

# **NSW TOTAL ALLOWABLE FISHING COMMITTEE**

## **SEA URCHIN AND TURBAN SHELL RESTRICTED FISHERY: RED URCHIN**

### **DETERMINATION FOR THE 2022 FISHING PERIOD**

12 November 2021

## Executive Summary

### Preamble

The New South Wales (NSW) Total Allowable Fishing Committee (TAFC) has statutory responsibilities set out in Part 2A of the *Fisheries Management Act 1994* (the Act) to determine the Total Allowable Commercial Catch (TACC) or Total Allowable Commercial Effort (TACE) by NSW fishers holding the relevant endorsement in some commercial fisheries. Various fishing regulations under the Act also contain provisions requiring the making of fishery determinations.

The TAFC is an independent statutory body established under Schedule 2 of the Act. In making a determination on catch or effort in a commercial fishery, the TAFC must consider the ecological, economic and social issues associated with each fishery and make determinations that 'on balance' pursue the objectives of the Act.

The TAFC is not subject to the control or direction of the Minister as to any determination made. However, the Minister may direct the TAFC on the procedures to be followed and the matters to be taken into account in making a fishing determination.

This determination is for the Sea Urchin and Turban Shell (SUTS) Restricted Fishery for the period 1 January to 31 December 2022. The Red Urchin fishery is a significant part of the SUTS multi-species restricted fishery that is managed by a combination of input controls (e.g., minimum size limits) and individual transferable quotas (ITQs). A TACC and equal ITQs are only applied to the Red Urchin. There are 37 SUTS holders in the fishery and each endorsement has received an annual ITQ of 1,622 kg for Red Urchin under a TACC of 60 tonnes since 2002. The Red Urchin ITQ cannot be separated from the SUTS endorsement and ownership cannot be permanently transferred amongst endorsed fishers, but the quota can be leased within a fishing period. Concerns about a reduction in individual quota allocations for active divers if the TACC is reduced, coupled with constraints at leasing quota, has made changing the TACC problematic since it was first implemented in 2002.

Due to economic and social considerations with the temporary transfer of quota within a fishing period, the TAFC supports the setting of Regional Catch Limits (RCLs) across five (5) regions to ensure those fishers that specifically target Red Urchins can continue to effectively operate in the fishery (Appendix 1). RCLs also provide some protection against overfishing and serial and/or localised depletion in fished areas.

Regions 3 and 4 have contributed over 60% of the total catch in recent years. In both regions, historical and recent peaks in fishing effort and catch have been followed by rapid and substantial declines in catch rate. A similar pattern was historically seen in Region 2, with periods of increased catch being followed by rapid declines in catch rate. These declines in catch rate indicate that the stock is subject to serial localised depletion, even at the relatively low catch levels reported in recent years.

Declines in catch per unit of effort (CPUE), which is an index of abundance, need to be arrested if the fishery is to remain economically viable. However, there are no

major biological concerns with the resource, due to the protection of spawning adults in closed areas across NSW and implementation of the minimum size limit (MSL) in late 2019.

The Red Urchin fishery has been subject to substantially lower fishing effort in 2020 and 2021, due to COVID-19 restrictions and catch is historically low over the past two fishing periods. There is no compelling new data to necessitate a change in the TACC or RCLs at this time.

An on-line TAFC meeting was held with interested SUTS shareholders on 27 October 2021 and representatives from the NSW Department of Primary Industries (Fisheries). Various management issues were discussed, including the significant market impact of COVID-19 over the past two fishing periods.

### Management recommendations & supporting actions

The TAFC provides the following research recommendation to the Minister, NSW Fisheries and the SUTS fishing industry towards improving the management of the fishery:

1. A measure of variability (standard deviations) be considered in catch rate reporting in future years. This may or may not be combined into a catch rate standardisation procedure.

### Determination

The Total Allowable Fishing Committee, pursuant to Part 2A of the *Fisheries Management Act 1994*, determines that the commercial catch of Red Urchin in the NSW Sea Urchin and Turban Shell restricted fishery should be controlled and allocated through two separate, but dependent measures:

1. A TACC for Red Urchin during the period 1 January to 31 December 2022 of **60 tonnes**; and
2. Regional Catch Limits (RCLs) across the specified five (5) regional zones that collectively should not exceed **19.0 tonnes** as follows:

Region	Catch Limit 2022 (tonnes)
1	2.35
2	4.90
3	6.13
4	5.62
5	0
<b>Total</b>	<b>19.0</b>

## Introduction

The commercial harvest of Red Urchin in NSW is managed as part of the Sea Urchin and Turban Shell (SUTS) Restricted Fishery. The SUTS fishery is a declared restricted fishery under Division 1 of Part 9 of the *Fisheries Management (General) Regulations 2019*, pursuant to Section 111 of the *Fisheries Management Act (NSW) 1994*. The fishery for Red Urchin is managed through a combination of input (minimum size limit; spatial closures) and output controls (quota; regional catch limits).

The commercial Red Urchin fishery commenced in 1999 with an initial peak harvest of 85.5 tonnes in 2000. Early concerns about overfishing resulted in a total allowable commercial catch (TACC) being established in 2002 at 60 tonnes. Commercial harvest has remained well below this 60 tonne TACC since 2002. However, as a small number of fishers target Red Urchin in the SUTS Fishery, this TACC has continued to be equally allocated between the 37 endorsement holders.

To further restrict high levels of fishing effort and serial depletion, Regional Catch Limits (RCLs) were introduced into the fishery in 2001. The commercial catch has never reached the combined RCLs or the TACC and this is of ongoing concern for the fishery management, based on evidence of declining catch rates.

## Biological considerations

Red Urchin (*Heliocidaris tuberculata*) is slow growing with low biological productivity compared to Purple Urchin (*Centrostephanus rodgersii*). Areas closed to fishing and a minimum size limit, are used to prevent overfishing of the NSW stock. The 2020 status of the overall NSW stock was declared 'Sustainable' as a result, but the populations in the closed areas have not been re-surveyed since 2000. The effect of closing all of Region 5 to fishing remains unclear. Results from the 2000 survey indicated sites with substantially lower densities of Red Urchins compared to other Regions. In that time however, the SE marine ecosystem has experienced substantial changes in environmental conditions, such as marine heat waves, which could have had important effects on Red Urchin larvae, which are relatively intolerant to cool waters.

The exploited stock outside of the closed areas was declared depleting in 2020 as both catch rates (CR) and catches, have either recently declined or been at historically low levels. The stock assessment in 2021 is based on updated fishery statistics, which indicate that the Red Urchin stock was lightly exploited last year due to COVID-19 related market effects. The statistics have not changed greatly since last year and the conclusions regarding stock status remain consistent. A regional breakdown of CR was not provided for 2021, but aggregated across all zones CR tended to be higher compared to 2020 levels. There is quite likely a large amount of variability attached to these values as the effort levels in the fishery were less than half of the previous year, irrespective of how it was measured. It is not possible therefore to draw further conclusions on the status of the stock since 2020. The Committee recommends in future years a measure of variability be considered in CR reporting.

**Recommendation: Measure of variability (standard deviations) be considered in CR reporting in future years. This may or may not be combined into a CR standardisation procedure.**

Total catch in the fishery was 2.5 tonnes up to August 2021 and distributed evenly across four Regions. This was substantially less than the combined RCLs of 19 tonnes.

### Economic considerations

The market for Red Urchin is domestic, mostly in NSW, where it competes with Purple Urchins caught in NSW and Tasmania. Most Red Urchin product is used in the restaurant trade, which has been significantly disrupted due to COVID-19 control arrangements. The beach price in 2021 is at a historical high at \$12.21/kg, although only marginally so and on low product volumes.

For the restaurant trade in NSW, there is substantial short-term uncertainty, as the state transitions to reduced COVID-19 restrictions. This may increase demand for Red Urchin, although whether that demand over the next 12 months reaches or exceeds demand prior to COVID is speculative. How any increased demand translates to beach price is also uncertain.

There were no fishing business transfers during 2021. Fishing business transfers were also very low in the preceding two years with no clear price signal. There were also no quota transfers in 2021.

There is no economic imperative at this stage for considering a change to the Red Urchin TACC.

### Fishery Management considerations

Since the onset of COVID-19 in early 2020, Red Urchin has become a minor part (~\$30,000 GVP in 2021 YTD) of the Sea Urchin and Turban Shell (SUTS) fishery (~\$250,000 GVP in 2021 YTD). Prior to this (2016-19) it accounted for around half the SUTS fishery value.

SUTS fishery cost recovery exceeds 15% of the fishery GVP, which is very high and may explain why fees in arrears continue to rise. 57% of SUTS licence holders currently owe a total of around \$25,000. This debt is likely to increase further as most licensees have had no or low incomes in 2021 YTD. In such a challenging environment, management considerations must keep additional fishery costs to a minimum, while addressing key stock and fishery priorities. For this reason, only one new recommendation is made by the TAFC this year, noting that last year's TAFC recommendations concerning size frequency distributions are being acted on by both NSW Fisheries and the fishing industry, as discussed at the virtual industry meeting on 27 October 2021.

The TAFC had flagged that it would provide the option to set future TACCs and RCLs for multiple years thereby enabling its 2020 recommendations and other matters, such as the effectiveness of the 95 mm minimum size limit, to be implemented and data collected. However, at the TAFC virtual meeting with industry

and NSW Fisheries on 27 October 2021, industry members present expressed a preference for an annual TACC, given the impacts of COVID-19 on the market and an uncertain outlook. Regarding the current RCLs, industry raised no matters of concern, with at least one industry member supporting them.

Given the very low current catch over the last two fishing periods, little new data and the industry preference for an annual TACC and RCLs, the TAFC has recommended the Red Urchin Total Allowable Commercial Catch (TACC) remain at 60 tonnes in 2022 with the five RCLs also unchanged at 2.35 tonnes (Region 1), 4.90 tonnes (Region 2), 6.13 tonnes (Region 3), 5.62 tonnes (Region 4), & 0.00 tonnes (Region 5) for a total of 19.0 tonnes in 2022.

Some industry members requested that areas closed to sea urchin fishing be opened for harvesting of the Purple Urchin, which they described as being over-abundant, to the detriment of the Red Urchin. The TAFC Chair referred this matter to NSW Fisheries, as the Purple Urchin has no TACC and its harvest is not a matter for the Committee. However, the Chair did note that if there was any harvesting of Purple Urchin from closed areas, then care must be taken to minimise any mortality of Red Urchin.

Compliance advice was that around half of the inspections of SUTS licensees resulted in a compliance breach. While most of the breaches were of a minor nature, such a high rate of non-compliance is not acceptable and may affect the reputation of the industry, especially regarding requests to, for example, harvest from currently closed areas where gaining support from other stakeholders will be necessary.

Other (non-commercial) sources of Red Urchin fishing mortality are from the recreational and aboriginal fishing sectors, along with any illegal fishing. The Department's advice was that these catches may amount to no more than five tonnes per annum. While the TAFC accepts this is the best information available, it noted the high level of uncertainty on which the figure was based with COVID-19 restrictions exacerbating the uncertainty.

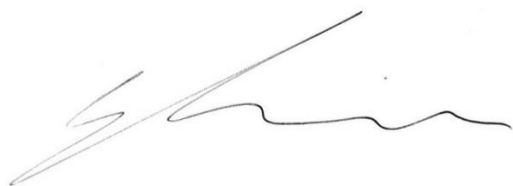
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Signed (for and on behalf of the TAFC)



William Zacharin  
**Chair, TAFC**

**Appendix 1: Regions in the Red Urchin commercial fishery**

