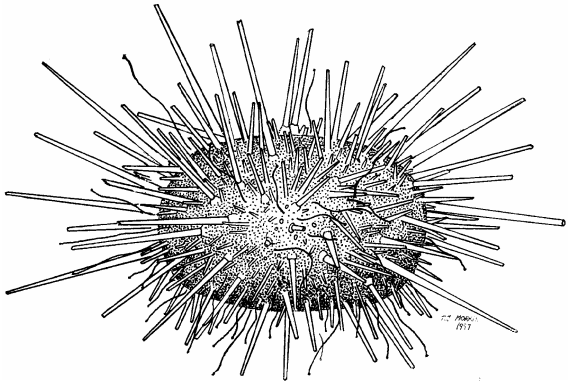
PACIFIC REGION

INTEGRATED FISHERIES MANAGEMENT PLAN

RED SEA URCHIN

AUGUST 1, 2011 TO JULY 31, 2012



Red Sea Urchin: *Strongylocentrotus franciscanus*

Fisheries and Oceans Canada | Pêches et Océans Canada

Canada

This Integrated Fisheries Management Plan is intended for general purposes only. Where there is a discrepancy between the Plan and the Fisheries Act and Regulations, the Act and Regulations are the final authority. A description of Areas and Subareas referenced in this Plan can be found in the Pacific Fishery Management Area Regulations.

FOREWORD

The purpose of this Integrated Fisheries Management Plan (IFMP) is to identify the main objectives and requirements for the Red Sea Urchin fishery in the Pacific Region, as well as the management measures that will be used to achieve these objectives. This document also serves to communicate the basic information on the fishery and its management to Fisheries and Oceans Canada (DFO) staff, legislated co-management boards and other stakeholders. This IFMP provides a common understanding of the basic "rules" for the sustainable management of the fisheries resource.

This IFMP is not a legally binding instrument which can form the basis of a legal challenge. The IFMP can be modified at any time and does not fetter the Minister's discretionary powers set out in the *Fisheries Act*. The Minister can, for reasons of conservation or for any other valid reasons, modify any provision of the IFMP in accordance with the powers granted pursuant to the *Fisheries Act*.

Where DFO is responsible for implementing obligations under land claims agreements, the IFMP will be implemented in a manner consistent with these obligations. In the event that an IFMP is inconsistent with obligations under land claims agreements, the provisions of the land claims agreements will prevail to the extent of the inconsistency.

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ATTACHMENTS

1. OVERVIEW

1.1. Introduction

The 2011/12 Pacific Region Red Sea Urchin Integrated Fisheries Management Plan (IFMP) encompasses the period of August 1, 2011 to July 31, 2012.

The 2011/12 Red Sea Urchin Commercial Harvest Plan is attached as Appendix 1 to this IFMP. Commercial fish harvesters are advised to review the attachments for harvest information.

Additional information on red sea urchins may be accessed through the Department's shellfish webpage at:

www.pac.dfo-mpo.gc.ca/ops/fm/shellfish/default_e.htm

Research Documents and Stock Status Reports for red sea urchins are available at the Centre for Scientific Advice – Pacific (CSAP) webpage:

http://www.pac.dfo-mpo.gc.ca/science/psarc-ceesp/index-eng.htm

1.2. History

A detailed history of the commercial red sea urchin fisheries, showing areas open, quotas, landings, number of participants, number of licences and vessels, values and reasons for management decisions, is contained in annual Post-Season Reviews that are available from a resource manager (see contacts Appendix 13).

The red sea urchin is one of three sea urchin species that have been fished in British Columbia waters. Red and green sea urchins are fished commercially under authority of a limited licence, category "ZC" for reds and category "ZA" for greens. Purple sea urchins were fished under scientific permit from 1990 to 1992.

Red sea urchins are harvested for their gonad (roe). There is no distinction made between male or female gonads, as both are marketed as roe. Commercially harvested red sea urchins are removed from the ocean floor by divers using short aluminum rakes. Packer vessels and trucks deliver the product fresh to plants for processing. The gonad is extracted and processed in British Columbia, and marketed fresh almost exclusively in Japan, where it is sold as "uni." A market for red sea urchins is developing in other Asian countries and in North America. The yield of roe from an urchin ranges from five to fifteen percent of total body weight.

Red sea urchins are important to coastal First Nations, who harvest them for food, social and ceremonial purposes. Harvesting is mainly opportunistic associated with extreme tides. Recreational harvest of red sea urchins is undocumented but is considered minimal.

The commercial red sea urchin dive fishery began in the 1970s and grew rapidly after 1982. The fishery continues to be managed under a regime that includes limited entry licensing, a minimum size limit, harvest quotas, area licensing, and an individual quota (IQ) program. There are one hundred and ten (110) licence eligibilities for this fishery. Historically red sea urchin individual quotas were set at 1/110 of the annual coast-wide commercial TAC and harvesters were required to select one of two licence areas in which to fish. For the 2007/08 fishing season, the Pacific Urchin

Harvesters Association (PUHA) recommended that individual quotas for the north and south coast differ, with IQ numbers set based on the number of licences selected in each area. This will continue for the 2011/12 season. These management tools are described in more detail in the commercial harvest plan (Appendix 1).

1.3. Type of Fishery and Participants

1.3.1. First Nations

Aboriginal harvest for food, social and ceremonial (FSC) purposes may occur coastwide where authorized by a communal licence. Red sea urchins are important to First Nations groups, who harvest them for food, social and ceremonial purposes. The number of Aboriginal harvesters for red sea urchins is unknown.

1.3.2. Recreational

A recreational fishery may occur coastwide. A British Columbia Tidal Waters Sport Fishing Licence is required for the recreational harvest of all species of fish including shellfish. Tidal Waters Sport Fishing Licences can be purchased at many tackle stores and marinas or online by using the DFO website:

http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/licence-permis/index-eng.htm

The Tidal Waters licence includes access to numerous species, and the number of recreational harvesters taking advantage of the bag limit for red sea urchins is unknown.

The fishing effort by recreational harvesters is thought to be minimal.

1.3.3. Commercial

Red sea urchins are harvested commercially by divers. There are 110 commercial licences.

1.3.4. Aquaculture

See the Fisheries and Oceans Canada Aquaculture website at:

http://www.dfo-mpo.gc.ca/aquaculture/aquaculture-eng.htm

1.4. Location of Fishery

1.4.1. First Nations and Recreational

Aboriginal and recreational harvest may occur coastwide, where appropriately licensed.

1.4.2. Commercial

With the exception of permanent closures for various purposes (see Appendix 1, Section 6), the current commercial fishery occurs coastwide in units called Quota Areas. These Management Areas are a defined portion of Pacific fisheries waters. Areas and Subareas, as described in the *Pacific Fishery Management Area Regulations*, are referenced in describing each management area. (see Appendices 8 and 9).

1.5. Fishery Characteristics

1.5.1. First Nations

First Nations harvest for food, social and ceremonial purposes may be open year round and is limited to the gear specified in the communal licence.

1.5.2. Recreational

The recreational fishery is open year round and is limited to hand picking.

1.5.3. Commercial

The commercial licence year is from August 1 to July 31. The fishery may open and close based on market demand and completion of area quotas. Harvest is by hand picking while diving.

The fishery operates under a Total Allowable Catch (TAC) with Individual Quotas (IQ).

Prior to 2007 Red Sea Urchin IQs were set at 1/110 of the coastwide TAC. For 2011/12 the PUHA has recommended to the Department that individual quotas between the north and south coast differ based on the number of licences choosing to apply in each area. A licence area selection process was conducted to allow all licence eligibility holders to select their preferred area for the 2011/12 season.

1.6. Governance

The *Fisheries Act* and the regulations made thereunder.

- Areas and Subareas, as described in the *Pacific Fishery Management Area Regulations*, are referenced in describing Red Sea Urchin Management Areas.
- Fishery (General) Regulations (i.e. Conditions of Licence) and the Pacific Fishery Regulations, 1993 (i.e. open times).
- The British Columbia Sport Fishing Regulations (1996) and the Aboriginal Communal Fishing Licences Regulations.
- The Oceans Act.
- The Species at Risk Act.

These documents are available on the Internet at:

http://www.pac.dfo-mpo.gc.ca/ops/fm/toppages/actreg_e.htm

In addition, the new national Sustainable Fisheries Framework contains policies for adopting an ecosystem based approach to fisheries management including:

- Managing Impacts of Fishing on Benthic Habitat, Communities and Species;
- Policy on New Fisheries for Forage Species.

Along with existing economic and shared stewardship policies, these will help the department meet objectives for long-term sustainability, economic prosperity, and improved governance. See the Internet at:

http://www.dfo-mpo.gc.ca/fm-gp/peches-fisheries/fish-ren-peche/sff-cpd/overview-cadre-eng.htm

The Canadian Science Advisory Secretariat (CSAS) is the national group which oversees the provision of scientific advice for this fishery. Regionally, the Centre for Science Advice Pacific (CSAP) is the body which provides peer-reviewed advice though the Regional Advisory Process (RAP). See the internet at

http://www.dfo-mpo.gc.ca/csas/Csas/Home-Accueil_e.htm

The Red Sea Urchin Sectoral Committee is the primary body guiding management decision-making processes for this fishery. Others include a Research Subcommittee. See Appendix 12.

1.7. Approval Process

The Regional Director General for the Pacific Region approves this plan.

2. STOCK ASSESSMENT, SCIENCE AND TRADITIONAL KNOWLEDGE

2.1 Red Sea Urchin

2.1.1. Biological Synopsis

Red sea urchins occur in waters from Baja California to Alaska, and from the Aleutian Islands to Hokkaido Island, Japan. The largest of five species of sea urchins occurring in BC, the red sea urchin is usually found on rocky substrates in shallow water areas of moderate to strong currents, typically from the intertidal zones to depths of 50 metres, although some individuals occur as deep as 125 metres.

Red sea urchins have separate sexes, mature at about 50 mm test diameter (TD), and recruit into the fishery at 90 mm TD. Reproduction occurs annually with timing of the spawning season varying from March to September depending on local environmental conditions such as food availability and temperature. Gonads increase in size usually from September to January. Mature males and females release eggs and sperm into the water and fertilization success will depend on local density of adults and dilution of gametes. The larvae are planktonic for 6 to 9 weeks prior to settlement on suitable habitat. Juvenile (4-50 mm TD) abundance is usually highest when associated with the spine canopy of adults as a refuge from predators. This juvenile-adult association may be important to the recruitment success of juveniles to legal size.

2.1.2. Ecosystem Interactions

Sea urchins graze on attached or drift seaweed and kelp. They have specialized jaws consisting of five teeth with which they eat plant material. Red sea urchins are often found in aggregations whose combined feeding activities can remove all large plant material from the rocks, including kelp forests. These 'urchin barrens' can have detrimental effects on kelp forests and on other herbivores that compete for the same food resources.

Sea urchins are eaten by some sea stars and crabs, although large adults appear to be less susceptible to predation by virtue of their size and have fewer predators. Sea urchins are a main food source for sea otters and even the largest sea urchins are eaten by these marine mammals which crack them open with rocks.

The presence of sea urchins is also considered a habitat attribute for northern abalone in British Columbia (COSEWIC Assessment and Update Status Report on the Northern Abalone 2009).

Abalone larval settlement is thought to occur on encrusting coralline algae. The layer of encrusting algae may be maintained by sea urchins and other herbivores which, by grazing, prevent the growth and settlement of algae and sessile invertebrates. On the other hand, adult abalone compete for food resources with red sea urchins.

2.1.3. Aboriginal Traditional Knowledge/Traditional Ecological Knowledge

Aboriginal Traditional Knowledge is not generally available.

Traditional Ecological Knowledge in the form of observations and comments collected from commercial divers and On-Grounds Monitors over many years contributes to the decisions on scientific survey locations and is considered in management decisions.

2.1.4. Stock Assessment

Fisheries and Oceans Canada, PUHA and First Nations joint stock assessment activities continue coastwide through biomass transect surveys, experimental harvest sites and selected study sites. The PUHA co-ordinates vessel and diver participation in surveys with First Nations' communities. Fisheries and Oceans Canada develops the survey protocol, participates in the surveys and conducts the data analysis. The main survey goals are to estimate density and size frequencies of select populations to prove and/or adjust quotas accordingly, while other studies investigate growth and recruitment potential of red sea urchins. Scientific research and stock assessment surveys are of vital importance to this fishery as it continues to be managed guided by the Precautionary Approach to Canadian Fisheries.

2.1.5. Stock Scenarios

There is no indication of concern for red sea urchin stocks at this time. The red sea urchin fishery is managed conservatively, and apart from a few areas which have been closed or quotas reduced because populations have declined, stocks generally appear healthy. A precautionary approach to management, which ensures the Department is meeting its conservation goals, will continue for the foreseeable future. This, in turn, will ensure sustainable harvests by all user groups. The long-term goal of the Department is to increase the biological basis of the management regime through continued research on the red sea urchin resource. This will be accomplished through a collaborative process involving the commercial industry, First Nations' organizations and others with an interest in the resource.

Sea otter populations are expanding in B.C. and as sea otters are a major predator on red sea urchins, they are expected to have impacts on the populations in some areas of the coast. The main sea otter populations exist along the outer exposed areas of Vancouver Island and the central portion of the mainland coast. Some red urchin quota areas have had quotas reduced or have been closed due to insufficient densities of urchins.

2.1.6. Precautionary Approach

The Department has recently implemented the Sustainable Fisheries Framework (SFF), which is a toolbox of existing and new policies to include ecosystem linkages in the sustainable management of Canadian fisheries in order to conserve the marine environment and fish stocks and to support prosperous fisheries.

Fisheries worldwide are under increasing pressure, creating challenges for policy makers, resource managers, and industry leaders to make informed decisions regarding the conservation, recovery,

and wise management of these resources. DFO held consultations throughout Canada in 2007 and 2008 to develop strategies to consider ecosystem pressures and enhance the capacity of the resource to sustain growing industry needs. New conservation policies have been developed to implement the precautionary approach to fisheries management. These new policies, incorporated into development of new Integrated Fisheries Management Plan (IFMP) templates, will join existing policies in a framework to promote sustainable fisheries.

The new *fishery decision-making framework incorporating the precautionary approach* policy (http://www.dfo-mpo.gc.ca/fm-gp/peches-fisheries/fish-ren-peche/sff-cpd/precaution-eng.htm) applies to key harvested fish stocks managed by DFO, including commercial, recreational, or subsistence fisheries. The framework requires that a harvest strategy be incorporated into respective fisheries management plans to keep the harvest rate moderate when the stock status is healthy, to reduce pressure and promote rebuilding when stock status is low, and to ensure a low risk of serious or irreversible harm to the stock.

In general, the *precautionary approach* in fisheries management is about being cautious when scientific knowledge is uncertain, and not using the absence of adequate scientific information as a reason to postpone or fail to take action to avoid serious harm to fish stocks or their ecosystem. This approach is widely accepted as an essential part of a sustainable fisheries management.

Applying the precautionary approach to fisheries management decisions entails establishing a harvest strategy that:

- identifies three stock status zones – healthy, cautious, and critical – defined by upper stock reference points and limit reference points;
- sets an appropriate harvest rate within each stock status zone; and
- adjusts the harvest rate according to fish stock status variations (i.e., spawning stock biomass or another index/metric relevant to population productivity), based on pre-agreed decision rules.

The Department plans to review the existing assessment framework for the red sea urchin fishery against the new policy. There are currently no established limit reference points for the red sea urchin fishery.

2.1.7. Research

Investigations into aspects of red sea urchin biology, including age, growth, natural mortality, recruitment and migration, are ongoing. This information is needed in support of the management of the species and to ensure conservation and sustainable harvests in this fishery.

The goal of the Research Subcommittee of the Red Sea Urchin Sectoral Committee is to identify research priorities and coordinate biological investigations. These include biomass surveys in various locations of the BC coast, and experimental harvest and study areas where populations are manipulated to examine urchin growth, migration and recruitment.

Fisheries and Oceans Canada continues to conduct collaborative research projects with the PUHA, First Nations and others interested in the resource. These research projects have been perpetually threatened by lack of resources and the groups have ongoing discussions about how to prioritize and combine efforts in order to accomplish as much as possible.

3. SOCIAL, CULTURAL AND ECONOMIC IMPORTANCE

3.1. Socio-Economic Profile

The Pacific Region has the only commercial red sea urchin fishery within Canada. Red sea urchins are harvested by divers and delivered to processing plants where the roe is extracted, treated and sold in Japan, Europe and North America as "Uni". Yields of roe from whole sea urchins range from 5 to 15%. Food availability in the wild is an important factor in determining quality of roe for market. The Japanese are the largest consumers of urchin roe and the majority of BC product is shipped there. BC roe is also shipped to Europe and some harvesters have been selling small amounts of live urchins to the public and to local restaurants.

The Canadian industry has multiple competitors, with the largest being the Illegal, Unregulated, Unreported (IUU) fishery in Russia. Russian urchins are fished close to Japan and are delivered to market fresher and are sold cheaper than the higher priced BC roe.

There are also commercial red sea urchin fisheries in California, Washington, Oregon and Alaska.

In British Columbia:

- The majority of the quota (approximately 84%) is in the north coast licence area.
- Coastwide landings of red sea urchin peaked in 1992 at approximately 28.6 million pounds.
- The coastwide red sea urchin TAC has remained relatively constant since 2000, with a slight decrease in 2007 due to a change in biomass estimation models. Until the 2005/06 season, the majority of the coastwide TAC was harvested, however, since then annual landings have dropped by over half.
- The commercial industry has identified sea otters as the single largest threat to sustainability of the fishery. It is believed by urchin harvesters that sea otters and commercial sea urchin harvesting cannot co-exist.
- There is limited recreational and First Nations fisheries for red sea urchin.

3.2. Viability and Market Trends

The best roe comes from sea urchins harvested between October and May, after which the quality decreases as the sea urchins begin to spawn. The fishery operates usually from August to May with the highest market demand being between December and March.

3.3. Processing & Exporting

Red sea urchins are harvested for their reproductive organs (gonad), or "roe". Male and female gonads are both sold as roe and are not distinguished between. Red sea urchins are shipped live by truck to Vancouver processing plants where processors break open the shell (test) to remove the roe. Roe is placed in shallow trays and exported to Japan where it is labelled as "uni". The roe must arrive on the Japanese market fresh, especially as a garnish for sushi. Some roe is frozen and exported to European markets but the majority of BC product is exported to Japan. In recent years urchin exporters have been developing a live urchin market in China and Hong Kong. The domestic market for red sea urchin roe is small.

4. MANAGEMENT ISSUES

The following sections highlight the on-going, or longer-term, management issues that are being addressed in this fishery. Specific management objectives designed to mitigate these issues are detailed in Section 5. There are few immediate, or annual, management issues that need addressing; however, when short-term issues arise, they will be detailed in this section.

4.1. First Nations

The level of First Nations' harvest of red sea urchin for food, social and ceremonial purposes is unknown at this time. Catch monitoring programs are being developed in collaboration with some Aboriginal organizations.

4.2. Recreational

The level of recreational harvest of red sea urchins is unknown at this time, although it is generally accepted to be minimal. Catch monitoring programs for all sport caught fish are being developed in collaboration with recreational fishery organizations, and any information on red sea urchins will be included in the compilation.

4.3. Commercial

Collection of Biological Information: An understanding of the biology of red sea urchins and the impacts of the commercial harvest on red sea urchin populations is needed to support red sea urchin fishery management and ensure continued the conservation and sustainable harvests in this fishery.

Russian IUU Fishery: The main issue affecting the BC sea urchin industry is the increased supply of urchins to Japan, particularly from the Russian IUU fishery. Russia is closer to Japan and can deliver fresher roe to the Japanese market. The roe is also sold cheaper, as the illegal Russian fishery does not have the associated management, stock assessment and shipping costs that other suppliers have. The Japanese market is currently better suited to a low grade, low value product so BC is often excluded from the marketplace because of its higher prices.

Reduced Participation in the Commercial Fishery: A direct result of the increased competition in the Japanese market has been that annual landings of red sea urchins have fallen dramatically. In the 2008/09 season only 42% of the coastwide TAC was landed and only 62 of 110 licences were fished. With fewer and fewer licences being renewed and fished, association fees paid to the PUHA have fallen. The PUHA collects association fees from licence holders in order to fund the Dockside Monitoring Program (DMP) and other association costs. In response to the reduced participation in the fishery, the PUHA has had to cut costs which resulted in the Department's suspension of the On-Grounds Monitoring program in 2007. In order to encourage participation in the fishery, PUHA suggested that DFO remove the limit on the number of licences that are able to fish in each licence area, since the south coast is a more desirable place to fish. This has resulted in unequal IQs between the north coast and south coast licence areas.

Effects of Sea Otters on Commercial Red Sea Urchin Harvesting: The commercial industry has identified sea otters as one of their concerns for the future sustainability of the fishery. Sea otter populations are expanding in British Columbia and, because they are major predators on red sea urchins, are having an impact on the fishery. As a result, the Department has had to consider sea

otters in the management of the red sea urchin resource. For example, some quota areas on the West Coast of Vancouver Island and the Central Coast have had reductions in quota or have been closed because commercially harvestable densities of red sea urchins no longer exist in areas occupied by sea otters.

Commercial Fishery Incidental Mortalities: Methods to quantify commercial fishery-induced mortalities (e.g. loss through testing of quality prior to harvest, breakage during harvest and through sorting on deck, dumping of undersize product, breakage during transport) are required and need to be incorporated into the red sea urchin stock assessment in order to ensure sustainable harvest levels.

Managing Urchin Water Loss: When urchins are harvested they are transported out of water to be validated and shipped. Water drains out of an urchin's test over time resulting in a reduction to individual weight. Product that takes longer to transport to port will weigh less than product that is weighed immediately after removal from the water. This issue has implications for red sea urchin management since urchin quotas and landings are based on weight estimates. Studies are needed to look closer at red sea urchin water loss.

Managing the Commercial Fishery to an Appropriate Scale: The current management regime does not fully address the distribution of fishing effort, quality-oriented harvest, continuous market supply, and maintaining competitive access to the Japanese market. DFO works collaboratively with the PUHA to make annual improvements to the management regime. Quota Area boundaries are reassessed every year, and changes are made when necessary to redistribute effort.

Monitoring the Commercial Fishery: The PUHA and the Department are working together to increase monitoring for the north coast fishery. Due to the large coastal area and the frequency of movement of the north coast fleet, vessels can be difficult to find for fishery officers. Time and money are wasted in efforts to locate vessels in the fleet. To address these issues the PUHA will pilot a Vessel Monitoring System (VMS) on the On-Grounds Communicator (OGC) vessels for the 2011/12 north coast fishery. The VMS will send near real-time location information to fishery managers and fishery officers, making planning enforcement patrols more efficient. The goal in the future is to have a VMS unit on every commercial red sea urchin vessel coastwide.

4.4. Depleted Species Concerns

The Red Sea Urchin fishery is a selective fishery and there are no concerns or potential impacts on depleted species.

4.5. Oceans and Habitat Considerations

In 1997, the Government of Canada enacted the *Oceans Act*. This legislation provides a foundation for an integrated and balanced national oceans policy framework supported by regional management and implementation strategies. In 2002, Canada's Oceans Strategy was released to provide the policy framework and strategic approach for modern oceans management in estuarine, coastal, and marine ecosystems. As set out in the *Oceans Act*, the strategy is based on the three principles of sustainable development, integrated management, and the precautionary approach.

PNCIMA: As part of Canada's Oceans Strategy, DFO is initiating an integrated management planning process for the Pacific North Coast Integrated Management Area (PNCIMA). The PNCIMA is bounded by the BC-Alaska border, the base of the shelf slope and the mainland,

stretching south as far as Campbell River and the Brooks Peninsula. The PNCIMA initiative marks a shift toward a broader ecosystem approach to ocean management. This is consistent with the Government of Canada's overall direction and with Fisheries and Oceans Canada's new Wild Salmon Policy. The PNCIMA initiative will bring the area's stakeholders together to develop an integrated management plan for the region that achieves conservation, sustainable resource use, and economic development goals for oceans and coastal areas. The PNCIMA initiative will also function as an umbrella for various ocean management processes, complementing and linking existing processes and tools, including IFMPs.

Marine Protected Areas (MPAs): DFO is also responsible for designating Marine Protected Areas (MPAs) under Canada's *Oceans Act*. Under this authority, DFO has designated two MPAs in the Pacific Region. The Endeavour Hydrothermal Vents, designated in 2003, lie in waters 2,250m deep 250 km southwest of Vancouver Island. The Bowie Seamount, designated in 2008, is 180 km west of Queen Charlotte Islands (Haida Gwaii) rising from a depth of over 3,000 m to within 25 m of the sea surface. Work is ongoing to consider MPA designations for other areas along the Pacific Coast, including the Race Rocks area off Rocky Point south of Victoria (currently designated as a Provincial Ecological Reserve) and the Hecate Strait / Queen Charlotte Sound Glass Sponge Reefs.

National Marine Conservation Areas (NMCAs): The Canada *National Marine Conservation Areas Act* provides for the establishment of National Marine Conservation Areas (NMCAs). Parks Canada, DFO and the Council of the Haida Nation are currently working together to establish the Gwaii Haanas NMCA through the exchange of information on marine resources, fisheries and cultural data and coordinated consultations. Following establishment, measures respecting the management of the Gwaii Haanas NMCA will be articulated in future IFMPs.

DFO is also working with other federal and provincial agencies to coordinate efforts towards establishing a national system of Marine Protected Areas to fulfill Canada's commitments to the UN Convention on Biological Diversity.

More information on integrated management planning and Pacific MPAs under Canada's *Oceans Act* can be found at:

http://www.pac.dfo-mpo.gc.ca/oceans/index-eng.htm

Coldwater Coral and Sponge Conservation Strategy: DFO is working with other federal and provincial agencies, First Nations, and stakeholders to develop a coldwater coral and sponge conservation strategy for the Pacific Coast. The Strategy outlines the Department's approach to the management of corals and sponges along Canada's Pacific coast. Fishing activities will be evaluated against the Department's national policy for *Managing the Impacts of Fishing on Sensitive Benthic Areas*.

4.6. Gear Impacts

Fishing for red sea urchins occurs in less than 18 m depth by divers who use short aluminum hand rakes to scoop urchins into large mesh bags which are periodically hauled to a surface vessel. Gear impacts on the benthic environment are believed to be negligible.

5. FISHERY OBJECTIVES

Sections 5.1 to 5.3 outline the "longer term" objectives for this and other invertebrate fisheries in BC. Section 5.4 describes the species-specific and "shorter term" objectives for red sea urchins.

5.1. National

DFO aims to:

- Meet conservation objectives and ensure healthy and productive fisheries and ecosystems;
- Manage fisheries to provide opportunities for economic prosperity;
- Provide stability, transparency, and predictability in fisheries management and improved governance.

5.2. Pacific Region

In 1994, the Biological Objectives Working Group of the Pacific Scientific Advice Review Committee (PSARC) identified three biological objectives for management of Pacific Region fish and invertebrate stocks (Rice et al. 1995):

- Ensure that subpopulations over as broad a geographical and ecological range as possible do not become biologically threatened (in the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) sense of "threatened").
- Operationally, the above objective requires at least that management allow enough spawners to survive, after accounting for all sources of mortality (including all fisheries and natural mortality), to ensure production of enough progeny that they will, themselves, be able to replace themselves when mature.
- Fisheries may have collateral effects on other species, mediated by the ecological relationships of the target species. Fisheries should be managed in ways that do not violate the above objectives for ecologically related species, as well as target species.

The objectives remain relevant today, particularly in light of development of the national objectives around sustainable fisheries.

5.3. Invertebrate Resource Management

Management goals and objectives have been defined for invertebrate fisheries in annual management plans produced by the Department since 1990. The management goals and objectives, as written by Invertebrate Fisheries Management and revised in 1997, are:

- To ensure conservation and protection of invertebrate stocks and their habitat through the application of scientific management principles applied in a risk averse and precautionary manner based on the best scientific advice available.
- To meet the federal Crown's obligations regarding aboriginal fisheries for food, social and ceremonial purposes.
- To develop sustainable fisheries through partnership and co-management arrangements with client groups and stakeholders to share in decision making, responsibilities, costs, and benefits.
- To develop fishing plans and co-operative research programs which will contribute to improving the knowledge base and understanding of the resource.

- To consider the goals of stakeholders with respect to social, cultural and economic value of the fishery.
- To consider health and safety in the development and implementation of management plans, fishery openings and closures.
- To consider opportunity for the development of the aquaculture industry.
- To provide opportunities for a recreational fishery.

5.4. Red Sea Urchin

5.4.1. Stock Conservation

An understanding of the biology of red sea urchins and the impacts of commercial harvest on red sea urchin populations is needed to ensure continued conservation and sustainable harvests in this fishery. The goal of the Research Subcommittee of the Sectoral Committee (consisting of PUHA, First Nations organizations and the Department) is to continue to plan and prioritize biological investigations. These include transect surveys in various locations of the British Columbia coast to estimate biomass and experimental harvest study areas where populations are manipulated to examine urchin age, growth, survival and recruitment in response to different exploitation rates. To date, PUHA has conducted numerous collaborative studies with Fisheries and Oceans Canada and some local First Nations. See the Post-Season Review, available from Resource Managers, for more details.

5.4.2. Sustainability

Two primary issues are of particular concern when considering the sustainability of the red sea urchin fishery. The first is the presence of sea otters in areas where the red sea urchin fishery occurs; the second is the appropriateness of the management objectives above.

5.4.3. Social, Cultural and Economic Considerations

5.4.3.1. First Nations

The Department will continue to provide opportunities for First Nations to harvest fish for food, social and ceremonial purposes, in a manner consistent with the decision of the Supreme Court of Canada in the *Sparrow Decision*, and other court decisions. For more information, see the Internet at: http://www.pac.dfo-mpo.gc.ca/abor-autoc/index-eng.htm or see Appendix 2.

5.4.3.2. Recreational

The Department will continue to provide opportunities for a recreational fishery for red sea urchins. For more information, see Appendix 3

5.4.3.3. Commercial

The Department will continue to work collaboratively with Industry, First Nations organizations and other stakeholders to ensure conservation and sustainability of the red sea urchin resource and fishery. Management of the red sea urchin resource will progress from a precautionary regime to one based on better biological information, through assessment and application of data collected from harvest logs, population surveys, and research areas.

5.4.3.4. Aquaculture and Enhancement

In November 2010 the Canadian Council of Fisheries and Aquaculture Ministers endorsed the National Aquaculture Strategic Action Plan Initiative (NASAPI) to enhance and advance economically, environmentally and socially sustainable aquaculture in Canada. NASAPI identifies three key areas for action: Governance; social license and reporting; and productivity and competitiveness. Specific action plans for each of the key areas have been developed through consultations with all levels of government, First Nations, Industry, Stakeholders and other interested parties. The five year action plan specific to shellfish aquaculture in British Columbia is outlined in the NASAPI West Coast Shellfish Sector 2011-2015, which was released in December 2010.

For more information on NASAPI:

http://www.dfo-mpo.gc.ca/aquaculture/lib-bib/nasapi-inpasa/index-eng.htm

In May 2004 Fisheries and Oceans Canada released the "National Policy on Access to Wild Aquatic Resources As it Applies to Aquaculture" to facilitate access to wild fish and aquatic plant resources for aquaculture purposes to support sustainable development of the industry. The policy is available from the following website:

http://www.dfo-mpo.gc.ca/aquaculture/aquaculture-eng.htm

In 2009, the British Columbia Supreme Court (BCSC) ruled that the activity of aquaculture is a fishery which falls under exclusive federal jurisdiction pursuant to sub-section 91(12) of the Constitution Act, 1867 – Sea Coast and Inland Fisheries and, in effect, struck down substantial portions of the provincial regulatory regime governing aquaculture. In response to the BCSC decision, the Minister of Fisheries and Oceans has confirmed the commitment of the Government of Canada to establish a federal regulatory regime governing aquaculture pursuant to the *Fisheries Act* in the geographic area of British Columbia.

On December 19, 2010 DFO assumed the role of lead federal department for sustainable management of fisheries and aquaculture. Under the *Fisheries Act* the *Pacific Aquaculture Regulations* and the *Fishery General Regulations* will govern finfish, shellfish and freshwater aquaculture operations in BC. Cultivation of fish within the province will require a federal aquaculture licence issued under the *Pacific Aquaculture Regulations*, and, where applicable, a federal *Navigable Waters Protection Act* permit and a provincial Crown Lands tenure. Other government agency approvals may also be necessary.

To view the Pacific Aquaculture Regulations, beginning on page 2327:

http://canadagazette.gc.ca/rp-pr/p2/2010/2010-12-08/pdf/g2-14425.pdf

As part of the new aquaculture regulatory framework in British Columbia, DFO is developing Integrated Management of Aquaculture Plans (IMAPs). IMAPS will be modelled after Integrated Fisheries Management Plans, which are used to govern wild harvest fisheries. Consultations with First Nations, interested parties, and stakeholders will be important to the IMAP development

process, allowing for the integration of advice, as well as environmental and social interests, into the management objectives for each aquaculture sector.

For further information refer to the following web link: http://www.dfo-mpo.gc.ca/aquaculture/aquaculture-eng.htm

6. ACCESS AND ALLOCATION

The minister can, for reasons of conservation or for any other valid reasons, modify access, allocations, and sharing arrangements as outlined in this IFMP in accordance with the powers granted pursuant to the *Fisheries Act.*

6.1. First Nations

Fisheries and Oceans Canada provides opportunities for First Nations access to the fishery for food, social and ceremonial purposes. The Department will continue to provide opportunities for First Nations to harvest fish for food, social and ceremonial purposes, in a manner consistent with the decision of the Supreme Court of Canada in *Sparrow*, and other decisions. See the Internet for more information at:

http://www.pac.dfo-mpo.gc.ca/abor-autoc/index-eng.htm

Under the commercial IQ program, two percent of the coast-wide TAC for red sea urchins is reserved for First Nations fisheries for food, social and ceremonial purposes. Additional allocations of red sea urchins will be provided to First Nations who demonstrate that their food, social and ceremonial needs are not being met. Fisheries and Oceans Canada is confident that with the precautionary approach to this fishery, the reserved allocation of TAC, and the provision of additional allocations, where necessary, First Nations in all areas will have sufficient opportunities to harvest red sea urchins for food, social and ceremonial purposes.

6.2. Recreational

The daily limit for sea urchins (all species) is 12 with a possession limit of 24.

6.3. Commercial

The commercial red sea urchin total allowable catch (TAC) for 2011/12 is 10,016,000 pounds. The commercial TAC provides for an Individual Quota (IQ) of 145,052 pounds for the north coast licence area and 30,827 pounds for the south coast licence area.

6.4. Aquaculture and Enhancement

The first priority in managing fish stocks is conservation, followed by First Nations obligations. Beyond that, the needs of aquaculturalists will be given equitable consideration to those of other users in the commercial and recreational sectors.

DFO will aim to facilitate access for relatively low numbers of wild juvenile or adult fish for limited time periods (e.g., for broodstock development), where populations would face insignificant to low risk from the additional harvest pressure (DFO 2004).

7. MANAGEMENT MEASURES FOR THE DURATION OF THE PLAN

See the Harvest Plans, Appendix 1 to 3 for detail on the following:

- Total Allowable Catch (TAC);
- Fishing Season/Areas;
- Control and Monitoring of Removals
- Licencing

8. SHARED STEWARDSHIP ARRANGEMENTS

8.1. Commercial

An annual Joint Project Agreement (JPA) details the working relationship between the Department and the PUHA. This JPA requires an annual work plan of activities related to the commercial red sea urchin fishery that are to be accomplished by both parties and the annual financial contributions of each party to the red sea urchin science, management and enforcement programs. In 2010, the total cost for the Department to manage the red sea urchin fishery was estimated to be $290,300.

Other PUHA funded projects identified in the JPA include undertaking surveys for stock assessment purposes and a coastwide dockside monitoring program. The total cost to the PUHA of these programs in 2010 was estimated at $562,000.

Several coastal First Nations contribute time and expertise through collaborative research surveys with the PUHA and the Department by providing biologists, vessels, and divers.

8.2. Fisheries and Oceans Canada

Two Stock Assessment and two Resource Management personnel are directly involved in this fishery. Contributions to the IFMP are provided by the Fisheries Management Directorate, the Science Branch, the Shellfish Data Unit, the Conservation and Protection Directorate, the Pacific Fishery Licence Unit, the Treaty and Aboriginal Policy Directorate, the Recreational Fisheries Division, the Oceans Directorate and numerous administrative personnel. Generally, all personnel are multi-tasked, i.e. fishery managers work on all dive fisheries.

9. COMPLIANCE PLAN

9.1. Overview

The enforcement policy and activities of the Department are the responsibility of the Conservation and Protection program (C&P). Fishery officers and marine enforcement officers working throughout the Pacific Region carry out enforcement activities for the C&P program. First Nations fishery guardians assist DFO Fishery Officers in a number of locations where joint enforcement protocols are in place. Observers designated by the Department and contracted by the PUHA, complement enforcement staff by performing a monitoring and verification function.

Enforcement of the red sea urchin fishery will remain a low priority to Fisheries and Oceans Canada. C&P staff will pursue opportunities to monitor and enforce issues and problems related to

this fishery in conjunction with the monitoring and enforcement activities dedicated to the identified priority fisheries in the Pacific Region. This industry is mostly self-enforcing and, because of the present management principles, conservation is not an issue.

9.2. Main Program Activities

9.2.1. In-season

Boardings are conducted by at-sea fishery officers operating program vessels and marine enforcement officers operating Canadian Coast Guard (CCG) vessels.

Commerical fishing vessels are boarded and checks are conducted for licensing of the vessel and participants, tagging of harvested product and harvest log completion.

Underwater harvest activity is observed by fishery officers trained in the use of SCUBA. On dive patrols fishery officers check for the harvest of prohibited species and for incidences of dumped product.

9.2.2. Dockside Monitoring

Commercial vessels and packer vessels are checked at dockside to ensure compliance with Conditions of Licence and verification of all catch.

9.2.3. Vehicle Inspection

Transport trucks are inspected during fishing seasons in concert with other enforcement agencies; they can be inspected at plants, loading and offload sites, and other control points.

9.2.4. Fishery Patrol Vessels

All at-sea patrols will be conducted using CCG patrol vessels staffed with marine enforcement officers and/or fishery officers, and program vessels (primarily seven metre rigid hull inflatable boats), with fishery officers on board.

9.2.5. Air Surveillance

Patrol coverage using charter aircraft is utilized by Fisheries and Oceans Canada to identify concentrations and distribution of fishing effort. In large geographical areas this allows for a better utilization of C&P resources.

Flight reports, photographs, and other data collected from over flights are readily available to Departmental managers and fishery officers through an intranet-based flight information system. Digital images of vessels will be collected and added to a web-based licence system, providing fishery officers ready access to recent vessel photographs to assist in field identification.

9.3. Enforcement Issues and Strategies

In the following table: PFR: Pacific Fisheries Regulations, 1993, F(G)R: Fisheries (General) Regulations, S: Section.

Issue	Section	Strategy

Issue	Section	Strategy
Licensing Verification • Vessel licensed. • Experimental licence. • No Fisher Registration Card (FRC). • Fail to produce FRC.	PFR S.22 F(G)R S.52 F(G)R S.68(1) PFR S.25 F(G)R S.11	At-sea and dockside inspections will occur when opportunities exist. These inspections may include checks of all licensing documents on board the vessel to ensure compliance with the regulations.
Fishing during closed time/area.	PFR S.63	Patrols utilizing patrol vessels will be pursued when opportunities exist. Possibilities may exist to use the regional enforcement charter aircraft in co-ordination with other patrols scheduled for priority fisheries.
Size Limit	PFR S 70(1)	At sea and dockside inspections will be pursued when opportunities exist.
Fail to provide proper landing and hail information, lack of notification for change of area, cancellation of trip, or incorrect reporting of area fished.	F(G)R S.22(7)	At sea and dockside inspections will occur when opportunities exist. Investigations will occur on an opportunistic basis after C&P have been notified by fisheries management that a violation has occurred. The investigation will be pursued when larger priorities permit. Possibilities may exist to use the regional enforcement charter aircraft in co-ordination with other patrols scheduled for priority fisheries, to track vessels in the fishery.
Fail to maintain a Validation & Harvest Logbook.	F(G)R S.22(7)	At sea and dockside inspections will occur when opportunities exist. Investigations may also occur on an opportunistic basis after C&P have been notified by fisheries management that a violation has occurred. The investigation will be pursued when larger priorities permit.
Marking and tagging of pick bags, and any other type of enclosures containing harvested red sea urchins.	F(G)R S.22(7)	At sea and dockside inspections will occur when opportunities exist.
Landings validated at time of offloading.	F(G)R S.22(7)	Dockside inspections and monitoring will be pursued when opportunities exist.

10. PERFORMANCE REVIEW

10.1. Management Plan Evaluation Criteria

10.1.1. Pacific Region Objectives

- Were adequate steps taken to insure that red sea urchin stocks are not biologically threatened?
- Were there enough spawners to provide replacement progeny?
- Were stocks managed so as to have no collateral ecological effects?

10.1.2. Invertebrate Resource Management Objectives

- Were goals for conservation and protection of red sea urchin stocks and their habitat met?
- Did the Department meet the food, social and ceremonial needs of First Nations with respect to red sea urchins?
- Were co-management goals achieved?
- What opportunities for aquaculture development were provided?
- What opportunities for a recreational fishery were provided?

10.1.3. Red Sea Urchin Objectives

- Were there advances in the understanding of oceans and aquatic resources relative to red sea urchins? How many research and survey activities were conducted?
- Did the commercial Dockside Monitoring Program function appropriately, and what advances in catch monitoring for other sectors were made?

10.1.4. Current Red Sea Urchin Management Issues

- Have any advances been made in determining appropriate scale of management?
- Have any management measures been implemented to address the effects of sea otters on red sea urchin populations?

11. REFERENCES

Campbell, A., J. Boutillier, and J. Rogers. 1999. Discussion paper on a precautionary approach for management of the red sea urchin fishery in British Columbia. Can. Stock Assessment Secretariat Res. Doc. 99/094.

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COSEWIC. 2009. COSEWIC assessment and update status report on the Northern Abalone *Haliotis Kamtschatkana* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 20 pp. (www.sararegistry.gc.ca/status/status_e.cfm)

Rogers, J. and L. Convey. 2000. PSARC Fishery Update - Red Sea Urchin.

12. GLOSSARY

Area	Defined in Section 2 of the *Pacific Fishery Management Area Regulations*. A map of Pacific Fishery Management Areas is available on the Department's Internet site at: www.pac.dfo-mpo.gc.ca/ops/fm/Areas/areamap_e.htm
aquaculture	The process of spawning animals and rearing the progeny to marketable size, involving some level of intervention (e.g. feeder, predator protection) by the aquaculturist.
catch verification program	A program designed to monitor, record, and verify catches, also called the Validation Program.
Communal Licence	Issued to First Nations organizations pursuant to the *Aboriginal Communal Fishing Licences Regulations*, to carry on fishing and related activities.
communal commercial licence	Issued to First Nations organizations pursuant to the *Aboriginal Communal Fishing Licences Regulations* for participation in the general commercial fishery. Licences issued are equivalent to the capacity of licences that have been retired under the Treaty and Aboriginal Policy Directorate Licence Retirement/Allocation Transfer Program.
enhancement	Adding to (enhancing) the biomass of a species in the wild by spawning and growing juvenile animals, subsequently releasing them to their natural habitat for further growth. Usually requires little or no further intervention after release.
IQ	Individual quota. In the red sea urchin fishery differs between the north and south licence areas depending on the number of licences in each area.
invertebrate	An animal without a backbone.
landed or off-loaded	The transfer of red sea urchins from a vessel in water to land.
Observer	An individual who has been designated as an observer by the Regional Director General for Pacific Region pursuant to Section 39 of the *Fishery (General) Regulations*.

PUHA	Pacific Urchin Harvesters Association
PSARC	Pacific Scientific Advice Review Committee.
Quota Area	A defined portion of Pacific fisheries waters. Areas and Subareas, as described in the *Pacific Fishery Management Area Regulations*, are referenced in describing Quota Areas. Each Quota Area has a name, e.g. 12A, and is assigned a maximum allowable catch in pounds (lb.).
service provider	An agency contracted by fish harvesters or their harvesters association to co-ordinate notification, catch validation, fishery monitoring, biological sampling, and data submission requirements. The service bureau may train and recommend candidates for certification by Fisheries and Oceans Canada as observers.
stakeholder	All people and groups with an interest in the fisheries resource.
stock assessment	Results of analyses of fisheries and research data used to evaluate the effects of fishing on a stock or population and to predict the reaction of populations to alternative management choices.
Subarea	As in Section 2 of the *Pacific Fishery Management Area Regulations*
TAC	Total allowable catch. The amount of catch that may be taken from a stock, determined by analytical procedures to achieve management objectives.
Transhipment	The transfer of red sea urchins from a vessel to another vessel.
Validated	Red sea urchins that have been weighed by an observer and the weight entered into the red sea urchin Validation and Harvest Logbook, or an approved alternative log.
VMS	Vessel Monitoring System. A near real-time location monitoring system installed on red sea urchin commercial vessels.

Appendix 1: 2011/2012 Red Sea Urchin Commercial Fishery Harvest Plan

TABLE OF CONTENTS

1. MANAGEMENT SUMMARY FOR 2011/2012

There are a number of updates to most sections of the Commercial Fishery Harvest Plan; fish harvesters are advised to carefully review all information.

1.1. Minimum Size Limit: 90 mm test diameter, between the spines, measured through the greatest diameter of the red sea urchin test (shell).

1.2. Area Licensing: A two-staged area selection process was conducted to allow fish harvesters to select the licence area they wished to fish. No limits were placed on the number of licences in either area. For 2011/2012, the number of licences in the North Coast: **58**, South Coast: **52**.

1.3. Licence Stacking: Maximum of five active licences per vessel.

1.4. Total Allowable Catch: 4,543.2 tonnes (10,016,000 lbs.).

1.5. Quota Area Quotas: All Red Sea Urchin Management Area quotas are shown in Section 5.

1.6. Individual Quota: For 2011/12 the individual quotas in the north and south coast will differ. The IQ for each area was determined by dividing the total allowable commercial catch for the licence area by the number of licences who selected the area for the season. **North Coast IQ = 145,052 lb. South Coast IQ = 30,827 lb**.

1.7. Quota Area Boundaries: All Quota Area descriptions are shown in Appendix 8. Maps of North and South Coast Quota Areas are provided in Appendix 9. There are no changes to Quota Area boundaries for the 2011/12 season, however several Quota Areas in the north coast have had their quotas combined. These quota areas are outlined in bold in Section 5.2.

1.8. Gwaii Haanas National Marine Conservation Area Reserve Closures: See closure descriptions in Section 6.4.

1.9. Opening Schedules: The fishery will open August 1, 2011.

2. MANAGEMENT MEASURES FOR THE COMMERCIAL FISHERY

The management tools of the red sea urchin fishery include: a minimum size limit, a total allowable catch (TAC), limited entry licensing, an individual quota (IQ) program, area licensing, and area quotas.

2.1. Minimum Size Limit

The minimum size limit for red sea urchins is 90 mm test diameter, between the spines, measured through the greatest diameter of the red sea urchin test (shell). See Appendix 6.

The use of a size limit in this fishery is considered precautionary and allows red sea urchins several years of spawning before becoming available for the commercial fishery.

2.2. Total Allowable Catch

A modified surplus production model is used to estimate maximum sustainable yield (MSY) for red sea urchins. Total current biomass of red sea urchins is calculated annually, based on density estimates for red sea urchins in the 90 to 140 mm test diameter range, new survey results, and changes to estimated urchin habitat along the coast taken from harvest log charts and fish harvesters' knowledge. A natural mortality rate of 0.10 is assumed, and a correction factor of 0.20 provides for a conservative harvest rate of approximately two percent (Campbell et al 1999).

Quotas are provided to resource managers as a mean estimate with upper and lower 90 percent confidence intervals (CI).

Under the IQ program for the red sea urchin fishery, two percent of the coast-wide TAC for red sea urchins is reserved, for planning purposes, for First Nations fisheries for food, social and ceremonial purposes. Additional allocations of red sea urchins will be provided to First Nations who demonstrate that their food, social and ceremonial needs are not being met.

The commercial TAC is calculated after subtracting the First Nations allocation from the estimated TAC. The commercial fishery TAC for 2011/2012 is determined through consultation with the commercial industry association. Resource Managers and the Pacific Urchins Harvesters Association (PUHA) review the range of options available from the assessment and develop TACs for each red sea urchin Quota Area that sum to the following commercial licence area TACs; more detailed Quota Area TACs are shown in Section 5.

2.3. Quota Area Total Allowable Catch

In conjunction with area licensing, the coast-wide commercial TAC is divided into Quota Areas. For management purposes, "Quota Areas" are comprised of Areas, Subareas, or a combination of portions of Subareas. The TAC for each Quota Area is calculated from the density estimates and range of quotas provided by the Department's Stock Assessment Unit. Where surveys and density estimates are not complete for an area, they are extrapolated from survey information from adjacent or nearby areas.

2.4. Limited Entry Licensing

Limited entry licensing was implemented in January 1991. There are 110 red sea urchin licences. Red sea urchins are commercially harvested under the authority of a commercial licence (ZC) or a communal commercial licence (FZC). Currently twenty four of the 110 commercial licences are communal commercial licences and are issued to coastal First Nations for participation in the commercial fishery. These Communal Commercial Licences are monitored with the commercial fishery and have the same management constraints and licence conditions as other commercial licences. For more information on the Aboriginal Fishery Strategy (AFS) Allocation Transfer Program, see Appendix 2; contact a resource manager listed in Appendix 13, or check: http://www.pac.dfo-mpo.gc.ca/abor-autoc/index-eng.htm

2.5. Individual Quota Program

Following several years in a management regime that the commercial industry perceived to be causing processing and market gluts, poor quality landings and unsafe diving conditions, PUHA voluntarily implemented an IQ program in 1994 and 1995. The coast-wide TAC was divided equally among licences and a third party service provider was hired to monitor catch. For 1996, the

Minister of Fisheries and Oceans Canada approved an IQ management regime for the red sea urchin, green sea urchin, and sea cucumber fisheries.

When the IQ program was implemented the individual quotas were equal for each licence. For the 2007/08 season PUHA recommended to the Department that the limits placed on the number of licences in each licence area (North and South) be removed. This program will continue for the 2011/12 season and individual quotas will be determined by dividing the commercial quota in each licence area by the number of licences that applied to fish in that area.

2.6. Area Licensing

The commercial red sea urchin fishery is licensed for two areas (North Coast and South Coast of British Columbia), and occurs in four geographic locations within those areas: West Coast Vancouver Island (Areas 20 to 27, 111, 121 and 123 to 127), East Coast Vancouver Island (Areas 11 to 19, 28 and 29), North Coast (Areas 3 to 10, 103 to 110) and Queen Charlotte Islands (Areas 1 and 2, 101, 102 and 142). Descriptions of Areas and Subareas can be found on the Department's website at:

http://www.pac.dfo-mpo.gc.ca/fm-gp/maps-cartes/areas-secteurs/index-eng.htm

In past years the number of allowable licences assigned to either the North Coast or the South Coast area was based on biomass estimates for the area and the annual IQ. Once a coast-wide and commercial licence area TAC is established, the number of licences in each licence area was adjusted to ensure equal individual quotas coast-wide. For 2011/12 the PUHA has recommended a two-staged licence selection process. There will be no limits placed on the number of licences who may apply to each area; however more licences within an area will result in the IQ for each licence decreasing proportionally.

3. LICENSING REQUIREMENTS FOR THE COMMERCIAL FISHERY

3.1. Licence Category

A category ZC or FZC (communal commercial) licence is required to commercially harvest red sea urchins by dive.

3.2. Application Fees

The annual licence application fee for a commercial, category ZC licence is $530.00. There is no fee for a communal commercial licence (FZC).

3.3. Licence Application and Issuance

Applications must be completed and submitted to a Pacific Fishery Licence Unit by July 31 of each year with the required fee to maintain the licence eligibility whether or not it is fished.

The licence eligibility holder must sign the application form. If the licence eligibility holder is a company or First Nation group, only an authorised signing authority may sign the application. The PFLU must have on record a copy of either a Confirmation of Signing Authorities or an Amendment to Confirmation of Signing Authorities form listing the signing authorities.

Prior to annual licence issue, licence eligibility holder(s) must:

a.) Ensure any Ministerial conditions placed on the licence eligibility are met. Ensure any conditions of the previous year's licence such as completion and submission of logbooks are met and accepted.
b.) Designate a registered commercial fishing vessel eligible for a commercial or communal commercial licence for salmon, schedule II, sablefish, halibut, crab, shrimp, prawn, geoduck, or groundfish trawl. A vessel may be designated for a maximum of five active licences (i.e. those with quota remaining) at a time.

Vessel length restrictions for vessels used to harvest red sea urchins under the IQ program have been waived by Fisheries and Oceans Canada. Fisheries and Oceans Canada reserves the right to reinstate vessel length restrictions at the lengths associated with each licence eligibility.

3.4. Area Licensing

Licence eligibilities will be assigned to either the South Coast area or the North Coast area based on the two staged licence eligibility holder selection process. There will be no limits placed on the number of applications in either area; however all applications for licence area selection must have been received by the Department prior to May 24, 2011.

a.) North Coast, Areas 1 to 10 and adjacent offshore areas
b.) South Coast, Areas 11 to 29 and adjacent offshore areas

3.5. Individual Quotas

The holder of a licence eligibility for commercial harvest of red sea urchin is provided the opportunity to harvest up to the amount of product listed on their area licence. This amount will equal the total allowable commercial catch for the licence area divided by the number of licences choosing to apply for a licence in that area.

All diving and fishing operations must take place from the licensed vessel. All product must be brought directly onto the licensed vessel following harvest. Vessels used to hold or transport red sea urchins must conform to Canadian Food Inspection Agency inspection regulations for holding or transporting fish and have appropriate licences.

3.6. Licence Documents

Red sea urchin licence documents are valid from the date of issue to July 31 the following calendar year.

Replacements for lost or destroyed licence documents may be obtained by completing a Declaration Concerning Licence Documents form. Please contact a Pacific Fishery Licence Unit for further details.

3.7. Vessel Redesignations

Redesignation of red sea urchin licences is allowed as long as any Condition of Licence such as the completion of logbooks have been met and accepted by the Shellfish Data Unit.

A completed Application for Category Z Vessel Redesignation form must be completed by the licence eligibility holder and submitted to a Pacific Fishery Licence Unit. Valid current year licence documents and validation tabs must be returned.

3.8. Licence Eligibility Nominations

Category ZC Red Sea Urchin licence eligibilities may be nominated from one party to another. A Nomination for Category Z Licence Eligibility form must be completed by the licence eligibility holder.

The following requirements must be met:

c.) Any Condition of Licence such as the completion of logbooks have been submitted and approved by the Shellfish Data Unit.
d.) Valid current year licence documents and validation tabs must be returned.

Communal commercial category FZC licence eligibilities may not be nominated as these are allocated annually to First Nation groups.

3.9. Licence to Transport Red Sea Urchins

Any registered vessel with a commercial or communal salmon, schedule II, geoduck, sablefish, crab, shrimp, groundfish and prawn licence, a transporting, category D or a herring seine licence, category HS may transport red sea urchins under special Conditions of Licence which are included with all vessel-based licences issued for the current fishing year. For further information contact a Pacific Fishery Licence Unit.

Note: When product is transferred from one vessel to another vessel or a vehicle, that vessel or vehicle requires a provincial Fish Buying Station licence. This licence is required for all types of vessels and vehicles including aircraft. The licence may also be required for personal vehicles in some instances, when a vehicle is carrying the catch from more than one vessel, even if the licence holder owns both vessels. Fish harvesters should contact the Ministry of Agriculture and Lands (MAL), Courtenay Access Centre (250-897-7541) for additional information.

3.10. Processing

Effective June 1998, any processing beyond that permitted in Section 14 of the Fish Inspection Regulations (FIR) must be done in a registered fish processing facility and in full compliance with a Quality Management Program (QMP).

4. CONTROL AND MONITORING OF COMMERCIAL FISHING ACTIVITIES

To accompany the IQ program, an industry-funded monitoring and validation program was developed collaboratively between PUHA and Fisheries and Oceans Canada.

A Joint Project Agreement between the Department and PUHA to provide for in-season catch validation is consistent with the Department's approach to co-management in the Region. This agreement provides for catch validation at designated landing ports, in-season collection and compilation of harvest log data, collection of biological samples, and a year-end summary report of the fishery.

Fish Harvesters are required to report harvest time and location information to a service provider prior to fishing, following fishing, and prior to landing red sea urchins. To track daily harvests and ensure that area quotas are not exceeded, all catch must be weighed and validated at the first point of landing by a Fisheries and Oceans Canada certified observer.

The agency (service provider) contracted by the PUHA to provide notification, validation, biological sampling and data services for the 2011/2012 red sea urchin fishery is:

D&D Pacific Fisheries Ltd.
Box 1445, Gibsons, BC V0N 1V0

Tel: (604) 886-4819
Fax: (604) 886-8288
Hail-in Line: (800) 775-5505

The following sections supplement those in the Conditions of Licence (issued with each commercial licence) that outline the requirements for fishery control and monitoring. See Appendix 10 for an example of the Conditions of Licence.

4.1. Quantities Permitted to be Taken

Each IQ equals the total allowable commercial quota for the licence area divided by the number of licences selected for that area. Harvest of red sea urchins over the IQ, after the permitted quota overage adjustments, may be subject to prosecution and seizure of the overage.

4.2. Fishing Multiple Quota Areas

All red sea urchin caught in a Quota Area must be landed or transhipped prior to the commencement of fishing in a new Quota Area. In this way, area quotas and individual quotas are closely monitored to avoid over-harvesting of either.

4.3. Containers Used to Hold or Transport Red Sea Urchins

There are several requirements for the type, size and marking of containers used to hold or transport red sea urchins and the condition of containers for food inspection purposes.

Any containers used in the transport of "fish" (including urchins) for export must meet the requirements of Schedule V of the Fish Inspection Regulations. This states that the contact surfaces of fish storage areas in vehicles and of containers used for transporting fish shall be smooth, free from cracks and crevices and made of non-corrodible metal. There is also a requirement for containers to be covered. Acceptable materials include plastic, aluminium and fibreglass; however, an exemption has been granted for the use of well-painted wooden totes to transport fish to processing plants (contact Hanna Boehmer (604-666-3578) for further information).

4.4. Transhipment

All product harvested under a red sea urchin licence must be harvested from and retrieved by the vessel designated on the licence. If that product is to be retrieved at a later time by the licensed vessel, it must be appropriately tagged. If that product is going to be transhipped to another vessel (i.e. for landing purposes), that vessel must be appropriately licensed for packing purposes. At no time should unlicensed vessels be used to harvest, retrieve, store, or tranship product.

4.5. Locations Permitted for the Landing of Red Sea Urchin

Red sea urchins must be landed at one of the designated landing ports listed in the Conditions of 2011/2012 Red Sea Urchin Licence. The specific landing ports have been established as part of the IQ validation program; Fisheries and Oceans Canada certified observers are available at these ports

to oversee offloading and validation of sea urchin catch. This condition applies to both the licence vessel and the packer vessel, if one is used.

4.6. Validation of Catch

All red sea urchin harvested or removed from the sea bed floor must be validated by a Fisheries and Oceans Canada certified observer at the point and time the fish are landed to track daily harvests and ensure that area quotas are not exceeded.

The vessel master must be in possession of a Fisheries and Oceans Canada approved catch Validation and Harvest Logbook assigned to the red sea urchin licence. The Validation and Harvest Logbook must be on board the licensed vessel while fishing for red sea urchins or while red sea urchins are on board. Validation and Harvest Logbooks that meet the Department's approval are available from the service provider or from the Pacific Urchin Harvesters Association.

4.6.1. Validation and Harvest Log Entries

At the first point of landing, all red sea urchins will be weighed with a government-certified scale and the weight entered on the Validation and Harvest Log. The vessel master is responsible for completing sections A and C of the Validation and Harvest Log. The vessel master shall also ensure that chart entries are completed showing all locations fished for that validation. All harvest information must be fully entered and complete before validation takes place. The Validation and Harvest Log will remain with the licensed vessel, with one copy accompanying the product to its destination and one copy handed over to the observer at the time of validation, along with the harvest charts. The observer shall compare harvest charts to Validation and Harvest Logs to ensure that harvest information is consistent between both. The original white copy of the Validation and Harvest Log handed to the observer, along with the harvest charts, must be received by the Fisheries and Oceans Shellfish Data Unit within 28 days following the end of the month in which harvesting took place.

4.6.2. Quota Confirmation

Prior to fishing, the vessel master must confirm the remaining vessel quota from the Validation and Harvest Logbook.

4.6.3. Quota Overages

4.6.3.1. Quota Area TAC Overages

Any Quota Area TAC overages may be deducted from the next year's Quota Area TAC.

4.6.3.2. IQ Overages

Small quantities of red sea urchins which exceed the licence's annual quota (up to 500 lb.) can be transferred to another red sea urchin licence provided certain conditions are fulfilled. If all of these conditions are not met, observers will not transfer the overage to another licence. In the following explanation, the red sea urchin licence which has exceeded its quota is called Licence "A", and the licence to which quota is transferred is called Licence "B".

a.) Transfer of Quota to another Licence on the Same Vessel - If two or more licences are assigned to the same vessel then a quota overage from one licence may be transferred to the red sea urchin licence which has quota remaining. Overage of the last red sea

urchin licence quota on the same vessel may be transferred to another vessel's red sea urchin licence in accordance with policy described below.

b.) Maximum Allowable Transfer of Quotas between Licences on Different Vessels - In the event of a quota overage on red sea urchin Licence "A", a maximum of 500 lb. of red sea urchins may be transferred to another vessel's red sea urchin licence (Licence "B"). Harvest of red sea urchins over the IQ after the permitted quota overage adjustments may be subject to prosecution and seizure of the overage. Only one transfer of quota overage is allowed. The quota overage cannot be divided between multiple licences.

c.) Remaining Quota on Second Licence - The amount transferred cannot exceed the remaining quota of red sea urchin Licence "B".

d.) Red Sea Urchin Licence Area - Both vessels involved in the transfer must be licensed to fish in the same licence area and have active licences for that licence year (the provision for landing at the same port has been removed).

e.) Documentation - The Red Sea Urchin Validation and Harvest Log for each of the licences involved in the transfer must be present at the time of the validation. Both vessel masters must make their intention to transfer or receive quota overage clear to the observer prior to unloading. In the event of a packer landing, a note signed by both vessel masters should accompany the product to advise the observer that there is a mutual agreement to transfer.

4.7. Oral Reports

Fishing notification requirements that are described in the Conditions of Licence must be followed by each licensed vessel in order for the service provider and the Department to track effort and harvest on a daily basis. When vessels do not hail into a harvest area, there is a risk of exceeding the quota. In order to maintain a sustainable fishery, it is extremely important that effort and landings in a particular harvest area be reported and recorded accurately.

Observer phone numbers are available from D&D Pacific Fisheries Ltd. If weather results in a change in arrival time the vessel master must immediately advise the observer via telephone of these changes.

4.8. Catch and Fishing Data

It is a Condition of Licence and the responsibility of the licence holder to ensure that harvest and chart information is received by Fisheries and Oceans Canada Shellfish Data Unit and meets the conditions outlined below. Fish harvesters who have validation services completed by D&D Pacific Fisheries Ltd. will receive these services as part of that contract. For fish harvesters who wish to have validation completed by an observer other than the service provider under contract to the PUHA, it will remain the licence holder's responsibility to ensure the requirements outlined below are fully completed. Those interested in obtaining validation services other than those contracted by the Association should contact a Resource Manager to receive a copy of the Fisheries and Oceans Canada requirements for third party validation.

4.8.1. Harvest Data

The vessel master is responsible for the provision and maintenance of an accurate record, a "log", of daily harvest operations. This log must be completed and a copy submitted in both hard (paper) copy and electronic form in an approved format as defined by Fisheries and Oceans Canada, Marine Ecosystems and Aquaculture Division's Shellfish Data Unit.

The vessel master is responsible for the provision of a daily harvest chart record for each location fished by each diver. This harvest chart must have marked directly on it the vessel registration number (VRN), the licence tab number and the validation ID numbers. The harvest site must be clearly marked on the chart with dive or record numbers pertaining to each harvest catch record and with dates that fishing activity occurred at each site. The vessel master is also responsible for the electronic capture of harvest location data into the Shellfish Data Unit Geographic Information System (GIS).

Validation and Harvest Logs meeting Fisheries and Oceans Canada requirements are available from outside service providers. The service provider will, for a fee, provide the Validation and Harvest Log coding and keypunch service, including the electronic capture of harvest chart information into GIS, thus complying with the requirements for submission of a hard (paper) copy and electronic copy including fishing location information, for harvest data.

The original white page copy of the log, the accompanying chart record and the electronic copies must be forwarded within 28 days following the end of the month in which fishing occurred. Fish harvesters who have validation services completed by D&D Pacific Fisheries Ltd. will receive this service as part of that contract. The information must be sent to:

Fisheries and Oceans Canada
Shellfish Data Unit
Pacific Biological Station
3190 Hammond Bay Road
Nanaimo, BC V9T 6N7

Tel: (250) 756-7022 or (250) 756-7306

For alternatives to harvest data provision through a service provider contact the Shellfish Data Unit at the above address to obtain the requirements and acceptable data formats for supplying harvest log, chart and electronic data in a format which meets the Conditions of Licence. Electronic data capture of harvest location information must be performed at the Shellfish Data Unit by a bonded, third party service provider. The hard copy of the harvest logs and charts records, as well as the completed electronic copy must be forwarded within 28 days following the month in which fishing occurred. This information must be sent to the above address.

4.8.2. Submission and Release of Harvest Log Data

The licence holder of record reported with the Pacific Fishery Licence Unit is responsible to ensure that the vessel master has completed and submitted a copy of the harvest data. Fisheries and Oceans Canada can only release harvest data to the reported licence holder and only upon written request.

4.8.3. Nil Report for Harvest Log - Licence Issued But Not Fished

In the event that a licence is issued but not fished, the licence holder is responsible for submitting a nil report for the season. The nil report must be submitted prior to the issuing of approval for licence renewal. One page from the harvest logbook, identifying the vessel, licence tab number and the year, with "nil" entered in the body of the log and signed by the licence holder constitutes a nil report.

Fisheries and Oceans Canada wishes to remind fish harvesters that harvest logs must be completed accurately during fishing operations and submitted to Fisheries and Oceans

Canada in accordance with the timing set out in Conditions of Licence. Failure to complete or submit logs in a timely manner is a violation of Condition of Licence.

4.8.4. Confidentiality of Harvest Data

Harvest data, including fishing location data supplied through latitude/longitude co-ordinates, loran or chart records, collected under the Validation and Harvest Logbooks for Shellfish Fisheries programs, are collected for use by Fisheries and Oceans Canada in the proper assessment, management and control of the fisheries. Upon receipt by Fisheries and Oceans Canada of harvest data and/or fishing location information supplied by the fish harvester in accordance with conditions of licence, Section 20(1)(b) of the *Access to Information Act* prevents the Department from disclosing to a third party, records containing financial, commercial, scientific or technical information that is confidential information. Further, Section 20(1)(c) of the *Act* prevents the Department from giving out information, the disclosure of which could reasonably be expected to result in material financial loss or could reasonably be expected to prejudice the competitive position of the fish harvester.

4.9. Other

4.9.1. Lost Product

Product lost or wasted at sea will use the following protocol.

a.) The weight of product lost from the deck of the catcher vessel and/or packer vessel during transport will be applied to both the catcher vessel's individual quota and the applicable area quota.
b.) The weight of product spoiled or wasted because of weather-related delays will also be applied to both the catcher vessel's individual quota and the applicable area quota.
c.) The Department, in consultation with the service provider, will use the estimated packer or ground weight and appropriate water loss calculation for the harvest site to determine an estimated dock weight.

Situations requiring use of this protocol will be discussed with PUHA prior to implementation.

4.9.2. Export of Red Sea Urchins

Licence conditions regarding Validation and Harvest Logs and fish slips must be complied with, even for red sea urchins exported from British Columbia that have not gone through a federally registered processing plant.

5. OPEN TIMES AND QUOTA AREAS

5.1. General Information

The 2011/2012 commercial fishery will open no earlier than August 1, 2011 and close no later than July 31, 2012. Red sea urchin Quota Areas within the North and South Coast licence areas will be fished in the following manner in 2011/2012. Please note research and permanent area closures as listed in Section 6.

A fishery notice will announce the actual opening date and time. All openings referred to in this plan are tentative until confirmed by issuance of variation order accompanied by fishery notice.

Fishery timing, through scheduled openings, is determined in consultation with the PUHA and the Sea Urchin Processors Association (SUPA) to maintain optimal value for the sea urchin roe. The South Coast fishery takes place primarily during the winter, the period of traditional peak market demand. The North Coast fishery is scheduled to provide a continuous year-round supply of high quality product.

The following is the protocol for adjustments to fishery timing:

e.) PUHA, on behalf of licence holders, will co-ordinate area openings with Fisheries and Oceans Canada. The Department requires a minimum of 48 hours notice from PUHA (exclusive of weekends and holidays) to open a new Quota Area.
f.) A "Quota Area" is a defined portion of Pacific fisheries waters. Areas and Subareas, as described in the Pacific Fishery Management Area Regulations, are referenced in describing Quota Areas. Each Quota Area has a name (i.e. RU01a Lepas Bay), and is assigned a total allowable catch.
g.) Quota Areas will be opened and fished in sequences. Each Quota Area within a sequence will be harvested to completion before the next sequence is opened.
h.) Fishers are required to offload their catch at a designated landing port or to a packer prior to fishing in a new Quota Area.
i.) If weather or roe quality halts all fishing in a Quota Area, Fisheries and Oceans Canada may consider a change to the opening schedule. Alterations to the opening schedule must be based on recommendation from PUHA.

5.2. North Coast (Areas 1 through 10)

Fisheries and Oceans Canada and PUHA will collaborate to schedule North Coast openings over the period August 1, 2011 to July 31, 2012 in order to meet market demands and to prevent local stock depletion.

The North Coast commercial red sea urchin TAC for 2011/2012 will be 8,413,000 lb, (3,816.1 t) apportioned between the Quota Areas shown in the table below. All weights referred to in the tables below are the weights that are determined during validation at the **first point of landing** (in pounds).

Opening Sequence	Quota Area	Name	Description	Quota (lbs.)
Note: Most Quota Areas area comprised of portions of Areas and Subareas. Complete descriptions of Quota Areas are provided in Appendix 8 and maps in Appendix 9. Numbers in Bold indicate a change from last season.				
Openings upon request				
TBA	RU58	Smiths Inlet	Ptn. Subarea 10-2, Subareas 10-3, 10-4, 10-5, 10-7, 10-8, 10-12	200,000
TBA	RU57b	West Calvert Island	Area 109, Ptn. Subarea 10-1	12,000
TBA	RU57c	Grief Bay	Ptn. Subarea 10-1	30,000
TBA	RU57a	Rivers Inlet	Subareas 9-1 to 9-4, 9-10, 9-11, Ptn. Subarea 9-12, Ptn. Subarea 10-1	100,000
TBA	RU56b	Fitz Hugh Sound	Subarea 8-3, ptn. Subarea 8-4, Subarea 8-16, Ptn. Subarea 9-12	72,000

Opening Sequence	Quota Area	Name	Description	Quota (lbs.)
Note: Most Quota Areas area comprised of portions of Areas and Subareas. Complete descriptions of Quota Areas are provided in Appendix 8 and maps in Appendix 9. Numbers in Bold indicate a change from last season.				
TBA	RU56a	Nalau Pass	Ptn. Subarea 8-4	40,000
TBA	RU55	Hakai Pass	Subareas 8-1, 8-2	55,000
TBA	RU53	Spider/Kildidt	Subareas 7-26, 7-27, 7-28	80,000
TBA	RU54	McNaughton Group	Ptn. Subarea 7-17, Subarea 7-25	69,000
TBA	RU52	Tribal Group	Ptn. Subareas 7-18, 7-23, 7-24	
TBA	RU32	Calamity Bay	Ptn. Subarea 6-9	200,000
TBA	RU30	Lower Banks Island	Subarea 5-22, ptn. Subareas 105-2, 106-1	368,000
TBA	RU27d	Mid Banks Island	Ptn. Subarea 5-20, Subarea 5-21	135,000
TBA	RU28	Bonilla Island	Ptn. Subarea 5-20, Subarea 105-1, ptn. Subarea 105-2	187,000
TBA	RU27c	Upper Banks Island	Ptn. Subarea 5-11, Ptn. Subarea 5-20	253,000
TBA	RU15	Outside Stephens Island	Ptn. Subarea 4-2	82,000
TBA	RU14	Tree Nobs	Ptn. Subareas 4-1, 4-2, 4-13	276,000
TBA	RU13a	Dundas Island North	Subareas 3-1, 3-2, 3-3, 3-7, 3-11	264,000
TBA	RU13b	Dundas Island South	Ptn. Subareas 4-1, 4-5	130,000
TBA	RU13d	Nares Islets	Ptn. Subarea 4-1	60,000
TBA	RU13c	Melville Island	Ptn. Subareas 4-1, 4-5, 4-9, 4-13	35,000
TBA	RU16	Inside Stephens Island	Ptn. Subareas 4-9, 4-13	65,000
TBA	RU17	Kelp Pass	Subarea 4-12	47,000
TBA	RU18	Oval Bay	Ptn. Subareas 4-2, 4-3, 4-4	170,000
TBA	RU19	Porcher Inlet	Subarea 5-9	25,000
TBA	RU20a	Cape George	Ptn. Subarea 4-3	50,000
TBA	RU20b	Freeman Passage	Ptn. Subareas 5-11, 5-12 (closed inside Freeman Spit)	60,000
TBA	RU21	Willis Bay	Ptn. Subareas 5-10, 5-11 except closures	70,000
TBA	**RU22a**	**Hankin Rock**	**Ptn. Subarea 5-10**	**100,000**
	RU22b	**Beaver Pass**	**Ptn. Subarea 5-10**	
TBA	RU23	Upper Principe Channel	Subarea 5-13	130,000
TBA	RU24a	Mid Principe Channel	Ptn. Subarea 5-17, Subarea 5-18	85,000
TBA	RU25	Petrel Channel	Subareas 5-14, 5-15, 5-16.	

Opening Sequence	Quota Area	Name	Description	Quota (lbs.)
Note: Most Quota Areas area comprised of portions of Areas and Subareas. Complete descriptions of Quota Areas are provided in Appendix 8 and maps in Appendix 9. Numbers in Bold indicate a change from last season.				
TBA	RU24b	Lower Principe Channel	Ptn. Subarea 5-17, Subarea 5-19, Ptn. Subarea 6-9 north of Fleishman Point	70,000
TBA	RU33	Otter Pass	Ptn. Subarea 6-9	300,000
TBA	RU34a	Langley Pass	Ptn. Subarea 6-9	25,000
TBA	RU34b	Develin Bay	Ptn. Subarea 6-9	40,000
TBA	RU35	Oswald Bay	Ptn. Subareas 6-9, 106-1	100,000
TBA	RU36a	Estevan Group East	Ptn. Subareas 6-9, 6-10	200,000
TBA	RU36b	Estevan Group South	Ptn. Subarea 6-9	75,000
TBA	RU38a	Campania Island	Ptn. Subarea 6-10 (west Campania Island)	200,000
TBA	RU38b	Whale Channel	Ptn. Subarea 6-5, Subarea 6-6 to 6-8, Ptn. Subarea 6-10, Subarea 6-26 to 6-28	70,000
TBA	RU38c	Surf Inlet	Ptn. Subarea 6-10, Subarea 6-12	
TBA	**RU37**	**Rennison Island**	**Ptn. Subareas 6-9, 6-10, 6-11, 6-13**	**286,000**
	RU39	**Upper West Aristazabal**	**Ptn. Subareas 6-13, 106-2**	
TBA	RU31a	Moore Islands	Ptn. Subarea 106-2	270,000
TBA	RU40	Woodcock Islands	Ptn. Subareas 6-13, 106-2	40,000
TBA	RU41	Normansell Islands	Ptn. Subareas 6-13, 106-2	110,000
TBA	RU42	Lower West Aristazabal	Ptn. Subareas 6-13, 106-2	74,000
TBA	RU46b	Prior Pass	Ptn. Subareas 6-13, 6-17	100,000
TBA	RU31b	Harvey Islands	Ptn. Subarea 106-2	250,000
TBA	**RU43**	**Upper Laredo**	**Ptn. Subarea 6-11, Subarea 6-14**	**80,000**
	RU44	**Lower Laredo**	**Subarea 6-15, ptn. Subarea 6-16**	
TBA	RU45	Laredo Inlet	Ptn. Subarea 6-16, Subarea 6-19	40,000
TBA	RU46a	Laredo Sound	Ptn. Subareas 6-16, 6-17	109,000
TBA	RU48	Milbanke Sound	Subarea 7-3	110,000
TBA	RU49	Finlayson Channel	Subareas 7-4, 7-5, 7-6, ptn. Subarea 7-9	100,000
TBA	RU50	Mathieson Channel	Ptn. Subarea 7-9	110,000
TBA	RU47a	Thompson Bay	Ptn. Subareas 7-1, 7-2, Subareas 7-19, 7-20, ptn. Subarea 7-21, Subarea 7-32	44,000
TBA	RU51	Seaforth Channel	Subarea 7-8, ptn. Subarea 7-9, Subareas 7-12, 7-15, ptn. Subarea 7-21	
TBA	RU47b	Day Point	Ptn. Subareas 7-1, 7-2, 7-31 except closure	90,000

Opening Sequence	Quota Area	Name	Description	Quota (lbs.)
Note: Most Quota Areas area comprised of portions of Areas and Subareas. Complete descriptions of Quota Areas are provided in Appendix 8 and maps in Appendix 9. Numbers in Bold indicate a change from last season.				
QCI openings, to be determined				
TBA	RU08	Flamingo / Englefield	Subareas 2-35 to 2-62 except closures, ptn. Subarea 142-1, Subarea 142-2	190,000
TBA	RU09	Van Inlet	Subarea 2-68	100,000
TBA	RU10	Rennel Sound	Subareas 2-69 to 2-84 except closure	200,000
TBA	RU11	Hippa Island	Subareas 2-85 to 2-87, ptn. Subarea 2-88	110,000
TBA	RU12	Port Louis	Ptn. Subarea 2-88, Subareas 2-89 to 2-100	125,000
TBA	RU01b	Frederick Island	Ptn. Subarea 1-1	
TBA	RU01a	Lepas Bay	Ptn. Subarea 1-1	305,000
TBA	RU02a	Langara Island	Ptn. Subareas 1-2, 101-2, 101-3, 101-6, 101-7 except closures	
TBA	RU02b	Virago Sound	Subareas 1-3, 1-7, ptn. Subareas 1-2, 101-7 except closures	105,000
TBA	RU03a	Cumshewa Inlet	Subareas 2-2, 2-3 except closure	0
TBA	RU03b	Kunga Island	Subareas 2-8, 2-10 except closures	120,000
TBA	RU04a	Juan Perez Sound (Tar Island)	Ptn. Subarea 2-11	0
TBA	RU04b	Section Cove	Subareas 2-12, 2-13 except closure	75,000
TBA	RU05a	Skincuttle Inlet	Subareas 2-14, 2-15	200,000
TBA	RU05b	Carpenter Bay	Subarea 2-17	120,000
TBA	RU06	Lower 2E	Subareas 2-18, 2-19 except closure	200,000
TBA	RU07	Lower 2W	Subareas 2-31 to 2-34 except closure, ptn. Subarea 142-1	220,000
Remaining Mainland Quotas				0
North Coast Licence Area Total:				**8,413,000**

5.3. North Coast Protocol

For the 2011/12 season the On-Grounds Monitoring program for the north coast fishery will once again be suspended. PUHA and DFO will work together to develop and implement a fishing protocol for the 2011/12 fishing season. Certain members of PUHA will be designated as "On-Grounds Co-ordinators" and will aid in keeping track of fleet movements and north coast area quotas.

A Vessel Monitoring System (VMS) will be piloted by the north coast fleets for the 2011/12 season in order to increase monitoring efficiency. Both north coast fleets will be required to have at least one vessel equipped with a functional VMS unit at all times or fishing activity will have to be ceased. More detail will be available in the North Coast Fishing Protocol available from the service provider or resource managers (please see contacts in Appendix 13).

The following PUHA members have been designated as "On-Grounds Co-ordinators" for the 2011/12 fishing season. Information on open areas, remaining quotas, and upcoming closures can be obtained by contacting the service provider, fishery managers, or the following:

Area	Name	Vessel
North Coast	Bob Hegedus	Westport 1
North Coast	John Parkins	Aquastar
North Coast	Al Shanks	G-Star
North Coast	Gary Grant	Jagis/Pugwis
North Coast	James Ridgeway	Karohshi
North and South Coast	David McRae	Kuroshio
North and South Coast	Gordon Angrinon	Forager
North and South Coast	John Lindsay	Second Wind
North and South Coast	Richard Strong	CCC

The Department will be evaluating the north coast fishing protocol as the season progresses to ensure that all licence conditions and management requirements for the fishery are being met. If enforcement, quota tracking, or management issues arise in-season the Department may require the reinstatement of the On-grounds Monitoring requirement for the fishery, or may implement other management actions.

5.4. South Coast (Areas 11 through 29)

The South Coast TAC will be 1,603,000 lb (727.1 tonnes), apportioned between the Quota Areas shown in the table below. All weights referred to in the tables below are the weights that are determined during validation at the **first point of landing** (in pounds). Openings in the South Coast to be determined in-season based on advice from PUHA. The timing of each area's harvest is expected to be similar to the 2010/11 schedule.

Opening Sequence	Quota Area	Name	Description	Quota (lb.)
Note: Most Quota Areas area comprised of portions of Areas and Subareas. Complete descriptions of Quota Areas are provided in Appendix 8 and maps in Appendix 9. Numbers in bold indicate a change from last season				
West Coast Vancouver Island				
TBA	11	Allison Harbour	Ptn. Area 11	80,000
TBA	23B	Ucluelet	Subareas 23-11, 123-3 except closures	75,000
TBA	23C	Offshore Area 23	Subarea 123-5	50,000
TBA	23A	Bamfield	Subareas 23-5 to 23-7 except closures	52,000
Area 12, after Area 11				
	12H	Northern Johnstone Strait	Subareas 12-1 to 12-3, 12-21 to 12-24	66,000
Area 12 continued, after 12H				
	12A	Bates Pass	Ptn. Subarea 12-12	0
	12J	Shadwell Pass	Ptn. Subarea 12-12	0

Opening Sequence	Quota Area	Name	Description	Quota (lb.)
Note: Most Quota Areas area comprised of portions of Areas and Subareas. Complete descriptions of Quota Areas are provided in Appendix 8 and maps in Appendix 9. Numbers in bold indicate a change from last season				
	12B	Christie/Browning Pass	Subarea 12-10, ptn. Subarea 12-11	106,000
	12C	Port Hardy	Subareas 12-15, 12-16 (closed at the Masterman Islands)	60,000
Area 13, after 12H				
	13E	Cordero Channel	Subareas 13-25, 13-41, 13-42	30,000
	13G	Stuart Island	Subareas 13-13 to 13-24, 13-26	30,000
	13D	Campbell River East	Subareas 13-10, 13-12	43,000
Comox/Nanaimo				
	14A	Comox	Subareas 14-5, 14-7 to 14-12 except closure	15,000
	14B	Cape Lazo	Ptn. Subarea 14-13 south of Oyster River	10,000
	17	Nanaimo	Area 17 except closure, Subarea 29-5	47,000
Campbell River Area - December 1, 2010				
	13B	Campbell River South	Subareas 13-1, 13-2, ptn Subarea 13-3, ptn. Subarea 14-13 except closure	150,000
	13F	Kelsey Bay – East	Subareas 13-29 to 13-31, 13-35 to 13-40	51,000
Port McNeill & Victoria - December 15, 2010				
	12D	Port McNeill	Subareas 12-4, 12-8, 12-17 to 12-19 except closures	140,000
	13A	Kelsey Bay - Proper	Subareas 13-32 to 13-34	51,000
	13C	Campbell River North	Subareas 13-6 to 13-9, 13-11, 13-27, 13-28 except closure	70,000
	18a	Sidney	Subareas 18-3, 18-4, 18-6, ptn. Subarea 19-5, Subarea 19-6	**30,000**
	18b	Mayne/Saturna Island	Subareas 18-1, 18-2, 18-5, 18-9, 18-11, 29-4	**37,000**
	19	Victoria	Subareas 19-3, 19-4, ptn. Subarea 19-5 except closures	40,000
	20	Sooke	Subareas 20-4 to 20-6 except closure	15,000
Remainder Area 12				
TBA	12I	Buckle Group	Ptn. Subareas 11-2, 12-11, 12-12, 12-13	114,000
TBA	12F	Deserter Island	Ptn. Subarea 12-13	176,000
TBA	12E	Blackfish Sound	Subareas 12-5, 12-6, 12-20, 12-26 except closures	50,000

Opening Sequence	Quota Area	Name	Description	Quota (lb.)
Note: Most Quota Areas area comprised of portions of Areas and Subareas. Complete descriptions of Quota Areas are provided in Appendix 8 and maps in Appendix 9. Numbers in bold indicate a change from last season				
TBA	12G	Wells Pass	Subareas 12-7, 12-38 to 12-42 except closure	15,000
South Coast Licence Area Total:				**1,603,000**

6. CLOSURES

It is the fish harvesters' responsibility to ensure that an area is open before harvesting.

6.1. Notification of Closures

Additional closures may be announced in-season by Fishery Notice. Prior to fishing in an area, fish harvesters are advised to consult the local Fisheries and Oceans Canada office or to contact a resource manager listed in Appendix 13.

6.2. Research Area Closures

Some areas have been designated as research or study areas and are closed to commercial fishing. Fishing is permitted in these areas only under a scientific licence. Studies undertaken in these areas are a co-operative effort between Fisheries and Oceans Canada, PUHA and local First Nations and include investigations into size limits and the effects of various harvest strategies on resident stocks. For further information on the research areas, please contact Claudia Hand at (250) 756-7139 or Dan Leus (250) 756-7147.

6.3. Seasonal Area Closures

The following are seasonal closures to protect herring spawn and herring spawning grounds.

Quota Area	Name	Description	Herring Closure
12C	Port Hardy	Subareas 12-15 and 12-16 (closed at Masterman Point)	Hardy Bay and South as required.
12E	Blackfish Sound	Subareas 12-5, 12-6, 12-20, 12-26 except closures	Mainland Inlets as required.
12G	Wells Pass	Subareas 12-7, 12-38 to 12-42 except closure	Mainland Inlets as required.
14A	Comox	Subareas 14-5, 14-7 to 14-12 except closure	Feb 15 to April 15
14B	Cape Lazo	Ptn. Subarea 14-13 south of Oyster River	Feb 15 to April 15

17	Nanaimo	Area 17 except closure, Subarea 29-5	March 1 to April 15
23B	Ucluelet	Subareas 23-11, 123-3 except closures	Feb 24 to April 15
23C	Offshore Area 23	Subarea 123-5	Feb 24 to April 15

6.4. Permanent Closures

The following areas will be closed for commercial fishing activity from August 1, 2011 to July 31, 2012.

6.4.1. Area 1

6.4.1.1. Kiusta I.R.: That portion of Subarea 1-2 inside a line commencing at 54 degrees 10.5 minutes north latitude, 133 degrees 00.9 minutes west longitude, then due north to the 20 fathom contour line as shown on Canadian Hydrographic Service Chart #3868, then following the 20 fathom contour line to 54 degrees 11.4 minutes north latitude, 133 degrees 01.8 minutes west longitude, then due south to 54 degrees 11.1min north latitude, 133 degrees 01.8 minutes west longitude. (First Nations access for food, social and ceremonial purposes)

6.4.1.2. Dadens I.R.: That portion of Subarea 1-2 inside a line commencing at 54 degrees 11.2 minutes north latitude, 132 degrees 58.9 minutes west longitude, then running true south to the north shore of Lucy Island; then following the north shore of Lucy Island to the westernmost point; then running to 54 degrees 11.3 minutes north latitude, 132 degrees 59.9 minutes west longitude, then running true east to 54 degrees 11.3 minutes north latitude, 132 degrees 59.3 minutes west longitude. (First Nations access for food, social and ceremonial purposes)

6.4.1.3. Egeria Bay I.R.: That portion of Subarea 1-2 inside a line commencing at 54 degrees 12.9 minutes north latitude, 132 degrees 59.1 minutes west longitude, then running true east to the 20 fathom contour as shown on Canadian Hydrographic Service Chart #3868, then following the 20 fathom contour to 54 degrees 13.2 minutes north latitude, 132 degrees 58.5 minutes west longitude, then running true west to 54 degrees 13.2 minutes north latitude, 132 degrees 59.2 minutes west longitude. (First Nations access for food, social and ceremonial purposes)

6.4.1.4. Dibrell Bay I.R.: That portion of Subarea 1-2 inside a line commencing at 54 degrees 13.8 minutes north latitude, 132 degrees 58.3 minutes west longitude, then running true east to the 20 fathom contour; the following the 20 fathom contour as shown on Canadian Hydrographic Service Chart #3868 to 54 degrees 14.05 minutes north latitude, 132 degrees 57.6 minutes west longitude, then true west to 54 degrees 14.05 minutes north latitude, 132 degrees 58.3 minutes west longitude. (First Nations access for food, social and ceremonial purposes)

6.4.1.5. Rhodes Point I.R.: A portion of Subarea 1-2 inside a line commencing at 54 degrees 12.9 minutes north latitude and 133 degrees 01.7 minutes west longitude, then

running true south to the 10 fathom contour as shown on Canadian Hydrographic Service Chart #3868, then following the 10 fathom contour to 54 degrees 13.2 minutes north latitude, 133 degrees 02.8 minutes west longitude, then running true east to 54 degrees 13.2 minutes north latitude, 133 degrees 02.2 minutes west longitude. (First Nations access for food, social and ceremonial purposes)

6.4.1.6. Langara Point I.R.: That portion of Subarea 101-2 inside a line commencing at 54deg 15.03min north latitude, 133 degrees 03.7 minutes west longitude, then running true west to the 20 fathom contour as shown on Canadian Hydrographic Service Chart #3868, then following the 20 fathom contour to 54 degrees 15.3 minutes north latitude, 133 degrees 04.4 minutes west longitude, the running true east to 54 degrees 15.3 minutes north latitude, 133 degrees 03.6 minutes west longitude. (First Nations access for food, social and ceremonial purposes)

6.4.1.7. Shag Rock: That portion of Subarea 1-3 inside a 0.25 nautical mile ribbon boundary off Indian Reserve #13 located due south of Shag Rock. The boundary begins 0.25 nautical miles north of Indian Reserve #13 and ends 0.25 nautical miles south of Indian Reserve #13. (First Nations access for food, social and ceremonial purposes)

6.4.1.8. Nankivell Point: That portion of Subarea 1-7 inside a 0.25 nautical mile ribbon boundary beginning at Nankivell Point and heading westerly along the shore for one nautical mile. (First Nations access for food, social and ceremonial purposes)

6.4.2. Area 2

6.4.2.1. Subareas 2-4 to 2-7 (Cumshewa Inlet/Skedans): This area is closed to undertake recruitment and mortality studies.

6.4.2.2. McCoy Cove (in Cumshewa Inlet): That portion of Subarea 2-3 lying inside a line from a boundary sign located true north of Haans Islet, thence easterly to the sector light located at the south-easterly entrance to McCoy Cove. (First Nations access for food, social and ceremonial purposes)

6.4.2.3. Skedans Bay: That portion of Subarea 2-7 shoreward of a line from Skedans Point to Vertical Point. (First Nations access for food, social and ceremonial purposes)

6.4.2.4. Tanu Island: That portion of Subarea 2-8 which is the easterly shore of Tanu Island north of Klue Point to the most north-easterly tip of Tanu Island. (First Nations access for food, social and ceremonial purposes)

6.4.2.5. Richardson Pass: That portion of Subarea 2-8 including the southerly shore of Richardson Island within Richardson Passage. (First Nations access for food, social and ceremonial purposes)

6.4.2.6. Juan Perez Sound: That portion of Subarea 2-11 east of a line running from Sedgwick Point on Lyell Island to Ramsay Point on Ramsay Island. (Abalone Recovery Strategy Research Area)

6.4.2.7. Windy Bay: That portion of Subarea 2-11 shoreward of a line between Fuller Point and Gogit Point on Lyell Island. (First Nations access for food, social and ceremonial purposes)

6.4.2.8. Hotsprings and House Islands: That portion of Subarea 2-11 lying inside the ten fathom edge surrounding Hot Springs Island and House Island. (First Nations access for food, social and ceremonial purposes)

6.4.2.9. Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage Site, **Burnaby Narrows**: Those waters of Subareas 2-13 and 2-16 inside a line commencing at 52º23.071' N and 131º20.427' W, east to a point at 52º23.079' N and 131º22.790' W, then following the southern shoreline of Kat Island east to a point at 52º23.104' N and 131º22.193' W, then east to a point at 52º23.303' N and 131º22.277' W, then following the western shoreline of Burnaby Island south to a point at 52º20.982' N and 131º20.427' W, then west to a point at 52º20.733' N and 131º21.063' W, then north following the eastern shoreline of Moresby Island back to the point of commencement. (National Marine Conservation Area).

6.4.2.10. Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage Site, **Louscoone Estuary**: Those waters of Subareas 2-33 and 2-34 north of a line drawn from 52º11.828' N and 131º15.662' W east to 52º12.269' N and 131º14.579' W. (National Marine Conservation Area).

6.4.2.11. Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage Site, **Flamingo Estuary**: Those waters of Subarea 2-37 north of a line drawn from 52º14.523' N and 131º22.24' W southeast to 52º14.245' N and 131º21.481' W. (National Marine Conservation Area).

6.4.2.12. Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage Site, **Gowgaia Estuary**: Those waters of Subarea 2-41 east of a line drawn from 52º24.947' N and 131º32.13' W southeast to 52º24.233' N and 131º32.021' W. (National Marine Conservation Area).

6.4.2.13. Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage Site, **Cape Saint James**: Those waters of Subareas 2-19, 102-3, 130-3 and 142-1 inside a line commencing at 51º56.509' N and 131º01.547' W, southwest to a point at 51º55.499' N and 131º02.468' W, then southeast to a point at 51º52.493' N and 130º57.907' W, then south to a point at 51º51.655' N and 130º57.780' W, then southeast to a point at 51º50.395' N and 130º56.561' W, then northeast to a point at 51º51.054' N and 130º54.702' W, then north to a point at 51º53.826' N and 130º55.640' W, then northwest to a point at 51º58.517' N and 130º59.468' W, then west to a point at 51º58.727' N and 131º00.620' W then west following the southern shoreline of Kungit Island back to the point of commencement. (National Marine Conservation Area).

6.4.2.14. Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage Site, **SGang Gwaay**: Those waters of Subareas 2-31 and 142-1 inside a 3 km radius from the centre point on Anthony Island located at 52º05.655' N and 131º13.178' W. (National Marine Conservation Area).

6.4.2.15. West Skidegate Channel and Buck Channel: Subareas 2-63, 2-64, 2-66 and 2-67. (First Nations access for food, social and ceremonial purposes)

6.4.2.16. Shields Bay: That portion of Subarea 2-77 south of a line from Dawson Head true north to the opposite shore. (First Nations access for food, social and ceremonial purposes)

6.4.3. Area 5

6.4.3.1. Kitkatla Inlet/Schooner Pass: Subarea 5-3 and a portion of Subarea 5-10 north of a line running from the north-western tip of McCauley Island to a boundary sign on the northwest tip of Spicer Island and north of a line running from Boys Point on Dolphin Island to a boundary sign located on the south-westernmost tip of Spicer Island. (First Nations access for food, social and ceremonial purposes)

6.4.3.2. Kitkatla Village: That portion of Subarea 5-10 north and east of a line running from the northern tip of the entrance to Dolphin Lagoon on Dolphin Island west to a point on the Prager Islands located at 53 degrees 46.85 minutes north latitude, 130 degrees 29.8 minutes west longitude, thence northerly to a point on the Shakes Islands located at 53 degrees 47.5 minutes north latitude, 130 degrees 29.0 minutes west longitude; thence true north to the boundary line. (First Nations access for food, social and ceremonial purposes)

6.4.4. Area 7

6.4.4.1. West Price Island: That portion of Subarea 7-31 north of a parallel passing through 52 degrees 16.3 minutes north latitude. (Research area: recruitment and mortality studies.)

6.4.5. Area 12

6.4.5.1. Numas Islands: In Area 12, those waters in the vicinity of the Numas Islands that lie inside a line that begins at 50 degrees 47.9 minutes north latitude, 127 degrees 07.6 minutes west longitude, then to 50 degrees 46.6 minutes north latitude, 127 degrees 02.4 minutes west longitude, then to 50 degrees 44.3 minutes north latitude, 127 degrees 04.0 minutes west longitude, then to 50 degrees 45.7 minutes north latitude, 127 degrees 09.3 minutes west longitude, then to the beginning point. (Interim Restricted Fishing Area for Rockfish Conservation; Red Sea Urchin Commercial Fishery Closure)

6.4.5.2. Subarea 12-25 (Port Neville) (Marine Reserve/Research Area)

6.4.6. Area 13

6.4.6.1. Area 13 Study Area: Discovery Passage: Portion of Subarea 13-3, Subareas 13-4 and 13-5, and a portion of Subarea 13-6. Those waters of Discovery Passage bounded on the north by a straight line drawn true west from North Bluff on Quadra Island, across Seymour Narrows to a fishing boundary sign on Vancouver Island, and south by a line from the light on the end of the south Government Dock breakwater at Campbell River to Cape Mudge lighthouse. (Marine Reserve and Research Closure)

6.4.7. Area 14

6.4.7.1. Hornby Island: Portions of Subareas 14-5, 14-6, 14-7, 14-9 and 14-12 described as those waters of Lambert Channel and the Strait of Georgia, inside a line commencing at Shingle Spit on Hornby Island, thence 239 degrees true for 0.5 nautical miles, thence 126 degrees true for 3.5 nautical miles, thence 64 degrees true for 6.7 nautical miles, thence 304 degrees true for 2.3 nautical miles, thence 213 degrees true for 0.5 nautical miles to Cape Gurney on Hornby Island. (Marine Reserve)

6.4.8. Area 15

6.4.8.1. All waters within a 0.25 nautical mile radius of the southerly end of the Beach Gardens breakwater in Subarea 15-1. (Marine Reserve)

6.4.8.2. All waters within 0.5 nautical miles of Vivian Island located approximately 5.0 nautical miles west of Powell River in Subarea 15-2. (Marine Reserve)

6.4.8.3. All waters within 0.25 nautical miles of Rebecca Rock located 2.5 nautical miles west of Powell River in Subarea 15-2. (Marine Reserve)

6.4.8.4. All waters within 0.25 nautical miles of Dinner Rock located 2.5 nautical miles south of Lund in Subarea 15-2. (Marine Reserve)

6.4.8.5. All waters within 0.5 nautical miles of the unnamed reef off Emmonds Beach located approximately 4.0 nautical miles south of Lund in Subarea 15-2. (Marine Reserve)

6.4.8.6. All waters within 1.0 nautical mile of Mitlenatch Island, located in the upper Strait of Georgia intersected by the Subareas 15-2, 13-1, 13-3 and 14-13. (Marine Reserve)

6.4.9. Area 16

6.4.9.1. Skookumchuck Narrows Provincial Park: Those waters of Skookumchuck Narrows and Sechelt Rapids in Subarea 16-9 bounded on the west by a line commencing at a point on the foreshore at the westerly limit of Secret Bay on Sechelt Peninsula thence 50 degrees true to a point on the foreshore on the mainland; on the east by a line from Roland Point on Sechelt Peninsula, thence 50deg true to a point on the foreshore on the mainland. (Park)

6.4.10. Area 17

6.4.10.1. Subareas 17-4 to 17-9 (Stuart Channel) (First Nations access for food, social and ceremonial purposes)

6.4.11. Area 18

6.4.11.1. Subareas 18-7 (Sansum Narrows, Burgoyne Bay and Maple Bay), 18-8 (Cowichan Bay) and 18-10 (Fulford Harbour) (Navigational Closure)

6.4.12. Area 19

6.4.12.1. Ogden Point: Those waters of Subarea 19-3 inside a line commencing at the navigation light at the western end of the Ogden Point Causeway thence to Brotchie Ledge Light, thence to Holland Point on Vancouver Island. (Marine Reserve)

6.4.12.2. 10 Mile Point: Those waters of Subareas 19-4 and 19-5 within 0.4 nautical miles of Cadboro Point navigation light. (Marine Reserve)

6.4.12.3. Race Rocks: Those waters of Subareas 19-3 and 20-5 within 0.5 nautical miles of Great Race Rock. (Marine Reserve) This area is being considered for a Marine Protected Area (MPA). The closure boundary description may change.

6.4.13. Area 20

6.4.13.1. Race Rocks: Those waters of Subareas 19-3 and 20-5 within 0.5 nautical miles of Great Race Rock. (Marine Reserve). This area is being considered for a Marine Protected Area (MPA). The closure boundary description may change.

6.4.13.2. Botanical Beach Provincial Park: That portion of Subarea 20-3 between the lowest low water on record and the highest high water on record from San Juan Point thence following the Vancouver Island shoreline easterly to the mouth of Tom Baird Creek. (Marine Reserve)

6.4.13.3. Pacific Rim National Park, Juan de Fuca: That portion of Subarea 20-1 between the lowest low water on record and the highest high water on record from Bonilla Light thence following the shoreline of Vancouver Island easterly to Owen Point. (Park)

6.4.13.4. Becher Bay: Those waters of Subarea 20-5 north of a line running from Church Point to Heechy Head. (First Nations access for food, social and ceremonial purposes)

6.4.14. Area 23

6.4.14.1. Pacific Rim National Park, Broken Group Islands: Those waters of the Broken Group Islands in Barkley Sound within Park boundaries as shown, since 1989, on Canadian Hydrographic Service Chart #3671. (Park)

6.4.14.2. Bamfield Marine Station Research Area Closure: Those waters of Subareas 23-4, 23-6 and 23-7 bounded by a line commencing at the light at Whittlestone Point and running directly to the southern tip of Haines Island; from the north-western tip of Haines Island to the southern tip of Seppings Island; from the north-western tip of Seppings Island to Kirby Point on Diana Island; from Kirby Point directly to the northwest tip of Fry Island; from the north-western tip of Fry Island to the nearest adjacent point on Tzartus Island; from Foucault Bluff on Tzartus Island to the northwest tip of Nanat Island; from the eastern tip of Nanat Island to the nearest adjacent point on Vancouver Island and thence along the coastline of Vancouver Island to the point of commencement. (Research Area)

6.4.15. Area 24

6.4.15.1. Area 24: Moser Point Study Area: That portion of Subarea 24-8 in the vicinity of Moser Point on Vargas Island described as: "inside of, or northerly of, a line from the most south-westerly point of Echachis Island, thence north-westerly to Wilf Rock; thence north-westerly 312 degrees true east for 0.45 nautical miles to an unnamed island in the La Croix Group designated on Canadian Hydrographic Service Chart #3649 as having a height of land of 20 feet, thence due north to the shore of Vargas Island; thence following along the shore of Vargas Island in a north-easterly direction to the unnamed point immediately south of the Yarksis Indian Reserve; thence south-easterly across Father Charles Channel to the northernmost point on Wickaninnish Island; thence along the western shoreline of Wickaninnish Island to the southernmost point; thence in a straight line to the north-western point of Echachis Island; thence southerly along the western shoreline of Echachis Island to the point of commencement." (Research Area)

6.4.15.2. Pacific Rim National Park, Grice Bay and McBey Islets: The waters of Tofino Inlet within Pacific Rim National Park including McBey Islets and Dinner Island in Tsapee Narrows, Browning Passage in Subarea 24-9 and Grice Bay west and south of Indian Island in Subarea 24-11. (Park)

6.4.15.3. Hotsprings Cove: Those waters of Subarea 24-2 and 124-3 enclosed by a line commencing at a point on the Vancouver Island shoreline 2.5 km northwest of Barney Rocks, thence to a point 500 m true south (offshore), thence to Barney Rocks, thence to Sharp Point and returning along the shoreline to the point of commencement. This closure

includes Hotsprings Cove, Mate Islands, Barney Rocks and the bays west of Mate Islands. (First Nations access for food, social and ceremonial purposes)

6.4.15.4. Ahous Point: The area within 1 nautical mile radius of Ahous Point on Vargas Island at 49 degrees 09.59.2 minutes north latitude, 126°01.21.5min west longitude. (First Nations access for food, social and ceremonial purposes)

6.4.15.5. Siwash Cove: The area within 0.5 nautical mile radius of the prominent point of land at 49 degrees 15.43.6 minutes north latitude, 126 degrees 11.18.5 minutes west longitude, immediately to the southeast of Siwash Cove on Flores Island. (First Nations access for food, social and ceremonial purposes)

6.4.15.6. Chetarpe: All waters within 0.5 (1/2) nautical miles of the prominent point on Vancouver Island near Chetarpe at position 49 degrees 14.64 minutes north latitude and 126 degrees 0.85 minutes west longitude. (First Nations access for food, social and ceremonial purposes)

6.4.15.7. Hayden Pass: The waters known as Hayden Pass between Obstruction Island and Flores Island. (First Nations access for food, social and ceremonial purposes)

6.4.16. Area 25

6.4.16.1. Friendly Cove and Santa Gertrudis Cove: That portion of Subareas 25-6 and 25-7 inside a line from a white triangular fishing boundary sign on Nootka Island near the northerly entrance to Santa Gertrudis Cove, thence true east 0.25 nautical miles, thence true south one nautical mile, thence westerly to Yuquot Point on Nootka Island, thence to the point of commencement. (First Nations access for food, social and ceremonial purposes)

6.4.17. Area 26

6.4.17.1. Kyuquot Bay: A portion of Subarea 26-6 inside or northerly of a line from White Cliff Head to Racoon Point and identified on the Kyuquot map attached to this plan. (Kyuquot Sound Marine Communities Study Area)

6.4.17.2. Entrance to Crowther Channel: A portion of Subarea 26-6 on the west side of Union Island commencing at position 50 degrees 0.4 minutes north latitude, 127 degrees 19.3 minutes west longitude and identified on the map attached to this plan. (Kyuquot Sound Marine Communities Study Area)

6.4.17.3. Checleset Bay Fishery Closure Area: Those portions of Areas 26 and 126 enclosed by a line drawn from a point on the Brooks Peninsula (50 degrees 05.18 minutes north latitude, 127 degrees 49.58 minutes west longitude), thence due south to the 50 degrees parallel, thence due east to Alert Point on Lookout Island, thence north-easterly to a point on Vancouver Island near McLean Island (50 degrees 02.1 minutes north latitude, 127 degrees 25.03 minutes west longitude), thence north-westerly along the shore of Vancouver Island to Malksope Point (50 degrees 05.53 minutes north latitude, 127 degrees 28.95 west longitude), thence due west to a point midchannel on the southeast end of Gay Passage (50 degrees 05.53 minutes north latitude, 127 degrees 30.1 minutes west longitude), thence midchannel through Gay Passage to a point midchannel on the northwest end of Gay Passage (50 degrees 06.7 minutes north latitude, 127 degrees 31.8 minutes west longitude), thence north-westerly to the shore of Vancouver Island, just west of Theodore Point (at 127 degrees 32.8 minutes west longitude, 50 degrees 07.7 minutes north latitude), thence westerly along the Vancouver Island shore to an unnamed point on the east side of Nasparti

Inlet (50 degrees 08.75 minutes north latitude, 127 degrees 38.6 minutes west longitude), thence westerly across Nasparti Inlet to an unnamed point on Vancouver Island (50 degrees 08.7 minutes north latitude, 127 degrees 37.8 minutes west longitude), thence along the Vancouver Island shore to the point of commencement. (Sea Otter Reserve)

6.4.18. Area 28

6.4.18.1. Porteau Cove: That portion of Subarea 28-4, east of a line drawn from a white fishing boundary sign located on the south shore of Porteau Cove to a white fishing boundary sign located on the north shore of Porteau Cove. (Marine Reserve)

6.4.18.2. Whytecliff Park: That portion of Subarea 28-2 bounded by a line commencing from the most southerly point of Whytecliff Park; thence in a straight line to a point located 100 m east of the most south-easterly point of Whyte It.; thence following the southern shoreline of Whyte It. at a distance of 100 m to a point lying 100 m from the most south-westerly point of Whyte It.; thence in a straight line to a point lying 100 m west of Whytecliff Point; thence following the shoreline at a distance of 100 m in a northerly direction to a point 100 m north of Lookout Point; thence following the shoreline at a distance of 100 m in an easterly direction to a point 100 m perpendicular to the most northerly point of Whytecliff Park; thence to the most northerly point of Whytecliff Park on the mainland. (Marine Reserve)

6.3.19 Portions of Subareas 101-1 and 142-2

6.3.19.1 Area bounded by a series of rhumb lines drawn from a point 53°03′07.6″ N, 135°50′25.9″ W, to a point 53°16′20.9″ N, 134°59′55.4″ W, then to a point 53°39′49.2″ N, 135°17′04.9″ W, then to a point 53°39′18.0″ N, 135°53′46.5″ W, then to a point 53°52′16.7″ N, 136°30′23.1″ W, then to a point 53°49′19.6″ N, 136°47′33.1″ W, then to a point 53°40′02.5″ N, 136°57′03.5″ W, then to a point 53°13′59.2″ N, 136°10′00.0″ W, then back to the point of commencement as laid out in the Bowie Seamount Marine Protected Area Regulations. (Marine Protected Area)

7. WORKSAFE BC

Jurisdiction over health and safety on commercial fishing vessels in Canada is the mandate of the provinces. In British Columbia, jurisdiction over health and safety issues on commercial fishing vessels is with WorkSafeBC (previously Workers' Compensation Board of British Columbia). Health and safety issues on fishing vessels include the health and safety of the crew and design, construction and use of fishing equipment on the vessel. Matters of transportation and shipping fall to the federal government and are administered by Transport Canada, Marine Safety (TCMS). WorkSafeBC and TCMS have entered into a Memorandum of Understanding on fishing vessel safety that addresses, as much as possible, jurisdiction. The document also contemplates that each party will work co-operatively to ensure that vessels and their crew remain healthy and safe.

The red sea urchin fishery, and other dive fisheries, is legislated by the requirements for occupational divers, found in Part 24 of the Occupational Health and Safety Regulation (OHSR) and as commercial fishing ventures, also found in Part 24 of the OHSR. Many of the general sections of the Regulation also apply, for example: Part 8 - Personal Protective Equipment,

addresses issues related to safety head gear, safety foot ware and personal floatation devices. Part 17 addresses issues on rigging and Part 5 addresses issues of exposure to chemical and biological substances. The entire regulation can be acquired from the Provincial Crown Printers or by visiting the WorkSafeBC website at:

www.worksafebc.com

For further information, contact an Occupational Safety Officer:

Shane Neifer, Northern BC	(250) 615-6640
Dave Clarabut, Vancouver Island	(250) 881-3469
Pat Olsen, Vancouver Island	(250) 218-4866
Mark Lunny, Vancouver Island	(250) 334-8732
Bruce Logan, Lower Mainland	(604) 244-6477

Appendix 2: 2011/12 Red Sea Urchin by Dive First Nations Harvest Plan

1. OVERVIEW OF THE FISHERY

Fisheries & Oceans Canada's policy on the management of First Nations fishing identifies First Nations harvests for food, social and ceremonial (FSC) purposes as the first priority after conservation. Fisheries & Oceans Canada seeks to provide for the effective management and regulation of the First Nation fishery through negotiation of mutually acceptable and time-limited agreements which outline provisions pertaining to the fisheries and co-management activities. The agreements include provisions by which First Nations manage fishing by their members for FSC purposes, in addition to outlining First Nation involvement in a range of co-management activities and economic development opportunities which may include, but not be limited to, habitat enhancement, FSC catch monitoring and enforcement, fish management and community research.

Communal licences and harvest documents (under treaty) are issued annually to First Nations under the authority of the *Aboriginal Communal Fishing Licences Regulations* made under the *Fisheries Act*. Communal licences and harvest documents can be amended in-season for resource conservation purposes. Even where an agreement cannot be concluded, Fisheries & Oceans Canada issues communal fishing licences to First Nations organizations.

2. MANAGEMENT MEASURES FOR THE FIRST NATIONS FISHERY

Under the Individual Quota (IQ) program for the red sea urchin fishery, two percent of the coast-wide total allowable catch (TAC) for red sea urchins is reserved, for planning purposes, for First Nations fisheries for food, social and ceremonial purposes. Additional allocations of red sea urchins will be provided to First Nations who demonstrate that their food, social and ceremonial needs are not being met. Fisheries and Oceans Canada is confident that with the precautionary approach to this fishery, the reserved allocation of TAC, and the provision of additional allocations, where necessary, First Nations in all areas will have sufficient opportunities to harvest red sea urchins for food, social and ceremonial purposes.

Section 2.2 of the Commercial Harvest Plan (Appendix 1) shows the most recent stock assessment figures used to calculate the commercial TAC for 2011/2012.

There is no size limit for the First Nations red sea urchin fishery.

3. OPEN TIMES

First Nations fisheries can occur year-round in all areas.

4. LICENSING

First Nations access to fish for FSC purposes is managed through a communal licence which can permit the harvest of red sea urchins.

5. CONTROL AND MONITORING OF FIRST NATIONS FISHING ACTIVITIES

Aboriginal harvests for food, social and ceremonial purposes are the first priority after conservation. This fishery is regulated through the issuance of communal licences to First Nations organizations. These licences are issued under the authority of the *Aboriginal Communal Fishing Licence Regulations*. Further arrangements for Aboriginal fishing may be identified in agreements between the Department and individual First Nations organizations.

Communal licences and Fisheries Agreements may contain provisions for the designation of individuals by the First Nations organization to access the allocation provided under the communal licence, as well as provisions for monitoring and reporting by the group of the Aboriginal fishery in co-operation with the Department.

Aboriginal access to fish for food, social and ceremonial purposes is managed through a communal licence which can permit the harvest of red sea urchins.

For additional information on communal licences, see the Internet at:

http://www.pac.dfo-mpo.gc.ca/abor-autoc/index-eng.htm

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5.1. Maa-nulth Domestic Fishing

The Maa-nulth First Nations fishery for domestic (FSC) purposes under the Maa-nulth First Nations Final Agreement (Treaty) came into effect on April 1, 2011. The Maa-nulth First Nations comprise five individual First Nations; Huu-ay-aht First Nations, Ka:'yu:'k't'h'/Che:k'tles7et'h' First Nations, Toquaht Nation, Uchucklesaht Tribe and the Ucluelet First Nation on the west coast of Vancouver Island.

The Maa-nulth Fisheries Operational Guidelines (FOG) sets out the operational principles, procedures and guidelines to assist Canada, BC and Maa-nulth in implementing the Fisheries Chapter of the Final Agreement. The FOG provides guidance on the Maa-nulth fishery incorporating biological, harvesting, catch monitoring and reporting considerations, and other matters of the Maa-nulth Final Agreement.

Each year the Joint Fisheries Committee will make recommendations to the Minister on the issuance of 'Harvest Documents' to authorize harvesting for domestic purposes.

More information on the Treaty can be found at:

www.bctreaty.net/

Appendix 3: 2011/2012 Red Sea Urchin by Dive Recreational Harvest Plan

1. LOCATION OF THE FISHERY

Recreational harvest of red sea urchins occurs coast-wide.

2. TIME FRAME OF THE FISHERY

Recreational fisheries are open year-round in all areas, or as described in the British Columbia Tidal Waters Sport Fishing Guide for the recreational fishery.

3. MANAGEMENT MEASURES FOR THE RECREATIONAL FISHERY

Harvest guidelines are provided in the British Columbia Tidal Waters Sport Fishing Guide. See the guide on the Internet at:

http://www.pac.dfo-mpo.gc.ca/recfish/SFG_e.htm

Sea urchins can be harvested by handpicking, with a daily limit of 12 sea urchins and a possession limit of 24 sea urchins. There is no size limit for the recreational red sea urchin fishery.

4. LICENSING

A British Columbia Tidal Waters Sport Fishing Licence is required for the recreational harvest of all species of fish.

5. CONTROL AND MONITORING OF RECREATIONAL FISHING ACTIVITIES

The recreational harvest of shellfish is regulated via the *British Columbia Sport Fishing Regulations, 1996* made under the *Fisheries Act*. The regulations are summarized annually in the British Columbia Tidal Waters Sport Fishing Guide which lists closed times, bag limits, size limits (where applicable) and closed areas. If necessary, public notices are posted to document closures or changes from the Guide. Closures may be implemented in order to conserve vulnerable stocks, or to protect the public from consumption of contaminated shellfish or to meet First Nations food, social and ceremonial needs. For some species, areas have been closed to commercial harvest or commercial harvest openings have been delayed to provide an opportunity for the recreational community.

APPENDIX 4: POST-SEASON REVIEW FOR 2010/11

Overall, the 2010/2011 commercial landings were low, reflecting lower market demand for BC product in Japan. Only about two-thirds of the licences fished during the season and less than half of the annual TAC was harvested. Weather and poor roe quality hampered harvesting in some areas, and increasing international production is affecting markets and the completion of the TAC. In general compliance with the catch validation program and other management programs was considered good.

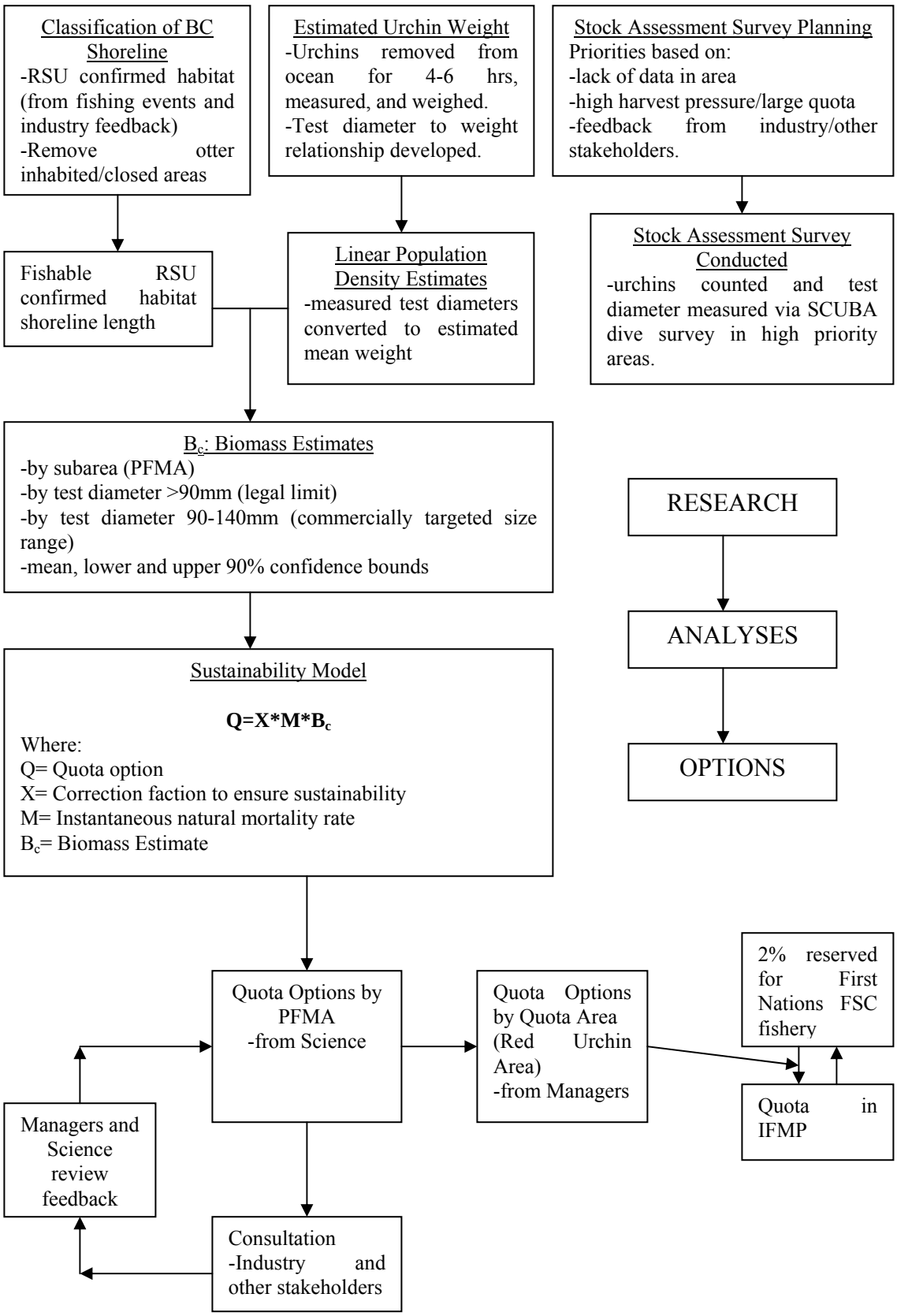
At the time of publication, the 2010/11 red sea urchin fishery was still on-going and post-season results were not available.

The complete 2009/10 post season review will be available in the document entitled Invertebrate Post-season Review – Red Sea Urchin 2009/10. Contact a resource manager for more information (see Contacts, Appendix 13).

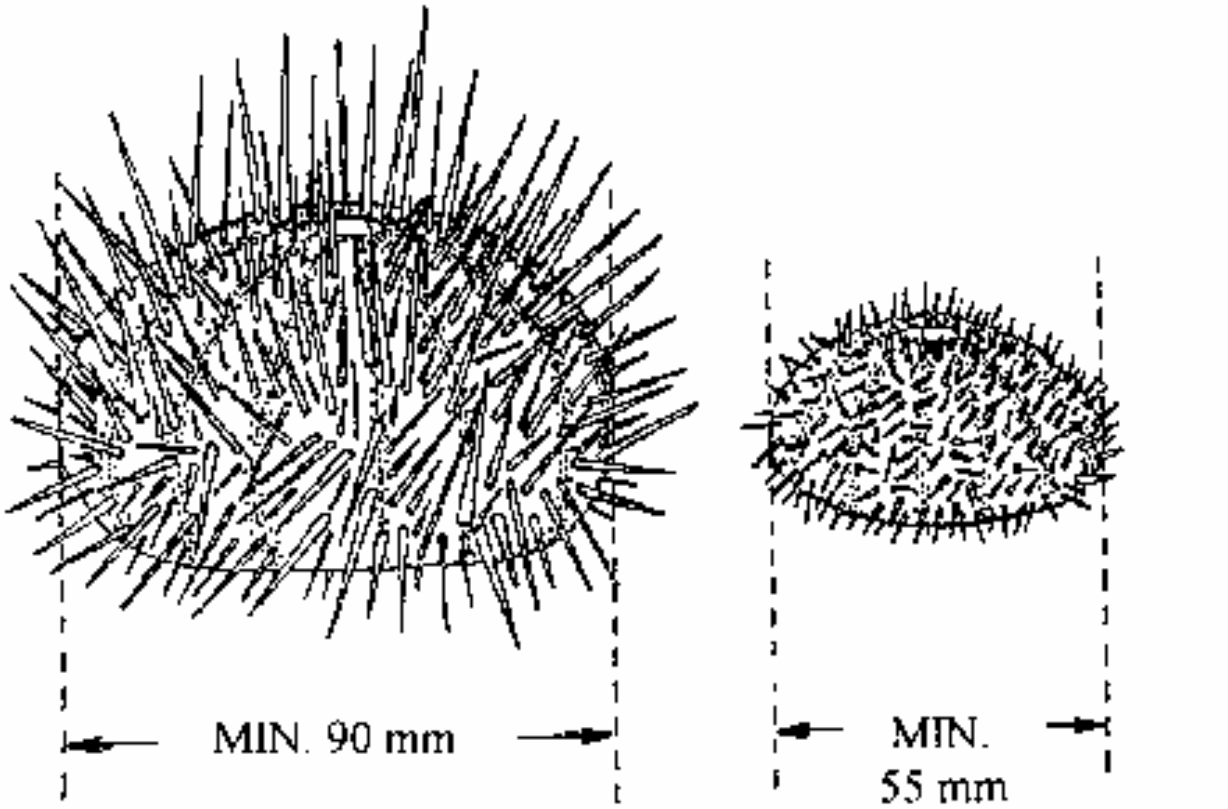
Annual (Post-Season) Review Summary of the 2010/11 Season

- The TAC was not achieved. In the north coast Quota Areas were fished south of Management Area 6 for the first time in three seasons. The Queen Charlotte Islands Quota Areas were not fished due to issues with weather and market demand following the tsunami/earthquake in Japan.
- No concerns were voiced about First Nations access to red sea urchins for food, social and ceremonial purposes. No actions were taken.

Appendix 5: Information on Estimating Total Allowable Catch by Pacific Fisheries Management Area (PFMA)



Appendix 6: Size Limits for Sea Urchins



The minimum size limit for sea urchins is measured between the spines, through the greatest diameter of the red sea urchin test (shell)

Appendix 7 – Example of the Validation and Harvest Log

HAIL VERIFICATION #

RED SEA URCHIN
VALIDATION & HARVEST LOGBOOK

VALIDATION ID # :

SECTION 'A' - TO BE COMPLETED BY VESSEL MASTER

VESSEL NAME	REGISTRATION NUMBER (VRN)	VESSEL MASTER NAME	FISHERIES IDENTIFICATION NUMBER (FIN)

ZC TAB #	TOTAL DAYS FISHED	QUOTA AREA	BUYER NAME	CONTAINER IDENTIFICATION LABEL	
				FLAGGING TAPE COLOUR	TAG YES / NO

PACKER VESSEL NAME	REGISTRATION NUMBER (VRN)	GROSS PACKER WEIGHT (LB.)	NUMBER OF CONTAINERS			
			BAGS	CAGES	TOTES	OTHER

SECTION 'B' - TO BE COMPLETED BY OBSERVER — PLEASE PRINT - USE PEN

DOCKSIDE OBSERVER NAME	No. of VALIDATED CONTAINERS				GROSS DOCK. WEIGHT (LB.)	TARE. WEIGHT. (LB.)	
	BAGS	CAGES	TOTES	OTHER			
							PREVIOUS R.Q. (LB.)
							NET DOCK WT. (LB.)
							NEW R.Q. (LB.)

OVERAGE lb. | TRANSFER: TO / FROM ZC # : | OTHER VALIDATION ID #

No. of TRANSPORT CONTAINERS

LANDING PORT	LANDING DATE	START TIME	OFFLOAD SEQ.	SITUATION REPORT #

CONTAINER LABELS Y N — CONTAINER COUNT Y N

COMMENTS :

HARVEST COMPLETE Y N — BAG / TOTE TAGS Y N — MATH CHECK Y N — FISH HOLD CHECK Y N

SECTION 'C' - TO BE COMPLETED BY VESSEL MASTER — PLEASE PRINT - USE PEN

HARVEST INFORMATION - COMPLETE A SEPARATE LINE FOR EACH DIVE - USE ANOTHER PAGE IF MORE SPACE IS REQUIRED

DIVE No.	DIVE SITE	HARVEST DATE (Sep.01/04)	STAT. AREA	SUB AREA	HARVEST LOCATION (NAME OF NEAREST LANDMARK)	DIVER NAME (FIRST & LAST NAME)	DIVE TIME (minutes)	DEPTH (ft) min.	DEPTH (ft) max.	No. of PICKBAGS	ABALONE PRESENCE
1											
2											
3											
4											
5											
6											
7											
8											
9											

ENSURE YOUR HARVEST CHART IS COMPLETED

SPLIT LOAD	YES / NO	NUMBER OF LOADS		VALIDATION NUMBER(S) OF OTHER LOADS			SPLIT LOAD COMMENT

Fisheries and Oceans Canada — Pêches et Océans Canada — D&D Pacific Fisheries Limited

WHITE COPY - Observer — YELLOW COPY - Buyer via trucking — PINK COPY - Vessel via packer — GOLD COPY - Remains in Logbook

Appendix 8: 2011/2012 Red Sea Urchin Quota Area Descriptions

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An asterisk (*) indicates a change in Quota Area boundaries for 2011/2012.

Descriptions of closures that fall within these Quota Areas are shown in Appendix 1, Section 6.

Harvesters are reminded that these area descriptions and the maps in Appendix 9 are to be used for reference only. The final authority of these descriptions of Areas, Subareas and portions thereof is as set out in the *Pacific Fishery Management Area Regulations.*

1. QUEEN CHARLOTTE ISLANDS

Quota Area	Name	Description
RU01a	Lepas Bay	That portion of Subarea 1-1 north of a line running due west from White Point.
RU01b	Frederick Island	That portion of Subarea 1-1 south of a line running due west from White Point.
RU02a	Langara Island	Those portions of Subareas 1-2, 1-7, 101-2, 101-3, 101-6, 101-7 west of a line running due north from Seath Point on Graham Island. Note Area 1 closures listed in Integrated Fisheries Management Plan.
RU02b	Virago Sound	A.) Subareas 1-3. B.) Those portions of Subareas 1-2, 1-7, 101-6 and 101-7 east of a line running due north from Seath Point on Graham Island and west of a line running due north from Wiah Point. Note Area 1 closures listed in Integrated Fisheries Management Plan.
RU03a	Cumshewa Inlet	Subareas 2-2 and 2-3.
RU03b	Kunga Island	Subareas 2-8, 2-10. Note Tanu Island and Richardson Pass closures listed in Integrated Fisheries Management Plan.
RU04a	Juan Perez Sound	Subarea 2-11. Closed for abalone research
RU04b	Section Cove	Subareas 2-12, 2-13. Note Burnaby Narrows closure listed in Appendix 1 of the Integrated Fisheries Management Plan.
RU05a	Skincuttle Inlet	Subareas 2-14 and 2-15.
RU05b	Carpenter Bay	Subarea 2-17.
RU06	Lower 2E	Subareas 2-18 and 2-19. Note Cape Saint James closure listed in Appendix 1 of the Integrated Fisheries Management Plan.

Quota Area	Name	Description
RU07	Lower 2W	A.) Subareas 2-31, 2-32, 2-33 and 2-34. B.) That portion of Subarea 142-1 south of a parallel passing through 52 degrees 09 minutes north latitude. Note Louscoone Estuary and Anthony Island (SGang Gwaay) closures listed in Appendix 1 of the Integrated Fisheries Management Plan.
RU08	Flamingo / Englefield	A.) Subareas 2-35 to 2-62. B.) That portion of Subarea 142-1 north of a parallel passing through 52 degrees 09 minutes north latitude. C.) Subarea 142-2. Note Flamingo Estuary and Gowgaia Estuary closures listed in Appendix 1 of the Integrated Fisheries Management Plan.
RU09	Van Inlet	Subarea 2-68.
RU10	Rennel Sound	Subareas 2-69 to 2-84. Note Shields Bay closure listed in Integrated Fisheries Management Plan.
RU11	Hippa Island	A.) Subareas 2-85 to 2-87. B.) That portion of Subarea 2-88 south of a line running true west from Selveston Point.
RU12	Port Louis	A.) That portion of Subarea 2-88 north of a line running true west from Selveston Point. B.) Subareas 2-89 to 2-100.

2. NORTH AND CENTRAL COAST

Quota Area	Name	Description
RU13a	Dundas Island North	Subareas 3-1, 3-2, 3-3, 3-7 and 3-11.
RU13b	Dundas Island South	A.) That portion of Subarea 4-1 north of a line running 222 degrees true from Farwest Point on Dunira Island (using Canadian Hydrographic chart # 3959), excluding the Nares Islets Quota Area described as: that portion of Subarea 4-1 northeast of a line running from Gore-Langton Point on Dundas Island to a point at 54 degrees 28.55 minutes north latitude, 130 degrees 50.70 minutes west longitude, and then running north-easterly to a point at 54 degrees 30.45 minutes north latitude, 130 degrees 47.65 minutes west longitude. B.) That portion of Subarea 4-5 west of the meridian passing through 130 degrees 37.0 minutes west longitude and north of a line from the northernmost point of Dunira Island, thence true east to the meridian passing through 130 degrees 37.0 minutes west longitude.

Quota Area	Name	Description
RU13c	Melville Island	A.) That portion of Subarea 4-1 south of a line running 222 degrees true from Farwest Point on Dunira Island (using Canadian Hydrographic chart # 3959) and north of the parallel passing through 54 degrees 20.30 minutes north latitude. B.) That portion of Subarea 4-5 south of a line from the northernmost point of Dunira Island, thence true east to the meridian passing through 130 degrees 37.0 minutes west longitude, and west of the meridian passing through 130 degrees 37.0 minutes west longitude. C.) Those portions of Subareas 4-9 and 4-13 north of the parallel passing through 54 degrees 20.30 minutes north latitude.
RU13d	Nares Islets	That portion of Subarea 4-1 northeast of a line running from Gore-Langton Point on Dundas Island to a point at 54 degrees 28.55 minutes north latitude, 130 degrees 50.70 minutes west longitude, and then running north-easterly to a point at 54 degrees 30.45 minutes north latitude, 130 degrees 47.65 minutes west longitude
RU14	Tree Knobs	A.) That portion of Subarea 4-1 south of a parallel passing through 54 degrees 20.30 minutes north latitude. B.) That portion of Subarea 4-2 north of the parallel passing through 54 degrees 13.5 minutes north latitude. C.) That portion of Subarea 4-13 north of the parallel passing through 54 degrees 13.5 minutes north latitude and south of a parallel passing through 54 degrees 20.30 minutes north latitude.
RU15	Outside Stephens Island	That portion of Subarea 4-2 south of the parallel passing through 54 degrees 13.5 minutes north latitude and north of a line running true west from the southern tip of Stephens Island to the surf line.
RU16	Inside Stephens Island	A.) That portion of Subarea 4-9 south of the parallel passing through 54 degrees 20.30 minutes north latitude. B.) That portion of Subarea 4-13 south of the parallel passing through 54 degrees 13.50 minutes north latitude.
RU17	Kelp Pass	Subarea 4-12.
RU18	Oval Bay	A.) That portion of Subarea 4-2 south of a line running true west from the southern tip of Stephens Island to the surf line. B.) That portion of Subarea 4-3 north of a line running due west from Fan Point. C.) Subarea 4-4.
RU19	Porcher Inlet	Subarea 5-9.
RU20a	Cape George	That portion of Subarea 4-3 south of a line running due west from Fan Point.

Quota Area	Name	Description
RU20b	Freeman Passage	A.) That portion of Subarea 5-11 north of the parallel passing through 53 degrees 48.0 minutes north latitude. (Refer to Canadian Hydrographic Service Chart #3761) B.) Subarea 5-12 except that portion south of a line running from Joachim Spit at 53 degrees 49.506 minutes north latitude, 130 degrees 38.813 minutes west longitude easterly to Goschen Island at 53 degrees 49.566 minutes north latitude, 130 degrees 37.416 minutes west longitude.
RU21	Willis Bay	A.) That portion of Subarea 5-10 south and west of a line running from the northern tip of the entrance to Dolphin Lagoon located at 53 degrees 46.7 minutes north latitude, 130 degrees 28.1 minutes west longitude on Dolphin Island, thence west to a point on the Prager Islands located at 53 degrees 46.85 minutes north latitude, 130 degrees 29.8 minutes west longitude, thence northerly to a point on the Shakes Islands located at 53 degrees 47.5 minutes north latitude, 130 degrees 29.0 minutes west longitude, thence true north to the Subarea 5-10 boundary line; west of the line running from Boys Point on Dolphin Island due south to the parallel passing through 53 degrees 42.7 minutes north latitude; and north of the parallel passing through 53 degrees 42.7 minutes north latitude. (Refer to Canadian Hydrographic Service Chart #3947) B.) That portion of Subarea 5-11 south of the parallel passing through 53 degrees 48.0 minutes north latitude and north of the parallel passing through 53 degrees 42.7 minutes north latitude. Note Kitkatla closures listed in Integrated Fisheries Management Plan.
RU22a	Hankin Rock	That portion of Subarea 5-10 south of the parallel passing through 53 degrees 42.7 minutes north latitude. (Refer to Canadian Hydrographic Service Chart #3927)
RU22b	Beaver Pass	That portion of Subarea 5-10 south of a line running from the north-western tip of McCauley Island to a boundary sign on the northwest tip of Spicer Island; south of a line running from a boundary sign located on the south-westernmost tip of Spicer Island to Boys Point on Dolphin Island, then due south to the parallel passing through 53 degrees 42.7 minutes north latitude; and north of the parallel passing through 53 degrees 42.7 minutes north latitude. (Refer to Canadian Hydrographic Service Chart #3927) Note Kitkatla closures listed in Integrated Fisheries Management Plan.
RU23	Upper Principe Channel	Subarea 5-13
RU24a	Mid Principe Channel	A.) That portion of Subarea 5-17 north of a line running due east from Oar Point. B.) Subarea 5-18

Quota Area	Name	Description
RU24b	Lower Principe Channel	A.) That portion of Subarea 5-17 south of a line running due east from Oar Point. B.) Subarea 5-19. C.) That portion of Subarea 6-9 north of a parallel running through the Sisters Islands from 53 degrees 10.686 minutes north latitude, 129 degrees 46.803 minutes west longitude.
RU25	Petrel Channel	Subareas 5-14, 5-15 and 5-16
RU27c	Upper Banks Island	A.) That portion of Subarea 5-11 south of a line running true west from Baird Point on McCauley Island. B.) That portion of Subarea 5-20 east of a line running 140 degrees true from 53 degrees 35 minutes north latitude and 130 degrees 38.8 minutes west longitude, north of a parallel running east and west through Cliff Point, except that portion of Subarea 5-20 adjacent to the western shore of the Antle Islands described as: east of a line running from the boundary marker at Laverock Point (53 degrees 30.97 minutes north latitude, 130 degrees 29.13 minutes west longitude), then to a point west of the Antle Islands at 53 degrees 28.12 minutes north latitude, 130 degrees 28 minutes west longitude. (Refer to Canadian Hydrographic Service Chart #3927) *This RU area is a combination of RU26 and RU27a
RU27d	Mid Banks Island	A.) That portion of Subarea 5-20 east of a line running 140 degrees true from 53 degrees 35 minutes north latitude, 130 degrees 38.8 minutes west longitude, east of a line running from Laverock Point (53 degrees 30.97 minutes north latitude, 130 degrees 29.13 minutes west longitude), to a point west of the Antle Islands at 53 degrees 28.12 minutes north latitude, 130 degrees 28 minutes west longitude and south of a parallel running east and west through Cliff Point. B.) Subarea 5-21 *This RU area is a combination of RU27b and RU29

Quota Area	Name	Description
RU28	Bonilla Island	A.) That portion of Subarea 5-20 south of the parallel passing through 53 degrees 35 minutes north latitude; west of line running 140 degrees true from 53 degrees 35 minutes north latitude, 130 degrees 38.8 minutes west longitude; north of a line running from Kelp Point on Banks Island true west to the surf line. (Refer to Canadian Hydrographic Service Chart #3927) B.) Subarea 105-1. C.) That portion of Subarea 105-2 north of a line running from Kelp Point on Banks Island true west to the surf line. (Refer to Canadian Hydrographic Service Chart #3741)
RU30	Lower Banks Island	A.) Subarea 5-22. B.) That portion of Subarea 105-2 south of a line running from Kelp Point on Banks Island true west to the surf line (Refer to Canadian Hydrographic Service Chart #3741). C.) That portion of Subarea 106-1 north of a parallel passing through Finnerty Point on Nichol Island.
RU31a	Moore Islands	That portion of Subarea 106-2 west of a line running 144 degrees true from the northern boundary of Subarea 106-2 at 129 degrees 30.12 minutes west longitude, and north of a parallel passing through 52 degrees 36.40 minutes north latitude. (Refer to Canadian Hydrographic Service Chart #3726)
RU31b	Harvey Islands	That portion of Subarea 106-2 west of a line running 144 degrees true from the northern boundary of Subarea 106-2 at 129 degrees 30.12 minutes west longitude, and south of a parallel passing through 52 degrees 36.40 minutes north latitude. (Refer to Canadian Hydrographic Service Chart #3726)
RU32	Calamity Bay	That portion of Subarea 6-9 north of the parallel passing through 53 degrees 08.0 minutes north latitude and west of the meridian passing through 129 degrees 49.78 minutes west longitude. (Refer to Canadian Hydrographic Service Chart #3741)
RU33	Otter Pass	That portion of Subarea 6-9 south of a parallel running through the Sisters Islands from 53 degrees 10.686 minutes north latitude, 129 degrees 46.803 minutes west longitude, and north of a parallel passing through Flynn Point on Trutch Island, excluding the Calamity Bay Quota Area described as: that portion of Subarea 6-9 north of the parallel passing through 53 degrees 08.0 minutes north latitude and west of the meridian passing through 129 degrees 49.78 minutes west longitude. (Refer to Canadian Hydrographic Service Charts #3741 and #3724)
RU34a	Langley Pass	That portion of Subarea 6-9 west of a meridian running through 129 degrees 38.420 minutes west longitude; south of a parallel passing through Flynn Point on Trutch Island; and north of a parallel passing through Finnerty Point on Nichol Island. (Refer to Canadian Hydrographic Service Chart #3795)

Quota Area	Name	Description
RU34b	Develin Bay	That portion of Subarea 6-9 east of a meridian running through 129 degrees 38.420 minutes west longitude and south of a parallel passing through Flynn Point on Trutch Island. (Refer to Canadian Hydrographic Service Chart #3795)
RU35	Oswald Bay	A.) That portion Subarea 6-9 south of a parallel passing through Finnerty Point on Nichol Island, and northwest of a parallel running true west from a point on Dewdney Island at 52 degrees 57.41 minutes north latitude, 129 degrees 38.16 minutes west longitude south-westerly to the subarea boundary. (Refer to Canadian Hydrographic Service Chart #3724) B.) That portion of Subarea 106-1 south of a parallel passing through Finnerty Point on Nichol Island and north of a parallel running true west from a point on Dewdney Island at 52 degrees 57.41 minutes north latitude , 129 degrees 38.16 minutes longitude.
RU36a	Estevan Group East	Those portions of Subareas 6-9 and 6-10 west of a line running 132 degrees true from Humphreys Point on Lotbiniere Island southerly to the parallel running true west from McPhee Point on Princess Royal Island, north of the parallel running true west from McPhee Point on Princess Royal Island, and east of a line running 130 degrees true from Goodacre Point. (Refer to Canadian Hydrographic Service Chart #3724)
RU36b	Estevan Group South	A.) That portion of Subarea 6-9 west of a line running 130 degrees true from Goodacre Point, north of a parallel running true west from McPhee Point on Princess Royal Island, and south of a parallel running true west from a point on Dewdney Island at 52 degrees 57.41 minutes north latitude, 129 degrees 38.16 minutes west longitude. (Refer to Canadian Hydrographic Service Chart #3724) B.) That portion of Subarea 106-1 south of a parallel running true west from a point on Dewdney Island at 52 degrees 57.41 minutes north latitude, 129 degrees 38.16 minutes west longitude and north of a parallel running true west from McPhee point on Princess Royal Island.
RU37	Rennison Island	A.) Those portions of Subareas 6-9 and 6-10 south of a line running true west from McPhee Point on Princess Royal Island. B.) That portion of Subarea 6-11 north of a line running from McPhee Point on Princess Royal Island to Ulric Point on Aristazabal Island. C.) That portion of Subarea 6-13 north of line running from Ulric Point on Aristazabal Island to the southern tip of Rennison Island, then true west to the surf line. (Refer to Canadian Hydrographic Service Chart #3724)
RU38a	Campania Island	That portion of Subarea 6-10 west of a line running due south from the southernmost point of Campania Island at 52 degrees 57.579 minutes north latitude, 129 degrees 19.464 minutes west longitude.

Quota Area	Name	Description
RU38b	Whale Channel	A.) Subareas 6-5, 6-6 to 6-8; B.) That portion of Subarea 6-10 north of the parallel running true west from McPhee Point on Princess Royal Island, east of a line running due south from the southernmost point of Campania Island at 52 degrees 57.579 minutes north latitude, 129 degrees 19.464 minutes west longitude, and west of the line running from Ulric Point on Aristazabal Island to the entrance to Clarke Cove on Princess Royal Island at 52 degrees 58.30 minutes north latitude, 129 degrees 11.59 minutes west longitude. C.) Subareas 6-26 to 6-28.
RU38c	Surf Inlet	A.) That portion of Subarea 6-10 north of the parallel running true west from McPhee Point on Princess Royal Island and east of the line running from Ulric Point on Aristazabal Island to the entrance to Clarke Cove on Princess Royal Island at 52 degrees 58.30 minutes north latitude, 129 degrees 11.59 minutes west longitude. B.) Subarea 6-12.
RU39	Upper West Aristazabal	A.) That portion of Subarea 6-13 south of a line running from Ulric Point on Aristazabal Island to the southern tip of Rennison Island, thence true west to the surf line and north of the parallel passing through 52 degrees 40.0 minutes north latitude (Refer to Canadian Hydrographic Service Chart #3724); B.) That portion of Subarea 106-2 east of a line running 144 degrees true from the northern boundary of Subarea 106-2 at 129 degrees 30.12 minutes west longitude, south of a line running from Ulric Point on Aristazabal Island to the southern tip of Rennison Island, thence true west, and north of the parallel passing through 52 degrees 40.0 minutes north latitude.
RU40	Woodcock Islands	A.) That portion of Subarea 6-13 south of the parallel passing through 52 degrees 40.0 minutes north latitude, and north of the parallel passing through 52 degrees 35.6 minutes north latitude (through Howse Island). B.) That portion of Subarea 106-2 east of a line running 144 degrees true from the northern boundary of Subarea 106-2 at 129 degrees 30.12 minutes west longitude, south of the parallel passing through 52 degrees 40.0 minutes north latitude, and north of the parallel passing through 52 degrees 35.6 minutes north latitude (through Howse Island).
RU41	Normansell Islands	A.) That portion of Subarea 6-13 south of the parallel passing through 52 degrees 35.6 minutes north latitude (through Howse Island); and north of the parallel passing through 52 degrees 32.0 minutes north latitude (Refer to Canadian Hydrographic Service Chart #3726. B.) That portion of Subarea 106-2 east of a line running 144 degrees true from the northern boundary of Subarea 106-2 at 129 degrees 30.12 minutes west longitude; south of the parallel passing through 52 degrees 35.6 minutes north latitude (through Howse Island), and north of the parallel passing through 52 degrees 32.0 minutes north latitude.

Quota Area	Name	Description
RU42	Lower West Aristazabal	A.) That portion of Subarea 6-13 south of the parallel passing through 52 degrees 32.0 minutes north latitude, and north of the parallel passing through 52 degrees 27.62 minutes north latitude (refer to Canadian Hydrographic Service Chart #3726). B.) That portion of Subarea 106-2 east of a line running 144 degrees true from the northern boundary of Subarea 106-2 at 129 degrees 30.12 minutes west longitude; south of the parallel passing through 52 degrees 32.0 minutes north latitude; and north of the parallel passing through 52 degrees 27.62 minutes north latitude.
RU43	Upper Laredo	A.) That portion of Subarea 6-11 south of a line running from McPhee Point on Princess Royal Island to Ulric Point on Aristazabal Island. B.) Subarea 6-14.
RU44	Lower Laredo	A.) Subarea 6-15. B.) That portion of Subarea 6-16 north of a line running true west from Wilby Point on Swindle Island, and west of a line running from Wilby Point on Swindle Island to Dallain Point on Princess Royal Island. (Refer to Canadian Hydrographic Service Chart #3737)
RU45	Laredo Inlet	A.) That portion of Subarea 6-16 east of a line running from Wilby Point on Swindle Island to Dallain Point on Princess Royal Island (Refer to Canadian Hydrographic Service Chart #3737). B.) Subarea 6-19.
RU46a	Laredo Sound	A.) That portion of Subarea 6-16 south of a line running true west from Wilby Point on Swindle Island. B.) That portion of Subarea 6-17 east of a meridian passing through 128 degrees 56.0 minutes west longitude.
RU46b	Prior Pass	A.) That portion of Subarea 6-13 south of a parallel running through 52 degrees 27.62 minutes north latitude (Refer to Canadian Hydrographic Service Chart #3726). B.) That portion of Subarea 6-17 west of a meridian passing through 128 degrees 56.0 minutes west longitude.
RU47a	Thompson Bay	A.) Those portions of Subareas 7-1 and 7-2 east of a meridian running due south from Aldrich Point on Price Island. B.) Subareas 7-19 and 7-20. C.) That portion of Subarea 7-21 south of a line running through the tidal rapids in Gale Passage at 52 degrees 12.5 minutes north latitude. D.) Subarea 7-32.
RU47b	Day Point	A.) Those portions of Subareas 7-1, 7-2 and 7-3 west of a meridian running due south from Aldrich Point on Price Island; B.) That portion of Subarea 7-31 south of a parallel passing through 52 degrees 16.3 minutes north latitude. Note Price Island closure listed in the Integrated Fisheries Management Plan.
RU48	Milbanke Sound	That portion of Subarea 7-3 east of a meridian running due south from Aldrich Point on Price Island.

Quota Area	Name	Description
RU49	Finlayson Channel	A.) Subareas 7-4, 7-5, and 7-6. B.) That portion of Subarea 7-9 north of a parallel passing through Jermaine Point on Dowager Island.
RU50	Mathieson Channel	That portion of Subarea 7-9 north of a line running from Cross Point on Lady Douglas Island southerly along the Subarea boundary to a point west of Rankin Point on Cecelia Island, then to Rankin Point on Cecilia Island; north of a line from Rankin Point on Cecilia Island to Knarled Point on the Don Peninsula; and south of a parallel passing through Jermaine Point on Dowager Island.
RU51	Seaforth Channel	A.) Subareas 7-8. B.) That portion of Subarea 7-9 south of a line running from Cross Point on Lady Douglas Island southerly along the Subarea boundary to a point west of Rankin Point on Cecelia Island, then to Rankin Point on Cecilia Island, then to Knarled Point on the Don Peninsula; C.) Subareas 7-12 and 7-15. D.) That portion of Subarea 7-21 north of a line running through the tidal rapids in Gale Passage at 52 degrees 12.5 minutes north latitude.
RU52	Tribal / McMullin Group	A.) Subarea 7-18. B.) Those portions of Subareas 7-23 and 7-24 south of a parallel passing through 52 degrees 10.0 minutes north latitude near Poole Islet in Raymond Channel and Quinoot Point in Joassa Channel. (Refer to Canadian Hydrographic Service Chart #3787)
RU53	Spider / Kildidt	Subareas 7-26, 7-27 and 7-28
RU54	McNaughton Group	A.) That portion of Subarea 7-17 southwest of a line running from Beak Point on Hunter Island to German Point on Campbell Island (Refer to Canadian Hydrographic Service Chart #3787). B.) Subarea 7-25.
RU55	Hakai Pass	Subareas 8-1 and 8-2
RU56a	Nalau Pass	That portion of Subarea 8-4 west of a line running from Daedalus Point on Nalau Island to Hergest Point on Hunter Island
RU56b	Fitz Hugh Sound	A.) Subarea 8-3. B.) That portion of Subarea 8-4 east of a line running from Daedalus Point on Nalau Island to Hergest Point on Hunter Island. C.) Subarea 8-16. D.) That portion of Subarea 9-12 north of a parallel running through Truman Point on Calvert Island.
RU57a	Rivers Inlet	A.) Subareas 9-1 to 9-4, 9-10 to 9-11. B.) That portion of Subarea 9-12 south of a parallel running through Truman Point on Calvert Island. C.) Those portions of Subareas 10-1 and 10-2 east of a meridian running through 127 degrees 54.12 minutes west longitude and north of a parallel running true west from the Dugout Rocks light.

Quota Area	Name	Description
RU57b	West Calvert Island	A.) Area 109. B.) That portion of Subarea 10-1 west of a meridian passing through 127 degrees 56.7 minutes west longitude, and north of a line running due west from the Dugout Rocks light.
RU57c	Grief Bay	That portion of Subarea 10-1 west of a meridian running through 127 degrees 54.12 minutes west longitude, east of a meridian passing through 127 degrees 56.7 minutes west longitude, and north of a line running due west from the Dugout Rocks light
RU58	Smiths Inlet	A.) That portion of Subarea 10-2 south of a line running true west from the Dugout Rocks light. B.) Subareas 10-3, 10-4, 10-5, 10-7, 10-8 and 10-12.

3. INSIDE WATERS

Quota Area	Name	Description
11	Allison Harbour	Area 11, except that portion of Subarea 11-2 inside a line starting at Davey Rock then running to 51deg 04.430min north latitude, 127deg 54.762min west longitude, then to 51deg 04.430min north latitude, 127deg 38.084min west longitude and returning to Davey Rock.
12A	Bates Pass	That portion of Subarea 12-12 south of a line running from Pivot Point on Hope Island to a point on Vansittart Island at 50 degrees 54.633 minutes north latitude, 127 degrees 48.651 minutes west longitude, and south of a line running from Magicienne Point on Vansittart Island through Shade Island to Nigei Island.
12B	Christie / Browning Pass	A.) Subarea 12-10; B.) That portion of Subarea 12-11 southwest of a line running from 51deg 04.43min north latitude, 127deg 54.762min west longitude and returning to Davey Rock.
12C	Port Hardy	Subareas 12-15 and 12-16, except that portion of Subarea 12-16 at the Masterman Islands west of a meridian running north from Daphne Point and east of a meridian running north from Dillon Point
12D	Port McNeill	Subareas 12-4, 12-8, 12-17 to 12-19. Note Numas Islands closure listed in the Integrated Fisheries Management Plan
12E	Blackfish Sound	Subareas 12-5, 12-6, 12-20, 12-26. Note Numas Islands closure listed in the Integrated Fisheries Management Plan
12F	Deserter Island	That portion of Subarea 12-13 east of a line starting at Davey Rock then running to 51deg 04.43min north latitude, 127deg 38.084min west longitude
12G	Wells Pass	Subareas 12-7, 12-38 to 12-42. Note Numas Island closure listed in the Integrated Fisheries Management Plan
12H	Northern Johnstone Strait	Subareas 12-1 to 12-3, 12-21 to 12-24

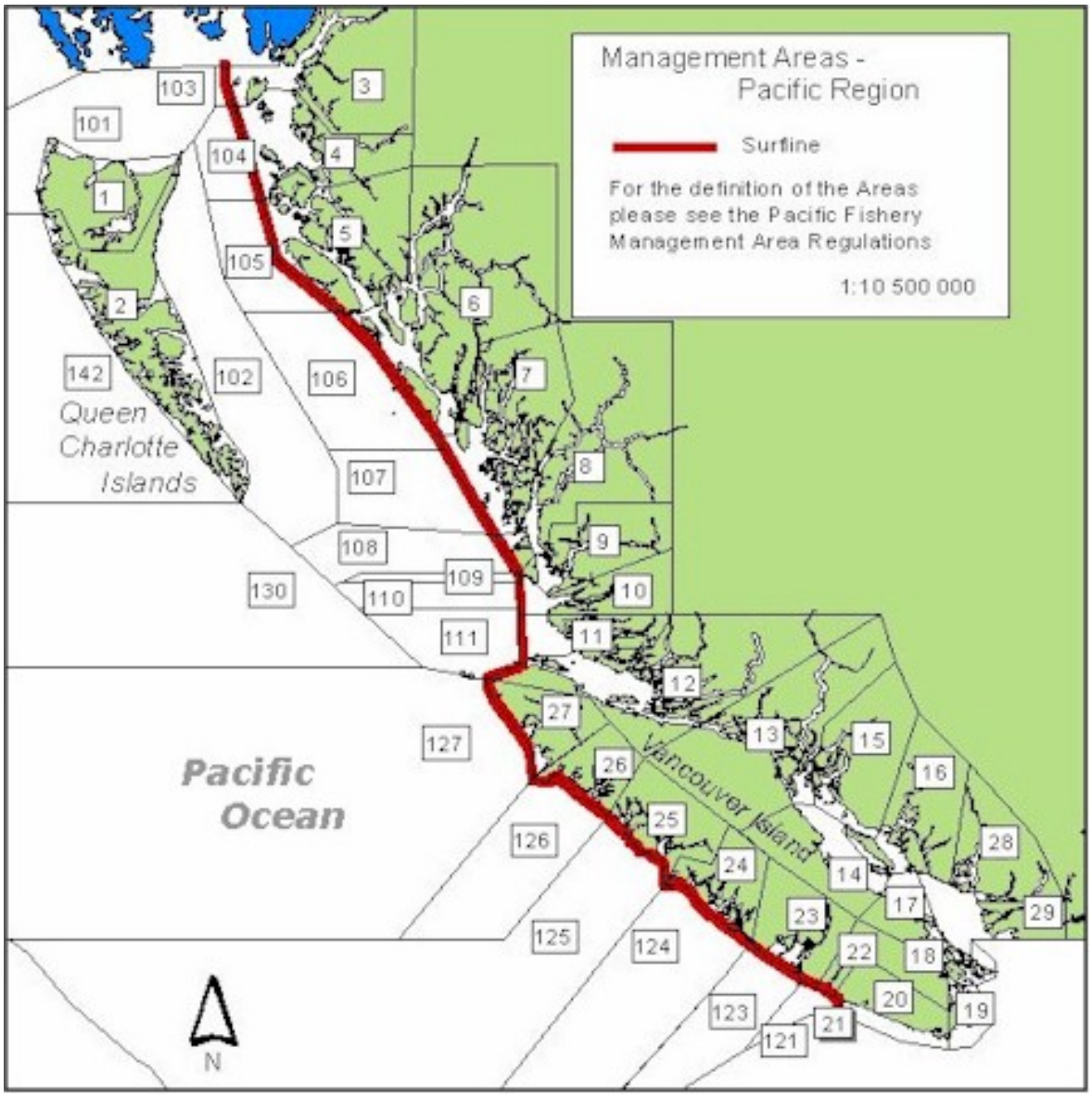
Quota Area	Name	Description
12I	Buckle Group	Those portions of Subareas 11-2, 12-11, 12-12, 12-13 inside a line starting at Davey Rock then running to 51deg 04.43min north latitude, 127deg 54.762min west longitude, then to 51deg 04.43min north latitude, 127deg 38.084min west longitude and returning to Davey Rock
12J	Shadwell Pass	That portion of Subarea 12-12 north of a line running from Pivot Point on Hope Island to a point on Vansittart Island at 50deg 54.633min north latitude, 127deg 48.651min west longitude; north of a line running from Magicienne Point on Vansittart Island through Shade Island to Nigei Island; and southwest of a line running from 50deg 49.445min north latitude, 127deg 48.347min west longitude and returning to Davey Rock
13A	Kelsey Bay - Proper	Subareas 13-32 to 13-34
13B	Campbell River South	A.) Subareas 13-1 and 13-2. B.) Portion of Subarea 14-13 north of a line running due east from Oyster River from 49 degrees 52.145 minutes north latitude, 125 degrees, 06.870 minutes west longitude.
13C	Campbell River North	Subareas 13-6 to 13-9, 13-11, 13-27, 13-28. Note Area 13 Study Area closure listed in the Integrated Fisheries Management Plan
13D	Campbell River East	Subareas 13-10, 13-12
13E	Cordero Channel	Subareas 13-25, 13-41 and 13-42
13F	Kelsey Bay - East	Subareas 13-29 to 13-31, 13-35 to 13-40
13G	Stuart Island	Subareas 13-13 to 13-24 and 13-26
14A	Comox	A.) Subareas 14-5, 14-7, 14-8 and 14-10 B.) Portions of Subareas 14-9, 14-11 and 14-12 south of a line running due east from Balmoral Beach at 49 degrees 40.034 minutes north latitude, 124 degrees 53.961 minutes west longitude.
14B	Cape Lazo	A.) Portions of Subareas 14-9, 14-11 and 14-12 north of a line running due east from Balmoral Beach at 49 degrees 40.034 minutes north latitude, 124 degrees 53.961 minutes west longitude. B.) Portion of Subarea 14-13 south of a line running due east from Oyster River from 49 degrees 52.145 minutes north latitude, 125 degrees, 06.870 minutes west longitude.
17	Nanaimo	Area 17 and Subarea 29-5. Note Stuart Channel closure listed in the Integrated Fisheries Management Plan
18a	Sidney	A.) Subareas 18-3, 18-4, and 18-6. B.) That portion of Subarea 19-5 north of a line running due east from Cormorant Point. C.) Subarea 19-6.
18b	Mayne / Saturna Island	Subareas 18-1, 18-2, 18-5, 18-9, 18-11 and 29-4

Quota Area	Name	Description
19	Victoria	A.) Subareas 19-3, 19-4. B.) That portion of Subarea 19-5 south of a line running due east from Cormorant Point. Note Ogden Point, 10 Mile Point and Race Rocks closures listed in management plan.

4. WEST COAST VANCOUVER ISLAND

Quota Area	Name	Description
20	Sooke	Subareas 20-4 to 20-6
23A	Bamfield	Subareas 23-5 to 23-7. Note Broken Group Islands and Bamfield closures listed the Integrated Fisheries Management Plan
23B	Ucluelet	Subareas 23-11 and 123-3. Note Broken Group Islands and Bamfield closures listed in the Integrated Fisheries Management Plan
23C		Subarea 123-5
24A	Sydney Inlet	Subarea 24-2. Note Hotsprings Cove closure listed in management plan. (Closed)
24B	Wickaninnish	Subarea 24-8. Note Moser Point closure listed in the Integrated Fisheries Management Plan. (Closed 2006/07 for First Nations access)
24C	Tofino	Subareas 24-6, 124-3 (Closed 2006/07 for First Nations access)
27A	Quatsino Outside	Subareas 27-1 to 27-3. (Closed for three years 2003/2004 to 2006/2007)
27B	Quatsino Inside	Subareas 27-7 to 27-11. (Closed for three years 2003/2004 to 2006/2007)
111	Cape Scott	Area 111, Subarea 12-14. (Closed)

Appendix 9: Pacific Fishery Management Area Maps and Red Sea Urchin Quota Area Maps

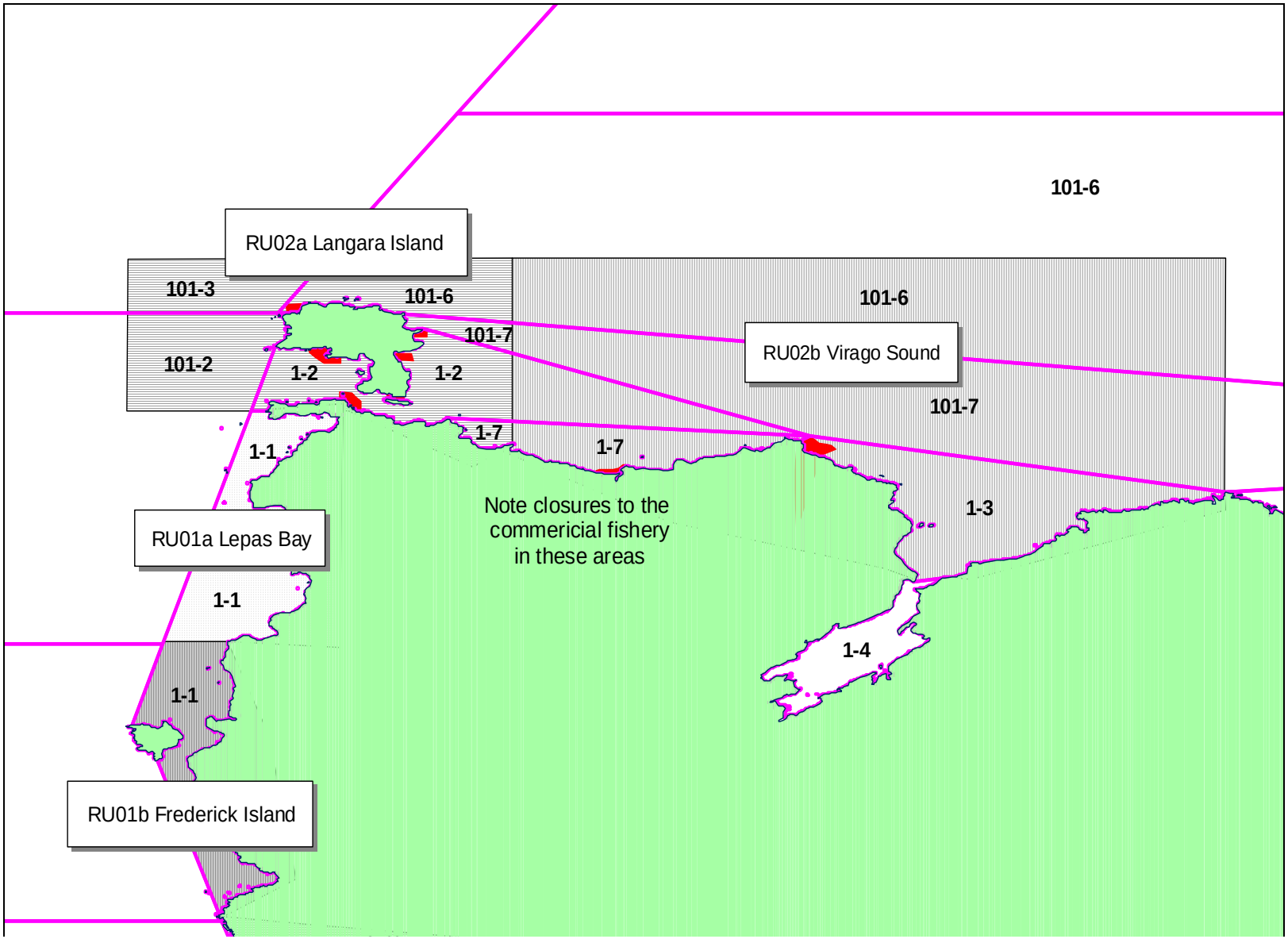


Harvesters are reminded that these maps and the area descriptions in Appendix 8 are to be used for reference only. The final authority of these descriptions of Areas, Subareas and portions thereof is as set out in the *Pacific Fishery Management Area Regulations*.

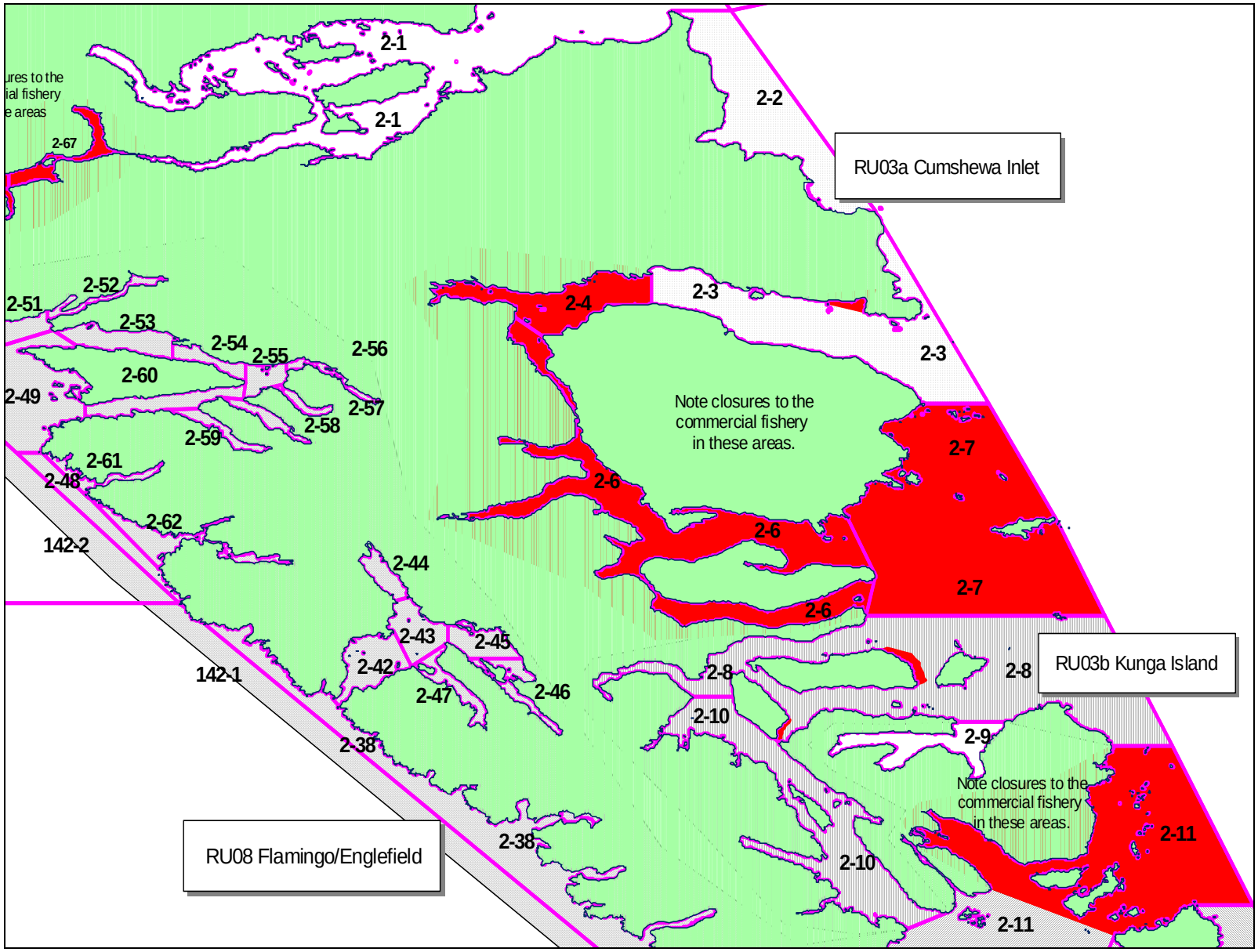
Red Sea Urchin Quota Area Maps:

Cross-hatched polygons represent Red Sea Urchin Quota Areas. See Appendix 8 Red Sea Urchin Quota Area Descriptions for complete details.

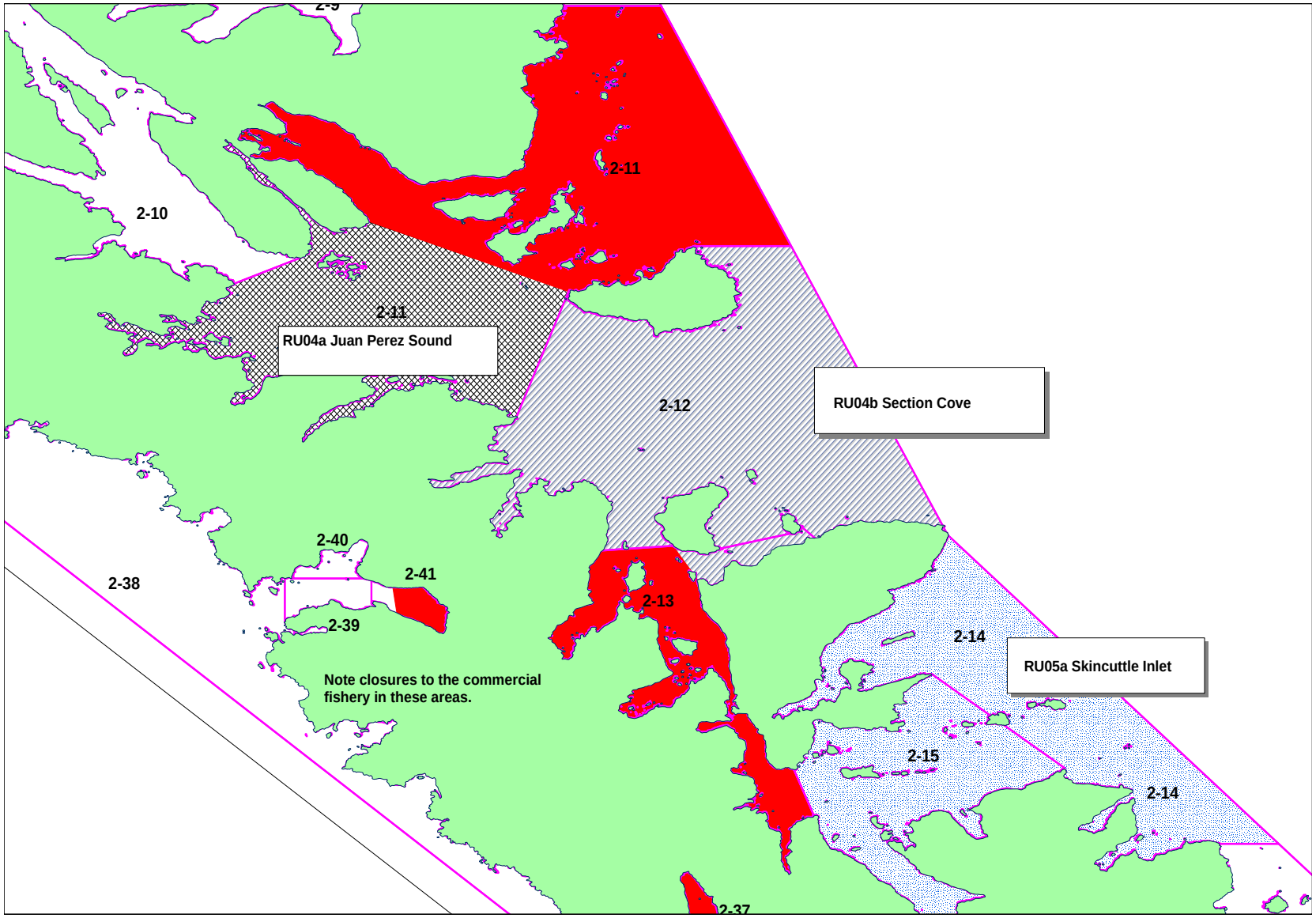
Shaded polygons represent permanent closures. See Appendix 1 Commercial Harvest Plan, Section 6 for complete details.



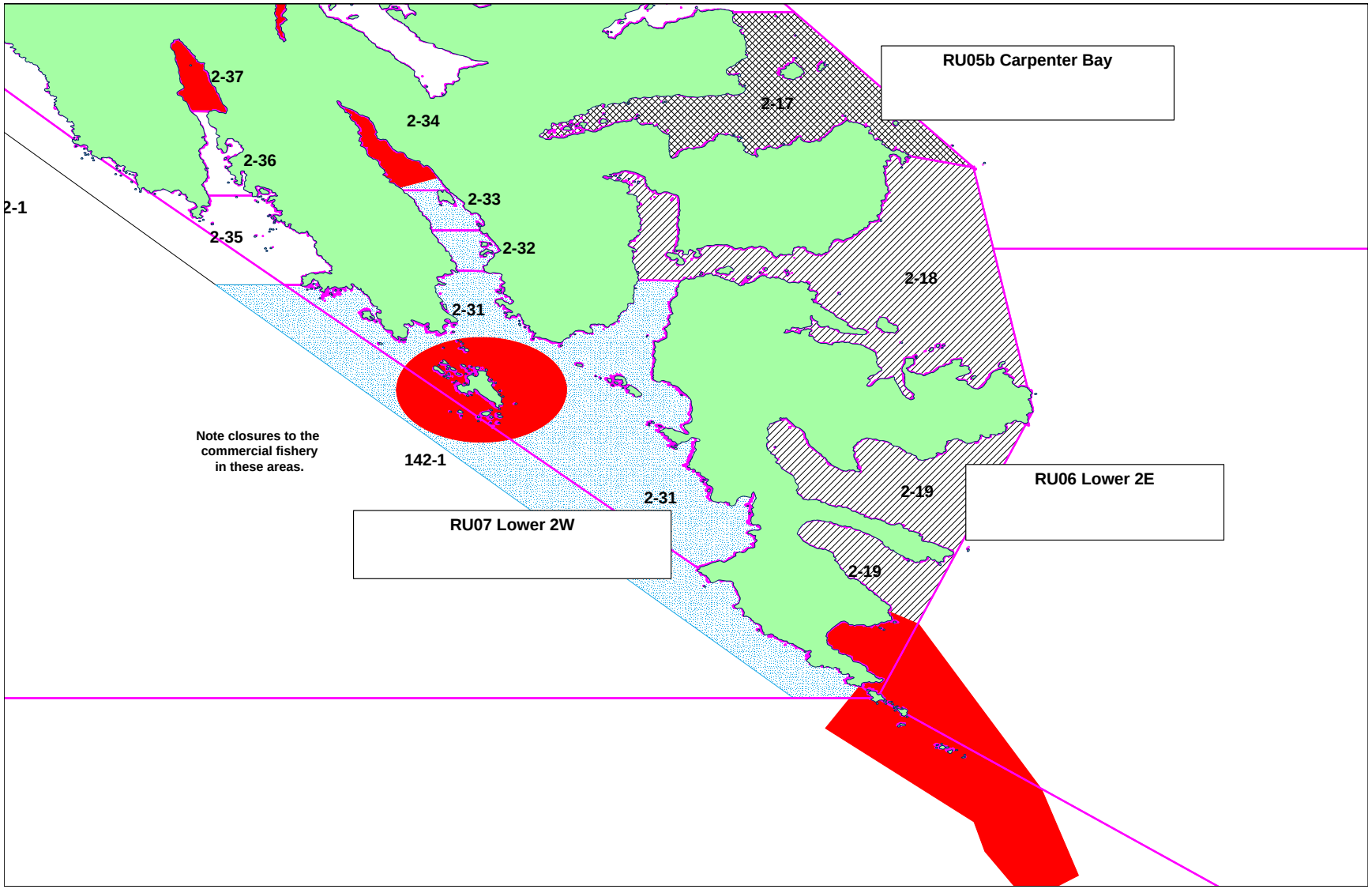
RU01a Lepas Bay: ptn. Subarea 1-1; RU01b Frederick Island: ptn. Subarea 1-1; RU02a Langara Island: ptn. Subareas 1-2, 1-7, 101-2, 101-3, 101-6, 101-7 except closures; RU02b Virago Sound: Subareas 1-3, ptn. Subareas 1-2, 1-7, 101-6, 101-7 except closures.



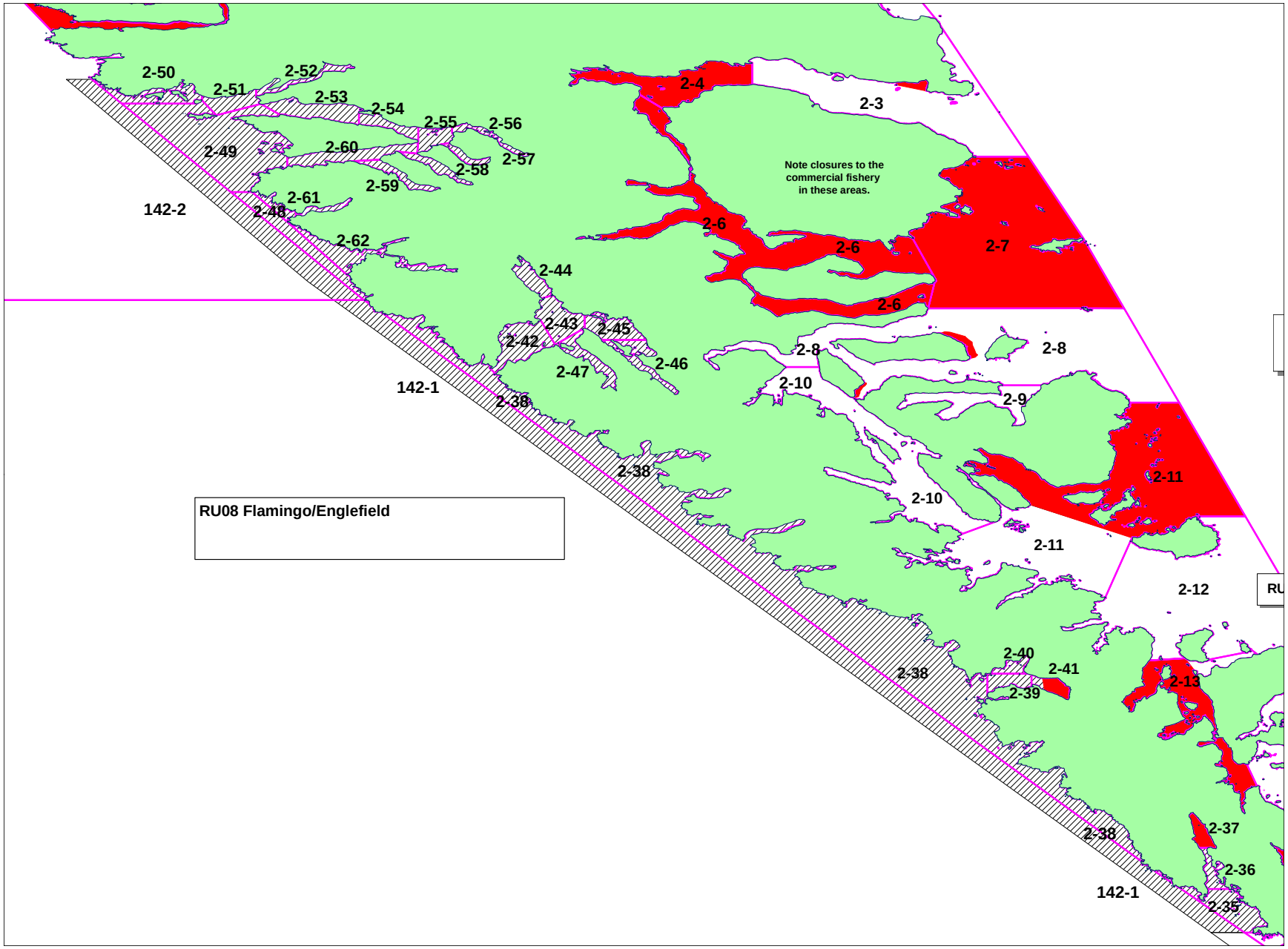
RU03a Cumshewa Inlet: Subareas 2-2, 2-3 except closure; RU03b Kunga Island: Subareas 2-8, 2-10 except closures.



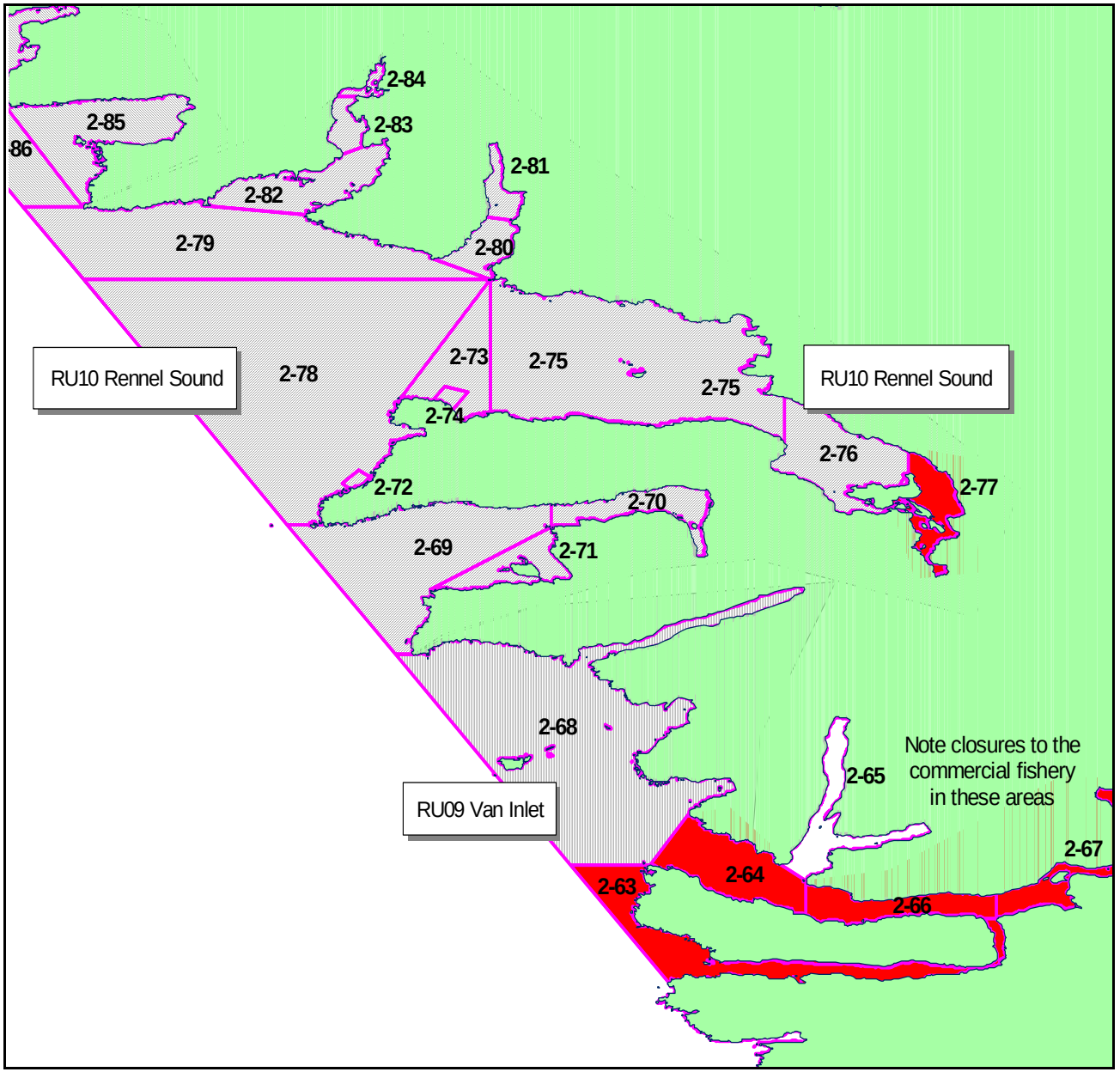
RU04a Juan Perez Sound: Subarea 2-11. Closed for abalone research; RU04b Section Cove: Subareas 2-12, 2-13 except closure; RU05a Skincuttle Inlet: Subareas 2-14, 2-15.



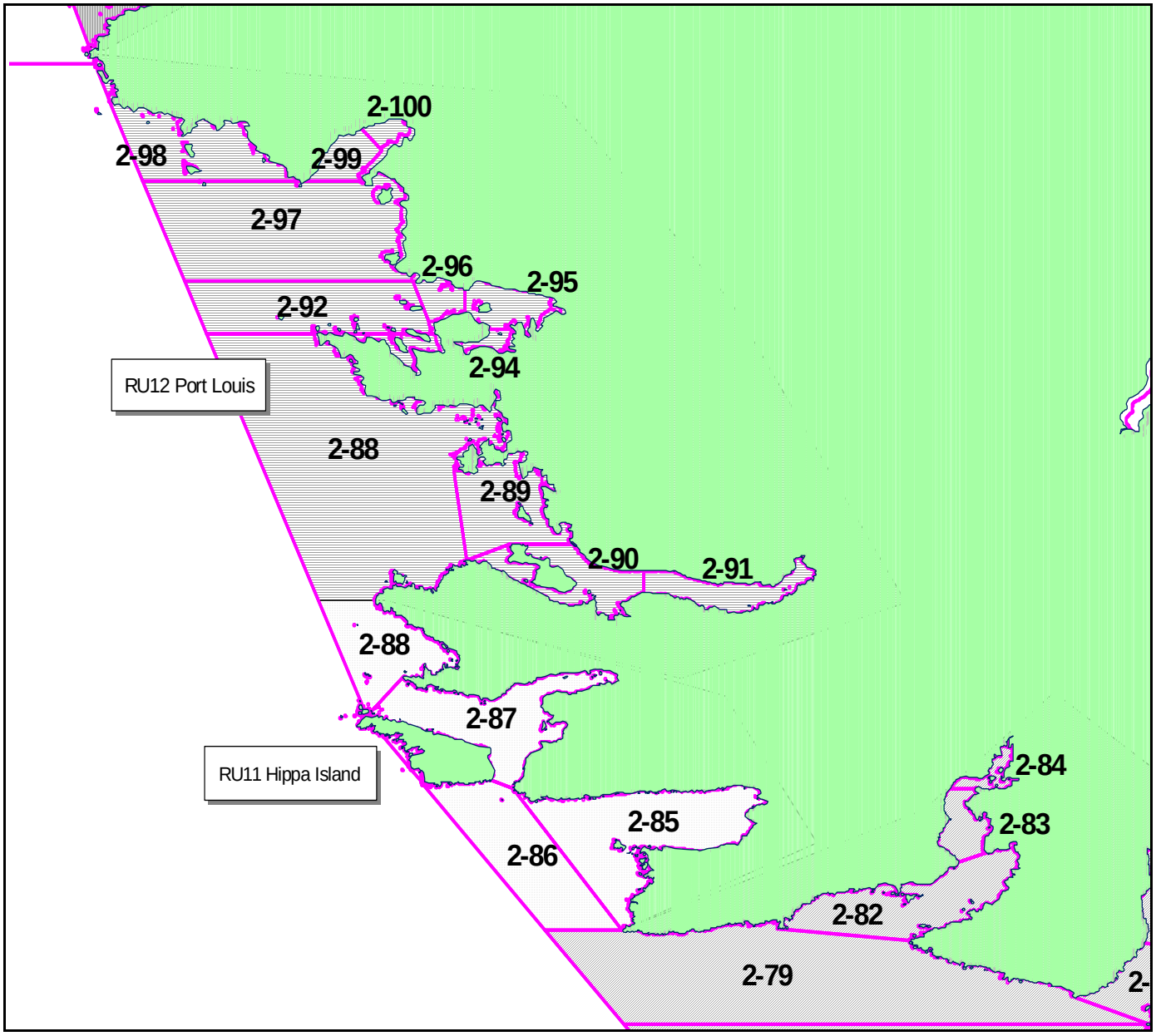
RU05b Carpenter Bay: Subarea 2-17; RU06 Lower 2E: Subareas 2-18, 2-19; RU07 Lower 2W: Subareas 2-31 to 2-34 except closure, ptn. Subarea 142-1



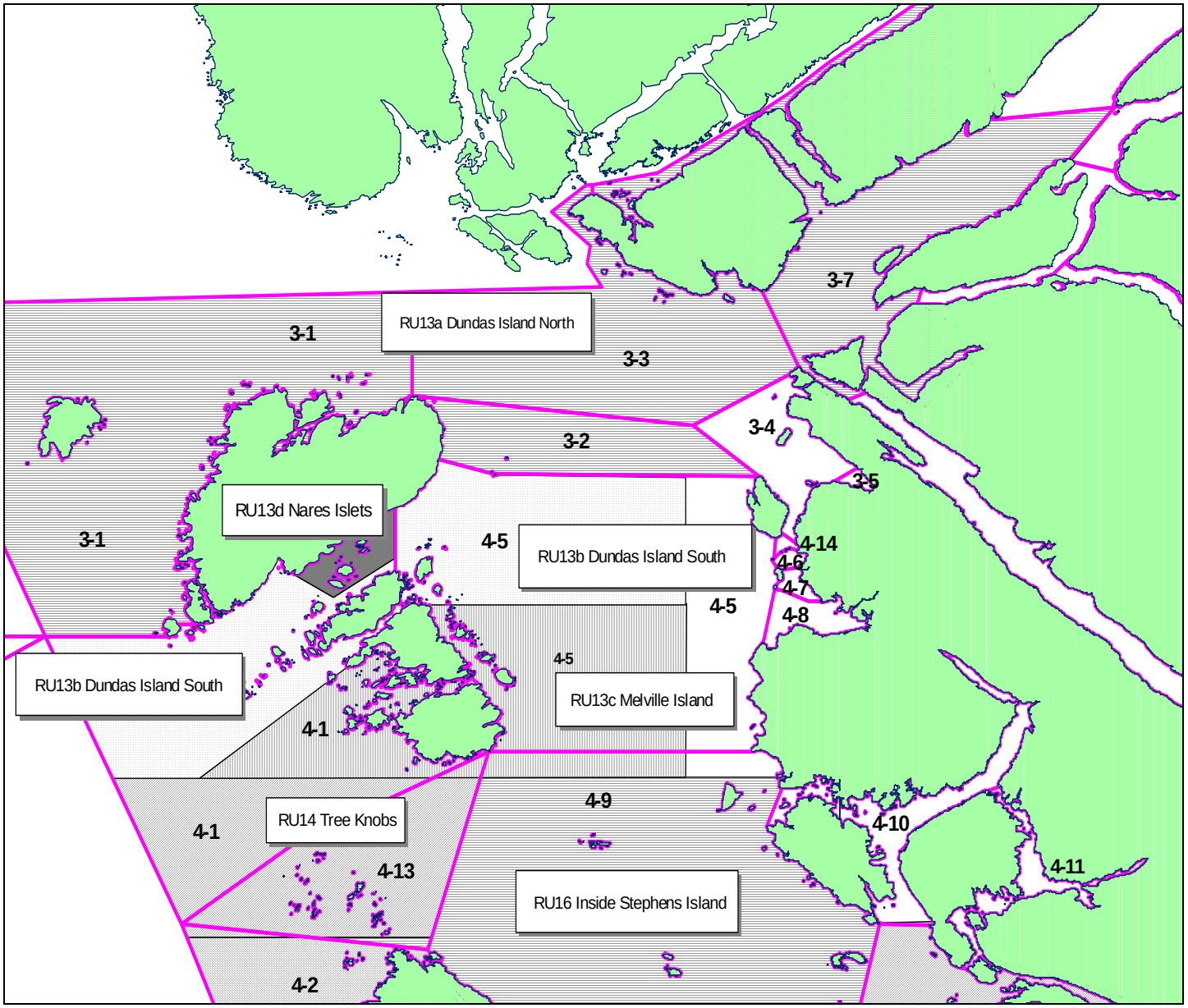
RU08 Flamingo/Englefield: Subareas 2-35 to 2-62, ptn. Subarea 142-1, Subarea 142-2



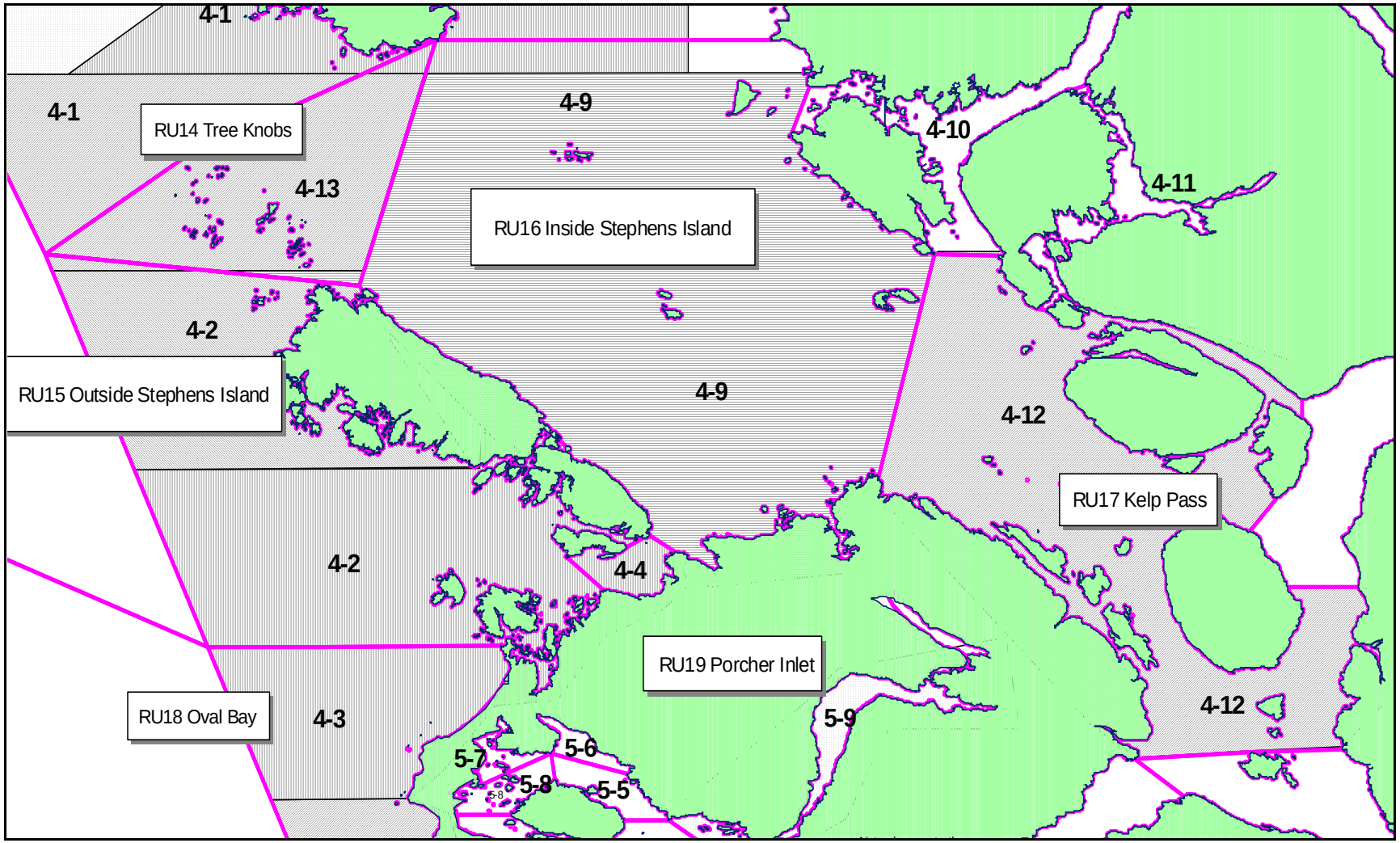
RU09 Van Inlet: Subarea 2-68; RU10 Rennel Sound: Subareas 2-69 to 2-84 except closure.



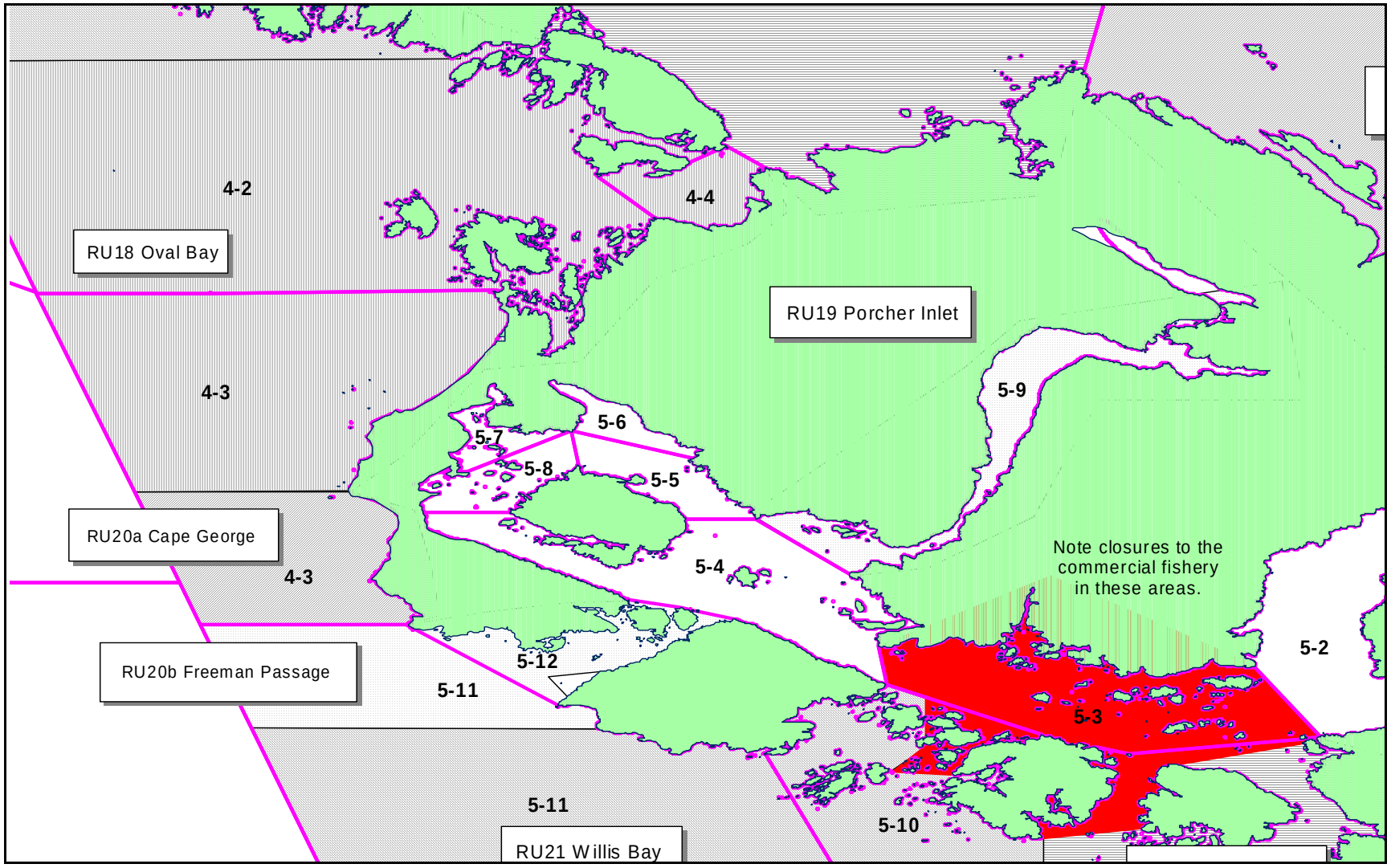
RU11 Hippa Island: Subareas 2-85 to 2-87, ptn. Subarea 2-88; RU12 Port Louis: ptn. Subarea 2-88, Subareas 2-89 to 2-100



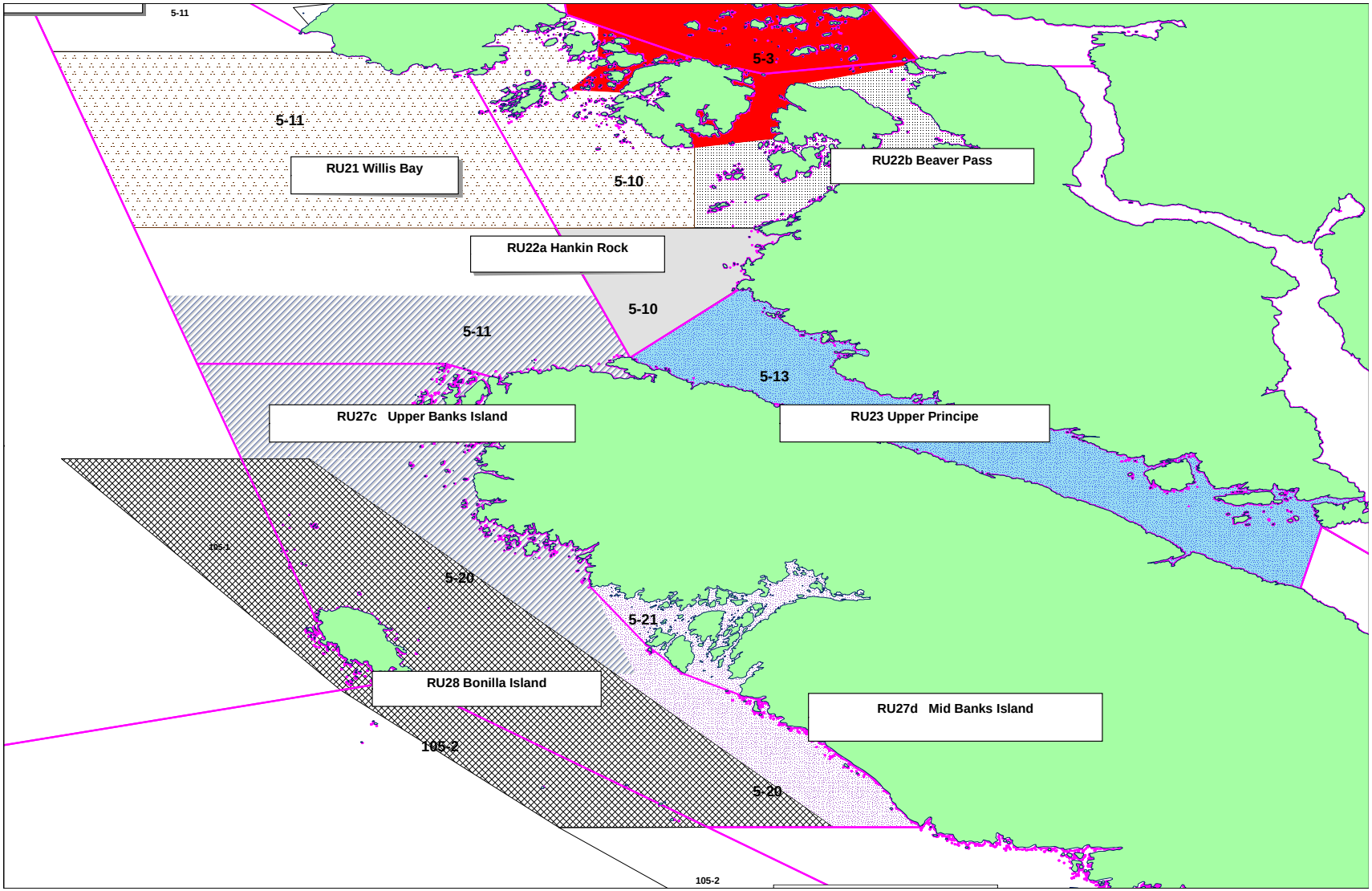
RU13a Dundas Island North: Subareas 3-1, 3-2, 3-3, 3-7, 3-11; RU13b Dundas Island South: ptn. Subareas 4-1, 4-5; RU13c Melville Island: ptn. Subareas 4-1, 4-5, 4-9, 4-13; RU13d Nares Islets: ptn. Subarea 4-1; RU14 Tree Knobs: ptn. Subareas 4-1, 4-2, 4-13



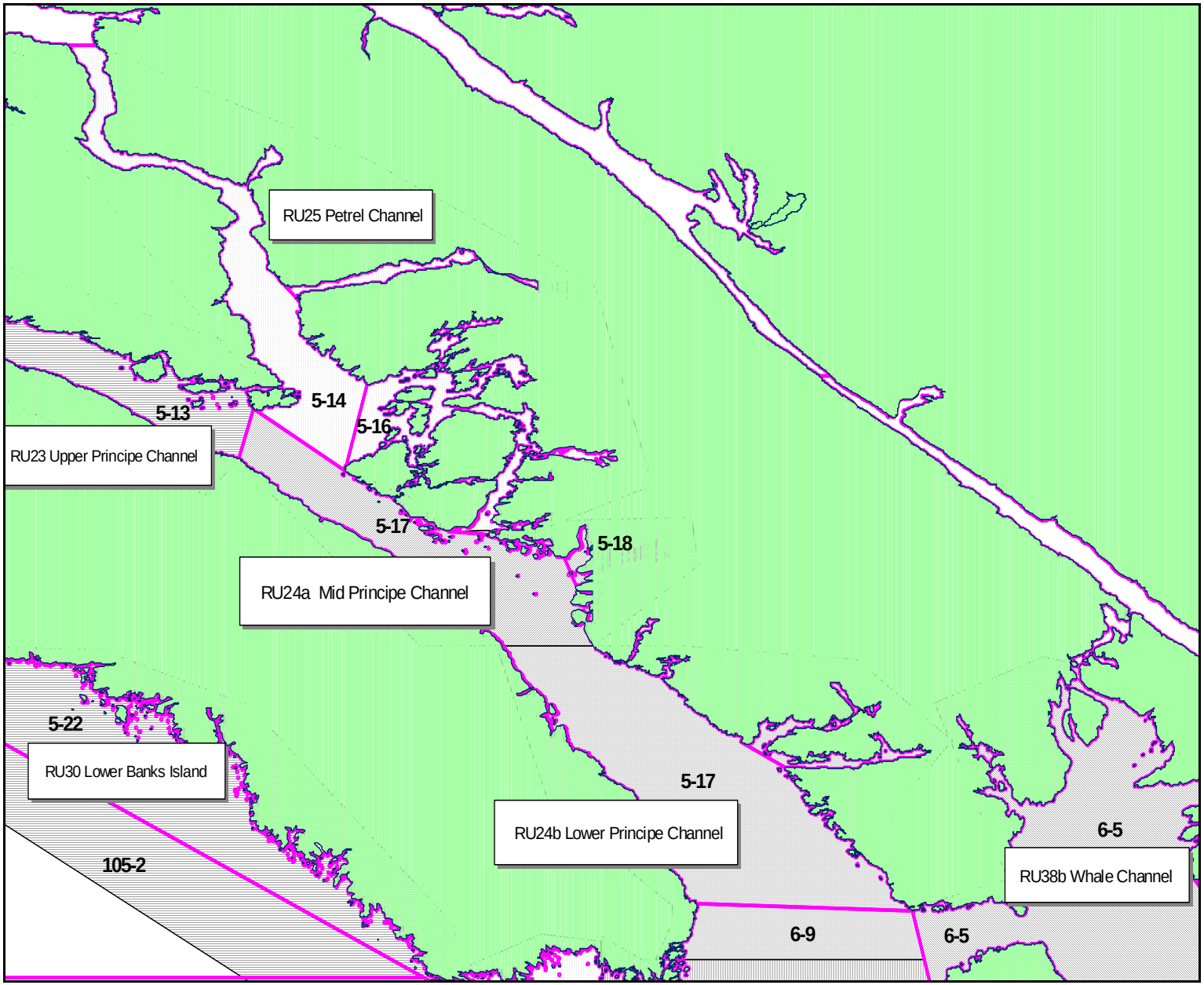
RU14 Tree Knobs: ptn. Subareas 4-1, 4-2, 4-13; RU15 Outside Stephens Island: ptn. Subarea 4-2; RU16 Inside Stephens Island: ptn. Subareas 4-9, 4-13; RU17 Kelp Pass: Subarea 4-12; RU18 Oval Bay: ptn. Subarea 4-2, 4-3, Subarea 4-4



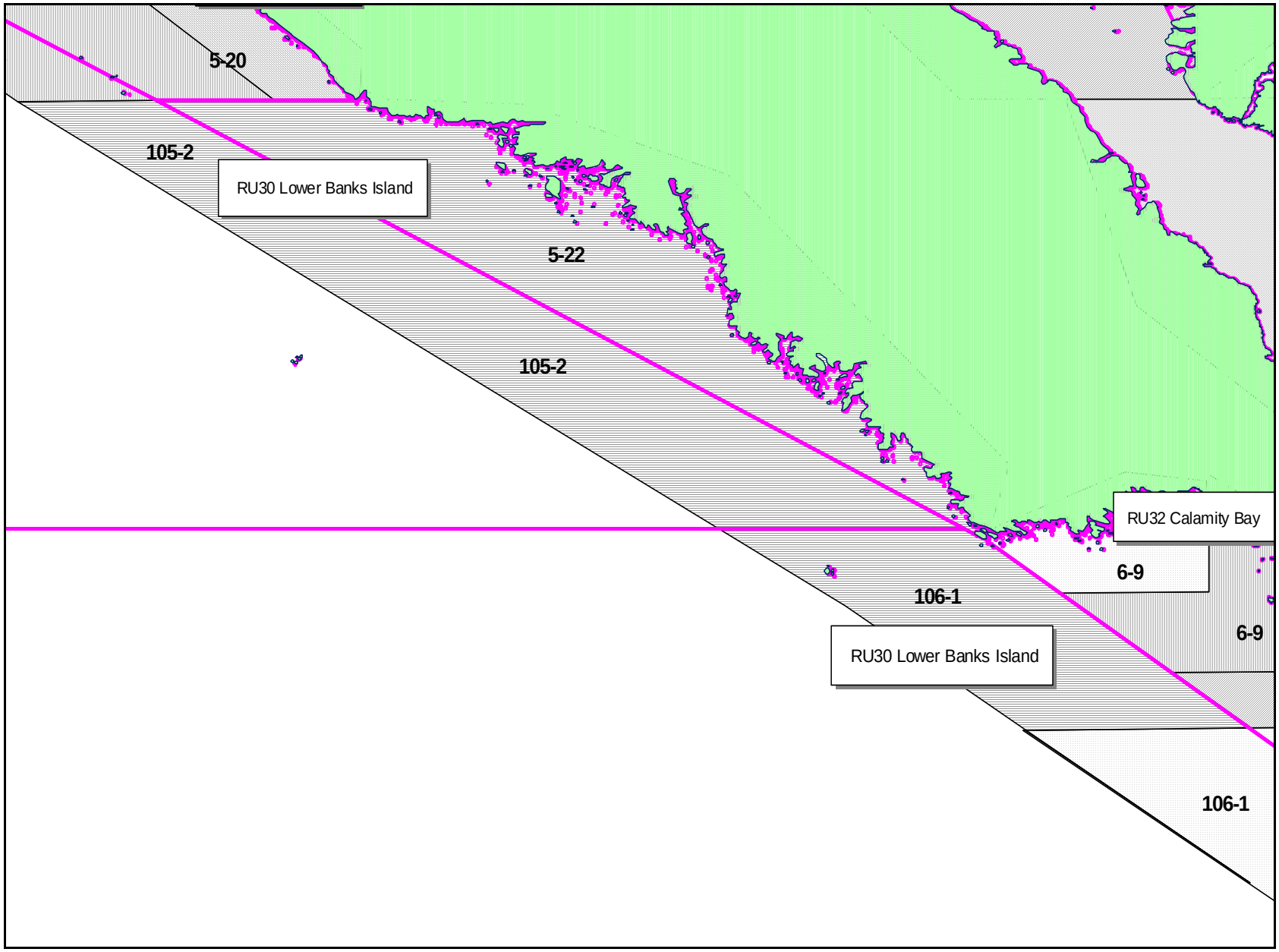
RU19 Porcher Inlet: Subarea 5-9; RU20a Cape George: ptn. Subarea 4-3; RU20b Freeman Passage: ptn. Subareas 5-11, 5-12;



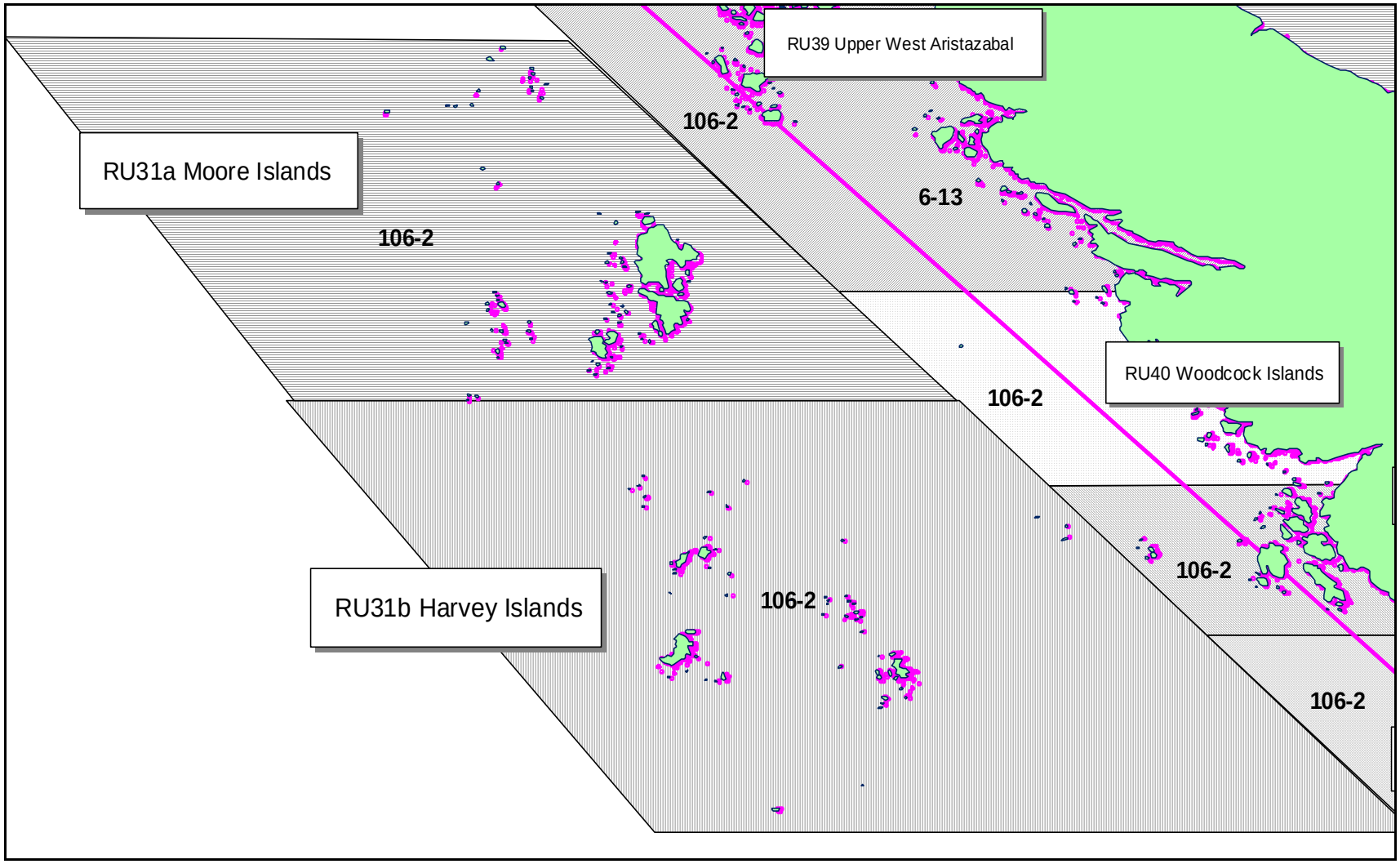
RU21 Willis Bay: ptn. Subareas 5-10, 5-11 except closures; RU22a Hankin Rock: ptn. Subarea 5-10; RU22b Beaver Pass: ptn. Subarea 5-10; RU23 Upper Principe Channel: Subarea 5-13; **RU27c Upper Banks Island*:** Ptn. Subareas 5-11, 5-20; **RU27d Mid Banks Island*: Ptn. 5-20, 5-21**; RU28 Bonilla Island: Ptn. Subareas 5-20, 105-1, 105-2.



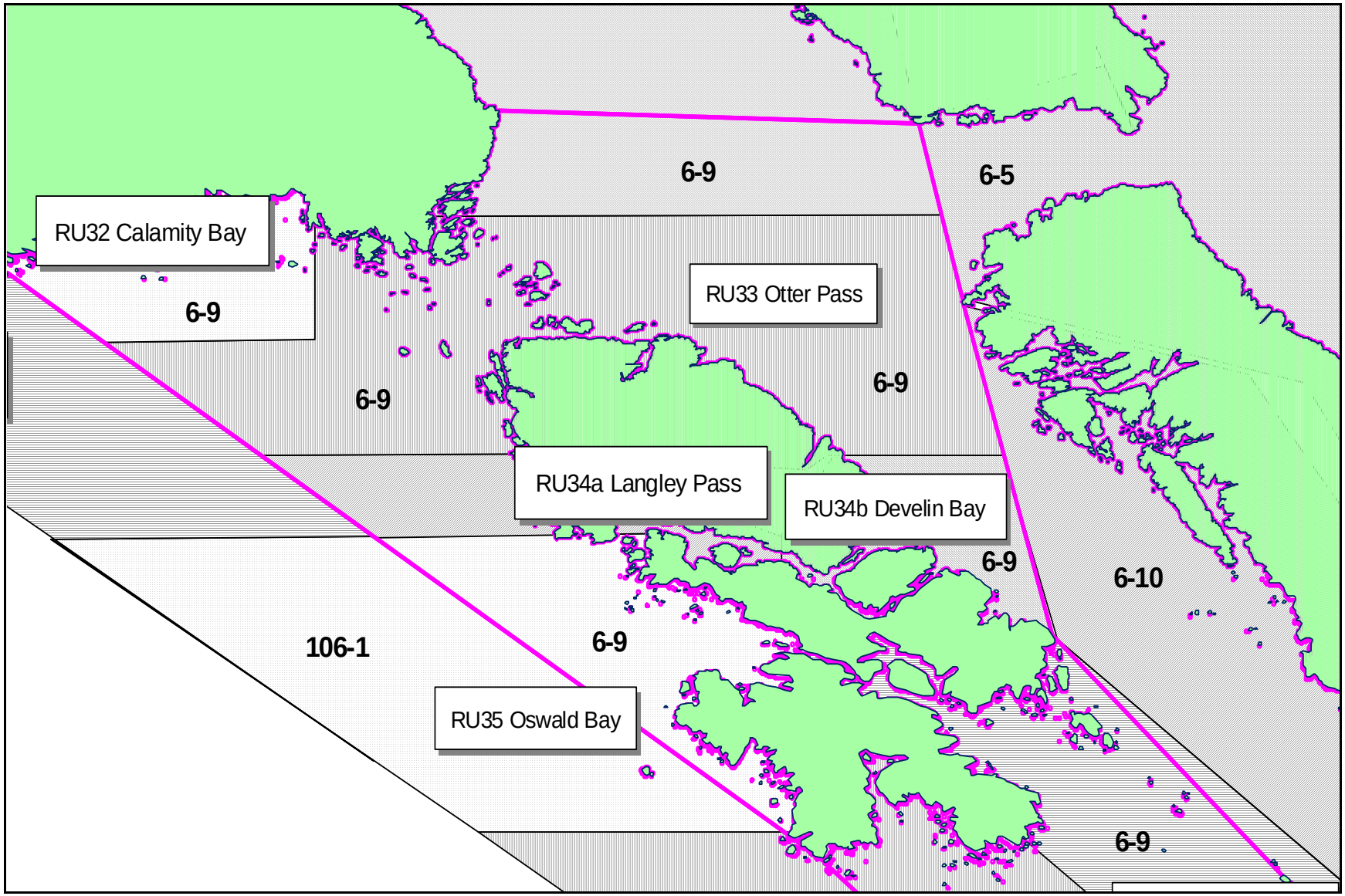
RU24a Mid Principe Channel: ptn. Subarea 5-17, Subarea 5-18; RU24b Lower Principe Channel: ptn. Subareas 5-17, 6-9, Subarea 5-19; RU25 Petrel Channel: Subareas 5-14, 5-15, 5-16



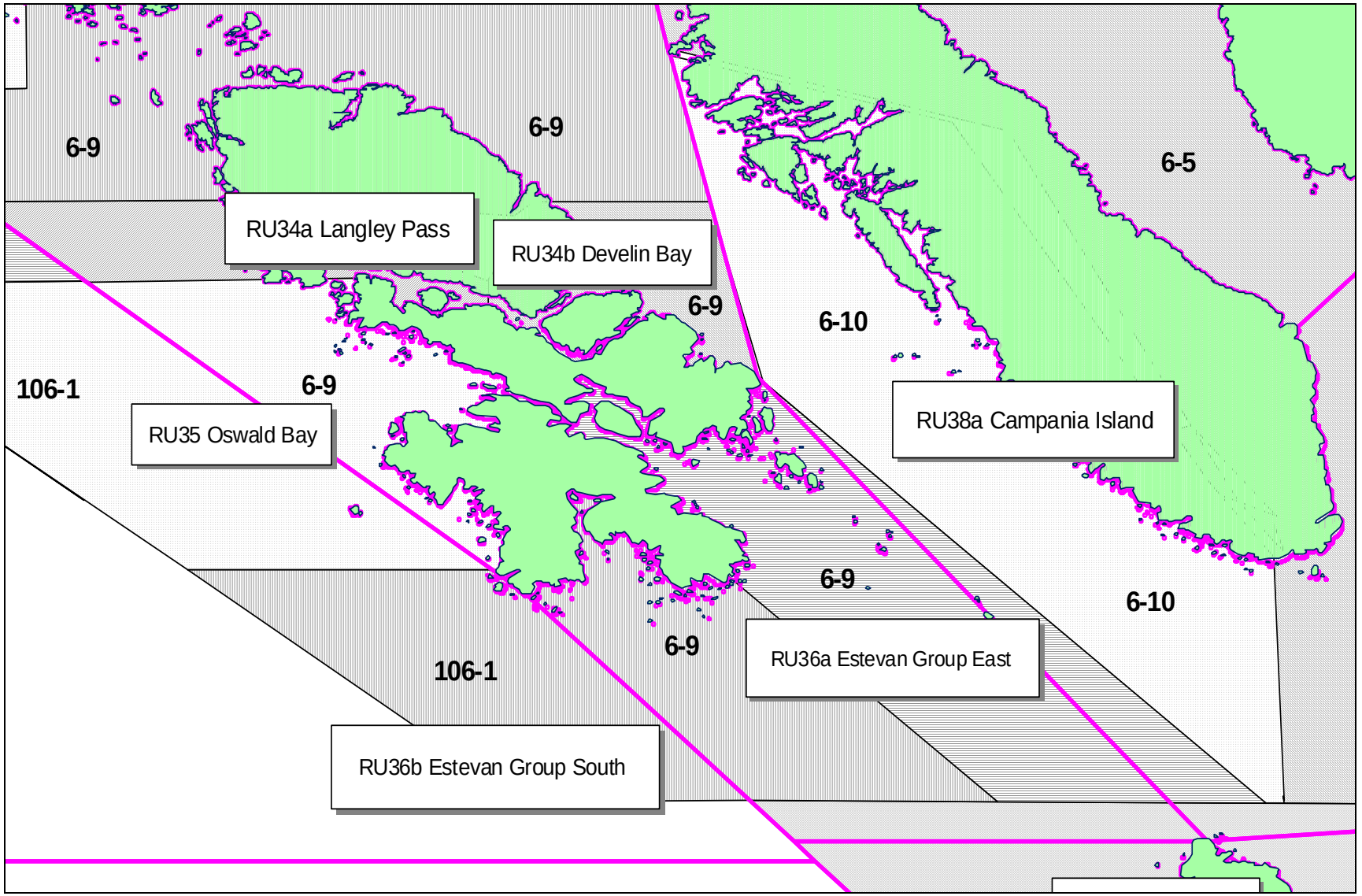
RU30 Lower Banks Island: Subarea 5-22, ptn. Subareas 105-2, 106-1



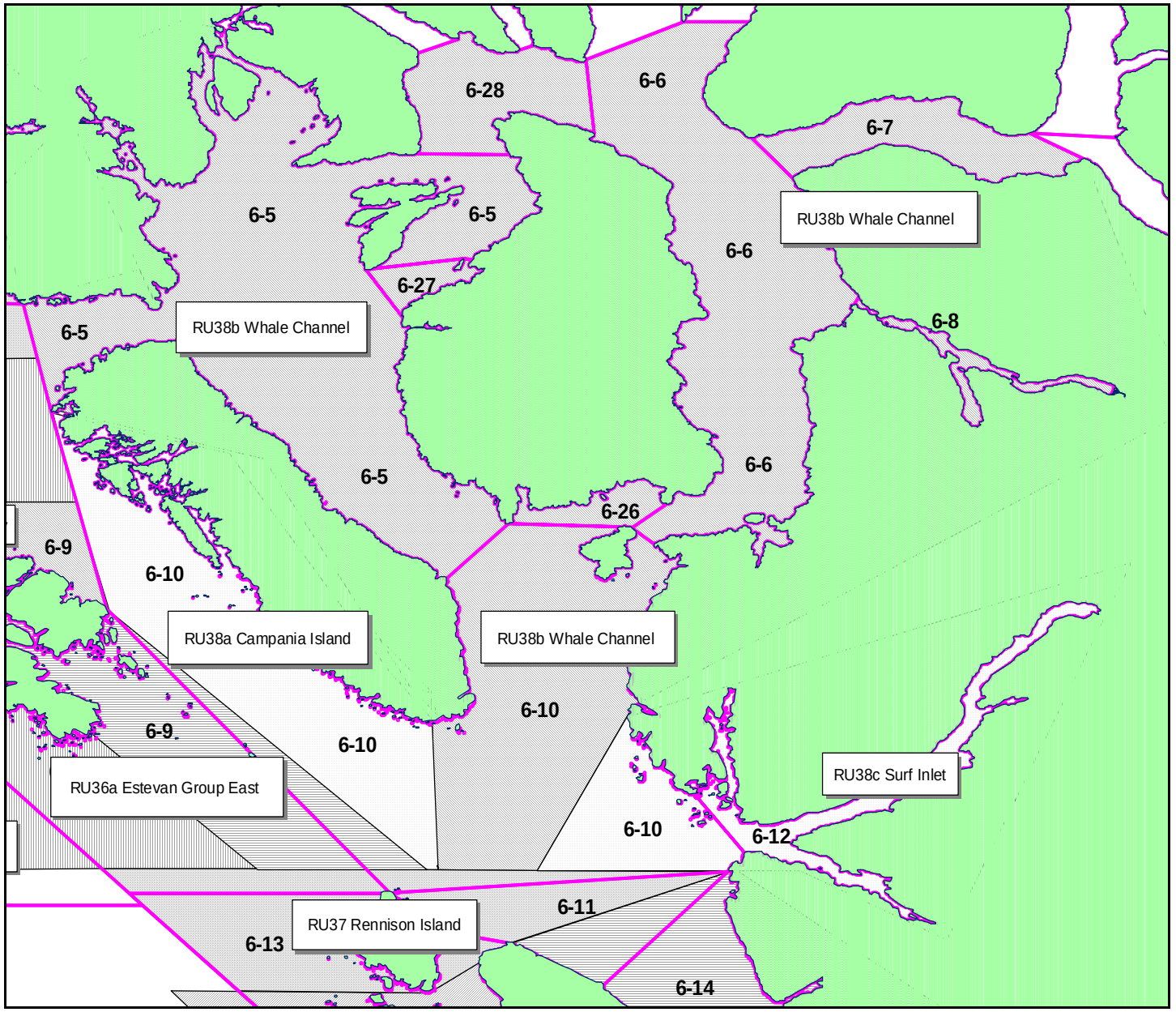
RU31a Moore Islands: ptn. Subarea 106-2; RU31b Harvey Islands: ptn. Subarea 106-2



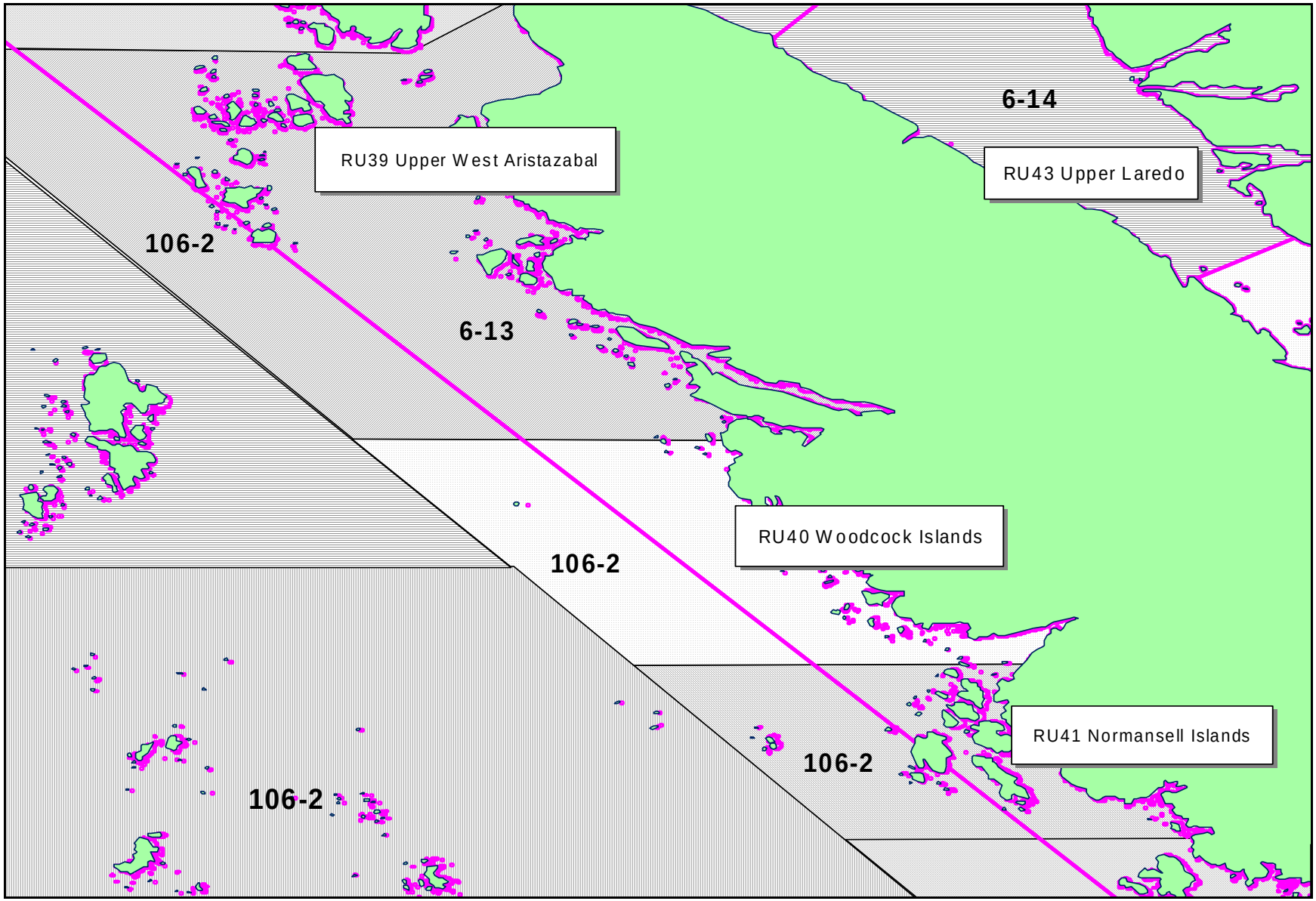
RU32 Calamity Bay: ptn. Subarea 6-9; RU33 Otter Pass: ptn. Subarea 6-9; RU34a Langley Pass: ptn. Subarea 6-9; RU34b Develin Bay: ptn. Subarea 6-9; RU35 Oswald Bay: ptn Subareas 6-9, 106-1



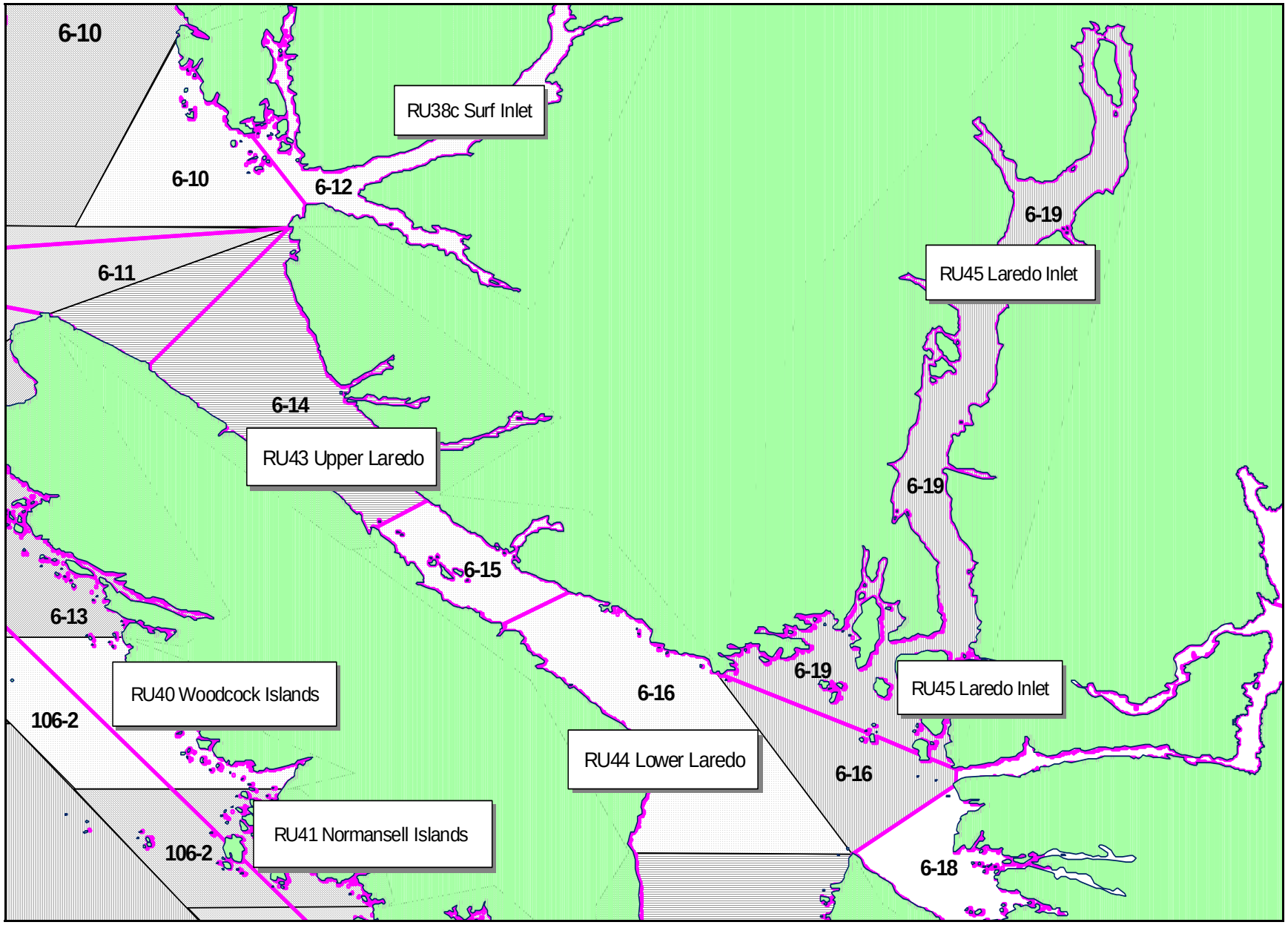
RU36a Estevan Group East: ptn. Subareas 6-9, 6-10; RU36b Estevan Group South: ptn. Subareas 6-9, 106-1; RU38a Campania Island: ptn. 6-10



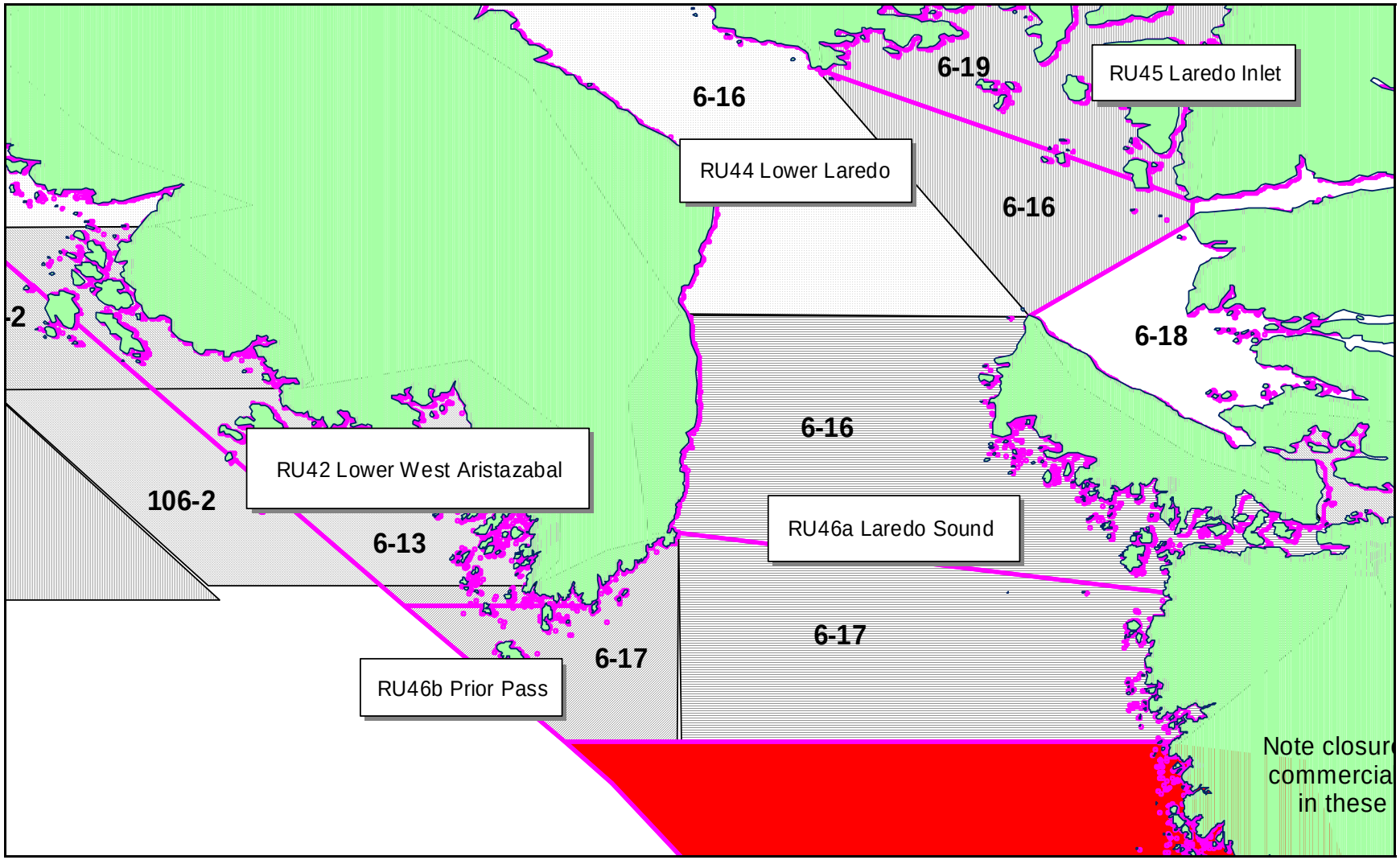
RU37 Rennison Island: ptn. Subareas 6-9, 6-10, 6-11, 6-13; RU38a Campania Island: ptn. Subarea 6-10; RU38b Whale Channel: Subareas 6-5 to 6-8, ptn. Subarea 6-10, Subareas 6-26 to 6-28; RU38c Surf Inlet: ptn. Subarea 6-10, Subarea 6-12



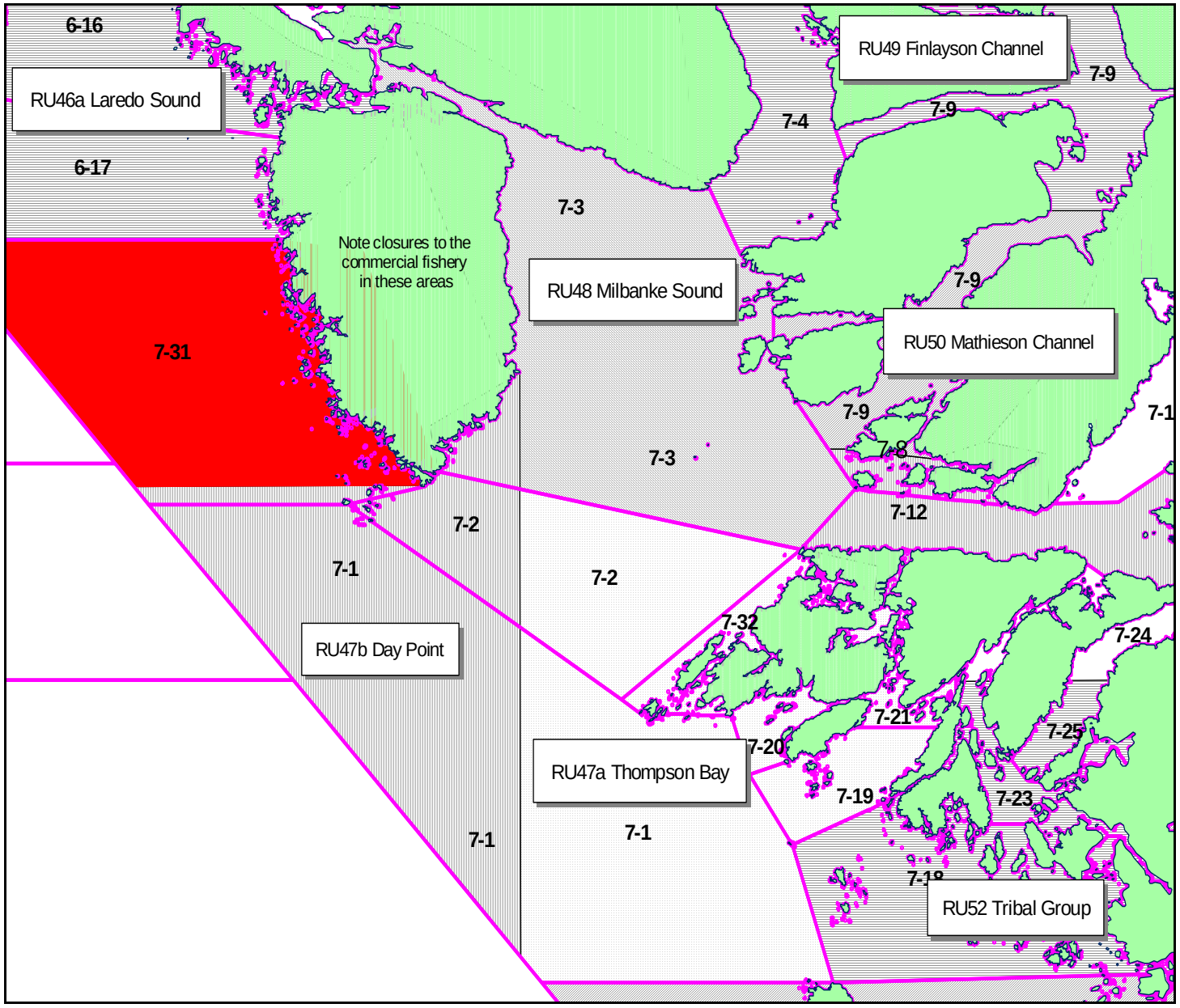
RU39 Upper West Aristazabal: Ptn. Subareas 6-13, 106-2; RU40 Woodcock Islands: Ptn. Subareas 6-13, 106-2; RU41 Normansell Islands: Ptn. Subareas 6-13, 106-2



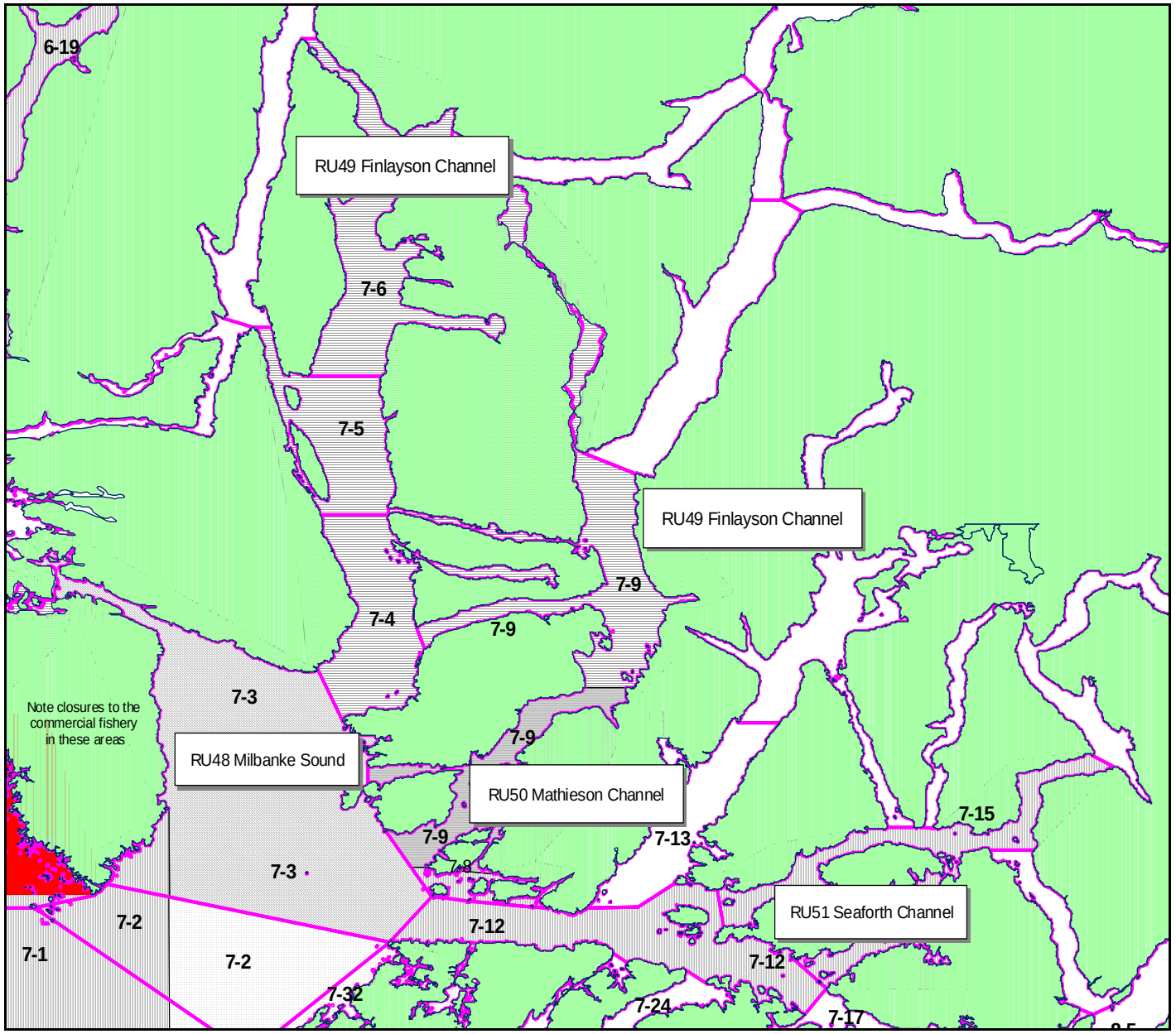
RU43 Upper Laredo: ptn. Subarea 6-11, Subarea 6-14; RU44 Lower Laredo: Subarea 6-15, ptn. 6-16; RU45 Laredo Inlet: ptn. Subarea 6-16, Subarea 6-19



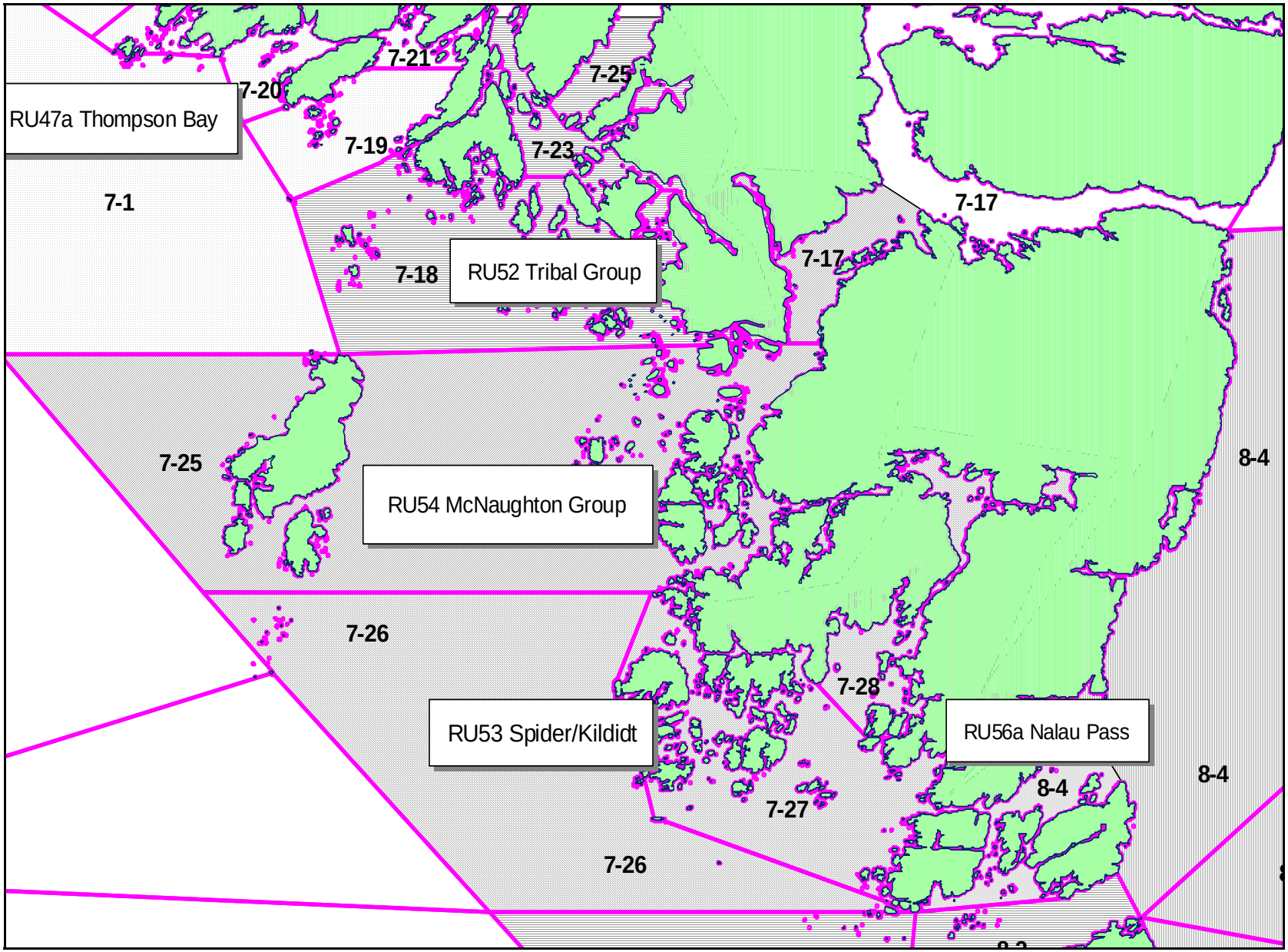
RU42 Lower West Aristazabal: ptn. Subareas 6-13, 106-2; RU46a Laredo Sound: ptn. Subareas 6-16, 6-17; RU46b Prior Pass: ptn. Subareas 6-13, 6-17



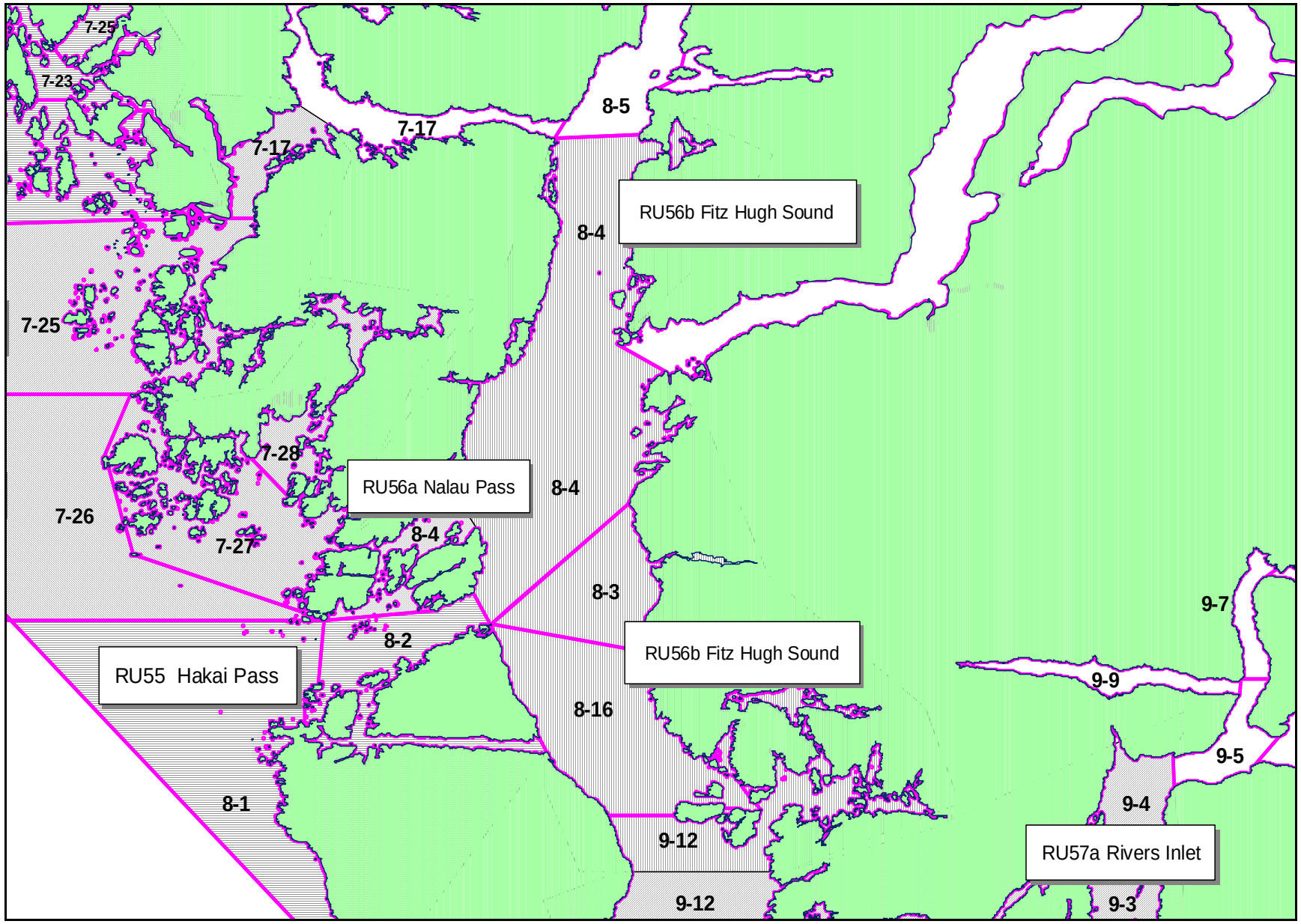
RU47a Thompson Bay: ptn. Subareas 7-1, 7-2, Subareas 7-19, 7-20, ptn. Subarea 7-21, Subarea 7-32; RU47b Day Point: ptn. Subareas 7-1, 7-2, 7-3, 7-31 except closure; RU48 Milbanke Sound: Subarea 7-3



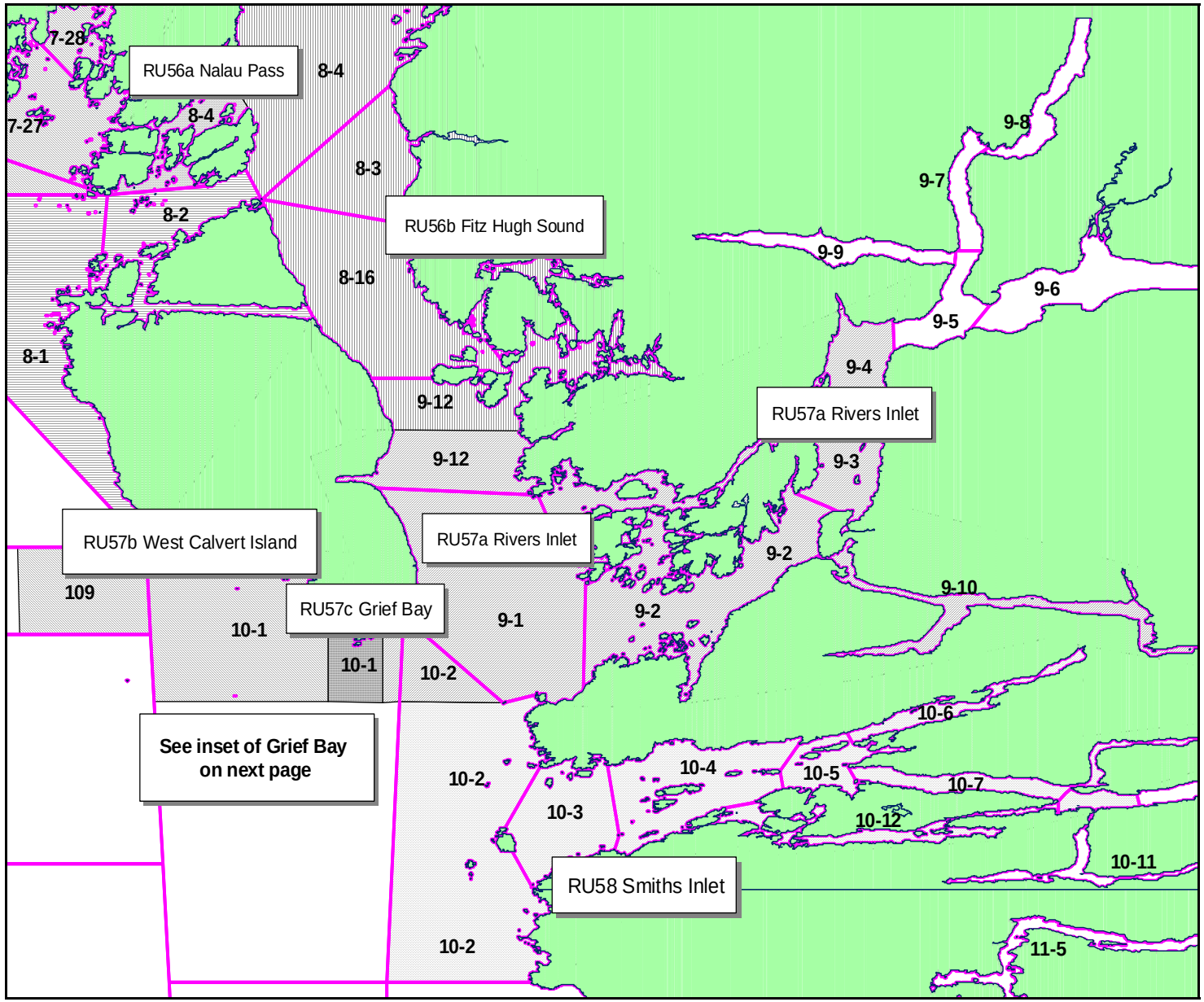
RU49 Finlayson Channel: Subareas 7-4, 7-5, 7-6, ptn. Subarea 7-9; RU50 Mathieson Channel: ptn. Subarea 7-9; RU51 Seaforth Channel: Subarea 7-8, ptn. Subarea 7-9, Subareas 7-12, 7-15, ptn. Subarea 7-21



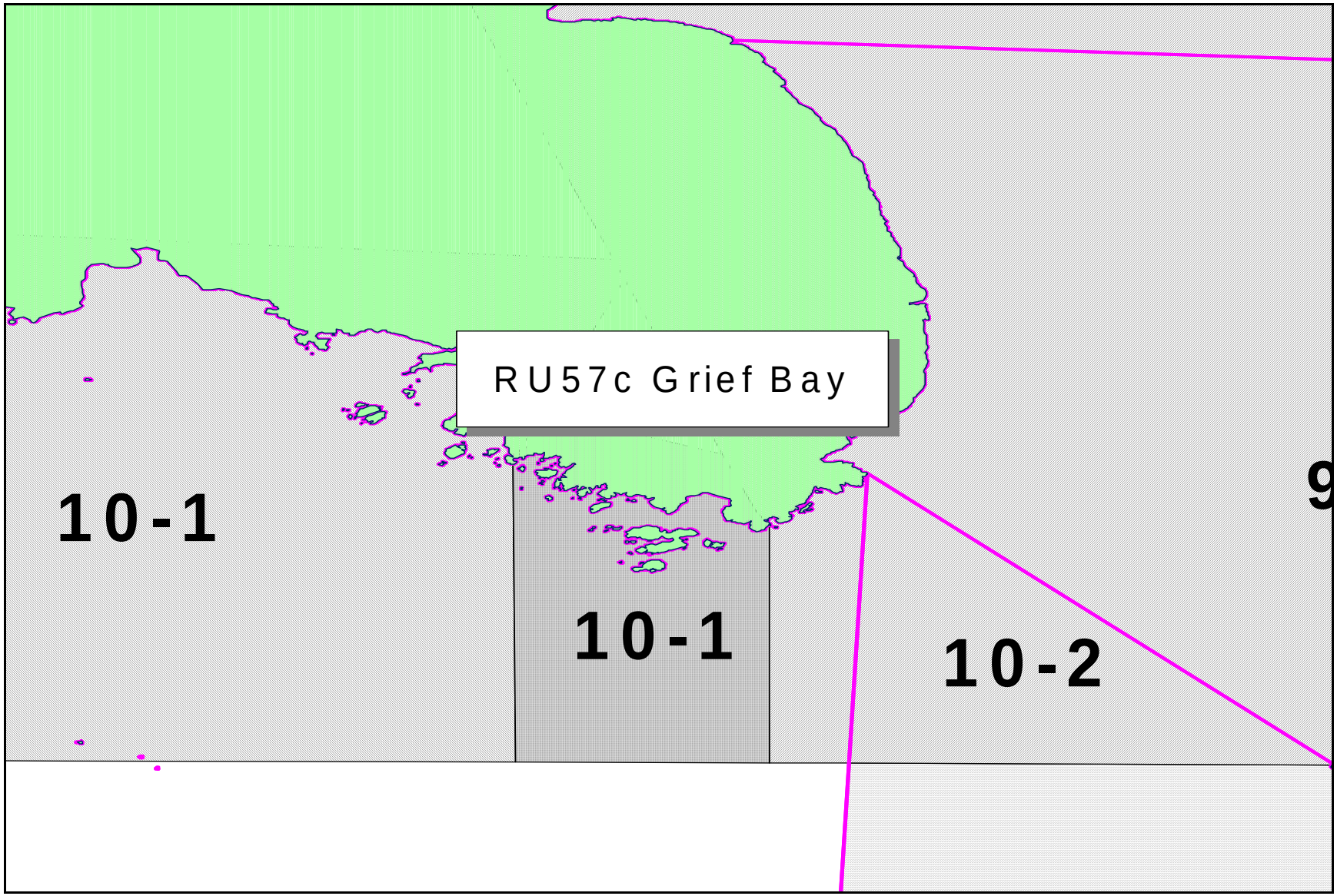
RU52 Tribal Group/McMullin Group: Subarea 7-18, ptn. Subareas 7-23, 7-24; RU53 Spider/Kildidt: Subareas 7-26, 7-27, 7-28
RU54 McNaughton Group: ptn. Subarea 7-17, Subarea 7-25, RU56a Nalau Pass: ptn. Subarea 8-4



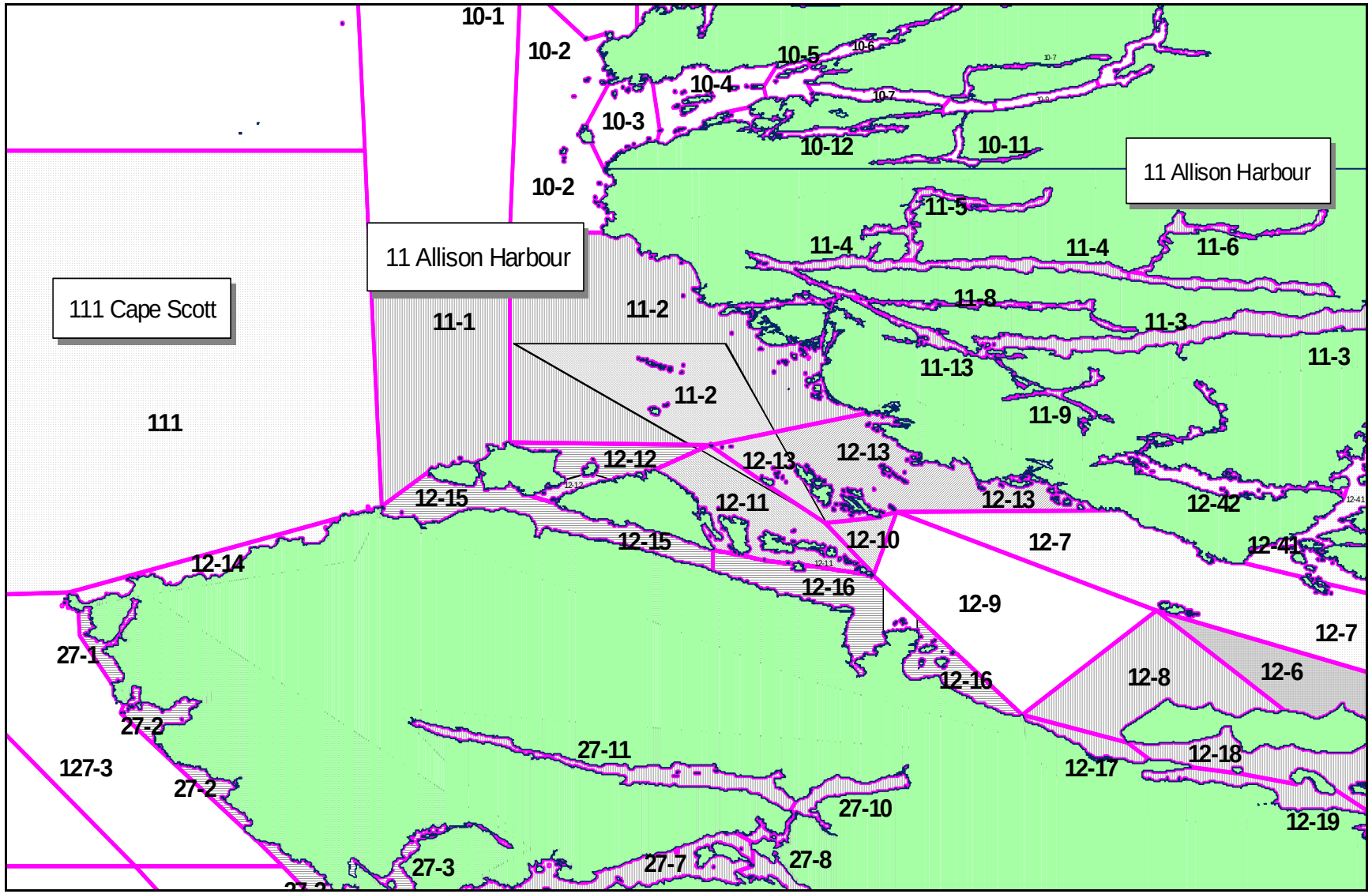
RU55 Hakai Pass: Subareas 8-1, 8-2; RU56b Fitz Hugh Sound: Subarea 8-3, ptn. Subarea 8-4, Subarea 8-16, ptn. Subarea 9-12



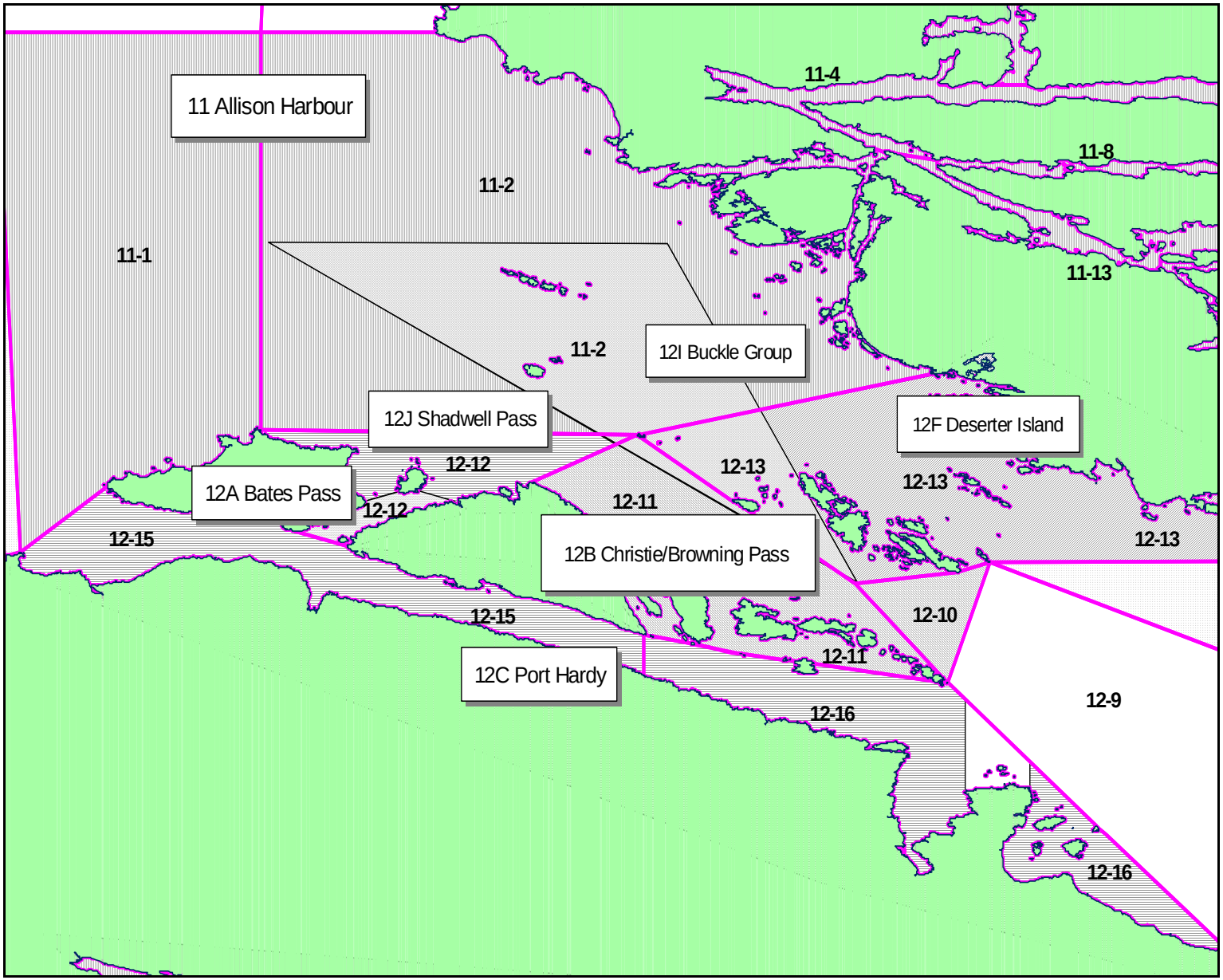
RU57a Rivers Inlet*: Subareas 9-1 to 9-4, 9-10 to 9-11; ptn. Subareas 9-12, 10-1, 10-2; RU57b West Calvert Island: Area 109, ptn. Subarea 10-1; RU57c Grief Bay: ptn. Subarea 10-1; RU58 Smiths Inlet: ptn. Subarea 10-2, Subareas 10-3, 10-4, 10-5, 10-7, 10-8, 10-12



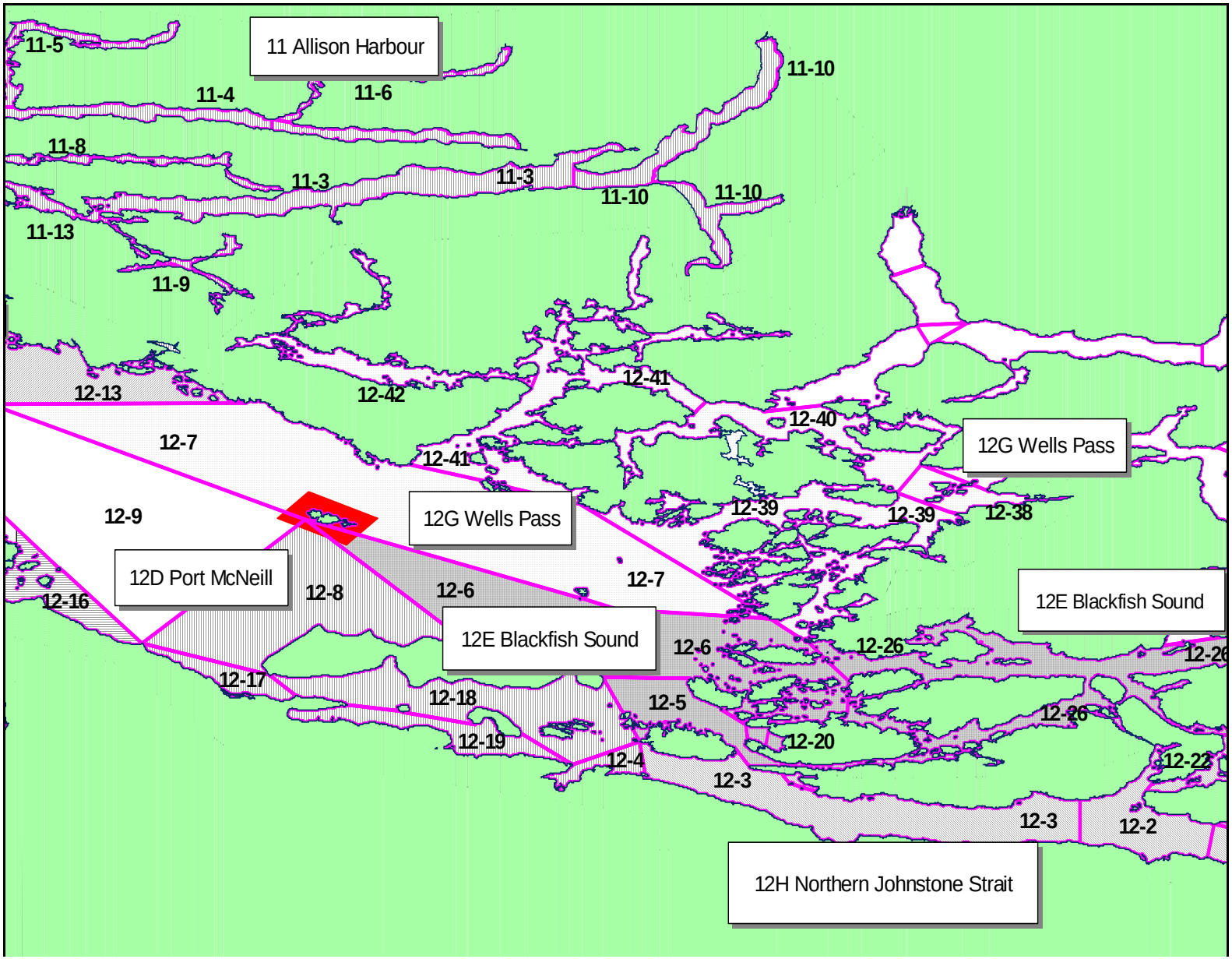
RU57c Grief Bay: ptn. Subarea 10-1



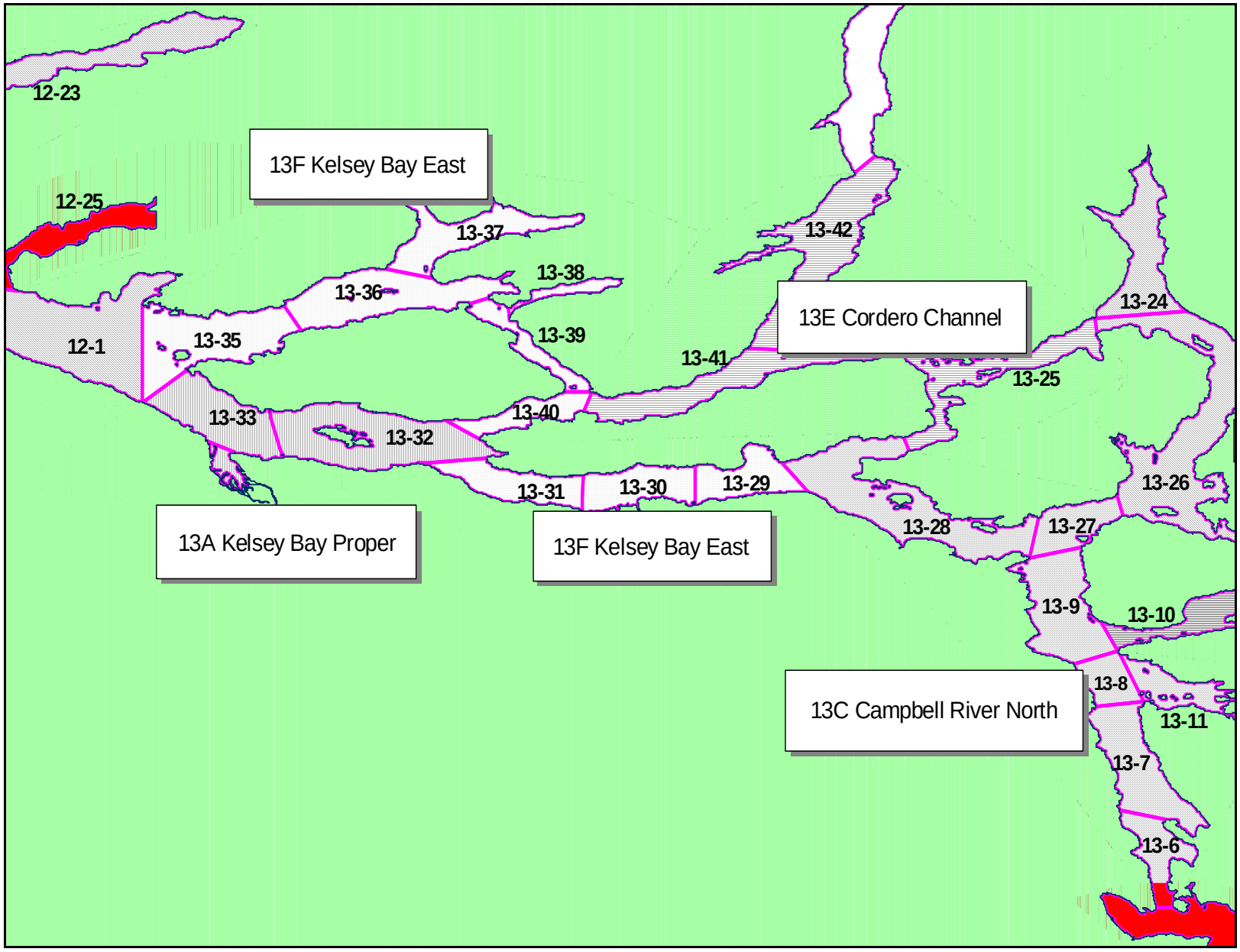
11 Allison Harbour: ptn. Area 11; 111 Cape Scott: Area 111, Subarea 12-14 (Closed)



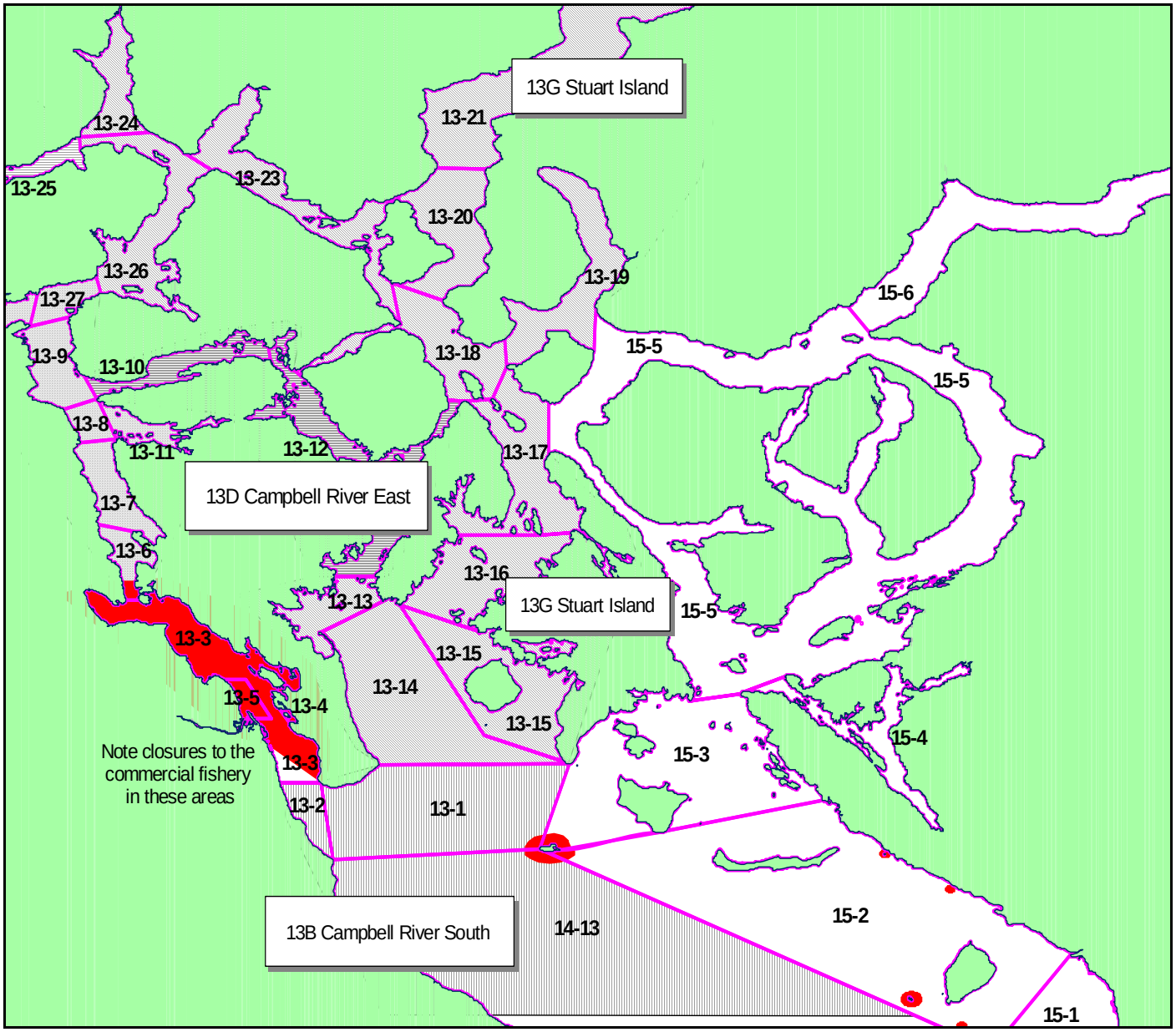
12A Bates Pass: ptn. Subarea 12-12; 12B Christie/Browning Pass: Subarea 12-10, ptn. Subarea 12-11; 12C Port Hardy: Subarea 12-15, ptn. Subarea 12-16; 12F Deserter Island: ptn. Subarea 12-13; 12I Buckle Group: ptn. Subareas 11-2, 12-11, 12-12, 12-13; 12J Shadwell Pass: ptn. Subarea 12-12



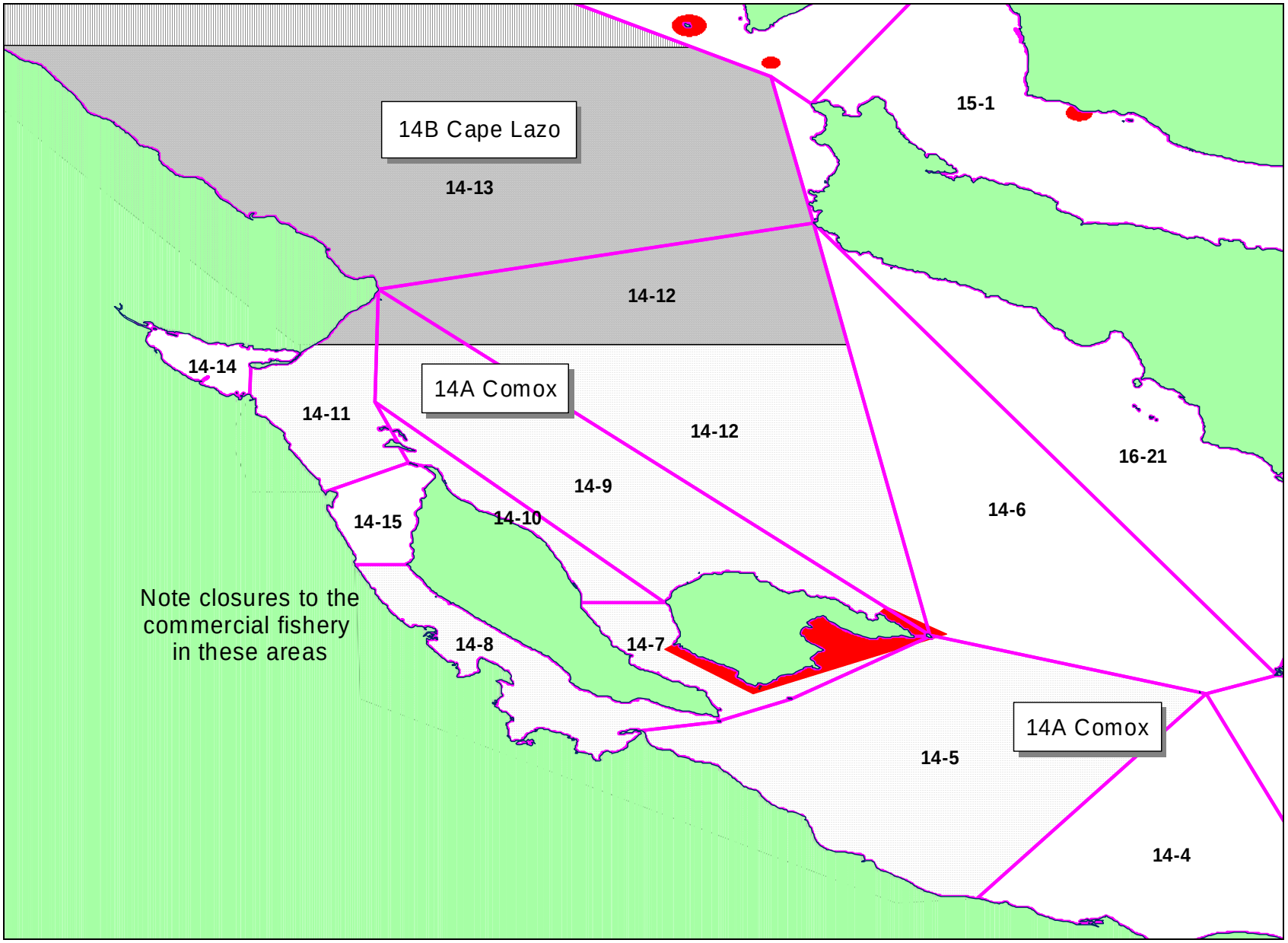
12D Port McNeill: Subareas 12-4, 12-8, 12-17 to 12-19 except closures; 12E Blackfish Sound: Subareas 12-5, 12-6, 12-20, 12-26 except closures; 12G Wells Pass: Subareas 12-7, 12-38 to 12-42 except closure; 12H Northern Johnstone Strait: Subareas 12-1 to 12-3, 12-21 to 12-24



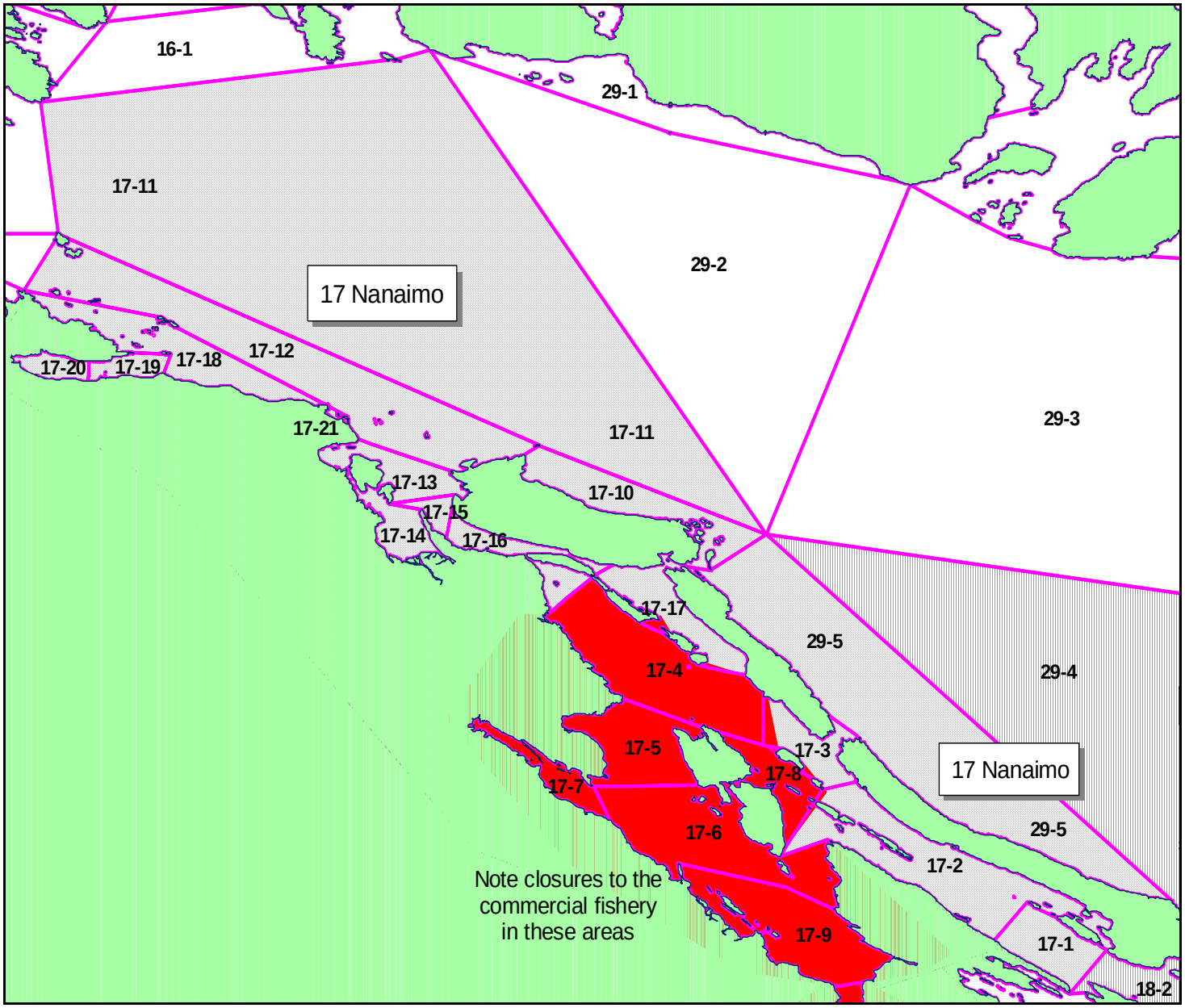
13A Kelsey Bay – Proper: Subareas 13-32 to 13-34; 13C Campbell River North: Subareas 13-6 to 13-9, 13-11, 13-27, 13-28 except closure; 13E Cordero Channel: Subareas 13-25, 13-41 and 13-42; 13F Kelsey Bay – East: Subareas 13-29 to 13-31, 13-35 to 13-40



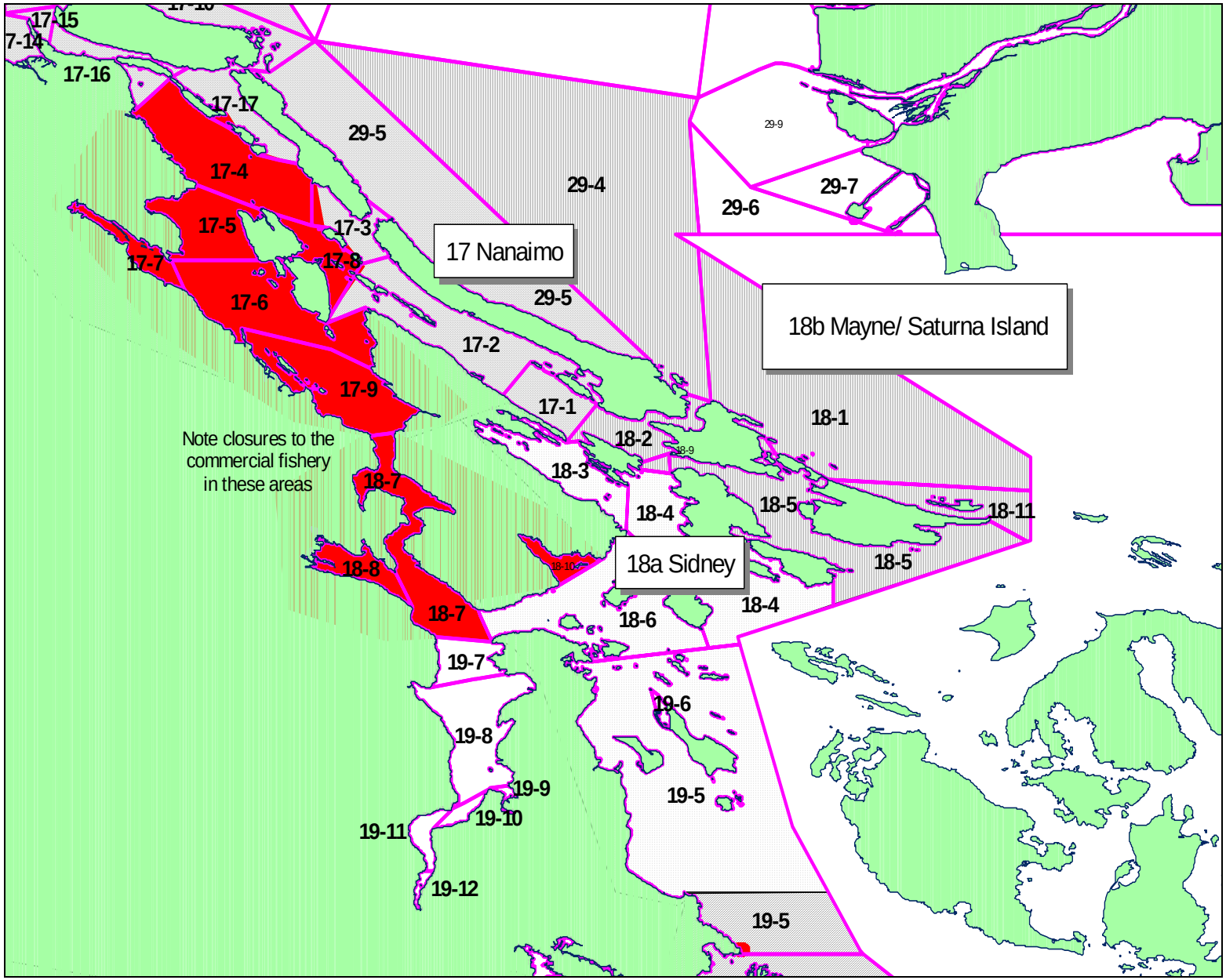
<u>13B Campbell River South</u>: Subareas 13-1, 13-2, ptn. 14-13; <u>13D Campbell River East:</u> Subareas 13-10, 13-12; <u>13G Stuart Island</u>: Subareas 13-13 to 13-24, 13-26



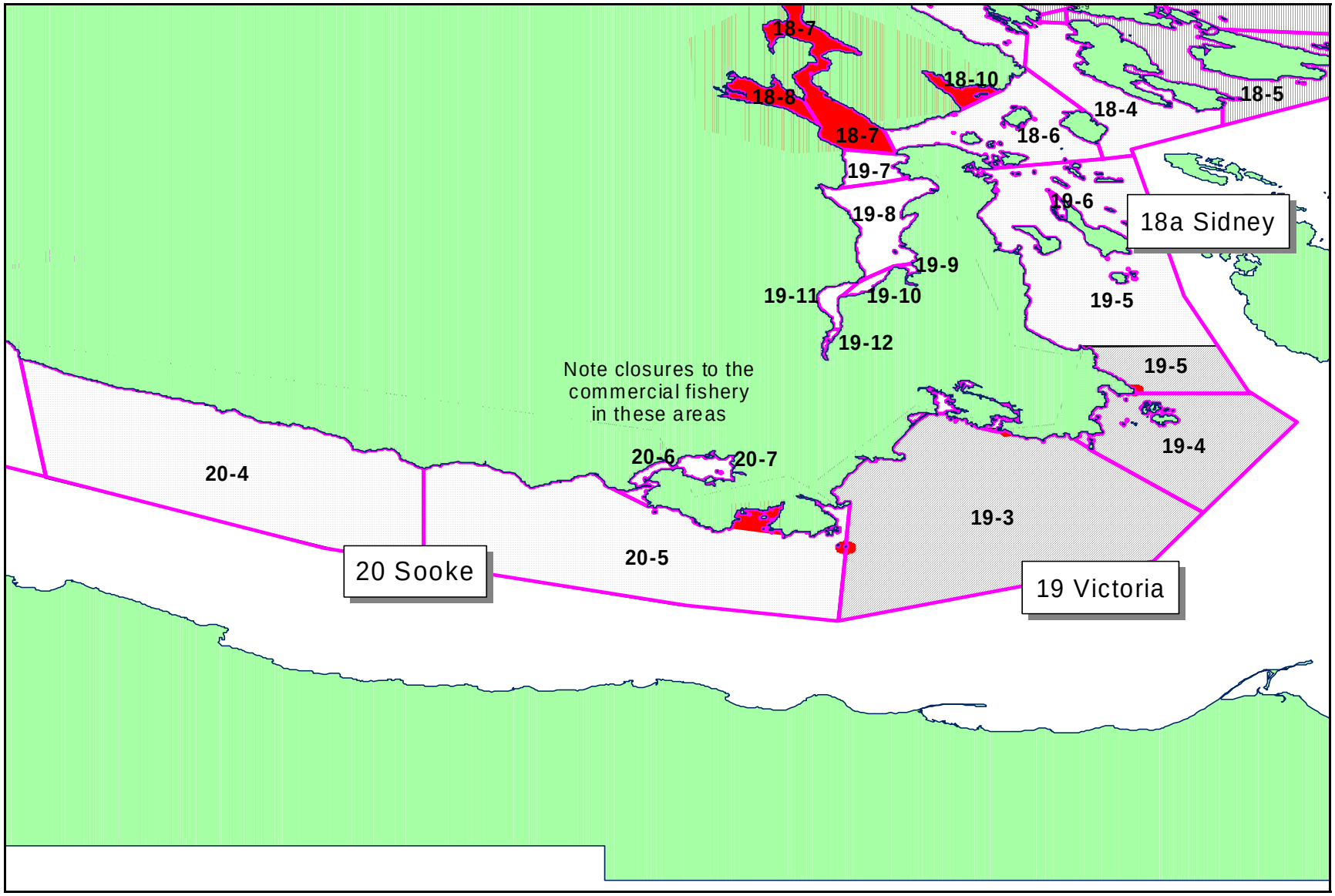
14A Comox: Subareas 14-5, 14-7, 14-8, 14-10 except closure, ptn. Subareas 14-9, 14-11, 14-12; 14B Cape Lazo: Ptn. Subareas 14-9, 14-11 to 14-13



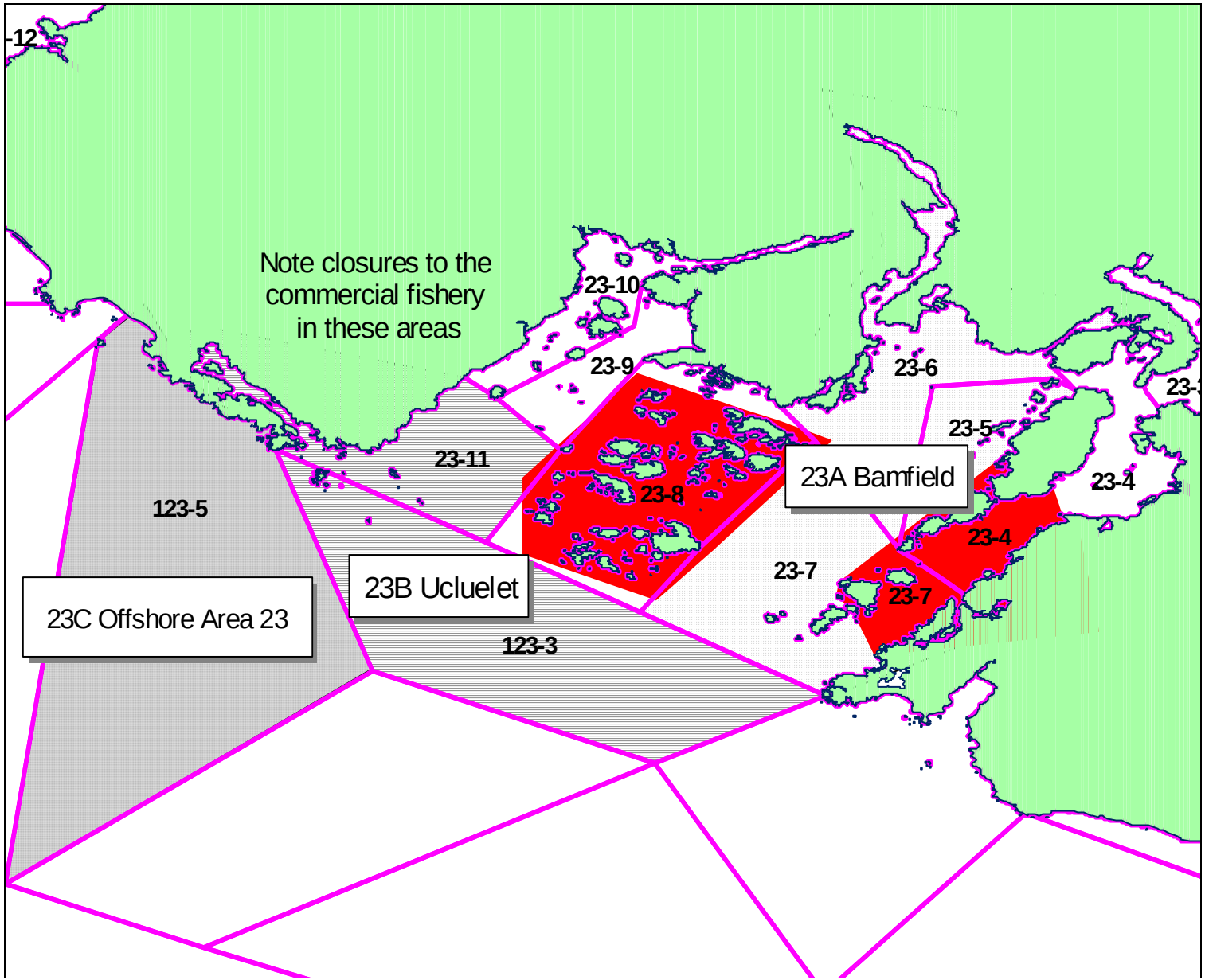
17 Nanaimo: Area 17 except closure, Subarea 29-5



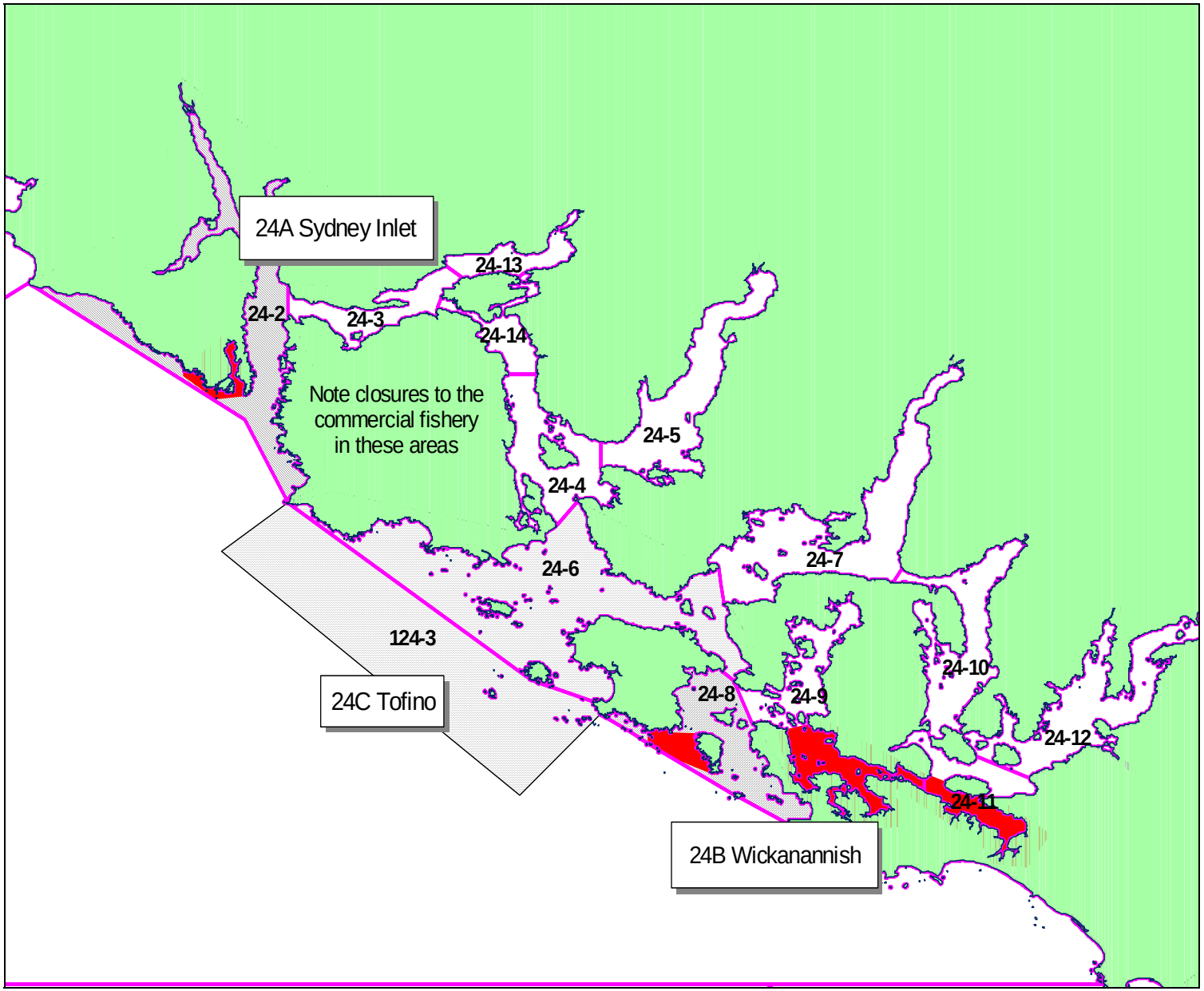
<u>18a Sidney:</u> Subareas 18-3, 18-4, 18-6, ptn. Subarea 19-5, Subarea 19-6; <u>18b Mayne/Saturna Island:</u> Subareas 18-1, 18-2, 18-5, 18-9, 18-11, 29-4



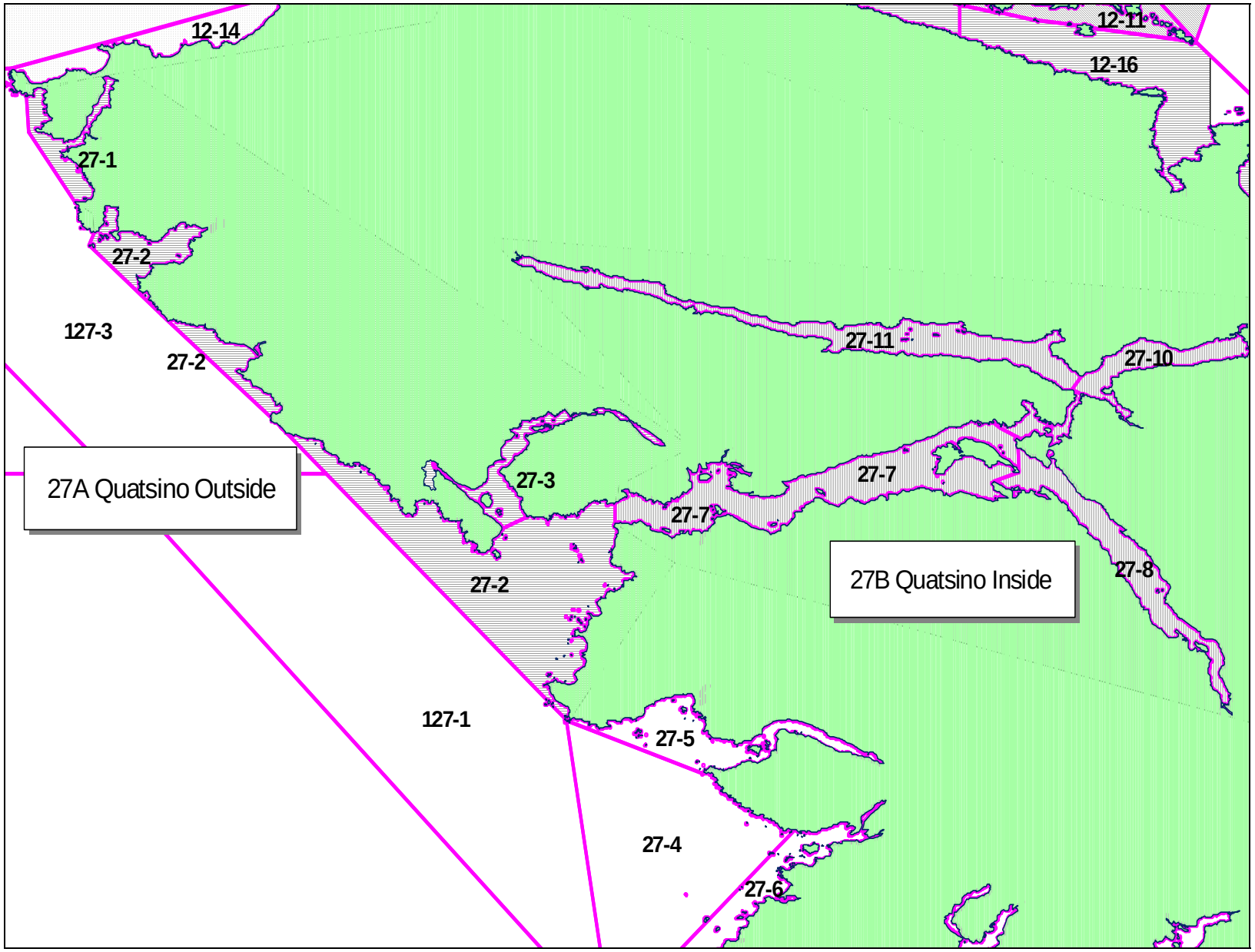
19 Victoria: Subareas 19-3, 19-4, ptn. Subarea 19-5 except closures; 20 Sooke: Subareas 20-4 to 20-6 except closure



23A Bamfield: Subareas 23-5 to 23-7 except closures; 23B Ucluelet: Subareas 23-11, 123-3 except closures; 23C Offshore Area 23: Subarea 123-5



<u>24A Sydney Inlet</u>: Subarea 24-2 except closure; <u>24B Wickaninnish</u>: Subarea 24-8 except closures; <u>24C Tofino</u>: Subareas 24-6, 124-3 except closures



27A Quatsino Outside: Subareas 27-1 to 27-3 (Closed); 27B Quatsino Inside: 27-7 to 27-11 (Closed)

Appendix 10: Example of 2011/2012 Red Sea Urchin Conditions of Licence

THESE ARE NOT OFFICIAL LICENCE CONDITIONS, AND ARE ONLY ATTACHED AS A REFERENCE GUIDE.

CONDITIONS OF 2011/2012 RED SEA URCHIN LICENCE
Licence Period: August 1, 2011 to July 31, 2012

Authority

The Department of Fisheries and Oceans has authority to set licence conditions under subsection 22(1) of the *Fishery (General) Regulations* for the proper management and control of fisheries and the conservation and protection of fish.

Persons fishing under authority of this licence may only do so in accordance with the conditions stated below.

Also, it is the responsibility of individual fishers to be informed of, and comply with, the *Fisheries Act* and the regulations made thereunder, in addition to these conditions.

For information on management of the red sea urchin fishery obtain a copy of the current Red Sea Urchin - Integrated Fisheries Management Plan from a Pacific Fishery Licensing Unit Office. The Management Plan is intended for general information purposes only. Where there is a discrepancy between the Plan and the *Fisheries Act* and regulations or these conditions, the *Fisheries Act* and regulations and these conditions prevail.

PART 1

Application

This Part applies to fishing for those species of fish set out in section 1 of this Part.

Definitions

"Area" and "Subarea" have the same meaning as in the *Pacific Fishery Management Area Regulations*.

"container" means a mesh pick bag, a mesh transport bag, a plastic tote, or a cage used for the gathering, handling or transportation of red sea urchin.

"Department" means the Department of Fisheries and Oceans.

"discarded" means not placing the red sea urchin in a container or removing a red sea urchin from a container and not validating that red sea urchin.

"harvested" means removing, by any means, red sea urchin from the substrate of the ocean floor.

"landed" or "landing" means the transfer of red sea urchin from a vessel in water to land.

"fishing trip" means the time between leaving port to commence commercial Red Sea Urchin fishing and the return to a port or offloading of catch that results in a discontinuation of fishing for 24 hours or longer.

"Hail-out Report" means the report made to a designated Red Sea Urchin service provider prior to embarking on a fishing trip.

"Hail-in Report" means the report made to a designated Red Sea Urchin service provider prior to landing Red Sea Urchin OR after a fishing trip.

"observer" means an individual who has been designated as an observer by the Regional Director-General for Pacific Region pursuant to section 39 of the *Fishery (General) Regulations*.

"Quota Area" means those areas enumerated and described in Appendix 5 of the current Red Sea Urchin – Integrated Fisheries Management Plan.

"tranship" means the transfer of red sea urchin from a vessel to another vessel.

"validated" means red sea urchin have been weighed by an observer and the weight entered into the Red Sea Urchin Validation & Harvest Log (see sections 10 and 12) or an alternative log approved by the Department.

"vessel registration number" or "VRN" means the number assigned to a vessel by the Department at the time the vessel is registered as a fishing vessel.

1. Species of fish permitted to be taken:

Red Sea Urchin (Strongylocentrotus franciscanus)

2. Licence Expiry Date:

This licence expires on July 31, 2011.

3. Quantities permitted to be taken:

(1) The maximum quantity of red sea urchin authorized to be taken under this licence shall not exceed the limit on the current Red Sea Urchin licence.

4. Waters in which fishing is permitted:

Area of fishing is as set out in this licence.

5. Fishing gear permitted to be used:

Hand picking by divers only. Suction devices are not permitted to be used.

6. Fishing Multiple Quota Areas

All red sea urchin caught in a Quota Area shall be landed or transhipped prior to the commencement of fishing in a new Quota Area.

7. The type, size and marking of containers to hold or transport red sea urchin and the marking of such containers:

(1) All red sea urchin delivered to designated landing ports or transhipped from the licensed vessel to another vessel licensed for the transportation of fish shall be placed in containers which are labelled. The label must be waterproof and marked with the vessel name and vessel registration number.

(2) All harvested red sea urchin that are contained in "pick bags" or any other type of container and left unattended in the water must be labelled. The label must be waterproof and marked with the vessel name and vessel registration number of the vessel used to harvest that product. Floats attached to containers left unattended in the water must be marked with the vessel registration number.

8. Transhipment:

Red sea urchin may be transhipped from the licensed vessel to another vessel licensed for the transportation of fish provided the vessel master complies with the following conditions:

(1) all red sea urchin are in containers and tagged as per section 7;
(2) the number of containers are recorded in the log;
(3) the "packer weight" (determined by subtracting the weight of the containers from the weight of the product) is recorded in the log;
(4) a copy of the log accompanies the product to the designated port; and
(5) the product is landed at a designated port and validated by an observer.

9. Locations permitted for the landing of red sea urchin:

Red sea urchin shall be landed at one of the following ports:

(1) North Coast: Queen Charlotte City, Masset, Prince Rupert, Port Edward, Klemtu, Bella Bella, or Port Hardy.

(2) South Coast: Port Hardy, Coal Harbour, Port McNeill, Kelsey Bay, Campbell River, Nanaimo, Sidney, Sooke, Victoria, Ucluelet, Tofino, or Vancouver.

This condition applies to both the licensed vessel and, if the vessel master chooses to tranship his catch to another vessel, to the vessel receiving the red sea urchin.

10. Validation:
(See Explanatory Note after section 14)

(1) All red sea urchin harvested or removed from the sea bed floor under the authority of this licence must be validated at the point and time the fish are landed.

(2) Prior to validation of red sea urchin no person shall:

(a) smash the shells or slit the membranes of the red sea urchin to drain the waters; or
(b) dump, throw overboard, or otherwise discard red sea urchin which have been harvested and retained in accordance with the *Fisheries Act* and the regulations made thereunder.

(3) All weights shall be determined using a scale approved by Industry Canada.

(4) The vessel master of the licensed vessel or, if the catch is transhipped to another vessel, the vessel master of that vessel shall provide the observer with a hard copy of the Validation & Harvest Logbook upon completion of each validation.

(5) The vessel master of the licensed vessel or, if the catch is transhipped to another vessel, the vessel master of that vessel shall provide to the observer at the point of landing, access to the vessel's fish holds, freezers and other fish storage areas at any time during the landing.

11. Oral Reports:

1) Hail-out Report
Not less than 24 hours before a fishing trip, the vessel master shall make a Hail-out Report by contacting the designated Red Sea Urchin service provider at (800) 775-5505 and report the following information:

(a) vessel name, vessel master's name and vessel registration number;
(b) species to be fished (i.e. red sea urchin);
(c) Subarea(s) to be fished;
(d) anticipated time of arrival at the fishing location; and
(e) anticipated time that fishing will begin.

(2) Upon failure to arrive at fishing location within 24 hours of time stated in subsection 11(1), the vessel master shall report the following information to the designated Red Sea Urchin service provider:

(a) vessel name and vessel registration number; and
(b) details of change in fishing plans.

(3) At least 24 hours prior to moving to a new Quota Area, the vessel master shall report the following information to the designated Red Sea Urchin Provider:

(a) vessel name, vessel master's name and vessel registration number;
(b) species to be fished (i.e. red sea urchin);
(c) Subarea(s) to be fished;
(d) anticipated time of arrival at the fishing location; and
(e) anticipated time that fishing will begin.

(4) Cancellation of fishing trip:
Should the vessel master decide not to fish after having made a Hail-out Report, the vessel master shall make a Hail-in Report by contacting the Red Sea Urchin service provider to indicate that no fishing occurred within 24 hours of the time stated in subsection 11(1).

(5)Hail-in Report:

No more than 24 hours after a fishing trip, the vessel master shall make a Hail-in Report by contacting the designated Red Sea Urchin service provider at (800) 775-5505 to report the following information:

(a) vessel name, vessel master's name and vessel registration number;
(b) species fished (i.e. red sea urchin);
(c) Subarea(s) fished; and
(d) time that fishing stopped.

OR

At least 24 hours prior to landing red sea urchin, the vessel master shall make a Hail-in Report by contacting the designated Red Sea Urchin service provider at (800) 775-5505 to report the following information:

(a) vessel name, vessel master's name and vessel registration number;
(b) species to be landed (i.e. red sea urchin);

(c) name of the designated port and location therein where the catch shall be landed;
(d) anticipated time of landing;
(e) name of fish processor or buyer that is buying or transporting the catch; and
(f) if applicable, the method of transporting the catch to a fish processor.

12. Harvest Logs and Chart Data:
(See Explanatory Note after section 14)

(1) The vessel master shall maintain a log of all harvest operations and provide this information in both hard (paper) copy and electronic copy to the Department. The content and format of this log (paper and electronic) must meet the requirements as defined by the Shellfish Data Unit for the current licence year.

(2) The harvest and fishing location information recorded in the log shall be complete and accurate.

(3) The information for each day's harvest operations shall be recorded in the log no later than midnight of that day.

(4) The log shall be kept on board the licensed vessel.

(5) The log shall be produced for examination on demand of a fishery officer, fishery guardian or an observer.

(6) The vessel master shall provide a chart record of the locations fished to the Department.

(a) The chart must be marked with:
(i) the vessel registration number;
(ii) the licence tab number; and
(iii) the validation I.D. numbers.

The validation I.D. number is the unique page number assigned to each validation page of the Red Sea Urchin Validation & Harvest Log. If an alternative log is used, the validation I.D. number is the unique page number assigned by the Shellfish Data Unit when the licence holder contacts the Unit to obtain the information necessary to fulfil the log requirements.

(b) Each harvest site shall be clearly marked on the chart with dive number, validation I.D. number and the dates that fishing activity occurred at each site. The dive numbers on the chart record must correspond to the dive numbers in the log.

(c) The information for each day's harvest operations shall be recorded on the chart record no later than midnight of that day.

(7) The vessel master shall make provisions to have chart information referred to in subsection 12(6) electronically captured into Geographic Information System (GIS) software that meets the requirements as defined by the Shellfish Data Unit for the current licence year.

(8) The completed log pages (original copy), electronic copy of the log, chart record of locations fished, and electronic capture of the chart information shall be forwarded within 28 days following the end of each month in which fishing occurred to:

Fisheries and Oceans Canada
Shellfish Data Unit
Pacific Biological Station
Hammond Bay Road
Nanaimo BC V9T 6N7

Tel: (250) 756-7022 or (250) 756-7306

(9) In the event that a licence holder does not fish during the current fishing season, the licence holder is responsible for submitting a nil report. One page from the harvest logbook identifying the vessel, licence tab number and the year with 'nil' entered in the body of the log and signed by the licence holder constitutes a nil report.

13. Fish Slips:

An accurate written report shall be furnished on a fish slip of all fish caught and retained under the authority of this licence. A report must be made even if the fish are used for bait, personal consumption or disposed of otherwise. The report shall be mailed not later than seven days after the offloading and sent to:

Fisheries and Oceans Canada
Regional Data Unit
Suite 200 - 401 Burrard Street
Vancouver B.C. V6C 3S4

Fish slip books may be purchased at the Regional Data Unit address or at most Departmental offices. Phone (604) 666-2716 for more information.

14. Workers' Compensation Board Requirements

All red sea urchin divers shall be in possession of a Workers' Compensation Board Seafood Harvesting Diving Certificate.

Explanatory Note - Harvest Log, Chart Data and Validation: The Red Sea Urchin Validation & Harvest Log issued by the service bureau contracted by the Pacific Urchin Harvesters' Association is

approved for both form and content by the Shellfish Data Unit. This service bureau will provide, for a fee, the logbook and coding, keypunching, electronic chart data capture and validation services.

Fishers who do not use the logbook and coding, keypunching and electronic chart data capture services provided by this service bureau must contact the Shellfish Data Unit at (250) 756 7306 or (250) 756-7022 in order to obtain the information necessary to fulfil these requirements.

APPENDIX 11: SAFETY AT SEA

Vessel owners and masters have a duty to ensure the safety of their crew and vessel. Adherence to safety regulations and good practices by owners, masters, and crew of fishing vessels will help save lives, prevent vessel damage, and protect the environment. All fishing vessels must be in a seaworthy condition and maintained as required by Transport Canada (TC), WorkSafeBC, and other applicable agencies. Vessels subject to inspection should ensure that the certificate of inspection is valid for the area of intended operation.

In the federal government, responsibility for shipping, navigation, and vessel safety regulations and inspections lies with Transport Canada (TC); emergency response with the Canadian Coast Guard (CCG) and DFO has responsibility for management of the fisheries resources. In B.C., WorkSafeBC also regulates health and safety issues in commercial fishing. This includes requirements to ensure the health and safety of the crew and safe operation of the vessel. DFO (Fisheries and Aquaculture Management (FAM) and CCG) and TC through an MOU have formalized cooperation to establish, maintain, and promote a safety culture within the fishing industry.

Before leaving on a voyage the owner, master or operator must ensure that the fishing vessel is capable of safely making the passage. Critical factors for a safe voyage include the seaworthiness of the vessel, vessel stability, having the required safety equipment in good working order, crew training, and knowledge of current and forecasted weather conditions. As safety requirements and guidelines may change, the vessel owner, crew, and other workers must be aware of the latest legislation, policies, and guidelines prior to each trip.

Useful publications include Gearing Up for Safety (WorkSafe BC), Safe At Sea DVD Series (Fish Safe), Stability Handbook (Fish Safe), Measuring Stability DVD (Fish Safe), Safest Catch DVD (Fish Safe) and Transport Canada Publication TP 10038 '*Small Fishing Vessel Safety Manual*' which can be obtained from TC or printed from their website:

www.tc.gc.ca/MarineSafety/Tp/Tp10038/tp10038e.htm

Other useful tools available for ensuring a safe voyage include: Education and Training Programs, Marine Emergency Duties, Fish Safe Stability Education, First Aid, Radio Operators Course, Fishing Masters Certificates, Small Vessel Operators Certificate etc.

Fish Safe has launched the new Safest Catch program that trains fishermen as safety advisors to be available to assist other fishermen in developing vessel specific on board fishing safety programs. Drills training and safety procedures are the focus and new tools such as the Safe At Sea Procedures Guide and Safety Quick Emergency Drills Guide are available to all BC Commercial fishermen. If you want more information, see the contact below.

1. IMPORTANT PRIORITIES FOR VESSEL SAFETY

There are three areas of fishing vessel safety that should be considered a priority. These are: vessel stability, emergency drills, and cold water immersion.

1.1. Fishing Vessel Stability

Vessel stability is paramount for safety. Care must be given to the stowage and securing of all cargo, skiffs, equipment, fuel containers and supplies, and also to correct ballasting. Fish harvesters

must be familiar with their vessel's centre of gravity, the effect of liquid free surfaces on stability, loose water or fish on deck, loading and unloading operations and the vessel's freeboard. Know the limitations of your vessel; if you are unsure contact a reputable naval architect, marine surveyor or the local Transport Canada Marine Safety Office.

Fishing vessel owners are required to develop detailed instructions addressing the limits of stability for each of their vessels. The instructions need to be based on a formal assessment of the vessel by a qualified naval architect and include detailed safe operation documentation kept on board the vessel. Examples of detailed documentation include engine room procedures, maintenance schedules to ensure watertight integrity, and instructions for regular practice of emergency drills.

1.2. Emergency Drill Requirements

The master must establish procedures and assign responsibilities to each crew member for emergencies such as crew member overboard, fire, flooding, abandoning ship, and calling for help.

The Crewing Regulation under the Canada Shipping Act (CSA) states that as of July 30th 2002 all seafarers, including fish harvesters, must have a Basic Safety Certificate (MED A1 or A3 depending upon vessel and operating waters) within 6 months of becoming a crewmember, regardless of time at sea. The MED A1 is a three day course, and must be taken by all crew regardless of duty station.

MED provides a basic understanding of the hazards associated with the marine environment; the prevention of shipboard incidents; raising and reacting to alarms; fire and abandonment situations; and the skills necessary for survival and rescue.

1.3. Cold Water Immersion

Drowning is the number one cause of death in B.C.'s fishing industry. Cold water is defined as water below 25 degrees Celsius, but the greatest effects occur below 15 degrees. BC waters are usually below 15 degrees. The effects of cold water on the body occur in four stages: cold shock, swimming failure, hypothermia, and post-rescue collapse. Know what to do to prevent you or your crew from falling into the water and what to do if that occurs. More information is available in the WorkSafe Bulletin *Cold Water Immersion* (available from the WorkSafeBC website).

1.4. Other Issues

1.4.1. Weather

Vessel owners and masters are reminded of the importance of paying close attention to current weather treads and forecasts during the voyage. Marine weather information and forecasts can be obtained on VHF channels 21B, Wx1, Wx2, Wx3, or Wx4. Weather information is also available from Environment Canada website at:

http://www.weatheroffice.gc.ca/marine/index_e.html

1.4.2. Emergency Radio Procedures

Vessel owners and masters should ensure that all crew are able to activate the Search and Rescue (SAR) system early rather than later by contacting the Canadian Coast Guard (CCG). It is strongly recommended that all fish harvesters carry a registered 406 MHz Emergency Position Indicating Radio Beacon (EPIRB). These beacons

should be registered with the National Search and Rescue secretariat. When activated, an EPIRB transmits a distress call that is picked up or relayed by satellites and transmitted via land earth stations to the Joint Rescue Co-ordination Centre (JRCC), which will task and co-ordinate rescue resources.

Fish harvesters should monitor VHF channel 16 or MF 2182 Khz and make themselves and their crews familiar with other radio frequencies. All crew should know how to make a distress call and should obtain their restricted operator certificate from Industry Canada. However, whenever possible, masters should contact the nearest Canadian Coast Guard (CCG) Marine Communications and Traffic Services (MCTS) station (on VHF channel 16 or MF 2182 kHz) prior to a distress situation developing. Correct radio procedures are important for communications in an emergency. Incorrect or misunderstood communications may hinder a rescue response.

Since August 1, 2003 all commercial vessels greater than 20 metres in length are required to carry a Class D VHF Digital Selective Calling (DSC) radio. A registered DSC VHF radio has the capability to alert other DSC equipped vessels in your immediate area and MCTS that your vessel is in distress. Masters should be aware that they should register their DSC radios with Industry Canada to obtain a Marine Mobile Services Identity (MMSI) number or the automatic distress calling feature of the radio may not work. For further information see the Industry Canada site at:

www.ic.gc.ca/eic/site/ic1.nsf/eng/h_00014.html

A DSC radio that is connected to a GPS unit will also automatically include your vessel's current position in the distress message. More detailed information on MCTS and DSC can be obtained by contacting a local Coast Guard MCTS centre (located in Vancouver**,** Victoria**,** Prince Rupert**,** Comox, and Tofino**) or** from the Coast Guard website:

www.pacific.ccg-gcc.gc.ca

1.4.3. Collision Regulations

Fish harvesters must be knowledgeable of the *Collision Regulations* and the responsibilities between vessels where risk of collision exists. Navigation lights must be kept in good working order and must be displayed from sunset to sunrise and during all times of restricted visibility. To help reduce the potential for collision or close quarters situations which may also result in the loss of fishing gear, fish harvesters are encouraged to monitor the appropriate local Vessel Traffic Services (VTS) VHF channel, when travelling or fishing near shipping lanes or other areas frequented by large commercial vessels. Vessels required to participate in VTS include:

- every ship twenty metres or more in length,
- every ship engaged in towing or pushing any vessel or object, other than fishing gear,
- where the combined length of the ship and any vessel or object towed or pushed by the ship is forty five metres or more in length; or

- where the length of the vessel or object being towed or pushed by the ship is twenty metres or more in length.

  Exceptions include:

- a ship towing or pushing inside a log booming ground,
- a pleasure yacht *less than* 30 metres in length, and
- a fishing vessel that is *less than* 24 metres in length and not *more than* 150 tons gross.

More detailed information on VTS can be obtained by calling (604) 775-8862 or from Coast Guard website:

www.pacific.ccg-gcc.gc.ca/mcts-sctm/index_e.htm.

1.4.4. Buddy System

Fish harvesters are encouraged to use the buddy system when transiting, and fishing as this allows for the ability to provide mutual aid. An important trip consideration is the use of a sail plan which includes the particulars of the vessel, crew, and voyage. The sail plan should be left with a responsible person on shore or filed with the local MCTS. After leaving port the fish harvester should contact the holder of the sail plan daily or as per another schedule. The sail plan should ensure notification to JRCC when communication is not maintained which might indicate your vessel is in distress. Be sure to cancel the sail plan upon completion of the voyage.

2. FISH SAFE

Fish Safe is a fisherman driven initiative coordinated by Gina Johansen and directed by the Fish Safe Advisory Committee (membership is open to all interested in improving safety on board). The advisory committee meets quarterly to discuss safety issues and give direction to Fish Safe in the development of education and tools for fishermen.

Vessel masters and crew are encouraged to become more knowledgeable regarding vessel stability. FishSafe BC developed the Fish Safe Stability Education Course, which is available to all fishermen who want to improve their understanding of stability and find practical application to their vessel's operation.

Gina Johansen, Program Manager

Fish Safe
2-11771 Horseshoe Way
Richmond, BC V7A 4V4
Phone: 604-261-9700
Email: fishsafe@telus.net
www.fishsafebc.com

3. WORKSAFE BC

Commercial fishing is legislated by the requirements for diving, fishing and other marine operations found in Part 24 of the Occupational Health and Safety Regulation (OHSR). Many general hazard sections of the OHSR also apply. For example, Part 8: Personal Protective Clothing and Equipment

addresses issues related to safety headgear, safety foot wear and personal floatation devices. Part 15 addresses issues on rigging, Part 5 addresses issues of exposure to chemical and biological substances, and Part 3 addresses training of young and new workers, first aid, and accident investigation issues. Part 3 of the Workers Compensation Act (WCA) defines the roles and responsibilities of owners, employers, supervisors, and workers. The OHSR and the WCA are available from the Provincial Crown Printers or by visiting the WorkSafe BC website:

www.worksafebc.com

For further information, contact an Occupational Safety Officer:

Mark Lunny	Courtenay	(250) 334-8732
Pat Olsen	Courtenay	(250) 334-8777
Bruce Logan	Richmond	(604) 244-6477
Shane Neifer	Terrace	(250) 615-6640
Mark Peebles, Focus Sector Manager for Fishing	Richmond	(604) 279-7563 toll free 1-888-621-7233 (ext. 7563)
Ellen Hanson – projects related to commercial fishing		(604) 233-4008 toll free 1-888 621-7233 (ext. 4008) Ellen.Hanson@worksafebc.com

APPENDIX 12: CONSULTATION

RED SEA URCHIN SECTORAL COMMITTEE AND RESEARCH SUBCOMMITTEE

A consultative process exists for the red sea urchin fishery and is a major part of the planning for the fishery. The primary consultative body for red sea urchins is the Red Sea Urchin Sectoral Committee. This committee includes representatives from Fisheries and Oceans Canada, commercial vessel owners, processors, First Nations, BC Ministry of Agriculture and Lands, and recreational fish harvesters. Members of the Pacific Urchin Harvesters' Association (PUHA) represent commercial fish harvesters on this committee.

The Sectoral Committee meets annually in the spring to review and provide advice to the Department regarding management issues pertaining to the fishery and on the proposed IFMP. The Sectoral Committee and Research Subcommittee terms of reference and meeting calendar are available from the Resource Managers listed in Contacts or from the Department's consultation Internet site at:

http://www.pac.dfo-mpo.gc.ca/consultation/fisheries-peche/shell-inv/urch-ours/r/index-eng.htm

Area Committees for each commercial licence area discuss the observations, opinions and desires of the area fish harvesters and the industry association (PUHA) with respect to the harvest plan. All advice, where practical and useful, is considered

The draft IFMP incorporates new science advice and all practical advice on quota options, and is made available to all interested parties: PUHA, First Nations, recreational organizations, DFO (Science Branch, Conservation and Protection, Commercial Licensing, the Oceans Directorate, the Aquaculture Division, Treaty and Aboriginal Policy Directorate, Policy Branch), other Federal agencies such as CFIA, EC and the Province (Ministry of Agriculture, Food and Fisheries or MAFF) for review and comment.

A multi-sector advisory committee (Red Sea Urchin Sectoral Committee) meeting is held. Discussion arising from this meeting may result in some final changes to the plan, which then progresses through an internal DFO approval process.

APPENDIX 13: CONTACTS

Observe, Record and Report (Enforcement Line)		(800) 465-4336
Fisheries Information and Shellfish Contamination Closure Update (24 Hours)		(866) 431-3474
	or (for Greater Vancouver)	(604) 666-2828
Invertebrate Internet Page	http://www.pac.dfo-mpo.gc.ca/ops/fm/shellfish/default_e.htm	

Resource Management

Regional Shellfish Co-ordinator		
Lead Red Sea Urchin Manager	Pauline Ridings	(250) 627-3014
Regional Recreational Fisheries Co-ordinator	Devona Adams	(604) 666-3271
North Coast Area, Areas 1 through 10 (North)	General Inquiries	(250) 627-3499
417 2nd Avenue West, Prince Rupert	Fax	(250) 627-3427
Resource Management Biologist	Pauline Ridings	(250) 627-3014
Resource Manager, Bella Coola	Kristen Wong	(250) 799-5346
Resource Manager - Recreational Fisheries	Mark Reagan	(250) 627-3409
South Coast Area, Areas 11 through 27	General Inquiries	(250) 756-7270
3225 Stephenson Point Road, Nanaimo	Fax	(250) 756-7162
Resource Management Biologist, Nanaimo	Erin Wylie	(250) 756-7271
Resource Manager - First Nations Fisheries	Kevin Conley	(250) 756-7196
Resource Manager - Recreational Fisheries	Brad Beaith	(250) 756-7190
Lower Fraser Area, Areas 28 and 29	General Inquiries	(604) 666-8266
Unit 3, 100 Annacis Parkway, Delta	Fax	(604) 666-7112
Resource Management Biologist	Bridget Ennevor	(604) 666-6390
Resource Manager - First Nations Fisheries	Terri Bonnet	(604) 666-8426
Resource Manager - Recreational Fisheries	Debra Sneddon	(604) 666-6509

Conservation and Protection

Red Sea Urchin Enforcement Plan	Scott Keehn	(250) 627-3430

Science Branch

Pacific Biological Station	Claudia Hand	(250) 756-7139
	Dan Leus	(250) 756-7147

Commercial Licensing

Pacific Fishery Licence Unit 200 - 401 Burrard Street Vancouver, BC V6C 3S4		(604) 666-0566
Pacific Fishery Licence Unit		(250) 627-3413

417 2nd Avenue West
Prince Rupert, BC V8J 1G8

Pacific Fishery Licence Unit 60 Front Street Nanaimo, BC V9R 5H7		(250) 754-0400

Aquaculture

Shellfish Advisor, Aquaculture Division	Kerry Marcus	(250) 754-0210

Canadian Food Inspection Agency

Molluscan Shellfish Program Specialist	Hanna Boehmer	(604) 666-3578

WorkSafe BC

Occupational Safety Officer, Northern BC	Shane Neifer	(250) 615-6640
Occupational Safety Officer, Lower Mainland	Bruce Logan	(604) 244-6477
Occupational Safety Officer, Vancouver Island	Pat Olsen	(250) 218-4866
Occupational Safety Officer, Vancouver Island	Mark Lunny	(250) 334-8732

Pacific Urchin Harvesters Association (PUHA)

Mike Featherstone, President	(604) 932-4559
Kenneth Ridgway, Director	(250) 758-2756
David McRae, Director	(250) 595-5577
Tim Joys, Director	(604) 241-7815
Dave Lansdowne, Director	(250) 727-9162
Mark Ulanowski, Director	(250) 477-4752
Jim Hume, Alternate	(250) 652-9544
Ross Morris, Executive Secretary	

Red Sea Urchin Service Provider

D&D Pacific Fisheries Ltd.	D. Christian & D. Macey	(604) 886-4819
Box 1445	Fax	(604) 886-8288
Gibsons, BC V0N 1V0	Hail-line	(800) 775-5505

Red Sea Urchin Processors

Grand Hale Marine Products	Spencer Cheung	(604) 325-9393
Hi-To Fisheries	Lawrence Chan	(604) 253-5111
Territory Seafoods	Mike Crawford	(604) 244-7072
Paladin International	Paddy Wong	(604) 821-0133
Sung Fish	Sung Kim	(604) 255-4718
Seagate Fisheries	Alice Tse	(604) 278-8684