



At a Glance



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3 Fisheries and Aquaculture: Aquaculture Monitoring

Summary

Improvements are needed in how the Department of Fisheries and Aquaculture identifies, monitors and manages environmental and other aquaculture-related risks. The Department issued aquaculture licenses, leases and renewals in compliance with applicable legislation, regulations and policies. However, weaknesses in its processes and information systems impact its ability to identify risks and efficiently and effectively manage and monitor the industry. The Department's ability to enforce environmental monitoring compliance is limited and detailed guidance in carrying out environmental monitoring audit procedures is needed. The Department provides fish health veterinary services and responds to emergencies in a timely manner. However, with no provincial regulatory requirement, the Department may not always be aware when a site has a disease outbreak or if it is being appropriately managed.

We examined new aquaculture applications and renewals and found technical review forms and network consultations were completed. However, detailed written guidelines for completing technical reviews are lacking and documentation supporting a recommendation to approve or reject an application was not always complete. Information on Department activities, such as all visits to aquaculture sites, is not readily available to management for monitoring and managing its responsibilities. The relocation of most of the Aquaculture Division and resulting loss of staff likely contributed to a backlog and delay in processing aquaculture site renewal applications.

The Department requires operators to monitor the environmental impact of marine finfish aquaculture sites. However, the Department's ability to enforce operator compliance with meeting environmental monitoring program requirements is limited to issuing Ministerial Orders or revoking a license. Such a response may be unwarranted for minor offenses; more options are needed. The Department is completing environmental monitoring audits. However, there are no written procedures or guidance for staff in conducting the audits and the Department does not effectively communicate the results to operators. The Department does not have appropriate processes for recording and responding to complaints related to aquaculture.

The Department is providing fish health veterinary services and timely response to emergencies. Fish health monitoring is an optional service with no regulatory requirement for operators to report to the Department on fish diseases. A disease outbreak could occur without the Department being aware of it. Fish health records include details about site visits and the results of examinations and lab tests, although communication with operators is not always well documented.

3 Fisheries and Aquaculture: Aquaculture Monitoring

Background

- 3.1 Aquaculture has been identified as one of the key industries with significant growth potential in contributing to the Nova Scotia economy, rural jobs, and revitalization. The Department of Fisheries and Aquaculture has the lead role in developing and regulating aquaculture activity in the province. The Fisheries and Coastal Resources Act provides regulatory authority for aquaculture operations in the Province. The Act defines aquaculture as farming of aquatic plants and animals for commercial purposes. Aquaculture operators are required to obtain a license, and lease if on Crown land, to conduct aquaculture operations in the province.
- 3.2 The Federal Government is the primary regulator of fish health and food safety in Canada. The Canadian Food Inspection Agency is Canada's lead federal agency for aquatic animal health. It has a list of federally reportable diseases that, if suspected, must be reported to the Agency. It is responsible for management of these diseases once reported. Currently, Fisheries and Oceans Canada regulates the movement of aquaculture products within and between provinces. The Canadian Food Inspection Agency monitors food safety for aquaculture products and regulates their international movement. A 2002 Memorandum of Understanding between Nova Scotia and Fisheries and Oceans Canada outlines how their respective and shared responsibilities for aquaculture management are coordinated.
- 3.3 Within the Nova Scotia Department of Fisheries and Aquaculture, the Aquaculture Division is responsible for leasing and licensing, environmental monitoring, and clinical fish health services. The Division is organized into three operational units to carry out these functions: aquaculture development, leasing and licensing, and fish health. Marine and Coastal Advisory Services Division inspectors are responsible for conducting inspections of aquaculture sites and enforcement.
- 3.4 The Aquaculture Division is responsible for the Environmental Monitoring Program. Program responsibilities are defined in the terms and conditions of license and lease agreements between aquaculture operators and the province. Staff review sampling information submitted by operators and conduct environmental audits on aquaculture sites.
- 3.5 Licensing and leasing staff process and administer aquaculture applications in consultation with a number of provincial and federal departments and agencies. The fish health unit provides veterinary and laboratory services to the industry to help maintain and monitor aquatic animal health.



- 3.6 As of March 2014, there were 274 approved aquaculture sites in Nova Scotia, including 243 shellfish, 29 finfish, and two mixed operations. There were also 27 land-based sites at that time. However, not all of the aquaculture sites are actively engaged in producing aquaculture products. The industry contributes over \$50 million to the provincial economy and supports over 600 direct jobs.
- 3.7 In May 2012, the Department released its aquaculture strategy. The strategy included an objective to undertake a legislation, regulation and policy review. In May 2013, the Department appointed an independent two-person panel to perform a review of the Province's aquaculture regulatory framework. The panel released its final report in December 2014, concluding that a fundamental overhaul of the regulation of aquaculture in Nova Scotia is needed, such as embedding environmental monitoring standards in legislation rather than operator documents.

Audit Objectives and Scope

- 3.8 In early 2015, we completed a performance audit of the Aquaculture Division of the Department of Fisheries and Aquaculture. The audit was conducted in accordance with Sections 18 and 21 of the Auditor General Act and auditing standards of CPA Canada.
- 3.9 The purpose of the audit was to determine if environmental and other risks related to aquaculture were identified, monitored and managed appropriately by the Department of Fisheries and Aquaculture.
- 3.10 The objectives of the audit were to determine whether the Department of Fisheries and Aquaculture:
 - issues aquaculture licenses, leases and renewals in compliance with the Fisheries and Coastal Resources Act, regulations and Department policies;
 - is adequately monitoring and enforcing compliance with legislation, guidelines and policies related to its responsibilities for aquaculture; and
 - has adequate processes to prevent, detect and respond to outbreaks of disease in farmed animals.
- 3.11 Generally accepted criteria consistent with the objective of the audit did not exist. Audit criteria were developed specifically for this engagement based on similar audits performed by our office and other legislative audit offices. Criteria were accepted as appropriate by senior management of the Department.



- 3.12 Our audit approach included interviews with Department management and staff; documentation and testing of systems and processes; and examination of legislation and policies. Our audit period included activities conducted between April 1, 2012 and November 1, 2014.
- 3.13 The Department expects to make significant changes to its governing legislation as a result of the independent regulatory review panel report. Our audit was based on the legislation in place at the time; although we also considered the scope and work done by the regulatory review panel during our examination.

Significant Audit Observations

Licensing and Leasing

Conclusions and summary of observations

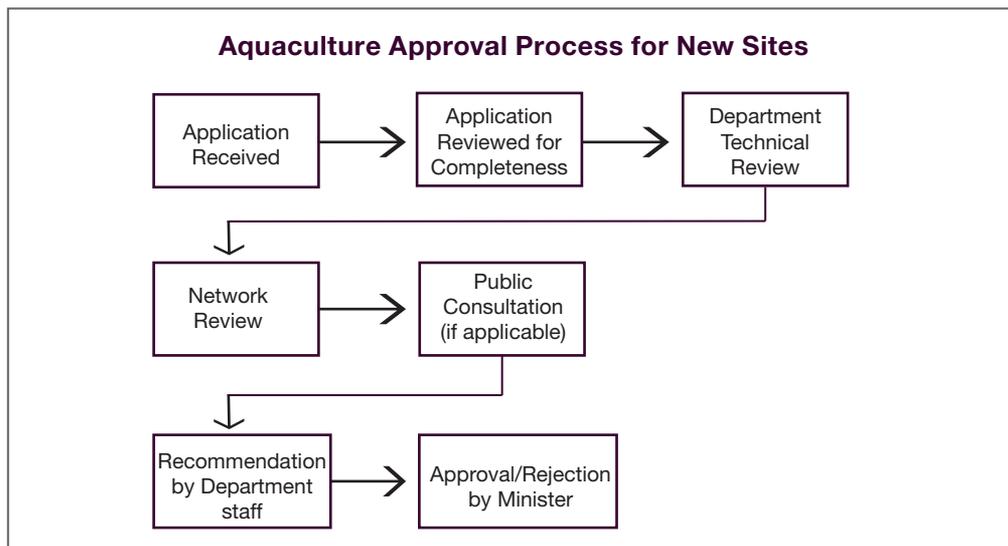
In general, the Department of Fisheries and Aquaculture issued aquaculture licenses, leases and renewals in compliance with the Act, regulations and policies. However, we found several weaknesses which could impact the efficiency and effectiveness of the Department's operations. The Department does not have detailed written guidelines for completing technical reviews. Files do not always contain complete documentation supporting a recommendation to approve or reject an application. Information on aquaculture sites and Department activities is not integrated and readily available to management for monitoring purposes. The Department had difficulty producing accurate reports on the number of approvals and renewals issued during our audit period. The relocation of most of the Aquaculture Division and resulting loss of staff likely contributed to the backlog and delay in processing aquaculture site renewal applications.

- 3.14 *Changes at the Aquaculture Division* – In April 2012, the government announced changes at the Department of Fisheries and Aquaculture, including the relocation of most of the Aquaculture Division from Halifax to Shelburne. The move to Shelburne was completed by the end of September 2013. From the time of the announcement to the final move, the Division went through significant staff changes as the majority of its management and staff retired or left the Division for other employment. The Department could not confirm that plans were developed to guide staff and ensure the relocation was done in an orderly fashion to minimize disruption and impact on the Division's normal work activities.

► Licenses, leases, and renewals issued in compliance with legislation and policy

3.15 *Issuing licenses and leases* – We examined 10 new and 25 renewal license and lease applications to determine if they were issued in compliance with legislation and the Department’s policies. We found the applications were, in general, processed and approved in accordance with legislation and policies. However, we noted several weaknesses, discussed in the following paragraphs, which could impact the Department’s efficiency and effectiveness in identifying risks and monitoring and managing the industry.

3.16 *Processing new applications* – The Department’s approval process for new aquaculture applications involves a number of steps and input from a number of other parties, as outlined in the chart below. The Department’s website noted approval for new applications could take from 140 days for shellfish or land-based activities, to 3.5 years for marine finfish sites. During our audit period of April 2012 to November 2014, the Department approved 11 new license applications. With the work of the independent regulatory review panel underway in 2013, the Department stopped approving new applications until the review was complete and new regulations in place. We examined 10 of the 11 new applications to determine how long it took the Department to process them. One of the applications was processed and received approval in approximately four months. Three were approved within 12 to 18 months, and the final six were approved between two and three and one half years after the application was received.



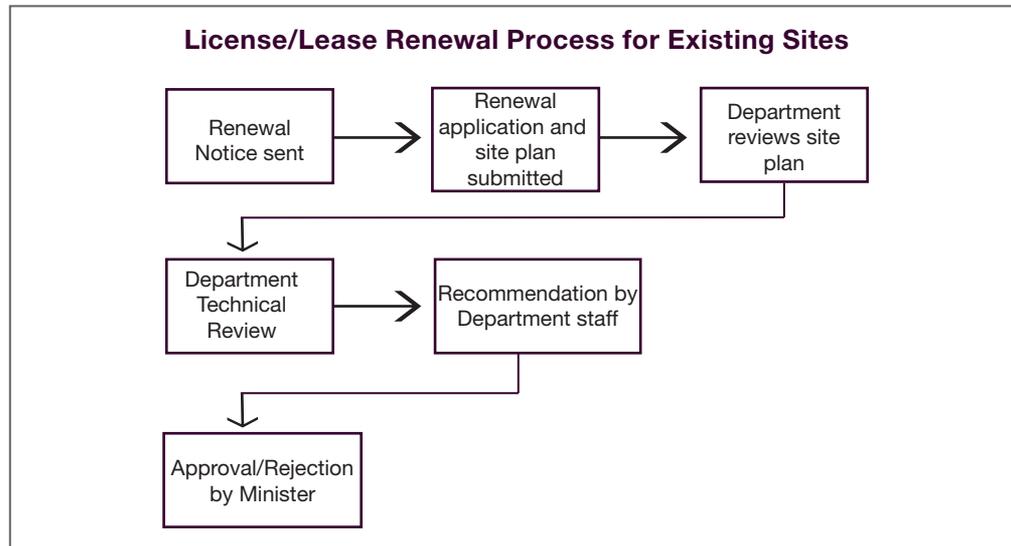
3.17 Management indicated part of the lengthy time period for processing new applications relates to the separate consultations required with other departments and agencies, discussed later in the chapter. We asked whether organizing a meeting with all key parties was a possible way to facilitate obtaining their timely input. Management and staff said this approach had



been used previously and they are considering reinstating this practice once the new regulations are in place.

► Significant application processing delays

3.18 *Processing renewal applications* – The Department’s approval process for renewal applications takes fewer steps and generally does not involve outside consultation, as outlined in the chart below. We analyzed the 127 renewal approvals from April 2012 to November 2014 for timeliness. The Department’s website indicated it typically takes 90 days to process a renewal. This was not an established Department policy standard. We found it took an average of 372 days, or approximately one year, to process a renewal. The shortest processing time was 57 days and the longest was over three years. We were not able to determine whether the extended time periods were due to delays by the Department or the applicant.



3.19 We analyzed the applications to determine if the processing time was significantly different during the period the Department was relocating to Shelburne (April 2012 to September 2013) and after the relocation (October 2013 to November 2014). The Department approved 28 of 94 applications received during the relocation period, taking an average of 412 days. After the relocation, the Department processed the remaining 66 applications, plus an additional 33, taking an average of 361 days to approve them. These numbers suggest the relocation and resulting loss of staff likely had an impact on the efficient functioning of the Department, contributing to a backlog of renewal applications after the move.

3.20 The significant time to process renewals also meant many sites were operating with an expired approval. Out of the 127 renewals, 112 (88%) were not renewed until after the operator’s previous approval expired. The average number of days sites operated with expired approvals was 317 days, or approximately 11 months.



- 3.21 Management indicated the terms and conditions of the previous lease and license agreements remain in effect until they are renewed. However, there is still a risk that other parties, such as a bank or federal department, may not accept that an operator has the appropriate authority to continue operating. Such situations, and any negative consequences, could impact the Department's goal, as outlined in its 2012 strategy and subsequent business plans, to promote and expand the industry.

Recommendation 3.1

The Department of Fisheries and Aquaculture should determine why application process delays are occurring and correct them. The Department should establish and monitor processing target time frames.

Department of Fisheries and Aquaculture Response: The Department is currently implementing significant reforms as part of its modernization of the aquaculture management framework. Part of the overhaul will include new Licensing and Leasing Regulations that specify timeframes around public consultation and the implementation of decisions around applications. This will address delays the audit found. This will be implemented in the next 18 months. The Department has already developed policy around follow-up letters and telephone calls to encourage timely responses from industry.

- 3.22 *Regulatory changes* – The December 2014 independent review panel report commissioned by the Department outlines a broad regulatory framework for aquaculture, with a number of specific recommendations. The Department has generally accepted the report and is in the process of determining how it will be implemented. As it implements the new framework, it is important that the Department have sufficient planning to ensure that key functions continue, such as processing applications and monitoring aquaculture sites, and unnecessary delays are avoided.

► Information systems do not meet management's needs

- 3.23 *Licensing and leasing information* – Staff use a central database to record lease and license applications and site information. The system captures information such as name of applicant, date of application, date of approval, and site details. When we requested a list of all new and renewed site approvals within our audit period, staff were only able to retrieve this information through a special IT request to produce this report. Once the report was produced, staff had to do additional work to remove files included in error.
- 3.24 We also asked for a report listing all sites whose operators were late submitting required annual reports for 2013. After this report was generated, staff noted that over half of the sites listed had actually submitted reports. Staff indicated they also track receipt of this information separately in a spreadsheet to ensure they have an accurate outstanding list. This is another example of



the information system not providing useful summary information to meet management's needs.

- 3.25 Since staff enter a significant amount of information on site files into the database, we expected it to be one of the tools management uses to monitor activities. However, management told us the system can only generate a limited number of reports, such as outstanding fees and upcoming or past-due renewals. Management told us they monitor licensing and leasing activities by maintaining lists of active files and through regular meetings. Licensing meetings are generally held several times per month to discuss applications currently in process and other site and operator issues; minutes are kept. While regular meetings and discussions on individual files are appropriate and serve useful purposes, the information the Department collects is not readily available at a summary level for use by management.
- 3.26 *Environmental monitoring information* – In addition to licensing and leasing activities, the Department oversees environmental monitoring of aquaculture sites, discussed in greater detail later in this chapter. Staff record information on environmental monitoring activities in spreadsheets which do not easily allow tracking of due dates and outstanding requirements. The database for recording licensing and leasing activities could potentially be used to record environmental monitoring information. If the information gathered was more readily available, management and staff could access and use it more effectively to ensure operators are carrying out required environmental monitoring.
- 3.27 *Fish health information* – The Department provides veterinarian services to aquaculture operators to assist with monitoring fish health (discussed in greater detail later in this chapter). The Department does not have a suitable system to track information about site visits related to fish health. Staff track visits in a spreadsheet, using a case number. The spreadsheet does not differentiate the type of visit, such as emergency, routine or other. When we requested a list for each type of visit, staff had to do this manually and were not confident that the visits were accurately categorized. This method of tracking site visits limits the Department's ability to monitor the frequency and types of fish health site visits. Additionally, it does not allow for integration of this information with other activities to provide management a full picture of the extent of aquaculture site monitoring.

Recommendation 3.2

The Department of Fisheries and Aquaculture should examine its information systems to ensure information collected is readily available to management and staff and integrated with other activities.



Department of Fisheries and Aquaculture Response: The Department has initiated a review of all information management databases that are currently used across the aquaculture division’s work units to identify specific needs and the opportunities for a shared system that would allow for convenient data entry, consolidated files, flexible data analysis and reporting and data access for all sections.

► Limited guidance for conducting technical reviews of applications

3.28 *Technical review* – A key part of the approval process for new aquaculture sites and renewal applications is the Department’s technical review, typically performed by a finfish or shellfish biologist. Application information is reviewed, including qualifications and experience of the site owner, previous production and utilization of the site, species potential, site exposure, financial viability and community or social concerns. After reviewing the application documents, the reviewer notes any comments and indicates a recommendation for approval or rejection.

3.29 The Department does not have written criteria or detailed guidance for staff when completing a technical review. The technical review form includes sections for financial information, qualifications and experience. It also considers finances, management experience and previous site ownership. The Department does not have specific, written guidance on how staff determine whether an applicant meets the qualifications for each of these categories. Detailed written guidance would help to ensure staff perform technical reviews in a fair, efficient and consistent manner so that the interests of industry and the public are appropriately considered.

3.30 We tested 10 new site applications and 25 renewal applications and found technical review forms were completed for all applications. However, we could not determine how the applicants were assessed or whether the assessment was appropriately completed in a consistent manner. We also found for three of the new site applications and two renewals, the recommendation for approval of the application was not fully supported by the file documentation. Industry and public confidence that the Department is appropriately considering the interests of all stakeholders could be eroded without full and complete documentation to support the Department’s decisions.

Recommendation 3.3

The Department of Fisheries and Aquaculture should develop and implement detailed written guidelines for assessing aquaculture applications, including the requirement for staff to fully document their decisions.

Department of Fisheries and Aquaculture Response: As part of the Department’s modernization of the aquaculture management framework, policies and procedures



are being written and implemented. The Department will modify the template form used in evaluating aquaculture applications and create supporting information to ensure staff consistently apply criteria when evaluating applications. This work will be implemented in the next 18 months.

► Supporting documentation for approved application was not always complete

- 3.31 *Network review* – Part of the process for approving new site applications involves the Department consulting with other provincial and federal departments and agencies whose areas of responsibility may be affected by an aquaculture operation. Under the Fisheries and Coastal Resources Act, only four provincial departments are required to be consulted: Agriculture, Natural Resources, Environment and Municipal Affairs. A Memorandum of Understanding between the Province and the Government of Canada also specifies that Fisheries and Oceans Canada be consulted for all new applications in regard to potential impact on the fisheries or fisheries habitat. Aside from the departments named in the Act or Memorandum, others may be consulted, such as Transport Canada, Environment Canada, and the Office of Aboriginal Affairs. Currently, the Division may consult with over 10 departments or agencies as part of this process.
- 3.32 From our testing of 10 new applications we found required and other consultations occurred, with the following exceptions noted.
- In one instance, there was no evidence a department received the application information sent for consultation and no follow up was conducted by the Division.
 - In one instance, comments were received from a department and there was no evidence these comments were passed on to the applicant.
- 3.33 It is important the Department ensures all necessary parties have received application information, through follow up if necessary, as there is potential that key issues may not be appropriately addressed. It is also important that the Department communicates any applicable comments to the site applicant to ensure all risks and concerns are mitigated to the extent necessary.
- 3.34 *Renewal plans* – The Department requires site owners to submit a renewal plan when applying to renew their aquaculture license or lease. This plan includes information on operational details, methods of growing product, stocking density, proposed harvesting methods, future lease utilization and markings of the physical site. All 25 renewals we examined included a renewal plan. However, there was one plan that was not complete and there was no evidence the Department obtained the missing information before it issued the site renewal.



Recommendation 3.4

The Department of Fisheries and Aquaculture should follow up as necessary and document that all network partner consultations have occurred, all necessary comments to applicants have been communicated, and all renewal plan information received, to fully support its aquaculture application decisions.

Department of Fisheries and Aquaculture Response: The Department is developing internal tracking tools to ensure network partners' feedback is received when required. In January 2014, the Department initiated discussions with their Network partners to ensure that each partner is receiving the types of applications that they deem necessary. The Department will also develop procedures for informing applicants of necessary comments, and that all information required in support of an application from the applicant is received. This work is expected to be completed in the next 18 months.

3.35 *Annual reports* – All site operators must submit annual statistics to the Department which include information on the value of fish and seafood harvested and employment related to aquaculture for the year. The Department publicly reports this information on its website. The Department sends a reminder notice and report template to all site operators in January and typically requires a report be submitted in March. Operators who do not submit the report on time are sent a follow-up letter. For 2013, reports were not submitted for nine of the 302 sites for which they were required. No follow-up letter was sent for three of those sites. Missing annual reports could impact the completeness of the global statistics publicly reported by the Department.

3.36 *Policies and procedures* – The Department had very few written licensing and leasing policies and procedures during our audit. The Department provided flow charts that documented the steps for new and renewal approvals, as well as verbal confirmation on how the processes operate. The Department was preparing a process manual which was finalized subsequent to our completion of audit fieldwork.

Monitoring and Enforcement

Conclusions and summary of observations

Improvements are needed in how the Department is monitoring and enforcing compliance related to its aquaculture responsibilities. The Department requires operators to monitor the environmental impact of marine finfish sites. However, its ability to ensure operators meet all environmental monitoring program requirements is limited to issuing Ministerial orders or revoking a license. More options are needed. The Department is completing audits of aquaculture sites as required



by its policy. However, there are no written procedures or guidance for staff in conducting those audits and the Department does not effectively communicate the results to operators. The Department does not have adequate processes for responding to aquaculture-related complaints.

► Operators required to monitor but Department has limited ability to enforce environmental monitoring requirements

3.37 *Environmental Monitoring* – Environmental monitoring requirements to detect and address adverse impacts on the marine environment from aquaculture are outlined in an operator’s lease and licensing documents. The Department’s environmental monitoring program applies to all marine finfish and some shellfish operations. It does not include land-based sites. Environmental monitoring involves sample collection and analysis and is typically performed by a consultant hired by the site owner. Samples must be collected and results sent to the Department within specified parameters and time frames. The program included 25 marine sites in 2013 and 22 sites in 2014.

3.38 We examined sampling information submitted by sites for 2013 and 2014. Twenty-eight sampling results were submitted in 2013 and 25 in 2014 at the time of our audit. While all required sampling was performed, we noted several instances in which certain requirements and important reporting deadlines were not met.

- In 2013 and 2014, 17 sampling results in the two year period were not submitted to the Department within the required deadline from when the samples were taken. Four of the 17 samples were 113 days late.
- Three of the four sites that required additional sampling were sampled eight days after the required sampling deadline. These three sites also submitted their mitigation plans between five and 17 days late.
- There were two sampling events for which the required video footage was not submitted.

3.39 If environmental monitoring procedures are not properly followed, it increases the risk that environmental damage will go undetected or unmitigated. Although environmental monitoring by operators is a requirement of lease and licensing agreements, the Department has limited ability to enforce the requirements. At the time of our audit, the only recourse available was for the Minister to write a Ministerial Order or to revoke the license of a site owner, which would often be unwarranted for more minor offences. The Department had no written guidance on actions staff could take to ensure compliance. Subsequently, Fisheries and Aquaculture announced that fisheries inspection and enforcement responsibilities, including aquaculture, would become part of the mandate of the Department of Environment.



Recommendation 3.5

The Department of Fisheries and Aquaculture should develop guidance and methods for ensuring operator compliance with environmental monitoring program requirements and determining when files should be transferred to the Department of Environment for enforcement action.

Department of Fisheries and Aquaculture Response: A significant part of the Department’s new aquaculture management framework is the implementation of new Environmental Management Regulations to strengthen operator compliance with environmental monitoring. We will have a new system that is transparent and accountable to the communities where aquaculture occurs. Stronger policies are being developed to clearly define new environmental monitoring procedures and the actions that are required when monitoring standards are not met. We are already working with our colleagues at Nova Scotia Environment to determine the delineation of responsibilities. This work will be completed in 18 months.

► Environmental monitoring audit procedures lack clarity and sufficient detail

- 3.40 *Environmental monitoring audits* – The Department’s policy is to annually audit a minimum of 20% of sites under its environmental monitoring program. Audits can involve the Department analyzing site samples collected by the operator, visual observation of the operator’s sampling or verification of lab analysis procedures. There are no written procedures or guidelines for staff on how to complete audits and communicate the results to operators. While the Department has developed a checklist for each audit, there is no guidance on how it should be completed. This could lead to inefficiencies or inconsistency in carrying out an audit.
- 3.41 In 2013 and 2014, Department policy required a minimum of five audits be completed. The Department conducted 11 audits in 2013, and nine in 2014. While the checklists were used in both years for all audits, they were not completed consistently. Some sections were left blank with no explanation as to why the section was not completed. Minor deficiencies were written in the comments section of the checklists but were not communicated to the operators. A major deficiency noted in a 2013 audit required the site be resampled. This deficiency was communicated to the operator and resolved.
- 3.42 For eight of the 11 audits in 2013, staff sent an audit results letter to the owner. In 2014, audit result letters were not sent to the operators for any of the nine sites audited. The letters sent in 2013 only stated whether sites complied with the environmental monitoring program. They did not communicate to the operators any deficiencies found which, although not serious enough to consider them noncompliant, should still be communicated to help improve monitoring processes.

**Recommendation 3.6**

The Department of Fisheries and Aquaculture should establish specific procedures and guidelines for conducting audits under the environmental monitoring program, including time frames, documentation, and communication of results.

Department of Fisheries and Aquaculture Response: Through the Nova Scotia Aquaculture Environmental Coordinating Committee, the Department has established the formalization of audits on the Environmental Monitoring Program as the priority outcome for 2015. Standards for timelines of audits, documentation of results, and communication to both industry and the public will form elements of the renewed audit program.

3.43 *Other monitoring and enforcement* – Aquaculture site inspections and monitoring other than environmental and fish health are the responsibility of fisheries inspectors in another division within the Department. These inspections include proper use and placement of gear. The inspectors do not report directly to management in the Aquaculture Division. Rather, management of both divisions discuss any issues, concerns or required actions by the inspectors related to aquaculture. As discussed previously, responsibility for the fisheries inspectors is being transferred to the Department of Environment.

► Lack of appropriate complaint recording and investigation processes

3.44 *Complaints* – Complaints can come from a variety of sources and through several channels to the Department. The Department had not established a comprehensive process or time frames for responding to, or documenting investigation of, complaints. Staff recorded complaints and follow-up information in separate information systems, depending on the source and nature of the complaint. For our audit period, the Department was unable to provide us a complete list of aquaculture-related complaints and resulting follow up. The Department cannot be sure that aquaculture complaints are appropriately investigated and any risks identified are addressed in a timely manner.

Recommendation 3.7

The Department of Fisheries and Aquaculture should establish appropriate processes to record and investigate complaints, including response time frames.

Department of Fisheries and Aquaculture Response: We agree a better complaint system is required. Government is committed to acting on complaints for which there is sufficient information to initiate an investigation and within the provincial mandate. Complaints need to be recorded, investigated and responded to in a timely manner. Currently, the Department is working collaboratively with the Nova Scotia Department of Environment to establish procedures and policy to ensure the effective coordination of complaint responses.

Fish Health Monitoring

Conclusions and summary of observations

The Department is providing fish health veterinary services and responding to emergencies in a timely manner through its fish health program. Since the veterinary services offered by the Department are optional, and there is no provincial requirement for operators to report to the Department concerning disease outbreaks, the Department may not always be aware when there is a disease outbreak or if it is being appropriately managed. The Fish Health program does not have documented policies and procedures regarding the level of service to be provided, such as the number of routine visits for health monitoring. Fish health records include details about site visits and the results of examinations and lab tests, although recording communication with operators could be improved. We found that staff are not meeting their intended target for routine marine site visits.

► Veterinary services are provided and response to emergencies is timely

3.45 *Fish health program* – Management of aquatic animal health and disease prevention is an essential part of maintaining healthy fish stocks and minimizing risks, such as economic loss to industry and transmission of disease to wild stocks in the event of an escape. The Department provides aquatic animal health services through the Fish Health program. Among other services, the program provides routine and emergency veterinary services to aquaculture site owners. Site visits are completed by one of three staff veterinarians. The service is primarily provided to finfish sites with emergency calls made to shellfish sites. Currently, all active finfish operations use the service. With limited resources, the Department prioritizes health monitoring for the finfish sector. During a routine site visit, the veterinarian conducts a variety of tests and examinations, depending on the nature of the site. Information about the visits is recorded in the health record for each site. The veterinarian may also provide advice or direction to the site owner on prevention, treatment or operational improvements.

3.46 We examined the health records for 35 site visits. These included 15 routine visits, 15 emergency visits and 5 visits when a prescription was written. We found the Department is monitoring fish health during visits, and responding to emergencies in a timely manner.

► No provincial regulatory requirement for disease surveillance

3.47 *Disease surveillance* – Through federal regulations, the Department is required to report to the federal government when certain fish diseases are detected. Although finfish sites use the provincial veterinary services, operators are not obligated to accept the services offered under the Fish Health program and can hire their own veterinarians. While operators are



required to maintain records on the health of their stock, disease outbreaks, and any treatments applied, they are not required to report this information to the Department. Under the Aquaculture License and Lease Regulations, if the Department becomes aware of a health problem, it may examine the operator's records and order any necessary treatment.

- 3.48 While there is significant surveillance of finfish farms in the province through the veterinary program, this surveillance is not required by regulation. As well, the Department may not be able to maintain this level of service to an expanding industry. There is no provincial regulatory mechanism for disease surveillance or required reporting of diseases that may be important to the province, apart from those federally regulated. The Department's reliance on its voluntary veterinary services and federal reporting requirements leaves it at risk of not obtaining complete disease surveillance information that it may need. A robust surveillance system would include required reporting or other appropriate means for the Department to know, in a timely way, when disease outbreaks have occurred.
- 3.49 Although the current system does not mean diseased fish could end up in the food system undetected, as this is monitored federally, it could impact the Department's ability to effectively monitor marine animal health and protect the environment and wild stocks with a timely response.

Recommendation 3.8

The Department of Fisheries and Aquaculture should determine which fish diseases it needs to monitor and establish an appropriate reporting process to obtain the information from aquaculture operators.

Department of Fisheries and Aquaculture Response: A significant part of the Department's new aquaculture management framework will include procedures and regulation covering the health of fish. New Aquatic Animal Health Regulations will require operators to identify and make mandatory, the reporting of provincial reportable fish diseases. The Aquatic Animal Health Regulations will be phased in with full implementation expected in 18 months.

► Fish health program lacks written policies and procedures

- 3.50 *Policies and procedures* – The fish health program provides clinical veterinary services but does not have any written policies and procedures regarding the level of service, such as number of routine visits. Documented policies and procedures would provide guidance to staff on the expected frequency of routine site visits and communication requirements in cases of disease outbreaks. Documented procedures could assist with the training of new fish health staff and help maintain consistency of services provided. Staff told us policies and procedures are currently being developed in response to the recently completed regulatory review.



- 3.51 The 35 fish health records we examined included information about site visits and the results of examinations and lab tests. However, evidence of communication with the site operator subsequent to the visit was not always recorded in the file. Staff told us that communication with the operator is often done verbally. Better practice would be to have all such communication appropriately documented in the file.
- 3.52 Although there is no legislative requirement for the frequency of routine visits, staff told us they attempt to visit marine finfish sites once per month during April to December, depending on available resources. Our analysis of the list of routine visits staff provided to us showed this frequency was not achieved. None of the sites had a routine visit each month between April and December for 2013 or 2014. The Department expects upcoming regulatory changes to provide a framework for the fish health program which will provide better guidance on the frequency and types of visits required.

Recommendation 3.9

The Department of Fisheries and Aquaculture should develop and implement policies and procedures respecting the various aspects of the fish health program, including any regulatory requirements.

Department of Fisheries and Aquaculture Response: Policies and procedures are being created around various aspects of fish health to support new Aquatic Animal Health Regulations. Those will be phased in with full implementation expected in 18 months.



Department of Fisheries and Aquaculture: Additional Comments

The Department agrees with the recommendations and received value from the audit. We know that change is required to monitor and manage risks related to aquaculture and that during the time of this audit, those changes were not yet in place. We agree with the issues identified by the audit around process improvements and while some progress has been made, more will occur this year as we roll out our new aquaculture management and monitoring framework. Since the audit, government has amended and strengthened the Fisheries and Coastal Resources Act to allow for a more transparent and rigorous approach to regulating the industry. Furthermore, the Department is committed to continuous improvement and strengthening the way we identify, monitor and manage risks so that Nova Scotians can be confident that this industry is operating in an environmentally sustainable and accountable way.