Baynes Sound Shellfish Aquaculture Action Plan

March 8, 2002

Ministry of Sustainable Resource Management
Resource Management Division
Introduction - Draft Baynes Sound Shellfish Aquaculture Action Plan

Thank you for your interest in this first draft of the Baynes Sound Shellfish Aquaculture Action Plan. The Action Plan has been developed with representatives of the provincial Ministries of Water, Land and Air Protection, Sustainable Resource Management, Agriculture, Fisheries and Food and Land and Water British Columbia (formerly B.C. Assets and Land Corp.). Fisheries and Oceans Canada provided technical information. We appreciate and acknowledge the valuable input contributed by individuals, associations, First Nations, Islands Trust and local governments.

An accompanying document, A Review of Activities and Potential Environmental Effects Associated with Shellfish Aquaculture in Baynes Sound, which was prepared by Archipelago Marine Research Ltd., is posted on the Sustainable Resource Management Website (http:\smrpdwww.env.gov.bc.ca\coastal\planning\index.htm). The Action Plan references this report for information on potential environmental risks.

This is the first draft of the Plan and is subject to input from the public and other interested parties. It is based on a terms of reference which were developed with client and community input. You are invited to read the Action Plan and provide us with your thoughts and suggestions for improvement. Please make your comments as specific as possible. The deadline for final submissions is April 12th, 2002, and we expect the final plan to be completed and approved by April 30th.

Additional opportunity for clarification and discussion of the recommendations is being provided through two public open houses. The first is planned for the Union Bay Community Hall on March 22 from 2:00-8:00 p.m. Short presentations will be given at 4:00 and 6:00 p.m. The second open house is at the Denman Island Community Hall (back room) on March 23 from 9:00-2:00. Brief presentations will take place at 11:00 and 1:00.

Comments can be sent to: Christine.Askew@gems4.gov.bc.ca or by mail to: Christine Askew, Communications, Ministry of Sustainable Resource Management, 2080 Labieux Rd. Nanaimo BC, V9T 6J9.

Baynes Sound Shellfish Aquaculture Action Plan Project Team
Executive Summary

Baynes Sound is an important area to the shellfish aquaculture industry, which has operated in the area since the turn of the last century. Area residents and many other stakeholders, including fishers, recreationalists, and commercial tourism operators also greatly value the economic, environmental and social amenities in the area. While the aquaculture industry has requested additional shellfish farming opportunities, some residents and resource users oppose expansion, stating that the existing industry is creating environmental and aesthetic problems, has reduced the quality of life in Baynes Sound, is not complying with regulations and it not sustainable in the long run.

In order to address these issues, the Ministry of Sustainable Resource Management led an interagency planning team to develop this Action Plan.

Public Consultation

The public consultation component of the plan involved two main phases and had the overall goal of being fair and transparent. The first phase involved meetings between representatives of the project team and key stakeholder groups to identify issues to be addressed in the Terms of Reference. Following this, open houses were held on Denman Island and Fanny Bay to inform the public about the process and hear their concerns. The project team also met with members of the Qualicum and Comox Bands.

Once the draft plan was completed, it was made available on the ministry’s website. Several weeks afterward, two more open houses were held in Fanny Bay and on Denman Island to solicit more public comment before the plan was completed.

Environmental Impact and Risk Assessment and Decision Analysis

An assessment of existing scientific information found that most shellfish culture activities present a low risk of impact to the environment. Not all activities and interactions are exclusive to shellfish aquaculture, and other uses in the Sound may also have impacts on the natural environment. The exceptions to this were stream channelization, beach modification, driving on the beach and the use of predator netting, all activities that could pose environmental risks in some cases. The assessment identified a lack of information on birds and their interactions with shellfish aquaculture activities as a major data gap.

The assessment indicated potential for impacts are less for off-bottom culture than beach culture.

Compliance and Enforcement

The Action Plan identifies compliance as a significant issue and includes a compliance and enforcement strategy. Growers must comply with all relevant licensing and tenure agreements as well as regulatory provisions related to environmental protection and public health.

The strategy includes a collaborative enforcement strategy, increased education and monitoring, inspection and graduated enforcement activities to ensure compliance with regulatory provisions. In addition, enforceable Standards of Operations will be developed by the province based on the voluntary Code of Practice developed by the BC Shellfish Growers Association.
Management Areas for Shellfish Aquaculture

Using an ecosystem-based approach, the Action Plan identified six "Management Areas" which provide direction to future shellfish aquaculture development in the Sound. These areas include:

1. Off Bottom Shellfish Aquaculture Opportunity Area, where expansion or new off bottom tenures should be permitted.
2. Special Management Area (Off-Bottom culture) where some expansion of off-bottom culture may be permitted if development can avoid visual impacts and user conflicts.
3. Special Management Area (Beach Culture) where a small low visual impacts intertidal area may be developed that does not use predator netting or stream channelization.
4. Restricted Expansion Area (Off Bottom and Beach culture) where conflicts are higher but some limited expansion at existing sites subject to meeting site-specific requirements may be recommended.
5. Future Analysis Areas where current conditions may prevent development but may not in the future.
6. No Additional Aquaculture Areas where significant user and environmental conflicts prevent further development.

With the exception of Management Area 3 and 4, no further beach development is recommended. The Action Plan recommends that, pending new research, that no new tenures are allocated for intertidal clam culture that require clam netting, and that further stream channelization not be permitted without approval.

Plan Implementation and Review

No new tenure allocation is recommended until a number of compliance actions are completed and an enforceable Standard of Operations is developed and approved. This will enable implementation of better operational management of the existing industry. An ongoing Community Aquaculture Advisory Group is recommended as a method to keep the public informed about shellfish aquaculture in the Sound and as a feedback mechanism for ensuring the Action Plan is implemented effectively.

The Plan will be reviewed in 5 years, or when new information from research or monitoring warrants reconsideration of Plan recommendations. Comox Harbour, which is currently closed to development due to microbial contamination, may be considered for development at some point in the future.
Table of Contents

1.0 Background and Purpose ................................................................. 6  
   1.1 Background to Action Plan  6  
   1.2 Issue and Perspectives  6  
   1.3 Purpose  8  

2.0 Description of the Study Area ..................................................... 9  
   2.1 Biophysical Environment  9  
   2.2 Economic and Social Activities  9  

3.0 The Consultation Process .............................................................. 11  
   3.1 Public Consultation  11  

4.0 Environmental Analysis ................................................................. 12  
   4.1 Approach to Assessing Environmental Impacts  12  
   4.2 Spatial Extent of Aquaculture Tenures in Baynes Sound  12  
     Map One: Plan Area and Shellfish Aquaculture Tenures  13  
   4.3 Results of the Environmental and Decision Analysis  15  

5.0 Compliance and Enforcement ......................................................... 17  
   5.1 Introduction  17  
   5.2 Current Practices and Requirements  17  
   5.3 An Action Plan for Compliance  18  
   5.4 Ensuring Responsiveness to Disputes  19  

6.0 Management Areas ......................................................................... 23  
   6.1 Analysis and Method  23  
   6.2 Management Areas and Descriptions  23  
   6.3 Shellfish Aquaculture Opportunities and Considerations  25  

7.0 Implementation of the Action Plan .................................................. 26  
   7.1 Actions and Timelines  26  
   7.2 A Community Aquaculture Advisory Group  26  
   7.3 Plan Review  26  

Appendices ........................................................................................... 27  
   Appendix A - Terms of Reference  27  
   Appendix B - Farm Practice Board Formal Conflict Process  33  
   Appendix C - Issues and Concerns  35  
   Appendix D - Management Areas Analysis and Rationale  47  
   Appendix E - Map Two - Management Areas Map  48
1.0 BACKGROUND AND PURPOSE

The following section briefly outlines the background leading to the development of the need for the Baynes Sound Shellfish Aquaculture Action Plan (BSSAAP).

1.1 Background to the Baynes Sound Shellfish Aquaculture Action Plan

Shellfish aquaculture has taken place in Baynes Sound since the early 1900’s, when the Pacific Oyster (native to Japan, Korea and China) was first introduced to Fanny Bay. Since that time, both wild and farm harvesting of the Manila clam and the Pacific oyster in Baynes Sound have become an integral part of the local economy.

In November 1998, the province announced the Shellfish Development Initiative (SDI). Under this initiative, government would work with communities and the industry to discuss where new shellfish development could occur. The SDI was also intended to set regional targets for new tenures and to allow existing tenure holders to apply for expansion.

The Comox Valley Shellfish Steering Committee (CVSSC) was established under the Shellfish Development Initiative to identify opportunities for new shellfish tenures. The CVSSC included the participation of Land and Water BC (formerly the BC Assets and Land Corporation or BCAL), Ministry of Agriculture Food and Fisheries, First Nations, Comox Strathcona Regional District, Island Trust and local stakeholders. From March to August 2000, the CVSSC met monthly to identify opportunities for new shellfish farms. Due to lack of consensus on identifying suitable areas for new shellfish farm tenures, the CVSSC was disbanded.

In Baynes Sound, 34 applications covering 147 hectares were submitted. As of April 2001, Land and Water BC (LWBC) had conditionally approved 33 of these expansions covering 141 hectares. The conditions on these expansions required applicants to receive approvals from local and federal governments. As of November 2001, 14 of the 33 applications, covering 78 hectares, had received all the approvals required to expand their tenures. Sixty of the 78 hectares were intertidal and 18 hectares were deepwater.

Although some expansions were approved and tenures issued on the west side of Baynes Sound, no tenures have recently been issued on the east side of the Sound because of zoning. Although zoning in that area had at one time supported shellfish aquaculture, in 1997 the Islands Trust responded to the concerns of Denman Island residents by changing the zoning from Aquaculture to Conservation.

Due to increasing concerns about the industry from residents and other resource users, as well as frustration from the shellfish industry that opportunities for expansion were not being made available, the Baynes Sound Shellfish Aquaculture Action Plan was initiated by the Ministry of Sustainable Resource Management (MSRM) in November 2001.

Land and Water BC, the agency of the province responsible for administering Crown Lands, agreed not to accept further applications for shellfish aquaculture pending the results of the Action Plan.

1.2 Issues and Perspectives to be Resolved

Non-aquaculture resource users generally do not object to shellfish aquaculture, but feel that, in Baynes Sound, the industry may be approaching its environmental and social carrying capacity and may, in fact, have exceeded it. Many people feel that intertidal oyster and clam culture have occupied the majority of the beaches, alienating a public resource from water sports and recreational shellfish harvesting. Some also expressed the view that clam culture has an impact on shorebirds because predator netting (called “car cover”) removes intertidal food sources from bird diets and that it alters the intertidal ecosystem.
Upland residents, particularly those in the Deep Bay, Ships Point and Denman Island areas state that the industry has been escalating its use of aesthetically obtrusive technology for off-bottom culture. They feel this is causing visual and sound impacts as well as littering beaches with materials that float onshore from rafts and long lines. Additionally, some people feel that impacts are created when aquaculture operators drive along the beach to service tenures.

Some landowners feel that visual impacts from shellfish culture have reduced their property values and will continue to do so if the industry is allowed to expand. Many people concerned about the industry feel that regardless of the historical use of the area by the industry, recent developments have reduced the quality of life in the Sound. Some residents of Denman Island hold the view that the majority of the shellfish growers in Baynes Sound live on Vancouver Island and are therefore not part of their community.

Recreationalists and commercial tourism operators see offshore culture as interfering with water activities such as kayaking, ecotourism and recreational fishing as well as negatively affecting the environmental values those groups depend on. Tourism groups have indicated that the Sound is a high day use area and that Henry Bay is an essential area for anchoring in adverse weather. These groups find shellfish culture visually obtrusive and that off-bottom shellfish culture technology gets in the way of marine travel routes.

Commercial underwater harvesters have expressed concern that areas important for geoduck harvesting could be alienated from their use due to shellfish culture expansion.

The Sound has historically been a very important area for herring spawning, although it is not possible to predict exactly where herring will spawn within the Sound from one year to the next. While all areas are considered to have good spawning potential, some areas are more important than others are. There are concerns that expanded beach culture and off-bottom culture will interfere with the gill-net and seine herring fishery and ability of the herring to spawn.

The shellfish aquaculture industry has indicated that it has a 60-year history of farming in Baynes Sound. It has stated that the Sound is an important and unique area for shellfish aquaculture due to good growing conditions and the nearby infrastructure. This makes the area particularly productive and economically viable. For all these reasons the industry feels modest additional expansion should be permitted.

Shellfish growers see themselves as environmentally sustainable and have put a great deal of effort into developing a voluntary Code of Practice and Environmental Management System. It recognizes that there are some operational, compliance and environmental management issues that have to be addressed, but believes that it is possible for the industry to expand and coexist harmoniously with other resource users and the environment.

There is a prevalent view within the industry that there are many environmental benefits from shellfish culture. Some of these may include: increased food biomass for foraging wildlife under floating operations, additional seed washed onto the higher beach areas above tenures that forms food for birds, and a strong advocacy to ensure that the marine environment is uncontaminated by sewage and agricultural runoff.
1.3 Purpose

As noted above, uncertainty exists in Baynes Sound regarding opportunities for expansion of current tenures and opportunities for new shellfish farmers to secure tenures. The province hopes to balance social and environmental issues and the needs of other resource users with the provision of economic opportunities for coastal communities.

The purpose of the Action Plan, through a transparent and science-based approach, is to:

- Address concerns of upland residents, fishery resource users and the aquaculture industry by documenting problem areas and developing workable industry management tools to apply where required;
- Identify whether or not any additional areas are suitable for further shellfish aquaculture development; and,
- Ensure that, if any shellfish aquaculture expansion does take place, it does so in an environmentally sustainable fashion.

The study area for the Action Plan includes all near-shore waters, shoreline and inter-tidal areas within Baynes Sound including Comox Harbour to the high tide mark. See Appendix A for complete Terms of Reference.
2.0 DESCRIPTION OF THE STUDY AREA

2.1 Biophysical Environment

Baynes Sound is located between Vancouver Island and Denman Island just south of Courtenay and north of Parksville. The study area includes the large Comox Bay Estuary and the embayments near Mapleguard Point as well as the west shoreline of Denman Island.

Baynes Sound comprises approximately 9,000 hectares of shoreline and aquatic areas with a variety of geophysical characteristics. The Sound consists of a shallow coastal channel fringed by protected bays, open foreshore, intertidal mud and sand flats, low grade deltas, tidal estuaries, inshore marshes and rocky shorelines. Comox Harbour is one of the largest low-gradient deltas on the east coast of Vancouver Island.

Baynes Sound supports a variety of plant life and provides biologically diverse habitats for bird and marine species. These rich, productive habitats are a result of the combination of sheltered water, low gradient tidal areas, fine substrates and nutrient-rich freshwater input. Several of these areas have been incorporated into Wildlife Management Areas and reserves.

Baynes Sound supports various native and exotic intertidal bivalves including: Pacific oysters, Olympia oysters, foolish mussels, varnish clams, Manila clams, little neck clams, butter clams, geoducks, horse clams, basket cockles, soft-shell clams, Baltic macomas, bentnose macomas, and pointed macomas.

Baynes Sound is a critical staging, breeding and wintering area for migratory birds and considered to be the most important area of waterfowl habitat in British Columbia after the Fraser River estuary. Over the course of the year, more than 176 bird species use the area. Of these, 20 species are on the British Columbia Conservation Data Centre list as being species of concern, while 4 are considered threatened.

Globally significant populations of nine species of birds including trumpeter swans, great blue herons and Pacific loons use the area. The Canadian Wildlife Service ranks the area as a critical bird area. The Sound is an important part of a large system of wildlife corridors, linkages and migratory paths in the ecological region of Vancouver Island’s East Coast and the Gulf Islands.

Numerous salmon-bearing streams enter the waters of Baynes Sound. These streams provide spawning and rearing habitat for coho, chum, chinook, pink, sockeye, coastal cutthroat and steelhead salmon in addition to other fish species. Estuaries provide important habitat for the early life stages of some salmonid species. The Sound is also one of the most productive Pacific herring spawn areas on the BC coast.

2.2 Economic and Social Activities

Baynes Sound is one of the most important areas for shellfish aquaculture production in B.C. The area produces approximately 50% of the province’s cultured shellfish. The major commercial bivalves are oysters and manila clams. The industry in Baynes Sound is currently developing a geoduck clam culture that has significant potential. The aquaculture industry generates $6 million in produce per year and it is estimated that over two hundred full-time individuals are employed in the Baynes Sound area.

The roe herring fishery in this area is extremely important to the fishing industry with 2001 catches amounting to approximately 8,400 metric tonnes for the seine fleet and 400-1000 tons for the gillnet fishery, for a total landed catch of 15-25 million dollars. Baynes Sound accounts for 100% of the seine fleet and a significant portion of the gillnet fleet on the British Columbia coast. Geoduck, sea urchin, prawn and commercial clam fisheries are also active in the Sound.
Baynes Sound is an important destination for many recreationists visiting the Comox Valley. Tourists and local residents alike use the recreation sites. Popular activities such as boating, beach combing, sport fishing, kayaking, and marine wildlife viewing are dependent on access to the foreshore and adjacent waters. Tourism related businesses such as bed and breakfasts, water and land tours and gift shops cater to the influx of tourists and are a major economic contributor to the local economy.

Baynes Sound is an important transportation corridor for commercial fishing vessels and pleasure craft, as well as the ferries travelling between Vancouver and Denman Island.

Upland areas around the Sound are utilized for agricultural, forestry, settlement and other commercial and recreational purposes.
3.0 THE CONSULTATION PROCESS

3.1 Public Consultation

The Baynes Sound Shellfish Aquaculture Action Plan process provided opportunities for local governments, First Nations, stakeholder groups and the public to provide comments, advice and recommendations on the future of aquaculture.

The consultation process was started with public meetings in Fanny Bay and on Denman Island in November 2001. The purpose of these meetings was to review the Terms of Reference for the Action Plan and to receive input on key issues from the local residents.

During the public meetings, participants were provided an opportunity to meet with the project team and review the preliminary maps of Baynes Sound. Feedback questionnaires and maps were provided for attendees. In total approximately 300 people attended the meetings and approximately 65 questionnaires were returned. Feedback from these questionnaires was compiled into an "issues tracking" document that attempted to provide answers to how the Action Plan would address concerns and questions posed by the public. A number of groups have submitted comments, letters and other documents outlining their interests and concerns. The complete list of issues and responses can be found in Appendix B.

In March, the Draft Plan was completed and placed on the internet for public comment. Open Houses were held later that month for stakeholders and the public to comment on the plan and provide advice and feedback to the project team.

See Appendix A for complete Terms of Reference and description of the project workplan and stakeholder groups consulted.
4.0 ENVIRONMENTAL ANALYSIS

4.1 Approach to Assessing Environmental Impacts

During consultations with local community members it became clear that many people felt that the shellfish aquaculture industry was having an impact on the environment of Baynes Sound. Several reports on interaction between shellfish aquaculture operations and the environment in Baynes Sound had been completed prior to initiation of the Action Plan. They included:

1. A Review of the Impacts of Shellfish Aquaculture Lease Operations on Marine and Shorebird Species in Baynes Sound, British Columbia by Axys Environmental Consulting in 2000; and,
2. Phase 0 - Review of Environmental Impacts of Intertidal Shellfish Aquaculture in Baynes Sound by the Pacific Science Assessment and Review Committee (PSARC) in 2001

In 2001, the Ministry of Agriculture Food and Fisheries conducted a literature review of the environmental effects of shellfish aquaculture.

Notwithstanding this information, opinions differ regarding the level of environmental risk associated with shellfish aquaculture. Some stakeholders feel there is sufficient environmental information to make decisions while others believe that extensive ecosystem studies are necessary before decisions can be made.

In order to recognize existing work and approach the environmental issues in an objective and scientific manner, the MSRM contracted Archipelago Marine Research Ltd. to:

1. Review the above three reports;
2. Provide an unbiased summary of their contents in terms of potential effects;
3. Prepare a risk assessment of both intertidal and off-bottom culture for Baynes Sound;
4. Identify information gaps;
5. Recommend areas where additional information is required; and,
6. Develop a decision analysis framework to indicate the kinds of decisions that could be made given the available information.

The Archipelago Marine Research report resulting from this contract is presented as a technical appendix to this plan and can be found on the MSRM website.

4.2 Spatial Extent of Aquaculture Tenures in Baynes Sound

Another source of contention discussed during the plan was the actual amount of shellfish aquaculture tenures that exist in Baynes Sound. A spatial analysis of these tenures is included in the following table. The map on the following page shows the overall planning area, shellfish aquaculture tenures and the areas upon which the spatial analysis is based.
Table One: Approximate areas and percentages of water and beach occupied by shellfish aquaculture tenures (as of April 2001)

<table>
<thead>
<tr>
<th>Location of aquatic lands and tenure (broken down by tenure type)</th>
<th>Area in hectares (ha) of aquatic lands and tenures</th>
<th>Percentage (%) of aquatic land under tenure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baynes Sound: Total Area of intertidal beach (ha)</td>
<td>1650</td>
<td>28.6</td>
</tr>
<tr>
<td>Area of beach under beach culture tenures (ha)</td>
<td>473</td>
<td></td>
</tr>
<tr>
<td>Baynes Sound: Total Area of water (ha)</td>
<td>3987</td>
<td>1.5(^1)</td>
</tr>
<tr>
<td>Area covered by off-bottom culture tenures (ha)</td>
<td>61</td>
<td></td>
</tr>
<tr>
<td>Baynes Sound: Total Area of water and intertidal beach (ha)</td>
<td>5637</td>
<td>9.4</td>
</tr>
<tr>
<td>Area covered by beach and off-bottom tenures (ha)</td>
<td>534</td>
<td></td>
</tr>
<tr>
<td>Open water: North of Baynes Sound (ha)</td>
<td>1839</td>
<td>&lt;0.2%</td>
</tr>
<tr>
<td>Area covered by off-bottom tenure</td>
<td>1.9</td>
<td></td>
</tr>
<tr>
<td>Comox Harbour: Total area of intertidal beach (ha)</td>
<td>565</td>
<td>3.4%</td>
</tr>
<tr>
<td>Area covered by beach culture tenures (ha)</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Comox Harbour: Total area of water (ha)</td>
<td>300</td>
<td>0</td>
</tr>
<tr>
<td>No off-bottom tenures</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Table One (from Archipelago Marine Research report) shows that, of the 1,650 hectares of intertidal beach area in Baynes Sound, 473 hectares are under tenure, representing about 29% of the total beach area in Baynes Sound.\(^2\) Of the 3,987 total hectares of water area in Baynes Sound, only 61 hectares were allocated to tenure, representing less that 2% of the area of the Sound. Less than 4% of the intertidal area of Comox Harbour is under tenure.\(^3\)

Analysis of air-photos taken in June 2001 indicated that approximately 76 ha, or predator netting covers about 5% of the total intertidal area of Baynes Sound. This same analysis indicates that predator netting may cover approximately 0.05% of all eelgrass beds in Baynes Sound. This will require field verification.

\(^2\)This 1.5% represents the whole water area of Baynes Sound, of which some areas would not be suitable for off-bottom shellfish aquaculture. The figure would be higher if only suitable areas were factored.

\(^3\)It should be recognized that each beach is different, and varies in composition, productivity, value to wildlife and suitability to aquaculture. See the Archipelago Marine Research report for more details.

\(^4\)For comparison purposes, there are 67 non-aquaculture related foreshore tenures totalling 210 hectares, 92 hectares of intertidal wildlife reserves, and 134 hectares of subtidal shellfish reserves in Baynes Sound.
4.3 Results of the Environmental and Decision Analyses

A number of impacts can potentially occur from both beach and off-bottom culture activities. Based on a rating of potential impacts in terms of severity, duration and extent, shellfish culture activities, with a few exceptions, generally present a low risk to the environment.

There are uncertainties associated with risk of impact on shorebird habitat and this factor was weighted quite heavily in the determination of Management Emphasis Areas described in section 6.0 of this plan. The risk of environmental impact is less for off-bottom culture than beach culture. As a result, most of the management considerations concerning off-bottom culture opportunities relate to resource use conflicts.

A number of conclusions and recommendations related to environmental impacts can be derived from the preceding information (for a full description, see the Archipelago Marine Research report):

1. Clam Beach Culture:
   - Baynes Sound is a particularly important area for bird use;
   - The primary concern around beach culture relates to the risk of predator netting impacts on shorebird habitat;
   - Medium severity but considerable uncertainty exists around what level of risk can be assigned to predator netting impacts due to data gaps in related ecosystem studies;
   - Predator netting probably represents a low risk to heron foraging in the Sound; and,
   - The plan should consider avoiding allocating additional intertidal tenures requiring the use of predator netting until the above mentioned ecosystem studies can reduce the uncertainty associated with the impact of predator netting on birds.

2. Oyster beach culture:
   - Oyster beach culture presents a low risk of impact on intertidal habitat, but that risk is not zero;
   - A relatively high percentage (over 28%) of Baynes Sound intertidal area is tenured for beach culture, most of which is for oyster culture.

3. Stream channelization:
   - Stream channelization is likely to have a high severity and medium duration impact on streams and fish habitat;
   - This represents a high risk of impact; and,
   - There should be no further channelization of streams.

4. Beach modification:
   - Habitat modification during beach culture has a potential to both positively and negatively impact shore spawning species such as sand lance and smelt through habitat creation and disruption, respectively;
   - There is uncertainty regarding severity and duration, which may or may not be high, but has a potential for significant impacts;
   - There is a data gap in terms of where and when these species spawn on the beach; and,
   - A survey of spawning location and timing would be relatively inexpensive and provide a valuable clarification on relative risk as well as time windows for beach modification if the risk is unacceptable.
5. Driving on the beach:
   - This activity has the potential to modify habitat;
   - The level of risk may be high or low depending on site-specific location habitat characteristics and history;
   - An evaluation to determine site-specific impacts will be made of each circumstance regarding vehicle access; and,
   - Mitigation may be required, where necessary and appropriate.

6. Decision Analysis:
   - Conflict and environmental management issues associated with resource development requires a combination of both scientific and non-scientific information.
   - All resource development issues carry some level of risk and decision making needs to take account of the level of risk and ways to avoid or reduce it where unacceptable;
   - Decisions should be innovative and adaptive in order to address complex issues in a fair manner; and,
   - Resource allocation decision making should demonstrate its effectiveness through monitoring and feedback mechanisms to garner public trust and willingness to accept change. Monitoring is also a significant component of the adaptive management approach.
5.0 COMPLIANCE AND ENFORCEMENT

5.1 Introduction

Discussions during the consultation process indicated that regulation of the shellfish industry in Baynes Sound was a significant concern. As noted in section 1.2, residents in the area noted specific issues with noise pollution, industrial debris, driving on beaches and lack of washroom facilities for the workers. The general belief appears to be that the industry is not sufficiently regulated by government and existing regulations are not being enforced. The consultation process also revealed that individuals were uncertain as to the process for registering their concerns regarding shellfish culture operations.

This section begins by providing a brief overview of the current compliance and enforcement regime that applies to shellfish aquaculture farming practices. The section then moves on to identify a new compliance and enforcement plan for Baynes Sound which will address the concerns identified during the consultation process.

5.2 Current Practices and Requirements

Shellfish aquaculture farmers currently are required to comply with a number of government regulations and information needs. In addition, many follow a voluntary Code of Practice developed by the British Columbia Shellfish Growers Association (BCSGA). Some of these current rules include:

5.2.1 Management Plans and Aquaculture Licenses

All shellfish aquaculturists must have an approved shellfish Management Plan prior to receiving tenure for shellfish culture. The applicant must include the following in their Management Plan:

a) Description of the Site. This is a legal description of the boundaries of the tenure;

b) Schedule of Development. This covers the approved culture species, grow-out systems, list of structures and facilities such as floats and markers; and a five year plan for achieving full production;

c) Operational Facilities and Layout. Includes a Canadian Hydrographic Services marine chart identifying other users in the area; a top viewed map that illustrates the operations; and a detailed illustration of all ropes, cables, anchors, anchor lines, grow-out units, and rafts; and,

There are a number of general terms and conditions specified in the aquaculture licence and additional terms and conditions may be attached to individual aquaculture licences.

The Management Plan forms the specific conditions of the Aquaculture Licence. If the Management Plan is not adhered to, possible consequences can include fines or the loss of the Aquaculture Licence and/or tenure.

5.2.2 Legislative and Regulatory Provisions

All shellfish operators must comply with the legislative and regulatory framework associated with shellfish aquaculture activities, including all appropriate governing statutes and regulations. There are over thirty-five provincial and federal statues and regulations that apply to shellfish farmers.

The onus is on the shellfish farmer to adhere to these regulations. Compliance and enforcement is maintained through:

- Voluntary adoption of the BCSGA Code of Practice;
• On-site inspections by MAFF Inspection staff; and,
• Concerns registered with agencies such as MAFF and the Farm Practices Board.

Section 5.3 identifies how each of these enforcement/compliance mechanisms will be enhanced.

5.2.3 BCSGA Voluntary Code of Practice

The BCSGA has developed and published a Code of Practice (COP) which is part of their Environmental Management System. Full details can be found by contacting the BCSGA. The COP addresses the following issues.

• Waste Management
• Public education
• Access Private Property and Riparian Rights
• Noise Abatement
• Use of Artificial Lights
• Odour Control
• Chemical, Fuels and Lubricant Handling and Storage
• Site Density and Carrying Capacity
• Minimising Interaction with Wildlife, Including Predator Control
• Controls on Transplant and Import of Stocks
• Biofouling Control
• Tenure Modification
• Vehicle Operation
• Vessels and Marine Equipment
• Visual Quality
• Navigational Safety
• Harvesting Seed collection, Setting and Nursery Operations
• Equipment and Construction Standards

It is anticipated that these issues, which form the basis of the voluntary BCSGA Code of Practice, will be incorporated into enforceable Provincial Standards of Operation with a completion target of late in 2002.

5.3 An Action Plan for Compliance

5.3.1 Compliance with Management Plans and Aquaculture Licenses

In recognition of the concerns expressed through the consultation process, the following actions will be taken to ensure compliance with Management Plans and Licenses:

a) Review of Aerial Photographs

Part of the compliance strategy for Baynes Sound involves the collection of aerial photography taken during a period of extreme low tides in June 2001. These photographs were transformed into digital images for use in a Geographic Information System and provide an aerial view of the entire coastline. This provides a preliminary assessment of types of structures on tenures and may indicate any trespass or habitat alteration issues.

These images will be compared with Management Plans to ensure that only authorized species and structures (such as clam netting, rafts or longlines) are in place. Apparent license violations will be investigated, and where appropriate, sanctions will be applied.

b) Review of Historic Data

Historic information may already exist within individual files that indicates non-compliance issues. These will be reviewed with information gathered from the aerial and field surveys to determine if unauthorized changes have been made.
c) Detailed Site Inspection for Baynes Sound

Beginning with the first appropriate daylight low tides in April 2002, MAFF Fisheries Inspectors, staff from Land and Water British Columbia (LWBC), Ministry of Water, Land and Air Protection (MWLAP) and Fisheries and Oceans Canada (FOC) will conduct detailed site inspections on all shellfish tenures within Baynes Sound. During these inspection trips, inspectors will compare field observations with approved Management Plans and all appropriate legislation and regulations. A detailed report will be prepared to identify the level of compliance with Management Plans and Aquaculture Licences. The appropriate compliance or enforcement action will be taken either on-site or via necessary follow-up.

5.3.2 Compliance with Legislative and Regulatory Provisions

A number of specific issues have been raised by the public regarding farming practices in Baynes Sound. Existing legislation and regulations address the majority of these issues and many are addressed with the BCSGA Codes of Practice. Compliance with these existing regulations and codes is key to resolving a number of issues that have been raised by the public.

Certain issues, such as debris from lost or damaged culture equipment may require specific enforceable actions and will be considered in the development of Provincial Standards of Operation.

5.3.3 Compliance with BCSGA Codes of Practice

As noted above, the BCSGA has developed a Code of Practice (COP) that is part of their Environmental Management System. A key objective of the compliance strategy for Baynes Sound will be to measure how well the industry is adhering to its own Code of Practice. A checklist based on the Code has been developed and this will be completed during the on-site inspection.

The assessment will be compiled for all the tenures in Baynes Sound and the results will be forwarded to the BCSGA and will also be available to the public. A copy of the checklist will also be forwarded to the tenure holder. These results will assist both government and growers to gauge the level of compliance and focus on outstanding issues.

5.3.4 A New Provincial Standard of Operation

The BCSGA’s Code of Practice is a starting point for the province to develop enforceable Provincial Standards of Operation. It is anticipated this will be developed over the summer and fall of 2002.

Using the information gathered from the site inspections and input to the Baynes Sound Action Plan, a team of industry and government representatives will draft appropriate enforceable Standards of Operation. The team may also make recommendations regarding any additions to the voluntary Codes of Practice.

The new provincial Standards of Operation will be useful in ensuring that government(s), the public and aquaculture operators all have a clear understanding of what are acceptable operational practices within the shellfish tenure.
5.4 Responsiveness to Disputes

The consultation process identified a number of concerns with the process of dispute resolution. One of the main benefits of the Baynes Sound Shellfish Aquaculture Action Plan is the proactive identification of potential social and environmental conflicts. The open process has allowed the public to discuss their concerns and be involved in the decision-making process. However, the ongoing operations of shellfish growers may still generate legitimate concerns from residents and those with an interest in the long-term sustainability and operations of the industry. In an effort to address these concerns, an open and easy to understand dispute resolution process has been included as part of the BSSAAP.

5.4.1 Aquaculture and the Farm Practices Board

The main body that is responsible for overseeing the dispute resolution process around shellfish aquaculture is the Farm Practices Board. The Board was established by the *Farm Practices Protection (Right to Farm) Act* in 1996, and is responsible for providing a fair and equitable process for resolving farm practices disputes out of court. The *Farm Practices Protection (Right to Farm) Act* prohibits nuisance lawsuits from being brought against operators in normal farm practices while providing a non-litigious process for resolving conflicts between farm operators and their neighbours.

The Farm Practices Board consists of up to 20 members who represent both farming and non-farming interests across the province. The Board is also responsible for making recommendations and resolving disputes as to whether aquaculture operations are using normal practices.  

It should be recognized that the Farm Practices Board only deals with disputes over "normal" farm practice, not land-use or allocation issues. Land-use and allocation issues are addressed by Land and Water BC.

5.4.2 Dispute Resolution Options (see flow chart below)

Option 1.

A person with a concern about noise, aesthetics, or other disturbances arising from a specific aquaculture venture should initially contact the operator to discuss the concerns. In many cases, the operator may be able to explain the nature of the operation and/or resolve the concern at this local level.

Option 2.

If the person has talked to the aquaculture operator and has not been able to resolve their concern, OR, if the person would rather not talk to the operator, the person can use an informal "concerns" process by contacting the MAFF office. The contact number is located below.

MAFF staff will endeavour to develop a timely and reasonable resolution to a concern. Often peer advisors - aquaculture operators familiar with the farm practices in question - play an important role in such a resolution.

---

4 The fundamental policy of the *Farm Practices Protection (Right to Farm) Act* is that farmers have a right to farm in BC’s important farming areas, provided they use normal farm practices and follow other legislation listed in the Act. The FPPA applies to all commercial aquaculture operations in the Province. Under the FPPA “Normal Farm Practices” are those conducted by a farm business in a manner consistent with proper and accepted customs and standards as established and followed by similar farm business under similar circumstances.
Option 3.

If the concerned party does not wish to approach the aquaculture operator or use the informal MAFF process, the person can file a formal complaint directly with the Farm Practices Board. The full process is outlined in Appendix C.

The Farm Practices Board will undertake an initial investigation by contacting all the interested parties and give the complainant the opportunity to be heard. The FPB then has a number of options:

a. The FPB can "refuse" the complaint if they consider it trivial, frivolous, vexatious or not made in good faith.

b. The FPB can, if it is acceptable to all the parties, adjourn the matter to the informal MAFF "concerns" process.

c. The FPB can use a formal "settlement" process that may include MAFF, peer advisors and/or a mediator. This FPB oversees this process.

d. The FPB can convene a hearing. The hearing panel must either dismiss the complaint or order the farmer to cease or modify the practice in question. The panel may also refuse the complaint for the same reasons as in "a" above. FPB decisions can be appealed to the Supreme Court on an issue of law or jurisdiction.

Contacts for Ministry of Agriculture, Fisheries and Food and the Farm Practices Board:

Farm Practices Board  
3rd floor, 1007 Fort St.  
PO Box 9129 STN PROV GOVT  
Victoria, V8W 9B5

Ministry of Agriculture, Food and Fisheries  
Aquaculture Licensing and Compliance Branch  
2500 Cliffe Avenue  
Courtenay, BC, V9N 5M6  
250-897-7540
Dispute Resolution Process

1. Direct Discussions
   - Aquaculture Operator
   - Discussions with individual and operator

2. MAFF Office Courtenay
   - File direct with Farm Practices Board
   - At any time parties may use informal MAFF process

3. Farm Practices Board and Staff
   - Formal Settlement Process (MAFF, peers, and/or mediators)

   - Hearing Panel
     - Issue Refused
     - Farmer Ordered to Change Practices
     - Issue Dismissed

   - Issue can be appealed to Supreme Court if parties not satisfied
6.0 MANAGEMENT AREAS

6.1 Analysis and Method

A significant component of this planning process has been to determine if, given competing resource interests and environmental values, there are areas within the Sound with opportunities for future shellfish aquaculture development.

To accomplish this the project team mapped various commercial and recreational uses in the Sound, such as commercial fisheries (e.g. geoduck, herring, sea urchins, prawns) and sea kayaking. Existing shellfish aquaculture tenures were also mapped, as were outstanding shellfish applications and areas of future interest.

Various maps of natural values were also generated, including eelgrass beds, clam beds, salmon streams, kelp beds, red and blue listed species, and areas used by waterfowl and migratory birds.

Once all the uses and resources were mapped and the issues raised by area residents and stakeholders documented and considered, the project team undertook a spatial analysis to identify potential conflicts between shellfish aquaculture and other coastal resource uses in the Sound. Based on this spatial analysis, six "Management Areas" were identified to guide potential aquaculture development. They are explained below.

6.2 Management Areas and Descriptions

The purpose of this plan is to determine, at a broad scale, which, if any areas are suitable for shellfish culture. The "Management Area" system was developed to direct future shellfish aquaculture development and provide recommendations for operational conditions of new shellfish tenures. Appendix D has the rationale for how these areas were developed, and Appendix E has a map of the Management Areas.

6.2.1 Off Bottom Shellfish Aquaculture Opportunity Area

This area is located along the lower, west side of Denman Island north of, but not including Metcalf Bay. Given the values and concerns in the area, the following management direction should be considered for aquaculture in the area:

a. New off-bottom culture should be permitted, based on low visual impact and reduced number of conflicts.

b. No new or expansion of beach culture. The rationale for this is because of potential conflicts with natural values and other resource uses and the existing intensive beach culture use.

c. Operator should adhere to the BCSGA Code of Practice until the province completes the provincial Standards of Operation.

d. Use of sound abatement technology.

e. Subject to prescriptive advice from referral agencies

f. No stream channelization

6.2.2 Special Management Area (Off-Bottom Culture)

This area is located along the upper west side of Denman Island around Denman Point. Given the values and concerns in the area, the following management direction should be considered for aquaculture in the area:

a. Expansion or new off-bottom culture tenures limited to:

   i. Operations with minimal above water surface structures except for coast guard markers
ii. Operations using equipment that is unobtrusive in terms of sound generation

iii. Mitigation of impacts on herring fishery.

iv. Daytime operations only.

b. No new tenures or expansion of beach culture tenures. The rationale is based on potential conflicts with natural values and other resource uses and the existing levels of intensive beach culture use.

### 6.2.3 Special Management Area (Beach Culture)

This area is located around Base Flat on the east side of Vancouver Island. Given the values and concerns in the area, the following management direction should be considered for aquaculture in the area:

a. Limited opportunity for new tenures or expansion of existing tenures (3.0 foot tide height) and above.

b. No use of clam netting on the new or expanded tenures (3.0 foot tide height) and above pending the results of the scientific studies.

c. Recommended lower intertidal culture (below +3.0) tide height due to decreased potential for shorebird impacts because of less frequent exposure of beach. No additional off-bottom tenures due to conflicts, visual impacts and herring fishery

d. No channelization of streams

### 6.2.4 Restricted Expansion Area (Off-Bottom and Beach Culture)

This area is located along the east side of Vancouver Island, between Base Flats and Comox Harbour. Given the values and concerns in the area, the following management direction should be considered for aquaculture in the area:

a. Expansion limited to areas contiguous with existing beach and off-bottom tenures at existing sites only. The rationale is based on potential conflicts with natural values and other resource uses and the existing intensive beach culture use.

b. Expansion applications should only be considered based on the results of detailed site-specific analysis of conflicts and ways to mitigate them.

c. No clam culture or use of predator netting on intertidal expansion areas, where areas are important for bird use, pending the results of scientific studies.

d. No stream channelization

### 6.2.5 Future Analysis Areas

These areas are located along in Comox Harbour and on Union Point on the east side of Vancouver Island. Given the values and concerns in the area, the following management direction should be considered for aquaculture in the area:

a. Given the environmental and social concerns and constraints of these two areas, aquaculture is not considered at this point in time. It may be re-evaluated at a point in the future.

### 6.2.6 No Additional Aquaculture Areas

There are four areas in which further aquaculture will not be considered. There are on the very south end of Denman Island, midway up the west side of Denman Island, and the area from Fanny Bay, Ship's Point and Mud Bay on Vancouver Island.

a. No new tenures or expansion of existing beach or off-bottom tenures, due to existing intensive beach culture use of the area, potential herring fishery and other conflicts,
visual impacts, anchorages, potential, but uncertain impacts on shore bird habitat, and
use of the area for recreational or conservation purposes.

Note: None of these designations preclude the need for site-specific application review through
the Land and Water BC referral process (e.g. addressing Fisheries and Oceans Canada site
specific concerns) or the need to address local government (e.g. Islands Trust) zoning issues
where this zoning may preclude development.

6.4 Shellfish Aquaculture Opportunities and Considerations in Baynes Sound

6.4.1 Beach Culture Opportunities and Considerations

Given the level of environmental uncertainty associated with the potential impacts of clam
netting on birds, and the fact that clam beach netting already occupies almost 5% of the intertidal
area of Baynes Sound, this plan has been extremely conservative with the expansion of further
intertidal areas for shellfish beach culture.

There are two small opportunity areas for beach culture. One is located on west side of the
Sound and has been designated a "Special Management Area - Beach Culture." (Management
Area 3). The other area is the "Restricted Expansion" (Management Area 4) along the shore of
Vancouver Island.

6.4.2 Off-Bottom Culture Opportunities and Considerations

The risk of environmental impact from off-bottom culture is considered to be low, but many of
the areas under application or of interest to the shellfish industry are subject to considerable
resource use conflict. An exception to this is Management Emphasis Area 1, where conflicts are
considered minimal.

All areas in Baynes Sound have the potential for herring fishery impacts, however the changing
spatial location of herring spawn areas make planning around this fishery a real challenge. The
plan seeks to recognize the importance of the herring fishery by offering aquaculture
development opportunities in areas of low conflict.
7.0 IMPLEMENTATION OF THE ACTION PLAN

7.1 Actions and Timelines

In order to ensure the spirit and intent of this plan is implemented, a number of short term actions need to be taken before new shellfish aquaculture tenures are issued in Baynes Sound. The plan recommends that Land and Water BC not issue new tenures fronting Vancouver Island until these actions are completed. They may include, but are not limited to:

1. Review of aerial photographs to screen for possible tenure infractions;
2. Reviewing historic data and files to scope non-compliance issues;
3. Site inspections of all aquaculture tenures in Baynes Sound;
4. Development and approval of an enforceable Standards of Operations for shellfish aquaculture; and,

The Plan recommends that Land and Water BC not issue new tenures fronting Denman Island until the following is complete:

4. Resolve zoning issues between Islands Trust and the Province on the west side of Denman Island.

In addition to these short term actions, a number of medium to long term actions are required to resolve conflicts and develop greater sustainability. They may include, but are not limited to:

1. Developing enforceable Provincial Standards of Operation based on the BCSGA Code of Practice;
2. Developing a role for the community in monitoring and informing themselves on the on-going operations of shellfish growers in Baynes Sound; and,
3. Facilitate and support scientific research and studies to increase knowledge about the interactions between shellfish aquaculture and the marine environment, particularly focusing on waterfowl and birds.

7.2 Community Aquaculture Advisory Group

One source of community conflict is often a lack of current and accurate information. Another is the absence of a useful and timely forum for discussion and feedback. Both these issues can be addressed through the creation of a community-based "Aquaculture Advisory Group." This Action Plan proposes that a Community Aquaculture Advisory Group may be a useful tool for enhancing communication in Baynes Sound.

It is proposed that everyone who has been involved in the Action Plan will be placed on a mailing list, maintained by the Courtney MAFF office. The Community Aquaculture Advisory Group would be invited to meet once a year. At the meeting, operators could discuss changes to operations over the year; government staff will present new information, studies, and the results of on-going monitoring. A field trip may also be scheduled. The mailing list may be used for mail-outs of new information or results of deliverables set out in the action plan. It is anticipated the first meeting may be held in the spring of 2003.

7.3 Plan Review

This plan will be reviewed in five years time. Recommendations may be subject to revision based on the results of ecosystem studies or ongoing monitoring. Comox Harbour, which is currently closed to development due to microbial contamination, may be considered for development at some point in the future.
Appendix A - Baynes Sound Terms of Reference

Terms of Reference for Development of the Baynes Sound Shellfish Aquaculture Action Plan

Rationale:
Background/Issues:
Historically, the shellfish aquaculture industry has used Baynes Sound (Figure 1) for shellfish aquaculture and considers the area to have additional culture potential. The industry believes that shellfish farming is an activity that is environmentally sustainable. While some applications for limited expansion were approved on the West side of Baynes Sound, none were approved on the East side because they did not meet zoning requirements. A shellfish aquaculture development community planning process failed because there was no agreement on suitable areas for new farm tenures. The industry has voiced concerns that the government has not provided for new development opportunities in the Sound.

Baynes Sound upland residents also value the area for its amenities, including wildlife values and opportunities for tourism and recreation. Over the last several years many upland residents have repeatedly stated concerns about intensified shellfish aquaculture development in the area and have asked the provincial government and Local Government (including the Islands Trust) to not approve any further shellfish aquaculture development in the area. Their stated reasons include resource use conflicts, lack of consultation, insufficient compliance and enforcement, environmental and wildlife impacts, insufficient information to make siting decisions and lack of a complaint resolution process.

Response:
In response, the province has placed a hold on expansion and new development applications pending the results of this Action Planning process which has been designed to address issues raised by both shellfish growers and concerned upland residents. An interagency government project team developed these Terms of Reference based on consultations with key stakeholder groups.

Purpose:
The plan will:
• Identify whether or not any additional areas are suitable\(^5\) for further shellfish aquaculture development.
• Address concerns of upland residents, other fishery resource users and the aquaculture industry by documenting problem areas and developing workable industry management tools to apply where required;
• Ensure that if any shellfish aquaculture expansion does take place, it does so in an environmentally sustainable fashion;

Principles:
A number of principles will guide this planning process. These include:
• Adaptive: Be prepared to look at new solutions

---

\(^5\) Suitability is a determination of the acceptability of a development based on a technical analysis of its compatibility with environmental resources and other uses
• No pre-conceptions: Prepare the plan with no pre-conceived expectation of plan outcomes regarding shellfish aquaculture opportunities;
• Consultative: Strive to ensure that adequate opportunities are available for public consultation;
• Non-prejudicial: The plan will not prejudice First Nations treaty negotiations or discussions regarding pre-treaty or interim management discussions;
• Time-sensitive: Work to meet time deadlines, but be prepared to take extra time if required to gather additional information;
• Fairness: Treat all stakeholders equally.
• Respectful: Respect stakeholder concerns, the key role that the regional district and the Islands Trust play in zoning, and First Nations interests.

Plan Products
The Action Plan will generate a variety of products including:
1. Reports that:
   • Describe the planning process and how planning information was obtained and used;
   • Describe shellfish aquaculture use issues in the plan area;
   • Describe other fishery resource uses of vacant crown foreshore or near shore waters;
   • Describe physical environment and biological resources in the plan area;
   • Generally summarize probable positive and negative environmental effects from shellfish aquaculture with a special focus on effects on wildlife, and where possible, prioritize negative effects in terms of severity and duration. This will include a review of all existing environmental assessment work already conducted in Baynes Sound as well as a review of other literature sources;
   • Identify information gaps and priorities for further information collection;
   • Recommend decisions that can be made given the current information available and based on an assessment of environmental risk;
   • Identify areas considered suitable for additional shellfish aquaculture development, if any exist, depending on the results of the decision analysis;
   • Describe existing local government zoning and process;
   • If appropriate, recommend parts of the plan area for discussion with the Comox-Strathcona Regional District or the Islands Trust for rezoning;
   • Recommend Shellfish Aquaculture farm practices to address identified problems in the plan area. These practices would inform the development of a provincial Standard of Operations for shellfish aquaculture;
   • Present a compliance and enforcement plan, identifying responsible agencies, what regulations will be used, a monitoring plan and available remedies and penalties;
   • Describe practices available to mitigate the identified environmental effects of shellfish aquaculture; and,
   • Outline the complaint resolution process, including a list of the key contacts and the steps available for complaint resolution.

2. Map Products that include:
   • Bathymetric and upland contours of the plan area;
   • Shellfish Aquaculture Biophysical Capability\(^6\) maps;

\(^6\) Capability is the biophysical capability of local waters to be utilized for aquaculture, based on a technical analysis of the biophysical requirements of shellfish culture and oceanography of the area.
• Location of existing shellfish tenures and other uses, whether on Crown or private land;
• Local Government zoning maps
• Biological resource maps;
• Areas that may be suitable for additional shellfish aquaculture development, if any

Roles and Responsibilities:
The Ministry of Sustainable Resource Management (MSRM) will lead a project team that includes the Ministries of Agriculture, Food and Fisheries (MAFF) and Water, Land and Air Protection (WLAP), Land and Water British Columbia Inc (LWBC) and the federal Department of Fisheries and Oceans (DFO). Each of the project team agencies will be responsible for the delivery of components of the plan that are within their area of responsibility. MSRM has the role of overall project management and to maintain an equitable balance between social, environmental and economic sustainability perspectives.

• Project Team:
  • MSRM
    • Mike Lambert, Regional Director, Vancouver Region and John Bones, Director, Coast and Marine Planning Office,
    • Joe Truscott, Coast and Marine Planning Office, Victoria: Project Management, Coordination, land use planning, environmental assessment and Summary report preparation
    • Rick Deegan, Decision Support Services, Victoria: Data compilation, analysis and map preparation;
    • Christine Askew, Communications Office, Vancouver Region: Communications packages, advice, information and assistance in coordination of public consultation and stakeholder meetings.
  • MAFF
    • Barron Carswell, Victoria: Lead on farm practices and compliance and enforcement plan, research and development, assistance on planning
  • LWBC
    • Jim Russell, Region: Lead on tenuring issues, assist on compliance and enforcement. Recently returned to MAFF.
    • Duncan Williams, Aquaculture Manager
  • WLAP
    • Bill Hubbard, Vancouver Island Region: Environmental assessment, compliance and enforcement, wildlife information. Contact Environment for information regarding federally regulated migratory bird conservation.
  • Department of Fisheries and Oceans:
    • Randy Webb: Federal Fisheries Act, information on existing fisheries, Environmental Assessment, Canadian Environmental Assessment Act Requirements; navigation route regulation.
  • Other Levels of Government: to provide community perspectives, information on zoning and review and comment on draft project materials:
    • Islands Trust
    • Comox-Strathcona Regional District
    • Nanaimo Regional District
    • Qualicum Indian Band
    • Comox First Nation
- Stakeholder Groups (Focussed meetings periodically during project implementation to review and comment on draft products):
  - Alliance for Responsible Shellfish Farming,
  - BC Shellfish Growers Association,
  - Independent Shellfish Growers,
  - Vessel Owners Association (herring roe fishery),
  - Underwater Harvesters Association,
  - Area D Commercial Clam Harvesters,
  - Baynes Sound Roundtable.
  - Coastal Tourism Operators Association
  - Tourism Comox Valley
  - The Farm Practices Board: advice on farm practices discussed in context with Farm Practices Protection (Right to Farm) Act.

**Project Area and Scale:**
- Includes all near-shore waters, shoreline and inter-tidal areas within Baynes Sound (including Comox Harbor) (Figure 1).
- Includes the upland shoreline (See figure 1).
- Crown and private upland adjacent to the marine areas will be considered regarding potential for resource use conflicts.
- The final project area may be adjusted based on the nature and extent of resource information available as well as an assessment of planning requirements. Scale of planning will be determined during the planning process. However, it is anticipated that the scale will be relatively detailed in order to optimize problem analysis, probably about 1:20,000.

**Relationship to existing land tenures:**
This Action Plan will recognize existing legal Crown land tenures and private land ownership. This information will be of use in determining areas of potential resource use conflict. The action plan will recognize areas under discussion or identified for First Nations Agreement-in-principle.

**Process Steps, including Public Consultation:**
The project team will do the bulk of the technical work required during the planning process. However, the process also provides for consultations with specific key stakeholder groups (mentioned above) and the public to provide comments, advice and recommendations. The province will hire an independent consultant knowledgeable in marine environmental assessment to assist with the environmental assessment component and a professional facilitator to assist with the public meetings. In addition the project team will invite the Comox First Nation to participate in the process on a government-to-government basis. Public consultation will take place at two distinct points in the planning process:
1. The planning team will meet with key stakeholder groups to clarify the issues, steps to be taken to address those concerns and products to be expected. These groups will also have an opportunity to offer additional technical information for use in the planning process, based on their experience with the area.
2. The project team will then undertake a technical analysis to prepare draft products as described under Plan Products. Once the draft materials have been completed the key stakeholder groups and the public will again be provided with an opportunity to review the materials and provide comments and advice to the project team.
Following this the team will revise draft products as required and publish the final reports and maps as the final plan.

**Timelines:**
September 2001 - February 2002

- Collect field information on shellfish aquaculture practices in Baynes Sound: Completed end August.
- Preparation of draft Terms of Reference (TOR), stakeholder consultation and completion of TOR: September- November
- Collect resource and land use information, draft base and information map compilation: September - November.
- Introductory public meetings and stakeholder consultations on Denman Island and Fanny Bay: Mid-November
- Analysis, assessment and preparation of draft reports and maps by the project team: Mid-November - end-January.
- Final public meeting and stakeholder consultations on Denman Island and Fanny Bay: End January/Early February
- Completion of final maps and reports: Mid to end February
- Publication of Plan: Early March
- Implementation: March

Mike Lambert, Regional Director, Ministry of Sustainable Resource Management

Attachments
Appendix B - Farm Practices Board Formal Complaint Process

FARM PRACTICES BOARD
FORMAL COMPLAINT PROCESS

Revised September 5, 2000

Steps/Action

1. A potential complainant contacts the Farm Practices Board (FPB) prior to filing an official complaint. FPB staff will informally discuss the nature of the complaint with the complainant and explain the formal complaint process under the legislation. If the person does not wish to file an official complaint, they will be redirected to the Ministry of Agriculture, Food and Fisheries (MAFF) office nearest to them for information on MAFF’s informal ‘concerns’ process. No further FPB action will normally be taken unless a formal complaint is filed.

2. An official complaint is filed. It must be in writing and have information regarding the nature of the complaint, the name and address of the complainant, the name and address of the farmer and the location of the farm. It must also be accompanied by a non-refundable filing fee of $100.00. The normal extent of MAFF staff involvement in the filing of a formal complaint (if the informal process has failed or a person does not wish to use it) would be to provide the potential complainant with the preceding information and the FPB’s address and telephone number.

3. FPB staff will acknowledge receipt of the complaint and send a letter to the complainant and the farmer explaining the complaints process in detail. Staff’s letter to the farmer will also enclose a copy of the written notice of complaint and any supporting documentation the complainant provided with the notice.

4. In most cases, following the receipt of a complaint, a member and staff representative of the FPB will visit the complainant and the farmer at the location of the complaint. This informal visit will be used to establish expeditious and effective communication with the parties, to ensure that the FPB process is understood and to assist the FPB staff in preparing for Steps #5 and #6. The member will not serve on any FPB panel that may eventually hear the complaint and details of the visit will not, without the agreement of the parties, be communicated to the hearing panel.

5. In consultation with the parties, FPB staff will commence assembling background information and identifying any other ‘interested parties’ that might become involved. Normally, FPB staff will contact the appropriate MAFF, or other external agency, office as part of this background investigation.

6. FPB staff will make initial recommendations to the FPB chair regarding the best approach, or combination of approaches (see Steps #7-11) to handle the complaint. The chair will then issue the appropriate direction(s). Usually, this direction will include the establishment of a hearing panel regardless of whether the complaint will be proceeding directly to a hearing.

7. If deemed appropriate, and before appointing a panel, the chair may seek to determine whether the complaint should be referred to a panel for the purposes of a hearing. After giving the complainant an opportunity to be heard on the issue, the chair will decide whether the subject matter of the application is trivial, the application is frivolous, vexatious or is not made in good faith, or whether the complainant has a sufficient personal interest in the subject matter of the application. If so, the chair may ‘refuse’ the complaint.

8. If acceptable to all parties, the complaint may be adjourned in order for the parties to participate in the MAFF ‘concerns’ process. The FPB would not be directly involved pending a successful resolution, or the failure to achieve one.
9. If Step #8 is not used, the formal ‘settlement’ process may be utilized. This may include MAFF, peer advisors, and/or a mediator (all “knowledgeable persons”). This is similar to Step #8, except that the FPB maintains an active and direct management of the process.

10. A pre-hearing conference is held. This will occur if the settlement process is not used, or if it fails. This is a formal process, conducted in person or by telephone, to confirm the issues and parties involved, to identify the background information required and to set the date, time, location and procedures for the hearing.

11. A hearing is conducted. This will be done on a date and in a location suitable to all parties. Although a standard hearing process is employed, the formality and type of hearing (which may include a tour of the farm) will vary depending on the issues and parties involved.

   After a hearing has begun, the panel may ‘refuse’ the complaint for the same reasons as the chair might in Step #7.

   At any time before a panel decision is issued, the complaint can return to (or commence) the settlement process in order to attempt a resolution not requiring an FPB decision.

12. A decision is issued by the FPB panel. The FPB must dismiss the complaint or order the farmer to cease or modify the practice in question. Once the written ‘reasons for decision’ are issued, the FPB’s role in the complaint is essentially terminated. A copy of the FPB’s decision will be forwarded to the MAFF office of primary interest, upon request.

13. A party to the appeal has 60 days in which to appeal the FPB’s decision to the Supreme Court of British Columbia on a question of law or jurisdiction.

   If the farmer does not comply with the decision of the FPB, a court may order the farmer to comply, the farmer may be subject to contempt proceedings and he or she will be open to nuisance and other actions initiated in the courts or at the local government level.

   In certain cases, the FPB may follow up with post-decision comments and/or recommendations regarding larger issues that may have been identified during the resolution of a complaint.
### Issues and Responses

**ISSUES AND CONCERNS IDENTIFIED IN PUBLIC MEETINGS AND ON COMMENT SHEETS**

As of Feb. 8, 2002

<table>
<thead>
<tr>
<th>BIRD ISSUES</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studies must be done to identify the impacts of shellfish aquaculture before decisions are made regarding expansions.</td>
<td>• Archipelago Marine Research Ltd. has summarized existing environmental impact work, conducted a risk analysis, identified data gaps and prepared recommendations for decision making</td>
</tr>
<tr>
<td>• Archipelago Marine Research Ltd. has summarized existing environmental impact work, conducted a risk analysis, identified data gaps and prepared recommendations for decision making</td>
<td>• Their report indicates that generally the environmental risk from shellfish aquaculture is low for beach and off-bottom culture</td>
</tr>
<tr>
<td>• Potential for negative environmental impact is higher for beach culture than off-bottom culture</td>
<td>• The risks to birds related to predator netting are uncertain, therefore, consultants report recommends additional ecosystem work</td>
</tr>
<tr>
<td>Baynes Sound is an important birding area because of the abundance of herring, which are here because of the eelgrass. Does shellfish farming impact eelgrass?</td>
<td>• There are potential impacts to eelgrass habitat from clam netting, which covers less than 1% of eelgrass habitat in the Sound</td>
</tr>
<tr>
<td>• Management Emphasis Areas take into account the location of eelgrass beds and other potential conflicts</td>
<td>• When tenure applications are made, the site-specific application referral process pays close attention to avoid impact on eelgrass habitat</td>
</tr>
<tr>
<td>The Brant geese population is declining due to habitat loss. Raft activities force the birds from their habitat.</td>
<td>• The project team has mapped important bird use areas based on input from the Canadian Wildlife Service</td>
</tr>
<tr>
<td>• These maps were used in a compatibility matrix to assess suitability of areas for future shellfish development</td>
<td>• Management Emphasis Areas and management prescriptions within them have accounted for potential for bird impacts, including Brant, and the need to avoid them</td>
</tr>
<tr>
<td>Tourism Issues</td>
<td>Response</td>
</tr>
<tr>
<td>----------------</td>
<td>----------</td>
</tr>
</tbody>
</table>
| Tourism representatives need to be included in the process because shellfish farming impacts tourism and kayaking. | The project team met with Tourism Comox Valley, Coastal Eco-Tourism Operators Association and Desolation Sound Charters.
Information from these groups on important tourism and ecotourism areas were mapped during the planning process.
Development of the Management Emphasis Areas took information from the tourism industry into account.
As a result, the plan recommends no beach culture in most areas of the Sound, and only limited opportunities in other areas. |
| Many boat owners oppose new shellfish farming because of restrictions on navigable waters and anchorage, risks associated with hitting underwater hazards and protect public access to beaches. Ecotourism operators indicated Henry Bay is a valuable, sheltered area for yachters and the whole of Baynes Sound is a day use area; they do not want to see any expansion of the shellfish aquaculture industry. | The plan has excluded Henry Bay from future development to preserve anchorage and avoid further conflicts. |

<table>
<thead>
<tr>
<th>Environmental Issues</th>
<th>Response</th>
</tr>
</thead>
</table>
| Visible and noise pollution are a major concerns for residents. | Government is developing a Standard of Operations for shellfish aquaculture; this code will be enforceable under the terms and conditions of aquaculture licences.
Management Emphasis Areas have taken visual and noise pollution into account to reduce further conflicts. |
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
</table>
| Workers are not provided with washrooms; using the beach and the private foreshore as their toilet. | • Government is developing a Standard of Operations for shellfish aquaculture; this code will be enforceable under the terms and conditions of aquaculture licences  
• Toilet facilities must be provided by the employer under the Workers Compensation Act |
| Why is it that Baynes Sound receives oysters from polluted areas to be cleansed in our waters? | • Oysters grown in marginally contaminated areas and relayed (i.e. transferred) to an uncontaminated area so they can flush out contamination prior to marketing is an approved activity  
• The relay process is highly regulated and monitored by the Canadian Food Inspection Agency, Environment Canada, Fisheries and Oceans, and MAFF  
• Marine water quality is monitored on an ongoing basis by Environment Canada |
| If it is environmentally unsound for residents to drive their vehicles on the beach, how is it environmentally OK for shellfish farmers to drive their vehicles on the beach? | • This activity required for operators to service their tenures  
• Management of this activity is under discussion between DFO and provincial agencies  
• It is likely this issue will be addressed in the future on a site-by-site basis |
| How can shellfish farming be “environmentally sensitive” when the beaches are littered with their industrial debris? Predator netting? Infrastructure on the beach, such as rebar, is a safety hazard. | • Farmers rely on a specific kind of netting to protect their product from wildlife predators  
• Less than 5% of inter-tidal areas in the Sound are covered by predator netting  
• The plan allows for one small area on the west side of Baynes Sound be made available for deep inter-tidal culture; predator netting will not be authorized in this area  
• Government is developing a Standard of Operations for shellfish aquaculture. This code will be enforceable under the terms and conditions of the aquaculture licence  
• The shellfish farming industry regularly initiate beach clean ups to deal with these problems; government recommends this practice continue |
Minister Hagen stated that decisions about the sustainability of the shellfish farming industry would be based on sound science.

- This planning process has employed a scientific and objective approach to environmental data collection of available science, mapping resource use analysis, and development of Management Emphasis Areas
- Archipelago indicated the overall risk from shellfish aquaculture is low with some uncertainty around the impact of predator netting on bird habitat
- This information, along with an objective evaluation of potential conflicts, played a significant role in developing the Management Emphasis Areas
- Archipelago Marine Research was hired because of their reputation for marine ecological expertise and scientific objectivity

Fish streams should not be rerouted for shellfish aquaculture.

- All Management Emphasis Areas designated in this plan recommend no channelization of streams
- Proposals to channelize streams are rare and must be approved by Fisheries and Oceans Canada, Land and Water BC and MAFF
- Approvals are only granted following an exhaustive environmental review

<table>
<thead>
<tr>
<th>SHELLFISH INDUSTRY ISSUES</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>The government hasn’t provided adequate expansion opportunities.</td>
<td>The plan has provided some limited expansion opportunities for off-bottom culture</td>
</tr>
<tr>
<td>Some of the plan areas adjacent to Denman Island have zoning that is not appropriate for shellfish aquaculture.</td>
<td>The purpose of this plan is to identify if there are any suitable areas for expansion of the industry and does not address local zoning issues</td>
</tr>
<tr>
<td>The different branches of government that have responsibilities for shellfish farming aren’t speaking to each other.</td>
<td>The BSSAAP has been developed by a multi-agency provincial/ federal project team</td>
</tr>
<tr>
<td>Industry has a desire to see shellfish farming grow in a sustainable fashion.</td>
<td>MSRM has been given the lead for this planning process to ensure a fair treatment of all resource users and the development of a balanced set of recommendations</td>
</tr>
</tbody>
</table>
Process needs to be aligned with Farm Practices Board.

<table>
<thead>
<tr>
<th>ISSUE WITH TERMS OF REFERENCE and CONSULTATION PROCESS</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>The timelines to complete the study are too rushed.</td>
<td>Government is committed to playing a stronger leadership role to facilitate the timely completion of land use management plans</td>
</tr>
</tbody>
</table>

Why are you conducting more research into the environmental impacts when the government commissioned Axys Report of April 2000 recommends taking a precautionary approach and the Pacific Science Advisory Review Committee identified concerns regarding further shellfish farming expansion in Baynes Sound?

- New research was not conducted during this process; Archipelago Marine Research was hired to review the Axys Report and the Pacific Science Advisory Review Committee (PSARC) Phase 0 Environmental Impact Report and suggest decisions that could be made given the information available.
- The Archipelago review of existing information included interviewing the Canadian Wildlife Service to clarify impact risk information.
- The Archipelago report also identifies information gaps and future research priorities.
- The interpretation of the term “precautionary approach” has historically been the subject of considerable debate.
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
</table>
| Is the outcome of this planning process predetermined?                   | - The project team made a sincere attempt to gather all the resource and resource use information available to determine if any areas in Baynes Sound are suitable for further shellfish farming development.  
- The Action Plan also addresses operational management concerns raised by residents in the area.  
- The project team required feedback from the public order to ensure it was aware of all the issues  
- While the plan does identify some limited opportunities for off bottom culture development, the plan recommendations are very conservative and provides for avoidance of conflicts with many other coastal and marine values  
- This will provide valuable direction on better management of the industry in the area as well as an educational tool to inform the public on what is actually being done and the process to monitor the results |
| Are we going to have a chance to meet with the consultants or review their findings and your recommendations before the next meeting? Or are you simply going to tell us what you found? | - Brian Emmett Archipelago Marine Research will be attending the Open Houses in February to answer questions regarding their findings |
| Who is a stakeholder?                                                   | - A wide variety of groups have been consulted during this process including the public, industry, concerned residents, other resource users and First Nations |
| Keep speakers to time limits at public meetings to avoid monopolization of time by one interest group. | - The next public forum will be an Open House where the public will have the opportunity to meet one on one with project team members |
| There was not enough time to address resident’s concerns at public meeting. | - The next public forum will be an Open House where staff will have the opportunity to meet one on one with project team members; these sessions will be day-long sessions allowing plenty of time for questions and responses |
Development is currently taking place on shellfish farms when government said there would be no approvals granted while this action plan process is underway.

- The province placed a hold on expansion and new development applications pending the results of this Action Planning
- This does not apply to tenures that were issued prior to initiation of the Action Plan
- A few tenures were issued in April 2000; development of those tenures is only beginning to occur on the farms now

## ENFORCEMENT AND COMPLIANCE ISSUES

<table>
<thead>
<tr>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>The government is using the BCSGA Code of Practice as a starting point for developing its own Standard of Operations.</td>
</tr>
<tr>
<td>The government’s Code may be available by the spring</td>
</tr>
<tr>
<td>It will be enforceable under the Terms and Conditions of the Aquaculture Licence</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>The province cannot speak for the BCSGA</td>
</tr>
<tr>
<td>The province is involving DFO in the development of the provincial code</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>The BCSGA received a grant from Fisheries Renewal BC (FsRBC) to assist it in the development of its code</td>
</tr>
<tr>
<td>FsRBC was an independent funding agency that no longer exists therefore, funds are no longer available for this purpose.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>The plan describes a dispute resolution process already in place under the Farm Practices Protection (Right to Farm) Act</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ENFORCEMENT AND COMPLIANCE ISSUES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the provincial government endorse the Shellfish Growers Association (SGA) Code of Practice? If they don’t, when will the government develop their own code?</td>
</tr>
<tr>
<td>Why were the Department of Fisheries and Oceans and the Ministry of Water, Land and Air Protection not involved in the development of the SGA Code of Practice?</td>
</tr>
<tr>
<td>If the Shellfish Growers Association received provincial funds to develop a code, are there funds also available to allow other stakeholders to review the code and provide other options?</td>
</tr>
<tr>
<td>There is no complaint resolution process.</td>
</tr>
<tr>
<td>Question</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>How can the Province enforce shellfish farming regulations when you are</td>
</tr>
<tr>
<td>facing cutbacks and will have fewer inspectors?</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>How can we be confident that enforcement will take place, when we have</td>
</tr>
<tr>
<td>witnessed the Department of Fisheries and Oceans not prosecuting despite</td>
</tr>
<tr>
<td>admitting that there have been contraventions of the Fisheries Act?</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

**RIPARIAN RIGHTS ISSUES**

**RESPONSE**
| Riparian rights are not respected. Lease expansions need to involve upland landowners. | • Where a lease would infringe upon the riparian rights of an upland property owner, written approval from that owner will be required prior to a tenure being granted.  
• Where a riparian infringement can be demonstrated to occur without the written consent of the owner of the adjacent upland property, the offending structure(s) must removed, altered or relocated.  
• Where a proposed use can be demonstrated to infringe upon the riparian rights of the owner of an adjacent upland property, that property owner, by refusing to provide his written consent, may veto that use unless it can be clearly demonstrated that the use is in the public interest. |
| --- | --- |
| Farmers should work between the hours of 7 am and 11 pm and not on Sunday’s in populated areas. | • Part of the normal business of shellfish aquaculture involves some activities at night in order to take advantage of low tides and exposed beaches in the fall and winter  
• The industry Code of Practise addresses ways to reduce social impacts from these activities; the provincial Standard of Operations may address this as well |
| How can we deal with industrialization of shellfish farming vs. local zoning? | • The purpose of the Action Plan is to address operational management issues and whether there are any areas remaining for shellfish expansion  
• This planning process has no jurisdiction or authority to overstep local government zoning.  
• The plan should function to help inform either rezoning activities or discussions about zoning between the Islands Trust and the province at senior policy level. |
| More attention should be paid to new technologies that make the industry invisible to upland landowners (e.g. Manatee Holdings Ltd. – Gartley Point Shellfish Nursery). | • The plan has identified Management Emphasis Areas that state either no further aquaculture development is allowed or require use of technology that is not visually obtrusive in high visual impact areas |
| How important an economic contributor is shellfish farming? For instance, how much revenue did the province generate from oyster leases over the past 5 years? What are the projections for the next 5 years? What was the amount of the grants/subsidies to lease holders over the past 5 years? | • Shellfish aquaculture tenure holders have not received grants or subsidies in the last five years  
- Farmgate value (price farmers receive for product) is around $13 million per year, not including spin off benefits to the area  
- While there are no projections for Baynes Sound specifically, recent projections indicate that doubling tenure areas can result in a nearly ten-fold increase in provincial revenue generation to $100 million annually |
|---|---|
| Why were expansions near Denman Island cancelled before Action Plan is finished? | • No tenures have been issued near Denman Island because local zoning does not support shellfish aquaculture in that area  
- The Action Plan will determine if there are any future opportunities for expansion and help inform rezoning applications |
| Land and Water BC is not accountable to the public when issuing foreshore leases. | • As a public agency Land and Water BC is accountable to the public  
- LAND AND WATER BC is making efforts to increase its efficiency and accountability |
| New/expansion tenures resulting from The Shellfish Development Initiative will be mainly approved in Baynes Sound and no where else on the coast. | • Some small areas are recommended for expansion in areas with the least amount of conflict  
- Many areas where applications had been made will not be available for development  
- Shellfish farming opportunities have been made available in other areas, including the west coast of Vancouver Island |

<table>
<thead>
<tr>
<th>FISHERIES RESOURCES ISSUES</th>
<th>RESPONSE</th>
</tr>
</thead>
</table>
| Is there conflict between shellfish farming and other resource industries in Baynes Sound including the herring Roe, geoduck and commercial clam fisheries? | • The project team has consulted with the Fishing Vessel Owners Association and Underwater Harvesters and mapped their areas of interest  
- The plan has recommended Management Emphasis Areas that allow either no further beach culture development in most areas and limited off-bottom culture opportunities in order to avoid impacts on other industries |
<table>
<thead>
<tr>
<th>FIRST NATIONS ISSUES</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comox Indian Band is interested in shellfish aquaculture</td>
<td>• The project team has consulted with the Comox Band and has mapped its</td>
</tr>
<tr>
<td>development and also wants to ensure that its wild</td>
<td>areas of interest for shellfish aquaculture in the plan area.</td>
</tr>
<tr>
<td>harvest areas are not impacted.</td>
<td>• The Plan has identified a Management Emphasis Area in Comox Harbour</td>
</tr>
<tr>
<td></td>
<td>where the Band is interested in aquaculture, as an area with some</td>
</tr>
<tr>
<td></td>
<td>potential for development in the future.</td>
</tr>
<tr>
<td></td>
<td>• The Band will inform the team of its areas of interest for wild</td>
</tr>
<tr>
<td></td>
<td>harvest within the plan area.</td>
</tr>
<tr>
<td></td>
<td>• The Project Team will be contacting the Band to determine their</td>
</tr>
<tr>
<td></td>
<td>interest in meeting to discuss the Draft Report.</td>
</tr>
<tr>
<td>ox Indian Band is interested in environmentally sensitive</td>
<td>• Management Emphasis Areas and operational management provisions in the</td>
</tr>
<tr>
<td>and sustainable shellfish farming.</td>
<td>plan have been developed to ensure the industry is environmentally</td>
</tr>
<tr>
<td></td>
<td>sustainable both in terms of operational management and siting.</td>
</tr>
<tr>
<td>Issues raised by the Qualicum Band.</td>
<td>• The project team met with the Qualicum Band and inquired whether the</td>
</tr>
<tr>
<td></td>
<td>Band would be interested in aquaculture or providing information on its</td>
</tr>
<tr>
<td></td>
<td>areas of interest.</td>
</tr>
<tr>
<td></td>
<td>• The Band indicated that areas of interest to them had already been</td>
</tr>
<tr>
<td></td>
<td>alienated.</td>
</tr>
<tr>
<td></td>
<td>• The Project Team will be contacting the Band to determine their</td>
</tr>
<tr>
<td></td>
<td>interest in meeting to discuss the Draft Report.</td>
</tr>
</tbody>
</table>
Appendix D - Management Areas Analysis and Rationales

1) Off-Bottom Shellfish Aquaculture Opportunity Area

This area is located along the lower, west side of Denman Island in the vicinity of Metcalf Bay. An analysis of the values in the area gave the following results. An "+" indicated a favourable factor, a "-" indicated a conflict, and a " +/-" indicated that the interaction was either neutral or required more consideration.

+ shellfish industry interested in area and has historical use;
+ no geoduck, sea urchin or prawn fisheries;
+ small areas of eelgrass
+ no kelp beds
+ upland is zoned ALR;
+ no bird colonies;
+ no sea lion or seal haulouts;
+ no salmon streams;
+ no identified red and blue listed species
+ not on kayaking or outer identified tourism use routes;
+ no parks, Wildlife Management Areas or reserves;
 +/- low to moderate migratory bird values
 +/- area used by the herring fishery, but is not a major tie-up/anchoring point;
- foreshore zoning is incompatible with aquaculture
- clam beds on shore.

Given the relative lack of significant conflicts in this area, the Project Team recommends that some new tenures or expansion of existing tenures be permitted in this area. Off-bottom culture is recommended because of potential conflicts with clam beds and small areas of eelgrass. Concerns of the herring fishery should be addressed prior to the issuance of new tenures.

2) Special Management Area (Off-Bottom culture)

This area is located along the upper, west side of Denman Island in the vicinity of Denman Point. An analysis of the values in the area gave the following results. An "+" indicated a favourable factor, a "-" indicated a conflict, and a " +/-" indicated that the interaction was either neutral or required more consideration.

+ shellfish industry interested in area and has historical use;
+ no sea urchin or prawn fisheries;
+ no kelp beds
+ no bird colonies;
+ no sea lion or seal haulouts;
+ no salmon streams;
+ no identified red and blue listed species
- foreshore zoning is incompatible with aquaculture
- clam beds on shore
- areas of eelgrass
- on major kayaking and identified tourism use routes
- adjacent to Henry Bay, a preferred anchorage
+/- area used by the herring fishery, but is not a major tie-up/anchoring point;
- geoduck harvesting area
- upland is primarily private, residential, and not ALR.

Given the relative concentration of conflicts with other private and recreational users, as well as the herring fishery and geoduck harvesting, the Project Team has recommended that some new or expansion of shellfish tenures can occur in this area, but under special conditions. The Project Team recommends that any new tenures should have minimal above water structures, be visually unobtrusive and have minimal impact of adjacent upland users. Concerns of the herring and geoduck fishery should be addressed prior to the issuance of new tenures.
3) Special Management Area (Beach Culture)

This area is located around Base Flat on the east side of Vancouver. An analysis of the values in the area gave the following results. An "+" indicated a favourable factor, a "-" indicated a conflict, and a "+/-" indicated that the interaction was either neutral or required more consideration.

+ shellfish industry interested in area and has historical use; + few visual concerns
+ no sea urchin, geoduck or prawn fisheries; + not on major kayaking and identified tourism use routes
+ no kelp beds + areas of eelgrass
+ no eelgrass +/- area used by the herring fishery, but is not a major tie-up/anchoring point;
+ no bird colonies; +/- several salmon streams;
+ no sea lion or seal haulouts; - clam beds on shore
+ upland is primarily agricultural and is in the ALR - area is a very important harvesting area for the commercial wild clam fishery
+ no identified red and blue listed species - moderate migratory bird values
+ foreshore zoning is compatible with aquaculture

Given the limited number of conflicts in the area, the Project Team recommends that new tenures or expansion of existing tenures can be permitted in this area. The special conditions that will apply will be no channelization of the salmon streams in the area, and that any new or expanded intertidal tenures will not be permitted to use predator netting until further scientific research indicates that it has minimal impact on birds. The Project Team believed there was little conflict with the herring fishery since there would be no additional infrastructure for the fleet to deal with. An outstanding conflict is potentially with the wild clam fishery.

4) Restricted Expansion Area (Beach and Off-Bottom culture)

This area is located in two areas from Comox Harbour to Base Flat, with the exception of Union Point on Vancouver Island. An analysis of the values in the area gave the following results. An "+" indicated a favourable factor, a "-" indicated a conflict, and a "+/-" indicated that the interaction was either neutral or required more consideration.

+ no sea urchin or prawn fisheries; +/- shellfish industry has historical use north of Base Flats, but less south of Comox Harbour; limited expression of interest in expansion
+ no kelp beds - clam beds on shore
+ no bird colonies; - areas of eelgrass
+ no sea lion or seal haulouts; - some geoduck harvesting
+ no identified red and blue listed species - upland is primarily residential and has high levels of recreational use
+ foreshore zoning is compatible with aquaculture - some Wildlife Management Areas and reserves
+ low migratory bird values
+/- area used by the herring fishery, but is not a major tie-up/anchoring point;
+/- several salmon streams
+/- some kayaking, not major route

Given the moderate number of conflicts in the area but the very significant amount of residential upland and public recreation on these beaches, the Project Team recommends that expansion can only be permitted contiguous to existing tenured areas. Any new tenures would not be permitted...
to use predator netting. The rationale for this Management Area was to provide opportunities for expansion, but in areas in which the public and other users were already familiar with and had accommodated the use. The special conditions that will apply will include no channelization of the salmon streams in the area, and that any expanded intertidal tenures will not be permitted to use predator netting until further scientific research indicates that it has minimal impact on birds. The Project Team believed there was little conflict with the herring fishery since there would be little new additional infrastructure for the fleet to deal with.

5) Future Analysis Areas

These two areas are located in Comox Harbour and on Union Point. Given the existing microbial contamination in the area, extremely high importance to waterfowl and birds, major areas of kelp and eelgrass, potential conflicts with other industrial and recreational users, and interest from First Nations, the analysis of these areas was considered to be outside the scope of this plan, and will be addressed at a later date.

6) No Additional Aquaculture Areas

These areas are distributed in four different locations: Henry Bay on northern Denman Island, midway up the west side of Denman Island, the South end of Denman Island around Repulse Point, the entire area South of Fanny Bay on Vancouver Island, including Mud Bay, Deep Bay and Ship Point. An analysis of the values in the area gave the following results. An "+" indicated a favourable factor, a "-" indicated a conflict, and a "+/-" indicated that the interaction was either neutral or required more consideration.

- shellfish industry interested in area and has historical use;
- no sea urchin or prawn fisheries;
- no kelp beds
- no identified red and blue listed species
+-/ foreshore zoning is incompatible with aquaculture on Denman and supportive on Vancouver Island
- very important migratory bird values
- clam beds on shore
- several major wild clam fisheries
- areas of eelgrass
- major kayaking and identified tourism use routes (Mud Bay and Henry Bay to Sandy Islets)
- bird colonies;
- sea lion or seal haulouts;
- numerous salmon streams
- Henry Bay a preferred anchorage
- major geoduck harvesting area
- upland is primarily private, residential around Henry Bay, Vancouver Island and southern Denman Island (except Henry Bay)
- very important area used by the herring fishery and are also used as major anchoring point

Given the considerable resource and users conflicts that exist in these areas, the Project Team recommends that no further expansion of shellfish aquaculture should occur in these four areas and that no additional tenures are allowed.