Regulatory Compliance of British Columbia's Marine Finfish Aquaculture Facilities 2009

JOINT REPORT

Ministry of Agriculture and Lands

AND

Ministry of Environment

Prepared by:

Aquaculture and Commercial Fisheries Branch,
Ministry of Agriculture and Lands

and

Conservation Officer Service,
Ministry of Environment

TABLE OF CONTENTS

LIST OF CHARTS AND GRAPHS

LIST OF PHOTOGRAPHS

LIST OF TABLES

LIST OF APPENDICES

Executive Summary:

Finfish aquaculture is a significant contributor to the British Columbia economy. The industry had a landed value of $406 million in 2008 and represents 6,000 direct and indirect jobs. The Province is committed to ensuring that this industry is properly regulated and sustainably managed.

BC Supreme Court Decision (*Morton v. British Columbia):*

In February 2009 in the matter *Morton v. British Columbia*, the BC Supreme Court ruled that the activity of marine finfish aquaculture is a fishery and falls under the exclusive jurisdiction of the Federal government under the *Constitution Act 1867*. The court had ordered that the existing provincial regulatory scheme continue for a period of 12 months, despite its unconstitutionality, to give Canada time to craft a replacement regime. On January 26, 2010, the British Columbia Supreme Court (BCSC) announced that the current management regime and regulatory framework governing the aquaculture industry in B.C. will remain in effect until December 18, 2010, allowing the Federal government additional time to develop and implement a new federal regulation and regulatory framework under the *Fisheries Act*. The Province continues to manage and regulate the industry as directed by the BCSC, while it works with the Federal government on an orderly transition of responsibilities.

Inspection Activities and Compliance Results:

Compliance with regulatory requirements and the terms and conditions of aquaculture licences are determined primarily by way of regular inspections carried out on farm sites by provincial inspection staff. In addition to Ministry of Agriculture and Lands (MAL) inspector visits, other provincial and federal authorities also regularly visit marine finfish sites. On average, each operational finfish facility may be visited at least three to four times a year by various government representatives. Such representatives include staff from MAL Fish Health Branch, the Ministry of Environment's (MOE) Environmental Protection Division, Fisheries and Oceans Canada, and WorkSafeBC.

General Results for 2009:

Overall inspection results for the 2009 indicate high levels of compliance. In 2009, MAL inspected and otherwise assessed 92 operational marine finfish farms for approximately 100 requirements relating to both MAL and MOE assessed by inspectors at each farm site.
In 2009, agencies found generally high levels of compliance for both MAL and MOE requirements. The high level of compliance continued with all MAL inspection points found to be in the 93 to 100 percent range with an average of 99.4 percent compliance on all issues. MOE requirements for the same period range from 97 to 100 percent with an average of 99.6 percent on all issues.

For the 2009 inspection cycle, areas of non-compliance relative to MAL requirements included:

- Five sites were out of compliance on their conditions of licence. Those sites were determined to be non-compliant with the approved maximum production.
- One site's inventory and inspection records were not complete
- One site did not have all daily inspections of net cage support systems reports completed, did not have all daily inspections recorded in a log book and did not have all daily records kept on site.
- One site did not have net cages inspected every 60 days.
- One site did not have net cages inspected after any activity that increased the risk of escapes.
- Two sites did not have recent out-of-water service records on site.

- At two other sites, the out-of-water service records were not complete.
- At three sites, the BMP did not include the net cage and bag cage changing procedures.
- At one site, the BMP did not include procedures for boat operations and maintenance, and towing of active structures.
- At two sites, the BMP did not include a statement that individuals responsible for implementing the plan understood and received training.
- At one site, a copy of the escape response plan was not available.
- At two sites, net audits were not all performed satisfactorily.
- At one site, the water line rope was not the primary point of attachment.
- On one site, the nets were not stored in a manner to minimize deterioration.
- At one site, irregularities in the cage supporting system were not repaired immediately.
- One site did not have a designated docking site for boats.
- Two sites did not have signs posted directing vessel traffic.

For the 2009 inspection cycle, areas of non-compliance relative to MOE requirements included:

- One site's BMP did not contain a statement that it had been endorsed by the holder.
- Two sites' BMP did not indicate that it had been reviewed by staff at those facilities.
- Three sites' BMP did not include a list of harmful materials.
- One site did not dispose of blood water properly.
- Three sites' generators were not protected with containment.
- One site did not have all fuel products securely stored and protected from spillage.
- One site's sewage records were not kept on location.
- One site did not have a water licence.

Compliance and enforcement staff at both MAL and MOE continue to conduct follow up inspections to address identified issues to ensure industry is meeting all necessary requirements.

Sector Background

Preliminary data for 2009 indicates that the total round weight harvest of farmed salmon was 88,800 tonnes. This is an increase of 9 per cent from the 2008 harvest volume of 81,400 tonnes. The 2009 harvest equates to a farm gate value of $367 million.

These values for farmed finfish reflect landings and production from only a portion of the licensed marine aquaculture farms in British Columbia. At any time, a certain percentage of sites may be fallow or not in operation. "Fallow" sites are those finfish aquaculture farms that are inactive to allow the seabed to recover from any organic input prior to stocking the next production cycle. This helps ensure that operations are compliant with performance-based waste standards prescribed by MOE.

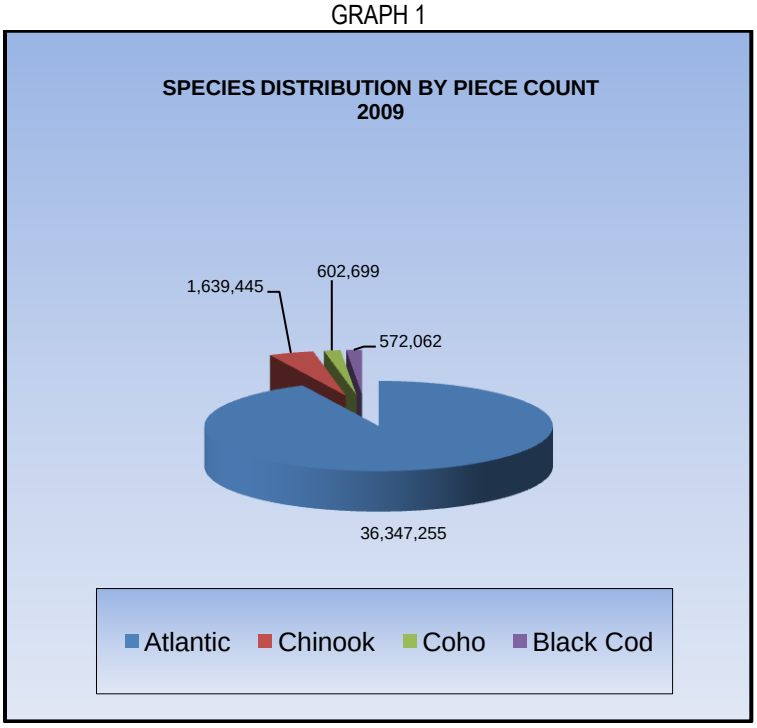
The map included as Appendix 2 shows the distribution of salmon farms in British Columbia. More detailed and site specific information can be found at the following link:

http://www.agf.gov.bc.ca/fisheries/bcsalmon_aqua.htm

During the 2009 inspection cycle there were 92 operational sites inspected. Fallow or inoperative licensed sites were visited but are not included in this report.

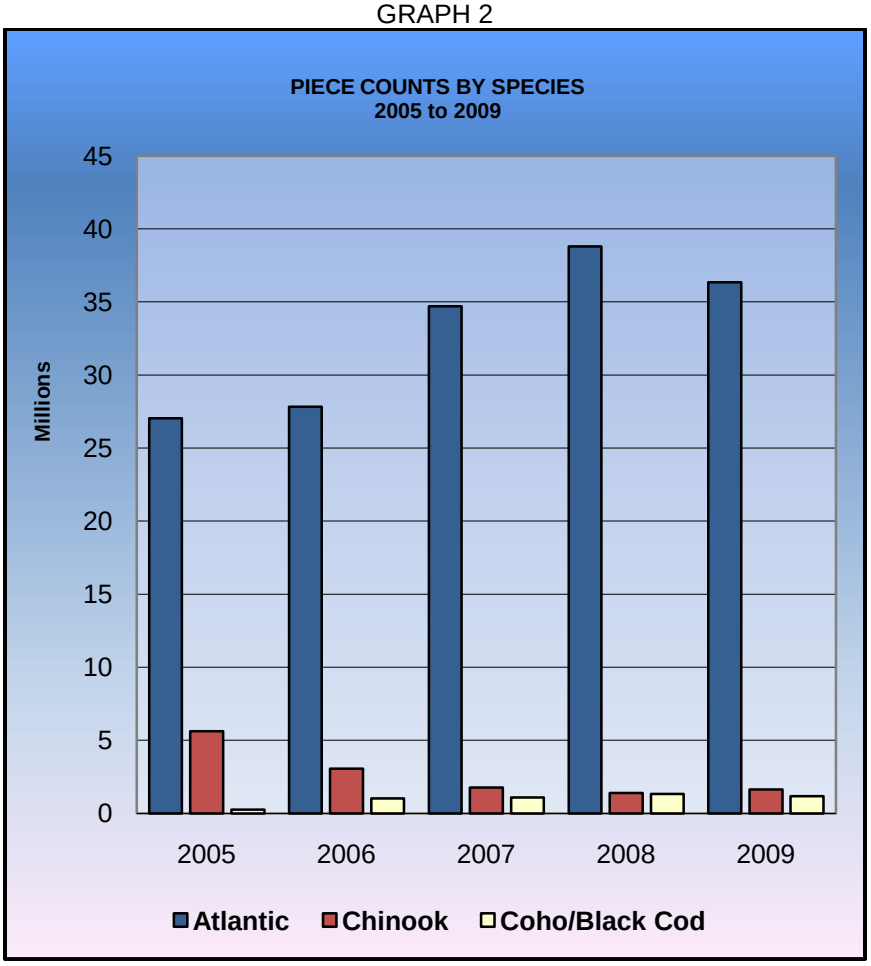
Graph 1 provides a comparison of species being held on provincially licensed fish farms and reflects data that was collected by inspectors while they were on site during the 2009 inspection cycle.

GRAPH 1



Graph 2 compares these same findings over the last five inspection cycles.

GRAPH 2



Mandate

Ministry of Agriculture and Lands -

Legislative and Regulatory Framework

Fisheries Act

The Fisheries Act (BC) provides the authority for MAL to license aquaculture operations and regulate on-site farming activities. It also provides MAL with the authority to set out licensing requirements such as species and production limits approved for each operation, and any additional licence terms and conditions that might be appropriate.

Aquaculture Regulation

The *Aquaculture Regulation* establishes regulatory requirements for specific on-site farm activities. These requirements identify a minimum standard that farm operators must meet.

Some of the more substantive powers within the regulation include:

- the authority allowing provincial aquaculture inspectors to order suspect net cages to be removed from the water;
- detailed and streamlined record keeping requirements for marine aquaculture sites;
- diving requirements that link dive inspections more closely to higher risk activities or events such as severe storms;
- the requirement for farms to develop best management practice plans to guide routine activities that could lead to escapes;
- changes to minimum net-strength standards, making them more consistent with other jurisdictions;
- a mandatory net-strength testing protocol, making net-strength requirements more enforceable; and
- an increased emphasis on staff training, based on research that suggests human error is a leading cause of escapes.

Ministry Of Environment -

Legislative and Regulatory Framework

MAL inspectors conduct inspections at active sites on behalf of MOE in accordance with the *Service Agreement on Collaboration and Coordination of Environmental Protection and Compliance and Enforcement Programs for Marine Salmon Farms* found at the following link.

http://www.agf.gov.bc.ca/fisheries/Manuals/Inspect/10.17-Service_Agreement.pdf

MOE manages its compliance functions through staff associated with the Centre of Excellence for Aquaculture, Environmental Protection Division, Nanaimo, and the Conservation Officer Service (COS).

MOE staff are involved in reviewing and auditing environmental monitoring data submitted by farms to ensure compliance with the environmental standards established in the Finfish *Aquaculture Waste Control Regulation*.

The focus of these inspections is directed at compliance with legislative and regulatory requirements under pertinent acts and regulations administered by MOE, ensuring protection of the marine environment, fisheries, wildlife, and human health.

Inspection activities were conducted to determine compliance with waste management requirements dealing with:

- domestic sewage;
- disposal and storage of fish mortalities (morts);
- transport, disposal and storage of blood water;
- disposal of refuse and other wastes;
- storage of hazardous materials; and
- control of predators through the use of trapping and firearms.

There are a number of acts and associated regulations dealing with these activities:

- *Environmental Management Act*
- *Finfish Aquaculture Waste Control Regulation*
- *Wildlife Act*
- *Water Act*
- *British Columbia Fire Code Regulation*

Environmental Management Act

The *Environmental Management Act* regulates the discharge of waste into the environment. Waste is defined as refuse, effluent or air contaminant capable of impacting human health or the environment. The Act prohibits all waste discharges, except discharges conducted in accordance with a permit, approval or an applicable regulation.

Possible waste discharges from salmon farms include sewage, fish faeces, fish feed, mortalities (dead fish), blood water, net cleaning waste, refuse, used disinfectant from footbaths, and fuel spills.

Finfish Aquaculture Waste Control Regulation

In September of 2002, the *Finfish Aquaculture Waste Control Regulation (FAWCR)* came into effect, replacing the *Aquaculture Waste Control Regulation*. The *FAWCR* requires all operating farm sites to be registered with MOE prior to stocking a facility with finfish.

Under the *FAWCR*, farm operators are required to implement a Best Management Practices plan to address the management of potentially harmful materials; to promote the reduction of the discharge of wastes and pollutants; to prevent the attraction of wildlife to feed, foodstuffs and mortalities; and to collect and dispose of mortalities in a timely fashion and in a manner to prevent spillage to the environment and minimize odours during storage and transportation.

The *FAWCR* establishes standards for the discharge of domestic sewage from farm sites and requires the operator to maintain records related to the construction, operation and maintenance of sewage treatment and disposal works.

The *FAWCR* also has provisions requiring environmental monitoring of sediments and reporting of monitoring results. It establishes chemical and biological standards for sediments at farm sites and defines when farms can be restocked based upon specific sediment conditions.

Wildlife Act

The *Wildlife Act* and the *Wildlife Act Commercial Activities Regulation* deal with trapping of fur bearing animals by licensed trappers and landowners. Fur bearing animals such as mink and river otter that become conditioned to feeding on farmed fish may be trapped by a licensed trapper during the open season or during closed season with authority from the Regional Wildlife Manager. The *Wildlife Act* also regulates hunting and requires a person to hold a licence when hunting wildlife.

Water Act

The agency principally responsible for administering and regulating activities related to the *Water Act* is MOE. The *Water Act* regulates the use of surface water for domestic, industrial and commercial use. A water licence is required in order to use surface water for domestic use in industrial settings such as marine fish farms.

British Columbia Fire Code, 2006

The BC Fire Code, administered by the BC Office of the Fire Commissioner, requires 110 percent containment for flammable or combustible liquids. The 110 percent containment requirement of the BC Fire Code supports the *Environmental Management Act* and its regulations in regards to spill prevention measures.

Key Components of the On-Site Inspection –

MAL Regulatory Issues

Licence Conditions: Under the *Fisheries Act* (B.C.) operators must adhere to the conditions of their aquaculture license. During the on-site inspection, the inspector will assess compliance with the aquaculture licence by observing and detailing site specific information. This assessment includes information on production limit, species cultured, licensing, and any other conditions of licence.

Escape Reports: Escapes must be reported within 24 hours to the Aquaculture and Commercial Fisheries Branch. On-site inspections provide opportunities for inspectors to audit this requirement by reviewing on-site records and to question farm site employees or managers.

Inventory Records: Companies are required to keep an accurate and complete inventory of stock on hand for each net cage. These records must be maintained until that stock is removed from the site.

Inspection Records: Farm operators are required to conduct specific inspections on-site as part of the precautionary measures to prevent escapes. Regulations require these inspections to be documented and records must be kept on-site and produced at the request of an inspector.

Best Management Practices Plan (BMP): Companies are required to develop these plans for each site. The BMP must include a description of specific practices and procedures used to prevent fish escapes during high risk activities conducted at the farm site.

Escape Response: Inspectors verify that the company has developed and posted an escape response plan. Farm staff are often questioned to determine if they can accurately describe the contents of these plans.

Therapeutant Use and Records: On-site inspections provide an opportunity to ensure that therapeutant usage on the farm site is properly documented and these records are properly maintained.

Installation of Containment Structures: A visual, above-water inspection is conducted during which the inspector ensures that the cage support equipment is designed, installed and maintained to prevent entanglement and chafing against containment nets, predator nets and shark guards.

Net Cage Configuration & Storage: The installation of the net cage is examined to ensure that the net cage is properly installed, the tie off points are secure, the jump net is the required height, and there is sufficient weight on the net to prevent excessive billowing. Net storage is also reviewed to ensure nets are properly stored and protected from ultra-violet rays.

Net Cage Inspections: The inspector reviews the condition of each containment net in use and may order or conduct net-strength testing if there is any concern or issue over the integrity of any net cage. This may involve on-site testing or a request by the inspector to remove the net for a complete out-of-water servicing.

The inspector also examines mesh size, the frequency and quality of repairs, whether the company is compliant with the specified net cage inspection, and the frequency of inspections. The inspector will also determine if the nets are properly tagged with an inventory control number and repairs are carried out as required.

Boat Docking: Inspectors review boat docking areas to ensure they are designed to prevent propeller damage to net cages and that proper signage has been provided to identify these as designated boat docking areas.

Fish Handling: If fish are being harvested or handled, the inspector ensures that the company complies with requirements to have spotters and to use catch nets to prevent accidental loss of fish through human error.

Predator Control: The inspector reviews the predator control program for the farm site to ensure that the operator has responded to any repeated predator attacks by implementing additional measures to prevent damage to the containment structures that might lead to loss of fish.

Key Components of the On-Site Inspection – MOE Regulatory Issues

Best Management Practices: Companies are required to document procedures that identify practices and operations consistent with the objectives that are defined in the *FAWCR*. These practices are designed to minimize the discharge of wastes and/or reduce the risk of accidental spillage of potentially harmful materials. The inspector will check to ensure all the required elements have been addressed in the BMP.

Blood Water Disposal: Fish handling procedures are reviewed with the operator and in cases where fish are bled on site the inspector will determine how the farm operator disposes of or contains the blood water.

Net Treatment, Cleaning and Waste Disposal: The inspector examines net handling procedures to determine the location and manner in which containment nets are handled and cleaned to remove marine growth.

Disinfectant Use and Disposal: The type of disinfectant the farmer uses to treat equipment or uses in foot baths to prevent the spread of fish disease is reviewed by the inspector. Storage methods, use, disposal, and any treatment prior to disposal are examined.

Mort Storage and Disposal: The inspector determines where fish morts are stored after they are collected from individual net pens. Where morts are stored on site the inspector reviews storage methods and the frequency of removal. The final destination of the morts is determined to ensure proper removal and disposal.

Refuse Storage and Disposal: The inspector reviews disposal methods and determines the disposal location of domestic and/or industrial refuse produced on the finfish farm to ensure proper removal and disposal.

Sewage Treatment and Disposal: The inspector determines the method of domestic sewage disposal and ensures proper authorization is in place if required. In addition, the inspector will ask the operator to produce the required documentation and sewage maintenance records.

Water Use and Licensing: The inspector determines the source of domestic water supply to ensure that where required, the proper water use licence is in place.

Wildlife Predator Trapping: Trapping wildlife that prey on finfish is occasionally arranged by the farm operator. The inspector determines the number and species of wildlife trapped, how they are trapped, the trapper's name, and ensures that a proper permit is in place for this activity.

Predator Management: Occasionally problem mammals that prey on farmed salmon are destroyed with firearms as approved by DFO. Inspectors review usage of firearms at the farm site.

Fuel Product Use, Storage and Containment: The inspector reviews fuel storage on site to determine if the fuel is securely stored in an environmentally safe manner and that diesel tanks and generators have a minimum 110 percent containment or other adequate containment method. Inspectors also determine whether the operation is in compliance with Section 4.1.6 of the BC Fire Code.

Environmental Management: The inspector determines if a spill contingency plan is available on site, reviews the plan, and determines whether adequate spill equipment is present to support the plan.

Compliance Rates for 2009 –

Regulatory and Licensing Requirements

Part #1

MAL Requirements

A. Aquaculture Licence Compliance

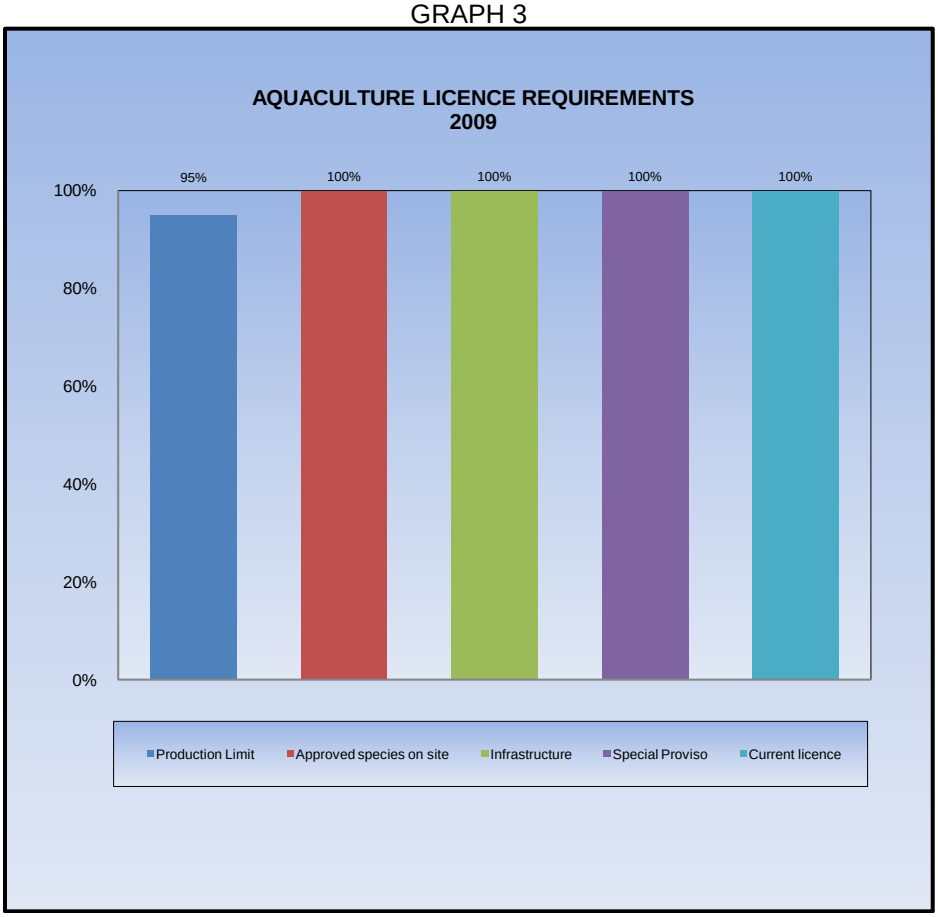
Section 13(5) of the *Fisheries Act* requires that all finfish aquaculture facilities possess a valid aquaculture licence. Aquaculture licenses are issued with conditions. Contravention of a condition of licence is an offence under Section 25(2) of the *Fisheries Act*.

During the 2009 inspection cycle, 92 sites were inspected for compliance with aquaculture licence conditions including, approved species on site, biomass, current licence, infrastructure and adherence to any special provisos. Inspections and subsequent investigations (see Investigations) suggested that 5 sites exceeded their licensed production limit.

PHOTOGRAPH #1

Assessing infrastructure

GRAPH 3



B. Escape Reporting

The *Aquaculture Regulation* requires that fish escapes or suspected escapes be reported to MAL verbally within 24 hours and in writing within one week from the date of discovery. On-site inspections provide the opportunity for inspectors to interview site employees and view log entries and other farm documents to assess compliance with this requirement.

In 2009 there were a total of 51 incidents of escape or suspected escapes investigated by the ministry. Inspectors were able to determine that fish loss occurred in 16 of those incidents. The number of fish reported as unaccounted for was 72,745; this included 48,857 Atlantic salmon and 23,888 Chinook salmon.

In one single incident, 48,822 Atlantic salmon were reported to have escaped after two net cages failed. The net failure was attributed to low dissolved oxygen levels in the environment leading to extremely high mortalities of penned fish. The accumulated weight of the mortalities on the bottom of the nets caused them to tear.

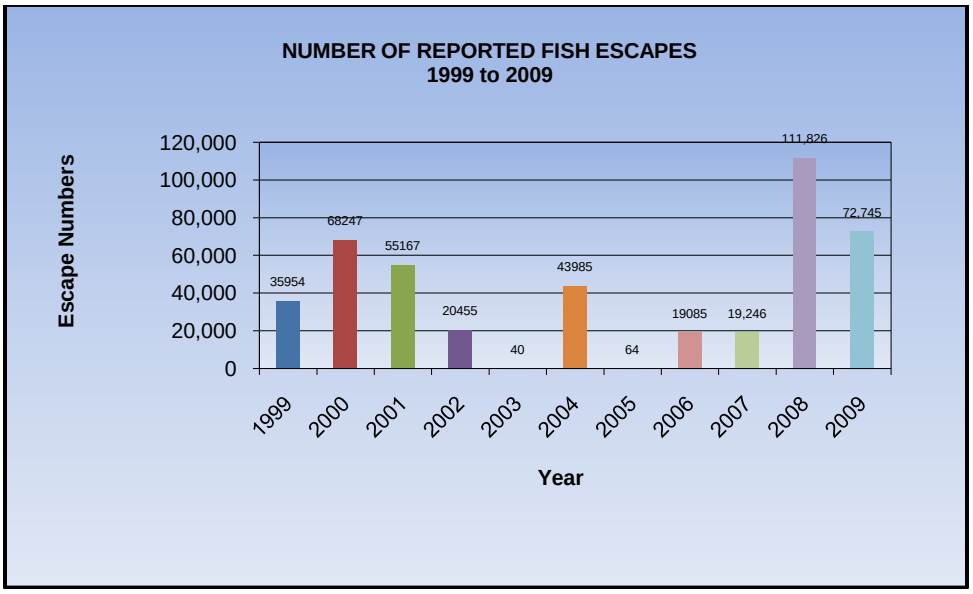
23,886 of the 23,888 Chinook salmon were reported missing in 2009 when the company noted inventory discrepancies between the number of introduced smolts and harvested fish. An investigation conducted jointly by COS and MAL revealed that the disappearance was most likely the due to predation from River otters and not from escapes.

The following graph illustrates the estimated number of fish lost into the marine environment from 1999 to 2009.

Additional information can be found on MAL's website at,

http://www.agf.gov.bc.ca/fisheries/escape/escape_reports.htm

GRAPH 4



C. Inventory and Inspection Records

The *Aquaculture Regulation* requires that licence holders keep accurate and complete inventory records of stock on hand and requires these records to be maintained for each net cage in the system. These records must show the inventory introduced to the farm site and the source of the stock, and documentation should reconcile any fish transferred in or out, including escapes and mortality.

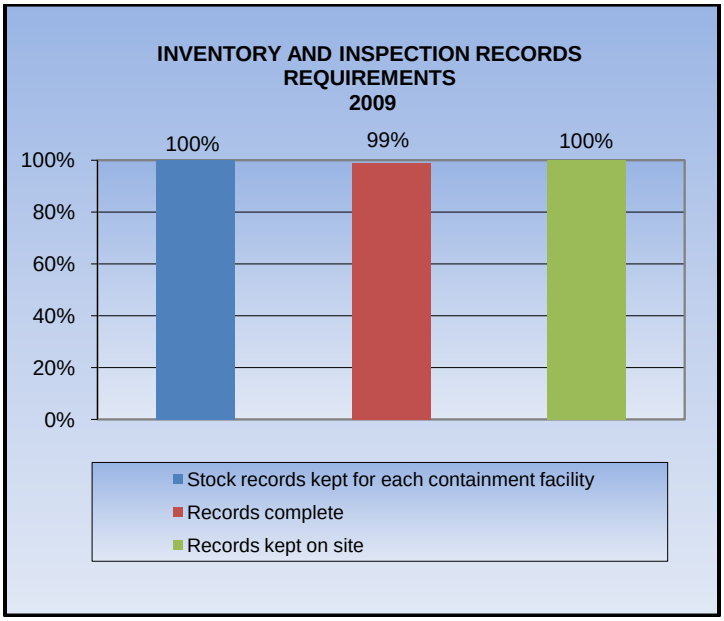
The objective of this requirement is for the farm operator to know at any given time what the stock levels are for each net cage on the farm. This is not only important from an animal husbandry perspective but also to enable the operator to more accurately assess and report incidents of escape, and provide a measure of compliance with production limits. Accurate records are also important for the statistical database that MAL maintains.

PHOTOGRAPH #2

Inspector reviewing records at farm site

In 2009, operators at all sites were maintaining stock inventory records for each containment facility and they were kept on site. One site did not have complete records.

GRAPH 5

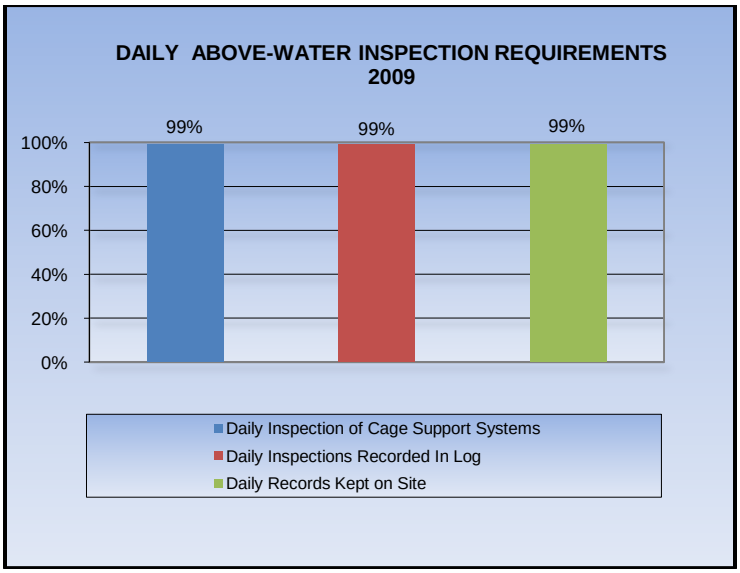


D. Daily Above-Water Inspections

The *Aquaculture Regulation* specifies that daily above-water inspections of net cages are required to ensure integrity of the system. This information must be maintained in the daily maintenance logs and these logs are required to be kept on site and produced at the demand of the inspector.

In 2009, findings indicated that daily above-water checks were being conducted and recorded at 91 of 92 sites. Logs were used to record daily inspections and those were kept at those 91 sites. One site did not have the daily above water log on site and was not available for review.

GRAPH 6



E. Underwater Inspections of Active Net Cages

There are a number of required underwater dive inspections that are specified in the *Aquaculture Regulation*. Currently these inspections must be carried out by divers but the regulations also provide the opportunity for flexibility in the event that an alternative suitable method is proposed. Before any proposed method can be used it must be reviewed and approved by MAL.

In 2004, divers were the only approved method for conducting underwater inspections. In March 2005, after careful review by MAL, an alternative method of net inspections was approved, allowing specific net inspections to be done manually from the surface by following procedures outlined by MAL.

Deployment of a containment net is a high risk activity. Before the net is properly stabilized there is an increased risk that the net may catch and tear on a snag point. The *Aquaculture Regulation* requires that once a containment net is in place and prior to the introduction of fish, an underwater inspection must be made to ensure that no damage has occurred during the net deployment that might increase the risk of a fish escape.

The *Aquaculture Regulation* requires that routine underwater inspections of containment nets be completed every 60 days or after any activity that may increase the risk of net failure and potential escape. Examples of this would include extreme environmental conditions, net cage changes, fish delivery, predator attacks, towing net cages, and vandalism.

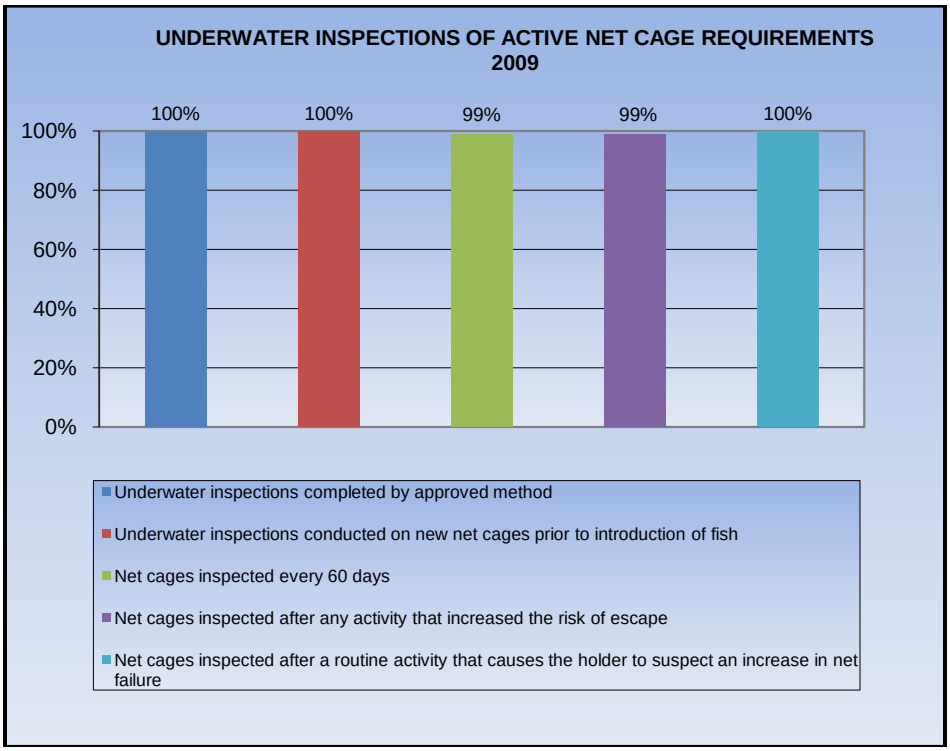
PHOTOGRAPH # 3

Company divers preparing for a net cage inspection and mort recovery

In 2009, all sites completed underwater inspections by an approved method, conducted inspections on new net cages prior to introduction of fish and conducted inspections after a routine activity that caused the holder to suspect an increase in net failure. One site failed to have net cages inspected every 60 days and another site failed to inspect net cages after an activity that increased the risk of escapes.

The following graph illustrates the compliance rates with the underwater dive inspections.

GRAPH 7



F. Required Net Cage Maintenance Records

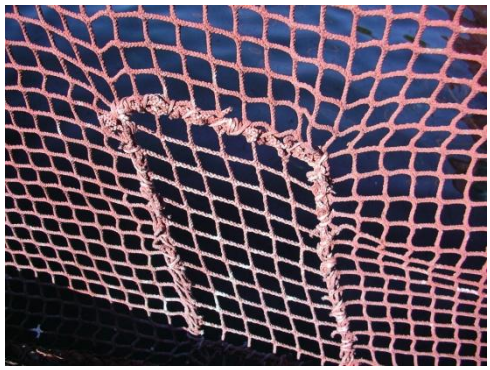
The *Aquaculture Regulation* requires that specific information be collected and maintained for each containment net on site. In the event of an incident, net records are a key component of the investigation. This information is required to be kept on site with the deployed containment net and must be provided to the inspector upon request.

Net records include specific details such as net inventory number; dimensions; mesh size; accumulated time in the water since the most recent out-of-water inspection; a description and the dates of each underwater inspection performed since the most recent complete out-of- water servicing and inspection; and a description, date and reasons for all recent repairs.

Net damage found during regular above-water or underwater inspections of nets that are in use must be immediately repaired. This includes both the containment net as well as the jump net portion. Any temporary net repairs should be replaced with more permanent repairs as soon as possible.

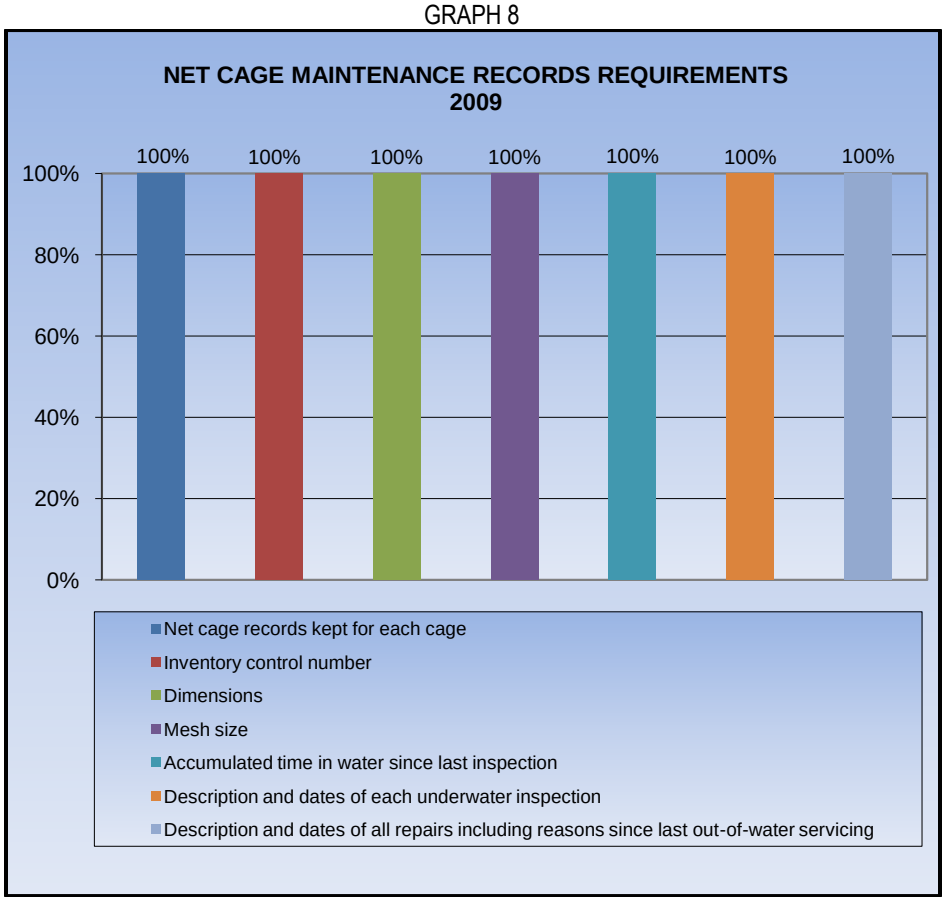
In 2009, all sites were in compliance with required net cage maintenance records.

PHOTOGRAPH #4



Net repair completed on the jump net portion of a containment net

GRAPH 8



G. Out-of-Water Records:

There are no requirements or timeframes for when containment nets must be strength tested and serviced. The frequency of the out-of-water servicing is left up to operators thus providing them flexibility to meet operational needs.

Inspectors have the authority to require that an operator demonstrate that a net cage meets the minimum breaking strengths where the condition of any net may be in question. The inspector

can require the operator to conduct an on-site test of the net or can require that the net be removed from the water for a complete inspection and servicing.

The out-of-water servicing includes a complete inspection of the entire net cage; any damage must be repaired. The net cage must be strength tested in accordance with the BC Net Cage Mesh Strength Testing Procedure. A record of this testing must be completed and the record must be signed by the person completing the test. A record of this out-of-water servicing and testing must accompany the net to the farm site and be presented upon request to the inspector.

An important component of the out-of-water servicing is the net breaking strength. Appendix 2 of the *Aquaculture Regulation*, Sections 14 and 15 describe the minimum breaking strength requirement that various size containment nets must meet.

To develop consistency with respect to determining net breaking strengths a standardized mesh strength testing procedure has been developed and must be followed when conducting these tests. The British Columbia Net Cage Mesh Strength Testing Procedure March, 2002 describes this procedure and an electronic copy can be found at the following link:

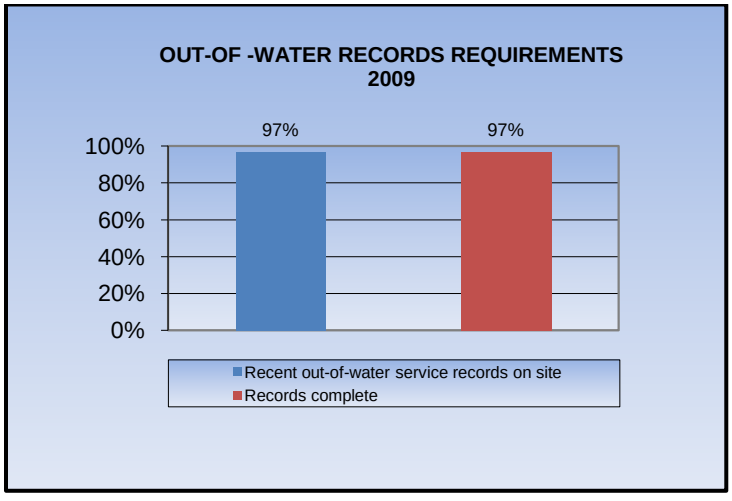
http://www.agf.gov.bc.ca/fisheries/compl/cabinet/Final_net_testing_protocol.pdf

Any nets that do not meet the net breaking strength requirements are inadequate and they cannot be re-deployed as containment nets. These nets should either be disposed of or relegated to other purposes.

Out-of-water servicing records may not be required if the net has been newly manufactured and is being used for the first time or if the net has yet to undergo an out-of-water service.

In 2009, there were 73 operating sites out of 92 sites where out-of-water servicing records were required. At 71 sites these records were available, and 69 of those 71 were complete.

GRAPH 9



H. Best Management Practices Plan

Both the *Finfish Aquaculture Waste Control Regulation* and the *Aquaculture Regulation* contain requirements for marine fish farms to develop and implement Best Management Practices Plans (BMPs).

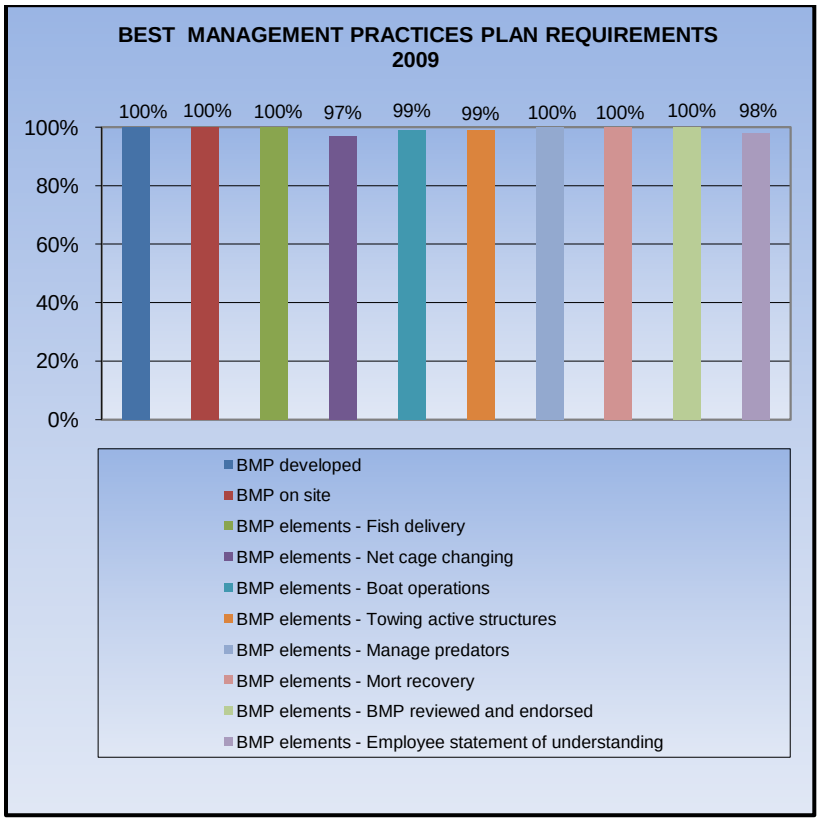
Under the *Aquaculture Regulation*, the requirement to have a BMP in place came into effect in late October, 2002, and the requirement for a BMP under the *Finfish Aquaculture Waste Control Regulation* came into effect in March 2003.

The purpose of the BMP requirement under the *Aquaculture Regulation* is for the companies to identify operational risks and to develop procedures that recognize these risks in an effort to prevent or minimize escapes.

Companies must develop and follow a written BMP for the operation and maintenance of their marine finfish facilities. Operational procedures identified in the BMP must be consistent with or exceed practices described in the *Aquaculture Regulation's* Appendix 2: Standards of Practice for Marine Finfish Aquaculture Escape Prevention and Response

In 2009, all farms inspected had developed a BMP and had a copy of the BMP on site. Three sites were missing the net cage and bag changing procedures and another site was missing both the boat operations/maintenance and towing of active structures procedures. Two other sites BMP's failed to include a statement that individuals responsible for implementing the plan understood and received training.

GRAPH 10



I. Escape Response

Every operator must have a written escape response plan. To initiate an effective escape response in the event of an incident, staff must be well trained in the elements of these plans. There must be step-by-step procedures for preventing further escapes and for reporting escapes. These plans must be posted in a visible location at the facility and the location and contents must be well understood by all staff.

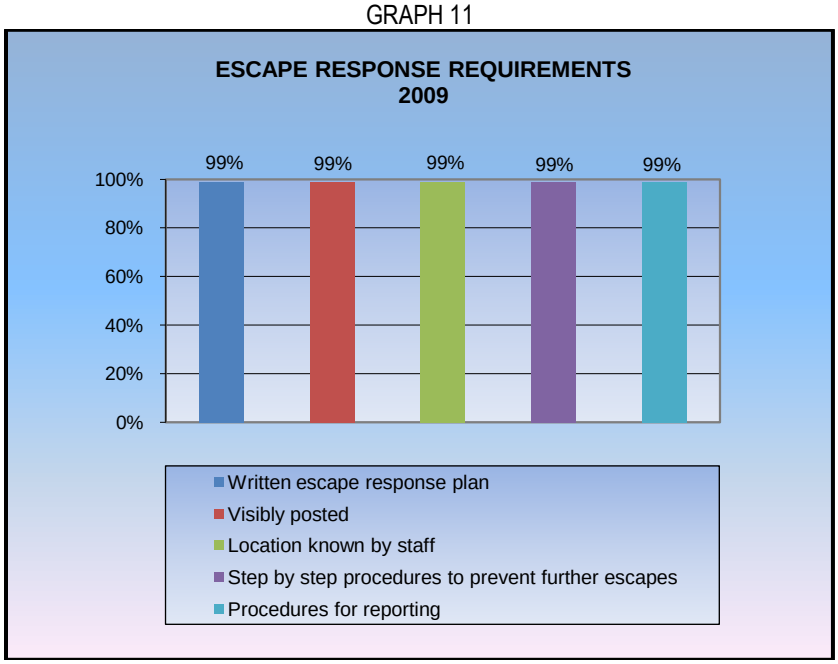
In 2009, one site had failed to produce a written escape response plan.

PHOTOGRAPH #5

Escape recovery kit containing dedicated seine net and equipment to be used in the event of an escape. In the event of an incident this net and equipment is generally deployed inside a damaged containment net in an effort to prevent further loss of fish.

The following graph illustrates compliance to the escape response requirements.

GRAPH 11



J. Therapeutant Use and Record Keeping

There are specific regulatory standards for documenting use of prescription therapeutants on farmed fish. Documentation of therapeutants is an important record keeping requirement for the finfish farmer. Records that identify treatment and treatment schedules must be kept. The Canadian *Food and Drugs Act* provides standards governing the use of drugs and fish destined for human consumption; the holder must comply with those standards. Fish may be harvested if a drug has been prescribed and the mandatory withdrawal period, as specified by the veterinarian, has passed since the administration of the drug.

To satisfy the inspection, the operator must be able to demonstrate that all appropriate paper work has been completed to document and track the administration of any therapeutants.

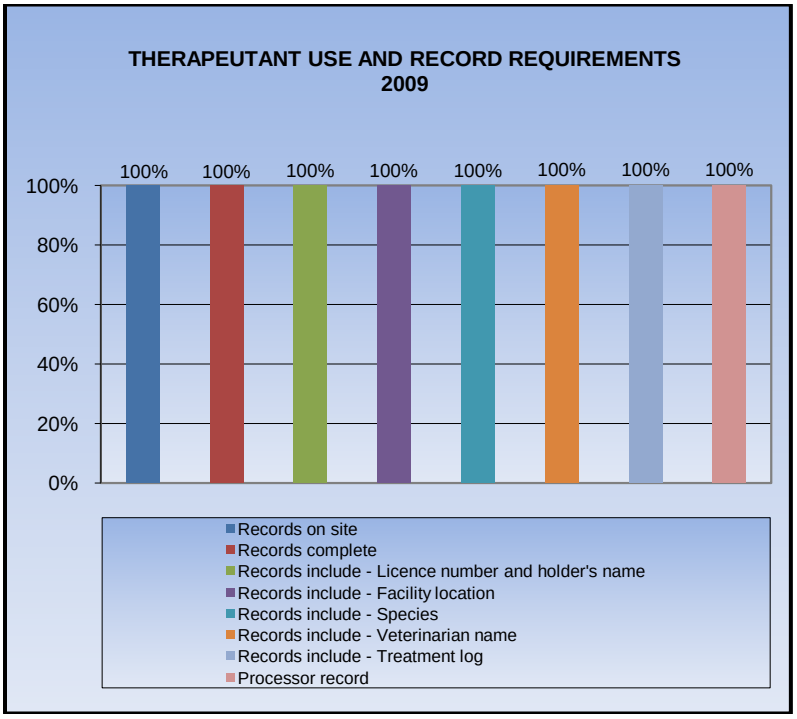
This includes a record and log of:

- the aquaculture licence number and name of the holder;
- the location of the facility;
- the species of finfish being cultured;
- the name of the veterinarian;
- the name of the therapeutants administered;
- how the therapeutants were administered;
- the treatment schedule including the date treatment commenced;
- the date of last treatment;
- the species of finfish; and
- the name and signature of the person responsible for administering the therapeutants.

Upon harvest of fish that have been treated (and held according to the withdrawal period), the holder must be able to produce a statement with specific information on the treatment history of the lot harvested. This statement must then accompany the fish to the processing plant. It provides the operator of the plant with documentation of any drug use, where fish have been treated and verifies compliance with the withdrawal periods. There were no deficiencies noted with respect to this requirement.

In 2009, inspections revealed that all sites were in compliance with therapeutants use and records.

GRAPH 12



K. Net Cage and System Inspections

Installation of Containment Structures:

The design of the cage support system is important when considering the potential for snagging and tearing the containment net. Containment nets can be, and are, subjected to extreme loading, especially if they are fouled with growth, are in a high current situation or are exposed to a combination of these and other factors. The net mesh, if snagged on an anchor shackle or other catch point, cannot tolerate extreme loads and a snag can quickly develop into a significant tear under certain conditions.

Net cage and system Inspections:

Each net cage must have an inventory control number permanently attached and the operator must be able to provide complete records for each net cage. In 2009, all cages at every site were marked with an inventory number. Two of those sites did not perform all net audits satisfactorily. Another site did not repair irregularities in the cage supporting system immediately.

PHOTOGRAPH #6

Tag on net cage used for identification

Net Cage Attachment Points and Jump Nets:

The *Aquaculture Regulation* specifies that the primary point of attachment for net cages is at the water line rope. The water line rope is designed to support the heavy load of a containment net. Secured to this water line rope are numerous reinforced tie-off points that take the bulk of the strain on the nets once they are deployed. These are the primary attachment points for the containment net and are required to be secured to the walkway with lines that are sound and adequate to withstand the strain of the net. Nets should not be supported by the stanchions or uprights as these are not designed to withstand the load and can fail under extreme conditions. In 2009, inspectors found that one site was not in compliance with this requirement.

Jump nets are the portions of net that extend above the water and are designed to prevent fish from jumping out of the containment system. The regulation specifies that the height of these jump nets must extend at least one meter above the surface of the water. In 2009, all sites were in compliance.

PHOTOGRAPH #7

Net cage properly tied off at the water line

Net Weights and Attachment Points:

The weighting system must be designed so that net weights are sufficient to prevent excess billowing of the net. It is also important to ensure that weights are evenly distributed at a sufficient number of points along the net for equal weight distribution which prevents point loading on the containment net.

A taut and properly weighted net is important, as billowing nets are subject to becoming snagged and may be more susceptible to tears or damage from predators. In 2009, all 92 sites were in compliance.

Mesh Size and Net Storage:

Containment nets with varying mesh sizes are used during a grow-out period. As the fish increase in size, they are moved into bigger containment nets with larger mesh. The farm operator is required to ensure the net mesh is always kept to a size that is small enough to contain the smallest fish. Alternatively, an operator may have to grade the fish prior to or when moving the fish into a pen with larger mesh size to avoid losing smaller fish. There were no deficiencies noted with respect to this requirement during either inspection cycle.

Ultra-violet rays can degrade containment nets. Failure to properly cover a net can expose the net to harmful ultra-violet rays. Net weakened in this manner can be easily over-looked during servicing and testing. The regulations require that storage of nets on dry land must be done in a manner that prevents exposure to ultra-violet rays.

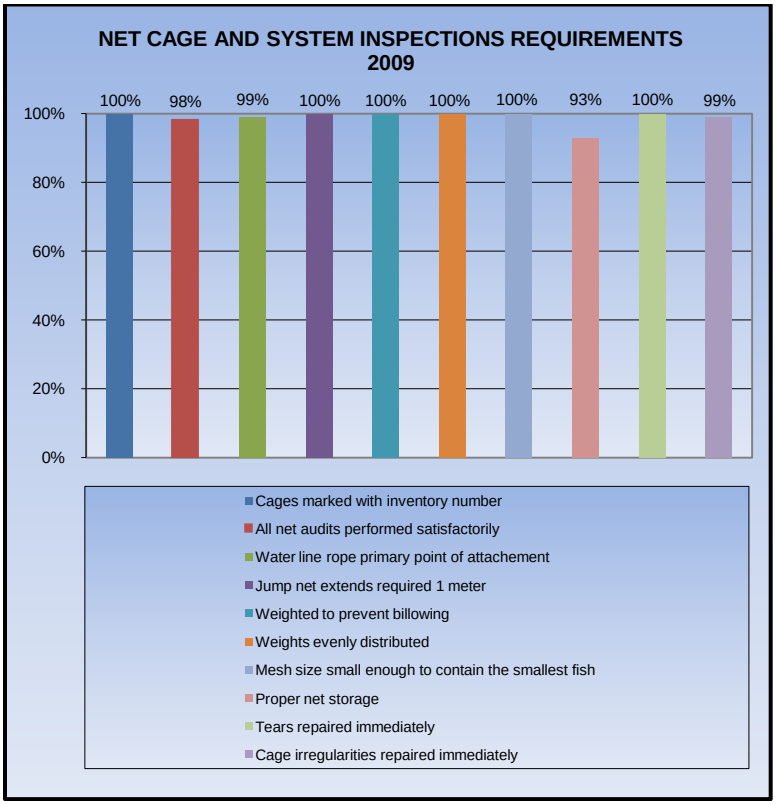
In 2009, 14 out of the 92 sites inspected stored containment nets on site. In one case, nets were not stored in a manner to minimize deterioration.

PHOTOGRAPH # 8

Net properly bagged and protected from ultra-violet rays

The following graph illustrates compliance rates with the requirements for net cage installation, configuration, storage, and inspections as described in the above sections.

GRAPH 13



L. Boat Docking

To reduce or eliminate potential damage to net cages from vessels travelling to and from farms, a specific docking site for vessels must be identified on the farm site. The regulation requires this docking site to be designed or located in a manner to prevent propeller damage to the cage systems and must be marked with a highly visible sign.

In 2009, operators at one site inspected did not have a designated docking site for boats and did not have signs directing boat traffic. Another site did not have signs directing boat traffic.

The regulation also requires that net stanchions and net cage railings are not used to moor large vessels that could cause damage during strong wind or tidal exchanges. Vessels were considered appropriately moored at all farm sites where inspectors observed vessels.

PHOTOGRAPH # 9

Properly designated and signed vessel docking area

M. Fish Handling

Catch Nets:

The *Aquaculture Regulation* requires the use of catch nets when operators are conducting higher risk activities such as transporting, harvesting, grading, sampling and/or moving fish. Catch nets act as a back-up and help prevent accidental loss of fish in the event of human error or equipment failure.

In 2009, fish handling activities were occurring at 9 sites when Inspectors arrived at these farms. All sites had nets deployed during fish handling activities.

PHOTOGRAPH # 10

Grading operation covered with catch net to prevent accidental loss of fish

Spotters:

Another preventative measure that the *Aquaculture Regulation* requires is the use of spotters during high risk activities. A spotter is a farm employee who has been assigned the specific task of visually watching for any event during a high risk activity that might, in any way, contribute to an escape of fish. Ideally, spotters should be experienced farm employees that are familiar with the operation in progress and should not be engaged in other activities at the time. Depending on the event, it may be appropriate to have one or more individuals acting as spotters.

In 2009, activities were occurring at 9 sites where spotters were required. All 9 sites were in compliance.

N. Predator Control:

Although the *Aquaculture Regulation* does not specify that finfish farm operators must deploy predator controls, it is expected that farm operators will initiate measures against predator attacks where necessary.

The *Aquaculture Regulation* requires that if a pattern of predator attacks is established, holders must initiate measures to prevent net damage and loss of fish. Failure to comply with these requirements could be viewed as failure to take reasonable measures to prevent an escape.

Most farm sites inspected had some measure of predator deterrent in place; in some cases, two or more systems were in place. Common types of predator systems include predator nets, shark guards, and bird exclusion netting above water.

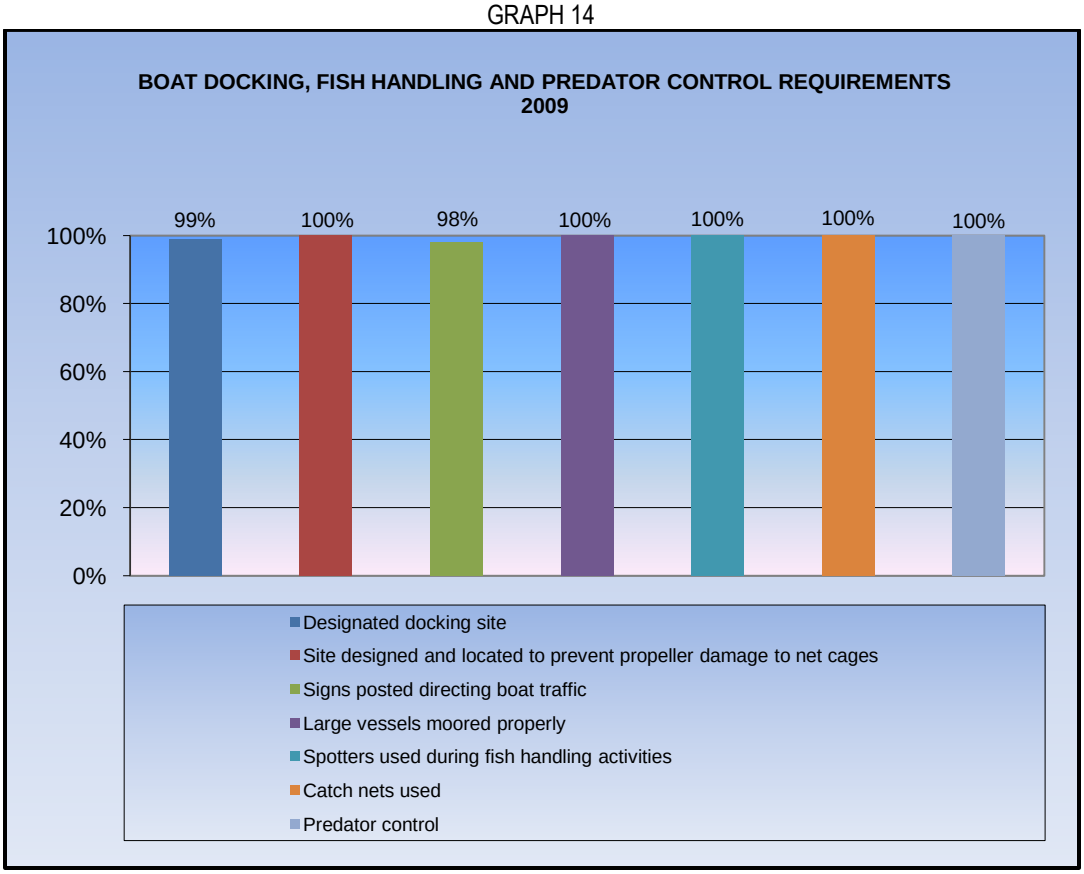
During the 2009 inspection cycle, inspectors found 24 sites where a pattern of predator attacks was sufficient to require that the operator implement measures to prevent containment structure damage.

PHOTOGRAPH # 11

Fencing and netting used for predator control

The following graph indicates compliance with boat docking requirements, use of spotters and predator control.

GRAPH 14



Compliance Rates for 2009 –

Regulatory and Licensing Requirements

Part #2

MOE Requirements

A. Best Management Practices Plan

As of March, 2003, all farm sites required a Best Management Practices Plan (BMP) in accordance with the provisions of the *Finfish Aquaculture Waste Control Regulation (FAWCR).* Finfish farm operators were required to prepare and implement a BMP specific to each finfish farm. The *FAWCR* requires that the facility has applied to and is registered by MOE.

The objectives of the BMP under the *FAWCR* are:

- to ensure compliance with waste standards in the *FAWCR*;
- to provide for continuous reduction of potentially harmful discharges and quantity of wastes;
- management of potentially harmful materials;

- continual improvement in feed conversion ratios to reduce the amount of fish waste;
- prevention of spillages into the environment;
- prevention of the attraction and access of wildlife to feed foodstuffs and morts;
- prevention of access to containment structures by wildlife;
- minimization of spillage and odours from mort storage and disposal; and
- management of major fish kills via an emergency fish kill contingency plan.

The BMP offers a model of management practices that include the best structural and non-structural controls and operational and maintenance procedures available.

The *FAWCR* identifies a number of key elements that the BMP should include:

- a description of specific management practices and standard operating procedures used to achieve the objectives;
- a fish kill contingency plan;
- a statement that the BMP has been reviewed and endorsed by the operator, and reviewed and understood by the individuals responsible for implementation.

Fisheries inspectors or conservation officers examine the BMP on site to ensure that the plan correctly identifies the elements that are prescribed in the regulation. In addition, the inspector may review parts of the plan to determine if key points within these elements are included.

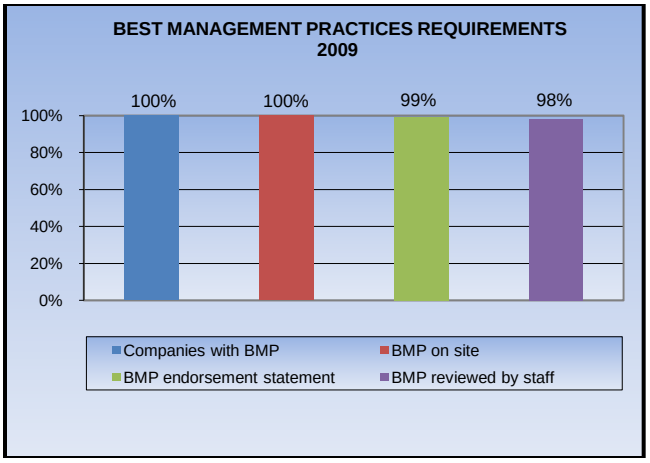
At all sites inspected during 2009, company officials were able to verify that a BMP had been developed, the plan was available for inspection and included a fish kill contingency plan with the required elements. All BMPs identified how the operations met the objectives on reduction of number and quantity of waste, improvement in feed conversion rates, prevention of spillage of feed, prevention of access to wildlife to feed, and prevention of access of wildlife to containment structures.

On one site the BMP did not contain a statement that it had been endorsed by the holder and that the BMP had been reviewed by staff at that facility. At another site, the statement indicating that the BMP had been reviewed by staff at that facility was not available.

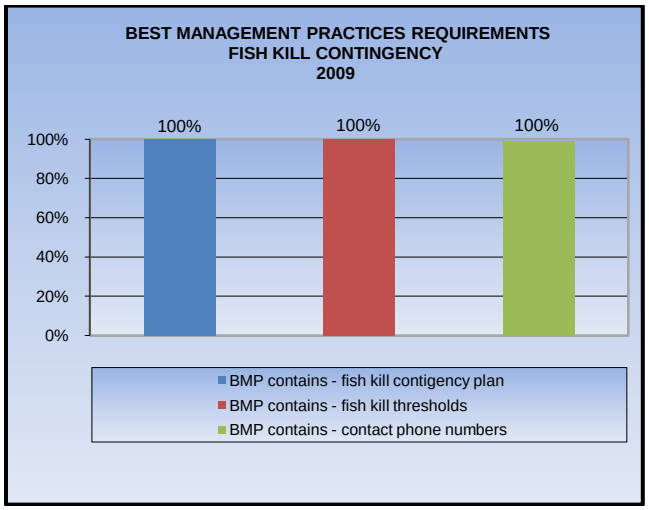
At three sites, a list of harmful materials was unavailable.

The following series of graphs illustrate the conformity levels to the various components of the BMP requirements.

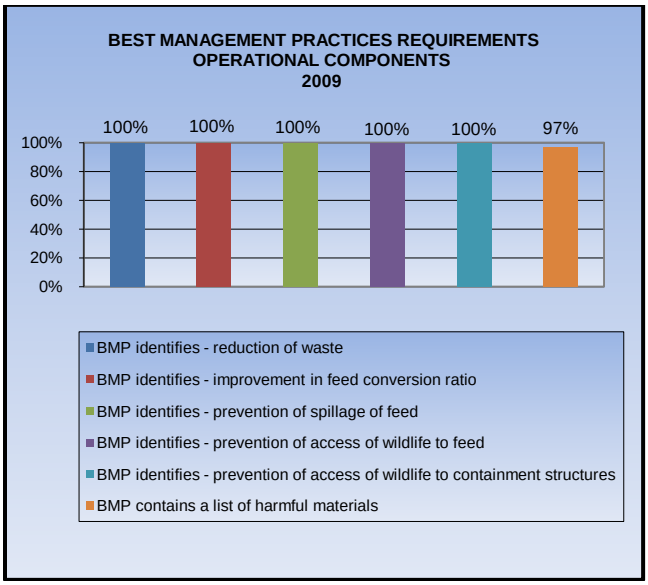
GRAPH 15



GRAPH 16



GRAPH 17



B. Blood Water Disposal

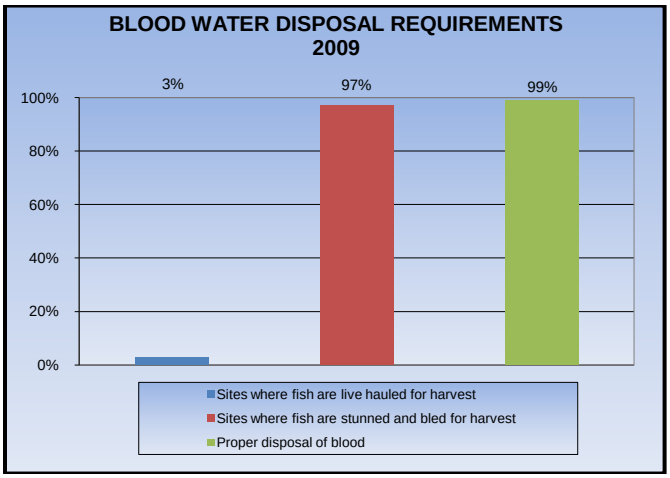
In an effort to maintain the high quality of farmed fish, salmon farmers rely on two methods to deliver their fish to the processing facility in prime condition. One is using a live haul vessel where the fish are harvested and delivered live, while the other is a stunning and bleeding operation carried out either on site or during delivery. Intentional discharge of untreated blood water to the environment is not permitted.

Blood water associated with a stunning and bleeding operation has a very high biochemical oxygen demand (BOD) and can negatively impact dissolved oxygen levels in the marine environment. It has been suggested that the release of blood water to the environment may result in disease transmission. Predators may also be attracted by released blood water.

Disposal methods for the blood water include initial transfer into mort containers followed by disposal to authorized composting operations, or transport to and disposal of blood water at a processing facility.

Three percent of site operators utilized a live haul system and the remaining 97 percent conducted a stun and bleed operation during harvest. In 2009, one of the 89 sites did not dispose of the blood water properly.

GRAPH 18



C. Net Cleaning and Waste Disposal

Net Treatment:

Predator and containment nets may be chemically treated in order to increase their longevity and strength as well as to reduce fouling by marine plants and organisms. Typically, treatment consists of dipping the containment net into an approved anti-foulant solution.

Net Cleaning:

The frequency of net cleaning is largely dependent on the degree and condition of anti-foulant treatment as well as the environmental conditions at the grow-out site where the nets are deployed.

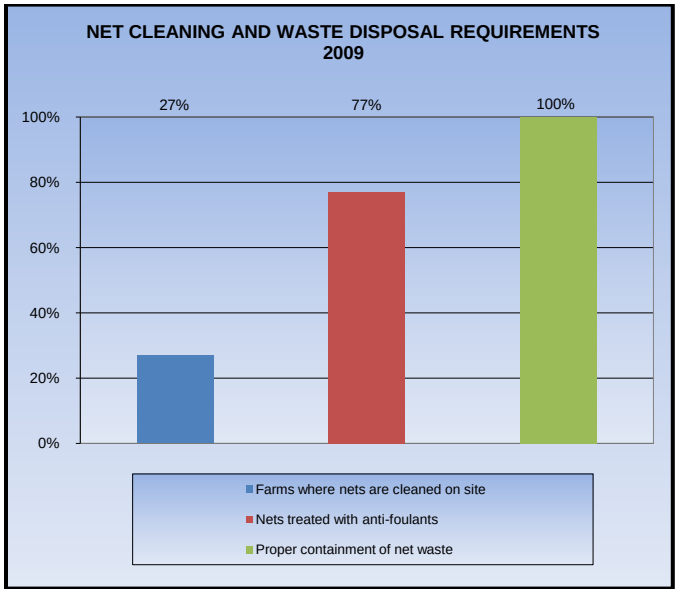
Typically, nets are cleaned at least once a year. The cleaning process is necessary to allow unrestricted flow of water through the net cage as well as to reduce the weight and resulting strain on the net cage and support equipment. Net cleaning removes mussels, algae, and other

materials that have fouled the nets and, in the case of treated nets, will also remove some of the anti-foulant.

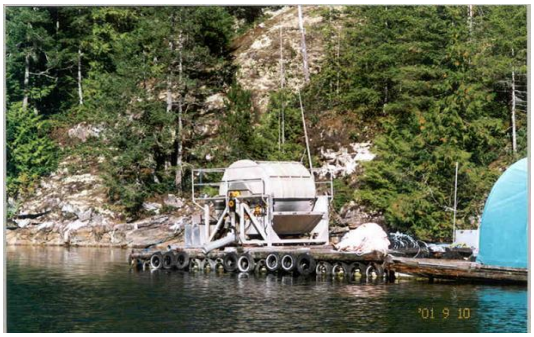
The waste water and debris generated through the net cleaning process, if completed on site, may have a negative impact on oxygen levels if released to the marine environment and so must be contained.

No deficiencies in containment of net waste requirements were observed in 2009.

GRAPH 19



PHOTOGRAPH # 12



On-site net cleaning drum system

D. Disinfectants Use and Disposal

Footbath disinfectants are utilized at farm sites to minimize the transfer of disease from farm to farm, as well as disease transfer within a farm. Commonly used footbath solutions are Virkon, Ovadine and bleach. Over time, especially when exposed to sunlight, a disinfectant's effectiveness lessens and it becomes necessary to refresh footbaths. Depending on the solution used, the period of time between refreshing the foot baths varies but most footbaths are replaced on a weekly basis.

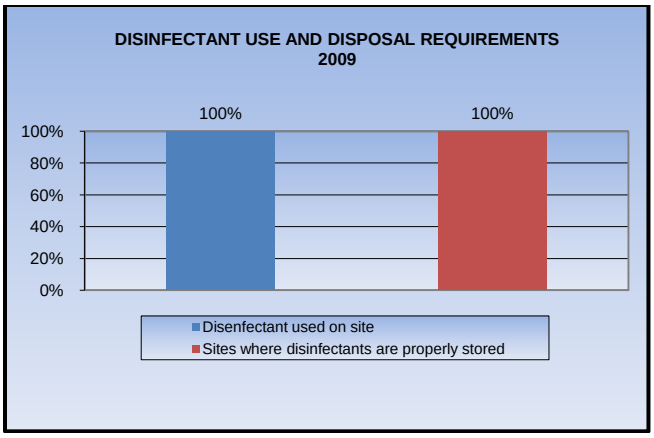
PHOTOGRAPH # 13

Footbath with disinfectant

In order to safely manage the disposal of used disinfectants, footbath materials must not be capable of causing harm or injury to plant or animal life forms in the marine environment. Any discharge or storage must meet the requirements of the *Environmental Management Act*.

Disinfectants were in use at all farm sites inspected in 2009 and were properly disposed of directly into the mort containers.

GRAPH 20



E. Mort Storage and Disposal

Mort Disposal:

Fish mortalities, or morts, are fish that have died prior to harvest due to any number of reasons including stress, plankton blooms, predator strikes or disease. Due to the high number of fish raised at fish farms, morts are anticipated and regularly encountered. It is important not only from a health perspective to remove morts on a regular basis but also from a predator avoidance perspective. Mortalities left in the net cages can attract predators that may, in turn, damage nets in their attempt to access the morts.

For these reasons it is important that the farm operator implement a regular mort collection program. At all the farms inspected, mortalities were collected by divers on a regular basis.

Morts are generally stored on site in sealed containers some distance from the grow-out operation and remain there until final collection for disposal. Collection times vary from daily to every month as required, and in some cases morts are removed immediately (no on-site storage).

All farms inspected in 2009 were in compliance with regards to the methods of mort disposal.

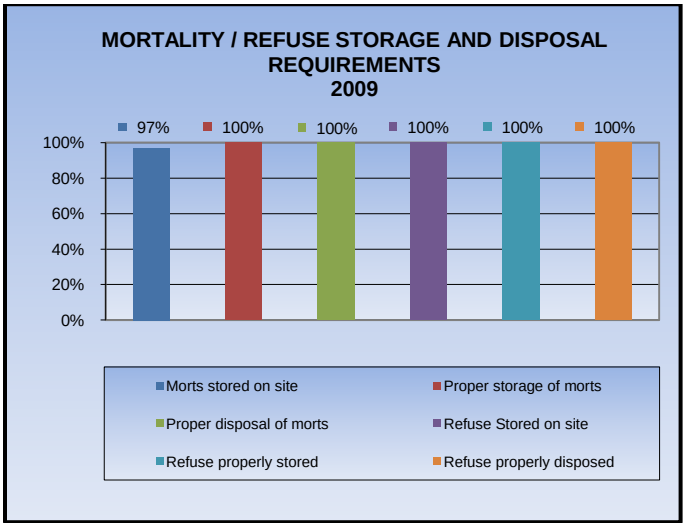
F. Refuse Storage and Disposal:

Operators at the farms inspected removed domestic and/or industrial refuse produced on site to approved landfills on either Vancouver Island or the Lower Mainland.

In 2009 there were no issues identified with refuse storage or disposal requirements.

The following graph illustrates compliance with the requirements for storage and disposal of fish mortalities and refuse.

GRAPH 21



G. Fuel Product Use, Storage and Containment

PHOTOGRAPH # 14

Diesel fuel protected with 110% containment

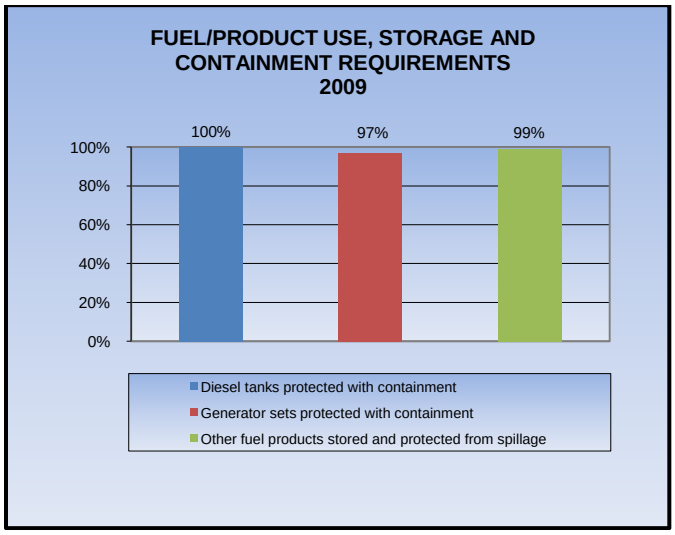
PHOTOGRAPH # 15

Fuel properly contained

Storage of fuels is common at finfish farms as fossil fuels are widely used to run generators for electricity, boat engines and heat. The BC Fire Code requires that a spill containment barrier capable of containing 110 percent of the volume of the fuel being stored, or another adequate form must be in place.

In 2009, all sites inspected had taken measures to ensure that proper secondary containment systems had been installed around fuel storage containers. Generators at three sites were not protected with containment. At another site, fuel products were not securely stored and protected from spillage.

GRAPH 22



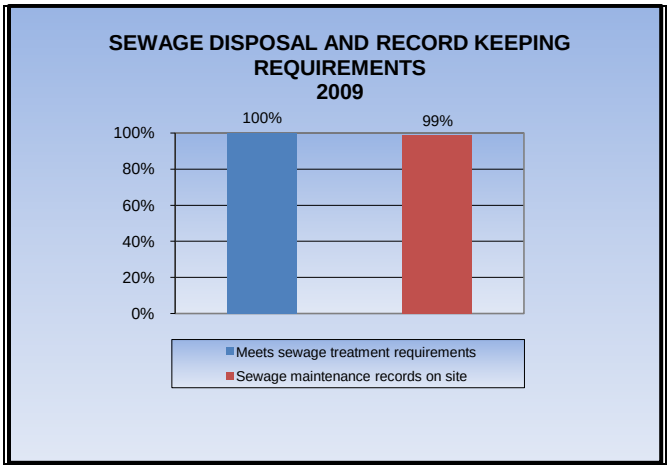
H. Sewage Treatment and Disposal

The majority of fish farms have on-site staff accommodations, and collect, treat and discharge sewage at or near the farm location. Untreated sewage elevates biochemical oxygen demand which may negatively impact the marine environment.

The *FAWCR* permits discharge of domestic sewage under specific circumstances; it is not to exceed 2.5 cubic meters per day, it must be treated by holding in a septic tank for two days (or a device other than a holding tank with suspended solids not exceeding 130mg/l) and the location of the sewage discharge point must be at a depth of no less than 15 metres below the water surface. All construction, operation and maintenance of sewage treatment and disposal must be

maintained. In 2009, inspectors found that all sites met the sewage facility requirements. One facility did not have sewage maintenance records on site.

GRAPH 23



I. Spill Response

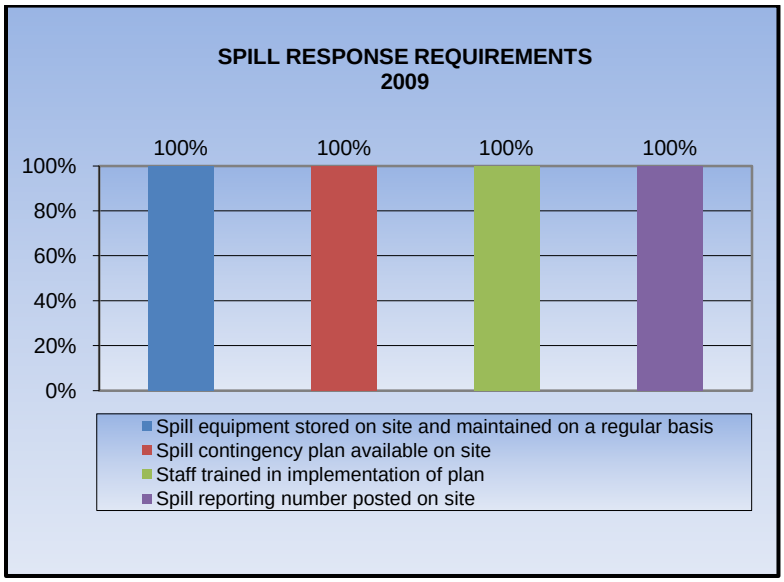
Many farm sites store a variety of petroleum products, chemicals and other products that, if released into the surrounding environment, could potentially have a negative impact. In an effort to minimize the severity of any spill, companies have developed spill contingency plans and have equipment that would assist in managing any accidental spill.

PHOTOGRAPH # 16

On-site spill kit and cleanup equipment

In 2009, operators at all sites had spill equipment stored on site and maintained. The spill contingency plan was available at each farm, facility staff were trained in the implementation of the plan and the spill reporting number was posted in a visible location.

GRAPH 24



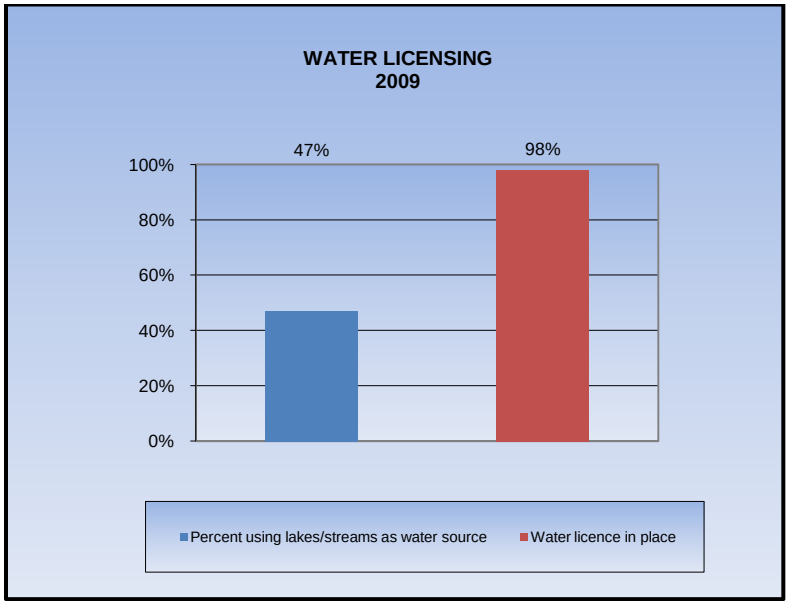
J. Water Licensing

Fish farms that use fresh water from a lake, river or stream are required to hold an authorization issued pursuant to the *Water Act*.

Finfish farms may obtain their domestic water supply from a variety of sources. These include rain water, water from lakes or streams, well water and water transported to the site. Some operations inspected during 2009 relied on a combination of these sources.

In 2009, there were 43 sites that used either lake or stream water for their domestic water supply or relied upon a combination of lake/stream water and other sources. Operators at 42 of these sites were in compliance with water licensing requirements.

GRAPH 25



K. Wildlife Trapping - Predator Prevention and Response

Predators such as seals, sea lions and dogfish can cause significant tears in the containment nets and have been suspected as the primary cause for a number of escapes. It is the responsibility of the farmer to ensure that protective measures are implemented to prevent predator attacks.

If a farmer does not take appropriate measures against increased predator attacks, this may be construed as not taking reasonable precautions to prevent escapes, an offence under the *Aquaculture Regulation*.

Typically, salmon farm operators will use non-lethal methods to control predators at the farm site. These include the use of predator nets, shark guards, bird netting, electric fences and ensuring nets are kept taut. Despite these precautions, persistent predators may have to be destroyed. This is accomplished either through trapping or with a firearm. In 2009, six operators trapped predators with a permit.

TABLE #1: Summary of MAL requirements assessed and the level of compliance found in 2009.

MAL Compliance Issue Assessed	**Level of Compliance** 2009
Aquaculture Licence Conditions	
Production limit	87 of 92 – 95%
Approved species on site	92 of 92 – 100%
Special provisos (only to specific sites)	32 of 32 – 100%
Licence is current	92 of 92 – 100%
Terms and Conditions of Licence (Infrastructure)	92 of 92 – 100%
Escape Reporting	
Compliance with reporting escapes or suspected escapes since last annual inspection. (Those that did not have an incident are not included in the statistics)	76 of 76 – 100%
Inventory and Inspection Records	
Stock records kept for each containment facility	92 of 92 – 100%
Records are complete	91 of 92 – 99%
Records kept on site	92 of 92 – 100%
Daily Above-Water Inspections	
Daily inspections of cage support systems completed	91 of 92 – 99%
Daily inspections recorded in the log	91 of 92 – 99%
Daily records kept on site	91 of 92 – 99%
Underwater Inspections of Active Net Cages	
All underwater inspections completed by an approved method	92 of 92 – 100%
Approved underwater inspections conducted on new net cages prior to introduction of fish	92 of 92 – 100%
Net cages inspected every 60 days	91 of 92 – 99%
Net cages inspected after any activity that increased risk of escape	91 of 92 – 99%
Net cages inspected in the event of an incident after a routine activity that causes the holder to suspect an increase in net failure	92 of 92 – 100%
Required Net Cage Maintenance Records	
Net cage records kept for each cage	92 of 92 – 100%
Net cage records contained the following required elements:	
Inventory control number	92 of 92 – 100%
Dimensions	92 of 92 – 100%
Mesh size	92 of 92 – 100%

Accumulated time in water since last inspection	92 of 92 – 100%
Description and date of each underwater inspection	92 of 92 – 100%
Description and date of all repairs including reasons since last out of water servicing	92 of 92 – 100%
Out of Water Records	
Recent out of water service records on site	71 of 73 – 97%
Records complete	69 of 71 – 97%
Best Management Practices Plan (BMP)	
Company developed a BMP	92 of 92 – 100%
BMP on site	92 of 92 – 100%
BMP elements	
Finfish delivery	92 of 92 – 100%
Net cage and bag cage changing	89 of 92 – 97%
Boat operation and maintenance	91 of 92 – 99%
Towing of active structures	91 of 92 – 99%
Management of predation	92 of 92 – 100%
Recovery of morts	92 of 92 – 100%
BMP included a statement that BMP has been reviewed and endorsed	92 of 92 – 100%
BMP included a statement that individuals responsible for implementing the plan understood BMP and received training	90 of 92 –98%
Escape Response	
Holder has written escape response plan	91 of 92 – 99%
Escape response plan posted in a visible location	91 of 92 – 99%
Location and content known by all staff	91 of 92 – 99%
Plan includes step by step procedures for preventing further escapes	91 of 92 – 99%
Plan identifies procedures to report escapes	91 of 92 – 99%
Therapeutant Use and Records	
Drug administrative records kept	87 of 87 – 100%
Drug administrative records complete	87 of 87 – 100%
Aquaculture licence number and holder's name	87 of 87 – 100%
Location of facility	87 of 87 – 100%
Species of fish	87 of 87 – 100%
Name of veterinarian	87 of 87 – 100%
Log that names the drugs, specifies treatment schedule, date of last treatment and name and signature of person responsible for treatment	87 of 87 – 100%
Statement provided to processor includes drug administrative information	18 of 18 – 100%
Statement to processor complete	18 of 18 – 100%
Net Cage and System Inspections	
All cages marked with inventory number	92 of 92 – 100%
All net audits performed satisfactorily	90 of 92 – 98%
Water line rope the primary point of attachment	91 of 92 – 99%
Jump net extends the required 1 meter	92 of 92 – 100%
Sufficient weight to prevent billowing	92 of 92 – 100%
Net cages weighted at sufficient points for equal distribution	92 of 92 – 100%
Mesh size small enough to contain the smallest fish	92 of 92 – 100%
Nets stored on site are stored in manner to minimize ultra-violet deterioration	13 of 14 – 93%
Tears repaired immediately	92 of 92 – 100%
Irregularities in the cage supporting system repaired immediately	91 of 92 – 99%
Boat Docking	
Designated docking site for boats	91 of 92 – 99%

Site designed and located to prevent propeller damage to the net cages	92 of 92 – 100%
Signs posted directing boat traffic	90 of 92 – 98%
Large vessels moored properly	33 of 33 – 100%
Fish Handling	
Spotters being used during fish handling activities	9 of 9 – 100%
Catch nets used	9 of 9 – 100%
Predator Control	
Measures implemented to prevent loss of stock and containment structure damage	24 of 24 – 100%

TABLE #2: Summary of MOE requirements assessed and the level of compliance found in 2009.

MOE Issue Assessed	Level of Compliance 2009
Best Management Practices (BMP)	
Companies have developed a BMP	92 of 92 – 100%
BMP on site	92 of 92 – 100%
BMP with a statement that it has been endorsed by the holder	91 of 92 – 99%
BMP has been reviewed by staff at the facility	90 of 92 – 98%
BMP includes a fish kill contingency plan	92 of 92 – 100%
Fish kill plan contains the following elements:	
Fish kill thresholds	92 of 92 – 100%
Contact phone number	92 of 92 – 100%
BMP identifies how the operation meets the following objectives:	
Reduction of number and quality of wastes	92 of 92 – 100%
Improvement in feed conversion ratio	92 of 92 – 100%
Prevention of spillage of feed	92 of 92 – 100%
Prevention of access of wildlife to feed	92 of 92 – 100%
Prevention of access of wildlife to containment structures	92 of 92 – 100%
BMP contains a list of harmful materials	89 of 92 – 97%
Blood Water Disposal	
Farms where fish are live hauled for harvest	3 of 92
Farms where fish are stunned and bled for harvest	89 of 92
Proper disposal of blood	88 of 89 – 97%
Net Cleaning and Waste Disposal	
Farms where nets are cleaned on site	25 of 92
Farms where nets treated with antifoulants are used	71 of 92
Proper containment of net waste	92 of 92 – 100%
Disinfectants Use and Disposal	
Disinfectants used on site	92 of 92
Disinfectants properly stored during use	92 of 92 – 100%
Mort Storage and Disposal	
Morts stored on site	89 of 92
Morts properly stored	89 of 89 – 100%
Morts properly disposed	92 of 92 – 100%
Refuse Storage and Disposal	
Refuse stored on site prior to disposal	92 of 92
Refuse properly stored	92 of 92 – 100%
Refuse properly disposed	92 of 92 – 100%
Fuel Product Use, Storage and Containment	

Diesel tanks protected with containment	92 of 92 – 100%
Generator set protected with containment	89 of 92 – 97%
Other fuel products securely stored and protected from spillage	91 of 92 – 99%
Sewage Treatment and Disposal	
Sewage facilities on site meet the requirements	92 of 92 – 100%
Sewage maintenance records kept on site	91 of 92 – 99%
Spill Response	
Spill equipment stored on site and maintained	92 of 92 – 100%
Spill contingency plan available	92 of 92 – 100%
Staff trained in implementation of the plan	92 of 92 – 100%
Spill reporting number posted	92 of 92 – 100%
Water Use and Licensing	
Lakes or streams used for domestic water	43 of 92
Water licence in place	42 of 43 – 98%
Wildlife Predator Trapping	
Number of sites where wildlife have been trapped by licensed trapper	6 of 92

Other Compliance and Enforcement Activities

Pre-Inspections for New Applications

When the licensing authority approves a new licence application, a condition of licence prior to any introduction of fish is a satisfactory pre-operational inspection by a MAL inspector to ensure compliance with all regulatory and licence requirements. This includes a review of all components identified in the applicant's management plan, compliance with legislative and regulatory requirements, and verification that the company has met all general licence terms and conditions and any additional conditions that may have been included.

Licences for net cage operations also have the following special proviso appended. MAL inspectors verify that these inspections have been undertaken as required.

- An inspection by a qualified anchoring specialist* must be completed for systems installed since November 1, 2001, on newly licensed sites and/or for any facility alterations or additions approved after May 1, 2004.

- For installation of systems at new facilities, the inspection must be completed prior to the introduction of fish. For sites that are altered or added to, inspections must be completed prior to the utilization of newly installed infrastructure. This inspection should confirm that the design, equipment used and installation of the facility is consistent with the anchoring system layout diagram attached to the approved management plan, and the specifications in Appendix 2 of the *Aquaculture Regulation*. Proof of this inspection must be retained by the company and must be made available upon request by a Fisheries Inspector.

Environmental Auditing

During 2009, MOE conducted chemical and biological sampling of bottom sediments at selected farm sites. Where chemical standards are exceeded, biological samples for marine benthic organisms may be collected for compliance purposes. No biological sampling was undertaken in 2009.

TABLE #3:

The following table lists farm sites that were audited for compliance with environmental standards in 2009:

Company	MOE REF#	ILMB Land file #	Farm Site	General Area
Mainstream Canada Ltd.	13120	1404179	Sir Edmund Bay	Broughton Archipelago
Mainstream Canada Ltd.	13888	1405181	Cecil Island	Broughton Archipelago
Mainstream Canada Ltd.	13889	1405739	Maude Island	Broughton Archipelago
Mainstream Canada Ltd.	13119	1403267	Venture Point	Campbell River
Mainstream Canada Ltd.	15695	2403035	Raza Island	Campbell River
Marine Harvest Canada Inc.	14407	1404681	Arrow Pass	Broughton Archipelago

Marine Harvest Canada Inc.	14406	1404380	Midsummer Island	Broughton Archipelago
Marine Harvest Canada Inc.	13186	1407426	Althorpe	Johnstone Strait
Marine Harvest Canada Inc.	14217	2403170	Phillips Arm	Campbell River

Summary of Recent Results:

Farms must undertake, and submit to MOE for review, results of their environmental monitoring programs, the requirements of which are specified under the *Finfish Aquaculture Waste Control Regulation*. In 2009, 90% were in compliance with submitting the required scientific monitoring information to MOE for evaluation within the required time frame and 100% of the farms conducted sampling within the required time frame. All farms complied with the requirements in the *FAWCR* prior to restocking.

Investigations

Under the provincial *Fisheries Act* and *Environmental Management Act*, MAL Fisheries Inspectors or MOE Conservation Officers have six months and three years respectively from the date of the event to investigate and, if appropriate, pursue enforcement sanctions. Investigations are considered highly confidential until concluded.

Results of investigations may lead to one or more of the following outcomes:

- determination that the incident (i.e. reported escape) or possible violation does not warrant any enforcement sanction;
- issuance of a written warning;
- issuance of one or more violation tickets;
- referral to appropriate regulatory agencies such as MOE, Integrated Land Management Bureau (ILMB) or DFO;
- submission of a report to Crown Counsel with recommended charges; or
- recommendation to the licensing authority for Aquaculture Licence suspension or revocation proceedings.

The ministry uses case files to record and track inspection and investigation activities. Case files are initiated for every inspection that is completed whether there is a compliance issue or not. Case files are also used to track investigations, complaints or any non-compliance issues that have been identified during inspections or otherwise brought to the ministry's attention.

In 2009, a total of 92 inspections were conducted at active farm sites. A total of 201 case files pertaining to finfish aquaculture inspections and investigations (including inspections of fallow sites, random site visits, escape or suspected escape incidents) were opened by MAL inspectors.

Five of those cases were referred to Conservation Officer Service (COS) for investigation.

Four of the five cases referred to the COS originated from one company reporting potential fish escapes after identifying discrepancies between the number of fish (smolts) stocked versus harvested at two of their farm sites. An extensive joint investigation by COS and MAL revealed that the most likely cause of these discrepancies was due to high predation by River otters when the smolts were first introduced to farms. Charges were not pursued and as a result of the findings, the company implemented measures to prevent future loss of stock.

The other incident was referred to COS after MAL received a report of a large escape at a fish farm. A joint investigation by COS and MAL was conducted and it was determined that the site had suffered extremely high fish mortality due to sudden low dissolved oxygen which caused fish to die in large numbers and amass on the bottom of the net cages. Due to the extreme weight, two of the nets failed allowing the dead fish to fall out and/or the surviving fish to swim out. Examination of the nets revealed that they both exceeded the required minimum breaking strength and the incident was not preventable.

As part of the annual inspection process, inspectors review farm records to determine if farms are likely to exceed their production limits (Total Maximum Production or TMP). Inspectors issue warning letters to companies and conduct follow-up investigations on farms that appear at risk of exceeding these limits.

In 2009, follow-up investigations revealed that, despite actions taken by companies to avoid non-compliance, five farms ultimately exceeded their production limits (See Appendix 1). Enforcement actions were considered for these five farms, but ultimately not pursued as they were deemed not in the public interest because,

- an environmental impact of the overproduction could not be demonstrated;
- there was deemed to be a low probability of successful prosecution due to
    a. the transition issues related to the Ministry's introduction in 2008 of a clarified of the definition of TMP
    b. the question of jurisdiction related to the BC Supreme Court decision
- all farms must meet the requirements of the *Finfish Aquaculture Waste Control Regulation* before restocking.

Conclusion

The results for 2009 continues to demonstrate high (99%) compliance rates for the finfish aquaculture industry overall. Most issues noted during the 2009 inspection cycle were either of an administrative nature or were deficiencies that were correctable by staff at the farm facilities.

Provincial government agencies are committed to ensuring the aquaculture industry meets regulatory objectives in an environmentally sustainable manner.

APPENDIX 1: (Pages 47-66)

Ministry of Agriculture and Lands
SITE INSPECTION SUMMARY COMPLIANCE – 2009 Inspection Cycle

Report Section	Compliant*		Report Section	Compliant*	
Terms and Conditions	Yes ☒	No ☐	Therapeutant Use & Records	Yes ☒	No ☐
Escape Reports	Yes ☒	No ☐	Net Cage Inspections	Yes ☒	No ☐
Inventory/Inspection Records	Yes ☒	No ☐	Boat Docking	Yes ☒	No ☐
Best Management Practices Plan	Yes ☒	No ☐	Fish Handling	Yes ☒	No ☐
Escape Response	Yes ☒	No ☐	Predator Control	Yes ☒	No ☐

Creative Salmon Company Ltd.

Company Name
Tofino Aquafarms Ltd.

***IF NOT IN COMPLIANCE, SEE BELOW FOR DETAILS**

Area(s) of Non-Compliance	Site(s) Name and MAL Reference Number

General comments: _____

Ministry of Environment
SITE INSPECTION SUMMARY COMPLIANCE – 2009 Inspection Cycle

Report Section	Compliant*	Report Section	Compliant*
Registration	Yes ☒ No ☐	Storage and Disposal of Refuse	Yes ☒ No ☐
Best Management Practices	Yes ☒ No ☐	Fuel Storage and Containment	Yes ☒ No ☐
Disposal of Blood Water	Yes ☒ No ☐	Sewage Treatment, Disposal and Record Keeping	Yes ☒ No ☐
Disposal of Net Cleaning Waste	Yes ☒ No ☐	Environmental Management	Yes ☒ No ☐
Storage and Disposal of Disinfectant	Yes ☒ No ☐	Water Licence	Yes ☒ No ☐
Storage and Disposal of Morts	Yes ☒ No ☐		

Creative Salmon Company Ltd.

Company Name

Tofino Aquafarms Ltd.

***IF NOT IN COMPLIANCE, SEE BELOW FOR DETAILS**

Area(s) of Non-Compliance	Site(s) Name and MAL Reference Number

General comments:

Ministry of Agriculture and Lands
SITE INSPECTION SUMMARY COMPLIANCE – 2009 Inspection Cycle

Report Section	Compliant*		Report Section	Compliant*	
Terms and Conditions	Yes ☒	No ☐	Therapeutant Use & Records	Yes ☒	No ☐
Escape Reports	Yes ☒	No ☐	Net Cage Inspections	Yes ☒	No ☐
Inventory/Inspection Records	Yes ☒	No ☐	Boat Docking	Yes ☒	No ☐
Best Management Practices Plan	Yes ☒	No ☐	Fish Handling	Yes ☒	No ☐
Escape Response	Yes ☒	No ☐	Predator Control	Yes ☒	No ☐

Grieg Seafood BC Ltd.

Company Name
Target Marine Aquaculture Ltd.

***IF NOT IN COMPLIANCE, SEE BELOW FOR DETAILS**

Area(s) of Non-Compliance	Site(s) Name and MAL Reference Number

General comments:

Ministry of Environment
SITE INSPECTION SUMMARY COMPLIANCE – 2009 Inspection Cycle

Report Section	Compliant*		Report Section	Compliant*	
Registration	Yes ☒	No ☐	Storage and Disposal of Refuse	Yes ☒	No ☐
Best Management Practices	Yes ☒	No ☐	Fuel Storage and Containment	Yes ☒	No ☐
Disposal of Blood Water	Yes ☒	No ☐	Sewage Treatment, Disposal and Record Keeping	Yes ☒	No ☐
Disposal of Net Cleaning Waste	Yes ☒	No ☐	Environmental Management	Yes ☒	No ☐
Storage and Disposal of Disinfectant	Yes ☒	No ☐	Water Licence	Yes ☒	No ☐
Storage and Disposal of Morts	Yes ☒	No ☐			

Grieg Seafood BC Ltd.

Company Name

Target Marine Aquaculture Ltd.

***IF NOT IN COMPLIANCE, SEE BELOW FOR DETAILS**

Area(s) of Non-Compliance	Site(s) Name and MAL Reference Number

General comments: _____

Ministry of Agriculture and Lands
SITE INSPECTION SUMMARY COMPLIANCE – 2009 Inspection Cycle

Report Section	Compliant*		Report Section	Compliant*	
Terms and Conditions	Yes ☒	No ☐	Therapeutant Use & Records	Yes ☒	No ☐
Escape Reports	Yes ☒	No ☐	Net Cage Inspections	Yes ☒	No ☐
Inventory Records	Yes ☒	No ☐	Boat Docking	Yes ☒	No ☐
Inspection Records	Yes ☒	No ☐	Fish Handling	Yes ☒	No ☐
Best Management Practices Plan	Yes ☐	No ☒	Predator Control	Yes ☒	No ☐
Escape Response	Yes ☒	No ☐			

Kyuquot Seafoods Ltd.

Company Name

***IF NOT IN COMPLIANCE, SEE BELOW FOR DETAILS**

Area(s) of Non-Compliance	Site(s) Name and MAL Reference Number
BMP – did not include description of the elements for boat operations and maintenance	Surprise Island (1872)
BMP – did not include description of the elements for the towing of active structures	Surprise Island (1872)

General comments: _____

Ministry of Environment
SITE INSPECTION SUMMARY COMPLIANCE – 2009 Inspection Cycle

Report Section	Compliant*	Report Section	Compliant*
Registration	Yes ☒ No ☐	Storage and Disposal of Refuse	Yes ☒ No ☐
Best Management Practices	Yes ☒ No ☐	Fuel Storage and Containment	Yes ☒ No ☐
Disposal of Blood Water	Yes ☒ No ☐	Sewage Treatment, Disposal and Record Keeping	Yes ☒ No ☐
Disposal of Net Cleaning Waste	Yes ☒ No ☐	Environmental Management	Yes ☒ No ☐
Storage and Disposal of Disinfectant	Yes ☒ No ☐	Water Licence	Yes ☒ No ☐
Storage and Disposal of Morts	Yes ☒ No ☐		

Kyuquot Seafoods Ltd.

Company Name

***IF NOT IN COMPLIANCE, SEE BELOW FOR DETAILS**

Area(s) of Non-Compliance	Site(s) Name and MAL Reference Number

General comments: _____

Ministry of Agriculture and Lands
SITE INSPECTION SUMMARY COMPLIANCE – 2009 Inspection Cycle

Report Section	Compliant*		Report Section	Compliant*	
Terms and Conditions	Yes ☐	No ☒	Therapeutant Use & Records	Yes ☒	No ☐
Escape Reports	Yes ☒	No ☐	Net Cage Inspections	Yes ☐	No ☒
Inventory/Inspection Records	Yes ☐	No ☒	Boat Docking	Yes ☒	No ☐
Best Management Practices Plan	Yes ☒	No ☐	Fish Handling	Yes ☒	No ☐
Escape Response	Yes ☒	No ☐	Predator Control	Yes ☒	No ☐

Mainstream Canada Ltd.

Company Name
EWOS Canada ltd.
1331735 Ontario Ltd.

***IF NOT IN COMPLIANCE, SEE BELOW FOR DETAILS**

Area(s) of Non-Compliance	Site(s) Name and MAL Reference Number
Terms and Conditions – excess TMP	Cypress Harbour (458)
Net Cage and System Inspections – net audits not all performed satisfactorily	San Mateo (224)
Out of Water Records – not on site	San Mateo (224)
Out of Water Records - not complete	West Side (1472)

General comments:

Ministry of Environment
SITE INSPECTION SUMMARY COMPLIANCE – 2009 Inspection Cycle

Report Section	Compliant*	Report Section	Compliant*
Registration	Yes ☒ No ☐	Storage and Disposal of Refuse	Yes ☒ No ☐
Best Management Practices	Yes ☒ No ☐	Fuel Storage and Containment	Yes ☒ No ☐
Disposal of Blood Water	Yes ☒ No ☐	Sewage Treatment, Disposal and Record Keeping	Yes ☐ No ☒
Disposal of Net Cleaning Waste	Yes ☒ No ☐	Environmental Management	Yes ☒ No ☐
Storage and Disposal of Disinfectant	Yes ☒ No ☐	Water Licence	Yes ☒ No ☐
Storage and Disposal of Morts	Yes ☒ No ☐		

Mainstream Canada Ltd.

Company Name

EWOS Canada ltd.

1331735 Ontario Ltd.

***IF NOT IN COMPLIANCE, SEE BELOW FOR DETAILS**

Area(s) of Non-Compliance	Site(s) Name and MAL Reference Number
Sewage Treatment and Disposal – sewage maintenance records not kept on site.	Mussel Rock (543)

General comments: _____

Ministry of Agriculture and Lands
SITE INSPECTION SUMMARY COMPLIANCE – 2009 Inspection Cycle

Report Section	Compliant*		Report Section	Compliant*	
Terms and Conditions	Yes ☐	No ☒	Therapeutant Use & Records	Yes ☒	No ☐
Escape Reports	Yes ☒	No ☐	Net Cage Inspections	Yes ☐	No ☒
Inventory/Inspection Records	Yes ☐	No ☒	Boat Docking	Yes ☐	No ☒
Best Management Practices Plan	Yes ☐	No ☒	Fish Handling	Yes ☒	No ☐
Escape Response	Yes ☒	No ☐	Predator Control	Yes ☒	No ☐

Marine Harvest Canada Inc.

Company Name
Pan Fish Canada Ltd.

***IF NOT IN COMPLIANCE, SEE BELOW FOR DETAILS**

Area(s) of Non-Compliance	Site(s) Name and MAL Reference Number
Terms and Conditions – excess TMP	Lees Bay (100), Chancellor (790), Althorpe Point (1300), Phillips Arm (78)
Underwater Inspections of Active Net Cages – not inspected every 60 days	Mahatta West (1238)
Underwater Inspections of Active Net Cages – net cages not inspected after any activity that increased the risk of escapes	Mahatta East (1338)
Out of Water Records – not on site	Hardwicke Island (1581)
Net Cage and System Inspections – all net audits not performed satisfactorily	Hardwicke Island (1581)
BMP – did not include description of the elements for net cage and bag cage changing	Jackson Pass (1580), Sheep Pass (1895), Goat Bay (1702)
Boat Docking – no designated docking site for boats	Doyle Island (1288)
Boat Docking – no signs posted directing boat traffic	Doyle Island (1288)

General comments:

Ministry of Environment
SITE INSPECTION SUMMARY COMPLIANCE – 2009 Inspection Cycle

Report Section	Compliant*	Report Section	Compliant*
Registration	Yes ☒ No ☐	Storage and Disposal of Refuse	Yes ☒ No ☐
Best Management Practices	Yes ☒ No ☐	Fuel Storage and Containment	Yes ☐ No ☒
Disposal of Blood Water	Yes ☒ No ☐	Sewage Treatment, Disposal and Record Keeping	Yes ☒ No ☐
Disposal of Net Cleaning Waste	Yes ☒ No ☐	Environmental Management	Yes ☒ No ☐
Storage and Disposal of Disinfectant	Yes ☒ No ☐	Water Licence	Yes ☐ No ☒
Storage and Disposal of Morts	Yes ☒ No ☐		

Marine Harvest Canada Inc.

Company Name

Pan Fish Canada Ltd

.

***IF NOT IN COMPLIANCE, SEE BELOW FOR DETAILS**

Area(s) of Non-Compliance	Site(s) Name and MAL Reference Number
Fuel Products Storage and Containment – generator set not protected with containment	Doyle Island (1288), Sonora Island (211), Okosillo Channel (733)
Fuel Products Storage and Containment – other fuel not securely stored and protected from spillage	Glacial Creek (303)
Water Use and Licensing – no water licence	Bickley Bay (377)

General comments:

Ministry of Agriculture and Lands
SITE INSPECTION SUMMARY COMPLIANCE – 2009 Inspection Cycle

Report Section	Compliant*		Report Section	Compliant*	
Terms and Conditions	Yes ☒	No ☐	Therapeutant Use & Records	Yes ☒	No ☐
Escape Reports	Yes ☒	No ☐	Net Cage Inspections	Yes ☒	No ☐
Inventory Records	Yes ☒	No ☐	Boat Docking	Yes ☒	No ☐
Inspection Records	Yes ☒	No ☐	Fish Handling	Yes ☒	No ☐
Best Management Practices Plan	Yes ☐	No ☒	Predator Control	Yes ☒	No ☐
Escape Response	Yes ☒	No ☐			

Middle Bay Limited Partnership

Company Name

***IF NOT IN COMPLIANCE, SEE BELOW FOR DETAILS**

Area(s) of Non-Compliance	Site(s) Name and MAL Reference Number
BMP – did not include a statement that individuals responsible for implementing the plan understand the plan and received training	Middle Bay (1770)

General comments:

Ministry of Environment
SITE INSPECTION SUMMARY COMPLIANCE – 2009 Inspection Cycle

Report Section	Compliant*	Report Section	Compliant*
Registration	Yes ☒ No ☐	Storage and Disposal of Refuse	Yes ☒ No ☐
Best Management Practices	Yes ☐ No ☒	Fuel Storage and Containment	Yes ☒ No ☐
Disposal of Blood Water	Yes ☒ No ☐	Sewage Treatment, Disposal and Record Keeping	Yes ☒ No ☐
Disposal of Net Cleaning Waste	Yes ☒ No ☐	Environmental Management	Yes ☒ No ☐
Storage and Disposal of Disinfectant	Yes ☒ No ☐	Water Licence	Yes ☒ No ☐
Storage and Disposal of Morts	Yes ☒ No ☐		

Middle Bay Limited Partnership

Company Name

***IF NOT IN COMPLIANCE, SEE BELOW FOR DETAILS**

Area(s) of Non-Compliance	Site(s) Name and MAL Reference Number
BMP – does not contain a statement that it has been endorsed by the holder	Middle Bay (1770)
BMP – not reviewed by staff at the facility	Middle Bay (1770)
BMP – does not contain a list of harmful materials	Middle Bay (1770)

General comments:

Ministry of Agriculture and Lands
SITE INSPECTION SUMMARY COMPLIANCE – 2009 Inspection Cycle

Report Section	Compliant*		Report Section	Compliant*	
Terms and Conditions	Yes ☒	No ☐	Therapeutant Use & Records	Yes ☒	No ☐
Escape Reports	Yes ☒	No ☐	Net Cage Inspections	Yes ☐	No ☒
Inventory/Inspection Records	Yes ☐	No ☒	Boat Docking	Yes ☒	No ☐
Best Management Practices Plan	Yes ☐	No ☒	Fish Handling	Yes ☒	No ☐
Escape Response	Yes ☐	No ☒	Predator Control	Yes ☒	No ☐

Omega Pacific Seafarms Inc.

Company Name

***IF NOT IN COMPLIANCE, SEE BELOW FOR DETAILS**

Area(s) of Non-Compliance	Site(s) Name and MAL Reference Number
Net Cage Inspections – Nets not stored on site in a manner to minimize deterioration	Jane Bay (270)
BMP – does not include a statement that individuals responsible for implementing the plan understand and received training	Jane Bay (270)
Daily Above Water Inspections – daily inspections of cage support systems not completed	Jane Bay (270)
Daily Above Water Inspections – daily inspections not recorded in a log	Jane Bay (270)
Daily Above Water Inspections – daily records not kept on site	Jane Bay (270)
Escape Response – does not have a written escape response plan	Jane Bay (270)
Stock Inventory Records – records incomplete (fish in – fish out, source, number and lot of fish)	Jane Bay (270)
Out of Water Records – records incomplete	Jane Bay (270)

General comments: _____

Ministry of Environment
SITE INSPECTION SUMMARY COMPLIANCE – 2009 Inspection Cycle

Report Section	Compliant*	Report Section	Compliant*
Registration	Yes ☒ No ☐	Storage and Disposal of Refuse	Yes ☒ No ☐
Best Management Practices	Yes ☐ No ☒	Fuel Storage and Containment	Yes ☒ No ☐
Disposal of Blood Water	Yes ☒ No ☐	Sewage Treatment, Disposal and Record Keeping	Yes ☒ No ☐
Disposal of Net Cleaning Waste	Yes ☒ No ☐	Environmental Management	Yes ☒ No ☐
Storage and Disposal of Disinfectant	Yes ☒ No ☐	Water Licence	Yes ☒ No ☐
Storage and Disposal of Morts	Yes ☒ No ☐		

Omega Pacific Seafarms Inc.

Company Name

***IF NOT IN COMPLIANCE, SEE BELOW FOR DETAILS**

Area(s) of Non-Compliance	Site(s) Name and MAL Reference Number
Best Management Practices – BMP did not contain list of harmful materials	Jane Bay (270)
Best Management Practices – BMP not reviewed by staff at facility	Jane Bay (270)

General comments:

Ministry of Agriculture and Lands
SITE INSPECTION SUMMARY COMPLIANCE – 2009 Inspection Cycle

Report Section	Compliant*		Report Section	Compliant*	
Terms and Conditions	Yes ☒	No ☐	Therapeutant Use & Records	Yes ☒	No ☐
Escape Reports	Yes ☒	No ☐	Net Cage Inspections	Yes ☒	No ☐
Inventory Records	Yes ☒	No ☐	Boat Docking	Yes ☒	No ☐
Inspection Records	Yes ☒	No ☐	Fish Handling	Yes ☒	No ☐
Best Management Practices Plan	Yes ☒	No ☐	Predator Control	Yes ☒	No ☐
Escape Response	Yes ☒	No ☐			

Saltstream Engineering Ltd.

Company Name

622335 BC Ltd.

***IF NOT IN COMPLIANCE, SEE BELOW FOR DETAILS**

Area(s) of Non-Compliance	Site(s) Name and MAL Reference Number

General comments:

Ministry of Environment
SITE INSPECTION SUMMARY COMPLIANCE – 2009 Inspection Cycle

Report Section	Compliant*	Report Section	Compliant*
Registration	Yes ☒ No ☐	Storage and Disposal of Refuse	Yes ☒ No ☐
Best Management Practices	Yes ☒ No ☐	Fuel Storage and Containment	Yes ☒ No ☐
Disposal of Blood Water	Yes ☒ No ☐	Sewage Treatment, Disposal and Record Keeping	Yes ☒ No ☐
Disposal of Net Cleaning Waste	Yes ☒ No ☐	Environmental Management	Yes ☒ No ☐
Storage and Disposal of Disinfectant	Yes ☒ No ☐	Water Licence	Yes ☒ No ☐
Storage and Disposal of Morts	Yes ☒ No ☐		

Saltstream Engineering Ltd.

Company Name

622335 BC Ltd.

***IF NOT IN COMPLIANCE, SEE BELOW FOR DETAILS**

Area(s) of Non-Compliance	Site(s) Name and MAL Reference Number

General comments: _____

Ministry of Agriculture and Lands
SITE INSPECTION SUMMARY COMPLIANCE – 2009 Inspection Cycle

Report Section	Compliant*		Report Section	Compliant*	
Terms and Conditions	Yes ☒	No ☐	Therapeutant Use & Records	Yes ☒	No ☐
Escape Reports	Yes ☒	No ☐	Net Cage Inspections	Yes ☒	No ☐
Inventory/Inspection Records	Yes ☒	No ☐	Boat Docking	Yes ☒	No ☐
Best Management Practices Plan	Yes ☒	No ☐	Fish Handling	Yes ☒	No ☐
Escape Response	Yes ☒	No ☐	Predator Control	Yes ☒	No ☐

Totem Sea Farm Inc.

Company Name

***IF NOT IN COMPLIANCE, SEE BELOW FOR DETAILS**

Area(s) of Non-Compliance	Site(s) Name and MAL Reference Number

General comments:

Ministry of Environment
SITE INSPECTION SUMMARY COMPLIANCE – 2009 Inspection Cycle

Report Section	Compliant*	Report Section	Compliant*
Registration	Yes ☒ No ☐	Storage and Disposal of Refuse	Yes ☒ No ☐
Best Management Practices	Yes ☒ No ☐	Fuel Storage and Containment	Yes ☒ No ☐
Disposal of Blood Water	Yes ☐ No ☒	Sewage Treatment, Disposal and Record Keeping	Yes ☒ No ☐
Disposal of Net Cleaning Waste	Yes ☒ No ☐	Environmental Management	Yes ☒ No ☐
Storage and Disposal of Disinfectant	Yes ☒ No ☐	Water Licence	Yes ☒ No ☐
Storage and Disposal of Morts	Yes ☒ No ☐		

Totem Sea Farm Inc.

Company Name

***IF NOT IN COMPLIANCE, SEE BELOW FOR DETAILS**

Area(s) of Non-Compliance	Site(s) Name and MAL Reference Number
Blood Water Disposal – Failure to dispose of blood water properly	St. Vincent Bay (247)

General comments:

Ministry of Agriculture and Lands
SITE INSPECTION SUMMARY COMPLIANCE – 2009 Inspection Cycle

Report Section	Compliant*		Report Section	Compliant*	
Terms and Conditions	Yes ☒	No ☐	Therapeutant Use & Records	Yes ☒	No ☐
Escape Reports	Yes ☒	No ☐	Net Cage Inspections	Yes ☐	No ☒
Inventory/Inspection Records	Yes ☒	No ☐	Boat Docking	Yes ☐	No ☒
Best Management Practices Plan	Yes ☒	No ☐	Fish Handling	Yes ☒	No ☐
Escape Response	Yes ☒	No ☐	Predator Control	Yes ☒	No ☐

Yellow Island Aquaculture Ltd.

Company Name

***IF NOT IN COMPLIANCE, SEE BELOW FOR DETAILS**

Area(s) of Non-Compliance	Site(s) Name and MAL Reference Number
Net Cage Inspections – Primary point of attachment not at water line rope	Yellow Island (216)
Net Cage Inspections – irregularities in the cage supporting system not repaired immediately	Yellow Island (216)
Boat Docking – no signs posted to direct boat traffic	Yellow Island (216)

General comments:

Ministry of Environment
SITE INSPECTION SUMMARY COMPLIANCE – 2009 Inspection Cycle

Report Section	Compliant*	Report Section	Compliant*
Registration	Yes ☒ No ☐	Storage and Disposal of Refuse	Yes ☒ No ☐
Best Management Practices	Yes ☐ No ☒	Fuel Storage and Containment	Yes ☒ No ☐
Disposal of Blood Water	Yes ☒ No ☐	Sewage Treatment, Disposal and Record Keeping	Yes ☒ No ☐
Disposal of Net Cleaning Waste	Yes ☒ No ☐	Environmental Management	Yes ☒ No ☐
Storage and Disposal of Disinfectant	Yes ☒ No ☐	Water Licence	Yes ☒ No ☐
Storage and Disposal of Morts	Yes ☒ No ☐		

Yellow Island Aquaculture Ltd.

Company Name

***IF NOT IN COMPLIANCE, SEE BELOW FOR DETAILS**

Area(s) of Non-Compliance	Site(s) Name and MAL Reference Number
BMP – does not contain a list of harmful materials	Yellow Island (216)

General comments:

APPENDIX 2: (Page 67)

Map showing distribution of marine base finfish farms.