



The Wild Heart of Gambier Island

Development of Trail
Standards Manual
and Trail Network
Master Plan

Gambier Island Conservancy

JUNE 2014 DRAFT REPORT



INTRODUCTION

INTRODUCTION AND DEDICATION

The purpose of this draft report is to identify key strategies for Gambier Island Conservancy's approach to the use, management, and maintenance of the many wonderful trails that criss-cross the island. The goal is to develop a master plan for trails on Gambier Island, and to create a trail standards manual for the use, upgrades, construction and maintenance of the trails on Gambier Island.

The vast majority of the trails on Gambier Island are on Provincial Crown Lands, in the wild heart of the island. It is our goal to better promote the safe use and enjoyment of the trails, while respecting the wild and natural state of Gambier Island's forests, creeks, lakes and coastline.

The trail standards manual will look to create consistency and uniformity in the marking of the trails and identify what uses are permitted on each of the trails. We will work collaboratively with landowners and trail users and establish a trail classification system. Our goal is to reduce liability by providing a framework for maintenance and risk management. The Gambier Island trails master plan will include a planning and budget framework for trail upgrades, construction and maintenance.



This draft report is dedicated to the countless volunteers and trail users that have created the existing trail network throughout the wild heart of Gambier Island. The spectacular vistas, creeks, old growth and mature forests, and the five lakes on Gambier Island have created lasting memories for all that have explored the trails of Gambier Island. It is our goal to ensure the protection of the natural environment and cultural values of the island, while promoting the enjoyment of the trails of Gambier Island for many generations to come.





GOALS AND GUIDING PRINCIPLES

The chief aim of this document is to provide guidance for establishing a new trail marking system on Gambier Island, with a particular eye to:

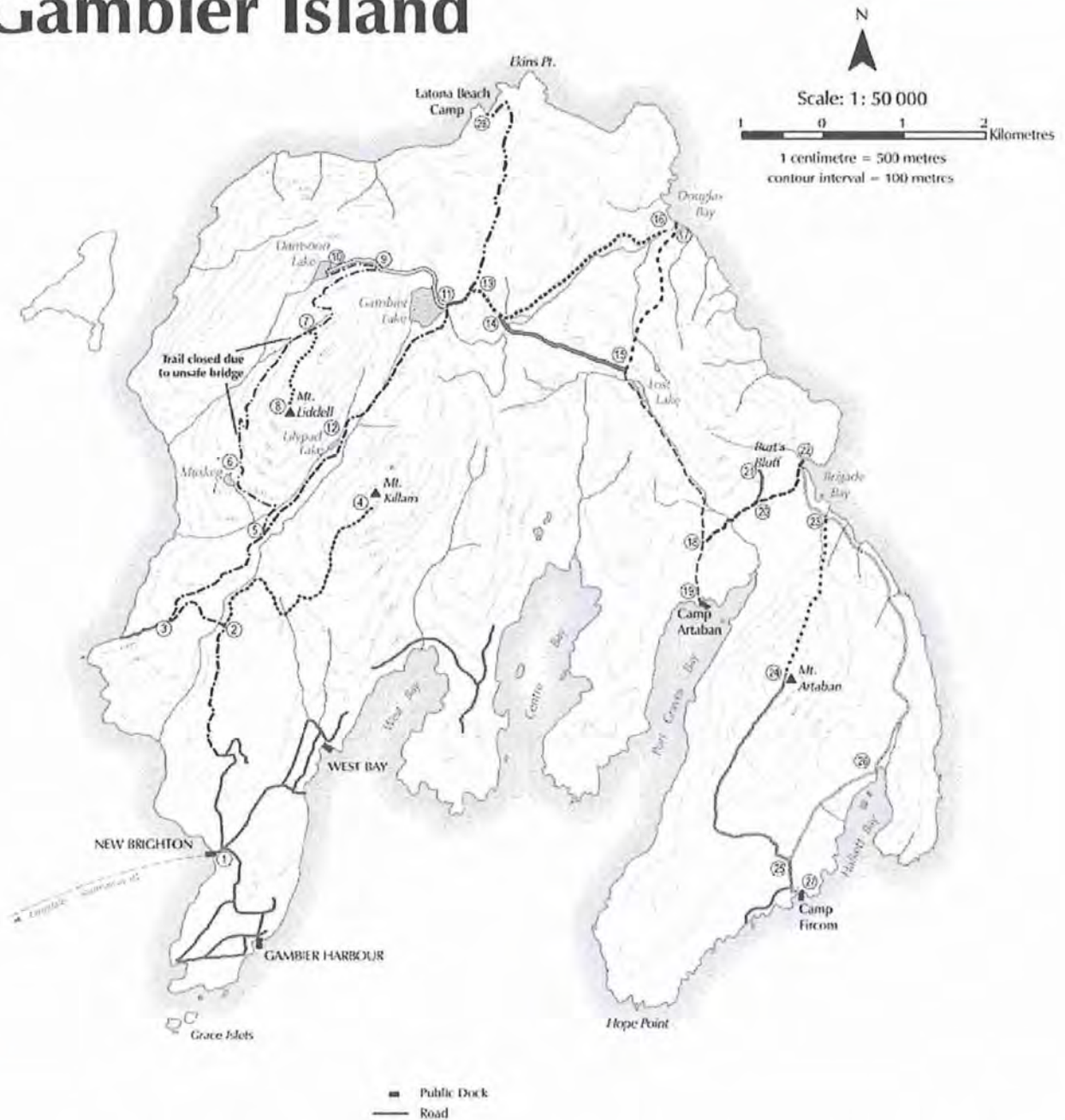
- Creating a trail standards manual and master plan
- Registering trails
- Classifying trails according to usage
- Marking trails and establishing a consistent signage system, including colour coding
- Establishing a rating or difficulty system
- Incorporating disclaimer/warning signage at key trail junctions
- Enabling trail users to access different hikes from various departure points around Gambier Island
- Determining and implementing a trail maintenance scheme
- Establishing and maintaining a kayak/canoe trail
- Campsite establishment and maintenance
- Creating a geocaching network linked to the Gambier Island trail network





GAMBIER ISLAND – EXISTING MAPPING SYSTEM

Gambier Island



Presently, Gambier Island’s trail mapping system experiences a number of challenges. Improving upon the current system is one of the key driving forces behind developing a trail



standards manual and master plan. See appendices for additional maps of Gambier Island.

Some of the current challenges that face Gambier Island's trails are:

- Lack of adequate signage
- Lack of indicators of appropriate trail usage (e.g. "this trail is for mountain bikers")
- Lack of system to determine appropriate trail usage
- Existing map does not reflect all of the trails that Gambier has to offer
- Multiple trail uses are marked in different, inconsistent ways
- Duplication of trail markers
- Lack of coordinated trail inspection and maintenance
- Missing risk management measures and Signage
- Of particular note is the current map's omission of the Douglas Bay to Ekins Point, Douglas Bay to Brigade Bay, and West Bay to Mount Killam trails
- Trail descriptions lack details regarding trail distance (in KM's)
- Lack of a comprehensive trail maintenance scheme
- Lack of GPS mapping and marking of coordinates



Currently, trail descriptions and guidance for trail users are provided by the Gambier Island Conservancy and can be found online on their website. With the exception of the Gambier Lake trail, which maintains additional details and directions for trail users, the information available to general public on trail useage and directions is quite limited. Please see the appendices for details of the information describing routes that is contained on the conservancy's website.

The benefits of adopting and implementing a uniform set of trail standards and guidelines are plentiful. A comprehensive trail strategy results in a more user-friendly experience by providing consistent systems with respect to trail types and difficulty ratings, which may result in enhancing Gambier Island's tourism appeal. Additionally, adhering to standards can reduce exposure to liability and improve the ability to effectively manage trails.



SIGN GUIDELINES

According to the *Sea to Sky Corridor Recreation Trail Strategy*, trail standards and guidelines need to be broad enough to accommodate multiple uses of trails while also being specific enough to provide clear direction for the design, construction, maintenance and management of the specific trails. Signs enable trail users to make informed choices about their recreational experience and are a critical element of a comprehensive risk management program. Liability can be limited by clearly explaining the risk(s) associated with a trail and by adequately marking these risks along the trail.

A comprehensive and consistent signage system is integral to a coordinated trail strategy. Recreation Sites and Trails is currently in the process of developing a comprehensive signage program for trails designated under the *Forest and Range Practices Act*. In the meantime, there is a trail signage standard for designated trails offered by Recreation Sites and Trails, though there still exists great variation among trails and signage standards.





The following discussion will focus on Recreation Sites and Trails' signage standard in conjunction with the *Sea to Sky Corridor Recreation Trail Strategy*, which reflects the approach adopted by the District of Squamish. Adopting a signage system similar to Squamish's and consistent with the Recreation Sites and Trails signage standard would provide for greater consistency and enables a more user-friendly experience.

SIGNAGE HIERARCHY

Squamish advocates adopting a signage hierarchy. According to the *Sea to Sky Corridor Recreation Trail Strategy*, adequate signage must be provided at network entrances, trail heads and at strategic points along the trail, namely junctions or as a warning of an approaching difficult section or feature. Each type of signage must balance the need for the appropriate amount of information while respecting the need to maintain the integrity of outdoor recreation experiences by minimizing signs.

SIGN SPECIFICATIONS

SIGN MATERIAL: Aluminum, minimum 2.3 mm thick

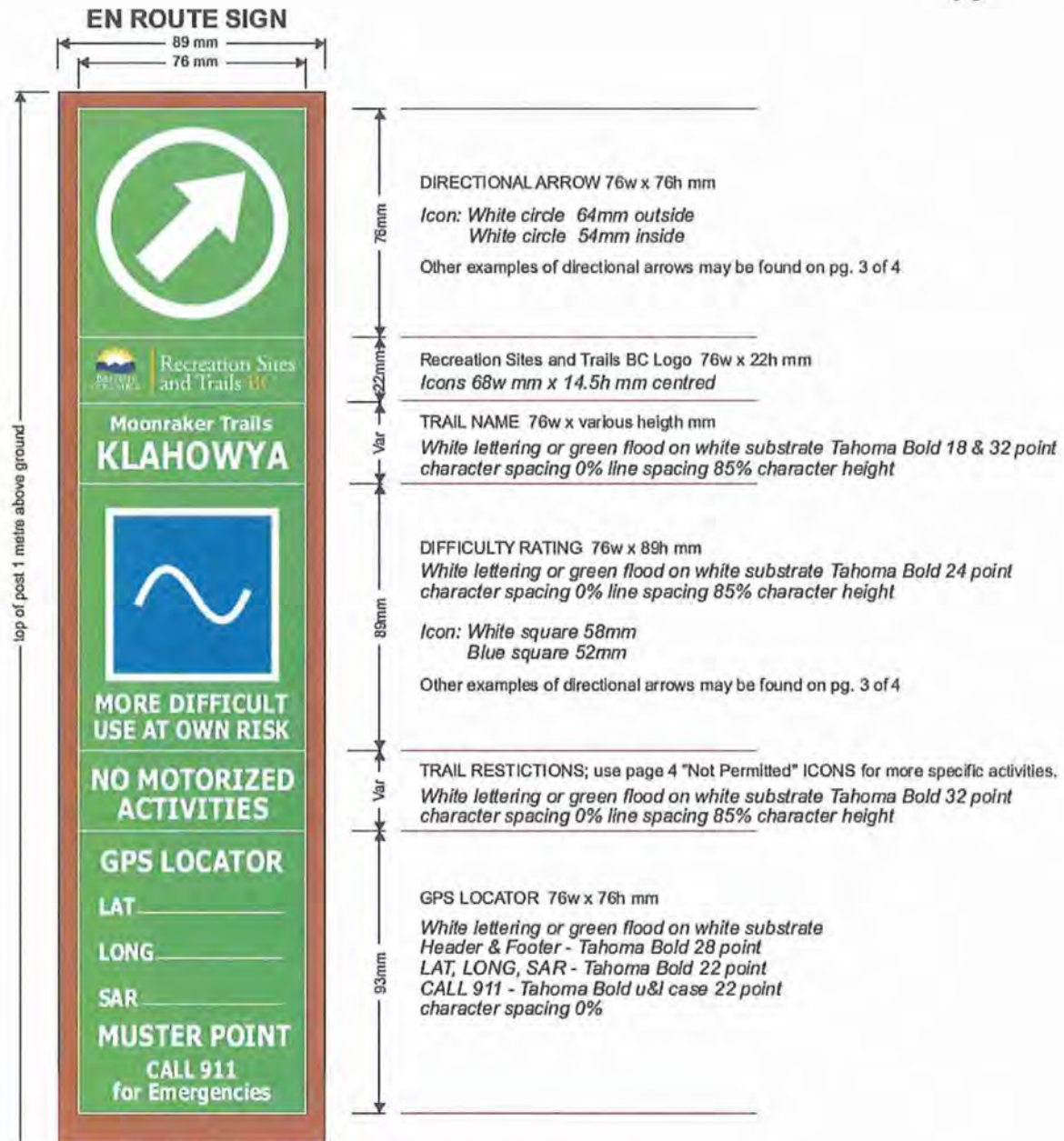
DIMENSIONS: Height varies depending on volume of information, but generally speaking, the trailhead sign should be **300 to 400 mm W X 450 to 600 mm H**. Trail markers should be **180 mm W X 225 mm H**. Directional/distance posts should be **85 mm W X 85 mm H**

FASTENERS: Vandal-resistant, stainless steel or hot-dipped zinc galvanized lag bolts

SURFACE FINISH: Aluminum sign sheet with vinyl skin (minimum .091 inch thickness)

SURFACE/BACKGROUND: Squamish suggests "3M Dark Forest Green" but this may vary depending upon the preference for Gambier Island.

Below is an example of a sign compliant with the Recreation Sites and Trails signage standards.



For another example of signs utilized by the District of Squamish, see below:





*Image provided by Todd Pope,
Obtained from District of Squamish Trails Standards*

SIGN LOCATIONS AND INFORMATION

TRAIL HEAD SIGNAGE

Trail head signs should include the following:

- Trail name and map reference number (capital letters – bold)
- Trail distance/directional information (km), special features, and degree of difficulty symbol
- User and restriction symbols (black symbol on white circular background), including “no motorized vehicles” symbol
- Risk management requirements, such as “Use at your own risk” and “please keep clean”. Also include reference to uneven terrain, blind corners etc. and other potential hazards
- Appropriate sponsors or constructor logos
- Gambier community logo, perhaps information linking user to Gambier website
- Separate or add-on signage may include trail map, special safety considerations, trail etiquette information, and additional symbols.
- If we develop a geocaching network, we might include a geocaching symbol or notation, indicating to trail users that the trail is a geocaching zone



Posts: Either 8 X 8 inch treated western red cedar or minimum 50 mm diameter zinc galvanized steel post with cast brackets and cemented base

TRAIL MARKER SIGNAGE

- Trail name and map reference number (capital letters – bold)
- Trail distance/directional information (km), special features, and degree of difficulty symbol
- Gambier Island Conservancy logo, perhaps information linking user to the Conservancy's website
- Separate or add-on signage may include trail map, special safety considerations, trail etiquette information, and additional symbols



Posts: 8 X 8 or 4 X 4 inch treated, western red cedar

REASSURANCE SIGNS

The Pennsylvania Department of Conservation and Natural Resources' *Guidelines for Marking Recreational Trails* suggests including "reassurance signs". These signs function to reassure trail users that they are proceeding along the correct path.

The *Guidelines* suggest utilizing rectangular trail markers for non-motorized trails and reflective borders on uneven diamonds for motorized trails.

TRAIL INTERSECTIONS

- Trail name and map reference number (capital letters – bold)
- Trail distance/directional information (km), special features, and degree of difficulty symbol

Posts: 4X4 inch treated, western red cedar

KIOSKS

Usually located at major park entrances, key trail heads, or on dyke trails. Kiosks can be used to highlight the area, park trail maps, local protocols/courtesies, special interest areas, message boards, sponsors etc.



TRAIL MAPS

Usually located at major trail heads or on trail kiosks. These can be a graphic representation of the localized trail, noting the user's location (via a "you are here" symbol) and the distance to the next trail section(s) or other trail intersections. Maps may be printed on vinyl and attached to aluminum signs or mounted and protected on kiosks with plastic lamination and lexan.

Mapping can also include key destination points, special interest points along the trail, and/or degree of difficulty. "Designated" trails such as mountain biking, climbing, and equestrian routes are shared use trails, but rights of way and courtesies are different and should be noted on the map or legend. A sample image is provided below:



*Image provided by Todd Pope,
Obtained from District of Squamish Trails Standards*



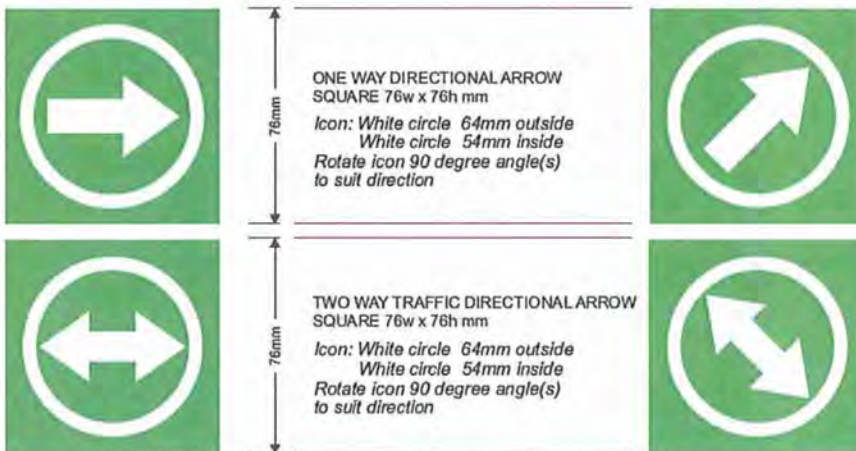
DIRECTIONAL ARROWS

These can be used to highlight landmarks, special interest points, climbing sites, viewpoints, and other attractions. Colour schemes should be consistent with regular trail signs and the Provincial Standards, where applicable. An example is provided below:



*Image provided by Todd Pope,
Obtained from District of Squamish Trails Standards*

DIRECTIONAL ARROWS - OTHER EXAMPLES OF DIRECTIONAL ARROWS



*Image provided by Recreation Sites and Trails BC
Obtained from Recreation Sites and Trails Trail Signage Standards*



Some additional sign examples used in the District of Squamish are as follows. These images are from Todd Pope and are obtained from District of Squamish Trails Standards document:





Some additional examples, provided by Recreation Sites and Trails, are below:

TRAIL ACTIVITIES - OTHER EXAMPLES OF TRAIL ACTIVITIES THAT ARE PERMITTED OR NOT PERMITTED

Trail Activity Stickers/Decals 38h mm x 38w mm spaced accordingly Icons print size at 35h mm x 35w mm centred giving a 1.5mm white surround

HIKING	BYCYCLING	MOUNTAIN BIKING	MOTORCYCLE	TRIALS MOTORCYCLE	ALL TERRAIN VEHICLE (ATV)	HORSES	DOGS
PERMITTED							
NOT PERMITTED							

POINT OF INTEREST	VIEWPOINT	SNOWMOBILES	SNOWSHOE	X-COUNTY SKI	ROCK CLIMBING	SPELUNKING
PERMITTED						
NOT PERMITTED						



COLOUR CODING

Gambier Island’s current trail colour coding system is as follows:

Trail	Colour
Gambier Lake	Green
Muskeg Lake to Damsoon Lake	White
Gambier Lake to Damsoon Lake	White
White Trail at 7 to Liddell Summit	White/Black
Gambier Lake to Latona Beach	Yellow
Camp Artaban to Lost Lake	Blue
Lost Lake to Douglas Bay	Blue
Gambier Lake to Douglas Bay	Red
Gambier Lake to Lost Lake	Black on Yellow
Gravel Pit to Mt. Killam	Grey
Blue Trail at 18 to Brigade Bay	Pink
Camp Fircom to Mt. Artaban	Round orange metal
White Trail at 23 (Brigade Bay) to Mt. Arbatan	Red
Pink Trail at 20 to Burt’s Bluff	Green
Camp Fircom to Brigade Bay	White



There are a variety of options in terms of establishing a colour coding system. The four primary options are establishing a colour coding system based on (1) the difficulty of the trail; (2) the



nature of the trail itself (e.g. “blue” trails head to the lake; “yellow” trails head to the beach, etc.); (3) the type of trail, such as whether it is a connecting trail/shortcut, or a primary trail; or (4) simply, the name of the trail (i.e. a different colour for each trail). Details are discussed below.

A. DIFFICULTY OF THE TRAIL

Many trails, particularly those used for mountain biking or skiing, follow the difficulty grading colour coding system. The specifics of rating trails according to difficulty are discussed later in this document; however, for the purposes of this section, the colours are simply white (easiest), green (easy), blue (more difficult), and black (very difficult). While this approach provides effective information to the user in terms of difficulty level, it is a relatively simple colour coding system and may not be ideal if the goal is to achieve a system that highlights the features of each trail through its assigned colour.

B. NATURE OF THE TRAIL

Nature of the trail can refer to either the ultimate destination (e.g. a lake) or the usage of the trail (e.g. equestrian). In each instance, determining the colour to be used is fairly subjective. Some trails, such as those that head to lakes, may be easier to classify (i.e. blue appears to be a logical choice). However, for other trails – especially those that do not have defining features – or trails that are multi-use, this system may not be as effective.

C. TYPE OF TRAIL

An example of colour coding based on the type of trail is found in the Czech Republic. According to My Czech Republic Blog’s post, “Czech Trail Marking System the Best in the World”, the colour system used is as follows:

Red signifies long distance and summit trails

Blue signifies “significant trails”

Green signifies “local trails”

Yellow signifies short or connecting trails and shortcuts

While this particular coding system need not be adopted in whole, it provides an example of how trails can be categorized. So, for example, longer trails (such as Gambier Lake) can be red, while shorter hikes (such as Blue Trail at 18 to Brigade Bay) could be yellow.

17 The issue with this approach, however, is that many of the trails on Gambier appear to be similar in terms of length of completion and in terms of the types of trails offered. This may result in an ineffective colour coding system, as many trails would share the same colour.



D. NAME OF THE TRAIL

This is a simple and clear option, in which each trail is assigned its own colour. The issue with this approach is that it may result in a potentially overwhelming amount of colours.

E. OTHER OPTIONS – BE CREATIVE!

Alternatively, an effective colour coding scheme can be the product of a combination of systems, or can utilize a combination of colours and symbols. For instance, an effective system could be one where each trail maintains its own colour, yet the markers may specify the use(s) of the trail (e.g. mountain biking), or the ultimate destination (e.g. an image of a lake or a beach).



F. RECOMMENDATIONS

It is recommended that Gambier Island adopts a colour coding strategy wherein the key, main artery trails maintain their own distinctive colours. Subsidiary, or off-shoot trails, will have their own colour. Primary trails that lead into off-shoot trails will be represented by a hybrid colour, which will be indicated by a colour block that maintains half of the main trail's colour and half of the subsidiary trail's colour.

It is recommended that the colours will be determined by the origin of the trail. That is, the eight key entry points (Ekin's Point, Douglas Bay, Brigade Bay, Gambier SW Peninsula, West Bay Landing/Centre Bay, Camp Artaban, Camp Fircom, Halkett Bay) will determine the colour of the trail that leads from these locations. For example, the trail leaving from Douglas Bay to Gambier Lake will have its own colour.

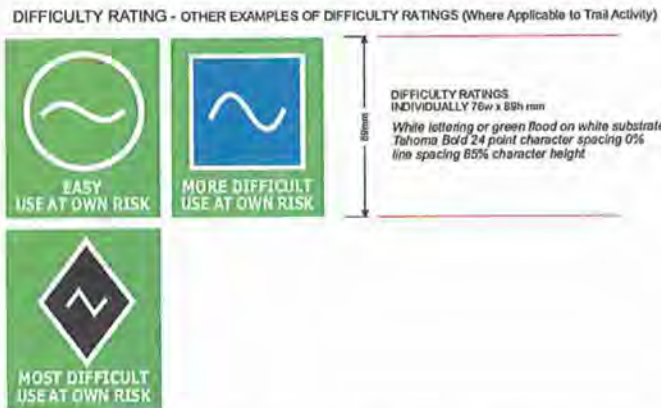




DIFFICULTY LEVEL

There are three particularly useful difficulty rating systems that may be adopted by Gambier Island.

A. Recreation Sites and Trails BC provides the following symbols with respect to difficulty ratings:



*Image provided by Recreation Sites and Trails BC
Obtained from Recreation Sites and Trails Trail Signage Standards*

B. The BC Parks *Trail Difficulty Definitions* are used to rate hiking trails in a variety of areas, such as the Garibaldi Park trails. This rating system is based on the length of the trail section, change in elevation, and trail type for the average user.

The **difficulty ratings** are as follows:

E - Easy; **M** - Moderate; **S** - Strenuous; **D** – Difficult

However, it is ideal to use the *Trail Difficulty Ratings* in conjunction with the BC Parks’ *Trail Type Classifications*. Doing so enables the trail user to have a clear understanding of what they can expect on the trail. The trail type ratings are split into **4 types**:

Type I: 1.5 to 2.5 m wide, paved, crushed gravel or board walk, less than 10% grade.

Type II: 1.5 m wide, gravel surfacing in wet areas, up to 15% grade.






19 **Type III:** 0.5 m wide, grade greater than 15%

Type IV: up to 0.3 m wide, lightly used wilderness trail, tread as worn not grubbed out, infrequent maintenance.



Elevations shown are estimated for the trail section and reflect the maximum gain or loss.

C. Squamish, on the other hand, has adopted a trail grading system that utilizes the grading system used in skiing and mountain biking. That is, trails are assigned a grade of either a green circle, blue square, black diamond, or double black diamond. Trail widths and standards generally match the difficulty of the trail (i.e. a narrower, steeper trail is more difficult than a wider, gentler trail). It is recommended that we adopt Squamish’s approach to rating difficulty. In the following table, please disregard the “white” circle, as it is not used by Squamish.

	Easiest White Circle 	Easy Green Circle 	More Difficult Blue Square 	Very Difficult Black Diamond 	Extremely Difficult Dbl. Black Diamond 
Trail Width	72" or more	36" or more	24" or more	12" or more	6" or less
Tread Surface	Hardened or surfaced	Firm and stable	Mostly stable with some variability	Widely variable	Widely variable and unpredictable
Average Trail Grade	Less than 5%	5% or less	5% or less	15% or less	15% or more
Maximum Trail Grade	Max 10%	Max 15%	Max 15% or greater	Max 15% or greater	Max 15% or greater
Natural Obstacles and Technical Trail Features (TTF)	None	Unavoidable obstacles 2" tall or less Avoidable obstacles may be present Unavoidable bridges 36" or wider	Unavoidable obstacles 8" tall or less Avoidable obstacles may be present Unavoidable bridges 24" or wider TTF's 2' high or less, width of deck is greater than 1/2 the height	Unavoidable obstacles 16" tall or less Avoidable obstacles may be present May include loose rocks Unavoidable bridges 24" or wider TTF's 4' high or less, width of deck is less than 1/2 the height Short sections may exceed criteria	Unavoidable obstacles 16" tall or more Avoidable obstacles may be present May include loose rocks Unavoidable bridges 24" or narrower TTF's 4' high or greater, width of deck is unpredictable Many sections may exceed criteria

D. Additional guidance – In determining the trail rating for each trail, the International Mountain Bicycling Association of Canada (IMBAC) provides useful guidance. The following excerpt is taken from IMBAC’s *Trail Rating Guidelines*:



1. Rate Technical Challenge Only

The system focuses on rating the technical challenge of trails, not the physical exertion. It is not practical to rate both types of difficulty with one system. Consider, for example, a smooth, wide trail that is 20 miles long. The technical challenge of this trail is easy, yet the distance would make the physical exertion difficult. The solution is to independently rate technical challenge, and indicate physical exertion by posting trail length, and possibly even elevation change.

2. Collect Trail Measurements

Use the accompanying table and collect trail measurements for each criteria. There is no prescribed method for tallying a "score" for each trail. Evaluate the trail against the table and combine with judgment to reach the final rating. It is unlikely that any particular trail will measure at the same difficulty level for every criteria. For example, a certain trail may rate as a green circle in three criteria, but a blue square in two different criteria.

3. Include Difficulty and Trail Length on Signs and Maps

Trail length is not a criterion of the system. Instead, trail length should be posted on signs in addition to the difficulty symbol. A sign displaying both length and difficulty provides lots of information, yet it is simple to create and easy to understand.

Likewise, elevation change is not a criterion. The amount of climbing on a trail is more an indicator of physical exertion than technical difficulty. Mountainous regions may consider including the amount of climbing on trail signs.

4. Evaluate Difficulty Relative to Local Trails

Trails should be rated relative to other trails in the region. Don't evaluate each trail in isolation. Consider all the trails in a region and how they compare to one another. This will help you rank the relative difficulty of each trail and will help trail users select an appropriate route. Trails will rate differently from region to region. A black diamond trail in one region may rate as a blue square in another region, but the ratings should be consistent locally.

5. Use Good Judgment

Rating a trail is not 100 percent objective. Its best to combine tangible data with subjective judgment to reach the final rating. For example, a trail may have a wide range of tread surfaces - most of the trail is easy, but some sections are more difficult. How would you rate it? Use your personal experience to consider all elements and select a rating that best matches the style of trail.



6. Consider Other Trail Qualities

Don't forget to consider trail qualities beyond the objective criteria. A wide variety of features could contribute to a trail's difficulty. For example, exposure - the feeling of empty space next to and below the trail tread - provides an added psychological challenge beyond the steepness or roughness of the trail. A 3-inch rock seems like a boulder when a 50-foot drop looms on your side! Other qualities to think about are corridor clearance and turn radius.

7. Use Common Sense and Seek Input

No rating system can be totally objective or valid for every situation. This system is a tool to be combined with common sense. Look at trails with a discerning eye, and seek input from trail users before selecting the rating. Remember, a diverse trail network with a variety of trail styles is a great way to ensure happy visitors. Provide both easy and difficult trails to spread visitors and meet a range of needs. By indicating the length and difficulty of trails with a clear signage system, visitors will be able to locate their preferred type of trail easily.





TRAIL CLASSIFICATION AND USAGE

DETERMINING APPROPRIATE USAGE – CLASSIFYING TRAIL TYPES

The following, derived directly from the BC Ministry of Forests, Lands and Natural Resource Operations *Recreation Manual*, provides some very general information about trail classification according to usage. This provides guidance regarding how to determine which users should use particular trails and may be useful in determining whether multi-use is advisable or if greater restrictions should be in place.

Compatibility of use If trails are to have more than one use, then the trail conditions must meet the requirements of all the expected uses. The compatibility of multiple-use trails must be considered:

- in most cases, motorized and non-motorized use on the same trail is not recommended;
- depending on the volume and season of use, hiking and equestrian use on the same trail may not be compatible;
- bicycle use on interpretive trails or heavily used hiking trails should also be avoided; and
- given favourable terrain conditions and features, many trails may be used in both summer and winter seasons.

TRAIL CLASSIFICATION Trails are classified according to the recreation activity they will be used for:

<i>Activities</i>	Non-motorized	Motorized
	Foot	Snowmobile
	Horse	Motorbike
	Bicycle	All Terrain Vehicle
	Ski	Four Wheel Drive
	Interpretive	
	Barrier Free	



Trail Types

The trail standard types range from Type I to Type V:

- type I trails have the highest standards, allowing for the maximum number of users. They have the highest construction and maintenance costs, and will likely have the highest environmental impact; and
- types III, IV, or V have the lowest standard and allow for the least number of users. Construction costs are lower and they are likely to have the lowest environmental impact.

Non-motorized Trail Type Summary

The following guidelines describe the standards used by the BC Forest Service for trail types I to V for non-motorized users, and for level-of-difficulty for motorized users.

ROS Class	Type I	Type II	Type III	Type IV	Type V
Rural					
Roaded					
Semi-primitive					
Primitive					

Standard	Type I	Type II	Type III	Type IV	Type V
Highest standard	—————→				Lowest
Maximum users	—————→				Least
Highest impact	—————→				Lowest
Highest cost	—————→				Lowest
Highest maintenance	—————→				Lowest



Trail Activity	Type I	Type II	Type III	Type IV	Type V
Hiking	✓	✓	✓	✓	✓
Bicycle	✗	✓	✓	✓	✓
Equestrian	✗	✓	✓	✗	✗
XC Ski	✗	✓	✓	✗	✗
Ski Touring	✗	✗	✗	✓	✓
Special Use	✓	✓	✗	✗	✗

- ✓ Usually provided by Forest Service
- ✗ Not usually provided

Foot Trails

Foot trails generally require less development than other types of trails and offer the user a closer association with the natural environment. If uses other than hiking are to occur, then the requirements for the alternate uses must also be accommodated.

Foot Trail Guidelines **Foot Trail Guidelines**

Trail Types	Uses	Tread Width	Grade
Type I	<ul style="list-style-type: none"> • High standard, short walks • 5-30 minute duration • Steady two-way traffic 	2.0 m	≤ 8% Average ≤ 5%
Type II	<ul style="list-style-type: none"> • Walking trails • Minutes to 2 hours duration • 1 - 6 km 	1.25 m	≤ 10% Average 5 - 8 %
Type III	<ul style="list-style-type: none"> • Single file, hiking trails • 1-7 hour day use, overnight and 	0.75 m	≤ 10-12%



	<ul style="list-style-type: none"> • multi-day • 3-20 km or more 		
Type IV	<ul style="list-style-type: none"> • Backcountry hiking trails • Multi-day • Light use 	0.50 m	N/A
Type V	<ul style="list-style-type: none"> • Backcountry routes over difficult terrain • Overnight to multi-day 	N/A	N/A

Type I Foot Trails Type I trails are typically used in day-use areas, to access vistas and viewpoints located a short distance from vehicle access, and in the vicinity of campgrounds. The high-use nature of these locations usually requires structures, such as toilets.

Type II Foot Trails Type II trails are commonly used in conjunction with day-use areas, viewpoints, campgrounds, interpretive areas, or as access to back country trails. Many such trails serve dual functions in that they access specific points of interest that may have moderately high use, and provide access to back country trails that have much lower levels of use.

Type III Foot Trails While Type I and Type II trails best fit the category of walking trails, Type III trails serve as hiking trails, for people travelling single file. Type III trail lengths may be 3-20 km or more. Support structures, such as developed campsites and pit toilets, may also be appropriate depending on the length and use of the trail.

Type IV Foot Trails Type IV trails are planned as lightly used wilderness hiking trails, for overnight or multi-day duration. Tread widths are only 0.50 metres, and grades are constructed as appropriate to the terrain being accessed. Type IV trails would not normally have support structures, such as developed campsites, but may have pit toilets as required.



Type V Foot Trails Type V trails are usually wilderness hiking routes and specific trail development is avoided. Wilderness hiking routes are typically used for overnight or multi-day trips, and may cross very difficult terrain. Signing, campsites, or other structures are not generally developed, although restrictions may be imposed on camping locations for environmental reasons.

Bicycle Trails

Bicycle trails may include both mountain bicycle and road bicycle routes. Casual cyclists have different needs from those pursuing the activity as a challenging recreational sport.

Trails that were previously used only by hikers or horses, are now in demand by mountain bikers. This has led to impacts on other users, the environment, and trail maintenance. Appropriate trail planning and maintenance principles help manage the effects of mountain biking. Trail types for bicycles include both mountain and road bicycles, with Types III and IV suited for mountain bike use only.

Bicycle Trail Guidelines

Trail Types	Uses	Tread Width	Grade
Type I	<ul style="list-style-type: none"> • Two-way traffic • Smooth all weather riding • Road and mountain bikes 	2.5 m	Average Max. 10% 5-8%
Type II	<ul style="list-style-type: none"> • Two-way traffic • One-way traffic • Road and mountain bikes 	2.0 m	Max. 10-15%





Type III	<ul style="list-style-type: none"> • One-way traffic, easy to difficult • Mountain bikes 	0.5-0.7 m 10- 20 km	Easy: 10% over 30m Difficult: 22% over 45 m
Type IV	<ul style="list-style-type: none"> • Mountain bikes • Difficult • One-way traffic • 30-80 km 	0.3-0.5 m	Sustained 15% 25% over 90 m

Type I Bicycle Trails Type I bicycle trails are typically two-way bicycle paths for smooth, all-weather riding, surfaced with asphalt or chip seal mixes. They are designed for both road and mountain bikes, and are suitable for all types of users. Type I trails may also serve as groomed cross-country ski trails if the appropriate criteria are met.

Type II Bicycle Trails Type II trails are also surfaced two-way bicycle paths, but with narrower widths, steeper grades, and compacted gravel surfaces rather than pavement. Existing old road or railway beds may also be used. Type II trails are suitable for both road or mountain bikes, and suitable for most users.

Type III Bicycle Trails Type III trails are accessible only to mountain bicycles, and are generally unsurfaced one-way trails. Trail obstacles up to 10 cm high may remain if appropriate. Type III trails may be suitable for ski touring in the winter season.

Type IV Bicycle Trails Type IV trails are accessible only to mountain bicycles, and are generally unsurfaced, longer, steeper and more difficult than Type III trails. Trail obstacles up to 10 cm high may remain if appropriate. Type IV trails may also be suitable for ski touring in the winter season.

Width A bicycle's handlebars are approximately 60 cm wide and 75 - 100 cm above the ground. The elbows of a cyclist may extend beyond the width



of the handlebars. For this reason, a 3 metre right-of-way clearing width is used for two-way surfaced bicycle trails.

A minimum of 2 m cleared width for one-way bicycle trails is used in day-use areas or campgrounds, and a clearing width of 1 - 2 metres is used for the more challenging Type III and IV trails.

Height

A clearing height of 3.5 metres is used on all types of bicycle trails.

Layout and Alignment

Where cycle traffic is to share a right-of-way with automobiles and other motorized vehicles, pavement markings should be used to show boundaries for both cyclists and motorists.

Long-distance trails may incorporate minor or unused roads, easements along highways, power lines, railways and abandoned railway grades.

Curvilinear alignments with varying types of curves create a more interesting trail and may help to avoid cutting large trees. Sharp curves should be avoided at the bottom of long or steep slopes to prevent cyclists losing control. Straight "run out" sections prior to sharp curves help to reduce speed. Visibility on slopes should be clear to reduce chances of collision.

Horse Trails

Horse trails may consist of day-use bridle paths or long-distance routes used by pack and saddle stock. Trails must be designed to consider the environment and the safety of both the rider and the horses. Access to drinking water should be provided at least every 15 km.

Horse Trail Guidelines

Trail Types	Uses	Tread Width	Grade
Type I	<ul style="list-style-type: none"> Day use only 1-15 km 	0.5-1.5 depending on conditions	m: Average 0-10% Max. 15%



Type II	<ul style="list-style-type: none"> • Day use or Same as above • overnight • 5-30 km 	Same as above
Type III	<ul style="list-style-type: none"> • Low use Same as above • 30-50 km • Multi-day 	Same as above

Type I Horse Trails Type I horse trails should be considered as high-use trails, particularly near campgrounds, major trail heads, or other intensive recreation areas. They may provide for short exploratory rides, and are designed to accommodate a steady flow of two-way horse traffic during peak use periods.

Type I horse trails are generally intended for day-use only. They utilize a gentle uniform gradient and a well-compacted surface, with crushed gravel or stone surfacing unless local soils are suitable for high-use levels and are well-drained.

Type II Horse Trails Type II trails may constitute trunk components of more extensive trail systems. Existing soils are used for trail surfacing, except where surfacing is required to cross wet or fine-textured soil areas. Type II trails are not normally designed to accommodate winter use, except as snowmobile routes.

Type III Horse Trails Type III horse trails are intended for low use, multi-day duration trips. Beyond their trunk components, they are generally constructed to low standards and may access wilderness zones.

Length Type I, day-use trails commonly range from 5 to 15 km depending on the terrain and user ability. Additional loop or spur trails may increase the distance and provide a range of terrain conditions. Long-distance Type III trails may cover several hundred kilometres. Campsite intervals may range from 16 to 25 km.



<i>Right-of-way Clearing</i>	Vegetation should be cleared to a height of 3 m above the tread surface, and the minimum width clearance should be 2.5metres.
<i>Tread Surfacing</i>	The surface of horse trails should be fairly even, and rocks or roots that cannot be covered should be removed. Additional surfacing materials will be required in areas of sensitive soils or intensive use. Wood shreds are more suitable than chips. Gravel or crushed stone mixed with the existing soils is also suitable. On intensely used bridle paths in rural settings, crushed stone provides the best surface material.
<i>Structures</i>	<p>Fords are preferable to bridges for stream crossing, provided the velocity and depth of the water is acceptable during the normal use seasons. Water depths of not more than 60 cm are safest. Trails should be routed to cross acceptable natural fords. Ford construction requires a minimum 1 metre wide base from which large rocks have been removed and the stream bottom levelled to make a relatively smooth crossing.</p> <p>If bridges are used over streams or wet areas, they must be able to support the maximum number of loaded horses that may occupy the bridge at one time. Footing should be secure, and if logs are used, they should be flattened on the top. Each log must be secured so that it does not move.</p> <p>Culverts should be covered with a thick layer of surfacing so that hollow sounds are not made when horses are crossing. Corduroy should also be covered with soil or surfacing material to create an even tread.</p> <p>On steep side slopes, rocks or logs may be placed along the outer edge of the tread to prevent sloughing of the trail edge.</p>
<i>Additional Considerations</i>	<p>Horses can cause severe damage to trails in wet areas. Once a trail becomes muddy, further damage occurs as horses detour to the sides of the trail. When possible, routes should be located in areas of stable soils. Trails on side slopes require adequate drainage. Trails in wet areas should be re-routed, bridged or filled.</p> <p>Plant distribution and succession along trails and in grazing areas is disturbed by browsing and trampling. Imported feeds cause foreign</p>



plant species to be introduced. Grazing along trails and at campsites should be avoided. Corrals should be provided at campsites and feed should be packed in.

The volume of horse use should be monitored so as not to exceed the carrying capacity of the trail. Access to sensitive areas should be prohibited to horse traffic. If foot trails provide access for riders, tethering places should be available at the entrance to the foot trail. Trails may be closed to horse traffic during spring runoff, after heavy rains or when maintenance is required.

Multi-use Trails

Recreation activities on trails change over time. Each type of trail has specific standards, but some of the standards are suitable for different activities at different times of the year. For example, Type I and II cross-country ski trails may be suitable for Type I or II bicycle trails. Problems arise when trail standards and user expectations are not compatible.

Considerations for multi-use trails

General considerations for multi-use trails include:

- potential conflicts may be reduced by providing separate routes in critical areas. In a backcountry environment where a hiking trail is also used as a horse trail, separate campsites may be provided with detour routes for the alternate user. In addition, detour routes around fragile areas or excess adverse grades are appropriate;
- foot/horse or bicycle/foot combinations in hazardous areas, such as cliff edge routes or steep exposed ravines, should be avoided, as should blind curves on multi-use trails. Curves and hazardous sections should be widened;
- avoid hiker/horse trail combinations near hiker water supplies, such as creek crossings or campsites. Ensure horse crossings are well downstream of hiker crossings; and
- avoid joint ski/snowmobile use, as these two are generally incompatible. Where access routes are limited, use is light, and trails are wide, joint use may be made if ski tracks are set well to one side. Topographic or vegetation buffers between ski and snowmobile trails helps to reduce noise and exhaust fume impact on skiers.



Interpretive and Wildlife Viewing Trails

The purpose of MoF forest interpretation is *to encourage mutual understanding between the Forest Service and the public regarding forest stewardship to enable the Forest Service to act in the public's interests.*

Interpretive trails should be developed according to interpretive planning principles, and only after an interpretive plan has been prepared for an area, and appropriate themes and messages identified. Use by bicycles, horses or motorized vehicles should be avoided.

Many interpretive trails are located close to populated areas. Since heavy use and a wide range of user ability are expected, trail design standards must be high in terms of ease, comfort and safety of use. Some interpretive trails may be considered for special needs users and will require wheelchair access.

Location

Interpretive trails may be offered in a wide range and scale of forest settings, from the interpretation of the small pond environment to the interpretation of clearcut logging.

The most interesting interpretive information describes the relationships between the various environmental, cultural and social elements, rather than merely identifying them.

Layout

The most successful trails are designed with a theme focus that allows users frequent stopping space to absorb the interpretive information. The quality of the trail experience depends on how skilfully the route is arranged to provide this sequence of viewing positions.

Loop forms are the most suitable, with spurs and satellite loops providing additional variety. Trail sections with curves and twists increase visitor curiosity and interest, and provide more surprises than long straight sections.

Grades

The most desirable grades for interpretive trails are less than 5%. Sustained grades more than 10% should be avoided, with a maximum grade for short pitches of no more than 15% for a 30 metre maximum. Where wheelchair access is planned, trail grades should not exceed 5%.



Surface and Width Tread surface and width should be consistent with the terrain and type of use. 1 to 2 metres is a standard width for interpretive trails. Trails are usually widened at signed locations or separate viewing areas. Trails surfaced with wood chips or wood shreds have little impact on the environment, are quiet to walk on, and have a natural appearance.

Motorized Trails

All the guidelines for motorized trails are adapted from the US Forest Service *Trails Management Handbook*.

ATV trails

Obstacles and frequent short turns should be avoided on novice trails. Wide-radius climbing turns are preferable to switchbacks. Switchbacks on steep slopes should only be used for difficult trails.

Wet sections and small logs may be used as obstacles on intermediate and difficult trails. Shallow, short, wet crossings 15 cm deep may be used occasionally on novice trails.

ATV trails should be restricted to one-way traffic. If two-way traffic is expected, turnouts will be required.

Four-wheel Drive Trails

These trails generally utilize existing routes that have been constructed for other purposes, such as mining or timber harvesting. Existing routes considered for four-wheel-drive use should meet the requirements for the particular category of trail required.

The degree of trail difficulty changes according to the size of the vehicle. The intermediate level of difficulty for a short wheel base vehicle will be the maximum level of difficulty for a long wheel base vehicle. Having several tight turns requiring five lock-to-lock turns at the beginning of the trail is one method of controlling the class of vehicle using the trail. The rest of the trail should have less tight turns. Two-way traffic should be avoided on four-wheel drive trails.

Motorcycle Trails

Motorcycle trails located in the forest setting may utilize existing roads, but should avoid roads where vehicle licencing is required. Alternate vehicle use on motorcycle trails should be prohibited.



Alignment on easy trails should not combine sharp curves with rough surfaces or steep grades. A loop form of trail layout provides a variety of distances and terrain conditions to the user. Experienced riders may cover 80 to 120 km in an average day.

Climbing turns are preferable to switchbacks. Climbing turns or switchbacks in areas of sensitive soils will require trail hardening. Concrete blocks secured with a rebar anchor may be used for this purpose.

Bridges should have a straight-on approach and should be constructed with a minimum 1 metre clearing. Trail junctions should be clearly visible from both routes, and no more than two trails should intersect at any one junction.

TRAIL USE CONFLICTS

The *Sea to Sky Corridor Recreation Trail Strategy* offers information regarding trail use conflicts and the need to determine appropriate trail usage.

The *Recreation Trail Strategy* suggests that the most common conflict is between non-motorized users and dirt bike riders, though conflict exists between other uses as well. According to the document, the best approach is to adopt a pro-active approach to trail management, which can reduce potential conflict while also addressing conflict in the event that it occurs.

Some suggestions offered by this document to address trail use conflicts are:

- Establish motorized and non-motorized use areas
- Identify and maintain key access routes for motorized users
- Adopt and employ a hierarchy of management tools to reduce potential for conflict
 - Adopt a Code of Conduct
 - Utilize clear signage which signals the types of trail users that may use the trail
 - Involve local user groups in trail management planning and decisions to get a sense for user perspectives and attitudes
 - Educate trail users via trail head signage, local area maps, websites, and local clubs
 - Recognize that some areas require designation of specific trail uses at the expense of others
 - Enforce regulations when necessary
- Establish a framework for resolving trail use conflicts or disputes



TRAIL & CAMPSITE MAINTENANCE

A trail maintenance system is critical to protect Gambier Island’s trails and wildlife. It is recommended that a maintenance system should be adopted that accounts for frequency and content of inspections, responding to trail user complaints and concerns, and dealing with environmental issues. Additionally, it will be imperative to establish a campsite maintenance scheme.



By way of example, Squamish’s approach to trail maintenance is to require regularly scheduled inspections, priority servicing, and proper record keeping. Squamish trains “trail inspectors”, who file reports and maintain records on inspections and servicing of trails, pursuant to the District of Squamish’s requirements.


Squamish’s approach prioritizes safety, security, and critical signage over issues such as branch removal, remedial work, and surface servicing. This speaks to the need for effective risk management. The District also has a system in place for receiving public input and concerns.



An example of Squamish’s trails inspection check list is provided on the next page:







TRAILS INSPECTION CHECK LIST

Trail Name								
Trail Location								
Date of Inspection								
Overall Inspection Comments								
SPECIFIC INSPECTION FINDINGS	REFERENCE NUMBERS	REFERENCE NUMBER AND DESCRIPTION OF PROBLEM	GENERAL LOCATION OF PROBLEM	CONDITION				
				GOOD	ADEQUATE BUT WILL NEED UPGRADE	POOR	IMMEDIATE MITIGATION	
Litter/Garbage		1						
Edge Brushing		2						
Brushes and Windfall		3						
Safety Hazards		4						
Slope Erosion		5						
Riparian Crossings		6						
Bridging and Decking		7						
Sightlines		8						
Surface Conditions		9						
Signage in Place		10						
Hazard Signage		11						
Technical Trail Features		12						
Fall Zones		13						
Vandalism		14						
Trail Braiding		15						
Fence/Barrier Condition		16						
Cultural Areas Protected		17						

Please use the back of this sheet for any further comments, including suggestions for improvement of any kind.



REGISTRATION OF TRAILS

It is recommended that Gambier Island's full trail network be registered, pursuant to section 56 of the *Forest and Range Practices Act* (FRPA). Section 56 of FRPA formally establishes a recreational trail on Crown land. Without registering or authorizing trails on Crown land, they are deemed to be illegal and thus do not receive consideration in any decisions regarding land use management and planning processes. Further, section 57 of FRPA enables parties to construct, maintain, and rehabilitate recreational trails on Crown land.

Registering trails would enable the Gambier Island Conservancy to develop a formal trail planning and management structure and, importantly, would ensure that these trails are recognized and accommodated during land use planning.



According to the *Sea to Sky Corridor Recreation Trail Strategy*, some of the key benefits of registering trails are:

- Ensures trails and recreation opportunities are considered in land use planning processes.
- Provides opportunities for integrated forest management and balance of land uses.
- Easier to secure funding and resources for an authorized network.
- Provides a platform for partnerships and cooperative management amongst organizations.
- Secures government support for trail initiatives and management.
- Facilitates commercial recreation tenure and permit awarding processes.
- Ensure environmental and risk management considerations are addressed in trail planning and management.
- Ensures trail construction and maintenance are not carried out unlawfully.



RISK MANAGEMENT

Liability and risk management are an unfortunate reality in today's world. The Gambier Island trails master plan and guidelines will need to address how best to address these issues. Man made features of boardwalks, bridges, and even the degree of difficulty of the pathways selected to be part of the trails will all potentially attract liability. As a more active role is taken in the creation and management of the trails by the Gambier Island Conservancy, and as use of trails increases over time, more thought will need to be directed to incorporating best practices in managing risk and minimizing potential liability.



With the creation of trail standards, and having the trails built and maintained in accordance with such standards, risk and liability can be minimized. This will include proper orientation and training of individuals (whether paid or volunteer) that work on the trails. Proper development and use of trail signage will help identify and notify users of the trails of the potential risks and that the trails are being used at their own risk. Part of the Gambier Island Conservancy's risk management program should include regular inspections and reports on the status of the trail network. Adequate levels of insurance will need to be maintained.





ACKNOWLEDGMENTS

The creators of this guide benefitted greatly from the following sources:

- *District of Squamish Trail Standards Manual*
- *District of Squamish Trails Master Plan*
- *Sea to Sky Corridor Recreation Trail Strategy*
- *Ministry of Forests, Lands and Natural Resource Operations Trails Strategy for British Columbia*
- *Ministry of Forests, Lands and Natural Resource Operations Recreation Manual*
- *Ministry of Forests, Lands and Natural Resource Operations Trail Signage Standard Document, provided by the Manager of Trails*
- *Pennsylvania Department of Conservation and Natural Resources Guidelines for Marking Recreational Trails*

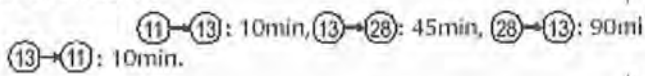
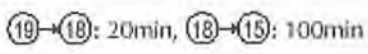



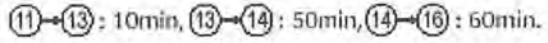


All images used, unless otherwise noted, were provided by Peter Snell and Tim Turner.



Current description of trails found on the Conservancy's website:

<p>Trail I - GAMBIER LAKE</p> <p>Markers: green</p> <p>Time: 2.5 hours ①→⑪</p> <p>Difficulty: 2/5</p> <p>One of Gambier's most popular hikes, this hike can none the less take 1.5 hrs for experienced hikers and 2-2.5 hrs for walkers. It starts at New Brighton where it follows the road system that soon ends as you enter crown land. There are both hills and flatter spots. You pass by Lilypad Lake. The final descent to Gambier Lake is steep and sometimes slippery.</p> <p>Time detail: ①→②: 60min, ②→③: 15min, ③→⑤: 25min, ⑤→⑫: 20min, ⑫→⑪: 30min</p>	<p>Trail II - MUSKEG LAKE to DAMSOON LAKE <i>TRAIL CLOSED DUE TO UNSAFE BRIDGE</i></p> <p>Markers: White</p> <p>Time: 3.5hrs</p> <p>Difficulty: 4/5</p> <p>The lower part of this trail is moderate and pleasant up to Muskeg Lake but after that the route becomes very steep with unstable footing due to loose and slippery rocks. Part of the route is overgrown with young hemlocks. Note the old growth yellow cedar at high elevations between #7 and #9.</p> <p>Time detail: ⑤→⑥: 40min, ⑥→⑦: 90min, ⑦→⑨: 60min, ⑨→⑩: 20min.</p>
<p>Trail III - GAMBIER LAKE to DAMSOON LAKE</p> <p>Markers: white</p> <p>Time: 1hr 20min</p> <p>Difficulty: 5/5</p> <p>Damsoon Lake is the most inaccessible of Gambier's lakes and the trail from Gambier Lake is very steep, requiring the use of hands in a few places but do-able by strong hikers. Watch for the trail junction that continues to Damsoon Lake. Section #9 to #10 is a walk along an old logging road.</p> <p>Time detail: ⑪→⑨: 60min, ⑨→⑩: 20 min</p>	<p>Trail IV - WHITE TRAIL at ⑦ to LIDDELL SUMMIT</p> <p>Markers: white/black</p> <p>Time: 1hr ⑦→⑧ Difficulty: 5/5</p> <p>The first two thirds of the trail follows an old skid road, which can be wet and slippery. The last third is a simple trail through thick bush, with one minor final scramble onto a small rock plateau - the summit.</p> <p>Time detail: ⑦→⑧ 60min.</p>
<p>Trail V - GAMBIER LAKE to LATONA BEACH</p> <p>Markers: yellow</p> <p>Time: 55min ⑪→⑳ 1hr 40min ⑳→⑪</p>	<p>Trail VI - CAMP ARTABAN to LOST LAKE</p> <p>Markers: blue</p> <p>Time: 2 hr</p>



<p>Difficulty: 5/5</p> <p>The trail follows an old logging road that gets rocky and sometimes slippery as the trail gets steep at the north end. The lower area has been partially logged resulting in the loss of some markers.</p> <p>Time detail: </p>	<p>Difficulty: 2/5</p> <p>This is a pleasant low elevation hike to a secluded little lake. Please treat the ecologically sensitive area of wetland around the lake with extreme care.</p> <p>Time detail: </p>
<p>Trail VII - LOST LAKE to DOUGLAS BAY</p> <p>Markers: blue</p> <p>Time: 1 hr </p> <p>Difficulty: 2/5</p> <p>The route from Lost Lake to Douglas Bay is a pleasant hike although the very last section to Douglas Bay is steep. Watch your step walking on the old corduroy roads between these two points.</p> <p>Time detail: </p>	<p>Trail VIII - GAMBIER LAKE to DOUGLAS BAY</p> <p>Markers: red</p> <p>Time: 2 hrs </p> <p>Difficulty: 3/5</p> <p>This is a long and varied hike. The toughest stretch is the very steep hill between points 13 and 14 which on a sunny day is hot and dry; it is very demanding going both ways. The hiker will eventually reach a privately owned and heavily logged open area, about 30 minutes from shore. There are markers that lead to Gambier Creek and a beautiful waterfall and pool on Crown land.</p> <p>Time detail: </p>
<p>Trail IX - GAMBIER LAKE to LOST LAKE</p> <p>Markers: black on yellow</p> <p>Time: 2.5 hrs </p> <p>Difficulty: 3/5</p> <p>This is a long and varied hike. The toughest stretch is the very steep hill between points 13</p>	<p>Trail X - GRAVEL PIT to MT KILLAM</p> <p>Markers: grey</p> <p>Time: 3 hrs </p> <p>Difficulty: 5/5</p> <p>This hike has some variety: the first half, through the woodlot, is an amble; the second</p>



<p>and 14. It is very demanding going both ways. The segment between point 14 and 15 is moderately difficult and while well marked the trail is non-existent.</p> <p>Time detail: (11)→(13): 10min, (13)→(14): 50min, (14)→(15): 95min</p>	<p>half is an uphill trudge. However, only the last 15 minutes are steep enough to require the occasional use of hands. The view from the top is outstanding. The rotting footbridge crossing Whispering Creek is unsafe. Note: the right turn onto an old logging road is only 15 minutes north from the gravel pit.</p> <p>Time detail: (2)→(4) 180 min</p>
<p>Trail XI - BLUE TRAIL at (18) to BRIGADE BAY</p> <p>Markers: pink Time: 20 min (18)→(22) Difficulty: 1/5</p> <p>Easy short walk along a wide, flat path used for riding.</p> <p>Time detail: (18)→(20): 10min, (20)→(22): 10min.</p>	<p>Trail XII - CAMP FIRCOM to MT ARTABAN</p> <p>Markers: round orange metal Time: 2 hrs 10 min (27)→(24) Difficulty: 3/5</p> <p>This is an excellent, if winding hike. It goes through maple and alder groves, a logged area, alongside a ridge, and finally up a wide gully full of old growth fir and cedar. The views from the top are splendid.</p> <p>Time detail: (27)→(25): 10min, (25)→(24): 120min.</p>
<p>Trail XIII - WHITE TRAIL at (23) (Brigade Bay) to MT ARTABAN</p> <p>Markers: red Time: 2 hrs (18)→(22) Difficulty: 3/5</p> <p>This hike is a quite uninspiring climb up a moderately steep, occasionally wet hillside, but the views from the last quarter and the top are superb. Note: because of the clearing that has occurred the turn-off at junction 23 can be easy to miss.</p>	<p>Trail XIV - PINK TRAIL at (20) to BURT'S BLUFF</p> <p>Markers: green Time: 1.5 hrs (20)→(21) Difficulty: 3/5</p> <p>Affords a stunning view looking south and southwest. This trail, while easy to follow, has some very steep sections in the second half. Please respect the sensitive moss covered rock outcroppings.</p> <p>Time detail: (20)→(21) 90 min.</p>



<p>Time detail: (23)→(24) 120 min.</p>	
<p>Trail XV - CAMP FIRCOM to BRIGADE BAY</p> <p>Markers: white</p> <p>Time: 2 hrs 15 min (18)→(22)</p> <p>Difficulty: 2/5</p> <p>After leaving Camp Fircom you will enter Halkett Bay Marine Park that has boat access and a picnic site. When you reach the logging road you are on private land with stunning views of Howe Sound.</p> <p>Time detail: (27)→(25): 10min, (25)→(26): 25min, (26)→(23): 90mi (23)→(22): 10min.</p>	

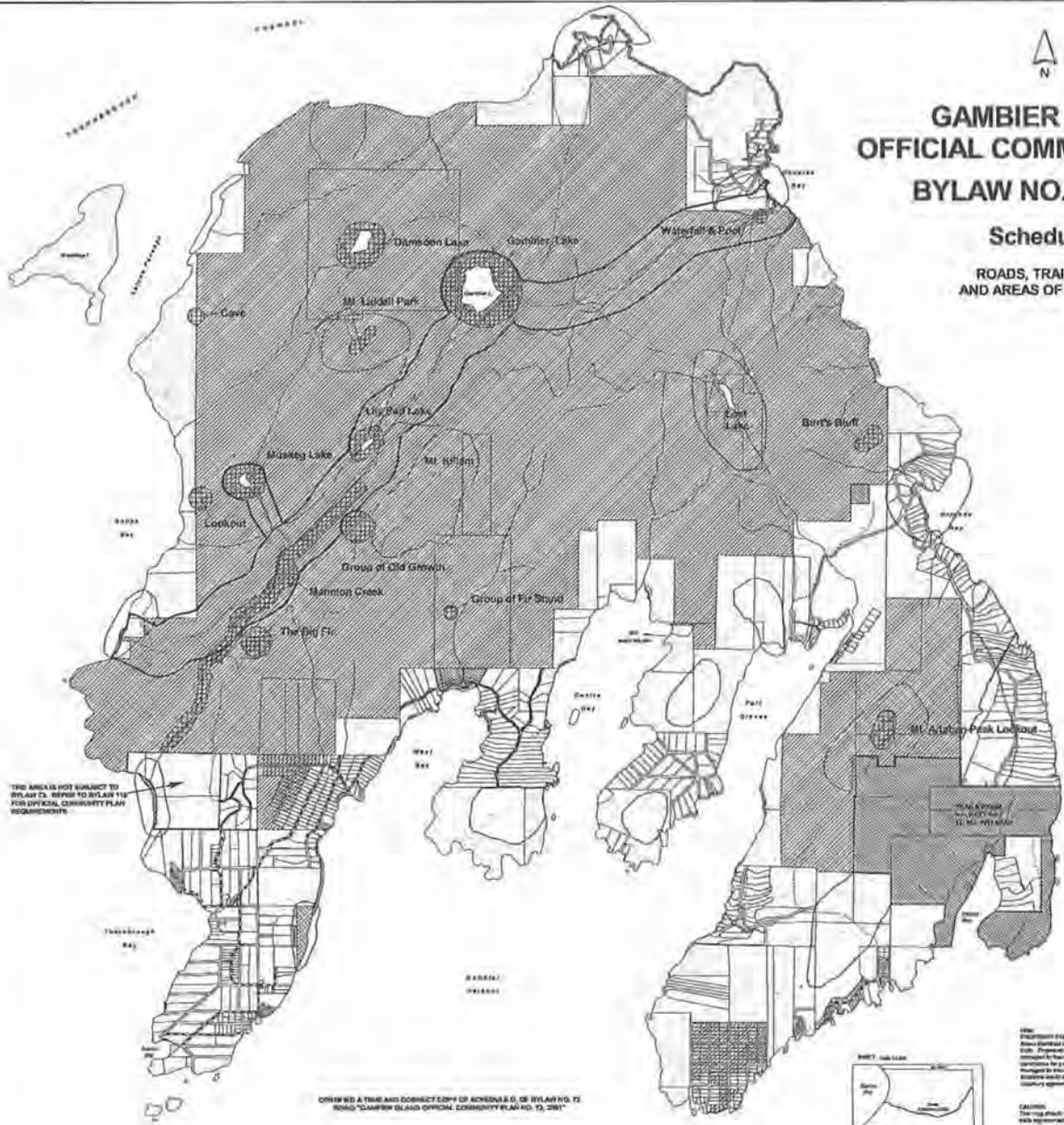
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GAMBIER ISLAND OFFICIAL COMMUNITY PLAN BYLAW NO. 73, 2001

Schedule D

ROADS, TRAILS, PARKS, AND AREAS OF CROWN LAND



THIS AREA IS NOT SUBJECT TO BYLAW 73. REFER TO BYLAW 118 FOR OFFICIAL COMMUNITY PLAN VEGETATION.

- PROPOSED PARKS & TRAILS**
- Proposed Recreation Parks
 - Proposed Conservation Parks
 - Special Areas
 - Proposed Trail (Special locations may currently be used as trails)
- ROAD CLASSIFICATIONS**
- Existing Path / Public Access
 - Crown Land
 - Road
 - Highway/Minor Rural Road
 - Access Road
 - Trail (Dedicated Right of Way)
- All roads are municipal controlled unless otherwise designated by this map.



ORDERED & TRUSTEES CORRECT COPY OF SCHEDULE D, OF BYLAW NO. 73, 2001
NAMED "GAMBIER ISLAND OFFICIAL COMMUNITY PLAN NO. 73, 2001"

CHAIRPERSON SECRETARY

NOTE: PROPOSED PARKS, TRAILS, CONSERVATION AREAS AND SPECIAL AREAS ARE SHOWN ON THIS MAP AS APPROXIMATE LOCATIONS OF PROPOSED PARKS & TRAILS. PROPOSED CONSERVATION AREAS ARE SHOWN AS DOTTED PATTERNS. PROPOSED RECREATION PARKS ARE SHOWN AS HATCHED PATTERNS. SPECIAL AREAS ARE SHOWN AS CROSS-HATCHED PATTERNS. PROPOSED TRAILS ARE SHOWN AS LINES WITH ARROWS. THIS MAP IS FOR INFORMATIONAL PURPOSES ONLY AND DOES NOT CONSTITUTE A GUARANTEE OF THE ACCURACY OF THE INFORMATION SHOWN ON THIS MAP. THE LOCAL TRUST COMMITTEE ACCEPTS NO LIABILITY FOR ANY LOSS OR DAMAGE CAUSED BY THE USE OF THIS MAP.

CAUTION: THIS MAP SHOULD NOT BE USED FOR NAVIGATION PURPOSES. THERE IS A GREAT RISK OF ACCIDENTS AND LOSS OF LIFE IF YOU USE THIS MAP FOR NAVIGATION PURPOSES. ALWAYS USE A PROPERLY MAINTAINED AND CALIBRATED MAP FOR NAVIGATION PURPOSES. THIS MAP SHOULD NOT BE USED FOR NAVIGATION PURPOSES.

Scale 1:20 000
0 500 1000 1500 2000 Meters
UTM Projection
Consult 155000/20 metres

GAMBIER ISLAND

GAMBIER ISLAND
LOCAL TRUST COMMITTEE

SCHEDULE D

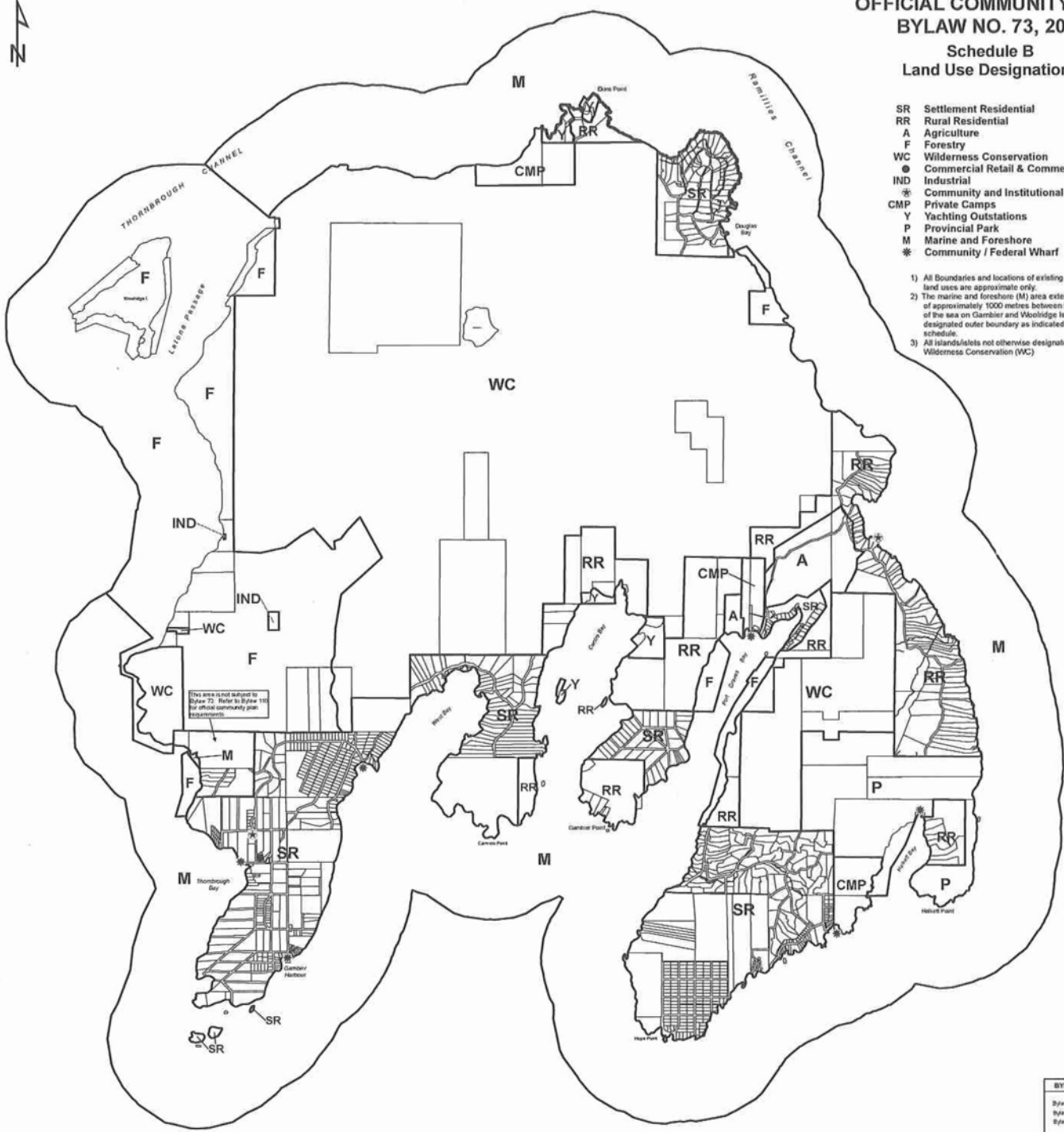
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**GAMBIER ISLAND
OFFICIAL COMMUNITY PLAN
BYLAW NO. 73, 2001**

**Schedule B
Land Use Designations**

- SR Settlement Residential
- RR Rural Residential
- A Agriculture
- F Forestry
- WC Wilderness Conservation
- Commercial Retail & Commercial Service
- IND Industrial
- ⊛ Community and Institutional
- CMP Private Camps
- Y Yachting Outstations
- P Provincial Park
- M Marine and Foreshore
- ⊛ Community / Federal Wharf

- 1) All boundaries and locations of existing and proposed land uses are approximate only.
- 2) The marine and foreshore (M) area extends a distance of approximately 1000 metres between the natural boundary of the sea on Gambier and Woolbridge Island and the designated outer boundary as indicated on this map schedule.
- 3) All islands/islets not otherwise designated are designated Wilderness Conservation (WC)



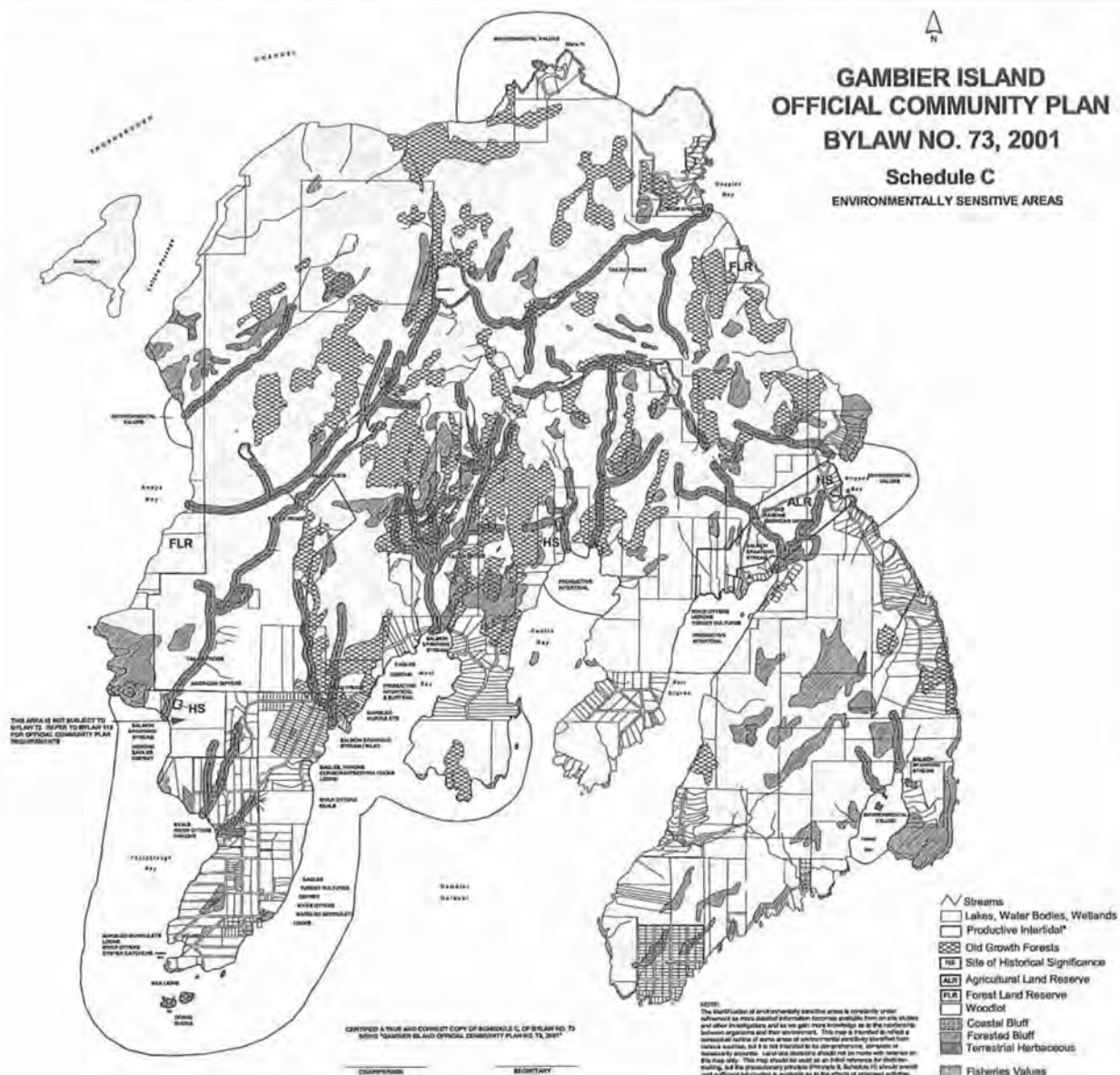
BYLAW AMENDMENTS
Bylaw 80 Feb 2004
Bylaw 81 Sept 2005
Bylaw 117 Oct 2012



GAMBIER ISLAND

GAMBIER ISLAND OFFICIAL COMMUNITY PLAN BYLAW NO. 73, 2001

Schedule C ENVIRONMENTALLY SENSITIVE AREAS



THIS AREA IS NOT SUBJECT TO BYLAW 73, 2001 TO BYLAW 73 FOR OFFICIAL COMMUNITY PLAN REQUIREMENTS

CERTIFIED A TRUE AND CORRECT COPY OF SUBSECTION C, OF BYLAW NO. 73 "GAMBIER ISLAND OFFICIAL COMMUNITY PLAN NO. 73, 2001"



GAMBIER ISLAND

GAMBIER ISLAND LOCAL TRUST COMMITTEE
SCHEDULE C ENVIRONMENTALLY SENSITIVE AREAS