

# *Sustainable Fish Secure Food*

*An Assessment of the Wild Seafood Supply Chain on Vancouver Island*



*With a Focus on Local Sustainable Fisheries*



Healthy Oceans. Healthy Communities.

## Acknowledgements

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Cover photo credits

Prawn fisherman: Living Oceans Society

B.C. spot prawns: SeaChoice

Prawns on plate: RickChung.com

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# Executive Summary

This report examines the state of the sustainable wild seafood supply chain on British Columbia's Vancouver Island. Living Oceans Society (LOS) is a marine conservation organization working to protect ocean ecosystems from unsustainable practices. There are two purposes for undertaking this work; to understand the regional seafood supply chain from sea to fork and to identify obstacles and opportunities to making more local seafood that is harvested sustainably available at various entry points in the chain as alternatives for less sustainably harvested imports.

The scope of the assessment did not include aquaculture and was limited to five species of locally harvested wild fish due to time and resource constraints. Four wild species—albacore tuna (*Thunnus alalunga*), Pacific sardines (*Sardinops sagax*), sablefish (*Anoplopoma fimbria*) and spot prawns (*Pandalus platyceros*)—were selected due to their high sustainability ranking. The SeaChoice\* sustainable seafood program was used to determine the appropriate species. One additional species, swimming scallops - both pink (*Chlamys rubida*) and spiny (*Chlamys hastate*), is currently under assessment by SeaChoice.

Vancouver Island's natural boundaries, its population and mix of communities both large and small, along with the fact that large amounts of seafood are landed, processed and consumed, made it a logical fit for a regional seafood supply chain assessment. This report is unique in that previous food security and supply chain assessments for the island have typically focused on agricultural products.

There are similarities between agricultural and seafood supply systems but there are also a significant number of differences. The very nature of wild fish and fisheries accounts for some of the key differences and is discussed in the report. Even within the seafood supply chain itself, there is no “one size fits all” model that defines the entry points into the system.

The assessment generated a number of conclusions, the first being that there are indeed both opportunities and obstacles for replacing imported, unsustainably

harvested seafood with locally sourced, sustainably harvested product. Some conclusions like “Telling the Story”, about the fish and the fishermen who catch them, is one phrase heard repeatedly that applies across the board. Other conclusions like the plight of the swimming scallop fishery are very species specific.

## **The recommendations flowing from the general conclusions are as follows:**

1. Human health and nutrition could be improved by adding more seafood to Vancouver Island local food programs in schools and on campuses. LOS recommends supporting efforts to introduce and incorporate more local sustainable seafood.
2. Networking between producers, suppliers and customers (whether retailers or restaurants) to promote acceptance and usage of these five and other locally harvested sustainable seafood choices is gaining momentum. This would be a way to open up opportunities to reach new customers and “Tell the story.” LOS recommends examining opportunities to include more seafood choices within these and other existing networks and exploring new networking opportunities.
3. Identifying Vancouver Island-landed seafood as well as all others including imported would allow for the end customer to make the decision to support local if they desired to. Currently, it is not a legal requirement to label the catch origin of seafood. LOS recommends working towards implementing seafood labelling as a requirement by the Canadian Food Inspection Agency (CFIA) in Canada and in the meantime to push for markets to voluntarily start including this information at the point of sale.
4. The lack of centrally located cold storage space on Vancouver Island for direct marketers and seafood suppliers was identified as an obstacle and would provide for better access to regional markets and supplies of locally harvested sustainable seafood. LOS recommends further exploring the options for increasing the amount of space available at existing cold storage facilities or creating a new, centrally located cold storage facility.

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\*SeaChoice: a sustainable seafood program of Canadian Parks and Wildlife Service B.C., David Suzuki Foundation, Ecology Action Centre, Living Oceans Society and Sierra Club B.C. In collaboration with Monterey Bay Aquarium, SeaChoice performs science-based assessments on Canadian wild-capture fisheries and aquaculture. <http://www.seachoice.org>

**The recommendations that are specific to individual fisheries or species are as follows:**

1. Some supply chain industry players from suppliers to retailers and restaurants have expressed a willingness to get involved and assist scallop fishermen with promoting and supporting the changes needed to elevate the experimental licence status to full commercial licence status. LOS recommends assisting in this effort by convening fishermen (or the one remaining fisherman) and suppliers to champion the changes necessary.
2. Increasing the awareness of and support for the human food consumption profile of the Pacific sardine fishery would benefit local health. This awareness could be improved through possible connections between members of the Canadian Pacific Sardine Association and provincial and local health departments such as the Vancouver Island and First Nations Health Authorities. LOS recommends helping establish these connections.



Fishing Dock with Vancouver Island in Background. Photo Credit: Living Oceans Society

# Introduction

The importance of access to local food is increasingly important to the security of food supply systems is growing. Awareness has focused on access to terrestrial food items, but access to local seafood has largely been overlooked. Living Oceans Society (LOS) began to examine the regional supply chain for fisheries products on Vancouver Island in this assessment. The assessment purpose was two-fold; first to obtain an understanding of the regional seafood supply chain itself and second to learn what obstacles and opportunities currently exist at various entry points in that supply chain for moving more local fisheries products to local markets. LOS sees these objectives as important ways to possibly benefit food security and coastal community health on Vancouver Island and at the same time improve local fisheries viability by promoting consumption of these sustainably harvested seafood products as alternatives to imported seafood harvested using methods more harmful to marine ecosystems.

LOS examined the seafood supply chain for the region of Vancouver Island with a focus on five\* wild fisheries that are harvested locally and caught using sustainable methods. Vancouver Island was chosen for this assessment because it is home to a large population which is divided among communities both large and small. Seafood is harvested in the ocean surrounding the island, then landed and processed at a number of ports up and down its coast. Islanders have access to seafood products in all parts of the region but much of it is imported from less sustainably harvested sources. Previous food assessments for Vancouver Island have focused on terrestrial agriculture with little analysis or consideration of seafood. All of these factors combine to make Vancouver Island a logical choice as a foodshed for a regional seafood supply chain assessment.

The five species of locally harvested fish were selected due to their high sustainability ranking based on the SeaChoice Program; albacore tuna (*Thunnus alalunga*), Pacific sardines (*Sardinops sagax*), sablefish (*Anoplopoma fimbria*), swimming scallops\* both pink (*Chlamys rubida*) and spiny (*Chlamys hastate*) and spot prawns (*Pandalus platyceros*). While there are other important and abundant aquatic species such as salmon, groundfish or herring harvested

\* Swimming scallops are currently under assessment by SeaChoice



B.C. Sablefish in Retail Market. Photo Credit: Living Oceans Society

in the waters around and entering the seafood supply chain on Vancouver Island, they have not yet received green “Best Choice” SeaChoice rankings and as such, did not fit with the focus on moving more sustainably harvested seafood to local markets.

The structure of the report first examines the Vancouver Island region. It then describes the five species LOS has chosen to assess and the seafood supply chain itself from producer to consumer or from sea to fork. Research findings are then presented, first by supply chain sector and then by individual species. Following a discussion of the results, conclusions and recommendations end the report.

While the seafood supply chain has some similarities to terrestrial food supply systems, LOS learned from this research and from the survey respondents that there are significant variations. Wild fish are harvested from the ocean in many different locations at different

times of year. Volumes vary between fisheries and fishermen harvest, handle and market their catches in different ways.

Processing and distribution of seafood from commercial fisheries in the region are geared to meet the demands of the different fisheries as well as those of the markets. Regional markets for seafood cannot utilize all of the supply in season, resulting in processors and distributors exporting far more seafood from the region than they sell to local outlets. Some fishermen sell portions of their catch directly to local markets (direct marketing). Vancouver Island retailers and chefs are increasingly looking for new products they can promote to their customers as traceable, local and sustainable, however seafood imports still prevail.

Given the narrow scope of this assessment and limited number of survey responses and interviews, this report cannot be taken to have used random or representative sampling or in depth data from all stakeholder groups. From the research and from those surveyed and interviewed, LOS concludes that there are a variety of opportunities and obstacles within the regional seafood supply chain that, if addressed, could benefit regional food security and access to local sustainable seafood products for Vancouver Island residents. Even within the regional seafood supply chain itself there is no 'one size fits all' model that would define the best entry points into the system or the specific communities in the region where seafood is processed and distributed. Therefore, some recommendations cut across all species and supply chain sectors and others are more specific to fit individual needs.

## Methodology

The scope of this assessment was focused on wild fisheries and did not examine aquaculture due to resource constraints. A prerequisite for selection of the five fisheries was to ensure they were not only local, but also sustainably harvested. The SeaChoice sustainable seafood program criteria were used to determine the five appropriate fisheries.

A number of methods were used to conduct the assessment:

- Internet-based survey of Vancouver Island stakeholders distributed by e-mail invitation;
- Consultations with a food systems expert for

guidance;

- Review of existing literature including statistical and policy documents;
- GIS mapping of fishermen survey results;
- Key stakeholder interviews; and
- Meeting with Eat West Coast - a local food security group in the Clayoquot Sound Biosphere area and attending a community seafood festival.

Baseline information for volumes of fish harvested in recent years for the five different species was gathered in an attempt to determine the volumes being landed on Vancouver Island. Next, LOS surveyed island-based fishermen, suppliers, distributors, buyers and vendors in the regional seafood supply chain to find out the locations and the volume of products sourced and sold on the island. Surveys were followed by individual interviews of willing survey respondents to find out more in depth information about the obstacles and opportunities for greater access to the regional supply chain for sustainably harvested fish and seafood.

Stakeholders of the Vancouver Island seafood supply chain included: fishermen and their associations, seafood suppliers and distributors, retailers and restaurant chefs.

In total, electronic survey invitations were sent to a variety of seafood supply chain participants and responses were received from 13 fishermen, eight seafood suppliers, eight retailers and six chefs, all from Vancouver Island. Survey findings from all groups are presented for each species. Follow up interviews were conducted with 17 willing respondents.

LOS also met with a community group in the Clayoquot Biosphere area of Vancouver Island that is working to implement recommendations made in a 2010 food action plan. Lessons were learned about recent efforts to create a local food network for the west coast of Vancouver Island. Finally, LOS attended festivals promoting local seafood to nearby communities and spoke with chefs and harvesters.

## Data Challenges and Gaps

- Limited budget and time constrained the scope of this assessment and the ability to do more detailed investigation.
- While the survey and interviews identified opportunities and obstacles, LOS acknowledges

the number of respondents does not necessarily represent a detailed picture of the Vancouver Island seafood supply chain.

- The lack of fishermen responses can be attributed to a number of reasons. Firstly, an overarching challenge encountered was that the timing of the assessment coincided with a busy period for a number of respondents preparing for upcoming fishing seasons. Secondly, for the swimming scallop fishery in particular, all fishermen but one have exited the fishery for a number of reasons which this report identified. Finally, anecdotally many fishermen reported that they are “surveyed out.” The reasons for this are also discussed further below.
- The scope of this study did not allow for a detailed assessment of the seafood transportation system and challenges were encountered in obtaining statistics on seafood imports for Vancouver Island specifically. However, global trends and even the limited survey data indicated an increasing reliance on imported seafood products. The island’s infrastructure is vulnerable to external events such as natural disasters or transportation disruptions making the region’s increasing reliance on imported seafood a greater risk to food security.
- Research focused on the end users of the supply chain for retail, restaurants and direct marketing. Due to the scope of the project, institutional food services such as university and school campuses were not covered. While this represents a data gap, LOS acknowledges there are Vancouver Island based programs such as the School Meals Program or Farm to Cafeteria that currently exist and provide an opportunity for further investigation as possible supply chain entry points for local sustainable seafood.



# A Snapshot of the Vancouver Island Region

## The Vancouver Island Region

At 32,134 square kilometers, Vancouver Island is the largest island on the west coast of North America. The island is approximately 490 kilometres long with numerous fjords and sparsely populated islands on the western side that faces the open Pacific Ocean. A mountainous spine separates the western side from the more densely populated eastern side. Vancouver Island is Canada's second most populous island with slightly over 750,000 inhabitants<sup>1</sup>. A number of urban centers including Victoria—the provincial capital—are located in the southern and eastern portions of the island and make up more than half of the island's population. Numerous small rural and aboriginal communities are located elsewhere in the western and northern areas of the region. Some of these small communities are accessible only by gravel roads maintained by the forest industry and others are only accessible by water.

## Seafood Harvesting and Processing in the Vancouver Island Region

The ocean surrounding Vancouver Island is central to the history and culture of all aboriginal communities in the region and seafood is a key component of their traditional diets. People on Vancouver Island harvest and distribute seafood for personal use and have been doing so for millennia. First Nations have rights to harvest seafood for food and ceremonial purposes. These rights are protected under Section 35 of the Canadian Constitution and are second only to conservation requirements of aquatic species. Commercial and recreational harvesting are only permitted after conservation and First Nations needs are met. The assessment did not look specifically at how seafood has been or is currently distributed in aboriginal communities but through the interviews, some issues related to access to local seafood resources in one of these communities were identified.



Commercial Fishing has Existed on Vancouver Island for Over 150 Years. Photo Credit: Wendy Davis

Some of these issues can be related to the availability of traditional seafood species. Another issue had to do with regulatory matters concerning shellfish contamination from pollution. Other issues identified were access to communal harvesting licenced vessels and the high cost of fuel to operate those vessels. Recommendations on how to address some of these issues can be found in a 2010 report on food issues in the Clayoquot Sound Biosphere Reserve region on the west coast of Vancouver Island.<sup>2</sup> More information on indigenous peoples' food issues can be found from the Vancouver Island and Coastal Communities Food Network's web pages on the Indigenous Food Systems Network website.<sup>3</sup>

Commercial fishing has been one of the core industries in the region since the arrival of and settlement by Europeans over 150 years ago. Commercial fish harvesting, processing and distributing are important economic drivers both in British Columbia and on Vancouver Island.<sup>4</sup>

Each fishery has a management plan implemented by Fisheries and Oceans Canada (DFO) which limits the timing and harvest methods for each species. All commercial fisheries are managed by DFO and harvesters are required to purchase and annually renew licences for the various fisheries. Some fisheries are managed under a quota system, where individual licence holders are allocated set portions of the total allowable catch (TAC) to harvest whenever they see fit during the DFO defined fishery opening, allowing for a more even flow of fish to port over fishing season period. Other commercial fisheries are managed without quotas so that all fishermen have an equal opportunity to catch as much of the TAC as possible during the open periods meaning a large volume of fish can be landed in a very short period of time. Harvesting of the different species of fish takes place at different times of the year depending on when stocks are seasonally available and the constraints of DFO management decisions and plans.

In 2010 over 173,000 tonnes of all capture species were harvested from B.C. waters for a landed value of \$330 million.<sup>5</sup> The 2010 wholesale value of wild capture B.C. seafood products was \$844.1 million. When the wholesale value of aquaculture products grown in B.C. is added, the value exceeds \$1.4 billion.<sup>6</sup> The top export destinations for B.C. fisheries products are the United States (56 percent), Japan (17 percent), China (eight percent), and Hong Kong (five percent).

B.C. seafood was shipped to a total of 74 countries worldwide, with an increase of eight percent over 2009 and a 16 percent increase in purchases by Asian markets. Exports to Asia are anticipated to continue to show substantial growth. This anticipated increase is in part due to a recently launched freight service between Vancouver and Shanghai, the first dedicated cargo service from Canada to Mainland China to allow shipping of live and fresh products. B.C.'s Ministry of Agriculture has set a priority to continue to build the worldwide exports for B.C. seafood products.<sup>7</sup> Local markets for harvested seafood and aquaculture products do not enjoy the same level of policy support at present in B.C. As export markets grow, seafood imports are also continuing to grow at rate of two percent per year nationwide.<sup>8</sup>

Data that specifically measures the amounts of fish landed on Vancouver Island was unattainable, yet large and small seafood buying and processing facilities are located at ports in every region of eastern and western Vancouver Island from Port Hardy to Victoria. These processing and distributing facilities are capable of handling a large amount of the landed catch of a variety of species throughout the year.<sup>9</sup>

The most recent data found, for the year 1996, states that 1,100 fish processing jobs out of a total of 4,909, or over 22 percent of the total B.C. processing sector jobs were located on Vancouver Island.<sup>10</sup> A 2007 report which looked at the oceans-sector employment in British Columbia and using statistics from the 2001 Canadian Census data from Vancouver Island found 1,640 people were employed in fishing and 1,355 were employed in seafood processing. The same study showed that in 2002, 46 percent of fishing employment, 34 percent of processing employment and 25 percent of distribution employment in the provincial seafood sector was regionally based on Vancouver Island.<sup>11</sup> In 2006, of the 518 provincial processing licences issued in B.C., 136 or 26 percent were issued to operations on Vancouver Island.<sup>9</sup> An economic study commissioned by LOS with the Regional District of Mount Waddington (RDMW) in 2010 examined the contribution of ocean-related industries to the regional economy of northern Vancouver Island including Port Hardy. This study found that in 2009 the commercial fisheries sector contributed over \$8 million in wages and 305 person-years of employment to the regional economy in fishing, secondary processing and direct supplier activities.<sup>12</sup> It should be noted that 2009 was a very poor salmon season with collapsing returns of

sockeye salmon to the Fraser River leading to a federal Commission of Inquiry.<sup>13</sup>

## Seafood Markets in the Vancouver Island Region

Agriculture and Agri-Food Canada lists 15 seafood wholesalers located in various locations across Vancouver Island<sup>14</sup>, however, this database references only those suppliers who solely deal in seafood. In addition, the two nation-wide distribution wholesalers, Sysco and Gordon Food Services, who supply an array of products including fresh produce, dairy, meat and seafood, also have distribution centres on the island.

There are approximately 140 general food grocers from single stores to large retail chains located in the Greater Victoria region.<sup>15</sup> Retail chains located on the island include Thrifty Foods, Safeway, Overwaitea Food Stores and Federated Cooperatives Limited. Statistics on Vancouver Island-wide retailer location numbers were not found, but the Victoria statistic provides a baseline for the largest metropolis population on the island. In addition to traditional retail, there are 19 farmers markets located on the island.

The Greater Victoria Economic Development Opportunities Blueprint report estimated an approximate 615 restaurants in the Greater Victoria region.<sup>16</sup> Restaurant statistics for Vancouver Island could not be attained, however, using the Greater Victoria data as a reference and taking into account that Victoria has the largest population of any municipality on the island, it can be estimated that the island hosts about 1,000 restaurants.



Restaurant Seafood Item with Albacore Tuna.  
Photo Credit: SeaChoice

# Species Sustainability and Fisheries Descriptions

## Sustainability Overview

Unlike terrestrial livestock or agricultural production operations that are able to expand and/or increase production capabilities, fisheries rely on hunting and harvesting of wild fish with very limited ability to increase production. Many fisheries have had a history of over-exploitation, habitat destruction and inadequate management, emphasizing the need to understand that how we fish matters. LOS works with actors at all levels of the seafood supply chain from fishermen to consumers to promote sustainable fisheries and seafood. LOS also works to conserve marine habitat and fish populations, as healthy coastal communities depend on healthy oceans.

In order to support a secure and sustainable food system for wild seafood on Vancouver Island, it is vital that all fisheries be responsibly managed to ensure the species stocks remain abundant. Deploying environmentally-friendly fishing gear to eliminate or minimize unintended bycatch of non-target species or habitat damage is also essential for sustainable fisheries. Without these elements, species and their associated fisheries can collapse. The Atlantic cod fishery collapse in the early 1990s is one such example where, due to mismanagement and unsustainable fishing methods, not only was this fish stock decimated, but so were the local communities who relied on this fishery for food sustenance, cultural heritage and economic viability.

SeaChoice is a national sustainable seafood program developed by five Canadian conservation organisations, one of which is LOS. SeaChoice, in collaboration with the Monterey Bay Aquarium's Seafood Watch program, conducts science-based assessments of the sustainability of Canadian fisheries. Each fishery is then ranked by an easy-to-follow system of categories, as demonstrated in figure 1.

In order to focus this assessment of the Vancouver Island food supply chain on the most sustainable fisheries in the region, every effort was made to select the fish species and catch methods from the "Best Choice" or "green" ranked category.

1. Albacore tuna (*Thunnus alalunga*)
2. Pacific sardines (*Sardinops sagax*)
3. Sablefish (*Anoplopoma fimbria*)
4. Spot prawns (*Pandalus platyceros*)
5. Swimming scallops\* both pink (*Chlamys rubida*) and spiny (*Chlamys hastate*)



Best Choice seafood is well managed, abundant, and caught or farmed in environmentally sustainable ways.



Some Concerns seafood should be consumed infrequently, or when a green choice is not available. There are concerns with abundance, management, or impacts on habitat or other marine life.



Avoid seafood items from this for now. They come from farmed or wild sources with a combination of critical problems – habitat damage, lethal impacts on other species, critically low populations or poor management.

**Figure 1. SeaChoice Seafood Sustainability Rankings**

\*The swimming scallop fishery is currently in the process of a SeaChoice assessment and hence is currently "unranked." However, given the fishery's innovative gear type and small-scale size, likely producing a favourable SeaChoice ranking, the swimming scallop fishery was also chosen to be included in the scope of this assessment.

Each of these species and their B.C.-based fisheries are described below, along with an indication of imported species or alternatives with which they compete in the marketplace.

## Albacore Tuna (*Thunnus alalunga*)

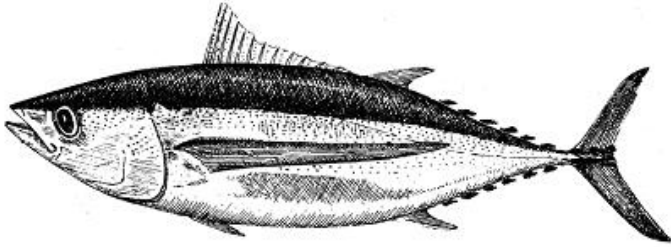


Photo Credit: DFO

**SeaChoice Ranking: Best Choice**  
**Catch Region: B.C.-based fishery**  
**Catch Method: Troll-caught (hook and line)**

**Competes with:** yellowfin tuna (ahi), bigeye tuna, bluefin tuna and skipjack tuna from worldwide origins.

**SeaChoice rankings of alternatives:** The majority of international tuna fisheries are associated with overfished stocks, lack of management, illegal fishing and destructive fishing methods such as pelagic longlines and fish aggregating devices (FAD). Purse seine fisheries are associated with high bycatch of other species including endangered sea turtles, sharks and seabirds. Consequently, the majority of international tunas are ranked as having “Some Concerns” or “Avoid.”<sup>17</sup>

Albacore tuna is a highly migratory species found in oceans around the world including the North Pacific where it is relatively abundant. The Canadian fishery is well managed and ranked “Best Choice” by SeaChoice.<sup>18</sup>

The fishery is conducted in surface waters by hook and line generally at least 50 miles or more off shore from the coast of Vancouver Island south to California from July through September. There is very little bycatch of non-target species associated with this fishery. There are currently approximately 170 Canadian fishermen licenced to fish for albacore tuna in a derby style fishery, meaning there are no individual or vessel quotas and licenced fishermen are allowed to retain all they can harvest during the open season. Fishing so far off shore, the catch is generally frozen on board the day it is caught and delivered to port when the holds are full.

There are no data available listing albacore tuna as a species being processed in British Columbia or on Vancouver Island. The fish are usually frozen whole at sea shortly after being caught and delivered in the same form. Secondary processing of tuna may be occurring on Vancouver Island but not in a significant way. Total landings in 2010 were approximately 6,500 tonnes.<sup>7</sup> One hundred percent of B.C.-caught albacore tuna is sold to food markets both locally and exported.

In the Vancouver Island marketplace, B.C. albacore tuna competes with a number of other tuna species that are sourced from international waters. These include: yellowfin (ahi), bigeye, bluefin and skipjack tuna. These international tuna fisheries are typically associated with unsustainable fishing practices and management. In 2006 the total import value of tuna to Canada was \$141 million, making it the third largest imported seafood item by value.<sup>8</sup> The B.C. albacore tuna fishery competes with international tunas in a number of product types: frozen, value-added and canned. Due to the fishing methods and time spent at sea, fresh albacore tuna is not an option and consequently fresh imported ahi tuna fills this market void. In addition to the unsustainability of international tuna fisheries described above, the origin of these tuna products requires transport over long distances from the South Pacific and Indian Oceans.

## Pacific Sardines (*Sardinops sagax*)

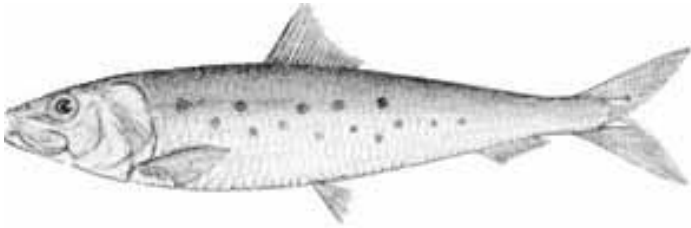


Photo Credit: DFO

### **SeaChoice Ranking: Best Choice**

**Catch Region: B.C.-based fishery**

**Catch Method: Purse seine**

**Competes with:** International sardines and herring.

**SeaChoice rankings of alternatives:** “Some Concerns” Atlantic herring and “Avoid” Atlantic sardines due to critical concerns for both stock status and fisheries management.<sup>19</sup>

Sardines (or pilchards) are small oily fish that are related to the herring family (*Clupeida* spp.) and found in all temperate oceans of the world. Ranked “Best Choice” by SeaChoice<sup>20</sup>, populations fluctuate widely and are currently in an abundant period of their cycle. The biomass calculations for Pacific sardine are for the region which extends from California to British Columbia.

The Canadian fishery is strictly managed by the federal government with only 50 licenses issued in total; 25 issued to non-aboriginal fishermen and 25 reserved for aboriginal fishermen. The total allowable catch (TAC) for 2012 is 27,000 tonnes which is divided into equal quota shares between each of the 50 licences.<sup>21</sup> The individual quotas are transferable between licence holders and currently five vessels fish the entire TAC. Sardines are caught with purse seine nets from July through November with the peak of the harvest occurring in August and September. The sardines are frozen on board the vessels either with an individually quick frozen method (IQF) or in blocks. The vessels are large with carrying capacities between 50 and 100 tonnes.

There are three market segments for Pacific sardine fishery; a bait market which pays the highest price, the food market for which there are two Canadian based

and two U.S. based processors who mostly produce a canned product and the reduction market where the lowest quality product is made into fishmeal and fish oil for animal and aquaculture feed. The vast majority of the sardine catch is delivered to fishing company facilities on Vancouver Island before being shipped to export markets. In 2009 the value of exported B.C. sardine was \$12.5 million. Virtually all (96 per cent) of B.C.’s total sardine exports are shipped frozen as opposed to fresh. The value of sardines exported from B.C. is roughly six times larger than the value of sardines imported to B.C.<sup>22</sup>

Being a forage fishery or lower trophic species, sardines are typically thought of as a ‘trash fish.’ Consequently, this species is overlooked as a ‘fresh’ food consumption option in the supply food chain, which typically supports higher trophic species such as salmon or tuna. For the B.C. sardine fishery this means the majority of the catch goes directly for use as bait in other fisheries or for feed for tuna grown in aquaculture operations internationally.<sup>23</sup> The local food market for Pacific sardines is minimal. Sardines for food consumption in the marketplace are typically canned products from international, and possibly unsustainable, sources such as SeaChoice “Avoid” ranked Atlantic sardines.

## Sablefish (*Anoplopoma fimbria*)

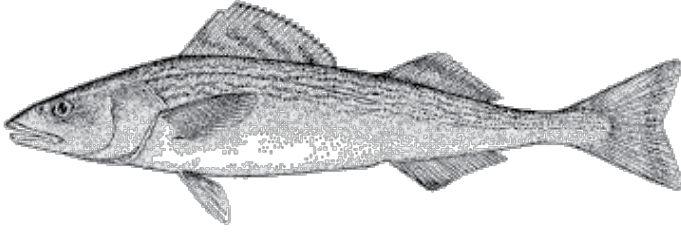


Photo Credit: DFO

sablefish competes with Alaskan caught sablefish (also ranked Best Choice by SeaChoice) and internationally sourced species such as Chilean sea bass. The latter populations are considered endangered or overfished due to illegal and unreported fishing.

**SeaChoice Ranking: Best Choice**  
**Catch Region: B.C.-based fishery**  
**Catch Method: Trap-caught or bottom longline**

**Competes with:** Alaskan sablefish (black cod), bottom trawled sablefish and Chilean sea bass.

**SeaChoice rankings of alternatives:** Alaskan sablefish like the B.C. fishery ranks “Best Choice.” Bottom trawled sablefish is currently unranked by SeaChoice, however, concerns associated with the trawl fishery include seafloor habitat damage and bycatch. Chilean sea bass is ranked “Avoid” due to overfishing, illegal pirate fishing and bycatch of other species.<sup>24</sup>

Sablefish is a deepwater species found across the North Pacific Ocean in depths ranging from 300 to 2,700 metres. Also known as black cod, sablefish are caught in northeastern Pacific waters from California to the Bering Sea. Green ranked by SeaChoice<sup>25</sup>, sablefish are harvested in Canadian waters by means of either baited traps or hooks attached to bottom longlines.

The majority of sablefish are harvested in a directed fishery conducted by 48 individual vessel quota (IVQ) holders. The total allowable catch (TAC) in 2012 is 2,225 tonnes and is divided among the hook and line/trap sector (91.25 percent of TAC) and the trawl sector (8.75 percent of TAC). Some sablefish are harvested incidentally as bycatch in groundfish hook and line fisheries directed at other species such as halibut or rockfish.<sup>26</sup> Sablefish harvested in the directed IVQ fishery are headed, gutted and frozen at sea (FAS) while the bycatch harvest is generally landed fresh for local markets.

In the Vancouver Island marketplace, the B.C.

## Swimming Scallops Pink (*Chlamys rubida*) and Spiny (*Chlamys hastate*)



Photo Credit: DFO

**SeaChoice Ranking: Currently under assessment**

**Catch Region: B.C.-based fishery**

**Catch Method: Modified trawl known as a 'butterfly trawl'**

**Competes with:** East Coast dredge-caught scallops and worldwide farmed scallops.

**SeaChoice rankings of alternatives:** "Some Concerns" for East Coast (Canada<sup>27</sup> and U.S.<sup>28</sup>) dredged scallops and "Best Choice" for off-bottom and "Some Concerns" for on-bottom worldwide farmed scallops.<sup>29</sup>

Both pink and spiny scallops are closely related mollusc cousins found in coastal waters of the North Pacific from Alaska to southern California, yet are more abundant in the northern reaches of this range.<sup>30</sup> They are generally found on sandy or muddy bottom in depths up to 300 meters. Both of these species of scallops are free swimming and do not attach to the substrate.

The commercial scallop fishery in British Columbia began in 1982 and allowed for both dive and trawl fisheries but were discontinued in 1999 due to poor data from the fishery and limited management

controls. Fisheries and Oceans Canada (DFO) reopened a limited experimental scallop by a modified trawl (known as a 'butterfly trawl') fishery in 2000 under scientific licences. Since 2007 the scallop by trawl fishery has been permitted only under non-transferable exploratory fishing licences.<sup>31</sup> In recent years, an average of five licences based in the Quadra Island region of central Vancouver Island have been issued annually. Three licences have been actively fishing and landings in recent years have been in the range of 11,000 to 16,000 kilograms approximately per year.<sup>31</sup> Scallops are marketed in a variety of forms: fresh, canned, smoked and frozen.

Scallops found in the Vancouver Island marketplace are typically from either the East Coast dredged fishery or worldwide aquaculture sources. Scallop dredging is associated with habitat damage and bycatch concerns. However, due to the size and food applications of the swimming scallop, its main competitor in the marketplace is the farmed bay scallop which can rank as either a "Best Choice" or "Some Concerns", depending on the aquaculture method type. While scallop aquaculture can be a sustainable seafood choice due to the low environmental impacts, they often come from origins far away from Vancouver Island such as Asia. In 2006 Canada imported \$62 million worth of scallops<sup>8</sup>, with a large portion being bay scallops originating from Chinese aquaculture. In comparison, the B.C.-based swimming scallop fishery offers a lower carbon footprint, while delivering a sustainably harvested and local product.



## Spot Prawns (*Pandalus platyceros*)

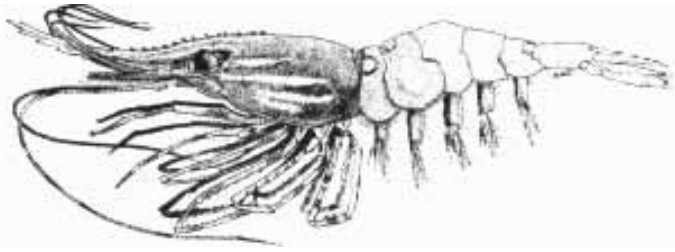


Photo Credit: DFO

**SeaChoice Ranking: Best Choice**  
**Catch Region: B.C.-based fishery**  
**Catch Method: Trap-caught**

**Competes with:** Bottom trawled shrimp and internationally farmed shrimp.

**SeaChoice rankings of alternatives:** Most trawled shrimp ranks “Some Concerns” depending on the catch origin.<sup>32</sup> A very limited number of farmed shrimp from Thailand rank “Some Concerns”, with the majority of Asian farmed shrimp ranking “Avoid.”<sup>33</sup>

Spot prawns are found in coastal waters of the North Pacific from the Aleutian Islands to southern California. They prefer rocky habitats at depths of between 40 and 100 metres. Spot prawns are the largest shrimp species commercially harvested in British Columbia waters and are considered a SeaChoice ‘green’ or best choice seafood option.<sup>34</sup>

While harvests vary from year to year, approximately 2,000 tonnes of spot prawns are commercially harvested from B.C. waters annually by 252 licence holders. The commercial harvest season begins in early May and is managed through a precautionary approach to provisional harvest control rules of sub-area closures until a coast-wide closure is announced, usually in the middle or end of June. The catch method is limited to baited traps on bottom longlines. Spot prawns are landed and sold live or frozen at sea (FAS). Approximately 80 percent of the commercially harvested spot prawns are exported frozen to markets in Japan each year.<sup>35</sup> Live spot prawns are marketed locally in-season to retailers and restaurants. Over the past few years local spot prawn celebrations, sales and spring festivals been held in communities, restaurants and with retailers on Vancouver Island and in the Vancouver area.

Shrimp or prawns are the number one seafood item consumed in Canadian restaurants.<sup>36</sup> In 2006 Canada imported \$409 million worth of prawns making them the largest imported seafood product.<sup>8</sup> Unfortunately, the majority of prawns consumed are from overseas sources that use unsustainable aquaculture practices associated with mangrove deforestation, chemical use and pollution. Cultured Asian tiger prawns and white shrimp are common with retailers and on Vancouver Island restaurant menus.

# Vancouver Island Supply Chain

## Overview for Wild Fisheries and Seafood products

A typical seafood supply chain is shown in Figure 1. The Vancouver Island seafood product supply chain is very similar. Fish and seafood go from harvesters and producers to primary processors or buyers who

distribute products to customers whether retailers, institutions, restaurants or individuals.

There is a geographic flow of fish and seafood products on Vancouver Island from the north and west to the south and east. The majority of landings are in ports located in the northern and western regions of the island. Products are then transported, usually by truck, via corridors including ferry routes to the Canadian mainland and the U.S.

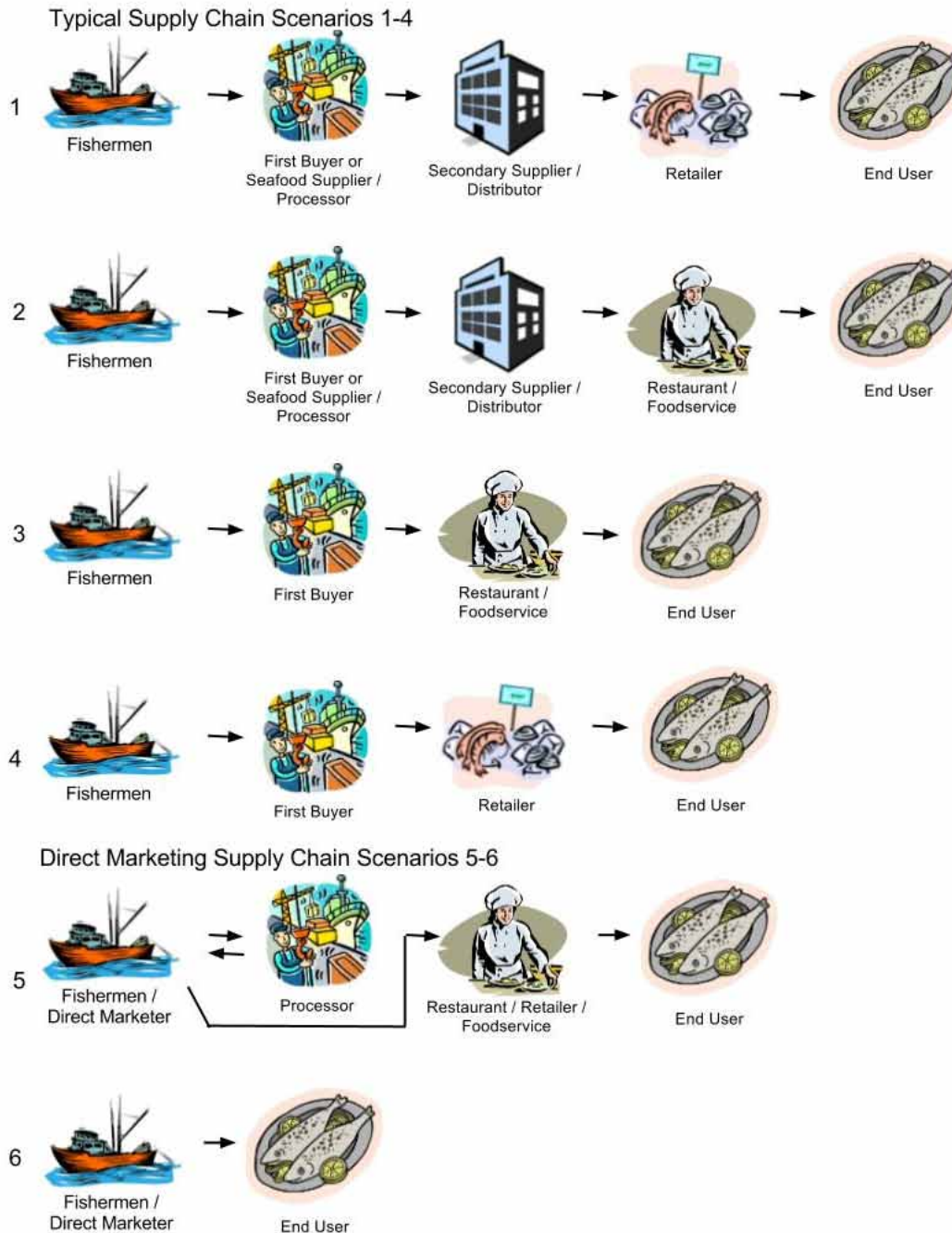


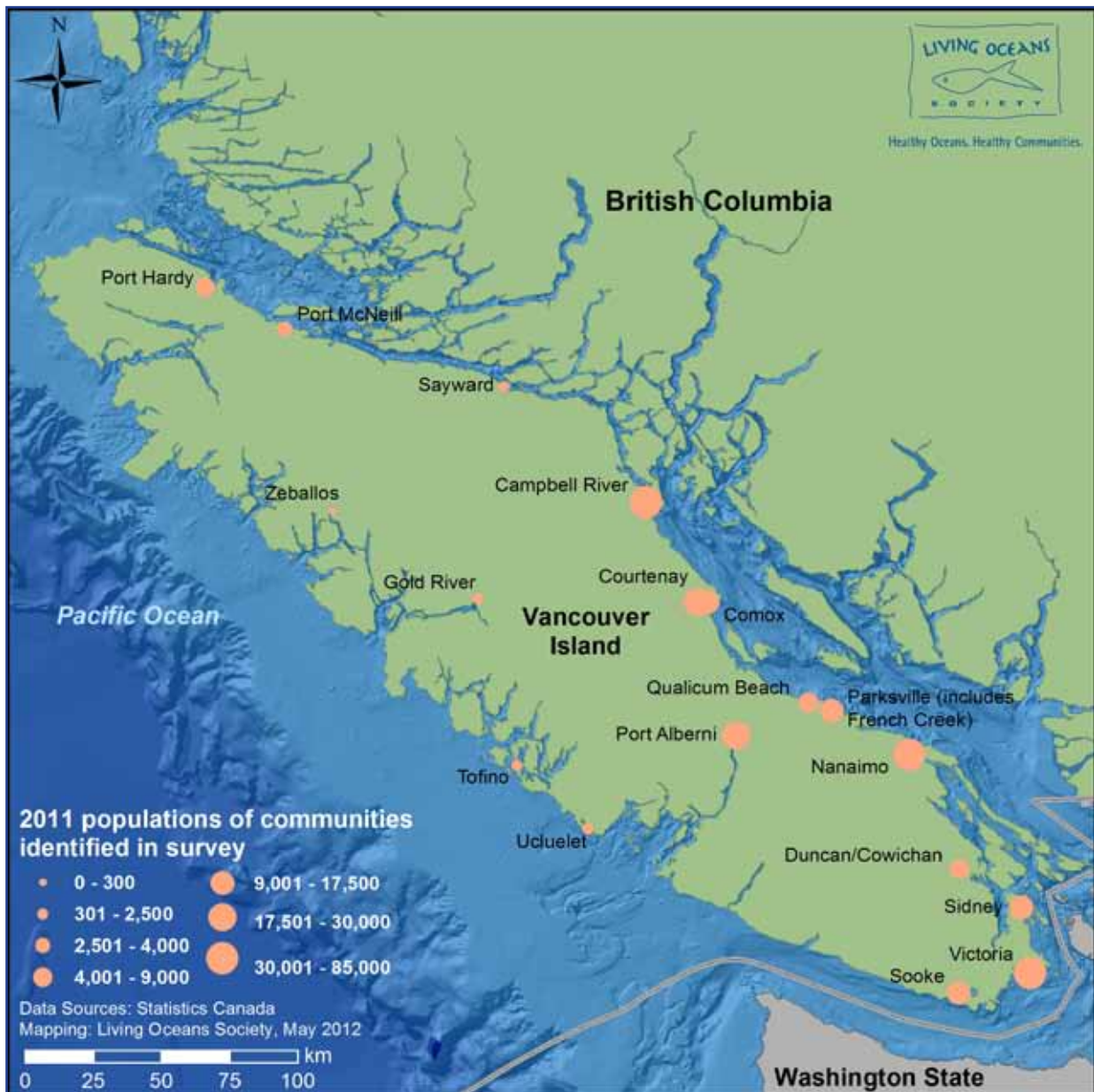
Figure 1. Typical and Direct Marketing Vancouver Island Seafood Supply Chain Scenarios

Previous supply chain assessments have shown how the food supply chains within Vancouver Island communities depend on maintaining reliable transport through these corridors.

Figure 2 is a map indicating the population sizes of communities identified by fishermen in survey responses as the places on Vancouver Island where they either land or sell their catch. Many commercial seafood harvesters also live in these communities and base their fishing operations in the waters around the island.

Some fishermen, who process their own catch or

arrange for custom processing, have access to other Vancouver Island seafood supply chain options through sales to individual purchasers at public docks or directly to institutions, retailers or restaurants. In the e-mail survey and interviews this practice was referred to as direct marketing. We found that some fishermen eliminate some of the steps in the middle of the supply chain by direct marketing their catch. This enables them to capture increased revenues, specific customers or markets for themselves. Additional regulations are applied to custom processing that fishermen must abide by in order to direct market their catch. Some of these regulations are discussed later in this report.



**Figure 2. Populations of Vancouver Island Communities where Fish and Seafood are Landed or Sold**

# Research Findings

## Overview

LOS received survey responses from 13 fishermen, eight seafood suppliers, eight retailers and six chefs all based on Vancouver Island. Survey findings from all groups are presented for each species. Follow up interviews were conducted with 17 willing respondents.

The findings in this report are presented in several sections:

1. Locations where fishermen land and sell their products on Vancouver Island.
2. Seafood products that suppliers, retailers and restaurants on Vancouver Island procure.
3. Respondents comments regarding each of the five species examined and the enabling features or obstacles in the supply chain for increasing access to local sustainably seafood.

*“[Vancouver Island’s] geography means that dependence upon imported food leaves communities particularly vulnerable to a disruption in food supply. Any disruption of transport routes—an unexpected stoppage of transit services, a natural disaster or a temporary closure of the border with the United States—would quickly lead to food shortages for the residents of Vancouver Island and the Gulf Islands.”*

- A Baseline for Food Security in British Columbia’s Capital Region



Spot Prawns Available Directly Off the Boat. Photo Credit: Living Oceans Society

# Fishery Landings on Vancouver Island

Questions posed to fishermen through e-mail surveys and interviews were focused on their specific catch species, where they were landed on Vancouver Island and how they were sold.

Figure 3 illustrates the percentage of the survey respondents who reported the species caught and the location of the ports where they land their catch. All fishermen responding indicated that they landed at least a portion of their catch on Vancouver Island.

Nearly half (46.2 percent) reported that they land between 76 and 100 percent of their total catch on the island.

Although some fishermen reported landing their catch at more than one port, a large majority (69.2 percent) reported landing some fish at Port Hardy near the northern end of the island. A comparison between Figures 2 and 3 shows how more catch is landed in Port Hardy and Northern Vancouver Island communities with smaller populations than in more populated communities like Victoria at the southern end of the island. One reason many fishermen off-load

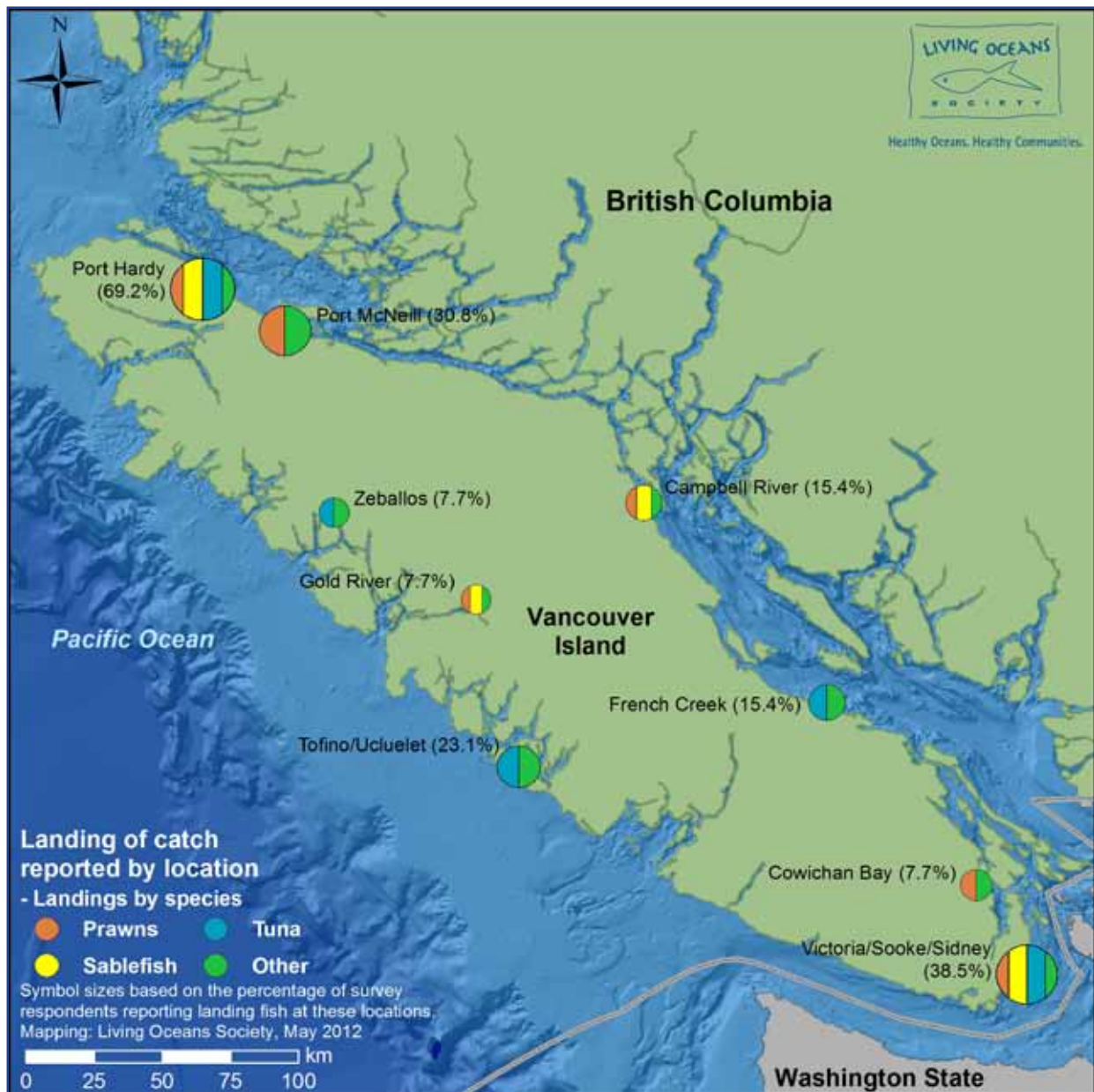
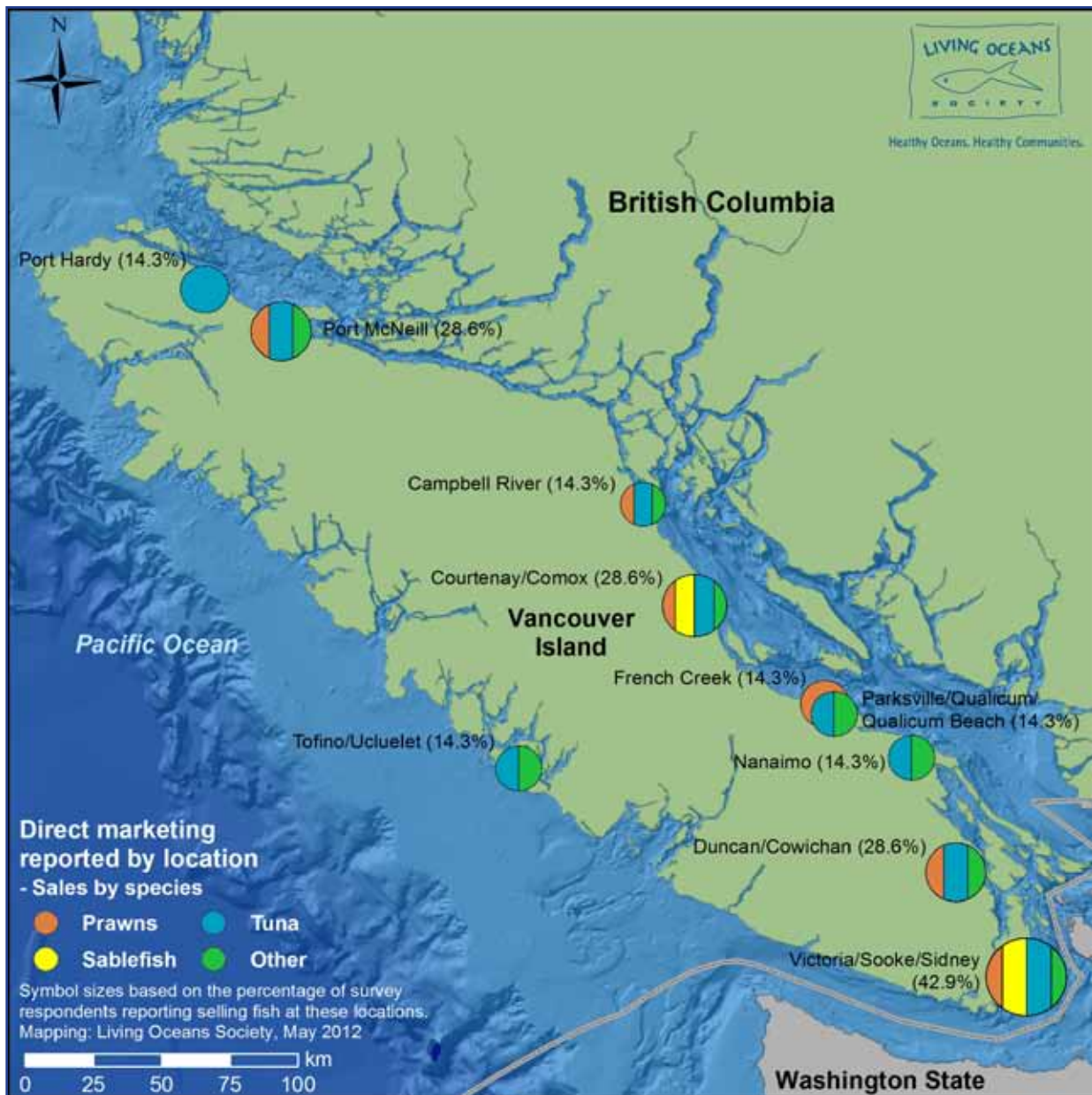


Figure 3. Locations on Vancouver Island where Fishermen Identified Landing their Catch

at Port Hardy may be proximity to many of the fishing grounds reducing the amount of time transporting their catch to landing sites and a more quick return to harvesting.

Figure 4 indicates the communities where fishermen and seafood harvesters directly market their catch on Vancouver Island and the species they sold at those locations. Even though there were a limited number of survey responses from fishermen, the results

indicated that more direct marketers sold more species in the more populated southern communities than in the smaller northern and western communities. The majority (54 per cent) of fishermen surveyed reported that they marketed a portion of their catch directly to the public. Of those fishermen who said they directly marketed, all said they sold between one and 25 per cent of their total catch to customers on Vancouver Island. The reasons for this low percentage are discussed later in the report.



**Figure 4. Locations on Vancouver Island where Fishermen Sell their Catch to the Public**

## Seafood Suppliers, Retailers and Restaurants on Vancouver Island

Vancouver Island suppliers, retailers and restaurants were asked about the five B.C. fisheries and the seafood products that compete with these. Survey participants were asked which seafood products they procure from the list in Table 1:

<b>B.C. Fishery</b>	<b>Competing Seafood Products</b>
Albacore tuna	U.S. caught albacore tuna
	Imported ahi tuna (yellowfin or bigeye)
Pacific sardines	Imported sardines
Sablefish (not trawled)	U.S. sablefish
	Chilean sea bass
Swimming scallops	Dredged scallops (Canada - East Coast)
	Imported scallops
Spot prawns	U.S. spot prawns
	Imported prawns (e.g. tiger prawns, white shrimp, etc.)

**Table 1. Suppliers, Retailers and Restaurants Possible Seafood Procurement Survey Options**

## Supplier Procurement Results

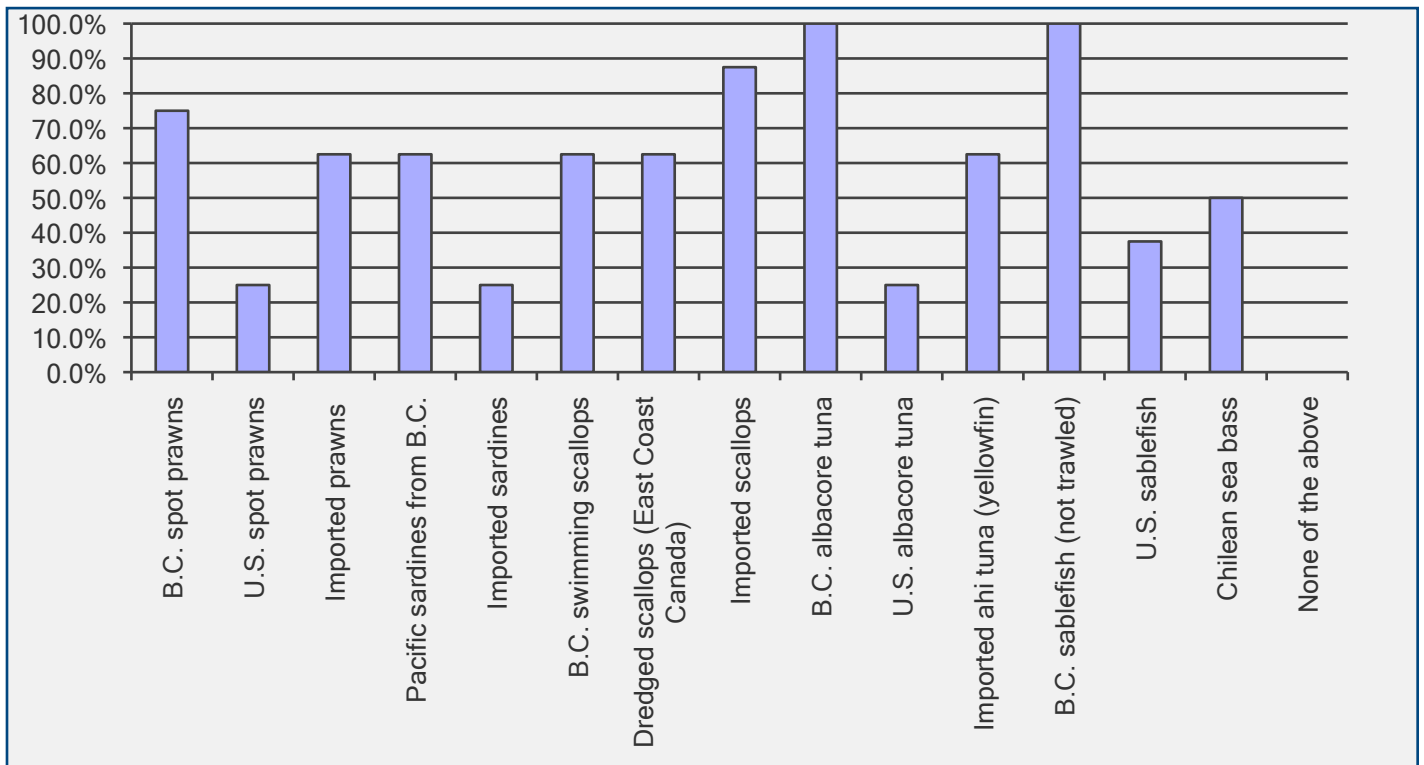
All responding suppliers procure B.C. albacore tuna and sablefish. However, for both of these products there are suppliers who are sourcing these products from the U.S. as well. Seventy-five percent of suppliers procure B.C. spot prawns, with a small number also accessing product from U.S. sources. More than half of the respondents also purchase imported farmed shrimp. B.C. swimming scallops and East Coast dredged sea scallops were both sourced at equal rates by suppliers, however, the volume between these two fisheries is dramatically skewed in favour of the East Coast sea scallops. All but one supplier procures imported farmed scallops, such as bay scallops. Finally, more than half of the suppliers source B.C. Pacific sardines, with two suppliers sourcing imported canned or frozen sardines. Details of the seafood products suppliers procure for their Vancouver Island customers are depicted in Figure 5.

Survey responses from seafood suppliers to the Vancouver Island market showed that they source less than two percent of their total seafood portfolio from Vancouver Island-landed fisheries. Only one supplier identified that more than 75 percent of their supply is island-landed. No suppliers were identified who source only Vancouver

Island-landed fish or seafood.

Three suppliers identified Vancouver Island-landed fisheries products remain completely within the island supply chain. Other respondents stated that either no local products or only some were mixed with imported products going into the island supply chain. Supplier respondents identified small retail chains and restaurants as the best customers by volume for Vancouver Island-landed fisheries, with restaurants purchasing the greatest volume by percentage.

Most suppliers responded that they export their Vancouver Island-landed fisheries products to other parts of B.C. and Canada. International export destinations by volume reported by suppliers were the U.S., Japan, Europe and China.



**Figure 5: Vancouver Island Suppliers Seafood Procurements by Species**



## Retailer Procurement Results

Figure 6 depicts the procurement by retailers of different species by percentage. All retailer respondents source B.C. spot prawns and imported farmed prawns, however, the volume of farmed prawns outweighs spot prawns. The B.C. spot prawns are sourced fresh during the fishery open season. No retailers source spot prawns from the U.S. fishery. All retailers source imported farmed bay scallops, followed closely with 80 percent sourcing East Coast dredged scallops. B.C. swimming scallops were sold by 60 percent of retailers, however the larger volume is the bay and sea scallops due to these products supply flooding the marketplace and competitive pricing. Eighty percent of retailers procure an equal amount of both B.C. albacore and imported ahi tuna; one retailer sources albacore from the U.S. fishery. Sixty percent of retailers source B.C. sablefish and none source the competing seafood products of Chilean sea bass or the U.S. sablefish fishery. Discussion on the possible reasons for these procurement results are investigated later in this report.

Retailers reported heavy reliance on large and medium sized seafood suppliers to source local seafood products, with only two retailers identifying sourcing directly from fishermen.

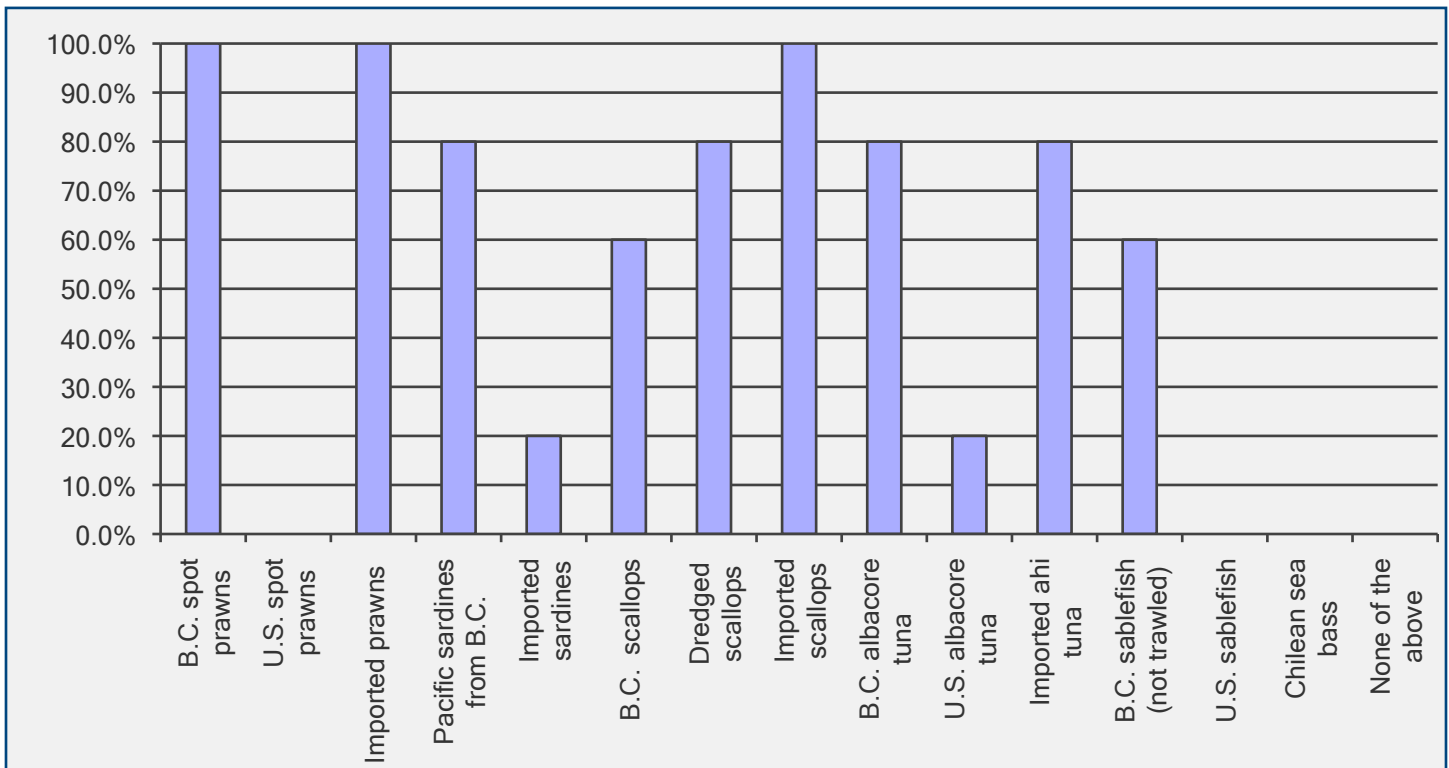


Figure 6. Vancouver Island Retailer Seafood Procurement by Species

Retailers stated they also tend to source their seafood from a number of suppliers rather than a single one. This is due to their need to procure a combination of fresh, frozen or shelf-stable seafood. Most retailers, particularly large retail chains are unable to source directly from fishermen due to Canadian Food Inspection Agency (CFIA) regulations that require chain of custody documentation through a CFIA approved processor or distributor. This means that fishermen must either sell their catch to a CFIA approved facility or obtain their own processing licence before selling directly to retailers.

Sixty percent of retailer respondents stated they source more than 75 percent of their seafood products from Vancouver Island-landed fisheries. The remainder identified less than 25 percent as sourced locally. No retailers identified that all their products were sourced locally.

All retailers stated that their suppliers always or on request provide the origin of harvest for their seafood products so they can know if their products are locally, regionally or B.C.-sourced.

## Restaurant Procurement Results

More than half of the restaurant respondents procure locally caught albacore tuna, with none identifying imported ahi tuna as a sourced product they serve. The sourcing of imported farmed prawns outcompetes B.C. spot prawns procured by Vancouver Island restaurants. East Coast dredged scallops also outcompetes the B.C. swimming scallops with only two restaurants reporting having sourced this fishery. Two respondents source B.C. sablefish and no restaurants source the Chilean sea bass or U.S. sablefish in its place. No restaurants reported procuring B.C. Pacific sardines. Details of the seafood products procured by responding chefs are indicated in Figure 7.

Similar to responses from retailers surveyed, all Vancouver Island restaurants reported sourcing products from large seafood suppliers. Only one restaurant identified sourcing some seafood directly from a fisherman. No respondents indicated procuring from a community supported fishery (CSF)\*. Respondents indicated during interviews that restaurants prefer to purchase a product without having to clean, process and record the details of the chain of custody. By regulation, fishermen can only sell

\*Community supported fishery (CSF): members buy a share of a fisherman's or fishery's catch

headed and gutted or whole fish directly to customers. Chefs seeking pre-processed seafood must buy from certified processors. If they source their seafood from a large supplier chain of custody records are provided.

A lack of kitchen storage was also identified as a challenge to purchasing directly from fishermen. One particular restaurant situated on the Victoria wharf docks expressed interest in having fishermen dock directly in front of the restaurant and unload their catch which the restaurant would prepare and serve to its customers. However, even if a fisherman could dock his boat at that location, this practice would contravene CFIA regulations. Some fishermen indicated in survey and interview responses that government regulations were a barrier to increasing their ability to directly market their catch, but did not mention CFIA regulations in particular. Further research is needed to determine the specific regulatory barriers to moving more locally harvested sustainable seafood through the regional food supply chain to customers.

Half of the restaurant respondents stated they source 51-75 percent of their seafood menu items from Vancouver Island-landed fisheries. No respondent said they exclusively sourced Vancouver Island-landed seafood items. Possible reasons for this are discussed later in the report.

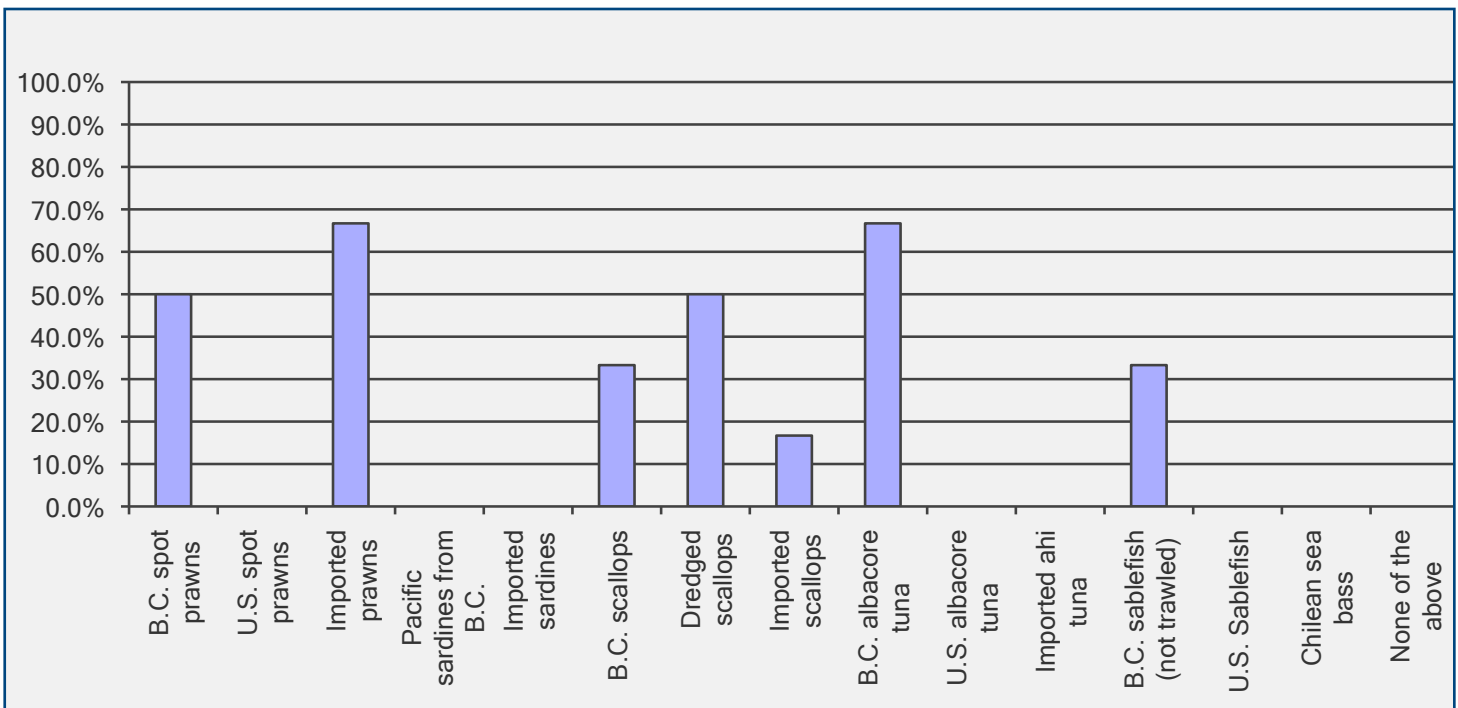


Figure 7. Vancouver Island Restaurant Seafood Procurement by Species

# Research Findings by Species

## Albacore Tuna

### Fisherman survey findings

Forty-six percent of surveyed fishermen (six) reported harvesting albacore tuna. Two fishermen reported landing between 75 and 10 percent of their catch at ports on Vancouver Island. Two reported landing less than 25 percent of their catch on the island and four said they landed between 25 and 75 percent of their catch there.

Of those who reported direct marketing at least a portion of their catch, 57 percent (four) said they direct marketed tuna. Only one fisherman who reported harvesting tuna did not direct market any portion of that catch indicating that it took too much time away from fishing. While fishermen reported landing tuna at only five of the nine landing ports on Vancouver Island, they reported direct marketing tuna at nine out of ten direct sales locations. The four direct tuna marketers report selling whole frozen tuna to a number of end users; three reported selling directly to retailers, restaurants and chefs, two sold to regular or private customers, two reported selling at the dock, two sold at farmers markets and two reported selling directly to institutions (schools, hospitals, food banks or seniors homes). This indicates that most direct tuna marketers utilize more than one outlet. One respondent reported direct marketing between 76 and 100 percent of tuna caught but only sold between one and 25 percent of that tuna on Vancouver Island.

While some survey respondents gave multiple reasons for direct marketing tuna, the main reasons given were: “I support moving more locally harvested seafood to local markets” (80 percent); “I want to build my own customer base.” (80 percent); “I enjoy selling to the public.” (60 percent) and; “To make more money” (40 percent). This seems to indicate that the fishermen responding to the survey are more interested in supporting a regional seafood supply chain or establishing and maintaining their own customer base than in making more money. The reasons for this order of preference were not readily apparent from the survey responses but were explored further during interviews and are included later in this report.

The main obstacles to direct tuna marketers were: “Not enough customers” (40 percent); “Lack of access



Troll-caught Pacific Albacore. Photo Credit: NOAA

to markets because of the distribution system on Vancouver Island” (20 percent); “A lack of cold storage facilities” (20 percent) and; “Government regulations” (20 percent). These obstacles may not be unique to direct tuna marketers as they were also identified by direct marketers of other species.

One obstacle unique to the tuna fishery identified in separate interviews with a tuna harvester and the Executive Director of the Canadian Highly Migratory Species Foundation is the nonrenewal of the Pacific Albacore Tuna Treaty between Canada and the United States for 2012 and beyond. The treaty expired at the end of 2011 and without a new agreement, Canadian albacore tuna fishermen will not be allowed to fish in U.S. waters. The abundance of tuna in Canadian waters can be sporadic. The supply of locally harvested product entering the regional seafood supply chain could be reduced depending on whether B.C. tuna fishermen are able to gain access to the U.S. and the availability of tuna for them to catch in Canadian waters off Vancouver Island.

### Supplier survey findings

All of the suppliers surveyed responded that they sold B.C. albacore tuna. Twenty-five percent reported they sold albacore tuna from the U.S. and 62.5 percent reported selling imported ahi tuna. One supplier identified during an interview that their fastest growing market for albacore tuna is high end restaurants in Ontario. The supplier felt it was difficult to find the same market for this product on Vancouver Island. However another supplier acknowledged in an interview that there is indeed increased growth

for albacore tuna on the island, in particular for sushi restaurants. They suggested this was due to the recent market change of albacore becoming a “poster child for sustainability.” The supplier did acknowledge after an increase in sales for this product that they are now seeing a small decline due to the price jump resulting from supply challenges in the last six to seven months.

### **Retailer survey findings**

Eighty percent of retailers surveyed indicated that they sold B.C. albacore tuna. Twenty percent indicated they sold albacore tuna from the U.S. and 20 percent also indicated they sold imported ahi tuna.

One retailer identified the challenge of tuna flesh colour as an obstacle to sales, albacore tuna being typically brown compared to red ahi flesh which consumers usually expect. This aesthetic issue leads the consumer to think the albacore is ‘off’ and gives marketing advantage to imported yellowfin and bigeye. However, one retailer did identify the importance of “pushing the story” of the product in regards to its sustainability, and telling the story of the local



Chef Preparing Albacore Tuna. Photo Credit: SeaChoice

fishermen. For example, one retailer is helping to tell the story through ThisFish\* - a traceability program that allows consumers to identify online who caught their albacore tuna product and how.

### **Restaurant survey findings**

Two-thirds of chefs surveyed said they used B.C. albacore tuna on their menus and none said they used albacore tuna from the U.S. or imported ahi tuna. One chef interviewee who did not procure albacore tuna stated the reason to be cooking complexity issues associated with tuna in general and that required

skilled culinary staff. In contrast, an interviewed chef who does use the albacore product on their all-seafood menu stated it is their number one seller on the menu tied with wild salmon.

## **Pacific Sardines**

### **Fisherman survey findings**

No fishermen responding to the survey indicated that they harvested Pacific sardines. This lack of survey data represents a gap in the research findings and is reflected in the lack of spatial representation in the region for Pacific sardines on the maps Figures 2 and 3. The reason for this lack of response was not clear. This could be an area for further outreach and research.

LOS interviewed the Executive Director of the Canadian Pacific Sardine Association and was assured that the survey invitation was sent to individual association members. It was learned during the interview that the vast majority of the sardine harvest is being landed at ports on Vancouver Island and is being trucked off the island for processing.

The larger size of the Pacific sardine is actually an obstacle for moving more fish into the established Canadian canning sector. Even if new, custom built equipment became available, the higher costs of labour, energy, etc. increases the cost of canning in Canada compared to shipping the available product to overseas processors. Without an increase in the total allowable catch there is little incentive for Canadian processors to invest in new custom canning equipment.

The high volume of fish being harvested and the method of preserving the catch after harvest for the primary bait market was not conducive to diverting more local fish to local markets. While fish destined for the export bait market are individually quick frozen aboard the harvest vessels, they must be sorted at time of landing in order to select only those fish that would be acceptable to the local food market. This additional handling was identified as an additional barrier.

One final obstacle identified was the cultural preference in the local markets for fish without bones. While Pacific sardines are a healthy choice for consumers due the high levels of Omega 3 fatty acids, they are a bony

\*ThisFIsh: <http://thisfish.info>

fish. These bones dissolve during the canning process but make it difficult to find acceptance for whole fish by retail consumers in the fresh market.

When asked about opportunities the interviewee responded, “They are whatever the industry wants to make of them.” Reintroducing the product to local markets as a healthy and sustainable seafood choice could increase the share that stays on Vancouver Island.

### **Supplier survey findings**

Sixty-two percent of suppliers surveyed said they sold Pacific sardines from B.C. and one-quarter said they sold imported sardines.

One supplier stated their main market for their

fresh sourced sardines was mainly retail and Asian orientated stores in particular. There was a niche restaurant market for custom, hand processed sardines. However, processed sardines are not sold on Vancouver Island even though some custom hand packing of individually quick frozen product does occur on the island. The restaurants identified for this product were high end Vancouver restaurants. The supplier stated this product “could gather steam” and acknowledges that they “haven’t really put horsepower behind it.”

Another supplier labelled the Pacific sardine fishery as a “goofball fishery” due to its unpredictability in delivery dates for suppliers. This supplier also has dabbled in creating a niche market and in customizing products for high end restaurants including one in



Fresh Off-the-boat Pacific Sardines. Photo Credit: SeaChoice

Tofino on Vancouver Island. Most of this product was sold to restaurants in Toronto and Ottawa to chefs who wanted something new and different on their menu.

One obstacle identified by suppliers and the fishery association representative was the challenge of canning or smoking the product due to the large size of the sardines. Normal canning machinery is tailored for Atlantic sardines. This makes customizing the equipment to process B.C. sardines a labour intensive and expensive procedure.

### **Retailer survey findings**

Eighty percent of retailers surveyed indicated they sold Pacific sardines from B.C. and 20 percent said they sold imported sardines. While 80 percent seems high, the volume sourced for retail on Vancouver Island is extremely minimal in comparison to the overall fishery catch.

One interviewed retailer who does procure the product stated that Pacific sardines “don’t resonate” to consumers. Another retailer acknowledged their customer base for this product tended to be people of Mediterranean descent.

### **Restaurant survey findings**

No chefs reported using any sardines on their menus. This may reflect the cultural preference identified by the Canadian Pacific Sardine Association. When asked about Pacific sardines, one restaurant interviewee commented that they had never heard of the fishery.

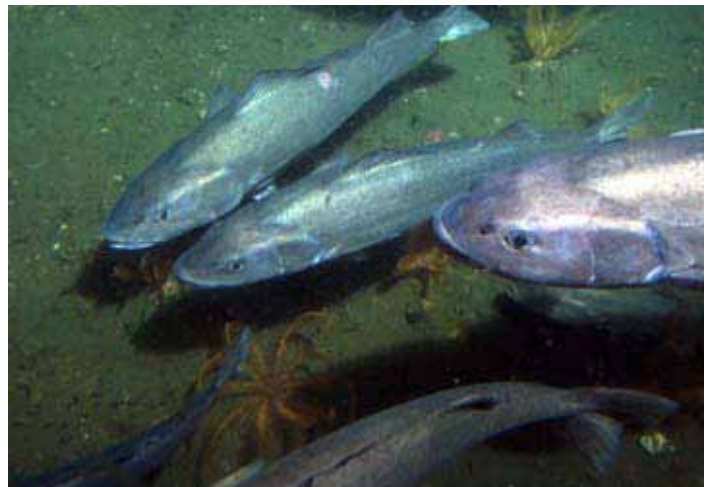
After further discussing the fishery, the restaurant owner was curious enough to contact their supplier to request a trial of some but did express concerns with the labour required for preparation and storage of this product as being challenges. In contrast another chef interviewee expressed great passion for the product and hopes to one day be a driver of an annual Pacific sardine festival in Victoria. The obstacle that is keeping sardines off the menu has been the labour involved with de-boning the product, yet this chef aims to have their supplier source Pacific sardines for their restaurant in 2013. In the meantime, the chef will be testing new recipes including homemade smoked, canned and kippered sardines.

## **Sablefish**

### **Fisherman survey findings**

Twenty-three percent of fishermen who responded to the survey said they harvested sablefish. Only one respondent reported marketing sablefish directly to the public and that individual owns a retail outlet that directly markets a variety of species besides sablefish. The one survey respondent who reported exclusively harvesting sablefish said between 51 and 75 percent of the catch was landed on Vancouver Island. That respondent did not direct market any catch.

An interview with the president of the Canadian Sablefish Association shed some light on why so few fishermen do not sell locally. The federally administered management plan is structured in such a way that all sablefish that are caught incidentally in other groundfish fisheries must be landed and accounted for as bycatch.



Sablefish Underwater. Photo Credit: NOAA

The directed sablefish fishery which harvests the bulk of the total allowable catch freezes the catch immediately at sea, making it a high quality, value-added product that is sought after by international markets. This frozen at sea (FAS) product commands the highest price. The incidental bycatch from other groundfish fisheries is generally landed fresh and must be moved quickly or frozen days after harvest at the processing plant. This lower priced product is not suitable for most export markets in a plant-frozen form and is marketed as such locally.

### Supplier survey findings

All of suppliers surveyed reported buying B.C. sablefish while only 37 percent said they also bought sablefish from the U.S.

Both interviewed suppliers identified sourcing sablefish can be a challenge. One supplier stated this was due to the product being presold or exported as the demand for sablefish has spiked in recent years. Quality of the available product was also identified as a challenge.

### Retailer survey findings

Sixty percent of retailers responding to the survey said they sold B.C. sablefish while none said they sold sablefish from the U.S.

One retailer interviewed noted they were busy promoting sablefish in their stores right now. They noted pre-booking to secure supply was crucial. They found the first couple of weeks of their promotion was “tough” but believe that with strong marketing of the products’ sustainability story in conjunction with ThisFish traceability to the fishermen, the promotion is becoming more successful.

Another one-store retailer stated they stay away from sablefish largely due to the fact another competing supplier and retailer in the same area sells it. This same supplier/retailer also fishes the product and restricts product sales.

### Restaurant survey findings

One-third of chefs returning surveys said they had B.C. sablefish on their menus. None reported selling sablefish from the U.S. Both restaurants interviewed identified the price of sablefish as the obstacle to placing it on their menu. Given this, they are more likely to use this product on their special or feature menus rather than their permanent menu.

## Swimming Scallops, Pink and Spiny

The completed surveys provided confusing results; although few B.C. swimming scallops currently enter the regional seafood supply chain, many suppliers, chefs and retailers report sourcing them. This could be due to respondents reporting on past sourcing or from confusion with farm raised B.C. scallops. This needs more examination and is discussed further below.



Scallop ‘Butterfly Trawl’. Photo Credit: K. & V. McGuffie

### Fisherman survey findings

No scallop fishermen responded to the survey. Through an interview with the president of the West Coast Scallop Harvesters Association it was revealed that only one fisherman remains harvesting and selling swimming scallops. An interview was also conducted with that individual.

The two interviewees told similar stories. They are both small boat owner-operators who have been scallop fishing for over a decade. They both began scallop fishing in order to diversify their harvest activities when a downturn occurred in the salmon fishery.

In order to establish themselves in the exploratory scallop fishery they were required by regulation to provide biomass data so that regulators could be confident when opening areas for harvest. The fishermen were also required to demonstrate the effectiveness of their fishing gear at limiting habitat damage, mortality rates of undersized scallops and incidental catch of non-target species. Satisfying these requirements came at significant costs to the



Ken McGuffie, Last B.C. Swimming Scallop Fisherman. Selling Off-the-boat. Photo Credit: Living Oceans Society

fishermen. Through their efforts they developed a specialized trawl net (known as the Butterfly trawl) that, unlike conventional dredges, has minimal impact on the scallop beds and won the Romeo LeBlanc Award for responsible fishing.<sup>37</sup>

However, these efforts did not earn them the permanent approval for the fishery that they were looking for from the Fisheries and Oceans Canada (DFO). The licence has not been elevated to full commercial status and remains a non-transferable experimental permit that must be renewed annually with no assurance that it will be. Further data collection is necessary before regulators will consider opening new areas to scallop fishing. The baseline data fishermen collected for regulators is setting them on the path to becoming a SeaChoice “green” ranked fishery and could be an avenue for future co-operation between marine conservation organizations such as LOS and the

swimming scallop fishery for policy change.

At the same time, the scallop fishermen were developing their own markets with suppliers and the public both on and off Vancouver Island. They added value to their harvest by preserving scallops in a variety of forms such as frozen at sea, custom smoked and canned. As their markets grew, the fishermen encountered another obstacle, as they were unable to offer a consistent supply to customers.

The lack of consistent supply centered around fishing opportunities in existing areas as well as the onerous requirements and costs involved with accessing new fishing areas. The main message heard from both interviewees was they need access to more scallop beds to retain and expand their markets.

Consultations with Fisheries and Oceans Canada have



been ongoing but there is no sign of progress being made towards elevating the experimental licence to full commercial status.

At this time only one fisherman interviewed intends to continue fishing while the president reported that the remaining members of the association have all left the fishery. Since the experimental licences are non-transferable the only assets accruing to the fishermen are their boats and gear.

The last remaining fisherman relies largely on selling frozen scallop product only. It was stated providing fresh or live product is a challenge due to the scallop's short shelf life.

### **Supplier survey findings**

Sixty-two percent of supplier survey respondents said they purchase B.C. swimming scallops. The same number said they also access dredged scallops from other Canadian sources on the East Coast and a larger 87 percent said they purchase imported scallops.

One supplier interviewed who did not currently sell swimming scallops did express interest in doing so in the future and believed they would not have a hard time selling them, particularly to the high end chef market in Ontario as these chefs are always looking for "something weird and something new."

The large supplier who did sell swimming scallops stated the demand for the product is low with the product either being sold to medium to high end restaurants in Vancouver or small seafood fishmongers. The supplier indicated consistent and reliable supply can be a challenge at times for this product. Both suppliers were identified as possible champions as they expressed their support to assist with policy changes and the market work needed for this fishery to survive.

### **Retailer survey findings**

Sixty percent of retailers surveyed said they purchased B.C. swimming scallops. Eighty percent said they purchased scallops from other locations in Canada and all said they also purchased imported scallops.

One of the two retailers interviewed purchased swimming scallops on an irregular basis. This retailer stated he purchases the scallops because they make the seafood counter look "pretty", but he doesn't sell much volume. Both retailers stated they would be

more interested in this product if there was a larger volume of fresh supply available.

When the plight of the fishery was described during the interviews, one large Vancouver Island-based retailer was identified as a possible champion, whether in the avenue of aiding with policy or markets work to support the continued viability of the local scallop fishery.

### **Restaurant survey findings**

One-third of chefs surveyed reported using B.C. swimming scallops on their menus. Half reported also using scallops sourced from other fisheries in Canada and only one chef reported using imported scallops.

During the chef interviews it was evident that knowledge of the local swimming scallop fishery was low. After discussing the status of the fishery one particular chef was identified as a possible champion to help get the word out and support any policy and market work needed.

## **Spot Prawns**

### **Fisherman survey findings**

Forty-six percent of fishermen responding to the survey said they harvested spot prawns; 23 percent of respondents said they harvested spot prawns exclusively. Seventy-five percent of fishermen survey respondents who said they only harvested spot prawns said they landed between 75 and 100 percent of their catch on Vancouver Island. Of the fishermen who reported direct marketing at least some portion of their catch, over half said they direct marketed prawns by selling at the dock, to regular customers, retailers, restaurants and chefs or to institutions.

One spot prawn fisherman was the only survey respondent who reported selling product through a community supported fishery model. All direct spot prawn marketers sold between one and 25 percent of their total catch directly to their own markets on Vancouver Island. The reasons fishermen gave for direct marketing were: "Support moving local products to local customers" (50 percent); "Want to build my own customer base" (33 percent); "I enjoy selling to the public" (17 percent) and; "To make more money" (17 percent). The obstacles identified by direct marketing prawn fishermen included: "Lack of

access to markets on Vancouver Island” (33 percent); “Government regulations” (17 percent) and; “Not enough customers” (17 percent).

Two prawn fishermen responded to the survey saying they did not direct market any portion of their catch. The reasons given were that there were not enough customers and that they were happy with their wholesale price.

### **Supplier survey findings**

Seventy-five percent of suppliers said they sold B.C. spot prawns, 25 percent said they sold spot prawns imported from the U.S. and 62 percent said they also imported other types such as tiger prawns. Both suppliers interviewed sold B.C. spot prawns.

Challenges with this product include consistent access, with one supplier describing the fishery as “flakey.” Another challenge identified was quality, due to higher quality product typically being reserved for export to countries such as Japan.



Fresh Spot Prawns. Photo Credit: SeaChoice

There is an overall increase in demand momentum identified with spot prawns due to their sustainability.

### **Retailer survey findings**

All retailers said they sold B.C. spot prawns. None said they sold spot prawns imported from the U.S. All retailers said they sold prawns such as tiger prawns or white shrimp imported from elsewhere.

Retailers acknowledge a growth in demand for spot prawns by local consumers in recent years. This demand has resulted in spot prawns being made available live or fresh during the fishery season at Vancouver Island retailers. However, the demand for cheaper imports still remains high and imports are available for market year-round.

### **Restaurant survey findings**

Half of the chefs surveyed said they included B.C. spot prawns on their menus. None said they used spot prawns imported from the U.S. Sixty-seven percent said they included prawns imported from elsewhere.

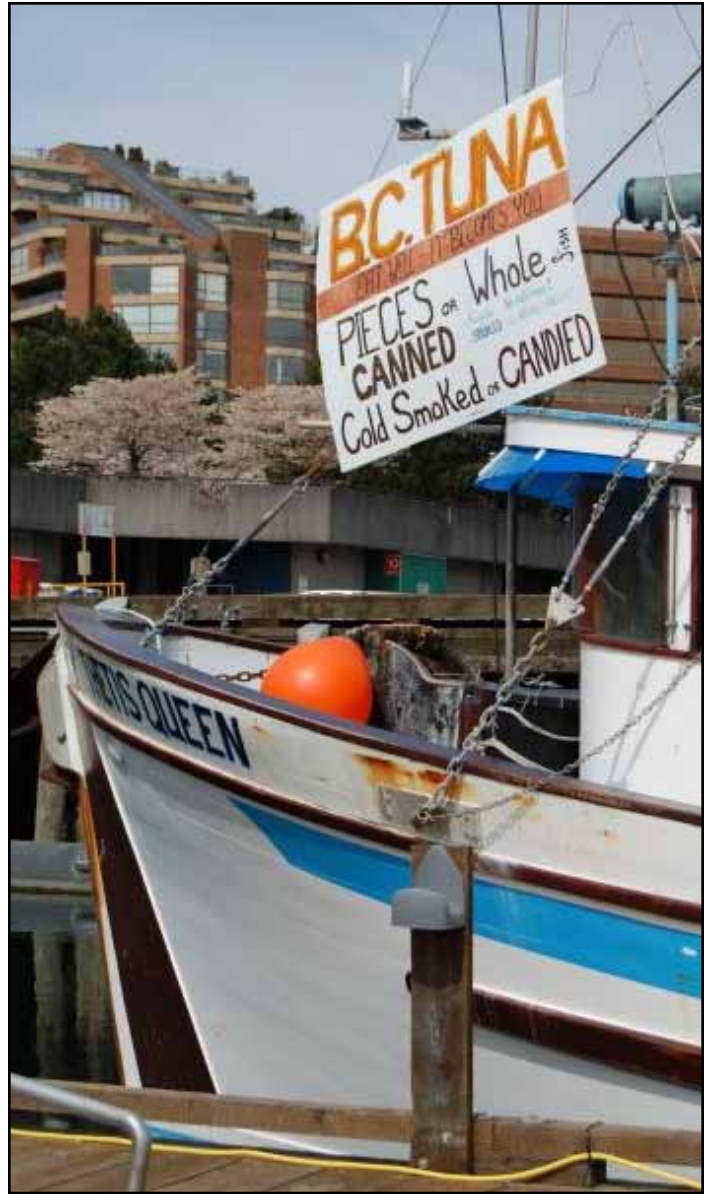
The pricing of spot prawns was identified as a challenge in interviews. Participants stated that this should not be an excuse for failing to add this item to the menu as sustainability should be an important priority. One particular chef is taking a cost-effective and innovative initiative with spot prawns by obtaining free prawn heads from their supplier that would otherwise be discarded and using these as a stock base for bisques and soups.

# Discussion

This assessment found that the regional seafood supply chain on Vancouver Island is well established. Infrastructure for handling commercially harvested fish is extensive with numerous landing ports for off loading catch and fish processing capacity throughout the region. Processing capacity has been curtailed in recent years due to downturns in some of the major fisheries such as salmon. This downturn has had a ripple effect in the processing sector affecting processing capacity for other species. One example of this is the Pacific sardine fishery. Sardine processors on the island say they are not inclined to invest in new custom processing equipment in order to redirect product away from the established bait market to new human food markets which would include local retailers and restaurants.

The suppliers interviewed said they have ready access to supplies of sustainable fish and seafood in season that suits their purposes. All suppliers indicated that they are looking to increase amounts of the five sustainable seafood examined in this assessment they can offer, in order to meet the growing demand of their customers. However, the suppliers did not indicate whether this demand came from local customers or from elsewhere. Some suppliers reported that moving local seafood to restaurant customers in Eastern and Central Canada is often easier than to local chefs. “[Vancouver Island chefs] like to talk the talk, but don’t necessarily walk the walk.” was a comment heard from one supplier. The same supplier identified high-end Eastern Canada restaurant chefs as being more willing to add new and uncommon seafood options to their menus. A comparison of local customer demand versus demand from locations other than Vancouver Island needs more investigation.

Another small distributor of locally sourced food products to restaurants in small communities told us that many of his customers have access to local seafood directly from fishermen or processors in their regions. Finally, the Clayoquot Biosphere Food Action Plan reported one obstacle for local chefs and retailers was uncertainty around sourcing seafood directly from local producers, not so much due to quality but because of uncertainty around meeting the chain of custody documentation and processing required by CFIA regulations.



Direct Marketed B.C. Albacore Tuna. Photo Credit: SeaChoice.

Two suppliers and one fisherman identified the lack of centrally located cold storage facilities as an obstacle to supplying more local seafood products to local customers. Increasing cold storage space availability was also one recommendation of the 2010 Clayoquot Biosphere Food Action Plan. Increased cold storage capacity would increase the availability of locally harvested seafood throughout the year. Exactly how cold storage facilities could be provided would need to be explored and researched further as this was beyond the scope of the resources for this assessment.

The availability of seafood on Vancouver Island is largely due to the fact that most residents have ready access either through friends and family, at local docks, farmers markets, retail outlets or restaurants.

Seafood is a natural part of the local food movement in the region. Savvy retailers and chefs capitalize on this feature by celebrating fish and seafood when it is in season. However, not all seafood is harvested sustainably and this fact may not be as well known or celebrated in the region as the local aspect.

A consistent message received during supplier, retailer and restaurant interviews was the need to tell the customer the story of the fish or the seafood. One supplier called this the “romancing of [the] path to [the] plate.” Suppliers are increasingly telling their customers the origin details of their seafood products such as where it was caught, by what means and sometimes even identifying the specific fishermen or the vessel. Retailers and restaurants are increasingly identifying these details to their shoppers and diners. Some examples include identifying ‘Johnstone Strait halibut’ in a retail flyer, a fishing boat’s name on a menu and a photo of a local fisherman on in-store advertising displays.

At the same time it was identified by one supplier that the story also needs to flow back up the supply chain to the original fishermen. They titled the distribution channel as the “black box” where disconnection is rampant and seafood is treated as simply a commodity. When fishermen sell their product to their entry point into the distribution channel they often don’t know where it is ultimately ending up, neither the retailer nor restaurant or even to which country it will be exported. It was suggested that fishermen would feel more empowered and take greater pride in their product if this information was disseminated back to them.

Another consistent theme demonstrated in the supplier, retailer and restaurant survey responses was the large number of businesses that have either increased their local sourcing or plan to in the next five years. Many also already market their products as either ‘local’, ‘B.C.’ or ‘sustainable’ or a combination of all three. When asked why they have or intend to increase local sourcing, both suppliers and restaurants identified a growing demand for local products by their customers. The second reason for restaurants was the increased knowledge, profile and acceptance of certain local seafood options in the mainstream. Retailers identified with local products being more sustainable and of a higher quality than imports. Such responses may indicate an overall confidence in the local fishing industry throughout the actors of the

supply chain. This could be explored for verification in further research.

At the same time as local demand for local and sustainable seafood products is growing, challenges to selling and sourcing local wild fishery products were identified. Suppliers reported their primary challenge is the lack of volume of product to keep up with demand, followed by the price of locally sourced seafood compared to cheaper imports. Restaurants identified the latter as their top challenge followed by the lack of year-round availability. Similarly, retailers identified year-round availability as their top challenge among a mix of others.

One mechanism of the regional seafood supply chain is direct sales to local customers by fishermen. It is acknowledged that data for direct sales was poor due to the poor response from fishermen to the electronic survey invitation. Fishermen are busy in the spring gearing up for the upcoming season, which coincided with survey invitations, and this may have been one reason why the response was low. Another possible reason heard was that many fishermen are ‘surveyed out’ from past attempts at data collection around downsized fisheries and restructuring programs that have produced few results. In one instance, it was learned that there is one remaining scallop fisherman and his counterparts have largely retired their fishing nets and called it quits because of government regulations and the lack of progress on converting experimental licences to commercial licences. Whatever the reasons for the poor response, LOS was able to connect with a few fishermen and would recommend that in the future better results are likely to be achieved if a survey and interviews were offered in the off season winter months.

Fifty-four percent of the fishermen surveyed were direct marketers who said they used a variety of means to sell some of their catch on Vancouver Island, including selling at public docks and at farmers markets, through internet-based community supported fisheries programs, and directly to regular and private customers, restaurants and chefs, food retailers and institutions like schools, hospitals, food banks and seniors homes. A large majority said the primary reasons they direct marketed was that they supported moving more locally harvested seafood to local markets and they wanted to build their own customer base.

Some direct marketers and fishing association representatives also commented during their interviews that the prices currently being paid by fish companies, brokers and processors are competitive with direct market prices paid by individual customers. This comment is reflected in survey responses. Only two respondents who direct marketed said the primary reason they did so was because they made more money than if they sold to a fish company, buyer or broker. Yet all respondents who sell to their own customers said the direct marketed portion of their total catch has increased in the last five years.

Five fishermen responding to the survey (38 percent) said they did not sell any of their catch directly to markets but sold only to seafood brokers or processors (one respondent did not answer this question). Figure 14 illustrates that “not enough customers” was the obstacle most commonly identified by fishermen surveyed whether they direct marketed their catch or not.

Fishermen who sell their catch directly to customers on Vancouver Island plan to keep increasing the direct marketed portion of their total catch. Along with finding their own customers and promoting their

own product individually, fishermen are teaming up through their associations with other groups to find novel entry points into the regional seafood supply chain. The annual Cowichan Bay Spot Prawn Festival<sup>†</sup> is one example of a collaboration between local spot prawn fishermen, suppliers, chefs and retailers to celebrate the species at the height of the fishing season and move product directly to people in the region.

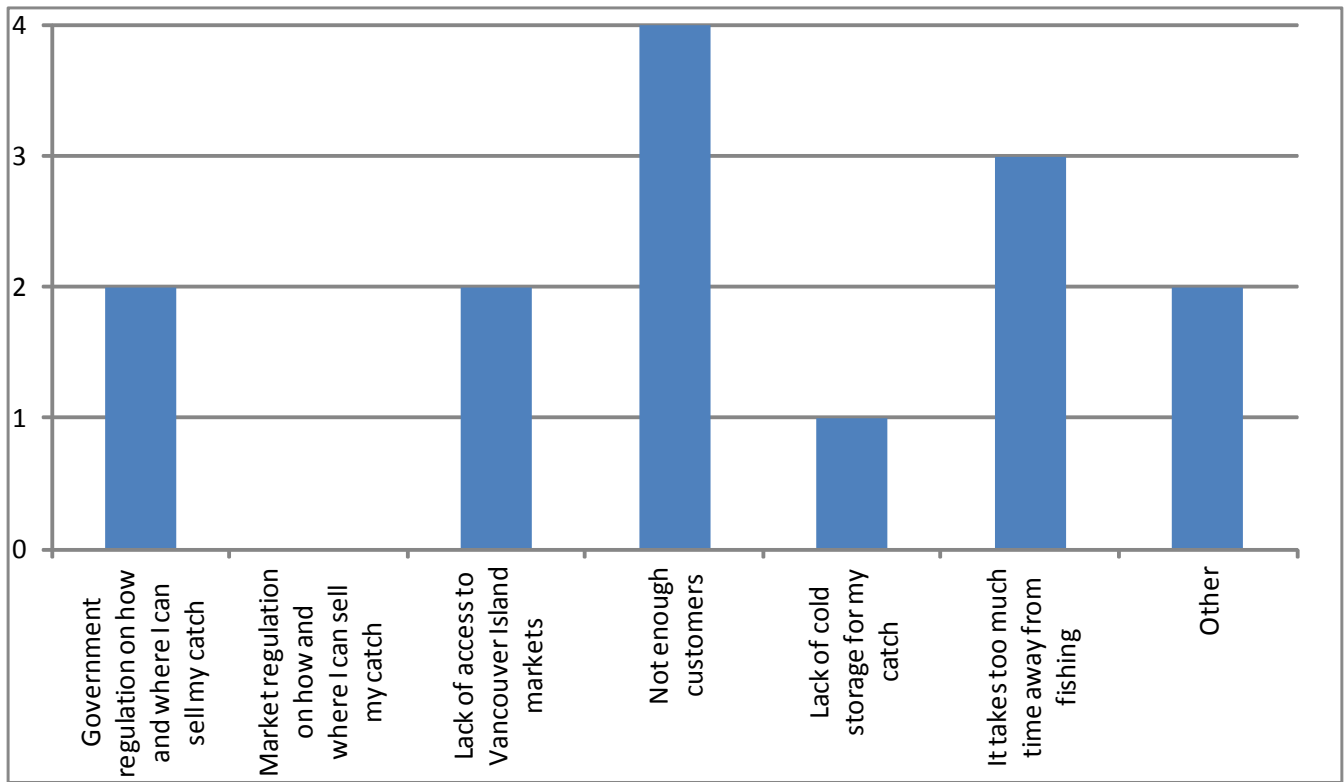
Other research shows how culinary communities like the Tofino/Ucluelet Culinary Guild<sup>‡</sup> and the Island Chefs Collaborative<sup>§</sup> are now operating in some regions informing their members when local foods are in season and available. The Ucluelet Community Food Initiative is developing a web site that will focus on procuring and preparing local foods. The new web site intends to promote healthy eating, build a local food network and possibly a virtual market for local food products. Other initiatives like the Off the Hook<sup>§</sup> and ThisFish programs are creating new entry points aimed at expanding regional supply chains across

\*Cowichan Bay Spot Prawn Festival: <http://prawnfest.ca/>

†Tofino/Ucluelet Culinary Guild: <http://www.tucg.ca>

‡ Island Chefs Collaborative: <http://www.iccbc.ca>

§ Off the Hook: <http://www.offthehookcsf.ca>



**Figure 14. Obstacles to Fishermen’s Direct Marketing Efforts**

Canada using the Internet. Interviews with people involved in these initiatives tell us there is room to support and expand on these models to increase the customer base for sustainable seafood products in the regional supply chain.



Annual Cowichan Bay Spot Prawn Festival. Photo Credit: Living Oceans Society

## Conclusions

Opportunities for finding new entry points into the regional seafood supply chain do exist. LOS learned during this assessment of a variety of opportunities for expanding the entry points into the existing supply chain. While some of these vary by species and sector, there are some overarching elements. Customers demanding more local, sustainable seafood choices are driving opportunities across the board for all species. Fishermen, suppliers, retailers and restaurateurs seem eager to meet that growing demand.

Finding ways to communicate about the story of the product was identified as an important vehicle to having customers learn about and therefore want to purchase the seafood item. “Telling the Story” about the fish and the fishermen who catch them was a phrase suggested repeatedly throughout our interviews with all sectors of respondents. There definitely is momentum and enthusiasm for making this happen among many of the interviewees.

Both retailers and chefs expressed an interest in helping to create a market for Pacific sardines on Vancouver Island. One chef in particular has been identified as a potential champion due to his keen interest to create an annual Sardine Festival in Victoria as well as to start procuring this product for his restaurant in the 2013 season.

Given the health and nutritional benefits of Pacific sardines and the current market gap for human consumption of this product, The Vancouver Island Health Authority’s Community Food Action Initiative\* may provide an entry point and educational opportunity to establish a market for this local and sustainably caught fish.

One fisherman reported starting his own Community Supported Fishery program similar to programs in other parts of North America. Other networks aimed at connecting customers to available seafood products already exist in the region. ThisFish, the Tofino/

\* The Vancouver Island Health Authority’s Community Food Action Initiative [http://www.viha.ca/mho/food/food\\_security/Community+Food+Action+Initiative.htm](http://www.viha.ca/mho/food/food_security/Community+Food+Action+Initiative.htm)

Ucluelet Culinary Guild website, the Island Chefs Collaborative the soon-to-be-launched Eat West Coast Food Initiative are all internet-based examples of making those connections and getting the story out there. These examples could be expanded to include more sustainably harvested seafood species.

Programs such as The School Meals Program<sup>†</sup> or Farm to Cafeteria<sup>\*</sup> currently focus on terrestrial agriculture. An opportunity to include fish and seafood in these programs should be explored.

There are also obstacles preventing the entry of more sustainable local seafood into the Vancouver Island regional supply chain, some of which also cut across all fish and seafood species. Access to markets and new customers are identified as obstacles by fishermen. Yet suppliers, retailers and chefs reported experiencing difficulty accessing local, sustainably caught fish and seafood.

While retailers and restaurants identified that their suppliers either always or on request provide them with their seafood's harvest origin, this information is not always readily available and therefore is rarely passed on to the end consumer. Currently in Canada consumers aren't able to identify the country or ocean of origin for seafood products unless businesses voluntarily provide this information on labels or menus. This is in stark contrast to common practices in the U.S. retail markets where suppliers and retailers are legally required to identify seafood products as 'wild' or 'farmed' and the country of origin.

Respondents from several points in the supply chain agreed that another significant obstacle to moving more sustainable seafood into the local market was the lack of adequate cold storage space for fishermen and suppliers. Fishermen and suppliers both stated pre-sale storage is limited and not centrally located. Exactly how this problem could be addressed by various actors in the local seafood supply chain should be explored as an important next step following this assessment.

Cultural issues with consumption of certain sustainable fish and seafood species are obstacles to gaining wider acceptance and therefore demand from consumers on Vancouver Island. One example is the

reluctance of many local consumers to eating whole sardines due to the amount of bones in the fish, making preparation more difficult. Another example is that local consumers prefer purchasing spot prawns with heads already removed. Yet, spot prawn fishermen reported that they can often receive the same price per kilogram from seafood buyers for whole prawns. The weight of a whole prawn is twice the weight of a headed prawn. Therefore, fishermen must charge local customers twice the price buyers are paying in order to receive the same amount of money for their catch.

Some of the obstacles to moving more local sustainable seafood through the Vancouver Island supply chain were found to be species-specific. One such example is that Pacific sardines are generally larger in size than their Atlantic counterparts where Canadian canning operations are located. Custom made canning equipment would be required before processing can begin on Vancouver Island and companies are reluctant to invest until harvesting vessels obtain access to more total allowable catch.

A significant regulatory obstacle prevents more local sustainable scallops from entering the supply chain and has caused all but one fisherman to leave the fishery. The reasons behind the exodus are complicated yet a resoundingly common reason given during assessment interviews was that there can be no clear economic future or stability in a fishery where only temporary and experimental licences are issued. Fishermen are discouraged by twelve years of no progress on the part of the Department of Fisheries and Oceans towards establishing full commercial licence status for the fishery. The other barrier identified by scallop fishermen is the significant investment they have already made in the onerous and costly requirements of measurements and reporting. They have made this investment in order to gain access to new scallop beds so as to provide a more consistent supply. This is an area where LOS may consider working further with the fishermen to explore how regulatory or policy changes might be influenced for greater access to local supply.

<sup>†</sup> <http://www.bced.gov.bc.ca/communitylink/pdf/smph.pdf>

<sup>\*</sup> <http://www.phabc.org/modules.php?name=Farmentoschool>

# Recommendations

The conclusions from this assessment, although limited by sample size, time and resource constraints, did lead to some recommendations of how to proceed to increase the flow of local sustainable seafood through the Vancouver Island supply chain.

A number of general recommendations are identified followed by some recommendations for specific fisheries.

## General Recommendations

1. Human health and nutrition could be improved by providing greater access to local sustainably caught fish and seafood for Vancouver Island local food programs in schools and on campuses. LOS recommends supporting efforts to introduce and incorporate local sustainable seafood into such programs and venues in our Sustainable Seafood marketing programs.
2. Networking between producers, suppliers and customers—whether retailers or restaurants—to promote acceptance and demand for these five sustainable seafood products and other locally harvested sustainable seafood is gaining momentum. Through these relationships opportunities to reach new customers and “tell the stories” of these healthy local food products can be developed. LOS recommends exploring more community-based local seafood marketing programs and communications activities.
3. Encouraging more retailers and distributors to clearly identify Vancouver Island-landed wild and produced seafood on labels and packages, along with the locations of all other sources including imports, would enable customers to select and support local harvesters and producers. LOS recommends exploring with SeaChoice partners and government authorities how more rigorous seafood labelling could become a requirement of the Canadian Food Inspection Agency and encourage market demand for this information at the point of sale.
4. The lack of centrally located cold storage space on Vancouver Island for direct marketers and seafood

suppliers will need to be addressed in order to provide better access to regional markets and supplies of locally harvested sustainable seafood. LOS recommends further exploration of the best locations for cold storage facilities, mechanisms for providing more cold storage at the appropriate times of the year and the necessary capital investments.

## Recommendations for Specific Fisheries

1. Suppliers, retailers and restaurants have expressed willingness to get involved and assist scallop fishermen in promoting and supporting the changes needed to elevate the experimental licence status to full commercial licence status. LOS recommends assisting relationship building in this effort among fishermen (or the one remaining fisherman) and suppliers to champion the necessary changes. LOS further recommends developing relationships and convening dialogue between Fisheries and Oceans Canada officers, market supporters and fishermen to explore how these regulatory barriers might be overcome.
2. Results of interviews and surveys regarding the Pacific sardine fishery clearly identified supporters willing to assist with moving more of this product through the local supply chain. Increasing the awareness of the human health benefits and promoting the sardine as a human consumption product would aid both Vancouver Island communities and local fisheries. This awareness could be improved through building relationships between the Canadian Pacific Sardine Association and community health workers from First Nations and the Vancouver Island Health Authority. Relationships could also be developed with members of different cultural communities that enjoy sardines, along with the restaurateurs identified throughout this assessment, to explore events and activities to promote this sustainable and healthy fish.

The execution of the above recommendations by LOS is subject to funds, support and human resources for its Sustainable Fisheries and Seafood programs.



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# Appendices

## Appendix I: Sample Fishermen Survey

Here are some definitions that will describe the answers to the question.

Owner/operator is defined as family or individually owned fishing operation where the owner of the fishing licence/quota is on board the vessel during all fishing operations. This could include leasing additional quota from another quota holder.

Lease a vessel and licence/quota is defined as an arrangement where the owner of a fishing vessel and its licence/quota leases the vessel and licence/quota to another operator who is free to make all decisions about the sale of the catch.

Run a company vessel is defined as an arrangement where the owner of a fishing vessel and its licence/quota is not on board the vessel during fishing operations but the operator makes no decisions about the sale of the catch.

1) Please check what best describes your fishing operation

- a. Owner/operator
- b. Lease a vessel and licence/quota
- c. Run a company vessel

2) What species do you HARVEST? Please check all that are applicable to you.

- a. Prawns
- b. Sardines
- c. Scallops
- d. Tuna
- e. Other (please specify)

3) Approximately what percentage of your TOTAL CATCH do you land on Vancouver Island?

- a. None
- b. 1% - 25%
- c. 26% - 50%
- d. 51% - 75%
- e. 76% - 100%

4) At which ports on Vancouver Island do you land your catch? Please check all that are applicable.

- a. I don't land any catch on Vancouver island
- b. Port Hardy
- c. Port McNeill
- d. Campbell River
- e. Comox
- f. French Creek
- g. Nanaimo
- h. Victoria/Sooke/Sidney
- i. Ucluelet/Tofino
- j. Other (please specify)

DIRECT MARKETING is defined as any catch that you market to someone other than a traditional fish company, processor or broker. This includes marketing catch yourself at the dock or farmers market, to a retailer, chef or restaurant or through a community supported fishery scheme.

5) Approximately what percentage of your TOTAL CATCH do you DIRECT MARKET?

- a. None
- b. 1% - 25%
- c. 26% - 50%
- d. 51% - 75%
- e. 76% - 100%

6) What species do you DIRECT MARKET?

- a. Prawns
- b. Sardines
- c. Scallops
- d. Tuna
- e. Other (please specify)

7) Approximately what percentage of your TOTAL CATCH do you DIRECT MARKET on Vancouver Island?

- f. None
- g. 1% - 25%
- h. 26% - 50%
- i. 51% - 75%
- j. 76% - 100%

8) How do you DIRECT MARKET your catch on Vancouver Island? Please check all that are applicable to you.

- a. At the dock
- b. At a farmers' market
- c. Through a community supported fishery (CSF) program
- d. Directly to food retailers (large or small)
- e. Directly to restaurants and chefs
- f. Directly to an institution (food bank, school, hospital, seniors home)
- g. Other (please specify)

9) Please indicate all ports or towns on Vancouver Island that you DIRECT MARKET your catch.

- a. Port Hardy
- b. Port McNeill
- c. Sayward
- d. Campbell River
- e. Courtenay/Comox
- f. French Creek
- g. Parksville/Qualicum/Qualicum Beach
- h. Nanaimo
- i. Duncan/Cowichan
- j. Victoria/Sooke/Sidney
- k. Port Alberni
- l. Ucluelet/Tofino
- m. Other (please specify)

10) What percentage of your TOTAL CATCH do you DIRECT MARKET at locations NOT on Vancouver Island?

- a. None
- b. 1% - 25%
- c. 26% - 50%
- d. 51% - 75%
- e. 76% - 100%

- 11) Please check the box that best describes the primary reason that you DIRECT MARKET your catch?
- a. I make more money than if I sold to to a fish company, buyer or broker.
  - b. I want to build and maintain my own customer base.
  - c. I enjoy selling directly to people
  - d. I support moving more local seafood into local markets.
  - e. Other (please specify)
- 12) Please check the box that best describes the DIRECT MARKETED portion of you TOTAL CATCH in the last five years.
- a. Increased over the last five years.
  - b. Decreased over the last five years.
  - c. Remained the same.
- 13) What do you see the largest obstacle to your DIRECT MARKETING sales on Vancouver Island?
- a. Government regulation of how and where I can direct market my catch
  - b. Market regulation of how I can sell my catch (i.e. farmers' markets rules)
  - c. Lack of access to Vancouver Island markets (i.e. lack of a local distribution network)
  - d. Not enough customers
  - e. Lack of cold storage facilities for my catch
  - f. It takes too much time away from fishing
  - g. Other (please specify)
- 14) Please check any box where the remainder of your catch that you DO NOT DIRECT MARKET gets sold.
- a. British Columbia
  - b. Other parts of Canada
  - c. USA
  - d. Europe
  - e. Asia
  - f. Don't know
  - g. Other (please specify)

## Appendix II: Sample Supplier Survey

Here are some definitions that will describe the answers to the question.

Broker: In between person who sells product to a distributor or seafood supplier (rather than the final customer).

Distributor: May purchase directly from a broker, fishery or aquaculture company, importer and then sells product to restaurants, retail, foodservice or similar.

Exporter: Sells Canadian product to overseas buyers.

1) Please check which best describes your business:

- a. Broker
- b. Distributor
- c. Exporter
- d. Other (please specify)

2) How many different seafood products (wild and farmed from all origins) in total does your company sell?

- a. Less than 10
- b. 11-100
- c. 101-500
- d. 501-1000
- e. Greater than 1000

3) Do you sell or distribute the following species? Check all that apply.

- a. B.C. spot prawns
- b. U.S. spot prawns
- c. Imported prawns (e.g. tiger prawns, white shrimp, etc.)
- d. B.C. Pacific sardines
- e. Imported sardines
- f. B.C. swimming scallops
- g. Dredged sea scallops (Canada - East Coast)
- h. Imported scallops
- i. B.C. albacore tuna
- j. U.S. albacore tuna
- k. Imported ahi tuna (yellowfin or bigeye)
- l. B.C. sablefish (not trawled)
- m. U.S. sablefish
- n. Chilean sea bass
- o. None of the above

4) Which term(s) best describe your Vancouver Island customers for ALL types of seafood?

- a. Large Retail Chain (Specify approx volume percentage)
- b. Small Retailer (Specify approx volume percentage)
- c. Restaurants (Specify approx volume percentage)
- d. Food Service such as hospitals, universities, etc (Specify approx volume percentage)
- e. Other (Specify approx volume percentage)

5) What VOLUME percentage of your TOTAL seafood products are SOURCED FROM Vancouver Island-landed fisheries in particular?

- a. None
- b. Less than 25%
- c. 25% -50%
- d. 51% - 75%
- e. More than 75%
- f. All

- 6) Of these products sourced from Vancouver Island fisheries, what VOLUME percentage REMAINS on the island? (i.e. sold to an Island customer)
- None
  - Less than 25%
  - 25% -50%
  - 51% - 75%
  - More than 75%
  - All
- 7) Specifically for Vancouver Island-landed fisheries products that your company sources, who are your ISLAND customers for these products?
- Large Retail Chain (Specify percentage)
  - Small Retailer (Specify percentage)
  - Restaurants (Specify percentage)
  - Food Service such as hospitals, universities, etc (Specify percentage)
  - Other (please specify) (Specify percentage)
- 8) For your Vancouver Island sourced wild fishery products that DON'T REMAIN ON the Island, where do you distribute these products? Please check all that apply.
- Lower Mainland (Specify approx. volume percentage)
  - B.C. –other than the Lower Mainland (Specify approx. volume percentage)
  - Canada, other than B.C. (Specify approx. volume percentage)
  - U.S. (Specify approx. volume percentage)
  - Japan (Specify approx. volume percentage)
  - Europe (Specify approx. volume percentage)
  - Other (Please specify) (Specify approx. volume percentage)
- 9) In the last five years, has your company INCREASED its VOLUME of Vancouver Island sourced wild fisheries seafood?
- Yes
  - No
- 10) The reasons that best describe why your company has increased Island sourced wild fisheries seafood in the last five years are: (check all that apply)
- Demand for 'local' products by customers
  - Greater knowledge, profile and acceptance of the seafood item in the mainstream
  - Competitive pricing to imports
  - Accessibility to the product
  - They are typically more 'sustainable' than some import equivalents
  - Other (please specify)
- 11) Does your company plan on increasing its number of locally sourced wild seafood in the next five years?
- Yes
  - No
- 12) What challenges (if any) do you have with selling Vancouver Island fishery-sourced seafood on the island (vs. an import equivalent)?
- Price. Imports are cheaper
  - Year-round availability challenges
  - Volume is not able to keep up with demand
  - Issues with the quality of the seafood
  - Lack of demand for local



- f. Product accessibility from fishermen
- g. Other (please specify)

13) Do you currently market any of your Vancouver Island fish products as:

- a. Local
- b. B.C.
- c. Canadian
- d. Sustainable
- e. Organic

14) Do you customers increasingly ask for 'local' seafood?

- a. Yes
- b. No

## Appendix III: Sample Retailer Survey

- 1) Please check which best describes your business:
  - a. Large Retailer (more than 50 store locations)
  - b. Medium Retailer (10-50 store locations)
  - c. Small Retailer (Less than 10 store locations)
  - d. Retail Cooperative
  - e. Individual store or fishmonger
  - f. Farmers Market
  - g. Other (please specify)
  
- 2) How many different seafood products (wild and farmed from all origins) in total does your company sell?
  - a. Less than 10 seafood products
  - b. 10 – 25 seafood products
  - c. More than 25 seafood products
  
- 3) Do you sell the following species? Check all that apply.
  - a. B.C. spot prawns
  - b. U.S. spot prawns
  - c. Imported prawns
  - d. B.C. Pacific sardines
  - e. Imported sardines
  - f. B.C. swimming scallops
  - g. Dredged sea scallops (Canada - East Coast)
  - h. Imported scallops
  - i. B.C. albacore tuna
  - j. U.S. albacore tuna
  - k. Imported ahi tuna (yellowfin or bigeye)
  - l. B.C. sablefish (not trawled)
  - m. U.S. sablefish
  - n. Chilean sea bass
  - o. None of the above
  
- 4) From whom do you purchase your seafood? Check all that apply.
  - a. Larger Distributor (e.g. Sysco, GFS, Albion, etc.)
  - b. Smaller Distributor
  - c. Fishing Fleet Company (e.g. CANFISCO)
  - d. Directly from small scale fishermen
  - e. Other (please specify)
  
- 5) Does your seafood supplier provide you with the catch origin of your seafood products?
  - a. Yes, always
  - b. On request
  - c. No
  
- 6) Approximately what volume percentage of your total seafood products are sourced from Vancouver Island landed fisheries in particular?
  - a. None
  - b. Less than 25%
  - c. 25% -50%
  - d. 51% - 75%
  - e. More than 75%
  - f. All

- g. Don't know
- 7) Do you list any of your Vancouver Island seafood products as:
- 'Local' or 'Vancouver Island'
  - B.C.
  - Canadian
  - Sustainable (e.g. MSC, SeaChoice, Oceanwise)
  - Organic
  - Other (please specify)
- 8) Please check all OTHER product types that you promote 'local', 'Vancouver Island' or 'B.C.'.
- None
  - Produce
  - Meat
  - Dairy
  - Other (please specify)
- 9) Do you label the country or location of catch on your fresh case (DSD) seafood?
- Yes
  - No
  - Sometimes
- 10) Are your customers increasingly asking for 'local' seafood?
- Yes
  - No
  - Don't know
- 11) In the last five years, has your company INCREASED its volume of Vancouver Island sourced wild fisheries seafood?
- Yes
  - No
- 12) Your company's increase in Island sourced wild fisheries seafood in the last five years is due to: (please check all that apply)
- Demand for 'local' products by customers
  - Greater knowledge, profile and acceptance of the seafood item in the mainstream
  - Competitive pricing to imports
  - Accessibility to the product
  - They are typically more 'sustainable' than some import equivalents
  - The quality is typically better than imports
  - Other (please specify)
- 13) Does your company plan on increasing its number of locally sourced wild seafood in the next five years?
- Yes
  - No
  - Don't know
- 14) Check any boxes that describe any challenges you have when selling Vancouver Island fishery products at your store (vs. an import equivalent)?
- Price (imports are cheaper)
  - Year-round availability challenges
  - Issues with the quality/freshness
  - Volume is not able to keep up with demand
  - Lack of demand for 'local'

- f. Product accessibility from fishermen/supplier
- g. Uncertainty with regulations around sourcing directly from local harvesters
- h. Inconvenient or inefficient access
- i. Other (please specify)

## Appendix IV: Sample Restaurant Survey

- 1) Please check which best describes your business:
  - a. Individual restaurant
  - b. Chain restaurant
  - c. Catering
  - d. Foodservice (e.g. university, hospitals, etc. )
  - e. Other (please specify)
  
- 2) How many different seafood menu items (wild and farmed from all origins) in total does your restaurant sell?
  - a. None
  - b. 1-2 items
  - c. 3-5 items
  - d. More than 5 items
  
- 3) Do you sell the following species? Check all that apply.
  - a. B.C. spot prawns
  - b. U.S. spot prawns
  - c. Imported prawns (e.g. tiger prawns, white shrimp, etc)
  - d. B.C. Pacific sardines
  - e. Imported sardines
  - f. B.C. swimming scallops
  - g. Dredged sea scallops (Canada - East Coast)
  - h. Imported scallops
  - i. B.C. albacore tuna
  - j. U.S. albacore tuna
  - k. Imported ahi tuna (yellowfin or bigeye)
  - l. B.C. sablefish (not trawled)
  - m. U.S. sablefish
  - n. Chilean sea bass
  
- 4) Who do you purchase your seafood from? Check all that apply.
  - a. Larger Distributor (e.g. Sysco, GFS, Albion, etc.)
  - b. Smaller Distributor
  - c. Directly from fishermen
  - d. Community Supported Fishery
  - e. Other (please specify)
  
- 5) Does your seafood supplier provide you with the catch origin of your seafood items?
  - a. Yes, always
  - b. On request
  - c. No
  
- 6) Approximately what percentage of your total seafood menu items are sourced from Vancouver Island landed fisheries in particular?
  - a. None
  - b. Less than 25%
  - c. 25% -50%
  - d. 51% - 75%
  - e. More than 75%
  - f. All
  - g. Don't know
  
- 7) Do you list any of your Vancouver Island seafood menu items as:

- a. 'Local' or 'Vancouver Island'
- b. B.C.
- c. Canadian
- d. Sustainable (e.g. MSC, Ocean Wise)
- e. Organic
- f. Other (please specify)

8) Please check all OTHER menu items that you promote 'local', 'Vancouver Island' or 'B.C.'.

- a. None
- b. Produce
- c. Meat
- d. Dairy
- e. Wine
- f. Other (please specify)

9) Are you currently involved in any local food movements? Please check all that apply.

- a. No
- b. Slowfood
- c. 100-mile diet
- d. Community Supported Agriculture
- e. Other food cooperative
- f. Organics
- g. Buy B.C.
- h. Other (please specify)

10) Are your customers increasingly asking for 'local' seafood?

- a. Yes
- b. No
- c. Don't know

11) In the last five years, has your company INCREASED its volume of Vancouver Island sourced wild fisheries seafood?

- a. Yes
- b. No

12) Your company's increase in Island sourced seafood in the last five years is due to: (check all that apply)

- a. Demand for 'local' products by customers
- b. Greater knowledge, profile and acceptance of the seafood item in the mainstream
- c. Competitive pricing to imports
- d. Accessibility to the product
- e. They are typically more 'sustainable' than some import equivalents
- f. Quality is typically better than imports
- g. Other (please specify)

13) Does your company plan on increasing its number of locally sourced wild seafood in the next five years?

- a. Yes
- b. No
- c. Don't know

14) Check any boxes that describe any challenges you have when selling Vancouver Island fishery products at your restaurant (vs. an import equivalent).

- a. Price (imports are cheaper)
- b. Year-round availability challenges
- c. Issues with the quality/freshness

- d. Volume is not able to keep up with demand
- e. Lack of demand for 'local'
- f. Product accessibility from fishermen/supplier
- g. Inconvenient, inefficient access
- h. Other (please specify)



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