

**The Province of British Columbia has taken the following actions to meet the intent of the Salmon Aquaculture Review's Recommendations (03/2006):**

<b>Category</b>	<b>SAR Recommendation</b>	<b>Government Actions to Meet Intent of Recommendation</b>
Farm Siting	#1 - Establish permanent regional Fish Farm Review Committees to ensure coordinated salmon farm siting and management decisions.	<ul style="list-style-type: none"> <li>▪ Recommendation not implemented because permanent Regional Fish Farm Review Committees were not warranted due to the low numbers of applications.</li> <li>▪ The Fish Farm Review Committee (FFRC) was established in January 2000 with membership from MAL, MOE, ILMB and DFO. Purpose was to help adjudicate farm applications.</li> <li>▪ The FFRC was replaced by the Project Review Team (PRT) in 2003. The PRT performs an initial assessment of farm application completeness before a full government review is initiated. This improves efficiency of application reviews.</li> <li>▪ ILMB serves as the "one window" for incoming aquaculture applications, coordinating their review by government agencies and non-government referral groups.</li> <li>▪ Local governments are involved through application referrals.</li> <li>▪ First Nations are consulted directly by government and applicants when new farms are proposed.</li> </ul>
Farm Siting	#2 - Develop Integrated Coastal Zone Management Plans (ICZMPs) and Land and Resource Management Plans (LRMPs)	<ul style="list-style-type: none"> <li>▪ MSRM collaborated with other government agencies to develop ICZMPs at the provincial, sub-regional and local levels.</li> <li>▪ Provincial level: The province is working with the federal government to implement the Canada Oceans Strategy. Developing a Pacific Coast Agreement within this strategy will ensure issues specific to the West Coast are addressed.</li> <li>▪ Sub-regional level: Two LRMPs have coastal components – the Kalum Plan and the Central Coast Plan. Both address aquaculture at a broad policy level. The Kalum Plan has been approved by Cabinet and the Central Coast Marine Plan has received approval-in-principle. The Kalum Plan can be accessed at: <a href="http://srmrpdwww.env.gov.bc.ca/lrmp/kalum/index.htm">http://srmrpdwww.env.gov.bc.ca/lrmp/kalum/index.htm</a></li> <li>▪ Local level: The North Island Straits Coastal Plan, and the Kyuquot Sound Coastal Plan for multiple resource use. Also complete are the Baynes Sound and Cortes Island Coastal Plans for shellfish aquaculture (Plans also considered the possibility of finfish aquaculture).</li> <li>▪ The province will continue to support development and implementation of LRMPs/ICZMPs.</li> <li>▪ The multiple resource use coastal plan for Chatham Sound is on hold until March 2006 due to First Nation and agency capacity concerns (it is anticipated work will resume shortly). The Malaspina Okeover plan was issued in August 2004, and the Johnstone-Bute plan was released the following December (2004).</li> <li>▪ Information on coastal planning and specific coastal plans can be obtained at: <a href="http://srmwww.gov.bc.ca/rmd/coastal/index.htm">http://srmwww.gov.bc.ca/rmd/coastal/index.htm</a>.</li> </ul>

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Farm Siting	#3 - Pending the development of coastal zone management plans, proactively identify and allocate suitable salmon aquaculture sites.	<ul style="list-style-type: none"> <li>MSRM identified areas suitable for aquaculture on a regional basis through Aquaculture Opportunity Studies (AOS). These studies have been completed for Kyuquot, Quatsino, North Island Straits, North Coast and Nootka regions.</li> <li>Potential new sites are identified and assessed by industry; government performs comprehensive evaluations of all proposals based on requirements for siting, escape prevention, waste management, etc.</li> <li>ILMB and MAL conduct on-site field assessments to determine the appropriateness of proposed sites.</li> <li>Provincial and federal governments are working toward harmonizing aspects of the site application review process (e.g. joint site advertising requirements and First Nations referrals).</li> <li>The province has undertaken additional integrated plans in the Johnstone Strait/Bute Inlet and the Malaspina-Okeover areas.</li> </ul>
Farm Siting	#4 - Adopt revised salmon farm siting criteria.	<ul style="list-style-type: none"> <li>In March 2000 the province developed revised siting guidelines for all new fish farms. These criteria are applied as part of evaluations of new site proposals.</li> <li>Application guide requires information on features found near proposed sites; government evaluates company-supplied information based on siting criteria and biological evaluation.</li> <li>Siting policy for government evaluation of farm site applications is in use.</li> </ul>
Farm Siting	#5 - Require salmon farm applicants to submit an assessment of proposed salmon farm sites and potential impacts on other resources and uses.	<ul style="list-style-type: none"> <li>MAL has produced a guide to preparing new site applications which describes information required for provincial agencies to evaluate a site proposal.</li> <li>Farmers must submit detailed, comprehensive site assessments based on this guidance provided by government. Company-prepared assessments are subject to a rigorous review by provincial and federal agencies.</li> <li>Farmers must gather information on resources, coastal uses and other environmental and social factors in the area for review by government.</li> <li>Other required information includes: facility diagrams, a professional review of mooring systems, data on ocean currents and marine conditions, habitat information, etc.</li> <li>Input from third party professionals is sought when technical expertise is required; The total costs to operators of preparing a submission may exceed \$100,000.</li> <li>Work will continue toward harmonizing federal &amp; provincial information requirements to simplify and increase the efficiency of application reviews.</li> </ul>

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Farm Siting	#6 - Continue to improve the quality of coastal resource inventory mapping.	<ul style="list-style-type: none"> <li>▪ The former MSRM has produced resource inventory maps identifying key social and ecological resources around all existing salmon farm sites at a 1:40,000 scale. New maps can be produced on request for other areas. These maps can be provided to government agencies, industry, and the public for a nominal fee.</li> <li>▪ Aquaculture Opportunity Studies (see #3) have resulted in the production of salmon aquaculture suitability maps at a smaller scale for several regions of the BC coast.</li> <li>▪ Government will continue to refine, update and improve coastal resource databases.</li> <li>▪ The Land Information BC Portal was launched on March 31, 2004. The Portal is a major information service initiative, providing a single window to land and resource information products. The focus is on easy access via E-services and delivery through partnerships.</li> </ul>
Farm Siting	#7 - Ensure the opportunity for public participation in salmon farm siting and management decisions by establishing local advisory working committees.	<ul style="list-style-type: none"> <li>▪ Local advisory working committees were not warranted due to the low numbers of applications.</li> <li>▪ The Salmon Aquaculture Implementation Advisory Committee operated from 2000 to 2002. This forum was used by government to consult with representatives from a cross-section of interests and to receive advice on salmon farming policies.</li> <li>▪ Site-specific input is solicited from the public and stakeholders on new site proposals through open houses and through the referral and advertising processes.</li> <li>▪ Public input occurs via existing regional bodies in specific cases.</li> <li>▪ First Nations are consulted directly by government and applicants when new farms are proposed.</li> </ul>
Farm Siting	#8 - Assess existing salmon farms to determine if the farms are causing significant negative impacts that need to be corrected.	<ul style="list-style-type: none"> <li>▪ A thorough analysis of the environmental, social, and economic impacts of all farms was conducted over 2000-2002.</li> <li>▪ New siting criteria, updated information on site performance, and input from a MOE environmental monitoring program informed this analysis.</li> <li>▪ As a result, 37 farms were required to relocate to better sites or significantly alter their operations. Some poorly-sited farms are no longer producing or have reduced their production levels until a new site locations is secured. To date, 9 of 37 proposed relocations have been completed (tenure, licence and Canadian Environmental Assessment Act ("CEAA") review. 10 proposed relocations have necessary provincial approvals and are awaiting completion of federal CEAA review. The remaining relocations have not been commenced, are no longer being considered for relocation, are on hold at the proponent's request, or are under review by ILMB.</li> <li>▪ Additional farms may be added to the relocation list on an individual basis if warranted.</li> </ul>

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Farm Siting	#9 - Develop and implement consistent guidelines for assessing and approving salmon aquaculture facilities in freshwater.	<ul style="list-style-type: none"> <li>▪ MAL has developed a set of guidelines in conjunction with MOE to aid in siting of freshwater lake facilities. The guidelines include restrictive considerations of potential interactions with indigenous fish populations and species, nutrification risks, and other siting issues.</li> <li>▪ A series of guidelines was created for hatcheries and land-based operations in 1998. MOE now has effluent regulations in place for hatcheries. MAL has standards for the siting and construction of hatcheries.</li> <li>▪ Agencies will continue to refine the freshwater aquaculture strategy and freshwater siting guidelines with the aim of formalizing these in provincial policy. See the MAL and/or MOE websites for updates on freshwater aquaculture.</li> </ul>
Farm Siting	#10 - Develop and enforce water quality standards for dissolved waste discharges from lake cage operations.	<ul style="list-style-type: none"> <li>▪ MAL has guidelines for siting freshwater lake facilities which include restrictive considerations of potential interactions with local fish populations, nutrification risks, and other siting issues. MOE manages wastes from these facilities through issuance of a site specific permit for the waste discharge. Work begun to refine the freshwater aquaculture strategy, siting guidelines and development of water quality standards will continue on a priority basis.</li> <li>▪ Future work will include developing compliance and enforcement regime for freshwater waste discharges.</li> </ul>
Escapes	#11 - Continue to allow both Pacific and Atlantic culture, but restrict the species farmed to take into account local site conditions.	<ul style="list-style-type: none"> <li>▪ Provincial policy does not support commercial culture of transgenic salmon.</li> <li>▪ Atlantic and Pacific culture are both allowed;</li> <li>▪ Applications for culturing all salmon species are subject to rigorous consideration.</li> <li>▪ All streams within 1km of proposed farm sites must be surveyed by the aquaculture company for the application review process.</li> </ul>
Escapes	#12 - Advance the goal of eliminating escapes by focusing on escape prevention as the principal management strategy for eliminating and/or reducing ecological risks from salmon farm escapes.	<ul style="list-style-type: none"> <li>▪ Substantial improvements to farm infrastructure and husbandry practices have resulted in a steady decline of escapes over time.</li> <li>▪ The first escape prevention standards were passed into regulation in October, 2000; these standards were amended &amp; improved regulations came into force in April 2002.</li> <li>▪ The new regulation requires companies to develop best management practices plans specific to escape prevention: by law, all farms must maintain these detailed descriptions of operational procedures on-site. Activities that carry an increased risk of escapes receive the greatest attention.</li> <li>▪ Farm staff must be trained in escape prevention plans; MAL facilitated training and promoted escape prevention via training manuals, workshops and posters.</li> <li>▪ Ongoing improvements are being made to MAL's enforcement and inspection activities. Since October 2002, provincial inspections and enforcement activities have increased - including scheduled and unscheduled audits of farm activities, and underwater inspections of nets and farm infrastructure.</li> <li>▪ Industry supported/assisted in development of enhanced escape prevention measures through adoption of its Code of Practice <a href="http://www.salmonfarmers.org/industry/code.html">www.salmonfarmers.org/industry/code.html</a></li> <li>▪ Standardized policy and procedures manuals are now in use by MAL licensing staff for licensing and inspection activities.</li> <li>▪ Escape levels and impacts are continually monitored and regulations modified through an adaptive management approach.</li> </ul>

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Escapes	#13 - Implement a mandatory standardized information collection and reporting program.	<ul style="list-style-type: none"> <li>Provincial escape prevention regulations require enhanced on-farm tracking, monitoring and record-keeping.</li> <li>Mandatory escape reporting is supported by a telephone number for reporting available 24 hours/day, 7 day per week.</li> <li>The Atlantic Salmon Watch program (funded in part by MAL) provides information on sightings and captures of escaped Atlantics.</li> <li>Escape statistics are available on the MAL website, including a historical analysis of escape levels and their causes: <a href="http://www.agf.gov.bc.ca/fisheries/escape/escape_reports.htm">www.agf.gov.bc.ca/fisheries/escape/escape_reports.htm</a></li> </ul>
Escapes	#14 - Reduce the risk of ecological effects from escaped farmed salmon.	<ul style="list-style-type: none"> <li>Escape prevention is the most effective way to address escape issues.</li> <li>All active farms are required to have posted escape response plans and must, by law, take immediate corrective action in the event of an escape.</li> <li>MAL supports industry's work on developing regional escape response plans in Clayoquot Sound and other areas.</li> <li>The Atlantic Salmon Watch stream survey program will continue, with industry support, to monitor streams for presence of escaped Atlantic salmon.</li> <li>Provincial policy does not support commercial culture of transgenic salmon.</li> <li>A federal (DFO) re-capture permit has been created that can be issued when a significant portion of stock can be recovered from a large escape event.</li> <li>Most aquaculture companies culturing Chinook salmon are raising all-female stocks. If an escape does occur, the risk of negative interactions in the wild is significantly reduced.</li> <li>Prov/Fed governments continue to support the Atlantic Salmon Watch Program.</li> </ul>
Fish Health	#15 - Establish a Fish Health Working Committee to promote integrated and corporate fish health policy development in BC.	<ul style="list-style-type: none"> <li>Fish Health Advisory Committee (formerly the Fish Health Working Committee) provides evidence-based recommendations to government on fish health and emerging disease issues and makes recommendations on the standards established and enforced through Fish Health Management Plans.</li> <li>Committee membership includes representatives with fish health expertise from the agencies responsible for fish culture and aquaculture in BC, as well as from industry. The Committee is chaired by an independent fish health expert.</li> <li>FHAC meetings are ongoing; work continues on fish health management issues.</li> </ul>

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Fish Health	#16 – Strengthen disease surveillance and control programs.	<ul style="list-style-type: none"> <li>▪ Every year provincial fish health staff perform farm visits, sampling fish for presence of disease and/or disease-causing agents.</li> <li>▪ The industry-led fish health database provides information on fish health trends accessible by industry and government staff.</li> <li>▪ MAL introduced a new disease auditing and surveillance program beginning November 2000. Under this program, 30-40% of all active farms are sampled approximately every 3 months.</li> <li>▪ In 2003, the province expanded this auditing and surveillance program to include monitoring of sea lice on farmed salmon.</li> <li>▪ The MAL program will act as an audit for the industry-maintained fish health database.</li> <li>▪ Quarterly reports on sea lice levels, as reported by the provincial surveillance program are available on the MAL website.</li> <li>▪ Consultations are underway with DFO to develop a Wild Fish Health Monitoring Program under the National Aquatic Animal Health Program that would include surveillance of wild and farmed stocks for diseases of international concern.</li> <li>▪ The National Aquatic Animal Health Program will prescribe reportable diseases.</li> </ul>
Fish Health	#17 - Develop standards for managing farmed salmon health as part of a salmon aquaculture code of practice, and enforce the standards as a condition of the salmon aquaculture licence.	<ul style="list-style-type: none"> <li>▪ Companies must have a Fish Health Management Plan which is reviewed and approved by a fish health veterinarian.</li> <li>▪ MAL has provided guidance to industry regarding the goals and required elements of a FHMP. FHMPs are enforceable as terms and conditions of the aquaculture license.</li> <li>▪ Operators of fish culture facilities must ensure that any actions taken to prevent, control, or treat fish disease conform to existing provincial and federal regulations.</li> </ul>
Fish Health	#18 - Improve the quality and accessibility of fish health information.	<ul style="list-style-type: none"> <li>▪ A fish health database was completed in October 2003. Quarterly reports from all private marine facilities and some federal and provincial hatchery facilities are available on the MAL website. This is an industry-led initiative; industry is responsible for reporting farm fish health information into the database.</li> <li>▪ MAL undertakes auditing and surveillance to verify industry's reporting.</li> <li>▪ Quarterly reports from the database are used with surveillance and auditing data to generate annual reports on fish health, disease status and antibiotic use.</li> <li>▪ Through annual reports, government and the public have access to the results of auditing and surveillance programs and general information on fish health trends.</li> </ul>
Fish Health	#19 – Strengthen policies and programs respecting importation.	<ul style="list-style-type: none"> <li>▪ DFO has jurisdiction over &amp; leads these programs.</li> <li>▪ Improvements have been made to the National Code on Introductions and Transfers.</li> <li>▪ All fish transfers must now be authorized by a federally-issued permit under Section 56 of the Fisheries Act.</li> <li>▪ All provinces signed the National Code on Introductions and Transfers in 2001.</li> </ul>
Fish Health	#20 - Strengthen the requirements for sampling and reporting of diseases in fish being transferred within BC.	<ul style="list-style-type: none"> <li>▪ This objective has been met through the adoption of the National Code on Introductions and Transfers.</li> <li>▪ The Introductions and Transfers Agreement focuses on addressing ecological, disease, and genetic concerns when moving fish and marine plants within and into BC.</li> <li>▪ A strict policy is in place in BC permitting the importation of eggs only (no live fish).</li> </ul>

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Fish Health	#21- Enhance fish health inspection practices at fish processing facilities.	<ul style="list-style-type: none"> <li>▪ Generally speaking, the pathogens causing sick fish on farms do not infect people.</li> <li>▪ Food safety and consumer protection are key priorities of the Canadian Food Inspection Agency (CFIA). The CFIA samples fish to monitor for a wide range of environmental and industrial contaminants including mercury, toxic elements, PCB's, DDT, and other pesticides and dioxins.</li> <li>▪ Fish products including farmed fish are tested to verify that they do not exceed Canadian Guidelines for Chemical Contaminants and Toxins in Fish and Fish Products.</li> </ul>
Fish Health	#22 - Strengthen control of drug use on salmon farms.	<ul style="list-style-type: none"> <li>▪ All antibiotics are prescribed by licensed veterinarians and are administered in feed.</li> <li>▪ Provincial compliance and enforcement strategy ensures drug records are maintained on farms and are subject to inspection. Provincial regulations monitor the production of medicated feeds and are able to track the total antimicrobial usage in aquaculture.</li> <li>▪ The amount of medications used on farms continues to decline. Less than 3% of aquaculture feed contains any medication.</li> <li>▪ The Finfish Aquaculture Waste Control Regulation requires reporting of all farm production inputs including medications.</li> </ul>
Fish Health	#23 - MOH and Health Canada should undertake further review of issues related to antibiotic and other drug use at salmon farms.	<ul style="list-style-type: none"> <li>▪ This is an area of federal jurisdiction.</li> <li>▪ An expert advisory committee, with representation from provincial fish health staff and stakeholders, met from 1999 - 2002. The committee released a report (06/28/02) on antimicrobial resistance with 38 recommendations for better managing antimicrobials use in animals (<a href="http://www.hc-sc.gc.ca/vetdrugs-medsvet/amr_final_report_june27_e.html">www.hc-sc.gc.ca/vetdrugs-medsvet/amr_final_report_june27_e.html</a>).</li> <li>▪ The Veterinary Drugs Directorate of Health Canada worked with CFIA and stakeholders to develop a comprehensive policy on identifying and managing risks associated with using antimicrobial agents in aquaculture.</li> </ul>
Waste	#24 - Develop a regulation under the Waste Management Act that implements a Performance Based Waste Management Model.	<ul style="list-style-type: none"> <li>▪ The performance-based Finfish Aquaculture Waste Control Regulation came into effect September 12, 2002.</li> <li>▪ The regulation includes provisions for farm registration, pre-stocking sampling, domestic sewage handling, best management practices, monitoring and reporting, remediation, offences and penalties.</li> <li>▪ Farm registration under the regulation has been completed, and compliance and inspection programs conducted by MOE and MAL are underway.</li> <li>▪ The standards are "performance-based," meaning that specific thresholds for defined chemical and biological indicators must not be exceeded at any time during production (previously, production levels and feed usage were regulated, rather than their actual impact on the environment).</li> <li>▪ Farmers must carry out specific monitoring/remediation activities on the farm if the indicator levels are exceeded.</li> <li>▪ Systems for reporting all information requirements electronically are being developed.</li> <li>▪ MOE will review the regulation within five years to evaluate its effectiveness, and make amendments if required.</li> </ul>
Waste	#25 - Government should test criteria for establishing benthic sediment standards to ensure feasibility and	<ul style="list-style-type: none"> <li>▪ Sediment standards in the new <i>Finfish Aquaculture Waste Control Regulation</i> were established based on MOE's sampling program, consultation with an inter-agency scientific advisory group, and other scientific advice.</li> </ul>

	consistency with government policy.	<ul style="list-style-type: none"><li>▪ The regulation includes an appendix of sampling protocols for testing chemical and biological parameters.</li><li>▪ Monitoring work will continue on farms. MOE will review the standards within five years (by 2007) to evaluate its effectiveness and consider if amendments are required.</li></ul>
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Waste	#26 (Option to Rec. #25) - Adopt performance-based sediment monitoring programs of New Brunswick if MOE is unable to develop standards within 18 months of this report.	<ul style="list-style-type: none"> <li>Waste standards are now in place.</li> </ul>
Waste	#27 - Apply existing regulatory scheme until performance based regulation enacted.	<ul style="list-style-type: none"> <li>Before the new regulation, farms were required to implement an interim waste monitoring program through the existing regulatory framework.</li> <li>Performance-based regulations were enacted April 12, 2002.</li> </ul>
Waste	#28 - Establish a registry of farms with prescribed fees under the new performance-based regulation.	<ul style="list-style-type: none"> <li>The Finfish Aquaculture Waste Control Regulation (Section 3) requires operators to register a facility before stocking it.</li> <li>Also under this regulation (Section 12), all sites must pay an annual fee consistent with the fee structure described in the Waste management Permit Fee Regulation.</li> <li>Annual reporting of feed usage (each January 31) is required under the regulation.</li> </ul>
Waste	#29 - Develop regulatory provisions to ensure consistent enforcement and audit systems.	<ul style="list-style-type: none"> <li>The new regulation includes monitoring and reporting requirements and penalties for non-compliance. MOE conducts field sampling to audit the industry's monitoring data.</li> <li>A multi-agency compliance and enforcement strategy has been developed and an agreement is in place to streamline farm inspections and investigations between MAL, MOE, and ILMB.</li> <li>If regulatory standards are exceeded, mitigation strategies and remedial action plans are required under section 11 of the regulation.</li> <li>MOE's compliance and enforcement strategy with respect to the regulation is built on a graded response system. Penalties range from warnings, tickets, and fines up to loss of farm licence or tenure.</li> <li>Audits of company monitoring data are conducted on an on-going basis by government staff.</li> </ul>
Waste	#30 - On a priority basis, examine measurements of existing benthic conditions below sites and remediate existing sites where conditions of degradation are visible.	<ul style="list-style-type: none"> <li>A thorough analysis of the environmental, social, and economic impacts of all farms was conducted over 2000-2002. As a result, 37 farms were identified for relocation to more suitable sites.</li> <li>New siting criteria, updated information on site performance, and input from a MOE environmental monitoring program informed this analysis.</li> </ul>

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Waste	#31 - Undertake focused research projects that assess the impacts of salmon farming on shellfish and other wild fishery resources on a priority basis.	<ul style="list-style-type: none"> <li>▪ The province committed \$5.1 million in 2002 to fund research initiatives - \$3.75M of this is for the Aquaculture and Environment Fund which provides support for research in areas of environmental concern in aquaculture.</li> <li>▪ DFO's science branch is studying both near and far-field effects of salmon farms.</li> <li>▪ Health Canada is examining topics on aquaculture, including shellfish quality.</li> <li>▪ The Aquaculture Collaborative R&amp;D Program (an industry-DFO partnership) is researching the effects of finfish aquaculture on shellfish.</li> </ul>
Waste	#32 - Review existing policy prohibiting polyculture.	<ul style="list-style-type: none"> <li>▪ There is no policy prohibiting polyculture.</li> <li>▪ An Environment Canada policy currently prohibits the harvest of shellfish within 125m of a "structure," including salmon farms, due to concerns of contamination, but these can be mitigated.</li> <li>▪ Polyculture opportunities are available.</li> </ul>
Waste	#33 - Incorporate waste monitoring results in MAL site assessment model (once performance standards have been set).	<ul style="list-style-type: none"> <li>▪ MAL uses a computerized model to project waste deposition at a farm site to assist in evaluating new sites and proposals for production changes at existing sites.</li> <li>▪ The model underwent calibration through input of data from extensive real-world monitoring programs to allow it to more accurately predict waste dispersion.</li> <li>▪ All new site applications are assessed in part through application of this model.</li> </ul>

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Predator Control	#34 - Implement enforceable predation prevention plans at all salmon farms.	<ul style="list-style-type: none"> <li>Under the provincial Aquaculture Regulation, all operators must develop Best Management Practices Plans (BMPPs) that establish farm-specific protocols for preventing escapes. These must include a description of predator prevention methods.</li> <li>Appendix 2 of the Aquaculture Regulation establishes standards for preventing predator attacks and damage to farm structures.</li> <li>Industry has contributed to improving predator prevention standards through development and implementation of an industry Code of Practice.</li> </ul>
Predator Control	#35 - Strictly control the killing of predators at farm sites.	<ul style="list-style-type: none"> <li>Killing of predators is only allowed under strict circumstances and with appropriate permits. Lethal seal and sea lion control has decreased dramatically due to advances in predator-prevention practices. Lethal control of Stellar sea lions is not permitted.</li> <li>In 2004, DFO replaced the Marine Mammal Predator Control Permit with the Nuisance Seal Licence. Under the federal Fisheries Act, a "nuisance seal" includes a seal or sea lion that represents a danger to equipment (including aquaculture net-cages) despite deterrence efforts.</li> <li>All farms are required to submit BMPPs that describe predator prevention practices; these are enforced as a condition of the aquaculture licence and are required for federal environmental reviews.</li> <li>Industry and government agencies continue to work to advance the development of non-lethal predator-deterrent practices.</li> </ul>
Predator Control	#36 - Discontinue the use of acoustic deterrent devices (ADDs) at BC salmon farms.	<ul style="list-style-type: none"> <li>Acoustic deterrent devices are no longer used by major aquaculture companies in BC.</li> <li>One small operator continues to use an ADD.</li> </ul>
Predator Control	#37 - Restrict the practice of "night lighting", pending the results of further research.	<ul style="list-style-type: none"> <li>Research has been conducted by DFO regarding interactions between farmed and wild fish in photoperiod manipulation which indicates that the practice poses minimal risk to the environment and has not shown significant predation by farm fish on wild organisms as prey.</li> </ul>
First Nations	#38 - Develop strategies to address First Nations concerns about siting of salmon farms.	<ul style="list-style-type: none"> <li>ILMB carries out consultations with First Nations in accordance with its Aboriginal Interests Consideration Procedures (2003) and the provincial consultation guidelines.</li> <li>First Nations are consulted by way of application referrals and meetings.</li> <li>The province holds frequent formal and informal meetings with First Nation groups.</li> <li>Farmers are encouraged to initiate dialogue with local First Nation groups when researching and assessing a new site.</li> <li>Federal government also consults with First Nations as part of their review; this is partially co-ordinated with provincial consultations.</li> </ul>

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First Nations	#39 - Develop strategies to involve First Nations in policy development, and research management.	<ul style="list-style-type: none"> <li>First Nations provided policy advice through the SAIAC between 2000 and 2002.</li> <li>First Nations have been trained for and completed stream monitoring work through the Atlantic Salmon Watch Program.</li> <li>First Nations groups were partners in two pilot projects and a third pilot project is strongly supported by the local First Nation.</li> <li>First Nation/industry joint ventures are in place at some farms (e.g. between the Kitasoo band and Marine Harvest, and between Kitkatla and Panfish Canada).</li> <li>Government and industry broadly support First Nations training.</li> <li>MAL is negotiating an MOU with the Musgamagw Tsawataineuk Tribal Council that will provide a forum for policy discussion and research priority-setting and action.</li> </ul>
Risk Management	#40 - Undertake coordinated scientific research, technological trials and inventory investigations, based on the prioritization of initiatives.	<ul style="list-style-type: none"> <li>The BC Aquaculture and Environment Fund was established in 2002 with \$3.75M in funding from the province to provide support for research in areas of concern to British Columbians.</li> <li>The University of BC and DFO have jointly established a Centre for Aquaculture and the Environment Research. Its mission is to conduct leading edge research and education, and to pursue critical environmental protection and sustainable aquaculture. The provincial government partially funds a chair at the centre.</li> <li>Under the 5-year Aquaculture Collaborative R&amp;D Program, scientific research projects are proposed by the industry and jointly funded by industry partners and the federal government. Funding is approximately \$4.5M per year.</li> <li>Aquanet (a national network of centres of excellence) supports aquaculture research initiatives across Canada in conjunction with industry and university partners. It has three research themes: animal production, environmental integrity and socio-economic development. It is funded by federal research councils, but is wrapping-up in 2006.</li> </ul>
Risk Management	#41 - Reduce risk through performance based program implementation supported by comprehensive monitoring.	<ul style="list-style-type: none"> <li>New escapes and wastes programs employ performance-based models.</li> <li>Programs for site allocation, escapes, fish health, waste management and pilot projects all incorporate comprehensive monitoring.</li> <li>Programs will be continually developed and refined.</li> </ul>
Alternative Technology	#42 - Undertake further analysis and development of the policy framework necessary for exposed offshore open marine systems.	<ul style="list-style-type: none"> <li>A proposal for an offshore system was received via the Pilot Project Technology Initiative, but its technical merit was lower than other proposals and was not approved.</li> <li>This may be considered again in the future.</li> <li>The US has initiated an offshore aquaculture program. This will be instructive to an assessment of policy requirements for British Columbia.</li> </ul>

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Alternative Technology	#43 - Initiate pilot projects for closed marine systems	<ul style="list-style-type: none"> <li>▪ Pilot project program was launched in 2000 to explore potential applications of new aquaculture technologies.</li> <li>▪ Three pilot projects tested:                         <ol style="list-style-type: none"> <li>1. alternate protein feeds and new feeding technologies in a marine-based closed-bag system,</li> <li>2. a marine-based closed-bag system</li> <li>3. a land-based tank system.</li> </ol> </li> <li>▪ Projects reports are on MAL's website.</li> <li>▪ The 5-year term of the program ended in 2005.</li> </ul>
Alternative Technologies	#44 - Establish a funding commitment to salmon aquaculture research and development.	<ul style="list-style-type: none"> <li>▪ The federal Aquaculture Collaborative R&amp;D Program supports R&amp;D in partnership with industry.</li> <li>▪ The Pacific Salmon Forum has allocated part of \$4 million for research into interactions between aquaculture and the environment.</li> <li>▪ The Provincial Aquaculture and Environment Fund supports research in the area of aquaculture interactions with the environment.</li> </ul>
Conflict Resolution	#45 - Establish improved mechanisms for addressing disputes that arise over salmon aquaculture.	<ul style="list-style-type: none"> <li>▪ The province is discussing an area agreement approach to improve communication and dispute resolution.</li> <li>▪ Inter-agency coordination at the provincial level has been improved via established committees and ad hoc meetings; dialogue between provincial and federal agencies is ongoing.</li> <li>▪ ILMB refers new farm applications to several provincial and federal agencies as well as local governments, First Nations, and relevant resource-user groups for comment.</li> <li>▪ Local open houses are held for every new site application where the public is invited to learn about the proposal and to provide comments.</li> <li>▪ Companies may contact concerned groups directly to identify and make efforts to resolve or prevent potential disputes/issues regarding a site application.</li> </ul>

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Conflict Resolution	#46 - Develop and adopt a set of integrated, strategic policy objectives for salmon aquaculture in BC.	<ul style="list-style-type: none"> <li>▪ The Provincial government has developed and implemented a series of policies and regulations for aquaculture (the Provincial Salmon Aquaculture Policy Framework).</li> <li>▪ The Provincial aquaculture policy addresses all “sustainability principles for resource management in B.C.” as developed by MSRM (presented in draft form to Cabinet, May, 2002).</li> <li>▪ The province adopted an aquaculture vision statement: “An economically competitive industry that develops in an environmentally and socially sustainable manner.”</li> <li>▪ The Salmon Aquaculture Implementation Advisory Committee (SAIAC) developed a set of policy objectives based on participation from First Nations, ENGOs, and the commercial and recreational fishing sectors.</li> <li>▪ The Inter-agency Directors’ Aquaculture Committee was formed in October 2001 to coordinate aquaculture policy and program development. Member agencies include MAL, ILMB, MOE and DFO.</li> <li>▪ The province will continue to refine and adjust its aquaculture policies as necessary, in response to new scientific information.</li> </ul>
Conflict Resolution	#47 - Re-establish a broadly based advisory group to provide counsel to government on the management of salmon aquaculture in B.C.	<ul style="list-style-type: none"> <li>▪ SAIAC served this purpose from 2000 to 2002.</li> <li>▪ Since SAIAC dissolved in 2002, government considers advice from various sources, including ENGOs, industry and other governments. The Pacific Salmon Forum was formed in 2004 and the Special Legislative Committee on Sustainable Aquaculture in 2005 for this purpose.</li> </ul>
Implementation	#48 - On a priority basis, develop a comprehensive code of salmon aquaculture practice.	<ul style="list-style-type: none"> <li>▪ The BC Salmon Farmers Association has taken this initiative. Their Code of Practice describes practices which demonstrate a high level of diligence in the operation of salmon farms in British Columbia.</li> <li>▪ Best Management Practices Plans (BMPs) are required under provincial regulations. In these plans, industry must describe how specific operational activities on the farm will be conducted in order to prevent/mitigate negative environmental impacts.</li> <li>▪ Some of the functions described in this recommendation are being assumed by the provincial application guide (e.g. assist industry in developing farm management plans, describe the processes for applying for tenures/licences, etc. – see #5).</li> </ul>

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Implementation	#49 - Government should implement changes to the legislative, regulatory and policy framework for provincial approval processes.	<ul style="list-style-type: none"> <li>▪ Amendments have been made since 1999 to the Aquaculture Regulation under the provincial Fisheries Act and to the Finfish Aquaculture Waste Control Regulation under the provincial Environmental Management Act.</li> <li>▪ Both Acts require development of a Best Management Practices Plan for use on all farms (see #48).</li> <li>▪ Federally, Navigable Waters Protection Act, Canadian Environmental Assessment Act and Fisheries Act guidelines have been developed.</li> <li>▪ The province is exploring options for streamlining the licence review and approval process. This involves co-operative work with the federal government.</li> <li>▪ The province is reviewing the existing legislative and regulatory framework around salmon aquaculture and will examine the adequacy of current enforcement mechanisms (e.g. levels of fines and other sanctions).</li> <li>▪ The province is reviewing its licensing authority and the adequacy of its legal authority around disease monitoring requirements.</li> </ul>