs is common throughout the riparian area.

There is the potential for fish to access the lower portion of the stream, due to the direct connectivity with Hoggan Lake. Fish habitat attributes are extremely limited, however, based on the historical straightening of the channel. The side-walls of the ditch are steep, with evidence of erosion from high, concentrated flows. The substrate is comprised mainly of organic material, although short sections of alluvial deposits also occur.

Approximately 50 m from the lake, a bedrock step represents a barrier to the upstream movement of fish. Based on the length and gradient of the step, there is no reasonable potential for fish originating from the lake to pass upstream of this point. The step consists of a drop of 50% over a distance of more than 2 m. Immediately downstream of South Road, the stream exhibits more of a natural channel, with meanders and deposits of sand and gravel occurring.

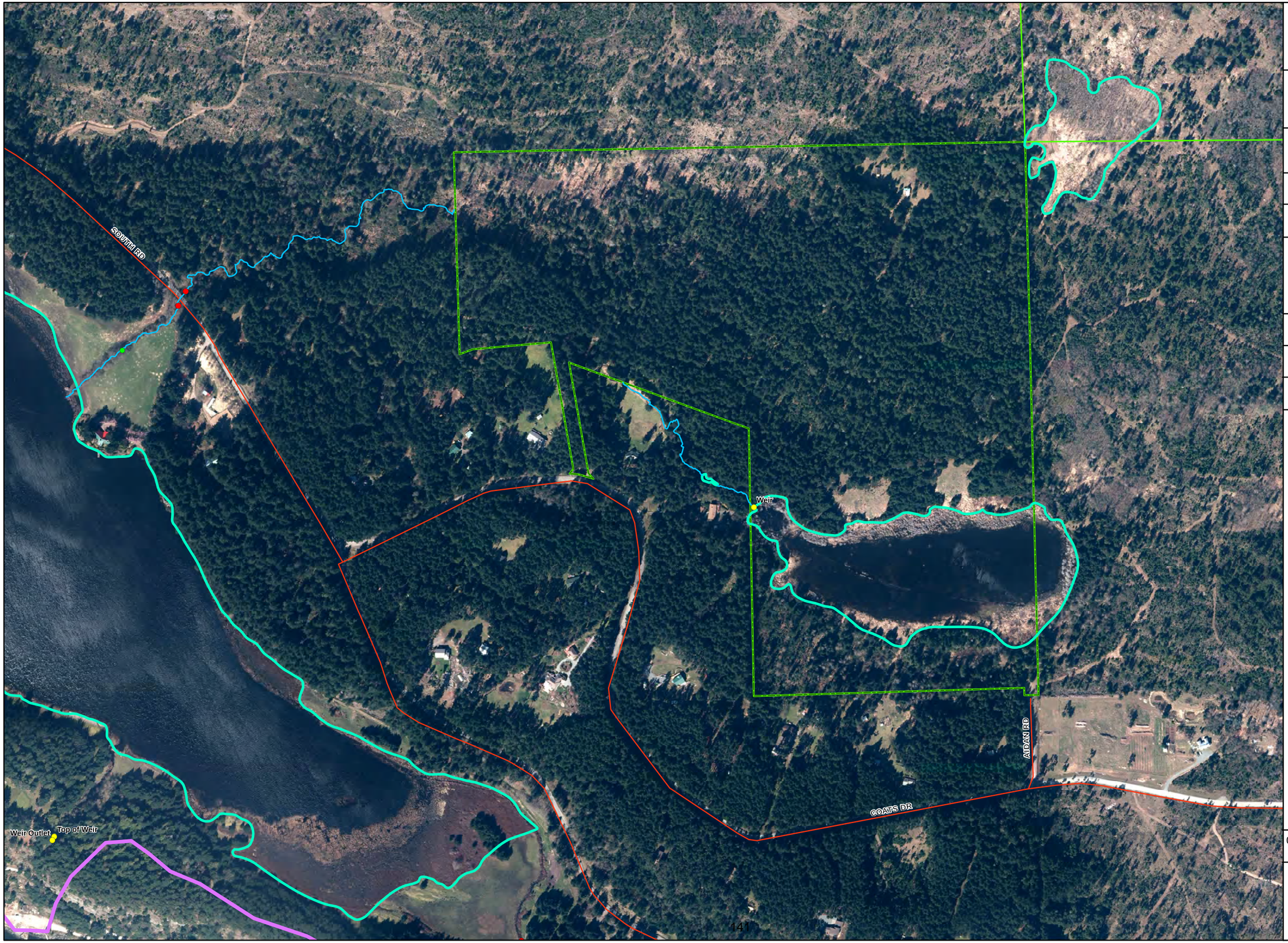
The stream passes underneath South Road via a culvert and continues as a low gradient (2%) meandering stream. Upstream of South Road, riparian vegetation becomes more extensive, with continuous second growth coniferous forest adjacent to both banks. Salmonberry, bitter cherry (*Prunus emarginata*), Pacific ninebark (*Physocarpus capitatus*) and red huckleberry overhang the stream. English holly also occurs in places. Deposits of small gravel comprise the majority of the substrate. Both red-legged fogs (*Rana aurora*) and Pacific chorus frogs (*Pseudacris regilla*) were observed in the drainage upstream of South Road.

Approximately 100 m upstream of South Road, the watercourse becomes poorly defined over an organic substrate through patchy slough sedge and skunk cabbage. At the Coats Marsh park boundary, the watercourse becomes extremely poorly defined for a distance of approximately 70 m, with minimal seepage over an organic substrate. In this area, connectivity by surface flow would only occur during very high flows.

Beyond the park boundary, the stream flows as a well defined ditch adjacent to residential property. A rock wall/dam has been constructed approximately 100 m downstream of Coats Marsh, which backs up the water to form a pond. Water seeps through the rock wall and there is no weir or control structure. From the eastern edge of the pond, the stream continues as a well defined, high sided channel constructed through bedrock to Coats Marsh. The outflow from Coats Marsh is via a concrete weir structure and pond leveller device, which has been placed through an active beaver dam located at the outlet.

Fish cannot gain access to the Coats Marsh outflow drainage from Hoggan Lake beyond the barrier located downstream of South Road. Furthermore, it is unlikely that the marsh supports a natural population of salmonid fish, due to past uses, most notably through complete drainage of standing water for agricultural reasons. Historical drainage of the marsh would have led to the demise of any existing resident population of fish. It is likely, however, that the marsh contains three-spined stickleback, due to their more ubiquitous nature.

Despite not supporting fish (as defined in the RAR), the wetland ecosystem known as Coats Marsh will provide an important habitat feature for a range of wildlife. The wetland also supports a unique range of hydrophytic plant assemblages adapted to living in moist conditions. The forested fringe surrounding the wetland adds to the habitat diversity, as it creates functional "edge" habitat.



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Figure 14:
Coats Marsh Outflow Stream

PROJECT:
Gabriola Island Riparian Area Regulation Stream Identification

CLIENT:
Gabriola Island Local Trust Committee

GEOGRAPHIC AREA:
Gabriola Island, BC

ASSESSED BY:
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ASSESSMENTS:
November 2011 & January 2012

MAP SCALE:	MAPPING DATE:
1:5,000	January 31, 2012
DOSSIER NO:	DRAWN BY:
11.0348	Anna Jeffries

Streams
- Field Verified
- Unable to Field Verify due to physical constraints (e.g. water depth)
- Unable to Field Verify based on inability to access private property
- Barrier to upstream fish movement
- Culvert
- Waterbody
- Watershed Boundary
- Road

Protected Areas
- Provincial Park
- Regional Park
- Community Park

0 25 50 100 150 200 250 m

N W E S

3.3 Potential RAR Watersheds

3.3.1 Potential RAR Watershed 1 - Dragon Creek – Figures 15A, 15B, and 15C

During the background research phase, a well defined, low gradient stream was identified flowing into the ocean at the narrow outlet of this watershed on the north side of Gabriola Island. It appears the delineation of the watershed boundaries is inaccurate, as the stream crosses the watershed boundary near the watershed outlet.

Due to the low order of magnitude, stream periodicity (seasonal) and lack of a potential fish "source" (e.g. lake or openwater wetland), there is no reasonable potential for resident fish to occur in the stream. As the lower reaches of this stream were conducive to allow access for anadromous fish (no barriers were identified preventing fish access), it was considered as potential fish habitat.

Anadromous fish that do not rely on freshwater habitat for rearing (e.g. chum and pink salmon) could potentially use the lower reaches of the stream. Water quality may, however, limit the current viability of the stream. Useable fish habitat is restricted to the length of stream from tidewater upstream to North Road, given the poor habitat quality of the middle and upper reaches of the drainage.

At tidewater, this stream flows into a small cove adjacent to Dragons Resort. The cove is contained by bedrock to the east and west. At the head of the cove, the drainage emerges from a second growth forest and flows over a cobble beach into the ocean.

Riparian vegetation in the lower reaches is represented by a tree layer that consists of Douglas-fir, bigleaf maple, western redcedar and red alder. The understory shrub layer is relatively sparse, but includes species such as red huckleberry, trailing blackberry, salal and salmonberry. Herb growth is dominated by dense sword fern. The vegetation adjacent to the stream is providing good biological function in the form of shade, bank stability, leaf/litter input and insect drop.

Throughout the lower reaches, the width of the stream ranges between 1.5 m and 4 m and has substrate composed of gravel and cobbles. The morphology of the stream is consistent with that of a riffle pool system, as the gradient is approximately 3%.

At North Road, the stream flows through a culvert that has recently been put in place. The reach between North Road and Crestshank Road has characteristics consistent with a natural stream. It should be noted, however, that some areas

adjacent to the stream have been encroached upon. Garbage and other scrap materials (*i.e.* cars and construction materials) were observed scattered throughout the riparian zone.

On average, the width of the stream upstream of North Road is 2 m – 3 m. The gradient is approximately 4%, typical of a riffle-pool system. Substrate throughout this reach consists of a mixture of gravel, small cobbles, and organic material. Riparian vegetation adjacent to the stream is composed of a regenerating second growth forest that is providing biological function. Tree species observed include Douglas-fir, western redcedar, red alder, and bigleaf maple. The shrub layer is dense and composed of Pacific ninebark, snowberry, willow, salmonberry, Nootka rose (*Rosa nutkana*) and salal. The herb layer contains skunk cabbage, sword fern, bracken fern and slough sedge.

As the drainage nears Crestshank Road, it has been altered by excavation activities to form a pond, likely used for irrigation purposes. Due to high levels of turbidity, it was not possible to determine the depth of the pond.

At Crestshank Road, the drainage has been directed under the road through a culvert. Upstream of Crestshank Road, the drainage flows through a series of agricultural fields as a historically straightened watercourse. Throughout the agricultural area, the gradient of the channel is minimal, with a slope of approximately 2%. The substrate is dominated by soft clay and organics, with short sections consisting of gravels and cobbles. The width of the channel is approximately 1 m – 2 m.

As with the fields adjacent to Sandwell Creek, portions of the fields through the agricultural area flood on a seasonal basis, creating valuable wildlife habitat. Due to the value of this seasonally-available habitat, the flooded area adjacent to the right bank of the drainage where it flows through the agricultural area has been identified as a sensitive ecosystem under the SEI (T1283 – FS).

Riparian vegetation adjacent to the drainage in the upper reaches is sparse. The majority of vegetation occurs within the drainage itself, with dense concentrations of hardhack, Nootka rose, willow and snowberry. Pacific water-parsley, slough sedge and common rush are also present.

At the western extent of the agricultural properties, the drainage has been altered and is consistent with that of a retention pond. The pond is approximately 20 m wide and 40 m long and was likely developed to provide a water source for either irrigation or

use by animals on the property. At the time of the assessment it was not possible to determine the depth of the water as clarity was poor. Adjacent to the pond, vegetation is lacking and grass extends up to the edge of the pond.

The drainage enters the western corner of the pond as an excavated ditch. The channel is approximately 1.5 m wide and 1.5 m deep. The majority of the drainage flows through property that has been extensively impacted, which is consistent with the young, regenerating red alder stands that were documented. The ditch extends for approximately 50 m – 60 m and originates from a culvert under a gravel access road that drains another (more extensive) pond. The area adjacent to the pond has been highly disturbed. Functioning riparian vegetation is lacking, as a road network has been established to access areas throughout the property. The property appears to resemble an old quarry site.



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Figure 15A: Dragon Creek

PROJECT:
Gabriola Island Riparian Area Regulation Stream Identification

CLIENT:
Gabriola Island Local Trust Committee

GEOGRAPHIC AREA:
Gabriola Island, BC

ASSESSED BY:
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ASSESSMENTS:
November 2011 & January 2012

MAP SCALE:	MAPPING DATE:
1:3,000	January 31, 2012
DOSSIER NO:	DRAWN BY:
11.0348	Anna Jeffries

Streams
- Field Verified
- Unable to Field Verify due to physical constraints (e.g. water depth)
- Unable to Field Verify based on inability to access private property
- Barrier to upstream fish movement
- Culvert
- Waterbody
- Watershed Boundary
- Road

Protected Areas
- Provincial Park
- Regional Park
- Community Park

0 25 50 100 m

N W E S



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Figure 15B: Dragon Creek

PROJECT:
Gabriola Island Riparian Area Regulation Stream Identification

CLIENT:
Gabriola Island Local Trust Committee

GEOGRAPHIC AREA:
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Streams
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- Barrier to upstream fish movement
- Culvert
- Waterbody
- Watershed Boundary
- Road

Protected Areas
- Provincial Park
- Regional Park
- Community Park

0 25 50 100 m

N W E S



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Figure 15C: Dragon Creek

PROJECT:
Gabriola Island Riparian Area Regulation Stream Identification

CLIENT:
Gabriola Island Local Trust Committee

GEOGRAPHIC AREA:
Gabriola Island, BC

ASSESSED BY:
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Kyle Rezansoff, B.Sc., B.I.T.

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11.0348	Anna Jeffries

Streams
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- Unable to Field Verify due to physical constraints (e.g. water depth)
- Unable to Field Verify based on inability to access private property
- Barrier to upstream fish movement
- Culvert
- Waterbody
- Watershed Boundary
- Road

Protected Areas
- Provincial Park
- Regional Park
- Community Park

0 25 50 100 m

N W E S

3.3.2 Potential RAR Watershed 2

Detailed orthophoto and contour data review of this watershed indicated a stream flowing from the north west to the south east into the ocean at the watershed's outlet on the north side of Gabriola Island. The contours suggested that the entry into the ocean was very steep and potentially limiting with regard to fish accessibility.

The watershed's outlet stream was located in the field at the point where it flows under North Road approximately 1.5 km from tidewater. At the North Road crossing point, the stream is well defined with an alluvial substrate, with portions flowing over bedrock. It represents a riffle-pool system at this point, with a bankfull width of approximately 1.5 m and a gradient of 2%. In order to assess the lower reaches of the stream and view the entry of the stream into the ocean, the stream was accessed via a trail system extending from the end of Windecker Road. This trail system is located on land designated as an Islands Trust Nature Reserve.

The trail through the Nature Reserve crosses over the focus stream, at which point the stream has a gradient of 3% and a bankfull width of approximately 2 m. The substrate consists of gravel and cobble at the trail crossing point. As suggested by the contour analysis, approximately 100 m from tidewater, the gradient of the stream increases to 60%. At a point that is approximately 50 m from the ocean, the gradient increases to 90%, with the entry into the ocean characterized by a 5 m vertical waterfall over a cliff edge and onto the bedrock foreshore.

Due to the low order of magnitude, stream periodicity (seasonal) and lack of a potential fish "source" (e.g. lake or openwater wetland), there is no reasonable potential for resident fish to occur in this stream. The waterfall over the cliff into tidewater represents a definitive barrier to anadromous fish, preventing seasonal use by fish of the watershed. Based on field confirmation of the physical characteristics of the outlet stream, this watershed was not included as being applicable to the RAR.

3.4 Non RAR-Applicable Wetlands

While the focus of the project was to identify and map streams that apply to the RAR process, it is important to note that isolated wetlands and other moist ecosystem types provide important biological functions. Wetlands provide breeding and forage habitat for amphibians, rich foraging areas for birds and bats, nesting habitat for birds and a water source for wildlife. Other hydrological functions, including water retention, are also provided. Moist habitat types also support unique, and often diverse, assemblages of plants. During the assessment, two isolated wetland

complexes were identified in the largest assessed watershed on Gabriola Island (Figure 16).

Site 1

This wetland extends to the east of the north-eastern corner of Coats Marsh Regional Park. Pockets of shallow water exist on a seasonal basis, with dense reed canary grass occurring throughout. In moister areas, patches of hardhack and sedges occur, but in general, it is difficult to define a definite wetland edge or typical high water mark.

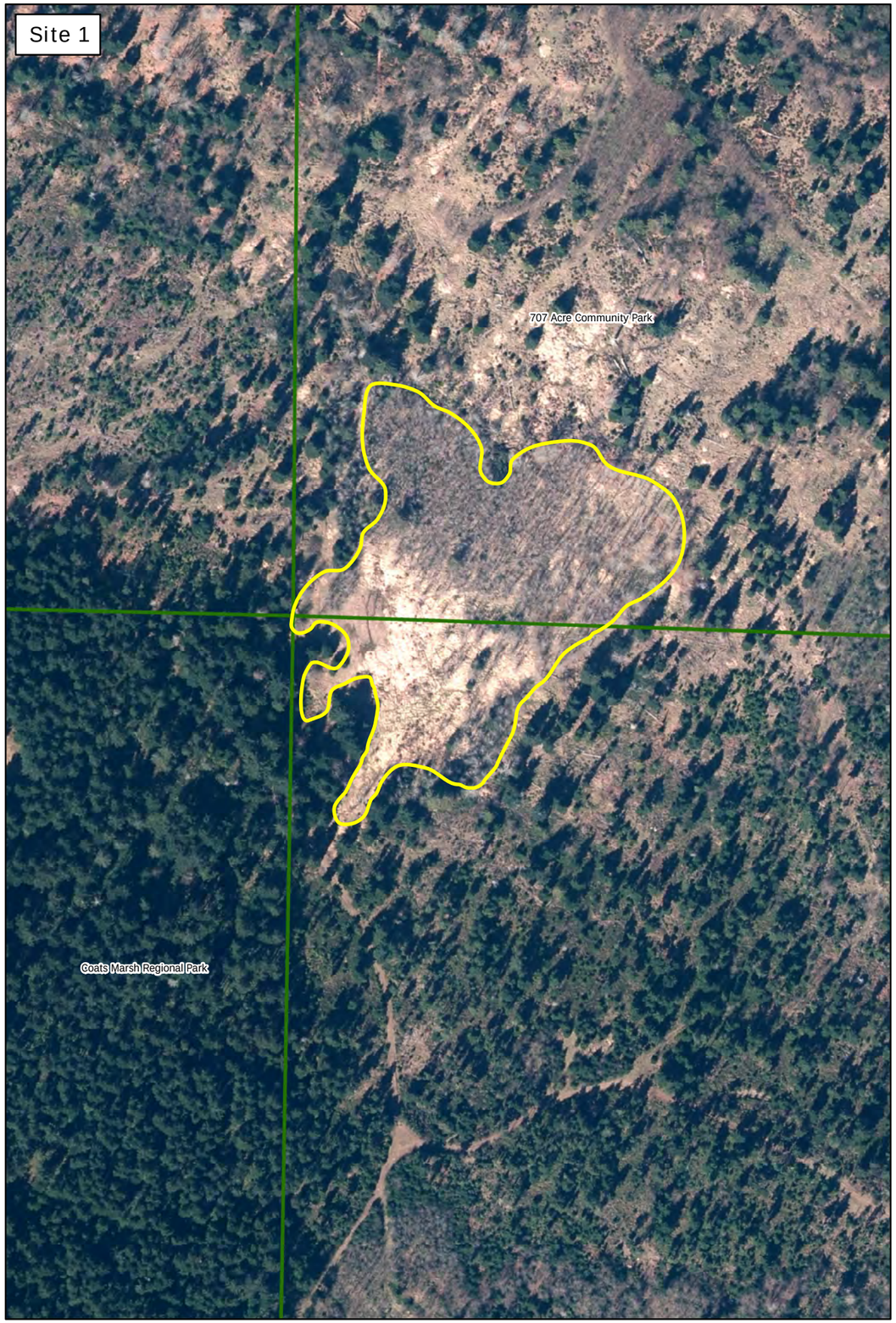
During periods of extreme high water flow, water collects in shallow depressions and flows overland via a culvert located underneath a trail/driveway at the south-western tip of the wetland. No defined channel was observed, with surface flow occurring over the vegetation. From the culvert outflow, no defined channel could be followed, and any surface flowing water is intermittent (even during periods of extreme flow).

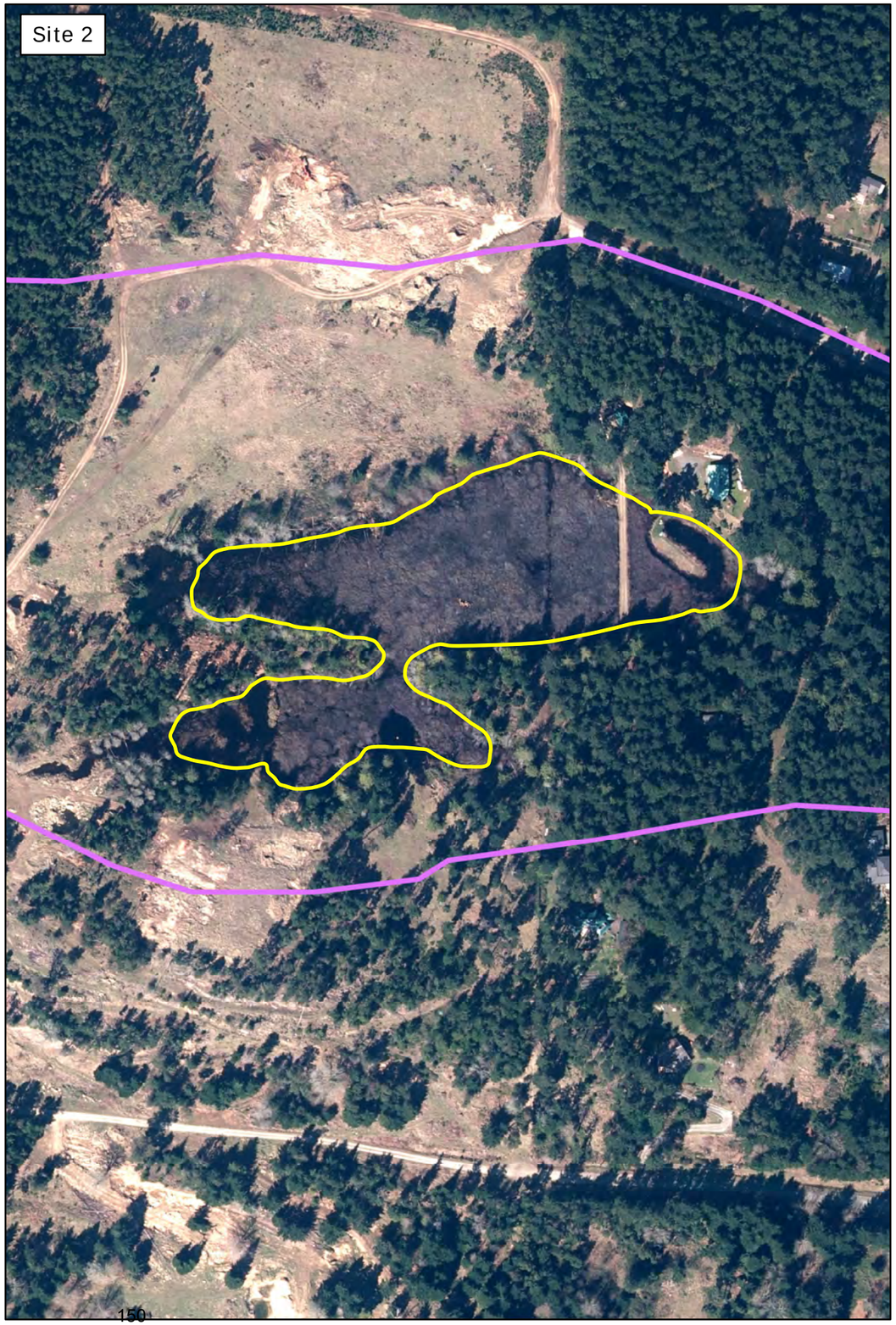
Patches of hydrophytic vegetation exist to the south-west of the culvert outflow where water seeps over the surface. Between these patches of moisture, stretches of drier vegetation exist, with sword fern and salal occurring and no evidence of surface flow. Based on the lack of continuous surface flow and absence of a defined channel, there is no reasonable connectivity between the wetland area and any watercourses that could support fish.

Site 2

This seasonally inundated wetland is located at the end of Coates Drive. A property access road crosses from north to south through the eastern end of the northern extension of the wetland. During the assessment, deep pockets of standing water existed in the wetland. Vegetation consists of dense hardhack, with sedges (*Carex* sp.), reed canary grass and common rush also occurring.

The edges of the wetland were checked for inflows and outflows, but none were found. Based on the field verification, this wetland represents an isolated feature that does not provide fish habitat or connect by surface flow to fish habitat. Despite not offering fish habitat values, this wetland complex has been identified under the SEI as a sensitive ecosystem (T1245 WN:sp).





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Figure 16:
Non RAR Applicable Wetlands

PROJECT:
Gabriola Island Riparian Area Regulation Stream Identification

CLIENT:
Gabriola Island Local Trust Committee

GEOGRAPHIC AREA:
Gabriola Island, BC

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ASSESSMENTS:
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MAP SCALE:	MAPPING DATE:
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DOSSIER NO:	DRAWN BY:
11.0348	Anna Jeffries

Non-RAR Applicable Wetland
RAR Watershed
Potential RAR Watershed

Protected Areas
Provincial Park
Regional Park
Community Park

0 25 50 100 m

N
W E
S

4.0 DISCUSSION

Detailed background research using appropriate databases, orthophotos, existing reports and contour data associated with field reconnaissance trips, resulted in the identification of fourteen streams that apply to the provincial RAR process (17 km of mapped stream length in total). Hoggan Lake and Coats Marsh also apply to the regulation. These watercourses are subject to the RAR assessment procedure, given the fact that they meet the RAR definition of a "stream".

The mapped systems represent potential fish habitat, or systems that connect by surface flow to potential fish habitat. These creeks were mapped for inclusion into appropriate bylaws to be set up by Islands Trust to allow conformance with the provincial RAR process. The edges of Hoggan Lake and numerous wetlands located along the stream traverses were not mapped in the field as part of the assessment process, but the edges were delineated using field observations and orthophoto interpretation. It is important that these features are included as RAR-applicable water bodies. It should also be noted that many of these wetland areas have been recognized as sensitive ecosystems under the SEI.

General fish habitat attributes on all streams were low, based on a lack of habitat attributes. The watercourses with the greatest potential for fish to occur include Hoggan Lake, the upper reach of the Hoggan Lake outflow (upstream of the hydroelectric generating facility), the lower reaches of the main Hoggan Lake Inflow (downstream of the first wetland complex), the lower reaches of Sandwell Creek, which flows into Lock Bay (below the barrier to upstream fish migration), and the lower reaches of Dragon Creek.

Due to the RAR methodology, any watercourses that connect by surface flow to these potential fish bearing systems, including modified watercourses and ditches, are subject to the regulation. A stream may not itself be inhabited by fish, but if it has a reasonable connection by surface flow to fish habitat, it is considered a stream under the RAR.

Two additional potential RAR watersheds were also field verified. The outflow stream of potential RAR watershed 2 was extremely steep, with an associated impassable waterfall over a cliff into the ocean. Based on a lack of accessibility for fish from the ocean into this watershed and a lack of available habitat to support resident fish, this watershed should not be considered under the RAR.

The outflow stream of potential RAR watershed 1 (Dragon Creek) was found to offer potential fish habitat (albeit on a seasonal basis) in its lower reaches. As a result, this stream was mapped for inclusion as a stream, as defined in the RAR methodology. The mapping for the boundary of this watershed is inaccurate, as part of the main outflow stream flows beyond the mapped boundary.

A focused search for additional drainages that do not apply to the RAR (e.g. isolated wetlands) did not form part of the scope of this assessment. Streams that apply to the definitions and methodology under the RAR were included in the study. Isolated wetlands encountered during the assessment did result in the identification of two additional sensitive sites. Site 2 has been identified as a sensitive ecosystem as part of the SEI. Both sites represent candidates for protection through Islands Trust bylaws. Further work is recommended to ensure that wetland ecosystems are continually identified.

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5.0 REFERENCES

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APPENDIX I – PHOTOS

Identified RAR Watersheds

Sandwell Creek



Looking southeast at the estuarine marsh adjacent to Sandwell Park. Sandwell Creek flows into the northwestern portion of the marsh.



Lower reach of Sandwell Creek prior to its entry into the estuarine marsh. During periods of high tides, there is potential for anadromous fish species to enter the creek.



Wildlife activity in the lower reach of Sandwell Creek was abundant. Note the dam, which was recently created by beavers.



Typical morphology of the creek was consistent with a riffle pool system.



Looking west at the upper bedrock step forming part of the step sequence that is a barrier to the upstream movement of fish on Sandwell Creek.

Castle Creek



Looking north west (downstream) at the point where the stream traverse began at the edge of property that could not be accessed.



Short sections of natural sinuosity and alluvial deposits occurred along Castle Creek between sections that had been historically straightened.



Typical over-steepened banks associated with historical channel straightening on Castle Creek.



Intact riparian vegetation typical on Castle Creek downstream of North Road.



Looking south east (downstream) over the first pond located along Castle Creek.



Inflow of culvert upstream of North Road.



Looking northwest (downstream) over the second pond located immediately upstream of North Road.



Looking south-east (upstream) over the third pond located on Castle Creek.



Looking south east (upstream) along inflow of the pond pictured above. Note lack of a defined channel.



Looking upstream (south west) along Castle creek where it flows as a roadside ditch adjacent to Bertha Road.



Looking downstream (north west) along Castle creek where it flows as a roadside ditch adjacent to Suzanne Road.



Surface flow over an organic substrate represented the upper "origin" of Castle Creek to the east of Brydie Road.

Castle Creek Tributary



Looking south east from Bertha Road upstream along the tributary drainage. Note poorly defined nature of the watercourse.



Above and below: typical morphology of the drainage upstream of Bertha Road.





Seepage over organic substrate in a pocket of hydrophytic vegetation (water parsley in the centre of the photo) represents the origin of the tributary drainage next to Suzanne Road.

Daniel Way Pond



Looking northwest at the pond, which is adjacent to the Sandwell Park estuarine marsh. Note the remnants of the extensive beaver activity adjacent to and within the pond.



Looking at the northeastern corner of the pond. During high water events, water likely breaches the berm and flows into a ditch, connecting the pond via surface flow to the estuarine marsh adjacent to Sandwell Park.



Looking at the ditch that connects the pond with the estuarine marsh during high flow events.

Primary Hoggan Lake Inflow Stream



Looking south east at the confluence of the inflow stream with the hardhack-dominated margins of Hoggan Lake.



Looking south east along the inflow stream where it flows through the golf course. Note lack of natural sinuosity, riparian vegetation and cover/security habitat for fish.



Concrete box-type culvert structure immediately upstream of the golf course on the Hoggan Lake inflow stream.



Looking north west over the first wetland ecosystem located along the Hoggan Lake inflow stream. This ecosystem is listed as SEI T1222 – FS. Note shallow water over an extensive area, which would limit the ability of fish moving up from Hoggan Lake to reach any further upstream in the system.



Looking at the inflow of the stream into the northwestern tip of the wetland picture above.



Typical morphology of the Hoggan Lake inflow stream downstream of the Crestwood Road crossing.



Looking north over a typical channelized section of the Hoggan Lake inflow stream upstream of Crestwood Road.



Looking north west over a historically ditched/straightened portion of the stream immediately downstream of the second wetland complex to the south east of South Road.



Looking north west over the wetland located immediately downstream of South Road on the Hoggan Lake inflow stream. This wetland is designated under the SEI (T1222C WN:fn).



Looking at the inflow of the culvert under South Road on the Hoggan Lake inflow stream.



Looking north west over SEI wetland T1222A-R1 upstream of South Road. Note deep, channelized flow through the wetland complex.



Looking south east over SEI wetland T1222A-R1.



Looking north west along the poorly defined inflow into the extensive wetland located upstream of South Road (SEI wetland T1222A-R1). Note lack of a defined channel and the organic substrate.



Typical characteristics of the Hoggan Lake inflow stream immediately upstream of the north eastern tip of SEI wetland T1222A-R1. Note poorly defined nature of the watercourse as it flows over the forest floor.



Typical characteristics of the Hoggan Lake inflow stream in its middle reaches.



Looking south east over the slough sedge dominated wetland complex located immediately downstream of Tansy Road on the Hoggan Lake inflow stream.



Looking east along a historically ditched portion of the Hoggan Lake inflow stream parallel to Tansy Road.



Above and below: typical characteristics of the extreme upper limit of the Hoggan Lake inflow stream. Note poorly defined "channel" and lack of surface flow, even after seasonal heavy rain.





"Origin" of the main Hoggan Lake inflow stream located at the head of the linear depression pictured above. Note groundwater flow coming to the surface.

Secondary Hoggan Lake Inflow Stream



Looking north over the field ditch that collects and concentrates water emanating from a spring. This feature represents the origin of the secondary Hoggan Lake inflow stream.



Typical characteristics of the secondary Hoggan Lake inflow stream immediately prior to flowing into the vegetated margins of the lake. Note significant water depth and dense vegetation.

Hoggan Lake Outflow Stream



Looking at the outflow stream and concrete box-type culvert located on the margins of Hoggan Lake.



Looking downstream (south west) along the Hoggan Lake outflow stream. Note relative diversity of fish habitat values – adequate water depth, overhanging riparian vegetation and submerged vegetation.



Looking at the upstream side of the dam and weir structure which backs up water on the Hoggan Lake outflow stream for hydro-electric power generation.



Looking at the downstream side of the dam and weir. Note lack of defined channel below the weir. The pipe takes water from behind the weir for power generation.



Looking north east towards the dam along the outlet pipe.



Looking south west from the dam along the outlet pipe. The pipe drops over a steep slope along the slope break in the approximate centre of the photo to the power generating facility.

Dole/Dunshire Road Stream



Looking west at the seasonally-inundated hardhack wetland which serves as the headwaters of the drainage.



Looking at the excavated outlet channel near the headwaters (wetland) of the Dole/Dunshire Road stream.



Poorly defined, organic channel representative of the drainage as it nears the west side of Dunshire Road.



Looking east at the drainage as it flows over manicured lawn and through a depression on a residential property to the east of Dunshire Road.



The middle section of the drainage (adjacent to Wildwood Crescent) consists of a roadside ditch.



Looking northwest at the area where the drainage connects with the wetland located to the south of South Road, which forms part of the Hoggan Lake inflow stream.

Wildwood Crescent Stream



Looking south at a constructed pond, adjacent to Wildwood Crescent. This pond represents the origin of the Wildwood Crescent stream.



Looking upstream along the drainage ditch (Wildwood Crescent stream) downstream of the pond pictured above.

South Road – Stream A



Looking north east (upstream) along the lower portion of the drainage where it joins the extensive wetland located upstream of the golf course (SEI T1222 – FS).



Looking north east (upstream) along the drainage downstream of South Road.



Above and below: water seeping out of the slope to the north east of South Road, which represents the origin of the drainage.



South Road – Stream B



Looking north at the outlet of South Road stream B. It should be noted that water disperses throughout the area and drains into the extensive wetland located to the north of South Road (part of the main Hoggan Lake inflow stream).



The outlet of the culvert that directs water under South Road.



Looking south west at the wetland that represents the origin of South Road stream B.

Dogwood Crescent Stream



Inflow of the culvert under Redwood Road immediately upstream of the extensive wetland located to the north of South Road.



Typical poorly-defined characteristics of Dogwood Crescent stream.

Coats Marsh Outflow Stream



Looking north east over Hoggan Lake from the point where Coats Marsh outflow stream enters the lake.



Looking south west over Hoggan Lake from the point where Coats Marsh outflow stream enters the lake. Note raft of trumpeter swans on the lake.



Looking upstream (north) over the fringe of riparian vegetation adjacent to the stream immediately upstream of the confluence with Hoggan Lake.



Typical characteristics of the lower reach of the stream. Note lack of natural sinuosity and high sided, eroded banks.



Bedrock step located downstream of South Road. Resident fish from Hoggan lake would not be able to move upstream of this feature. The gradient is too steep, no plunge pool exists and the water is shallow and fast over the smooth bedrock.



Looking north (upstream) along the stream immediately downstream of South Road. Note the limited degree of sinuosity.



Outflow of the culvert under South Road.



Above and below: typical conditions of the Coats Marsh outflow stream to the north (upstream) of South Road. Note general lack of channel definition.





Above and below: extremely poorly defined characteristics of the stream at the point where it crosses the Coats Marsh park boundary.





Looking downstream (north west) along the stream where it flows through residential property after emerging from the Coats Marsh park area.



Constructed rock dam located on residential property downstream of Coats Marsh.



Looking south east over the pond created by the rock dam pictured below.



Looking downstream (north west) along the Coats Marsh outflow stream immediately below Coats Marsh. Note lack of natural sinuosity, resulting from historical straightening activities.



Weir and pond leveler representing the origin of the Coats Marsh outflow stream.



Looking east over Coats Marsh. Note recent inundation of the wetland margins, likely caused by the action of beavers at the main outlet.

Field Verified Potential RAR Watersheds – Potential RAR Watershed 1 Dragon Creek



Looking north over the cove where Dragon Creek flows into the Straight of Georgia.



Typical substrate composition in the lower portion of Dragon Creek.



Typical composition of riparian vegetation adjacent to Dragon Creek in areas with minimal disturbance.



Outflow of the culvert positioned under North Road. It should be noted that this culvert has been recently installed (at the time of writing) as noted by the fresh gravel positioned at both the inlet and outlet of the culvert.



Looking east over an excavated pond that appeared to be constructed by altering the original channel of Dragon Creek.



Looking west (upstream) at Dragon Creek as it flows through agricultural properties. These portions of the drainage that flow on agricultural land have been historically channelized.

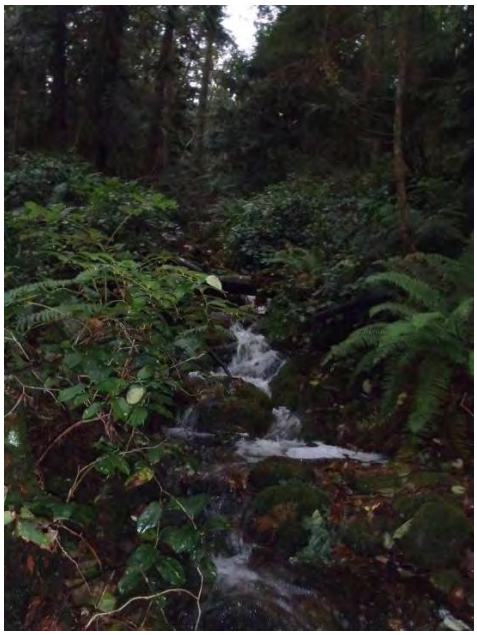


Looking north at the pond at the head of Dragon Creek.

Potential RAR Watershed 2



Looking east (downstream) along the outlet drainage of potential RAR watershed 2 immediately downstream of North Road.



Looking west (upstream) along the outflow drainage from a point immediately upstream of the ocean. Note significant gradient of the stream.



Entry of the outflow stream into the ocean (5 m vertical drop over a bedrock cliff). Note complete lack of accessibility for fish.

Isolated Wetlands Not Applicable to the RAR

Site 1



Looking north east over the dense reed canary grass comprising the vegetation of the Site 1 wetland.



Looking north east along the point where surface water collects and drains out of the wetland during high flow events on the north side of the trail. Note lack of defined channel and lack of surface water, even after seasonal heavy rain.



Looking south west along the area where surface water collects on the south side of the trail. Note lack of defined channel and lack of surface water.



Looking north east towards the wetland immediately to the south of where surface water would collect and drain the wetland. Note lack of defined channel and lack of surface water.



Above and below: isolated patches of hydrophytic vegetation (e.g. slough sedge) interrupted by drier vegetation types (salal and sword fern). These vegetation assemblages occur to the south of the area where surface water collects and drains out of the wetland during high flow events. Note lack of defined channel and "stream" characteristics.



Site 2



Looking south over the dense hardhack vegetation typical of the Site 2 wetland.



APPENDIX II – BASE STATION INFORMATION SHEET

NRCan GSD - ACP Report

****
CANADIAN ACTIVE CONTROL SYSTEM
ACTIVE CONTROL POINT (NAD83CSRS)
****

SITE IDENTIFICATION

Site name : NANOOSE
ID code : NANO
Geodetic Station No : 957000
Location : Nanoose, BC

(Complete WCDA station log sheets available here:
ftp://wcda.pgc.nrcan.gc.ca/pub/siteinfo/)

SITE INFORMATION

NANO is a continuously tracking GNSS site of as (CACS). The GNSS station is located on NANO is a continuously tracking GNSS site. This station is part of the Western Canada Deformation Array (WCDA) as well as the Canadian Active Control System (CACS). Station is located on Winchelsea Island, British Columbia.

The GNSS reference mark consists of a brass plate with a forced centered stainless steel bolt. The brass plate is embedded on top of a 1.5 m high concrete pier, 0.600 m in diameter, anchored in bedrock.

STATION COORDINATES

Reference system : NAD83CSRS

X = -2335726.11 m Y = -3451609.49 m Z = 4812009.79 m

Latitude : N49 17' 41.3010
Longitude : W124 05' 11.2637
Ellipsoidal Height : 6.82 m

Geoid Separation (HT2.0) : -17.121 m
Orthometric Height (CGVD28) : 23.9 m
Adjustment Net : M02706
Epoch : 2002.0

Note(s):

The coordinates above are the most accurately known positions for this station relative to the NAD83CSRS coordinate system. Although these coordinates are very accurate within the Canadian Spatial Reference System and with respect to the defined NAD83 datum, they may not be consistent with NAD83 coordinates officially adopted and published by provincial agencies for monumented geodetic control points.

CGVD28 - Canadian Geodetic Vertical Datum 1928, mean sea level (adopted, public vertical reference system). The average height of the surface of the sea for all stages of the tide. Usually determined by averaging height readings observed hourly over a minimum period of 19 years.

GPS EQUIPMENT ON SITE

The following equipment is presently in operation at the site:

GPS Receiver : LEICA GRX1200GGPRO
Antenna Type : LEIAT504GG LEIS
Frequency Standard Type : Internal
Meteorological Sensor : None
Antenna Height: 0.100

FOR FURTHER INFORMATION CONTACT :

NATURAL RESOURCES CANADA GEODETIC SURVEY DIVISION
INFORMATION SERVICES
615 Booth Street
Ottawa, Ontario, K1A 0E9
Telephone: 613-995-4410 Fax: 613-995-3215
Internet: information@geod.nrcan.gc.ca 2012-01-30

Proposed

GABRIOLA ISLAND LOCAL TRUST COMMITTEE
BYLAW NO. 263

A BYLAW TO RESPECT THE ENFORCEMENT OF BYLAW NOTICES WITHIN THE GABRIOLA ISLAND LOCAL TRUST AREA

WHEREAS the Gabriola Island Local Trust Committee is the Local Trust Committee having jurisdiction on and in respect of the Gabriola Island Local Trust Area, pursuant to the *Islands Trust Act;* and

WHEREAS the Gabriola Island Local Trust Committee wishes to regulate the Enforcement of Bylaw Notices in the Gabriola Island Local Trust Area;

NOW THEREFORE the Gabriola Island Local Trust Committee enacts, in open meeting assembled, as follows:

Citation

1. This Bylaw may be cited as "Gabriola Island Local Trust Committee Bylaw Enforcement Notification Bylaw, No. 263, 2011".

1.0 INTERPRETATION

In this Bylaw:

1.1 "Act" means the Local *Government Bylaw Notice Enforcement Act*, SBC 2003, c 60.
1.2 "Registry" means the North Shore Bylaw Notice Adjudication Registry established pursuant to section 6 of this bylaw.
1.3 "LTC" means the Gabriola Island Local Trust Committee.

2.0 DEFINITIONS

The terms in this bylaw have the same meaning as the terms defined in the *Act*.

3.0 BYLAW CONTRAVENTIONS

The bylaws and bylaw contraventions designated in Schedules "A", "B" and "C" attached to this bylaw may be dealt with by Bylaw Violation Notice.

4.0 PENALTY

The penalty for a contravention referred to in Section 3 is as follows:

(1) subject to paragraphs (2) to (4), is the Penalty amount set out in column A1 of Schedules "A", "B" and "C" as attached to this bylaw;
(2) if received by the Islands Trust within 14 days of the person receiving or being presumed to have received the bylaw violation notice, is the Early Payment Penalty set out in column A2 of Schedules "A", "B" and "C" as attached to this bylaw applies;
(3) if more than 28 days after the person has received or is presumed to have received the bylaw violation notice, is subject to a late payment surcharge in addition to the penalty under paragraph (1) , and is the Late Payment Surcharge set out in column A3 of Schedules "A", "B" and "C" as attached to this bylaw or
(4) if paid under a compliance agreement, may be reduced as provided under column A5 of Schedules "A", "B" and "C" as attached to this bylaw.

5.0 PERIOD FOR PAYING OR DISPUTING NOTICE

5.1 A person who receives a bylaw violation notice must, within 14 days of the date on which the person received or is presumed to have received the bylaw violation notice,

(1) pay the penalty, or
(2) request dispute adjudication

by filling in the appropriate portion of the bylaw violation notice indicating either a payment or a dispute and delivering it, either in person during regular office hours, or by mail, to the Islands Trust as directed on the bylaw violation notice.

5.2 A person may pay the indicated penalty after 14 days of receiving the notice subject to the applicable surcharge for late payment in accordance with Section 4(3) of this bylaw, but no person may dispute the bylaw violation notice after 14 days of receiving it.

5.3 Where a person was not served personally with a bylaw violation notice and advises the Islands Trust that they did not receive a copy of the original notice, the time limits for responding to a bylaw violation notice under Sections 5, 6 and 7 of this bylaw do not begin to run until a copy of the bylaw violation notice is re-delivered to them in accordance with the *Act*.

6.0 BYLAW NOTICE DISPUTE ADJUDICATION SYSTEM

6.1 The Registry is established as a bylaw violation notice dispute adjudication system in accordance with the *Act* to resolve disputes in relation to bylaw violation notices.

6.2 The civic address of the Registry is 141 West 14th Street, North Vancouver, BC, V7M 1H9.

6.3 Every person who is unsuccessful in dispute adjudication in relation to a bylaw violation notice, or a compliance agreement under the dispute adjudication system established under this Section, must pay the Islands Trust an additional fee of $25.00 for the purpose of the Islands Trust recovering the costs of the adjudication system.

7.0 SCREENING OFFICERS

7.1 The position of screening officer is established.

7.2 The following are designated classes of person that may be appointed as screening officers:

(1) Regional Planning Manager;
(2) Bylaw Enforcement Coordinator;
(3) Bylaw Enforcement Officer;
(4) Bylaw Enforcement Assistant;

and the LTC may appoint screening officers from these classes of persons by name of office or otherwise.

7.3 The powers, duties and functions of screening officers are as set out in the *Act*, and include the following powers:

(1) Where requested by the person against whom a contravention is alleged, to communicate information respecting the nature of the contravention, the provision of the bylaw contravened, the facts on which the contravention allegation is based, the penalty for a contravention, the opportunity to enter into a compliance agreement, the opportunity to proceed to the bylaw violation notice dispute adjudication system and the fee or fees payable in relation to the bylaw violation notice enforcement process;
(2) To communicate with any or all of the following for the purposes of performing their functions under this bylaw or the *Act*:

(a) the person against whom a contravention is alleged or their representative;
(b) the officer issuing the bylaw violation notice;
(c) the complainant or their representative;
(d) the Islands Trust staff and record regarding the disputant's history of bylaw compliance.

(3) To prepare and enter into compliance agreements under the *Act* with persons who dispute bylaw violation notices, including to establish terms and conditions for compliance that the screening officer considers necessary or advisable, including time periods for payment of penalties and compliance with the bylaw;
(4) To provide for payment of a reduced penalty if a compliance agreement is entered into as provided in column A5 of Schedules "A", "B" and "C" as attached to this bylaw; and
(5) To cancel bylaw violation notices in accordance with the *Act* or LTC policies and guidelines.

7.4 The bylaw contraventions in relation to which a screening officer may enter into a compliance agreement are indicated in column A4 of Schedules "A", "B" and "C" as attached to this bylaw.

7.5 The maximum duration of a compliance agreement is one year.

8.0 BYLAW ENFORCEMENT OFFICERS

Persons acting as any of the following are designated as bylaw enforcement officers for the purposes of this bylaw and the *Act*:

(a) Bylaw Enforcement Coordinator;
(b) Bylaw Enforcement Officer.

9.0 FORM OF BYLAW VIOLATION NOTICE

The LTC may, from time to time, stipulate the form or forms of the bylaw violation notice provided the bylaw violation notice complies with Section 4 of the *Act*.

10.0 SCHEDULES

The following schedules are attached to and form part of this bylaw:

(a) Schedule A – Gabriola Island Land Use Bylaw No. 186, 1999 Contraventions and Penalties
(b) Schedule B – Mudge Island Land Use Bylaw No. 228, 2007 Contraventions and Penalties
(c) Schedule C – DeCourcy Island Zoning Bylaw No. 44, 1987 Contraventions and Penalties

READ A FIRST TIME THIS 27TH DAY OF OCTOBER, 2011

READ A SECOND TIME THIS DAY OF ,20__

READ A THIRD TIME THIS DAY OF ,20__

APPROVED BY THE EXECUTIVE COMMITTEE OF THE ISLANDS TRUST THIS
DAY OF ,20__

ADOPTED THIS DAY OF ,20__

_____ _____
SECRETARY CHAIR

Schedule A
GABRIOLA ISLAND LAND USE BYLAW NO. 177, 1999
CONTRAVENTIONS AND PENALTIES

Bylaw Section	Description The following fines apply to the contraventions below:	A1 Penalty Amount	A2 Discounted Penalty (within 14 days)	A3 Late Payment (after 28 days)	A4 Compliance Agreement Available	A5 Compliance Agreement Discount
B.1.2.1(a)	Unlawful Use Of Accessory Building For Human Habitation	$300.00	$225.00	$150.00	Yes	50%
B.1.2.1(b)	Rental Of Personal Water Craft	$150.00	$112.50	$75.00	Yes	50%
B.1.2.1(c)	Disposal Of Sewage/Waste Originating Outside Of Area Covered By Gabriola Land Use Bylaw	$500.00	$375.00	$250.00	Yes	50%
B.1.2.1(d)	Use Of Building/Structure/Vessel In Water Area As Residence	$300.00	$225.00	$150.00	Yes	50%
B.1.2.1(e)	Use Of Land/Building/Structure For Gaming Activities	$300.00	$225.00	$150.00	Yes	50%
B.1.2.1(f)	Wrecking/Storage Of Derelict Vehicles Or Operating Junkyard/Garbage Dump	$150.00	$112.50	$75.00	Yes	50%
B.1.2.1(g)	Use Of Land/Building/Structure For Drive-through Service	$300.00	$225.00	$150.00	Yes	50%
B.1.2.1.(h)	Use Of Land/Building/Structure For Hunting Game Farm Animals In Confined Areas	$300.00	$225.00	$150.00	Yes	50%
B.1.2.2(a)	Non Permitted Boathouse In Water Zone	$300.00	$225.00	$150.00	Yes	50%
B.1.2.2(b)	Non Permitted Building/Structure In Water Zone	$300.00	$225.00	$150.00	Yes	50%
B.1.2.3(a)	More Than One Dwelling Unit And More Than One Cottage On A Lot	$300.00	$225.00	$150.00	Yes	50%
B.1.2.3(b)	Accessory Structure Contains Toilets/Bathrooms And/Or Food Preparation Areas	$300.00	$225.00	$150.00	Yes	75%
B.2.1.1(a)	Encroachment Into Setback From Watercourses/Sea	$300.00	$225.00	$150.00	Yes	75%
B.2.1.1(b)	Encroachment Of Septic Disposal Sewage Field Into Setback From Sea/Lake/Stream/Wetland	$300.00	$225.00	$150.00	Yes	75%
B.2.1.2(a)	Encroachment Into Setback From A Bluff	$300.00	$225.00	$150.00	Yes	75%
B.2.1.3(a)	Inadequate Landscape Screen To Protect Nesting Trees	$300.00	$225.00	$150.00	Yes	75%
B.2.1.4(a)	Encroachment Of Structure Into Setback From Zone Boundary	$300.00	$225.00	$150.00	Yes	75%
B.2.3.2	Structure Exceed Height Restriction	$300.00	$225.00	$150.00	Yes	75%
B.2.4.1	Fence Exceeds Height Restriction	$300.00	$225.00	$150.00	Yes	75%
B.2.5.1(a)	Exceed Maximum Floor Area Of Pump/Utility House	$300.00	$225.00	$150.00	Yes	75%
B.2.5.1(b)	Exceed Maximum Height Of Pump/Utility House	$300.00	$225.00	$150.00	Yes	75%
B.2.6.1(a)	Exceed Maximum Height Of Retaining Wall	$300.00	$225.00	$150.00	Yes	75%
B.2.7.1	Inadequate Landscape Screens	$100.00	$75.00	$50	Yes	75%

Schedule A
GABRIOLA ISLAND LAND USE BYLAW NO. 177, 1999
CONTRAVENTIONS AND PENALTIES

Bylaw Section	Description The following fines apply to the contraventions below:	A1 Penalty Amount	A2 Discounted Penalty (within 14 days)	A3 Late Payment (after 28 days)	A4 Compliance Agreement Available	A5 Compliance Agreement Discount
B.2.9	Over-Height Landscape Screen/ Landscaping/Fences/Building/ Structure On Corner Lot	$100.00	$75.00	$50	Yes	75%
B.2.10	Fail To Provide Landscape Screen For Bulk Transportation Containers	$100.00	$75.00	$50	Yes	75%
B.3.1.1	Home Occupation Use Not Carried Out By At Least One Permanent Resident	$250.00	$187.50	$125.00	Yes	50%
B.3.1.2	Permanent Resident Not Principal Worker/Operator Of Home Occupation	$250.00	$187.50	$125.00	Yes	50%
B.3.2.1	Non Permitted Home Occupation	$250.00	$187.50	$125.00	Yes	50%
B.3.3.1(a)	Home Occupation Not Accessory To Principal Residential Use Of The Property	$250.00	$187.50	$125.00	Yes	50%
B.3.3.1(b)	Exceed Maximum Floor Area For Home Occupation	$250.00	$187.50	$125.00	Yes	50%
B.3.3.1(c)	Home Occupation Not Retaining Residential Appearance	$250.00	$187.50	$125.00	Yes	50%
B.3.3.1(d)	Home Occupation Producing Vibration/Smoke/Dust/Odour/ Litter/Electrical Interference/Fire Hazard/Effluence/Glare Detectable Outside The Boundaries Of The Lot	$250.00	$187.50	$125.00	Yes	50%
B.3.3.1(e)	Home Occupation Producing Noise Detectable Outside Boundaries Of Lot	$250.00	$187.50	$125.00	Yes	50%
B.3.3.1(f)	Home Occupation Contaminating Soil/Surface Water	$300.00	$225.00	$150.00	Yes	50%
B.3.3.1(g)	Drainage/Catchment Mechanisms Not Maintained Or Impervious Barrier/Container Not Preventing Contamination Of Unpaved Area	$300.00	$225.00	$150.00	Yes	50%
B.3.3.1(h)	Fail To Provide Required Parking For Home Occupation	$250.00	$187.50	$125.00	Yes	75%
B.3.4.1	Non Permitted Home Industry	$250.00	$187.50	$125.00	Yes	50%
B.3.4.2(a)	Home Industry Does Not Meet Minimum Lot Size Area	$250.00	$187.50	$125.00	Yes	50%
B.3.4.2(b)	Fail To Provide Screening Of Home Industry	$100.00	$75.00	$50	Yes	75%
B.3.4.2(c)	Exceed Maximum Combined Areas For Home Occupations	$250.00	$187.50	$125.00	Yes	50%
B.3.4.2(d)	Operation Of Home Industries Outside Of Permitted Hours/Days	$250.00	$187.50	$125.00	Yes	50%
B.3.4.2(e)	Home Industry Areas/Activities Within 30 Metres From Any Lot Line	$250.00	$187.50	$125.00	Yes	50%
B.3.5	Exceed Permitted Number Of Employees In Home Occupation	$250.00	$187.50	$125.00	Yes	50%

Schedule A
GABRIOLA ISLAND LAND USE BYLAW NO. 177, 1999
CONTRAVENTIONS AND PENALTIES

Bylaw Section	Description The following fines apply to the contraventions below:	A1 Penalty Amount	A2 Discounted Penalty (within 14 days)	A3 Late Payment (after 28 days)	A4 Compliance Agreement Available	A5 Compliance Agreement Discount
B.3.6.1(a)	B&B Exceeds Permitted Number Of Temporary Accommodation Bedrooms Per Lot Size	$250.00	$187.50	$125.00	Yes	50%
B.3.6.1(b)	B&B Temporary Accommodation Bedrooms Not Reduced In Direct Proportion To Number Of Bedrooms Used For Boarders	$250.00	$187.50	$125.00	Yes	50%
B.3.6.1(c)	Use Of Accessory Building For B&B	$300.00	$225.00	$150.00	Yes	50%
B.3.6.1(d)	B&B Serving Meals Other Than Breakfast	$250.00	$187.50	$125.00	Yes	50%
B.3.6.2(e)	B&B Providing Additional Cooking Facilities	$250.00	$187.50	$125.00	Yes	50%
B.4.1.1	Exceed Number/Area Restriction For Signs	$150.00	$112.50	$75.00	Yes	75%
B.4.1.2	Real Estate Signs Too Large And/Or Not Removed Within Two Weeks Of Sale	$150.00	$112.50	$75.00	Yes	75%
B.4.1.3	Non Permitted Illuminated Sign	$150.00	$112.50	$75.00	Yes	75%
B.4.1.4	Home Occupation Sign Exceeds Number/Area Restrictions	$150.00	$112.50	$75.00	Yes	75%
B.4.3.1	Third Party Signs Exceed Area Restriction	$150.00	$112.50	$75.00	Yes	75%
B.5.1.1	Fail To Provide/Maintain Required Off-road Parking Spaces	$250.00	$187.50	$125.00	Yes	75%
B.5.3.1	Fail To Provide Adequate Manoeuvring Aisle	$250.00	$187.50	$125.00	Yes	75%
B.5.3.2	Inadequate Parking Spaces	$250.00	$187.50	$125.00	Yes	75%
B.5.3.3	Inadequate Disabled Parking Spaces	$250.00	$187.50	$125.00	Yes	75%
B.5.4.1	Inadequate Parking On Lot On Which Use/Building/Structure Served Is Located	$250.00	$187.50	$125.00	Yes	75%
B.5.4.2	Inadequate Disabled Parking Adjacent To Building	$250.00	$187.50	$125.00	Yes	75%
B.5.4.3	More Than 50% Of Setback Used For Parking/Manouvring Or Parking Space Located Within 1.5 Meters (4.9 Feet) Of Property Boundary	$250.00	$187.50	$125.00	Yes	75%
B.6.1.1	More Than Four Boarders	$250.00	$187.50	$125.00	Yes	75%
B.6.2.1	Fail To Enclose/Screen/Fence Equipment When Market Closed	$100.00	$75.00	$50	Yes	75%
B.6.2.2	Market Vendor Sign Exceeds Maximum Area Restriction	$150.00	$112.50	$75.00	Yes	75%
B.6.2.3	Use Of Permanent Structure Primarily For Market	$300.00	$225.00	$150.00	Yes	50%
B.6.3.1	Use Of Cottage For Overnight	$300.00	$225.00	$150.00	Yes	50%

Schedule A
GABRIOLA ISLAND LAND USE BYLAW NO. 177, 1999
CONTRAVENTIONS AND PENALTIES

Bylaw Section	Description The following fines apply to the contraventions below:	A1 Penalty Amount	A2 Discounted Penalty (within 14 days)	A3 Late Payment (after 28 days)	A4 Compliance Agreement Available	A5 Compliance Agreement Discount
	Accommodation On Less Than A Monthly Basis For Monetary Gain					
B.6.3.2	Exceed Maximum Permitted Floor Area Of Cottage	$300.00	$225.00	$150.00	Yes	75%
B.6.4.1	Non Permitted Use Of Temporary Dwelling Unit	$300.00	$225.00	$150.00	Yes	50%
B.6.4.1(a)	Use Of Temporary Dwelling Without Building Permit For Principal Dwelling	$300.00	$225.00	$150.00	Yes	50%
B.6.4.1(b)	Inadequate Screening Of Trailer/Recreational Vehicle Used As Temporary Dwelling	$300.00	$225.00	$150.00	Yes	50%
B.6.4.1(c)	Trailer/Recreational Vehicle Used As Temporary Dwelling Not Connected To Approved Sewage System	$300.00	$225.00	$150.00	Yes	75%
B.6.4.2	Improper Use Of Temporary Seasonal Accommodation	$300.00	$225.00	$150.00	Yes	50%
B.6.4.3	Storage Of More Than One Travel Trailer/Recreational Vehicle On Lot	$150.00	$112.50	$75.00	Yes	50%
B.6.5.1	Improper Storage Of Unlicensed And Enclosed Vehicle On Lot	$150.00	$112.50	$75.00	Yes	50%
D.1.1.1	Non Permitted Use Of Land/Building/Structure In Small Rural Residential Zone	$300.00	$225.00	$150.00	Yes	50%
D.1.1.2	Non Permitted Size/Density/Building/Structure In Small Rural Residential Zone	$300.00	$225.00	$150.00	Yes	75%
D.1.1.3(a)	Encroachment Of Building/Structure Into Setback In Small Rural Residential Zone	$300.00	$225.00	$150.00	Yes	75%
D.1.1.3(b)	Exceed Lot Coverage Restriction In Small Rural Residential Zone	$300.00	$225.00	$150.00	Yes	75%
D.1.2.1	Non Permitted Use Of Land/Building/Structure In Large Rural Residential Zone	$300.00	$225.00	$150.00	Yes	50%
D.1.2.2	Non Permitted Size/Siting/ Density/Building/Structure In Large Rural Residential Zone	$300.00	$225.00	$150.00	Yes	75%
D.1.2.3(a)	Encroachment Of Building/Structure Into Setback In Large Rural Residential Zone	$300.00	$225.00	$150.00	Yes	75%
D.1.2.3(b)	Exceed Lot Coverage Restriction In Large Rural Residential Zone	$300.00	$225.00	$150.00	Yes	75%
D.1.3.1	Non Permitted Use Of Land/Building/Structure In Seniors And Special Needs Zone	$300.00	$225.00	$150.00	Yes	50%
D.1.3.2	Non Permitted Density/Building/Structure In Seniors And Special Needs Zone	$300.00	$225.00	$150.00	Yes	75%

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Bylaw Section	Description The following fines apply to the contraventions below:	A1 Penalty Amount	A2 Discounted Penalty (within 14 days)	A3 Late Payment (after 28 days)	A4 Compliance Agreement Available	A5 Compliance Agreement Discount
D.1.3.3(a)	Exceed Height Restriction Of Building/Structure In Seniors And Special Needs Zone	$300.00	$225.00	$150.00	Yes	75%
D.1.3.3(b)	Encroachment Of Building/Structure Into Setback In Seniors And Special Needs Zone	$300.00	$225.00	$150.00	Yes	75%
D.1.3.3(c)	Exceed Lot Coverage Restriction In Seniors And Special Needs Zone	$300.00	$225.00	$150.00	Yes	75%
D.1.3.3(e)	Dwelling Unit Exceeds Maximum Area Restriction In Seniors And Special Needs Zone	$300.00	$225.00	$150.00	Yes	75%
D.2.1.1	Non Permitted Use Of Land/Building/Structure In Agricultural Zone	$300.00	$225.00	$150.00	Yes	50%
D.2.1.2	Non Permitted Size/Density/Building/Structure In Agricultural Zone	$300.00	$225.00	$150.00	Yes	75%
D.2.1.3(a)	Encroachment Of Building/Structure Into Setback In Agricultural Zone	$300.00	$225.00	$150.00	Yes	75%
D.2.1.3(b)	Exceed Lot Coverage Restriction In Agricultural Zone	$300.00	$225.00	$150.00	Yes	75%
D.2.2.1	Non Permitted Use Of Land/Building/Structure In Forestry Zone	$300.00	$225.00	$150.00	Yes	50%
D.2.2.2	Non Permitted Size/Density/Structure/Building In Forestry Zone	$300.00	$225.00	$150.00	Yes	75%
D.2.2.3(a)	Encroachment Of Building/Structure Into Setback In Forestry Zone	$300.00	$225.00	$150.00	Yes	75%
D.2.2.3(b)	Exceed Lot Coverage Restriction In Forestry Zone	$300.00	$225.00	$150.00	Yes	75%
D.2.3.1	Non Permitted Use Of Land/Building/Structure In Forestry/Wilderness Recreation 1 Zone	$300.00	$225.00	$150.00	Yes	50%
D.2.3.2	Non Permitted Structure/Building In Forestry/Wilderness Recreation 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.2.3.3(a)	Building/Structure Exceeds Maximum Height Restriction In Forestry/Wilderness Recreation 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.2.3.3(b)	Encroachment Of Building/Structure Into Setback In Forestry/Wilderness Recreation 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.2.4.1	Non Permitted Use Of Land/Building/Structure In	$300.00	$225.00	$150.00	Yes	50%

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	Resource Zone					
D.2.4.2	Non Permitted Size/Density/Building/Structure In Resource Zone	$300.00	$225.00	$150.00	Yes	75%
D.2.4.3(a)	Encroachment Of Building/Structure Into Setback In Resource Zone	$300.00	$225.00	$150.00	Yes	75%
D.2.4.3(b)	Exceed Lot Coverage Restriction In Resource Zone	$300.00	$225.00	$150.00	Yes	75%
D.2.6.1	Non Permitted Use Of Land/Building/Structure In Resource Residential 1 Zone	$300.00	$225.00	$150.00	Yes	50%
D.2.6.2	Non Permitted Size/Density/Building/Structure In Resource Residential 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.2.6.3(a)	Encroachment Of Building/Structure Into Setback In Resource Residential 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.2.6.3(b)	Exceed Lot Coverage Restriction In Resource Residential 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.2.7.1	Non Permitted Use Of Land/Building/Structure In Gravel Pit Zone	$300.00	$225.00	$150.00	Yes	50%
D.2.7.2	Non Permitted Density/Building/Structure In Gravel Pit Zone	$300.00	$225.00	$150.00	Yes	75%
D.2.7.3(a)	Exceed Height Restriction Of Building/Structure In Gravel Pit Zone	$300.00	$225.00	$150.00	Yes	75%
D.2.7.3(b)	Encroachment Of Building/Structure Into Setback In Gravel Pit Zone	$300.00	$225.00	$150.00	Yes	75%
D.2.7.3(c)	Exceed Lot Coverage Restriction In Gravel Pit Zone	$300.00	$225.00	$150.00	Yes	75%
D.2.8.1	Non Permitted Use Of Land/Building/Structure In Comprehensive Development Zone	$300.00	$225.00	$150.00	Yes	50%
D.2.8.2	Non Permitted Size/Density/Building/Structure In Comprehensive Development Zone	$300.00	$225.00	$150.00	Yes	75%
D2.8.3(a)	Encroachment Of Building/Structure Into Setback In Comprehensive Development Zone	$300.00	$225.00	$150.00	Yes	75%
D2.8.3(b)	Exceed Height Restriction Of Building/Structure In Comprehensive Development Zone	$300.00	$225.00	$150.00	Yes	75%
D2.8.3(c)	Exceed Lot Coverage Restriction	$300.00	$225.00	$150.00	Yes	75%

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	In Comprehensive Development Zone					
D.3.1.1	Non Permitted Use Of Land/Building/Structure In Village Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	50%
D.3.1.2	Non Permitted Density/Building/Structure In Village Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.1.3(a)	Exceed Height Restriction Of Building/Structure In Village Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.1.3(b)	Encroachment Of Building/Structure Into Setback In Village Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.1.3(c)	Exceed Lot Coverage/Floor Area Restriction In Village Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.1.3(e)	More Than 10 Vehicles Offered For Sale/Rent on Lot In Village Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	50%
D.3.2.1	Non Permitted Use Of Land/Building/Structure In Village Commercial 2 Zone	$300.00	$225.00	$150.00	Yes	50%
D.3.2.2	Non Permitted Density/Building/Structure In Village Commercial 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.2.3(a)	Exceed Maximum Height Restriction Of Building/Structure In Village Commercial 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.2.3(b)	Encroachment Of Building/Structure Into Setback In Village Commercial 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.2.3(c)	Exceed Lot Coverage/Floor Area Restriction In Village Commercial 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.2.3(e)	Exceed Combined Floor Area Restriction Of Retail/Restaurants/ Cafes/Bakeries In Village Commercial 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.3.1	Non Permitted Use Of Land/Building/Structure In District Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	50%
D.3.3.2	Non Permitted Density/Building/Structure In District Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.3.3(a)	Exceed Height Restriction Of Building/Structure In District Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.3.3(b)	Encroachment Of Building/Structure Into Setback In District Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	75%

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Bylaw Section	Description The following fines apply to the contraventions below:	A1 Penalty Amount	A2 Discounted Penalty (within 14 days)	A3 Late Payment (after 28 days)	A4 Compliance Agreement Available	A5 Compliance Agreement Discount
D.3.3.3(c)	Exceed Lot Coverage/Floor Area Restriction Of Building/Structure In District Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.3.3(e)	More Than 10 Vehicles Offered For Sale/Rent In District Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.4.1	Non Permitted Use Of Land/Building/Structure In Local Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	50%
D.3.4.2	Non Permitted Density/Building/Structure In Local Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.4.3(a)	Exceed Height Restriction Of Building/Structure In Local Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.4.3(b)	Encroachment Of Building/Structure Into Setback In Local Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.4.3(c)	Exceed Lot Coverage Restriction In Local Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.5.1	Non Permitted Use Of Land/Building/Structure In Local Commercial 2 Zone	$300.00	$225.00	$150.00	Yes	50%
D.3.5.2	Non Permitted Density/Building/Structure In Local Commercial 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.5.3(a)	Exceed Height Restriction Of Building/Structure In Local Commercial 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.5.3(b)	Encroachment Of Building/Structure Into Setback In Local Commercial 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.5.3(c)	Exceed Lot Coverage/Floor Area Restriction In Local Commercial 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.6.1	Non Permitted Use Of Land/Building/Structure In Local Commercial 3 Zone	$300.00	$225.00	$150.00	Yes	50%
D.3.6.2	Non Permitted Density/Building/Structure In Local Commercial 3 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.6.3(a)	Exceed Height Restriction Of Building/Structure In Local Commercial 3 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.6.3(b)	Encroachment Of Building/Structure Into Setback In Local Commercial 3 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.6.3(c)	Exceed Lot Coverage Restriction In Local Commercial 3 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.6.3(e)(i)	Exceed Floor Area Restriction Of Mini Storage In Local Commercial	$300.00	$225.00	$150.00	Yes	75%

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	3 Zone					
D.3.6.3(e)(ii)	Fail To Provide Screening Of Mini Storage In Local Commercial 3 Zone	$100.00	$75.00	$50	Yes	75%
D.3.7.1	Non Permitted Use Of Land/Building/Structure In Ferry Parking Zone	$300.00	$225.00	$150.00	Yes	50%
D.3.7.2	Exceed Maximum Height/Floor Area Restrictions Of Buildings/Structures/Signs In Ferry Parking Zone	$250.00	$187.50	$125.00	Yes	75%
D.3.7.3(a)	Exceed Lot Coverage Restriction In Ferry Parking Zone	$250.00	$187.50	$125.00	Yes	75%
D.3.7.3(c)(i)	Inadequate Landscape Screening Of Parking Area In Ferry Parking Zone	$250.00	$187.50	$125.00	Yes	75%
D.3.7.3(c)(ii)	Non Permitted Or Inadequate Parking Area Surface/Drainage In Ferry Parking Zone	$250.00	$187.50	$125.00	Yes	75%
D.3.7.3(c)(iii)	Lighting Not Deflected Towards Surface of Parking Area	$250.00	$187.50	$125.00	Yes	75%
D.3.8.1	Non Permitted Use Of Land/Building/Structure In Tourist Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	50%
D.3.8.2	Non Permitted Density/Building/Structure In Tourist Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.8.3(a)	Exceed Maximum Height Restriction Of Building/Structure In Tourist Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.8.3(b)	Encroachment Of Building/Structure Into Setback In Tourist Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.8.3(c)	Exceed Lot Coverage/Floor Area Restriction In Tourist Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.8.3(e)(i)	Exceed Maximum Size Restriction Of Tourist Accommodation Unit In Tourist Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.8.3(e)(ii)	Non Permitted Cooking Facilities In Tourist Accommodation Unit In Tourist Commercial 1 Zone	$250.00	$187.50	$125.00	Yes	75%
D.3.8.3(e)(iii)	Tourist Accommodation Unit Occupancy Exceeds Maximum Time Period In Tourist Commercial 1 Zone	$250.00	$187.50	$125.00	Yes	75%
D.3.8.3(e)(iv)	Campsite Occupancy Exceeds Maximum Time Period In Tourist Commercial 1 Zone	$250.00	$187.50	$125.00	Yes	75%

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D.3.8.3(e)(v)	Non Permitted Licensed Liquor Establishments In Tourist Commercial 1 Zone	$250.00	$187.50	$125.00	Yes	75%
D.3.9.1	Non Permitted Use Of Land/Building/Structure In Tourist Commercial 2 Zone	$300.00	$225.00	$150.00	Yes	50%
D.3.9.2	Non Permitted Density/Building/Structure In Tourist Commercial 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.9.3(a)	Exceed Height Restriction Of Building/Structure In Tourist Commercial 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.9.3(b)	Encroachment Of Building/Structure Into Setback In Tourist Commercial 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.9.3(c)	Exceed Lot Coverage/Floor Area Restriction In Tourist Commercial 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.9.3(e)(i)	Exceed Permitted Number Of Campsites Per Hectare In Tourist Commercial 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.9.3(e)(ii)	Tent/Tent-Trailer/Camper Vehicle/Recreation Vehicle On Campsite For More Than 60 Days A Year	$250.00	$187.50	$125.00	Yes	50%
D.3.9.3(e)(iii)	Campsite Occupied By Person Consecutively Or Cumulatively For More Than 60 Days Within A Year In Tourist Commercial 2 Zone	$250.00	$187.50	$125.00	Yes	50%
D.3.10.1	Non Permitted Use Of Land/Building/Structure In Industrial – Light 1 Zone	$300.00	$225.00	$150.00	Yes	50%
D.3.10.2	Non Permitted Density/Building/Structure In Industrial – Light 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.10.3(a)	Exceed Height Restriction Of Building/Structure In Industrial – Light 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.10.3(b)	Encroachment Of Building/Structure Into Setback In Industrial – Light 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.10.3(c)	Exceed Lot Coverage/Floor Area Restriction In Industrial – Light 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.10.3(e)(i)	Exceed Maximum Floor Area For Sales Of Products/Services On Property In Industrial – Light 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.3.10.3(e)(ii)	Inadequate Landscape Screen Or Non permitted Storage Of	$100.00	$75.00	$50	Yes	75%

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	Materials In Industrial – Light 1 Zone					
D.3.10.3(e)(iii)	Non Permitted Storage Of Hazardous Materials In Industrial – Light 1 Zone	$300.00	$225.00	$150.00	Yes	50%
D.4.1.1	Non Permitted Principle Use In Provincial And Regional Park Zone	$300.00	$225.00	$150.00	Yes	50%
D.4.1.2	Non Permitted Use Of Land/Building/Structure In Provincial And Regional Park Zone	$300.00	$225.00	$150.00	Yes	50%
D.4.1.3(a)	Exceed Height Restriction Of Building/Structure In Provincial And Regional Park Zone	$300.00	$225.00	$150.00	Yes	75%
D.4.1.3(b)	Encroachment Of Building/Structure Into Setback In Provincial And Regional Park Zone	$300.00	$225.00	$150.00	Yes	75%
D.4.1.3(c)	Exceed Lot Coverage Restriction In Provincial And Regional Park Zone	$300.00	$225.00	$150.00	Yes	75%
D.4.2.1	Non Permitted Principle Use In Parks 2 Zone	$300.00	$225.00	$150.00	Yes	50%
D.4.2.2	Non Permitted Use Of Land/Building/Structure In Parks 2 Zone	$300.00	$225.00	$150.00	Yes	50%
D.4.2.3(a)	Exceed Height Restriction Of Building/Structure In Parks 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.4.2.3(b)	Encroachment Of Building/Structure Into Setback In Parks 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.4.2.3(c)	Exceed Lot Coverage Restriction In Parks 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.4.3.1	Non Permitted Principal Use In Parks 3 Zone	$300.00	$225.00	$150.00	Yes	50%
D.4.3.2	Non Permitted Use Of Land/Building/Structure In Parks 3 Zone	$300.00	$225.00	$150.00	Yes	50%
D.4.3.3(a)	Exceed Height Restriction Of Building/Structure In Parks 3 Zone	$300.00	$225.00	$150.00	Yes	75%
D.4.3.3(b)	Encroachment Of Building/Structure Into Setback In Parks 3 Zone	$300.00	$225.00	$150.00	Yes	75%
D.4.3.3(c)	Exceed Lot Coverage Restriction In Parks 3 Zone	$300.00	$225.00	$150.00	Yes	75%
D.4.4.1	Non Permitted Use Of Land/Building/Structure In Institutional 1 Zone	$300.00	$225.00	$150.00	Yes	50%

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D.4.4.2	Non Permitted Building/Structure In Institutional 1 Zone	$300.00	$225.00	$150.00	Yes	50%
D.4.4.3(a)	Exceed Height Restriction Of Building/Structure In Institutional 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.4.4.3(b)	Encroachment Of Building/Structure Into Setback In Institutional 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.4.4.3(c)	Exceed Lot Coverage/Floor Area Restriction In Institutional 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.4.5.1	Non Permitted Use Of Land/Building/Structure In Institutional 2 Zone	$300.00	$225.00	$150.00	Yes	50%
D.4.5.2	Non Permitted Building/Structure In Institutional 2 Zone	$300.00	$225.00	$150.00	Yes	50%
D.4.5.3(a)	Exceed Height Restriction Of Building/Structure In Institutional 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.4.5.3(b)	Encroachment Of Building/Structure Into Setback In Institutional 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.4.5.3(c)	Exceed Lot Coverage Restriction In Institutional 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.4.6.1	Non Permitted Use Of Land/Building/Structure In Institutional 3 Zone	$300.00	$225.00	$150.00	Yes	50%
D.4.6.2	Non Permitted Building/Structure In Institutional 3 Zone	$300.00	$225.00	$150.00	Yes	50%
D.4.6.3(a)	Exceed Height Restriction Of Building/Structure In Institutional 3 Zone	$300.00	$225.00	$150.00	Yes	75%
D.4.6.3(b)	Encroachment Of Building/Structure Into Setback In Institutional 3 Zone	$300.00	$225.00	$150.00	Yes	75%
D.4.6.3(c)	Exceed Lot Coverage Restriction In Institutional 3 Zone	$300.00	$225.00	$150.00	Yes	75%
D.4.7.1	Non Permitted Use Of Land/Building/Structure In Yacht Club Outstation – Upland Zone	$300.00	$225.00	$150.00	Yes	50%
D.4.7.2	Non Permitted Density/Building/Structure In Yacht Club Outstation – Upland Zone	$300.00	$225.00	$150.00	Yes	75%
D.4.7.3(a)	Exceed Height Restriction Of Building/Structure In Yacht Club Outstation – Upland Zone	$300.00	$225.00	$150.00	Yes	75%
D.4.7.3(b)	Encroachment Of Building/Structure Into Setback In Yacht Club Outstation – Upland Zone	$300.00	$225.00	$150.00	Yes	75%
D.4.7.3(c)	Exceed Lot Coverage Restriction	$300.00	$225.00	$150.00	Yes	75%

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GABRIOLA ISLAND LAND USE BYLAW NO. 177, 1999
CONTRAVENTIONS AND PENALTIES

Bylaw Section	Description The following fines apply to the contraventions below:	A1 Penalty Amount	A2 Discounted Penalty (within 14 days)	A3 Late Payment (after 28 days)	A4 Compliance Agreement Available	A5 Compliance Agreement Discount
	In Yacht Club Outstation – Upland Zone					
D.5.1.1	Non Permitted Use In Water General Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.1.2	Non Permitted Structure In Water General Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.1.3.(a)	Exceed Height Restriction Of Structure In Water General Zone	$300.00	$225.00	$150.00	Yes	75%
D.5.1.3.(b)	Encroachment Of Structure Into Setback In Water General Zone	$300.00	$225.00	$150.00	Yes	75%
D.5.1.3.(c)(i)	Non Permitted Building In Water General Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.1.3.(c)(ii)	Non Permitted Use Of Float/Wharf/Dock Or Other Structure For Commercial Or Industrial Use	$300.00	$225.00	$150.00	Yes	50%
D.5.2.1	Non Permitted Use Of Structure In Water Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.2.2	Non Permitted Building/Structure In Water Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.2.3(a)	Exceed Height Restriction Of Building/Structure In Water Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.5.2.3(b)	Encroachment Of Building/Structure Into Setback In Water Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.5.2.3(c)	Non Permitted Residential Use Of Vessels In Water Commercial 1 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.3.1	Non Permitted Use In Water Commercial 2 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.3.2	Non Permitted Structure In Water Commercial 2 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.3.3(a)	Exceed Height Restriction Of Structure In Water Commercial 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.5.3.3(b)	Encroachment Of Structure Into Setback In Water Commercial 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.5.3.3(c)	Non Permitted Building In Water Commercial 2 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.4.1	Non Permitted Use Of Structure In Water Commercial 3 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.4.2	Non Permitted Structure In Water Commercial 3 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.4.3(a)	Exceed Height Restriction Of Structure In Water Commercial 3 Zone	$300.00	$225.00	$150.00	Yes	75%
D.5.4.3(b)	Encroachment Of Structure Into Setback In Water Commercial 3 Zone	$300.00	$225.00	$150.00	Yes	75%

Schedule A
GABRIOLA ISLAND LAND USE BYLAW NO. 177, 1999
CONTRAVENTIONS AND PENALTIES

Bylaw Section	Description The following fines apply to the contraventions below:	A1 Penalty Amount	A2 Discounted Penalty (within 14 days)	A3 Late Payment (after 28 days)	A4 Compliance Agreement Available	A5 Compliance Agreement Discount
D.5.4.3(c)	Non Permitted Building In Water Commercial 3 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.5.1	Non Permitted Use In Water Industrial 1 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.5.2	Non Permitted Building/Structure In Water Industrial 1 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.5.3(a)	Exceed Height Restriction Of Building/Structure In Water Industrial 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.5.5.3(b)	Encroachment Of Building/Structure Into Setback In Water Industrial 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.5.6.1	Non Permitted Use In Water Industrial 2 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.6.2	Non Permitted Structure In Water Industrial 2 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.6.3(a)	Exceed Height Restriction Of Structure In Water Industrial 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.5.6.3(b)	Non Permitted Building In Water Industrial 2 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.7.1	Non Permitted Use In Water Industrial 3 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.7.2	Non Permitted Structure In Water Industrial 3 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.7.3(a)	Exceed Height Restriction Of Structure In Water Industrial 3 Zone	$300.00	$225.00	$150.00	Yes	75%
D.5.7.3(b)	Encroachment Of Structure Into Setback In Water Industrial 3 Zone	$300.00	$225.00	$150.00	Yes	75%
D.5.7.3(c)	Non Permitted Building In Water Industrial 3 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.8.1	Non Permitted Use In Water Protection 1 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.8.2	Non Permitted Structure In Water Protection 1 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.8.3(a)	Exceed Height Restriction Of Structure In Water Protection 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.5.8.3(b)	Encroachment Of Structure Into Setback In Water Protection 1 Zone	$300.00	$225.00	$150.00	Yes	75%
D.5.8.3(c)(i)	Non Permitted Use Of Buildings In Water Protection 1 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.8.3(c)(ii)	Non Permitted Use Of Float/Wharf/Dock/Mooring Buoys Or Other Structure For Commercial Or Industrial Use	$300.00	$225.00	$150.00	Yes	50%
D.5.9.1	Non Permitted Use In Water Protection 2 Zone	$300.00	$225.00	$150.00	Yes	50%

Schedule A
GABRIOLA ISLAND LAND USE BYLAW NO. 177, 1999
CONTRAVENTIONS AND PENALTIES

Bylaw Section	Description The following fines apply to the contraventions below:	A1 Penalty Amount	A2 Discounted Penalty (within 14 days)	A3 Late Payment (after 28 days)	A4 Compliance Agreement Available	A5 Compliance Agreement Discount
D.5.9.2	Non Permitted Structure In Water Protection 2 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.9.3(a)	Exceed Height Restriction Of Structure In Water Protection 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.5.9.3(b)	Encroachment Of Structure Into Setback In Water Protection 2 Zone	$300.00	$225.00	$150.00	Yes	75%
D.5.9.3(c)(i)	Non Permitted Use Of Buildings In Water Protection 2 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.9.3(c)(ii)	Non Permitted Use Of Float/Mooring Buoys Or Other Structure For Commercial Or Industrial Use	$300.00	$225.00	$150.00	Yes	50%
D.5.10.1	Non Permitted Use In Water Protection 3 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.10.2	Non Permitted Structure In Water Protection 3 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.10.3	Non Permitted Building Water Protection 3 Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.11.1	Non Permitted Use In Water Yacht Club Outstation Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.11.2	Non Permitted Structure In Water Yacht Club Outstation Zone	$300.00	$225.00	$150.00	Yes	50%
D.5.11.3(a)	Exceed Height Restriction Of Structure In Water Yacht Club Outstation Zone	$300.00	$225.00	$150.00	Yes	75%
D.5.11.3(b)	Encroachment Of Structure Into Setback In Water Yacht Club Outstation Zone	$300.00	$225.00	$150.00	Yes	75%
D.5.11.3(c)	Non Permitted Building In Water Yacht Club Outstation Zone	$300.00	$225.00	$150.00	Yes	50%

Schedule B
MUDGE ISLAND LAND USE BYLAW NO. 228, 2007
CONTRAVENTIONS AND PENALTIES

Bylaw Section	Description The following fines apply To the contraventions below:	A1 Penalty Amount	A2 Discounted Penalty (within 14 days)	A3 Late Payment (after 28 days)	A4 Compliance Agreement Available	A5 Compliance Agreement Discount
3.1	Non Permitted Use/Structure	$300.00	$225.00	$150.00	Yes	50%
3.2.1(a)	Storage And Disposal Of Domestic/Hazardous/Toxic Waste	$300.00	$225.00	$150.00	Yes	50%
3.2.1(b)	Bridges/Causeways/Tunnels/Utility Lines Connecting Islands	$300.00	$225.00	$150.00	Yes	75%
3.3.2	Encroachment Of Building/Structure Into Setback	$300.00	$225.00	$150.00	Yes	75%
3.3.3	Encroachment Of Trough/Manure Pile Into Setback	$300.00	$225.00	$150.00	Yes	75%
3.3.4	Encroachment Into Setback From Natural Boundary Of Wetland/Watercourse/Sea/Body Of Water	$300.00	$225.00	$150.00	Yes	75%
3.3.5	Encroachment Into Setback From Natural Boundary Of Sea	$300.00	$225.00	$150.00	Yes	75%
3.4.1(a)	Building/Structure Exceeds Height Restriction	$300.00	$225.00	$150.00	Yes	75%
3.4.1(b)	Fence Exceeds Height Restriction	$300.00	$225.00	$150.00	Yes	75%
3.5.1	Non Permitted Use Of Building/Structure For Overnight Accommodation	$300.00	$225.00	$150.00	Yes	50%
3.5.3	Non Permitted Residential Use Of Vessel/Building/Structure Located On Waters	$300.00	$225.00	$150.00	Yes	50%
3.6.1	Non Permitted Home Occupation	$250.00	$187.50	$125.00	Yes	50%
3.6.2(a)	Home Occupation Not Accessory To Active Residential Use	$250.00	$187.50	$125.00	Yes	50%
3.6.2(b)	Home Occupation Not Carried Out By Minimum One Permanent Resident Or Permanent Resident Not Sole/Principal Worker And Operator Or More Than Two People Employed At Any Given Time	$250.00	$187.50	$125.00	Yes	50%
3.6.2(c)	Fail To Retain Residential Appearance On Home Occupation Premises	$250.00	$187.50	$125.00	Yes	50%
3.6.2(d)	Home Occupation Produces Excessive Vibration/Smoke/Dust/Odour/Litter/Electrical Interference/Fire Hazard/Effluent/Glare Detectable Outside Boundaries Of Lot	$250.00	$187.50	$125.00	Yes	50%
3.6.2(e)	Create/Permit Noise Which Disturbs Persons/Clearly Audible Off Lot Of Home Occupation	$250.00	$187.50	$125.00	Yes	50%
3.6.2(f)	Home Occupation Results In Contamination Of Any Soil/Surface Water	$250.00	$187.50	$125.00	Yes	50%
3.6.2(g)	Inappropriate/Not Maintained Mechanisms To Prevent Spills/Contaminations For Paved And Unpaved Areas Used for Vehicle/Engine/Equipment/Appliance/Vessel Construction Or Repairs	$250.00	$187.50	$125.00	Yes	50%

Schedule B
MUDGE ISLAND LAND USE BYLAW NO. 228, 2007
CONTRAVENTIONS AND PENALTIES

Bylaw Section	Description The following fines apply To the contraventions below:	A1 Penalty Amount	A2 Discounted Penalty (within 14 days)	A3 Late Payment (after 28 days)	A4 Compliance Agreement Available	A5 Compliance Agreement Discount
3.6.2(h)	Home Occupation Not Entirely Conducted In Single Family Dwelling Unit Or Non-residential Accessory Building And Exceeds Maximum Floor Area Restriction	$250.00	$187.50	$125.00	Yes	50%
3.6.2(i)	Non Permitted Use Of Outdoor Space For Home Occupation	$300.00	$225.00	$150.00	Yes	50%
3.7.1	Inadequate Landscape Screen	$100.00	$75.00	$50.00	Yes	75%
3.8.1(a)	Inadequate Landscape Screen Or Unapproved Sewage Disposal System For Recreational Vehicles/Tents/Campers Used As Residential Dwellings	$200.00	$150.00	$100.00	Yes	50%
3.8.1(b)	Exceed Time Period Of Recreational Vehicles/Tents/Campers Used As Seasonal Non-commercial Accommodation	$300.00	$225.00	$150.00	Yes	50%
3.8.2	Temporary Residential Use Of Vehicles/Tents/Campers During Construction Of Dwelling Not Ceased Upon Occupancy Of The Dwelling	$300.00	$225.00	$150.00	Yes	50%
3.9.1	Wrecking/Storage Of Vehicles/Vessels Or Use Of Parcel As Junkyard	$150.00	$112.50	$75.00	Yes	50%
3.9.2	Inadequate Screening Of Unlicensed Vehicles/Vessels Undergoing Repair Or Exceed Maximum Number Vehicles/Vessels	$150.00	$112.50	$75.00	Yes	50%
5.1.1	Non Permitted Principal Use In A Rural Residential Zone	$300.00	$225.00	$150.00	Yes	50%
5.1.2	Non Permitted Accessory Use In A Rural Residential Zone	$300.00	$225.00	$150.00	Yes	50%
5.1.3	Non Permitted Building/Structure In Rural Residential Zone	$300.00	$225.00	$150.00	Yes	50%
5.1.4	Exceed Maximum Lot Coverage In Rural Residential Zone	$300.00	$225.00	$150.00	Yes	75%
5.1.5	Cottage Exceeds Maximum Permitted Floor Area	$300.00	$225.00	$150.00	Yes	75%
5.1.6	Encroachment Into Setback In Rural Residential Zone On Lots 0.4 Hectares Or Less	$300.00	$225.00	$150.00	Yes	75%
5.1.7	Encroachment Into Setback In Rural Residential Zone On Lots Greater Than 0.4 Hectares	$300.00	$225.00	$150.00	Yes	75%
5.2.1	Non Permitted Use In A Park And Institutional Zone	$300.00	$225.00	$150.00	Yes	50%
5.2.2	Non Permitted Building/Structure In Park And Institutional Zone	$300.00	$225.00	$150.00	Yes	50%
5.2.3	Exceed Maximum Lot Coverage In Park And Institutional Zone	$300.00	$225.00	$150.00	Yes	75%
5.2.4	Encroachment Into Setback In Park And Institutional Zone	$300.00	$225.00	$150.00	Yes	75%
5.3.1	Non Permitted Use/Structure In Water Zone	$300.00	$225.00	$150.00	Yes	50%

Schedule B
MUDGE ISLAND LAND USE BYLAW NO. 228, 2007
CONTRAVENTIONS AND PENALTIES

Bylaw Section	Description The following fines apply To the contraventions below:	A1 Penalty Amount	A2 Discounted Penalty (within 14 days)	A3 Late Payment (after 28 days)	A4 Compliance Agreement Available	A5 Compliance Agreement Discount
5.3.2	Float/Dock/Wharf Exceeds Area Restriction	$300.00	$225.00	$150.00	Yes	50%
5.3.3	Access Ramp/Pier/Walkway Connecting To Float/Dock/Wharf Exceeds Width Restriction	$300.00	$225.00	$150.00	Yes	50%
5.3.4	Storage Structure Exceeds Maximum Height/Floor Area Restrictions In Water Zone	$300.00	$225.00	$150.00	Yes	75%
5.3.5	Encroachment Into Setback In Water Zone	$300.00	$225.00	$150.00	Yes	75%
5.4.1	Non Permitted Principal Use In A Water Marina Zone	$300.00	$225.00	$150.00	Yes	50%
5.4.2	Non Permitted Accessory Use In A Water Marina Zone	$300.00	$225.00	$150.00	Yes	50%
5.4.3	Non Permitted Building/Structure In Water Marina Zone	$300.00	$225.00	$150.00	Yes	50%
5.4.5	Storage Structure Exceeds Maximum Height/Floor Area Restrictions In Water Marina Zone	$300.00	$225.00	$150.00	Yes	75%
5.4.6	Encroachment Into Setback In Water Marina Zone	$300.00	$225.00	$150.00	Yes	75%
5.4.7	Bulletin Boards Exceed Maximum Height/Area Restrictions In Water Marina Zone	$300.00	$225.00	$150.00	Yes	75%
5.4.8	Inappropriate Deflecting Of Lighting Or Lighting Structure Exceeds Maximum Height Restriction In Water Marina Zone	$300.00	$225.00	$150.00	Yes	75%
5.4.9	Non Permitted Parking Area Surface Or Inadequate Drainage And Pollution Measures In Water Marina Zone	$250.00	$187.50	$125.00	Yes	75%
6.1.1	Exceed Maximum Number/Area Of Signs	$150.00	$112.50	$75.00	Yes	75%
6.1.2(a)	Home Occupation Sign Exceeds Permitted Combined Face Area	$150.00	$112.50	$75.00	Yes	75%
6.1.2(c)	Real Estate Signs Exceed Maximum Area/Permitted Time Period To Be Displayed	$150.00	$112.50	$75.00	Yes	75%
6.2	Non Permitted Animated/Illuminated/Flashing Sign	$150.00	$112.50	$75.00	Yes	75%
6.3	Obsolete Sign Not Removed Immediately	$150.00	$112.50	$75.00	Yes	75%
7.1.1	Fail To Provide/Maintain Off-road Parking	$250.00	$187.50	$125.00	Yes	75%
7.1.2	Parking Space Does Not Meet Size Requirements	$250.00	$187.50	$125.00	Yes	75%
7.1.3	Fail To Provide Off Road Parking Spaces On Lot/Site Containing Use/Building/Structure Being Served	$250.00	$187.50	$125.00	Yes	75%
7.2	Fail To Provide Minimum Number Of Parking Spaces Required	$250.00	$187.50	$125.00	Yes	75%

Schedule C
DECOURCY ISLAND ZONING BYLAW NO. 44, 1987
CONTRAVENTIONS AND PENALTIES

Bylaw Section	Description The following fines apply To the contraventions below:	A1 Penalty Amount	A2 Discounted Penalty (within 14 days)	A3 Late Payment (after 28 days)	A4 Compliance Agreement Available	A5 Compliance Agreement Discount
2.1	Non Permitted Use/Structure	$300.00	$225.00	$150.00	Yes	50%
2.6	Non Permitted Guest Cottage/Guest Cottage Exceeds Floor Area Restriction	$300.00	$225.00	$150.00	Yes	50%
2.7	Non Permitted Transient Vessel	$300.00	$225.00	$150.00	Yes	50%
3.1(a)	Non Permitted Use In A Settlement Residential Zone	$300.00	$225.00	$150.00	Yes	50%
3.1(b)	Non Permitted Building/Structure In Settlement Residential Zone	$300.00	$225.00	$150.00	Yes	50%
3.1(c)(i)	Exceed Site Density In Settlement Residential Zone	$300.00	$225.00	$150.00	Yes	75%
3.1(c)(ii)	Building/Structure Exceeds Height Restriction In Settlement Residential Zone	$300.00	$225.00	$150.00	Yes	75%
3.1(c)(iii)	Encroachment Into Setback In Settlement Residential Zone	$300.00	$225.00	$150.00	Yes	75%
3.1(c)(iv)	Exceed Maximum Lot Coverage In Settlement Residential Zone	$300.00	$225.00	$150.00	Yes	75%
3.2(a)	Non Permitted Use In Rural Zone	$300.00	$225.00	$150.00	Yes	50%
3.2(b)	Non Permitted Building/Structure In Rural Zone	$300.00	$225.00	$150.00	Yes	50%
3.2(c)(i)	Exceed Site Density In Rural Zone	$300.00	$225.00	$150.00	Yes	75%
3.2(c)(ii)	Building/Structure Exceeds Height Restriction In Rural Zone	$300.00	$225.00	$150.00	Yes	75%
3.2(c)(iii)	Encroachment Into Setback In Rural Zone	$300.00	$225.00	$150.00	Yes	75%
3.2(c)(iv)	Exceed Maximum Lot Coverage In Rural Zone	$300.00	$225.00	$150.00	Yes	75%
3.3(a)	Non Permitted Use In Public Recreation Zone	$300.00	$225.00	$150.00	Yes	50%
3.3(b)	Non Permitted Building/Structure In Public Recreation Zone	$300.00	$225.00	$150.00	Yes	50%
3.3(c)(i)	Building/Structure Exceeds Height Restriction In Public Recreation Zone	$300.00	$225.00	$150.00	Yes	75%
3.3(c)(ii)	Encroachment Into Setback In Public Recreation Zone	$300.00	$225.00	$150.00	Yes	75%
3.4(a)	Non Permitted Use In Water General Zone	$300.00	$225.00	$150.00	Yes	50%
3.4(b)	Non Permitted Building/Structure In Water General Zone	$300.00	$225.00	$150.00	Yes	50%
3.4(c)(i)	Non Permitted Residential Use In Water General Zone	$300.00	$225.00	$150.00	Yes	50%
3.4(c)(ii)	Non Permitted Building In Water General Zone	$300.00	$225.00	$150.00	Yes	50%
3.4(c)(iIi)	Encroachment Into Setback In Water General Zone	$300.00	$225.00	$150.00	Yes	75%
3.5(a)	Non Permitted Use In Mariculture Zone	$300.00	$225.00	$150.00	Yes	50%
3.5(b)	Non Permitted Building/Structure In Mariculture Zone	$300.00	$225.00	$150.00	Yes	50%
3.5(c)(i)	Non Permitted Residential Use In Mariculture Zone	$300.00	$225.00	$150.00	Yes	50%

Schedule C
DECOURCY ISLAND ZONING BYLAW NO. 44, 1987
CONTRAVENTIONS AND PENALTIES

Bylaw Section	Description The following fines apply To the contraventions below:	A1 Penalty Amount	A2 Discounted Penalty (within 14 days)	A3 Late Payment (after 28 days)	A4 Compliance Agreement Available	A5 Compliance Agreement Discount
3.6(a)	Non Permitted Use In Centralized Moorage Zone	$300.00	$225.00	$150.00	Yes	50%
3.5(b)	Non Permitted Building/Structure In Centralized Moorage Zone	$300.00	$225.00	$150.00	Yes	50%
3.5(c)(i)	Use Of Land/Water/Structures As Yacht Club/Yacht Club Outstation In Centralized Moorage Zone	$300.00	$225.00	$150.00	Yes	50%



Population:
Approximately 4,050

Size:
5,256 hectares (12,987 acres)

Location:
6 kilometres east of Nanaimo located on Vancouver Island.

Land Use Planning
Related Planning Services
Related Resources
Trust Area Mapping
Related Links

Gabriola Island Local Trust Committee

Latest News

In this section you will find current news items that are relevant to your Local Trust Area and your community. Subscribe to the Gabriola Island Latest News updates and receive the latest information on official community plan reviews, staff reports, notifications and other documents published in the latest news section.

November 2011

Advisory Commission Appointments:

- Call for Expressions of Interest on three separate Advisory Commissions – Agriculture, Transportation & Planning

October 2011

- **DRAFT Development Permit Area Fact Sheets - send us your comments!**

September 2011

- Gabriola Island Official Community Plan - Village Core, World Cafe Workshop to be held Wednesday, October 5, 2011 at the Gabriola Island Community Hall, 7:00 pm - Come and Participate!
- Trustee Newsletter - September 2011

July 2011

- Establishing An Agricultural Commission on Gabriola Island - LTC Referral sent to Advisory Planning Commission

April 2011

- Official Community Plan - Community Information Meeting - Thursday, April 28, 2011

March 2011

- Trustee Newsletter March 2011
- Riparian Area Regulation Workshop - Protecting Fish Bearing Streams - 7:00 pm, March 22, 2011
- 'Five for the Future' Climate Change Forum - Saturday, March 26, 2011

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Gabriola Island Local Trust Committee Projects

- Local Trust Committee Support Action for Water

Climate Change Action

- Staff Report - October 2009
- Staff Report - January 15, 2010
- Staff Report - February 21, 2010
- Climate Wise Islands
- Newsletter - November 2009
- Newsletter - Mudge Island - March 2010
- Newsletter - DeCourcy Island - March 2010
- Fact Sheets
- Minutes - November 26, 2009
- Minutes - March 10, 2010
- Minutes - March 20, 2010
- 2007 Community Energy and Emission Inventory Reports (CEEIs)

Committee Links
Committee Home
Trustee Membership
Contact Trustees
Contact Planning Staff
Planning Bylaws
Administrative Bylaws
Meetings Schedule
Meeting Agendas
Meeting Minutes
Resolutions-Without-Meeting
Associated Islands
Land Use Application Forms

now available
- New Islands Trust GHG Emission Inventories webpage posted

Build-Out Project Map (3rd Edition)

- Final Report
- Map of Development Potential (May 2010)
- Map of Development Potential (January 2006)

Ecosystem Mapping

- Draft Gabriola Island Local Trust Area ecosystem maps and feedback form

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Official Community Plan and Land Use Bylaw Review

- Community Workshop - Staff Report September 15, 2010
- Gabriola Island Affordable Housing Needs Assessment
- Community Workshop, Saturday, August 28, for the Official Community Plan Review
- Strategic Planning Session Follow-up Report - June 3, 2009
- Official Community Plan and Land Use Bylaw - Additional Information - Staff Report June 19, 2009
- Community Profile
- Shared Roadways - Gabriola Island Bicycle Route Plan, 2010
- Timeline - April 2010
- Summary of Community Workshop and Survey
- Strategic Plan and Public Consultation Strategy
- Geohazard and Mapping - Report from Consultant
- Riparian Areas Regulation – Implementation Methodology and Timeline – Staff Report dated June 15, 2011
- July 5, 2011 – Proposed Bylaw No. 262 (3rd reading and approval by Executive Committee)
- Visual Companion of Proposed Bylaw No. 262 Amendments (3rd reading and approval by Executive Committee)
- List of Recommended OCP/LUB Review Phase 2 Topic Areas

November 22, 2010 Community Meeting - Information Packages

- Community Context, Plan Principle and Major Goals Information Package
- Bicycle and Bus Route Policies Information Package
- Affordable Housing, Density Transfer and Density Bank Information Package

Advisory Planning Commission

- December 1, 2010 – Agenda Package and LTC Referral | Minutes
- February 15, 2011 – LTC Referral Package | Approved Minutes
- July 21, 2011 - LTC Referral Package

Agriculture Advisory Committee

- Terms of Reference

Transportation Advisory Committee

- Terms of Reference

Volunteer Review Committee

- Terms of Reference

Meetings

- **2011**
  - January 11, 2011 - Cancelled
  - January 17, 2011 Agenda - revised | Minutes
  - February 7, 2011 Agenda - revised | Minutes
  - May 9, 2011 Agenda | Minutes
  - June 20, 2011 Agenda | Minutes
  - October 25, 2011 Agenda
- **2010**
  - December 15, 2009 Agenda | Minutes
  - January 26, 2010 Agenda revised | Minutes
  -

February 9, 2010 Agenda | Minutes
- March 30, 2010 Agenda - revised | Minutes
- April 20, 2010 Agenda | Minutes
- May 18, 2010 Agenda - revised | Minutes
- June 15, 2010 Agenda - revised | Minutes
- July 20, 2010 Agenda | Minutes
- August 17, 2010 - Cancelled
- September 7, 2010 Agenda - revised | Minutes
- October 5 , 2010 Agenda - revised | Minutes
- November 2, 2010 - Cancelled
- December 7, 2010 - Cancelled

Communication Towers and Antenna

- Staff Report dated January 2010
- Gabriola Island Local Trust Resolution GB-025-2010
- Cellular Antenna Proposal Form

Community Wildfire Protection Plan

- Community Wildfire Protection Plan May 2008

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Applications

GB-RZ-2009.1 (Williamson & Associates, density transfer)

- Preliminary Staff Report dated July 11, 2011
- Technical reports from Applicant submitted November 2, 2010
- Staff Report dated October 18, 2011

Trustee Newsletters

- March 2011
- March 2010
- April 2009
- September 2008

DeCourcy Island

- No items at this time

Mudge Island

GB-RZ-2010.1 (Littlejohn & Beckstead)

- Staff Report dated October 13, 2010
- Staff Report dated April 14, 2011
- Staff Report dated September 9, 2011
- Staff Report dated December 15, 2011

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