The Heart of the Island

A report on the Vacant Crown Land, Mount Geoffrey, Hornby Island - 2000

Prepared by the Advisory Crown Land Committee appointed by the Hornby Island Local Trust Committee

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EXECUTIVE SUMMARY

In late 1999, a three-person committee was appointed by the Hornby Island Local Trust Committee, to advise the Official Community Plan review concerning the 400-hectare upland Crown Land parcel on Hornby Island.

This land is located in the upland centre of Hornby Island. It is bounded by the Mount Geoffrey Regional Nature Park and private lands. Located in the "Coastal Douglas-fir moist maritime" biogeoclimatic zone (the most severely affected zone in the province) it was extensively logged in the late 19th and early 20th centuries. It is now in recovery, with some areas of 80+ year-old trees, and may be home to several rare and endangered species. It has been identified as a major groundwater recharge area for the eastern and northern sides of the island. A network of trails through the Crown land is actively used by many residents and visitors.

The Advisory Crown Lands Committee, in reviewing a large amount of material, identified some thirty recurring matters concerning Hornby Island's Crown land. These were organized as six major inter-related themes, with a seventh which overrides the others:

(1) There is a strong interest in retaining the legal integrity of the Crown land parcel. There is general opposition to through roads, subdivision, sale of parcels, and "development" in general.

(2) The community has a strong interest in retaining intact forest cover, for maintenance of groundwater recharge capacity, for wildlife habitat, and for aesthetics.

(3) There is a strong community interest in conserving and preserving the natural systems of Hornby's Crown forest as an integrated whole, with the goal of the eventual restoration of the island's central forest to a healthy, mature state.

(4) Although the forest is fire-dependent in its native state, reduction of wildfire hazard is of vital interest to Hornby Islanders.

(5) Water issues are closely connected with forest health and proper land use. In light of Hornby Island's lack of reliable year-round water supplies, and the many-fold increase in population during the dry summer season, a strong community objective is to preserve the capacity of the Crown land to catch and retain water.

(6) There is strong interest from both residents and visitors in maintaining appropriate human uses of the Crown land. Low-impact recreational uses receive strong endorsement. Damage to the land caused by bicycles, horses, and vehicles has been cause for concern. The appropriateness of some uses (e.g. hunting, "squatting", fire-wood cutting) has been called into question, or actively opposed by the community.

The final theme, over-arching all others, is that of local control. Local control is of paramount importance to the community. Islanders view the forested centre of the island as belonging to the community, in the sense of being common land. The major threats have been seen as development and the granting of a Woodlot Licence to off-island interests.

Lacking appropriate official and legal mechanisms, local control has been exercised in a

variety of imaginative ways for the last thirty years. Much effort has gone into this, particularly through the Islands Trust, Hornby Island Residents' and Ratepayers' Association (HIRRA), Hornby Island Forest Management Society (HIFMS), and Conservancy Hornby Island (CHI). Among the positive fruits are agreement by the Ministry of Forests to local consultation and initiation of any Woodlot Licence; the commencement of the Hornby Island Groundwater Protection Pilot Project; the initiation of comprehensive mapping and ecological studies by HIRRA; and the adoption by the Local Trust Committee of Bylaw No. 93, a zoning bylaw which spells out allowable uses.

These recent advances occur against a background of many frustrating years of stopgap action and delaying tactics. Repeatedly, the vagaries of government have threatened the future of the Crown land—the land that the community senses ought to belong to it and be stewarded locally. There is a long history of attempts to obtain some form of tenure that would allow the community's goals and ideals to fit within the bureaucratic constraints of the time. These proactive endeavours have been frustrated, as round pegs trying to fit square holes.

The Hornby community appears to be on a continuing path to establishing enduring local control of the Crown land, for the express purpose of its stewardship as a commons.

INTRODUCTION

In late 1999, the Hornby Island Local Trust Committee of the Islands Trust appointed a three-person sub-committee to advise concerning the 400-hectare Crown land parcel in the centre of Hornby Island.

Members of the Advisory Crown Land Committee are Lynn Nunley, Tom Knott and Jan Bevan. (See Appendix 3 for brief biographies of the members.) The tasks assigned the committee were to give input on a proposed rezoning bylaw, and to make recommendations to the Islands Trust concerning the Crown land parcel, in light of an ongoing review of Hornby Island's Official Community Plan.

Part of the committee's terms of reference was to provide statements on matters where there is broad agreement and matters that need clarification, resolution or more information. The committee was given a collection of materials relating to the Islands Trust, the Official Community Plan, forests, and the Crown land parcel. The committee chose to draw also on other sources: minutes, meeting notes, interviews, correspondence, books, articles, reports in their entirety (see bibliography), as well as personal knowledge of the Crown land.

The quality and applicability of the reports by professional consultants varied considerably. The committee was particularly disappointed in Ecological Inventory of Proposed Woodlot #0032, Hornby Island, prepared in 1998 for the Ministry of Environment, Lands and Parks by Triton Environmental Consultants, Ltd. Triton's analysis of forest cover shows an underlying bias towards commercial forestry. The data as mapped does not reliably correspond to the actuality on the ground. The Triton floral and fauna analysis is sketchy, with numerous errors. Almost no use was made of local natural history expertise. Important plant, mammal, bird, reptile and amphibian species were omitted from Triton's lists; other species seem to be spurious additions, as they have not been seen by local observers. Cascadia Natural Resource Consultants Inc. concur with this assessment in the report Eco-survey of the 400ha Crown Land Parcel on Hornby Island, B.C.: Phase I. Referring to "the unreliability of the mapping

base", they recommend that Triton Environmental Consultants "be given an opportunity to review the discrepancies and correct what appear to be mapping and nomenclature errors" (Cascadia, 2000, p. 7). Noting that "no formal wildlife inventory was conducted" and that valuable local observations were ignored, Cascadia Consultants recommend a survey of local wildlife (ibid, p. 8-9).

Hornby Island, like the other Gulf Islands, has two overlapping levels of regional government. The land-use planning and zoning authority resides with the Islands Trust, whose mandate is to "preserve and protect" the amenities and environment of the islands under its jurisdiction. The Comox-Strathcona Regional District is responsible for all other rural governmental functions, some of which are locally administered by the Hornby Island Residents' and Ratepayers' Association (HIRRA). Provincial agencies (e.g., Ministry of Environment, Ministry of Forests, and B.C. Assets and Land Corporation) also strongly affect the island by their policies and regulations. The concerns and ideas of local residents often do not fit the molds of government. The following sections of this report address the concerns and ideas of Hornby Islanders about the Crown forest at the heart of their island home.

In reviewing the mass of material, the committee identified about thirty recurring matters of interest. These matters have been grouped into seven major themes: parcel integrity, forest-cover retention, ecosystem integrity, fire concerns, water issues, human uses, and local control. Although presented in this report as separate sections, the seven themes are interrelated.

Section 1: DESCRIPTION OF THE CROWN LAND

The subject of this report is a parcel of forested Crown land located in the centre of Hornby Island, British Columbia. The Crown land is approximately 400 hectares (14% of the land area of the island) in size, and in shape is an irregular north-south strip. (See the map on the title page, where the land considered in this report is shown in red.) The Crown land parcel was formerly considerably larger, until a portion of it was set aside for a Regional Park administered by the Regional District of Comox-Strathcona and the community through Hornby Island Residents' and Ratepayers' Association (HIRRA). The park, called Mount Geoffrey Regional Nature Park, occupies the highest land of Hornby Island and includes some spectacular viewpoints. Together, the Park and Crown land comprise nearly one quarter of Hornby Island. This report does not address the smaller parcels of Crown land, located on Central and Sollans Roads, that have been leased to community groups for civic purposes, or which are zoned for community or service use.

The 400-hectare portion was formerly zoned "Upland" (Land Use Bylaw No. 86, 1993). In June 2000 it was rezoned as "Groundwater Recharge/Sustainable Ecosystem Management Area", to bring its permitted uses in line with the philosophy of the existing Official Community Plan (O.C.P., 1992).

This Crown land is bounded on the north by private land, on the north-east by community service parcels, on the east and south by private lands, and on the west partly by large private holdings and in greater part by the Regional Park. Road access to the Crown land is from the cul-de-sac at the west end of Slade Road, or from two undedicated roads (Strachan and Marylebone) running through the southern portion. Many trails also lead into the Crown land: from Strachan Road, from the Regional Park, from Central Road behind the Fire Hall in the

northeast, and from an undeveloped road allowance (Sawyer Road) which leads between private parcels from Central Road in the southeast.

Landforms of Vancouver Island and the islands in the Strait of Georgia generally run southeast to northwest. The topography of Hornby is dominated by a broad boomerang of uplifted land, the Mount Geoffrey escarpment. The escarpment is defined by steep benches on the southwest above Lambert Channel, sheer cliffs on the northwest above agricultural land, and steep inner walls enclosing two sides of Strachan Valley. A portion of the Mount Geoffrey escarpment and part of the floor of Strachan Valley are included in the Crown Land. The remainder of the Crown land is a series of ridges and drainages, descending the easterly side of Mount Geoffrey.

Ford Creek, the stream which drains Strachan Valley, was dammed by beavers in the 1990's. The lake they created is largely on private property; however a portion lies within the Crown land. Locally called "Beaver Lake" or "Regalo Lake", it provides habitat for a wide range of wildlife. Bald eagles use the fresh water to clean their feathers after fishing in the ocean (61 were counted during one hour in February 2000, as part of the B.C. Coastal Waterbird Survey). Hawks, owls, trumpeter swans and numerous species of ducks and shorebirds also frequent the lake. Ford Creek runs for most of the year, drying up to pools in the late summer. It has had resident trout for many years; in 1998, Beaver Lake was stocked with hatchery trout by the provincial Fisheries Branch.

Beulah Creek, which also runs much of the year, arises in the northeast portion of the Crown land and drains into Little Tribune Bay. A locally-based salmonid enhancement program involving schoolchildren is being conducted on Beulah Creek. It appears that both Ford and Beulah Creeks, as well as a number of other streams, ran year-round and supported fish populations before colonization and the ensuing devastating clear-cut logging.

The precipitation that falls on the eastern slopes of Mount Geoffrey, including the Crown land, is the source, through catchment and recharge, of most of the water used on the eastern and northern sides of the island. Those living on rural properties in these areas and residents and visitors in the Sandpiper and Galleon Beach subdivisions rely on this groundwater for most of their needs. Wells serving the Hornby Island Co-op Store and Ringside Market also depend on this water.

Logging of the old-growth forest began in the late 1800's and continued to the 1930's (Smith and Gerow, Hornby Island: The Ebb and Flow, 1988; Cascadia, 2000, p. 5). Many large-diameter stumps still exist that bear witness to this activity. Other evidences of logging are deep trenches where logs were pulled by steam donkey-engines, "cold decks" or landings where logs were stacked, logging roads and remains of logging railroads, wooden bridges, culverts and dams. Abandoned logs of large diameter serve as nurse logs, supporting rows of young trees. Standing dead old-growth trees also remain, providing valuable perches for eagles, and food supplies and nest holes for woodpeckers and other cavity-nesters. A few of the first-growth Douglas-fir and red cedar trees still stand, although these veteran trees are rare and scattered. Most have broken tops, and bear scars of fires.

These veterans, and other trees that were left, served as seed-trees for the regeneration of the forest. There are no known accounts of replanting. Second-growth forest now covers the Crown land except for wetlands and streams, a few natural openings, and a gravel pit south of Strachan Road.

The forest is categorized as being in the "Coastal Douglas-fir moist maritime (CDFmm) subzone of the biogeoclimatic ecosystem classification system." (Triton, 1998, p. 3; Cascadia, 2000, p. 5) The main conifer species are Douglas-fir and western red cedar, with smaller numbers of grand fir and western hemlock. Deciduous trees, which occur in patches or admixed with the conifers, are principally bigleaf maple and red alder. Other fairly common deciduous trees are arbutus, bitter cherry, Pacific crabapple, Pacific black willow and Scouler's willow. Small groups or scattered specimens of other trees occur rarely, such as Pacific yew, Garry oak, quaking aspen, Sitka alder, Sitka spruce, and cascara. On Regional Park or adjacent private land, individual specimens of juniper, shore pine, western white pine, black hawthorn, and Pacific dogwood have been found. Specimens of these species may be reasonably expected on the Crown land also.

The process of natural recovery of the land from the devastation of logging has resulted in a patchy forest. Areas of same-age, over-crowded trees grow poorly, resulting in high mortality before maturity. Root-rot is common, and the forest floor is usually unnaturally bare of shrubs and other plants. The high proportion of dead standing trees in these areas poses a serious risk of crowning forest fire, because ground fire will be conducted to the forest canopy by the many dead, dry branches and trunks. The openings created by the collapse of parts of these stunted stands provide places where shrubs, small plants and trees can gain a foothold, thus contributing to the recovery of the forest.

The Crown land is home to about a dozen mammal species and some eight species of amphibians and reptiles. Large numbers of resident and migratory bird species make use of the Crown and adjoining lands. Stream edges, wetlands and forest openings provide a richness of habitat. Both the Triton and Cascadia reports conclude that it is likely that several Red-listed (threatened / endangered) and Blue-listed (vulnerable / sensitive) species occur on these lands.

Human uses of the forest have changed over the years, from aboriginal hunting and gathering, through logging by the European settlers, to the present variety of personal and recreational activities pursued by both residents and visitors. The network of trails within the Crown land, and connecting it with the adjacent Nature Park and private land, is essential to these activities. These trails have developed from deer trails and abandoned logging roads, augmented by limited informal trail-building. These are available as emergency access for the Hornby Island Fire Department, which also maintains helicopter landing sites within Mount Geoffrey Regional Nature Park, in cooperation with the Ministry of Forests. The web of trails and roads is equally well-used by wildlife, principally deer. At present, there is free access for wildlife from the ocean to the interior of the island through undisturbed large private parcels, Park and Crown land.

This brief, formal, verbal description of the Crown land at the heart of Hornby Island does not begin to account for the place this forest has in the hearts and lives of residents and many of the thousands of visitors that come here every year. The following seven sections speak to the community's regard and concerns.

Section 2: INTEGRITY OF THE CROWN LAND PARCEL

One of the repeated themes emerging from the committee's research was that of retaining the Crown land parcel unfragmented and undeveloped. The specific forms of development considered inappropriate by the community include subdivision, sale or lease of parcels, and construction of roads, buildings or "improvements" not related to the conservation and preservation of the land and the forest. Some events in the island's history have influenced this position.

First is a continuing shift, beginning in the 1960's, from resource-based livelihoods (logging, farming and fishing) to service-based livelihoods (tourism, arts and crafts, and meeting the needs of summer residents and the growing number of retired and semi-retired residents).

Second is what the community plan terms "indiscriminate carving up of the Island" (O.C.P., 1992, Sect 1.1.1). Three large tracts of former farm land were purchased by development companies and transformed into subdivisions, beginning in the late 1960's. Without warning or consultation (community plans, zoning bylaws and the Islands Trust did not yet exist), road grids, power lines, bulldozed lots and promotional signs suddenly appeared. The sense of shock at the desecration caused by unregulated subdivision has carried over into a general wariness by islanders of "development". The problems of water-table depletion and septic contamination of wells, which soon arose in the subdivisions, continue and worsen over time – a constant reminder of the dangers of unwise development.

Third is the regeneration of the forest from the clearcutting of the early part of the 20th century. By the 1970's, the trees had grown to the point that the impenetrable tangle of low branches was dying off, the forest was opening up and appearing more beautiful and inviting. This led to the reclamation and development of trails for walking, horseback riding and, later, mountain-biking. The summer visitors, some of whom purchased lots in the subdivisions, and others, attracted by the many campsites, cabins, bed-and-breakfasts and guest lodges, began to notice the interior forests as well as Hornby's famous beaches and Provincial Parks.

Beginning nearly three decades ago, there has been a series of local initiatives to obtain protection for and local control over the Crown land. Islanders petitioned the "Department of Lands, Forests and Water Resources" in August 1973 for a map reserve "for the use, recreation and enjoyment of the public" (UREP), which was promptly granted. After the establishment of the Islands Trust in 1974, the first Hornby Island Official Community Plan was enacted in 1976, followed by local land-use and zoning by-laws. The clear desire of the community to keep the Crown land intact and undeveloped is expressed in these documents from the very beginning. At about this time, community opposition to the further granting of Crown land leaseholds and purchases was expressed at HIRRA meetings. There has been no alienation of upland Crown land on the island since then, in spite of a number of applications.

Numerous, sustained initiatives – including the founding of the Hornby Island Forestry Management Society (HIFMS) in 1987, Provincial water studies beginning in 1992, and continuing work by HIRRA – attest to the community's profound concern for the future of the Crown lands.

Five years of effort by the community, HIRRA, the Islands Trust and the Regional District culminated, in 1989, in the granting of a Licence of Occupation for the creation of Mount Geoffrey Regional Nature Park. This sectioning of the Crown land was acceptable because of the permanent protected status it confers to 303 hectares (which is 42 %) of the island's

interior Crown land. There have been suggestions, as part of the current O.C.P. review, for parts of the remaining Crown land to be consolidated with the Park; such boundary adjustments would not constitute subdivision.

In 1990, the Ministry of Crown Lands retained consultants to undertake a review of Crown land parcels on Hornby Island. The consultants came to Hornby in March 1990 with a plan that divided the upland Crown Land into three portions, and suggested recreation and watershed uses, as well as forestry, grazing, and residential uses. The plan, exhibited at an Open House, did not receive endorsement from local citizens.

In 1998, a perceived new threat to the Crown land arose. The Crown Land department of the Ministry of Environment, Lands and Parks had been quiescent for a few years because of staffing cutbacks. On October 2, 1998, the former Whistler Land Corporation (a Crown land development company) was resurrected as B. C. Assets and Land Corporation (BCAL), and the administration of all provincial Crown lands (including foreshores) was transferred to the corporation.

Several factors about BCAL aroused suspicions on Hornby: the corporation was under the Ministry of Finance and Corporate Affairs; some of the senior executives of BCAL came from a real estate background; the Province was openly seeking ways to reduce its deficit; and "staff salaries and other corporate expenses" were to be paid from "fees earned through the sale of land and other assets and from the issuance of tenures." (BCAL, 1999)

The possibility that Hornby's Crown forest might be considered by BCAL to be a salable "asset" aroused concern. On March 11, 1999, Hornby Islanders packed the Community Hall to hear and to question a representative of the corporation. The attendees seemed to remain suspicious of BCAL, and not convinced that their Crown forest was in caring hands. However, in the fall of 1999, Mark Hallam, of the Land Sales division of BCAL, assured the community that "BCAL would not make a decision to market Crown Land without consultation with the Islands Trust." (Hallam, 1999)

The Islands Trust was concurrently making efforts to impart to BCAL the inestimable value of intact, undeveloped Crown land on all the Trust islands. A Letter of Understanding was developed, largely through the efforts of Hornby Trustee Tony Law. The purpose of this protocol is to develop decision-making processes, to share information, to establish a communication process, and to encourage early consultation of each agency's policy initiatives or changes. The Islands Trust's "preserve and protect" mandate is specifically cited in the document, which was signed on November 16, 1999.

Gene Mazza, a former part-time resident, wrote his thesis for Bachelor of Landscape Architecture based on an in-depth study of the visual qualities of the island. As part of his work, he conducted interviews and surveys in the community. Among his recommendations is the strong statement that the "mass of [Hornby's] Interior Forest … should not be broken up or chipped away at the edges by residential development." (Mazza, Hornby Island: A Landscape Perception Study, [1985] p. 24) He also recommends that "no roads should be developed" (ibid., p. 25).

The local opposition to subdivision, development, and road construction is supported by the Islands Trust Policy Statement. In its policy on forests, the Trust specifically requires local governments to address "retention of large holdings", and the location of roads "so as to

minimize the fragmentation of forests" (Islands Trust Policy Statement, 1994, amended 1999, Sect. 4.2.7). The Policy Statement defines unfragmented forest ecosystems as "areas of forested land that are large enough to contain and sustain the forests' characteristic species" (ibid., Schedule 1).

The recent adoption of Bylaw No.93 by the Local Trust Committee, rezoning the Crown land as a "Groundwater Recharge Area / Sustainable Ecosystem Management Area", is a positive step toward realization of community desires for its protection. Important elements of the new zoning are clause 9.25.4 ("No further subdivision of existing parcels is permitted"), clause 9.25.2 ("No buildings or structures of any kind may be constructed or erected …"), and the definition of "Sustainable Ecosystem Management Area". The Bylaw's formalization of a consultation process between the Ministry of Forests and the Local Trust Committee is an equally positive step toward the preservation of forest and ecosystem integrity and the island's water supply.

Section 3: PRESERVATION OF THE FOREST COVER

Along with the objective of keeping the Crown Land as one intact parcel, the Hornby Island community has the objective of keeping that parcel tree-covered. The three most obvious threats to an intact forest cover are privatization and development of residential parcels (addressed in Section 2), crowning forest fire (to be addressed in Section 5), and commercial logging. The reasons most often cited for maintaining forest cover are aesthetics, water concerns, and the health of the forest and of the island.

"In a pristine state every island in the Trust Area was blanketed with a dense forest of evergreens interspersed here and there with small prairie-like openings" (Sweet, p. 18). Although the forest of the Crown land is no longer pristine, Mazza describes it as "mysterious, with limited access through its dense understory and heavy canopy." (Mazza, p. 24) The Hornby Island Forest Management Society, in its 1995 stewardship proposal, observes that "the Mount Geoffrey forest can be viewed from much of the island" and that "the community has a strong interest in maintaining the visual quality of the forest." (HIFMS, 1995, p. 3)

Concerning forest cover and water issues, the present Official Community Plan states that "forest canopy is necessary in order to protect [groundwater] catchment basins", and that one objective for the Crown Lands is "to retain forest cover to protect water supply" (O.C.P., Sect. 4.1.2, objective (4)). (The importance of the Crown lands in the water regime of the entire island will be considered in more detail in Section 6 of this report.) A stated policy of the Plan is to encourage the Ministry of Crown Lands "to give highest priority to the preservation of the forest ecosystem in considering any use of the Mt. Geoffrey Crown lands." (O.C.P., Sect. 4.1.2.1) This intent is consistent with the Islands Trust Policy Statement: "It is the position of the Trust Council that forest cover is a representative characteristic of the Trust Islands, which should be maintained." (Islands Trust Policy Statement, Sect. 4.2.4).

In 1987, the Provincial government lifted the "Use, Recreation and Enjoyment of the Public" (UREP) map reserve on the Crown lands. The part not identified as desirable for a Regional Park was designated as a potential Woodlot: Number 0032. Members of the community were alarmed by this move, and the local governance body, Hornby Island Residents' and Ratepayers' Association (HIRRA) established a "Resource Evaluation Committee" to look into this threat to the forest. After research, that committee determined that the best option

was to form a non-profit society to be able to bid in an open competition for the Woodlot. The society, incorporated in 1987 to represent the community's interests, was named Hornby Island Forest Management Society (HIFMS). It has consistently opposed quota cutting, and promoted individual tree selection practices if any logging were to be done.

The society's aims have evolved over the years, in response to changes in the community, the level of ecological consciousness, and, later, changes in government policy disallowing societies from operating Woodlots. At the 1993 AGM, discussion of the society's application for a Woodlot on the Crown land led to the following motion: "that the Society retain the woodlot application, but that the community's need for water and soil conservation, wildlife, and recreation, have priority in the consideration of the Society." The minutes report that in the discussion of this motion the "feeling of the meeting was to keep this woodlot application as back-up in case Crown Land goes to tender, but to pursue stewardship." The motion carried unanimously (HIFMS Minutes Book, AGM, March 22, 1993). The stewardship proposals of HIFMS have been regularly brought before HIRRA, where they have received strong and consistent endorsement over the last twelve years.

The Official Community Plan and Land Use Bylaws of the period around 1990 reflect the community's reaction to the Government's apparent intention to open the lands to public bidding for a Woodlot Licence. Faced with the possibility of a purely commercial logging operation, local control of a Woodlot was seen as the lesser of two evils. At that time the community was advised that the Municipal Act did not provide for "conservation" zoning – the closest to the community's desire was "Woodlot."

Various ideas for community-based economic use have been proposed. These have largely focussed on extraction of dead and dying trees for use as firewood, fence rails or milled lumber for local use. No well-founded community project has yet been put forward. The reasons for this failure probably include the lack of an appropriate Crown tenure, strong resistance to moving the land status to the Ministry of Forests, and local opposition to any moves that might endanger the integrity of the forest. In 1984 Mazza's survey found that of 201 respondents, "locals" were "slightly for" firewood cutting on the Crown land watershed, while "summer residents and visitors were against the project" (Mazza, p. 3; Appendix).

A 1995 HIFMS community questionnaire (see Appendix 1) asked: "Regarding cutting trees [on the Mt. Geoffrey Crown land], which option would you prefer?". Fourteen respondents selected "no cutting", 46 chose "cutting trees for fire protection and forest health", 41 opted for "cutting some trees for firewood, to be sold for local use", and a single respondent selected "commercial logging". It is noteworthy that of over a hundred responses, there was only a solitary voice for commercial forestry.

Many islanders are well-educated on environmental matters, and have long opposed clearcut logging. In 1991, broadly-supported community opposition to Raven Industries' plan to clearcut on their private holdings resulted in a negotiated end to the cutting. Conservancy Hornby Island (CHI) was founded at this time to provide a basis for discussions with Raven and a continuing forum for action to preserve the environment and ecology of the island. In 1993, over thirty Hornby Islanders carried their personal convictions to the Clayoquot Sound protests. Fourteen were willing to be arrested for their beliefs about the inappropriateness of clearcutting.

There is strong local resistance to transferring the upland Crown land into the jurisdiction of

the Ministry of Forests. Islanders perceive the Ministry's policies as based on maximizing stumpage royalties at the expense of ecosystems. As the HIFMS explained in 1992, "The residents of Hornby Island are concerned that logging of the Crown land will be authorized and that a Wood Lot license could be awarded to a logger who would not be as careful about the watershed nor as environmentally aware as the residents." (HIFMS Stewardship Brief, 1992, p.1) In a 1993 letter to then Minister of Environment, Lands and Forests Moe Sihota, HIFMS directors stated, "To place the forest under a Wood Lot AAC [Annual Allowable Cut] logging program would not be an acceptable management alternative to the Hornby Island Community." (HIFMS Minutes Book, June 14, 1993) This position is validated by a statement of environmentalist Ray Grigg: "The province's volume based forestry policy has been the single largest impediment to the intelligent and foresighted management of B.C.'s forest resources." (Grigg, 2000)

The Ministry of Forests is now quite aware of Hornby's resistance to commercial forestry. At a meeting on Hornby Island (June 14, 1999), Al Waters, Chief Forester for the MOF Woodlot License Program, expressed his understanding of local concerns about the acceptability of the program to the community, and affirmed the necessity of local input and control:

The first step in the process of establishing a woodlot licence on Hornby Island is for the local residents to approach the Forest Service with a consensus that there is support from local residents for the establishment of a woodlot licence. As I realize that there is considerable opposition to any forms of harvesting in this area of Crown forest it may take considerable discussion before there is any resolution to proceed with a woodlot licence. (Waters, n.d.).

There is a Letter of Understanding between the Islands Trust and the Ministry of Forests that has bearing on the fate of the Crown lands. This, in draft form as of February 1999, establishes an open, cooperative process between the Trust and MOF regarding planning and review processes, with specific agreements regarding Woodlot licences. Because the MOF mandate includes the promotion of "woodlot licence tenures while protecting sustainability of forest use", there are no promises made about logging on Crown lands in the Trust area; review and referral processes are, however, established. In fact, the Local Trust Committee has established a sound, if perhaps informal, working arrangement with the Port Alberni District personnel along the lines of Al Waters' presentation to the community. This situation has changed with the recent adoption of Bylaw 93, in which new zoning (as Groundwater Recharge Area / Sustainable Ecosystem Management Area) and planning processes are established in law.

The Triton Report acknowledges that the Coastal Douglas-fir forest "has received the greatest amount of impact per unit area than [sic] any other biogeoclimatic subzone in the province". This is "one of the few subzones that will likely be unable to fulfill the proposed 12 percent target for conservation as outlined in the Protected Area Strategy" (Triton, p. 3). As citizens become more aware of the tremendous loss of forest ecosystems through logging and development, there is an increasing desire to leave undisturbed what remains of those ecosystems. On neighbouring Denman Island, residents have been struggling with the impact of massive insensitive corporate logging. This near-at-hand example of disastrous forest loss reinforces the desire to keep Hornby's forest intact. One frequently-heard opinion is "Leave the Crown forest alone – let it become old forest." According to local Trustees, proposals are being explored by the Islands Trust to preserve areas of second growth Coastal Douglas Fir forest (such as Hornby's Crown land) as part of the Protected Area Strategy, so that they may eventually mature into replacements for the old-growth forests that have been destroyed.

In December 1999, Norm Walton (the prime moving force in HIFMS from its beginning until his death in March 2000) said:

"After rewriting our mandate, the pursuits became ground-water protection, little or no tree-cutting, stewardship over the Crown land forest, and advocacy of a holistic view. You'll see the evolution of this attitude in our proposals. There was not a definite turning point in attitude – we just gradually refused the idea of a woodlot, as the Ministry sees it."

His summation of HIFMS goals is also a good statement of the community's thoughts and feelings about the Crown land.

The shift in emphasis from management to stewardship as the goal of HIFMS and community activity parallels a worldwide evolution of ecological thinking. Management, in its many guises, assumes the primacy of human uses of natural systems. In an extreme form, the management approach to forests leads to monoculture tree "farms." So-called multi-use management plans recognize a number of human uses to be balanced for the benefit of human users without regard for the other users. By contrast, stewardship is based on seeing natural systems as processes, existing in their own right, of which we humans are a part. The deepening understanding of the natural world as process rather than product underlies much of the community's concern for the fate of Crown land.

Section 4: CONSERVATION & PRESERVATION OF NATURAL SYSTEMS

Hornby Islanders are concerned not only that the Crown land remain intact and tree-covered, but that it support a fully functioning forest. It is becoming more and more clear that natural systems are synergies: they are more than just their individual components, and more than the sum of those components. A forest is not just land with trees on it. It is the interactions of landforms, weather, water, soil microorganisms, fungi, plants of all types, wildlife, the activities of humans, and other factors, both known and unknown.

The philosophy of Rene Descartes, promulgated in the 1600's, that natural systems are understandable mechanisms, is proving to be inadequate to the understanding and description of the world. A Harrowsmith editorial says:

… Cartesian philosophy has been taken almost as far as it can go. We have come to believe that if nature is a machine, then surely we humans, the most mechanically adept species on the planet, can operate the controls. If the machine breaks down, we can fix it. Our economy is based on the idea that we can, for example, clear-cut a forest, then replace it with a tree plantation. And a tree plantation, we allow ourselves to be told, is just a more efficient forest. The time has come for a more integrated approach. (Webster, p. 5.)

Although the Trust islands were all originally forested, each developed its own unique forest ecosystem. Chris Maser (in his information-packed book The Redesigned Forest), says of old-growth forests that their "incalculable diversity" makes a "uniform, general description or definition virtually impossible." (Maser, p. 18) To complicate matters, the ecology of these forests has been seriously disrupted in the recent past. The violence of clearcut logging on Hornby ended sometime after World War II; the effects will be with us forever. Internationally-respected forester Herb Hammond points out that " … old growth species are

the specialists which require ancient forests. People cannot create old growth." (Hammond, Seeing the Forest Among the Trees, 1991, p. 32, emphasis added.)

A substantial part of Hammond's work is devoted to considerations of biological diversity in forests and the impacts of human (economic) activity. He treats biological diversity in three interconnected themes: species diversity, genetic diversity, and ecosystem diversity. In the natural dynamics of forest life, changes on scales ranging from local (e.g. the death of a single tree) to area-wide (a major fire) to systemic (a shift in climate) are involved in complex interplay. The state of the forests, including the Crown land forest on Hornby Island, may be characterized as profoundly disturbed by their historical treatment at the hands of human beings. It is both an opportunity and a challenge that sizable blocks of the island can be protected from further disturbance and, perhaps, be allowed to continue to develop on their own terms.

Hammond observes that disturbance increases species diversity as disturbed areas are renewed (ibid., p. 32). This is a sign that natural ecological processes are working, as is evidenced by the "micro-habitats" to be seen in Hornby Island's forests. It is reasonable to suppose that genetic diversity within old-growth forest species has been diminished by past logging practices. "High-grading" (in which the prime lumber trees are taken, leaving the less commercially desirable trees as progenitors of the recovering forest) and extensive clear-cuts have certainly skewed the gene pool of the island's forests.

Nevertheless, some areas with a range of ages and species remain as sources for natural continuation of the forest. Hammond notes that "If forests are to survive in British Columbia, in Canada, on this planet, they will survive only with the complexity and diversity found in old growth forests and in natural forests." (ibid., p. 33) The third type of diversity – ecosystem diversity – is visible in the micro-habitats mentioned above, and in the "Riparian-Wetland Complex Zone" and "Old-Mature Forest Feature Zone" identified by Cascadia Consultants (Cascadia, 2000, p. 12).

Concerning old growth forests, Hammond notes that they "have tremendously large ecosystem diversity within both small and large areas. … The ecosystem diversity, reflected in the multi-layered canopies and patchy nature of old growth, provides a stable, yet ever-changing forest." (Hammond, op. cit.) Hornby's forest (which had such complexity and diversity before it was logged) is in a state of transition and recovery. Sensitive and very cautious stewardship – which is first of all founded on the understanding that "people cannot create old growth" – will foster this recovery.

As the necessity for a more integrated approach has been recognized, Hornby Islanders have been developing a holistic view of the island's Crown forest. The Official Community Plan (O.C.P., 1992, Sect. 4.1.2.1) states a policy of giving "highest priority to the preservation of the forest ecosystem". The Islands Trust is also coming to the same view as applied to the entire Trust area. The Islands Trust Policy Statement specifically values the "ecological integrity of forests." As well, Trust policy encourages practices that maintain and restore diversity of forest structure and soils, wetland ecosystems, connectivity of habitats and "the full range of natural habitats in the forest landscape." (Islands Trust Policy Statement, Sec. 4.2)

In the Forest Management Society's 1992 proposal to the B.C. Government, the society states its conviction that the forest should "be treated as an environmental and ecological

resource" rather than being regarded as "only an economic unit", and places “the health of the forest” as one of its top two priorities. The proposal makes the clear statement: "We wish to cultivate a multi-tiered forest with a good degree of biodiversity." (HIFMS, Proposed Management Plan, 1992) In the society's 1998 proposal for a "Community Managed Forest", one of the listed objectives is "to maintain, with the adjoining Nature Park, a healthy intact forest of diverse ecosystems" (HIFMS, Proposal for Pilot Project, 1998, p. 3).

The Hornby Island Residents’ and Ratepayers’ Association formed a special committee in 1999 to address questions of the Crown land. The committee hired Cascadia Natural Resource Consultants to make an ecological inventory of the upland Crown forest. The consultants note that the "resource components" of wildlife habitat, forest health, fire hazard and recreational use "are inherently related and cannot be considered mutually exclusive." (Cascadia, 2000, p. 12-13)

These components are also related in the lives of Hornby Islanders, both resident and seasonal. Many people, well-informed about natural history, take close interest in the living environment. Two local non-profit societies, Conservancy Hornby Island and Heron Rocks Friendship Society, have for a number of years initiated and supported studies in particular topics, including marine-organism surveys, bird counts, wildflower stewardship, and projects to control invasive exotic species. As an example of local dedication to the study of natural history, of the two hundred observation sites along British Columbia's coast where data is gathered for the B.C. Coastal Waterbird Survey, twenty are monitored by Hornby volunteers (Bird Watch Canada, 2000). One of the study sites is Beaver Lake in the Crown land.

The Hornby Island Crown forest encompasses a variety of landforms, forest types, and habitats ranging from wetlands to rocky openings. The diversity of habitat allows a wide variety of living organisms to establish themselves year-round or seasonally, or to visit during migration. The logistic difficulty of colonizing an island necessarily restricts the number of non-flying species. Despite this factor, there are three species of garter snakes and one species of lizard (the northern alligator lizard) in Hornby's Crown forest. Amphibians include Pacific tree-frogs, newts, clouded salamanders and possibly red-legged frogs. The list of mammals observed in the Crown forest includes deer-mice, voles, mink, beaver, black-tail deer, several bat species, and two non-natives – opossum and black rat.

Bird species are numerous. Ravens, turkey vultures, six species of owl, bald eagles, osprey and at least five species of hawk feed and nest in the Crown land. The ponds and lake attract numbers of waterfowl species; observers have logged wood ducks, ring-necked ducks, trumpeter swans, grebes, mergansers and the more common Canada geese, mallards, buffleheads and other ducks. Shorebirds such as kingfishers, yellowlegs, herons, killdeer and other plovers, as well as snipe, have been seen in wet areas. Since the careless introduction of the opossum, ground-nesting birds (e.g. grouse and nighthawks) have decreased in number; conversely, the large owls (which feed on young opossums) have increased. Old snags, downed logs, and standing veteran trees provide habitat for creepers, nuthatches and at least five kinds of woodpecker. Migrating and resident birds make ample use of the cover and food found in Hornby's forest. Hummingbirds feed on the nectar of salmonberry, flowering currant, and huckleberry, shrubs common along trails and streams. Band-tailed pigeons and several species of thrush are attracted by bitter cherry, elderberry and other fruit. Dozens of bird species, such as swallows, wrens, vireos, warblers, sparrows and finches occur in the varied niches provided by the Crown land. Conifer seed-eaters (crossbills for example) are common.

Both the Triton Report (p. 9) and the Cascadia report (2000, p. 9ff) stress that several Red-listed (threatened/endangered) and Blue-listed (vulnerable/sensitive) species "have high probability to occur in forested habitats on Hornby Island." (Cascadia, 2000, p. 9) Studies by local botanist Richard Martin reveal the presence of a number of rare plants in Hornby's upland forests (Martin, "Rare Plants of Hornby Island", unpublished map, 1990). Invasive weeds (e.g. cheatgrass, cleavers and bull thistle) are spreading along trailsides, and in the gravel pit on Strachan Road. Larger invasive exotics are Scotch broom in the gravel pit, and English holly throughout the forest. To date, no English ivy or laurel-leaf daphne have been observed in the Crown lands (J. Bevan, personal observation).

Two species of trees, which in Canada are found only in southwestern British Columbia, approach their northern limits on Hornby Island. Arbutus, which according to Arthur Fielding Sweet "is rarely found more than 300 meters from water" (Sweet, p. 19), occurs on trailsides and stony ridges in various parts of Hornby's Crown land.

The "rare and therefore precious" Garry oak is "always found in pure groves in open, grassy areas", Sweet claims (ibid.). On Hornby Island, scattered individuals or small groups of Garry oak occur in the Crown forest and on adjacent land.

The water aspect of a forest includes wetlands, watercourses both year-round and seasonal, riparian (stream-side) habitats, fish and water-dependent animals. Cascadia Consultants conclude that on Hornby Island the "Riparian-Wetland Complex Zone" is one of two types of zones "likely critical for long-term, ecologically based, watershed management." (Cascadia, 2000, p. 16). The phrase "long-term" is of great importance. Human beings tend to think on a scale of decades at most, whereas Pacific Northwest forests "live 1,200 years, and sometimes more" (Maser, p. 44). With perhaps 150 years of experience in dealing with these forests (most of that being clear-cutting and either abandoning, or replanting to a single species), we lack the knowledge of what sorts of human intervention would help to maintain forest health over a period of centuries. Stewardship of Hornby Island's Crown forest must therefore be implemented gradually and cautiously, bearing in mind that nature is better than humans at maintaining a fully-functioning forest.

Section 5: FIRE HAZARD AND CONTROL

Hornby Island residents are deeply concerned about wildfire, not only because of the potential for damage to or loss of their homes and property, but also because of the threat of damage to the island's forest. These concerns are voiced on a regular basis at HIRRA meetings. The community has succeeding in establishing: (1) a local fire-hazard monitoring station, (2) local control of fire-risk rating, (3) a local Fire Patrol Officer, who regulates open burning on the island and conducts regular patrols during the summer, and (4) maintenance of access and water supply for fighting fires on the island's high ground.

There is a natural relationship between fire and the forest. The forest ecosystem of Hornby's Crown land is a type that "likely regenerated itself through fire." In a natural mature forest, "indigenously low, 'cool' fires burned frequently, removing some understory and creating natural openings." (Cascadia, 1999, p. 3) Old-growth trees, because of their thick bark, survived low fires, while "younger stems were thinned out by indigenous fires" (Cascadia, 2000, p. 12). Ministry of Forest's Dan Powell considers that Douglas-firs are "fairly resistant," while cedar and hemlock are not (H.I.L.T.C., 1994, p. 5).

The North American policy of preventing and fighting all forest fires has resulted in a dangerous situation. In a National Geographic article (September 1996) Michael Parfitt explains:

…if we try to keep fires out of forests completely, dead wood and other fuels build up. Then, instead of low fires that just clear out brush, flames climb into the crown of monarch trees and kill them. These fires burn so hot they leave total devastation. (p. 118)

After years of overprotection from fire, trees burn hotter, faster and more completely. (p. 120) When fire is rare, accumulated fuels explode into towering crown fires, and the thick floor burns long, hot and deep, killing roots of grasses and trees. (p. 123)

[A total crowning fire] changes landscape permanently, killing [mature] trees and allowing rains to erode land no longer protected by living plants. (p. 124)

This is the situation on Hornby's Crown land. Cascadia Consultants note that "fire suppression has resulted in debris accumulation on forest floors, crowding of stems" as well as "suppression of understory development, particularly shrubs and herbs." (Cascadia, 1999, p. 3).

In close stands, small trees die from over-crowding or root disease, yet remain standing, supported by live trees. These "ladder fuels" conduct ground fire (which might otherwise pass over the forest floor) up into the canopy of living branches. Such fuel loading in Hornby's Crown forest poses "significant risk of an intense, hot fire" (Cascadia, 1999, p. 3). Eventually a forest of well-spaced mature trees of a variety of heights develops, with a thick canopy that shades the forest floor thus retaining moisture at its surface. Such forests have little ladder fuel. Until Hornby's forest reach that state, there is the potential for a disastrous crowning fire.

There has been considerable discussion in the community about ways to alleviate the present situation, and input has been received from several outside agencies. Cascadia Consultants suggest that "small controlled burns and/or silviculture prescriptions involving thinning may be necessary to mitigate risks of potentially devastating fires." They add that "introduction of controlled fire may also mitigate increase of root disease." (Cascadia, 2000, p. 12) Ministry of Forests' Dan Powell suggests "selective harvesting, with some burning in the early part of the year" to reduce fire hazard. (H.I.L.T.C., 1994, p. 5.)

In the Gulf Islands, summer is usually a very dry season, with the Forest Service fire hazard rating typically at "high" to "extreme" from July through September. This is also the time of highest population and greatest likelihood of careless use of fire – and the time of lowest water supply. Forest fire on Hornby Island is a threat to many homes that are located around the forest, some of them tucked among the trees with little or no firebreak. The interface between residential and forest areas is also the most likely place for fire to start, and then spread into the forest. The Hornby Island Fire Department regularly informs the public about ways to reduce these hazards.

Education about the hazards of fire, and awareness of the need for wildfire prevention, are key factors in controlling wildfire, according to the Fire Department (Interviews, Dec. 1999). The Fire Patrol Officer works directly with the public on a daily basis, instructing in the safe,

responsible use of fire. The Fire Department conducts regular training in fire suppression and control for year-round and summer residents. Some fifty people have received this training in the last decade, with about half this number currently available to help fight a forest fire.

Once a fire is burning, the two most important issues are access and water sources to fight the fire. A few small ponds in the Regional Park, farm ponds, and Beaver Lake provide some year-round water sources. Four clearings are maintained in the Park as heli-sites. A portable tank can be set up in one of these sites, and kept filled by a helicopter carrying seawater. The heli-sites also serve as drop locations for equipment and possibly firefighters. Otherwise, access into the forest for both personnel and equipment is by the network of roads and trails. The Fire Department believes that vehicle access roads are very important. Such roads should be maintained to keep them fit for truck use, but should be gated to allow access for emergency vehicles only. Dangers of uncontrolled access include increased fire risk, abuse of the forest through inappropriate uses, and damage to the roads.

Besides providing access, the roads and trails have two other important functions in fire control. They serve as easy corridors to lay fire hose, speeding up response time. They also function as ready-made firebreaks. In the case of a ground fire, even a narrow walking trail may be enough to halt the fire's spread. Careful removal of ladder fuels and coarse woody debris on each side of the roads and major trails would greatly enhance their potential as firebreaks. Although some visitors to the forest might object to trailside clean-up as "unnatural" or "manicured", the capacity to contain wildfire within bounds makes the difference between minor and major forest fires.

As will be discussed in the next section, the forest plays a central role in the island's water supply. At a meeting on the subject of fire, a local Trustee stated that "there is not only the forest up there, but also the principal source of water for the island. If the entire forest and water supply went, the island could no longer sustain its population." (H.I.L.T.C., 1994, p. 2)

The role of fire in the natural balance of the forest has been altered by the presence of so many people on the island. While fire may be a necessary part of the ecology of the forest, it is seen as a threat by humans, to their homes, to the purposes for which they use the forest, to the groundwater supply. The previous industrial logging and the policy of total fire suppression have disrupted the natural balances, creating a situation that is dangerous both to the forest and to the people. To right past wrongs and to find ways to foster ecosystem health and integrity is a challenge that requires the active participation of Hornby's citizens, and the cooperation of government.

Section 6: WATER ISSUES

There is serious ongoing concern on Hornby Island about water issues, from the quality and quantity of groundwater to the special problems of wastewater disposal in the confined environment of the island. This committee's work shows that Hornby Islanders strongly feel that the quantity and quality of the island's groundwater supply are directly related to the forest cover on the uplands, including the Crown land.

Until the recent damming of Strachan Valley by beavers, forming a shallow lake, there was (aside from a few constructed ponds) no permanent standing water on Hornby Island. In summer, the two year-round streams (Ford and Beulah Creeks) are reduced to mere trickles,

and the many winter creeks and wetlands are entirely dry. This is in contrast to historical conditions on the island when, before the extensive industrial logging that occurred from the late 19th century into the middle of the 20th, some half dozen streams ran all year long.

The domestic water used by all Hornby households is derived principally from wells, either shallow dug wells or deeper drilled wells. A few households obtain water from rainwater collection systems or natural springs in conjunction with holding ponds. Some residences have no on-site source of domestic water, other than tanks filled by one of the local water delivery services. These water haulers fill their trucks from productive wells on the island. Mary MacKenzie notes that in 1995, " a water supplier on the island sold 70,000 gallons of water from island sources." (MacKenzie, 1996) There is a chronic island-wide water shortage in summer, the time of highest population. The summer visitors, largely on vacation from cities with piped water, are frequently unaware of this and have wasteful water habits that exacerbate the water shortage.

The groundwater that supplies the wells of Hornby Island comes from local precipitation: "100% of the groundwater originates from rainwater and snow (precipitation) falling on the ground, and none comes from Vancouver Island." (Dakin, 1996) The groundwater of Hornby Island lies in fractured sedimentary bedrock (Kohut, Hodge and Chwojka, 1986). The "age" of the water – the time taken for water to move from rain on the upland slopes to the bottom of coastal wells – is not yet known. A hydrogeological study of Hornby's water chemistry, undertaken in June 2000 by Dr. Diana Allen and Earth Science students from Simon Fraser University, may answer the questions of groundwater evolution on the island.

W. S. Hodge, a groundwater hydrologist with the Hydrology Branch of the then Ministry of Environment, writes in his comprehensive survey of what is known about groundwater on the Crown lands (Hodge, 1993):

"Groundwater levels in the lowlands, and geologic and topographic considerations … suggest that the upland area including a significant portion of the subject Crown Land are important natural groundwater storage and recharge areas. These areas provide groundwater recharge to wells located in the surrounding lowlands of Hornby Island including the small-lot subdivisions where quality and quantity concerns exist. This preliminary assessment has shown that the upland areas including the subject Crown Land are both sensitive to groundwater recharge and vulnerable to threats of groundwater contamination and should be protected to help ensure preservation of the quantity and quality of groundwater on Hornby Island." (p. 2)

Following the Hodge Report, the Ministry of Environment, Lands and Parks established a "Notation of Interest" over the Crown land "to record the interest of The Water Management Division, B.C. Environment in the area due to its importance for protection of the ground water resource." (B.C. Lands Memorandum, 1994) The Notation expires in January 2004.

As hydrogeologists, Hodge, Kohut, Dakin, and Chwojka do not address the question: what is the relationship between groundwater and forest cover on Hornby's uplands? There is a dearth of specific information about this important matter in the documents provided to this committee. Doug Hopwood, in his report Forest Practices in the Trust Area, (1998) makes the following statement: "removal of forest cover, in itself, cannot be expected to reduce the rate of groundwater recharge. In fact, removal of tree cover will ordinarily increase groundwater recharge. This is simply because trees use a lot of water. Remove the trees, and

more water is available to enter the soil." (Hopwood, p. 5f) This facile statement, which is at variance with other assessments of the role of forests in watershed dynamics, may derive from a 1950's "study" by C.D. Shultz, which recommended logging in the Vancouver watershed to increase "water yield." The study was later discredited as a result of Shultz's involvement in a bribery and corruption scandal over logging rights in the watershed. According to Paul Hundal of the Society for the Promotion of Environmental Conservation (SPEC), Shultz "ignored the well understood fact that by removing the forest, you end up with too much [run-off] water during the rainy season and no water flow during the summer dry season, because the water flows off the slopes almost instantly." Forests, he says, "act like sponges, releasing steady flows of water over the whole year." (Hundal, 1992)

The committee, therefore, has reached to other sources for responsible information and informed opinions on the matter of the role of forest cover in the water regime of the island. The work of Herb Hammond is notable for its breadth, depth and balance. Hammond has an unusual range of experience as a professional forester, from his work for the B.C. government on soil degradation following logging operations to forest assessment for the Nisga'a First Nation. His book, Seeing the Forest Among the Trees: The Case for Wholistic Forestry (Hammond, 1991), approaches forest use as an involvement of humans is the life of the forest, explicitly considering the "costs" and "benefits" accruing to the forest as well as to humans. The title page inscription sums this up very neatly: "We do not sustain the forest; the forest sustains us."

The effects of healthy tree cover on an area's water cycle are discussed in a variety of contexts by Hammond.

Regulation of the water cycle is another critical function of trees and forests. Trees are biological pumps which pull water out of the soil through deep root systems, use the water for growth processes, and finally return it to the atmosphere as water vapor. … Water is slowly metered into surrounding areas from the forest 'reservoir.' Healthy tree cover avoids spring floods and fall droughts, and provides a water filtration system that far surpasses technological systems. (p. 17)

A forest canopy intercepts 10-35% of the annual precipitation falling on the forest. … When water 'drips' to the forest floor instead of striking the ground directly, the force of precipitation is reduced and erosion is avoided. The soil is also able to absorb more precipitation because water does not 'flood' the forest floor in a short time. (p. 17-18)

When he asks the question "What are forests?", a part of his answer is a section entitled "Water is the Connector": "Water is life. … Water connects all aspects of a forest." (ibid., p.27ff) Concerning water supply and water quality in recharge areas and watersheds, he continues, "A forest acts as a sponge and filter that slowly releases pure water through the soil, into the creeks, and into the atmosphere. Roots from plants (particularly trees), large decaying fallen trees, and soil organic material hold water for slow, steady release throughout a year."

Hammond makes explicit an obvious, though often forgotten, point:

"All water required by the people of Canada for home, agricultural, and industrial use is supplied by forested watersheds, either directly … or indirectly through ground water which originates in today's forests or forests of long ago. Humans depend on maintaining the quality,

quantity and timing of flow (availability throughout the year) of water from watersheds. Protecting our water supplies is in large part done through protecting forests. The highest quality water comes from forests … the older the forest, the better the water." (p. 27. Emphasis added)

Bill Mollison worked for twenty years as a biogeologist in Australia, studying wildlife, forest regeneration and ethnology. About thirty years ago, he and David Holmgren began developing a system of agriculture (which has become known worldwide as Permaculture) based on the conscious design of food-growing systems which, like ecosystems, are diverse, stable and resilient. He devotes a long chapter in his book Permaculture: A Designer's Manual (Mollison, 1988) to the subject of "Trees and Their Energy Transactions." He makes observations similar to those of Hammond in regard to the connections between forests and water. Forests capture moisture from the air on their leaves and bark by condensation as well as by intercepting fog and showers. Heavy rain which passes through the canopy "enters the humus layer of the forest which can itself (like a great blotter) absorb 1 cm. of rain for every 3 cm. of depth" (ibid., p. 148). The roots of trees, besides actively absorbing water, conduct water deep into the soil. "Once soil is fully charged [with moisture] free water at last percolates through the interstitial spaces of the soil". Thus, "the forests represent great lakes of actively managed and actively recycled water. No other storage system is so beneficial" (ibid., p. 150).

Forest crowns intercept and break up the erosional force of downpours. "Further impedance takes place at the forest floor, where roots, litter, logs, and leaves redirect, slow down and pool the water." Through four ways of storage (retention on soil particles, interstitial storage, humus storage and water chemically bound with soil minerals) a forest's "soil mantle has every opportunity to act as a major storage." The soil "becomes an impediment to water movement" and the free water located between particles (interstitial storage) "can take as long as 1 - 40 years to percolate through to streams" or into the groundwater reservoir (ibid., p. 150). Mollison, who cites numerous historical and recent examples of drought following deforestation, states plainly, "To doubt the connection between forests and the water cycle is to doubt that milk flows from the breast of the mother, which is just the analogy given to water by primitive peoples." (ibid., p. 147)

The role of forests in groundwater issues is clearly recognized by ordinary people on Hornby Island. For many, this understanding is mainly intuitive, bolstered by observation and familiarity with the island over seasons and years; many are also well-informed scientifically. This theme has appeared in the ongoing studies of water issues sponsored by the Islands Trust, HIRRA and the Hornby Island Water Stewardship Committee (sponsored by the Heron Rocks Friendship Society). It is also a major concern of the Hornby Island Forest Management Society (HIFMS).

Two major documents have been prepared in the past decade, as part of the larger process of attempting to understand, adapt to and perhaps remedy the growing problems with water quality and quantity. First to appear was The Hornby Island Groundwater Pilot Project: Final Report, prepared by the Hornby Island Pilot Project Committee under the direction of Jim Card of the Ministry of Environment, Lands and Parks (Card, 1994). This work led to the formation of the Hornby Island Groundwater Protection Pilot Project, a partnership between Islands Trust and MELP. The first phase of this project (one of only three in the province) was completed last year and is reported in Hornby Island Groundwater Protection Pilot Project – Phase I (Kneffel, 1999). It is continuing this year with the formation of the Hornby

Island Advisory Groundwater Protection Committee, and two information-gathering studies in partnership with Royal Roads University, and Simon Fraser University.

The Card report, mentioned above, is a summary document without extensive citation of sources, yet the authors state categorically that "Intensive land clearing, logging and road building may lead to soil erosion and disturbance of the natural hydrological regime of an area." (Card, 1994, p. 17) Summarizing the outcome of a "discussion workshop" held on the island in October, 1993, the report confirms that "The highest priority issue of all four [discussion] groups was land use as it relates to water quantity and quality." Concerning the Crown land, the consensus was that "A watershed reserve should be established over the Mount Geoffrey Crown land parcel as it is seen as the most critical re-charge area on Hornby Island." (ibid., p. 21) In concluding the section on community consultation, it is reported "In summary, the community views indicate that land use is a key factor in groundwater management, [and] that there be local involvement in the management of the groundwater resource". (ibid., p. 25)

The second document, Hornby Island Groundwater Protection Project – Phase I (Kneffel, 1999), is a very detailed, comprehensive report of existing and proposed Provincial water programs and legislation as they relate to the local situation; of ongoing community work on water issues; and of the results of a "Hornby Island Groundwater Workshop" held in February 1999, with approximately thirty participants (ibid., p. 4). It is this last which is of principal interest here. The "Lack of Groundwater Recharge-Watershed Protection" was identified as the issue of "highest priority" (ibid., p. 9; Appendix C, Table 1). "There is a strong desire to be able to maintain local control over [the Mount Geoffrey Crown] land and not resign it to an off-island agency and/or have it used for commercial purposes." (ibid.)

Concerning the issue of local control, Kneffel reports:

"Currently, there is no legal entity that manages ground water issues on Hornby Island based on local needs and wishes. Whatever protection measures are taking place are happening individually in a fragmented way. A comprehensive, integrated community-based plan is lacking. The Crown land issue above all has many islanders concerned. They would like to have input on what happens on the land where their drinking water originates. The public generally, and volunteer groups, specifically, find the constant shift of responsibilities within and between government ministries highly frustrating and exhausting." (ibid., p. 11)

There is significant concordance among hydrogeologists, professional foresters, permaculturalists and ordinary, informed citizens as to the importance of the forested Crown lands in the water regime of the island. The first recommendation of the Hodge report clearly states what must be done:

"The subject Crown Land should be protected as a community watershed area to ensure preservation of the quantity and quality of groundwater on Hornby Island. Any activity or proposed land use in the subject Crown Land should be reviewed as to possible impacts on the underlying groundwater resource. Groundwater and land use policies should be developed to protect the groundwater resource in the subject Crown Land." (Hodge, p. 34)

He identifies nearly two dozen activities that should be subject to restriction, including commercial, industrial and residential development, extensive logging, extensive road development and modification of natural drainage features (Hodge, p. 56).

The B.C. Forest Practices Code contains Watershed regulations (FPC, Watershed Guidelines, 1996) for Community Watersheds. Although these regulations are meant to cover watersheds from which surface and spring water is collected for human use, it is worth noting "Watersheds smaller than approximately 5 km2 should limit recreational uses to low levels of non-motorized activity." This section also recommends "locked gates to control vehicle access" which "allow access for non-motorized recreational activities only." (sect. 14.2.1)

Bearing in mind that the groundwater cycle may be as long as a human generation, it is vital that planning for Hornby's groundwater issues recognize this time-scale. In any case, it behooves islanders to proceed extremely cautiously with any actions that may affect their water supply.

Section 7: HUMAN USES

The Crown forest of Hornby Island is used in a wide variety of ways by a broad spectrum of people: residents, summer residents, and off-island visitors. Some of these activities are generally supported by islanders, others are generally opposed, and still others are a source of debate.

Along with the Regional Park and large private wooded parcels, the Crown forest forms the backdrop of all activity on Hornby. The forest is just there – the wild, undeveloped centre of the island. Speaking from the landscape architect's point of view, Mazza expresses this quality as the "critical mass" of the interior forest. The bulk of the forest, characterized by "limited access", "dense understory and heavy canopy," lends "wilderness qualities" and gives it "a big island feeling." (Mazza, p. 24) People see the forest from the ocean, from the roads, and from private property; even if they rarely set foot in it, they use the forest passively.

Many people do, as well, use the Crown forest actively. In August 1994, HIFMS took a survey of fifty community members at the Hornby Fair and on the Co-op porch, inquiring into their recreational activity in the Crown forest. The results, attached to this report as Appendix 2, showed visits, made as frequently as every week, in all seasons of the year. Twelve purposes of visits were listed: Exercise (22), Racing/training (6), Aesthetic enjoyment (44), Peace and quiet (38), Spirituality (20), Observing plants and animals (30), Photography/sketching (4), Family outings (18), Group activities (8), Access to Mt. Geoffrey (30), Cross-island travel (22).

Several of these purposes merit a closer look. "Exercise" includes, of course, walkers, joggers, runners and cyclists. As well, dog- and horse-owners exercise their animals on the trails. "Racing/training" probably refers principally to cyclists. The sport of mountain biking has an enthusiastic following among islanders, not all of them young people. A locally-organized three-day Bike Fest took place annually from 1988 to 1998, and may occur again. As many as 300 mountain bicyclists participated in the events, some of which were for provincial championships. The cross-country and downhill racing events used trails in the Park and Crown forest. The popularity of the Bike Fest and the quality of Hornby's trails have brought the island to the attention of many cyclists. Books and magazines have printed maps, with colorful names given to many of the trails.

Both mountain biking and horseback riding are subjects of some controversy. Because many

forest trails are narrow and winding, walkers feel threatened by unannounced bicyclists and horseback riders. On the wider emergency-access roads, speeding cyclists are a hazard to other users. There is also concern about the increasing damage to groundcover, and erosion, caused by bicycle tires and horses' hooves.

Local cyclists, as well as walkers and horseback riders, have devoted much volunteer labor to maintaining the trails. The trail and emergency-access road system serves as an alternative transportation network, for quiet cross-island travel, away from buildings, pavement, and motor vehicles. One of the objectives in the "Outdoor Recreation" section of the Community Plan is "to encourage a system of walking, bicycling and horseback trails, with minimal development, through all forested areas, to and from parks and across and around the island." (O.C.P., 1993, Sec. 2.6.2, Objective 3) This objective is explicitly embodied in Policy 2.6.2.1: "The existing network of walking and bicycle trails around and across the Island is to be protected in any way possible."

The category "Spirituality" was chosen by twenty of the fifty HIFMS survey respondents (Appendix 2). The island community does not have a history of being strongly religious in the conventional sense. (There has never been a Protestant church here, although services have been held both outdoors and at the Community Hall, and several informal groups meet for Bible study. The small Catholic chapel is used for Mass once a month.) Many present residents are deeply spiritual. At least three groups gather to practice various Eastern traditions; several other groups are dedicated to North American Native spiritual practice; others follow what may be described as Earth-based spirituality. Followers of these many spiritual paths, and their off-island visitors, use the Crown forest for meditation, vision quests and private or group prayer.

As well, there are many residents and visitors who find the Crown forest a place for private, personal reflection, prayer and renewal, outside any organized spiritual activity. At a HIFMS meeting in 1994, two directors said that "they feel a reverence and respect for the Forest, a Holy Place where one can remember a direct relationship to it." (HIFMS Minutes Book, Aug. 9, 1994)

These spiritual activities as well as other low-impact uses such as sketching, photography, nature study, and bird-watching receive general endorsement on the island.

Other activities fall into the category of hunting and gathering. Salal has been commercially harvested by a few persons. Chanterelles, oyster mushrooms and a variety of berries are harvested, usually for home consumption. The Beaver Lake in Strachan Valley, stocked with 2000 fingerling cutthroat trout by the provincial Fisheries Branch in October 1998, provides an opportunity for sport-fishing.

Hunting is permitted during legal seasons, and some residents and off-islanders annually obtain venison and deer hides for their personal use. Both residents and visitors enjoy the sight of wild yet relatively unafraid deer, but the damage they cause to gardens and orchards makes the deer a "pest species" in the eyes of some people. Since native predators have been eliminated from the island, hunters serve the important function of controlling the number of deer. (Disease, predation by roaming pet dogs, and road-kill by automobiles are the only other factors limiting deer population.)

The boundaries between the Regional Park, private holdings and the Crown land are not

delineated or posted. In many cases trails lead from land of one status into land of another, with no signs erected. It is very easy for hunters, particularly those from off island or otherwise unfamiliar with the area, to stray into areas where shooting is illegal or unsafe. In the Crown land (where a licensed hunter, using a bow, crossbow, or registered shotgun, is permitted to hunt during hunting season), there is potential conflict. Many people, both locals and visitors, are unaware of the opening dates of hunting season, unaware of the rights of hunters, and unaware of the necessity to wear bright colours and make themselves obvious. These people feel threatened or alarmed at meeting an armed hunter, or hearing shots near where they are enjoying a peaceful walk in the woods. Hunting is thus a subject of controversy akin to that surrounding bicycle- and horseback-riding.

At present, water-licence holders and the Ministry of Transportation and Highways are the only licensed occupiers of the Crown land under discussion. MOTH has expressed its intention to retain use of the gravel pit on Strachan Road. At the insistence of MOTH, the gravel pit was left out of the recent rezoning (by Bylaw 93) of the Crown land.

The holders of water licences on the Crown land pay annual fees for the use of the water and for the right to occupy land for that purpose. To keep their licences in good standing, licence-holders are obliged to construct and maintain "works" on the licensed water sources.

Use of the Crown land for educational or research purposes has been repeatedly endorsed at HIFMS and HIRRA meetings. The Hornby Island community as a whole is supportive of educational projects, and has found innovative ways to encourage hands-on learning experiences. Activities by Katimavik and the Tribune Bay Outdoor Education Centre, and university water studies, are recent examples.

A few entrepreneurial activities have been proposed that would take place in the Park and on Crown land: guided nature walks, horseback rides, and cycle tours. These seasonal or occasional events would take place mainly on the existing trails. They have generally been approved, after consideration in appropriate community forums.

The Crown forest has also seen a number of uses which are viewed as problematical and have been subjects of controversy on the island. Over the past thirty years, some individuals have set up temporary or semi-permanent campsites, locally called "squats". Some have cultivated gardens; others have kept chickens or horses on Crown land for extended periods of time. The problem of squatters has been frequently addressed at HIFMA, HIRRA, Conservancy Hornby Island (CHI), and Islands Trust meetings. Fire risk, water contamination, accumulation of garbage, and environmental degradation have been the main concerns. The persistence of islanders' disapproval appears to have been effective – at the time of writing, squatting is not a major issue, and most of the old squats have been cleaned up by former squatters and other volunteers.

The Strachan Road gravel pit, now unused for gravel extraction, is occasionally used as a dumping-ground for tree prunings by the road maintenance contractors. As it is accessible by road, it also sees some use as an unsanctioned rubbish dump, a camping or squatting site, a firearms range, and a race-track for motor cycles and unlicensed "beater" vehicles.

Some persons, with neither community nor bureaucratic sanction, have cut firewood from dead or dying trees in the Crown forest for their own use or for local sale. A survey in 1992 indicated that the 100 respondents used an average of five cords of wood per year (HIFMS

Minutes Book., April 27, 1992). The Forest Management Society recognizes "the need to make firewood available on a proper sustainable basis" (ibid., AGM, January 21,1991). A few "wood poachers" have damaged trails with their trucks and abused the forest, but the majority seem to treat the land with respect. While cutting firewood could be part of a management strategy for the Crown land, there is no form of tenure or licence from MOF or MELP for this economic activity and it is illegal at present. This issue has been of concern to HIFMS for some years, given its commitment to community-based stewardship of the Crown land forest (HIFMS Brief, 1992), and it has been discussed at HIRRA and Islands Trust meetings.

In order to control illegal cutting, as well as inappropriate use of the trails and emergency access road by motorized vehicles, the community has sought the gating of vehicle access points to the Crown land and Regional Park. At HIRRA's request (HIRRA Minutes, November 9, 1994) and with the support of the Ministry of Forests (H.I.L.T.C.,1994) and the Regional District, these lands have been gated since 1996.

The committee notes that, over the years, there have been a variety of proposals for residential subdivision or other alienation from common use of the Crown land. These have met with near-universal opposition, and, through the efforts of individuals, organizations and, ultimately, the Islands Trust, have never been pursued beyond their earliest stages.

Remembering that the Crown land forest and the adjacent Regional Park are at the centre and heart of the island, it is the clear intent of the residents (both permanent and seasonal) to see this area preserved for the quiet use of the community and visitors. Inevitably, conflicts arise over what constitutes appropriate activities. Such controversies are dealt with responsibly within the community. This is a demonstration of islanders' commitment to holding the land in community-based stewardship.

Section 8: COMMUNITY REQUIREMENT FOR LOCAL CONTROL

The final thread which the committee noticed throughout its research on local material is that of local control. The attempts since the 1970's to limit the permitted uses of the Crown land have all had within them the sense that an island community should rightfully have a major voice in what happens on its public land. Hornby Islanders clearly have proprietary feelings about the forest and see it as inseparable from the community.

It must be remembered that Native Land Claims to Crown land have precedence, and that it is the policy of the Islands Trust to work cooperatively and respectfully with local aboriginal people. The Local Trust Committee has a established a working relationship with local native bands, and regularly refers pending legislation to their Chiefs. (Tony Law, priv. comm., 1999.)

The status, control, and management of the Crown land have been largely out of local hands. Repeatedly, the vagaries of government have threatened what the community feels should happen with the land – land that the community senses ought to belong to and be stewarded by the Hornby Island community. There is a long history of attempts to obtain some form of tenure that would allow the community's goals and ideals to fit within the bureaucratic constraints of the time. These proactive endeavours have been often frustrated. As a result, there is a general feeling in the community that much of the effort has amounted to little more than stopgap actions and delaying tactics.

A 1991 advertisement put out by Hornby Island Forest Management Society (HIFMS) referred to "our" Crown lands and asked "why don't we have a say" in issues such as Woodlot licensing. The concerns expressed were "degradation … of the watershed", damage to plant and animal life and soil ecology as a result of logging, and lack of local control over the use of the land. The advertisement suggested "a broad discussion of this issue and its possible solutions, so islanders can pull together, achieve consensus and unite to protect the island, its water, flora and fauna." (HIFMS handbill, October 1991).

In 1992, HIFMS prepared a submission (HIFMS Brief, 1992) to the B.C. government, suggesting "strong community input" into forest planning. The brief noted that "community participation in decisions" was "the missing element" in forest policy, and proposed an alternative for Hornby Island. The proposal was for "community-based stewardship of the Crown Land of Hornby Island in order to preserve the forest's health, to protect the watershed, and to enhance Mt. Geoffrey for the use, recreation and enjoyment of the public." The proposal, also published in Forest Planning Canada, did not elicit any action on the part of government. A comment in HIFMS minutes is that "no bureaucratic slot could be found to fit [the stewardship] concept." (HIFMS Minutes, A.G.M., May 14, 1994).

In 1995 HIFMS proposed an "Integrated Resource Management Plan" (HIFMS, 1995), to create "a 'Community Forest' under jurisdictional arrangement that will allow the community to make shared decisions about how this land is managed." The approach suggested was, again, "a form of community stewardship." This proposal received unanimous support by the 60 members who attended a meeting of the Hornby Island Residents' and Ratepayers' Association (HIRRA Minutes, November 9, 1994).

However, at an interdisciplinary meeting held in Nanaimo (Bevan, March 1995), it was determined that there was no appropriate tenure available in legislation for such stewardship, the only options being Woodlot licence, study reserve, park or community lease. A follow-up discussion with personnel of the Ministry of Environment, Lands and Parks indicated that the large size of the parcel was unprecedented as a community lease (Bevan, Meeting Notes, June 19, 1995).

In 1998, the B.C. government established a pilot project for a new form of forest tenure – the Community Forest. The "Final Recommendations" from the Ministry of Forests sets out "attributes of a Community Forest tenure" (B.C. Forest Service, May, 1998). Some of these attributes were previously proposed in local submissions: sustainability, high standards of forest practice, local control, broad-based community support, and stewardship obligations. However, the Ministry of Forests guidelines do not appear to meet the needs of Hornby Island. They are consistently geared to logging: phrases include "crops of timber, "timber harvest level", "economic viability", and "stable jobs" (ibid.). At this time, Community Forest tenures are for five years only (with the possibility of renewal) and without guarantee that control of the land would not pass out of community hands; there is concern among Hornby Islanders about this eventuality. None of the pilot projects is comparable to the local situation and so it is difficult to assess this option in realistic depth. However, as this is a pilot program, further developments should be monitored.

A number of options are being researched by the HIRRA Crown Lands Committee. These include establishment of a Regional Forest Park or inclusion of the Crown land in the existing Nature Park, some type of tenure under Ministry of Forests programs, conservation under the

Islands Trust Fund, and outright purchase by the community.

The general model which best seems to fit the desires of Hornby Islanders for the Crown land is that of the commons. As a primary cultural institution, the concept of the commons may be defined in a simple way as that which is neither private nor public (in the sense of being bureaucratically or legislatively regulated) but which is held by all members of a local community in order to preserve it and use it, in perpetuity. The term refers both to the land held, and the processes by which it is cared for by those entrusted with that work. Gary Snyder, poet and ecologist, makes the very important point that "the commons is a level of organization of human society that includes the non-human." (Snyder, The Practice of the Wild, 1990, p. 36) He further describes the commons as "a curious and elegant social institution" (ibid.), which is "the ancient mode of both protecting and managing the wilds" of a self-governing region (ibid., p. 30). It is "the contract a people make[s] with their natural system." (ibid., p. 31)

The concept seems to have been introduced into contemporary discussion by Garret Hardin over thirty years ago in a paper titled "The Tragedy of the Commons" (Hardin, 1968). Unfortunately, he used the word incorrectly – for which he has since apologized (Whole Earth, 1998, p. 38) – to mean unowned and unregulated resources, subject to overexploitation for individual or corporate gain. In this, Hardin missed a key instrument of the institution: a commons has a local governing body, which "determines carrying capacity", "defines rights and obligations," and has the power to enforce "penalties for lapses." (Snyder, p. 30).

In an essay written collectively by the staff of The Ecologist, and adapted in Whole Earth magazine, the nature of local control in the commons is discussed in the following terms:

… the concept of the commons flies in the face of the modern wisdom that each spot on the globe consists merely of coordinates on a global grid laid out by state and market: a uniform field which determines everyone's and everything's rights and roles. Commons implies the right of local people to define their own grid, their own forms of community respect for watercourses, meadows or paths; to resolve conflicts their own way; to translate what enters their ken into the personal terms of their own dialect; to be biased against the rights of outsiders to local resources in ways usually unrecognized in modern laws; to treat their home not simply as a location housing transferable goods and chunks of population but as irreplaceable and even to be defended at all costs. (Whole Earth, p. 12)

This nicely describes just how the local community of Hornby Island residents and concerned visitors regard the central Crown lands, and what they have been doing to steward that land for over three decades.

As the editor of Whole Earth observes later in the same issue,

All place-based commons now need co-management in which those whose primary interest is access and extraction (the appropriators) work under rules set by those whose interest includes guardianship. … New institutions that monitor – turn what we know into what we will accept – and enforce will not come easily. The defense of the local will not come easily. Local commoners will try out all strategies from mapping to lobbying to lawsuits to boycotts to direct action, nonviolent or otherwise. Which defense becomes necessary rests, in large part, on the willingness of appropriators to respect guardianship of the place based commons. This is as tough a job as … commoners have ever experienced. (p. 35)

Again, this describes activity in the Hornby Island community, on many levels, from individual and private to political and public. Elements that repeatedly occur in the minutes of HIRRA and HIFMS are "local control", "stewardship", "protection of the community's water, soil, wildlife and recreation." Less clearly or openly expressed is the general desire to secure this land under community control in perpetuity. Such options as a Woodlot Licence or the Community Forest Program provide only brief tenures of five, or fifteen years, which may be renewed if the community's use of the land meets the criteria (chiefly economic) of the administering agency, and if there is no change of Provincial government policy. Even a Crown lease for community purpose is normally for thirty years or less (Bevan, Meeting Notes, June 19, 1995). It does not appear to be the desire of the community to be beholden to such external vagaries.

The committee notes that our community has, for at least the last three decades, acted to preserve, protect and "manage" the Crown lands in something of the traditional ways of holding a commons. Much of this work has been in reaction to perceived threats (fending off logging or development proposals, for example). At the same time, proactive measures have been taken, and innovative proposals made. The community works together through HIRRA and the Trust to resolve local use issues and represent its interests to the world at large.

The Groundwater Protection Pilot Project is now moving into its second phase. The Regional Park and Crown Land committees of HIRRA intend to retain Cascadia Natural Resource Consultants to continue their ecological survey, and two university-assisted water studies are beginning. The HIRRA Crown Lands Committee is producing the most comprehensive mapping of the Crown land to date and preparing to issue a major report, much of it exploring tenure options. Some options being explored have attributes of a commons.

The Local Trust Committee of the Islands Trust has long worked to provide protection in law for the Crown land. Although restricted by legal limitations to the Trust's power, and the nature of government bureaucracy, recent changes in these areas are opening ways to achieve more locally-guided control. In particular, the new zoning of the Crown land ensures its parcel integrity ("No further subdivision of existing parcels is permitted") and establishes a precedent-setting "Groundwater Recharge Area / Sustainable Ecosystem Management Area" zone. Forestry, if any, is now required by law to be "small scale", "community based", "on a sustainable basis", with "reserve areas where harvesting is not permitted in order to protect forest values including streams, biological diversity, wildlife habitat, rare ecosystems and recreation features." The legal provisions that "any proposed tenure will be considered in consultation with the Hornby Local Trust Committee" and that "any forestry or other activities can only be conducted under a plan that is developed in consultation with the Local Trust Committee" constitute major advancement of the community's requirement for local control (HILTC Bylaw No. 93, June 2000).

Hornby Islanders, without having formal local government, have created local governance to suit island needs. HIRRA manages a yearly budget of $300,000 of tax money in its role as contractor to the Regional District. Elected committees, accountable to the community, set policy and handle the day-to-day operations of the following services: waste disposal and Recycling Depot; maintenance of the Nature Park; public toilets; management of the Community Hall; recreation programs; economic development programs; and fire protection and paramedic services.

HIRRA's impressive record of managing island affairs and finances suggests the possibility of including the stewardship of the Crown land as a commons as part of the business of the society.

The history of many island projects – some of which are national models – has been one of vision, enthusiasm, initiative, persistence, and creative solutions to problems. Often, the ideas have been round pegs with only square holes to fit into: there has not been government precedent or established format. Often there has been indifference from government, sometimes outright opposition. At other times, government has showed support and encouragement for island ideas. There are even signs that Hornby Islanders' persistent efforts are affecting government actions and policies.

At the beginning of the 21st century, there seems to be a new willingness in government to seek "partnerships", to divest some of the expensive and cumbersome management duties from bureaucracies to the people who know and live in an area. They know its history, its nature and character; they are aware of subtle warning signs when something is amiss; they have an investment in continuity and stability of their home area; and they are willing to devote much energy as volunteers to care for the place where they live.

Perhaps the last word should rest with Gary Snyder (as quoted in Whole Earth, p.50):

MANAGING THE COMMONS IS HARD BORING WORK WITH MANY MEETINGS. Also, it's worth it!

CONCLUSIONS

In researching this report, the Advisory Crown Lands Committee was heartened by how well Hornby Islanders, over the past three decades, have contrived to steward the Crown forest at the heart of the island, without having bureaucratic control. The committee is also heartened by the recent passage of Bylaw 93, and by the apparent willingness of government to form partnerships with local people to serve community needs.

The committee's findings about the Crown land for the purposes of the O.C.P. Review Process are as follows:

There is strong community agreement that the Crown land

a) must come under local control, in perpetuity.
b) be undisturbed by development or significant logging.
c) be preserved as a groundwater recharge area.
d) be preserved in its ecological complexity.
e) be preserved for its aesthetic qualities.
f) be allowed to recover naturally, under holistic stewardship.
g) be protected from crowning wildfire.
h) be protected from inappropriate human uses.
i) be retained as an area for low-impact recreation and gathering.
j) be retained as an important part of the vehicle-free transportation system.

The following issues are unresolved:

a) conflicts among trail users (hikers, cyclists, horseback riders).

b) issues concerning timber-product extraction.
c) unauthorized firewood cutting.
d) hunting on the Crown land.

Further information is needed on
a) the ecology of the Crown land (i.e. completion of the Cascadia Report).
b) stewardship methods for restoration of forest health.
c) the relationship between forest cover and groundwater recharge.
d) the length of Hornby's water recharge cycle.
e) the use of controlled fire to mimic natural forest cycles.
f) suitable tenure options available to the community.

RECOMMENDATIONS

The Advisory Crown lands Committee makes the following recommendations to the Islands Trust, the Local Trust committee, and other agencies, concerning the 400-hectare upland Crown parcel on Hornby Island:

1) **Community Requirement for Local Control**
Respect the Native Land Claims process.
Maximize local control through HIRRA and the Islands Trust – this is of paramount importance.
Establish a standing committee to advise the Local Trust Committee concerning the Crown land.
Explore the option of bringing the Nature Park and Crown land under unified stewardship.

2) **Parcel integrity**
Retain the provisions of Bylaw 93, which keep Crown land intact and undeveloped, prevent subdivision and the construction of permanent buildings.
Prevent the construction of any additional public roads.
Seek inclusion of MOTH gravel pit into "Groundwater Recharge Area/Sustainable Ecosystem Management Area" zone.

3) **Forest Cover**
Preserve intact forest cover, through active stewardship.
Prevent industrial logging.
Regulate other forestry operations as provided for in Bylaw 93.

4) **Ecosystem integrity**
Require a holistic approach to forest stewardship.
Minimize irreversible changes to the ecosystem.
Act to preserve wildlife and plant communities, particularly rare and endangered species.
Act to preserve riparian ecosystems; identify the Crown portion of the beaver lake in Strachan Valley as a Significant habitat area.
Act to protect remaining old-growth trees, snags and stumps.
Act to control exotic invasive species (e.g. broom, holly, ivy, opossums).

5) **Fire Hazard and Control**
Act to minimize the possibility of crowning wildfire.

Retain and/or expand water sources for fire-fighting.
Maintain gated trails for emergency access and hose-lay.
Remove ladder fuels and coarse woody debris along trails to enhance their value as firebreaks.
Consider stewardship techniques that mimic naturally-occurring fire or use controlled burns to reduce fuel load and restore natural balance in the forest.

6) **Water Issues**
Retain and expand the provisions of Bylaw 93, which recognizes the watershed/recharge function of Crown land.
Take strong measures to maintain forest cover.
Limit/control activities taking place on Crown land, in accordance with the recommendations of the Hodge Report (Hodge, 1993, Table 3).

7) **Human uses**
Encourage low-impact activities.
Prohibit recreational vehicle use.
Obtain Licence of Occupation for trails in order to legally maintain them and keep them gated.
Encourage appropriate designation of trails for specific uses (e.g. foot, bicycle, and/or horse use).
Limit erosion-causing activities and monitor erosion.
Advise public of hunting seasons; consider limiting hunting to residents of the island.
Investigate community-supervised wood extraction for local use as part of stewardship and fire-control programs.
Discourage long-term camping on Crown land ("squatting").
Encourage educational/research projects involving Crown land.

APPENDIX 1: Results of Community Questionnaire, HIFMS, June 1995.

RESULTS:

A -leased	115
B - no cutting	14
- cutting for fire protection and forest health	46
- cutting for firewood (local)	41
- commercial logging	1
- other	[17?]

APPENDIX 2: Committee Biographies

JAN BEVAN moved to Hornby Island in 1968 with her husband. Dedicated conservers, the family operates a low-consumption permaculture smallholding, open in summer as a "living museum" farm. A keen naturalist, Jan participates in bird counts and natural history walks. She has served on local committees and boards, including Trails, Archives, Advisory Planning, Park Stewardship, Forest Society, and Conservancy.

TOM KNOTT has a 25-year-long association with Hornby Island, and has lived here since 1988. An artist and woodworker, he has served on the Advisory Planning Commission and

the Executive of HIRRA. He is a founder of Conservancy Hornby Island and was last active in its defense of the Oak Grove.

LYNN NUNLEY has been a resident of the island since 1974, purchasing land communally to form a cooperative land society. Economic survival has been through crafting, ditchdigging, treeplanting, office work and yard maintenance. While volunteering in community groups (e.g. Wholesale Food group, Hornby Island Educational Society, Fire Department, A.P.C., Co-op Store Board), she has gained an understanding of the variety of views held by Hornby's people.

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