

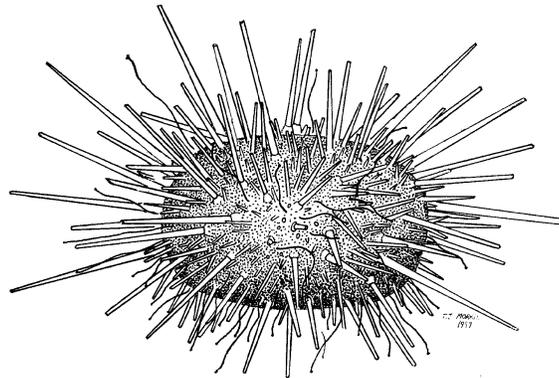


Fisheries and Oceans
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Integrated Fisheries Management Plan Summary

Red Sea Urchin (*Mesocentrotus franciscanus*) By Dive Pacific Region 2020/2021



The purpose of this Integrated Fisheries Management Plan (IFMP) summary is to provide a brief overview of the information found in the full IFMP. This document also serves to communicate the basic information on the fishery and its management to 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. The full IFMP is available on request.

This IFMP summary 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.

General Overview/Introduction

IFMP Section 1

The Red Sea Urchin (*Mesocentrotus franciscanus*, formerly *Strongylocentrotus franciscanus*) is one of three sea urchin species harvested in British Columbia. The commercial Red Sea Urchin fishery is a limited entry fishery with 110 licence eligibilities. It is common practice within the industry for vessels to stack multiple licence eligibilities in order to make fishing more economical. With the exception of permanent closures for various purposes, the commercial fishery occurs coastwide in units called Quota Areas. The commercial licence year is from August 1 to July 31 and the fishery may open and close based on market demand and completion of area quotas. The fishery operates under a Total Allowable Catch (TAC) with Individual Quotas (IQ). All commercial landings are tracked using a coastwide Dockside Monitoring Program (DMP). Other management measures include limited entry licensing, a minimum size limit, area quotas and area licensing.

First Nations' fishing for food, social and ceremonial purposes is open coastwide throughout the year. Food, social and ceremonial harvest has not been limited by catch quantity, except in those Nations where the Council or fisheries Program has established their own catch limits for band members, or where allocated under treaty.

The recreational fishery is open coastwide year-round and is an open entry fishery with a daily bag limit, two-day possession limit and gear limits.

Stock Assessment, Science & Traditional Knowledge

IFMP Section 2

The Department, the Pacific Urchin Harvesters Association (PUHA) and First Nations joint stock assessment activities continue coastwide through biomass transect surveys. The main survey goals are to estimate density and size frequencies of select populations to prove and/or adjust quotas accordingly. Scientific research and stock assessment surveys are of vital importance to this fishery as it continues to be managed by the precautionary approach to Canadian Fisheries. 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.

Aboriginal Traditional Knowledge is generally not available for Red Sea Urchins. 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.

Economic Profile of the Fishery

IFMP Section 3

The Pacific Region is home to the only commercial Red Sea Urchin fishery in Canada. Red Sea Urchins are harvested by SCUBA divers and delivered to processing plants where the roe is extracted, treated and packaged for sale in Japan, Europe and North America as 'Uni'. The domestic market for red sea urchins is small.

The 110 commercial licence eligibilities are stackable and are usually distributed over 30 or more vessels (changes from year to year). Most of the vessels involved in the Red Sea Urchin fishery are licensed for one or more other dive fisheries such as Geoduck or Sea Cucumber. Vessels that are active in the Red Sea Urchin fishery generally generate higher revenues from their participation in the Geoduck and Sea Cucumber fisheries than they do from the harvest of Red Sea Urchins. The commercial fishery operates from August to May with the highest market demand being in December and March. The best roe comes from sea urchins harvested between October and May, after which the quality decreases as the sea urchins begin to spawn.

Since 2007 the coastwide commercial TAC has remained relatively constant at approximately ten million pounds. The market demand for BC Red Sea Urchin decreased dramatically starting in 2006 due to competition from the Russian Illegal, Unregulated, Unreported fishery. As a result, landings in BC dropped to below one half of the TAC between 2006 and 2011. Market conditions starting improving in 2012, and

between 70 and 80% of the TAC has been landed over the last few seasons. Sea Otter expansion in BC has been impacting Red Sea Urchin stocks in some areas which has resulted in a drop in quota in some of those areas.

Red Sea Urchins are important to coastal First Nations, who harvest them for food, social and ceremonial purposes. First Nations are also interested in economic opportunities through participation in BC's commercial fisheries.

Recreational interest in harvesting shellfish species is directed mainly at crab, prawn and shrimp. The recreational harvest of Red Sea Urchins is believed to be minimal.

Access and Allocation

IFMP Section 6

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

The commercial fishery is managed through a TAC, limited entry licensing, IQ, area licensing, area quotas and a size limit. To date there have been no limits placed on First Nations' harvest for food, social and ceremonial purposes. The daily limit for recreational Red Sea Urchin harvest is 12 with a possession limit of 24 and gear is limited to hand picking only.

Management Issues

IFMP Sections 4, 5 and 7

| # | Management Issue | Objectives | Management Measure |
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| 1 | <p>Sea Otters</p> <p>Sea Otter populations are expanding in BC and, because sea otters are major predators on Red Sea Urchins, are having a large impact on the fishery.</p> <p>Expansion of Sea Otter populations has been identified by commercial industry as one of their concerns about the sustainability of the fishery.</p> | <p>To meet conservation objectives and ensure healthy and productive fisheries and ecosystems.</p> <p>To conduct on-going surveys and research to improve information on Red Sea Urchin stocks, biological characteristics and the impacts of Sea Otters.</p> <p>To continue to gather information from harvesters on the impacts of Sea Otters on the Red Sea Urchin resource.</p> | <p>Some quota areas on the west coast of Vancouver Island, northern Vancouver Island and the mainland 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.</p> <p>Other possible options to consider:</p> <ul style="list-style-type: none"> - moving quota from Sea Otter impacted areas of the coast to under-harvested areas of the coast. - Consider increasing harvest rates in areas that are starting to be impacted by Sea Otter predation. - Look at opening portions of the coast currently closed to commercial harvest (e.g. marine reserves, ecological reserves, etc.) that are impacted negatively by Red Sea Urchin barrens. - Increase the harvest rate in areas that are currently open for commercial harvest but are still being negatively impacted by Red Sea Urchin barrens. |
| 2 | <p>Overabundance of Red Sea Urchins (Urchin Barrens)</p> <p>Urchin barrens are detrimental to the ecosystem since the grazing activity of the urchins inhibits the growth of kelp and sessile invertebrates, which in turn affects other species that may rely on kelp and/or sessile invertebrates for food and habitat.</p> | <p>To meet conservation objectives and ensure healthy and productive fisheries and ecosystems.</p> | <p>Closures for conservation purposes may not be necessary for Red Sea Urchins in areas of BC where urchin barrens are a known issue, especially if the goal of the closure is to promote a healthy ecosystem. Consideration could be made to allow a greater amount of Red Sea Urchins to be harvested in areas known to be impacted by urchin barrens.</p> |

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| 3 | <p>Market conditions for the commercial fishery.</p> <p>The Russian Illegal, Unregulated, Unreported (IUU) fishery has negatively affected the market for BC Red Sea Urchin roe in Japan.</p> | <p>To manage fisheries to provide opportunities for economic prosperity.</p> <p>To consider the goals of stakeholders with respect to social, cultural and economic value of the fishery.</p> | <p>An alternate method of validation is currently being piloted to allow urchins to be validated while submerged in seawater. This will support the Pacific Urchin Harvesters Association's (PUHA) development of a live-market for Red Sea Urchin.</p> |
| 4 | <p>Disease</p> <p>In the spring of 2016 sick or dying urchins were observed along the North and Central coasts of BC. Samples were collected from afflicted individuals and were sent in for testing. Preliminary examination of the samples done by a disease expert at DFO suggests that the urchins were suffering from 'bald urchin disease'. This disease has been reported in species of urchins all over the world. It has been hypothesized that increasing sea temperature will lead to an increase in the frequency of disease outbreaks due to decreased host immunity, increased virulence of pathogens or pathogen range expansion.</p> | <p>To meet conservation objectives and ensure healthy and productive fisheries and ecosystems.</p> | <p>Samples taken from sick/dying sea urchins have been sent in for testing and observations are being collected on the location and number of sick sea urchins seen. This has not been a wide-scale disease outbreak comparable to the 'Sea Star Wasting Disease' reported from Alaska to California starting in 2014. No noticeable decline has been seen in Red Sea Urchin stocks in BC at this time.</p> |
| 5 | <p>Monitoring the commercial fishery</p> <p>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.</p> | <p>To increase monitoring of the commercial Red Sea Urchin fishery in the north coast licence area.</p> | <p>The PUHA and DFO have piloted a Vessel Monitoring System (VMS) program for the north coast fishery. The VMS sends near real-time location information to fishery managers and fishery officers, making planning for enforcement patrols more efficient.</p> |

Governance Process

The Red Sea Urchin fishery is governed by the *Fisheries Act* and regulations made thereunder.

The primary consultative body for Red Sea Urchin is the Red Sea Urchin Sectoral Committee. The committee includes members from the Department, First Nations, commercial industry, and other sectors. The Red Sea Urchin Sectoral Committee meets annually in March to provide advice to the Department on the IFMP. The draft IFMP goes out for a 30-day public consultation in May and the final version of the IFMP goes for approval by the Regional Director General for the Pacific Region in June. Licensing for the commercial fishery starts in July and the fishery opens on August 1.

Compliance Plan

IFMP Section 9

Conservation and Protection (C&P) staff will pursue opportunities to monitor and enforce this fishery, in conjunction with the monitoring and enforcement priorities directed by senior management in the Pacific Region.

Performance Review

IFMP Section 10

Performance indicators are reported in the Post-Season Review (Appendix 5 of the IFMP).

Stock assessment and research activities are outlined. The post season review may include outcomes from meetings with First Nations and other sector regarding Red Sea Urchins. The delivery of the commercial fishery will be assessed by performance measures such as the amount of Red Sea Urchins landed and the value of the fishery. Input from members at the Red Sea Urchin Sectoral Committee meetings will be included. The post season review will also include time spent attending to enforcement of the fishery.

Fisheries and Oceans Canada Contact

For additional information on this IFMP Summary or to request an electronic version of the full IFMP, please contact Pauline Ridings at 250-756-7118 or Pauline.Ridings@dfo-mpo.gc.ca