

BC Shellfish Aquaculture Debris Strategy & Action Plan

Fisheries and Oceans - Aquaculture Management Division

This document provides an overview of the marine debris issue associated with shellfish aquaculture sites in BC, outlines a departmental strategic approach to addressing the issue and identifies short, medium, and long term goals to improving compliance. Attachment #1 is a Table of action items to achieve the Debris Strategy goals.

BC Shellfish Aquaculture Debris Strategy and Action Plan

Background/Issue

The shellfish aquaculture industry is very active in BC, growing many species and using a large variety of equipment and techniques. DFO issues licences to all shellfish farmers, which include conditions to anchor anti-predator netting and manage equipment to prevent the loss of gear. However, the containment of this equipment proves to be difficult. Improperly anchored nets can become loose, unsecured trays can get washed off of floats, and storm events can break apart rafts; all can generate debris that can become free-floating or wash up on beaches. This has a cost to farmers and also can have a negative impact to the environment including lethal or sub-lethal effects on wildlife. Gear can smother beach habitat, nets can trap fish, entangle birds or mammals, plastics and Styrofoam can degrade into smaller pieces, harmful chemicals can be ingested, and toxins can leach out.

Although the shellfish industry is generally supported in BC, debris generated from shellfish farms is one of the main challenges this industry faces when it comes to public image and support as it is the leading public complaint. In an assessment of inspection results, DFO staff have also determined that the largest environmental risk and impact from the shellfish aquaculture sector is debris. Over 50% of site inspections identified derelict or unmaintained gear and infrastructure, as well as improperly wrapped or exposed Styrofoam. Improvements to the shellfish debris problem would clearly benefit the industry's public perception, reduce operating costs, improve relationships with local communities, help to protect the environment and result in higher compliance with licences.

Challenges

Shellfish licence holders are a diverse group and there is varying compliance with licence conditions; however, even the most conscientious companies can lose gear. Not all licence holders belong to membership groups, some language barriers exist, tenures are found in remote locations, and some sites are left inactive for years or even abandoned. Given all of these factors, sometimes simply communicating with licence holders can prove difficult. A specific challenge with found shellfish aquaculture debris is determining ownership and therefore who to direct remediation or enforcement action against. The idea of tagging equipment has been considered, but it is impossible to label every inch of equipment and often lost gear is broken into parts.

Ticketing is a simple and time effective tool that would be an asset in the enforcement of debris related non-compliance, however, requires new legislation and therefore cannot be directly addressed in this strategy. The lack of ticketing ability remains the primary constraint to DFO's enforcement response to the wide-spread non-compliance with debris related conditions of licence.

The responsibility of regulating shellfish debris falls under the shared jurisdiction of not only Fisheries and Oceans Canada, but can also include our provincial partners of Forest, Lands and Natural Resources (FLNRO) and Ministry of Environment, as well as other Federal departments such as Environment and Climate Change Canada, Transport Canada and finally local municipalities. Each of these regulating

bodies has very specific roles and resources that may address different aspects of shellfish aquaculture debris depending on the intricacies of what and where the debris is located. The complexity of overlapping jurisdictional responsibilities has created difficulties in addressing some of the non-compliance issues in the past and has highlighted the need for defined roles and responsibilities and communication between regulating parties.

DFO Response and Strategy

In 2012, the British Columbia Aquaculture Regulatory Program (BCARP) Compliance and Enforcement Strategy and Protocol were developed to promote, assist and compel compliance with the *Pacific Aquaculture Regulations*. According to this protocol, the Aquaculture Management Division (AMD) is the lead for Compliance Promotion activities through engagement, education, partnering and stewardship while Conservation & Protection (C&P) is the lead for Compliance Monitoring and Response through inspections and investigations. This strategy will target resources, objectives and actions to strengthen AMD compliance promotion and reinforce C&P efforts to support the two pillars of compliance listed below:

- Pillar I – Education, Engagement, Partnership and Shared Stewardship;
- Pillar II – Compliance Inspection Monitoring, Control and Surveillance

Pillar I: Education & Shared Stewardship

Although AMD staff lead Pillar I activities, C&P staff will work collaboratively when operational requirements allow to help with debris challenges. Due to the complexities of the debris issue listed above, the majority of effort will be directed at Pillar I. Education, partnering and shared stewardship objectives will be achieved with the following goals in mind:

- creating an operational environment that promotes the voluntary reduction of marine debris from shellfish aquaculture facilities;
- creating partnerships with licence holders, industry organizations, and community groups which educate about debris impacts and help collect and properly dispose of debris;
- reducing the use of exposed or improperly wrapped Styrofoam;
- identifying green initiatives or funding sources which could facilitate upgrading aging or inappropriate equipment;
- working with partner agencies such as the provincial and regional governments to find shared solutions where there is overlapping jurisdiction.

Pillar II: Monitoring, Control and Surveillance

For the shellfish sector, there are risks related to food health and safety, theft from sites, and product traceability to differentiate between farmed and wild product. Consequently, human health issues are of a higher priority than debris issues when it comes to directing C&P resources. That said, C&P has staff who will continue using Pillar II through routine inspections at shellfish facilities for continued

improvement in debris management compliance. AMD will support C&P by ensuring there is a current report on the degree of non-compliance by site and area. This report will assist in identifying offenders for enforcement action.

Action Strategy

A Debris Technical Working Group, reporting to the Shellfish Aquaculture Industry Advisory Panel (SAIAP) and chaired by DFO, was struck in December 2016 with the objective to increase social licence and environmental performance by decreasing debris. DFO also chairs a Technical Working Group on Non-Productive Sites which will have direct linkages to the Debris Technical Working Group.

DFO has a Debris Strategy implementation plan that will guide action items for increasing education, awareness and compliance with debris related Shellfish Aquaculture Conditions of Licence. The following is an action plan table, highlighting current 2017/2018 fiscal year projects and those being developed for future implementation. The success and effectiveness of 2017/2018 projects will be evaluated and possibly repeated in future years, improved upon where needed.

Attachment #1: Debris Strategy Action Plan

Debris Strategy Action Plan

Current Projects: FY 2017-2018

Project	Info and Deliverables	Details
Shellfish Aquaculture Industry Advisory Panel (SAIAP) Debris Technical Working Group & Technical Working Group on Non-Productive Sites	DFO to chair technical working groups consisting of industry and government to develop initiatives around debris and site management	DFO to provide a chair (AEO) and co-chair (C&P), facilitate meetings, publish minutes and records of decision, provide support and funding to working group initiatives where appropriate

Turn it in Week	<p>To be conducted in the most active shellfish aquaculture areas on the coast</p> <p>Provide opportunity for industry to properly dispose of their debris</p> <p>Tenure and beach clean-up activities</p>	DFO to fund dumpster placement, removal and disposal at waste management centres.
Collaborative Beach Clean-Ups	<p>Support community group beach clean up days</p> <p>Public Outreach</p> <p>Awareness</p> <p>Debris clean-up</p>	<p>DFO to co-lead the event(s) and help fund any debris disposal fees.</p> <p>DFO coordinate with other government and community stewardship partners to provide on-site presence and assistance with events.</p>
Public Events/Festivals	Public and industry outreach	<p>DFO staff to attend shellfish aquaculture related events to provide public outreach and engagement/network with industry and other partners</p> <p>DFO to pro-actively promote compliance with debris related conditions of licence.</p>
Styrofoam alternatives	<p>Industry awareness of the styrofoam debris issue</p> <p>Moving towards more durable float and raft materials</p>	<p>Via the Technical Working Group, DFO to work with industry to develop and publish an option sheet promoting styrofoam alternatives for flotation.</p> <p>Provide to industry the cost-benefit type information that would encourage growers to choose flotation methods and products less</p>

		likely to become a debris problem DFO to provide ongoing facilitation support for discussions and meetings
--	--	-------------------------------------------------------------------------------------------------------------------

Projects Being Developed

Project	Info and Deliverables	DFO support and/or funding
Debris Inventory and Compliance Monitoring Project	Conduct directed and efficient inspections of shellfish aquaculture areas- with a focus solely on debris related conditions of licence; produce a report including a compliance rating system to better direct enforcement action	DFO staff to conduct inspections solely focussed on debris conditions of licence; AMD to produce a “report card” outlining degree of compliance/non-compliance and a severity rating of non-compliance by site and area to feed into enforcement operations.
Tenure Closure Guidelines and Transfer Disclosure	To help ensure a decommissioned or expired tenure is left in satisfactory environmental condition. Work with provincial government partners and industry to look at instituting a tenure disclosure process (for debris issues) prior to a tenure transfer.	DFO to work with our B.C. government partners and industry to provide current and effective end of tenure environmental guidelines that the B.C. government requires a tenure holder to fulfill through an existing program DFO, through the Technical Working Group, to facilitate the discussion and consideration of a tenure disclosure process (between the BC Government and industry)