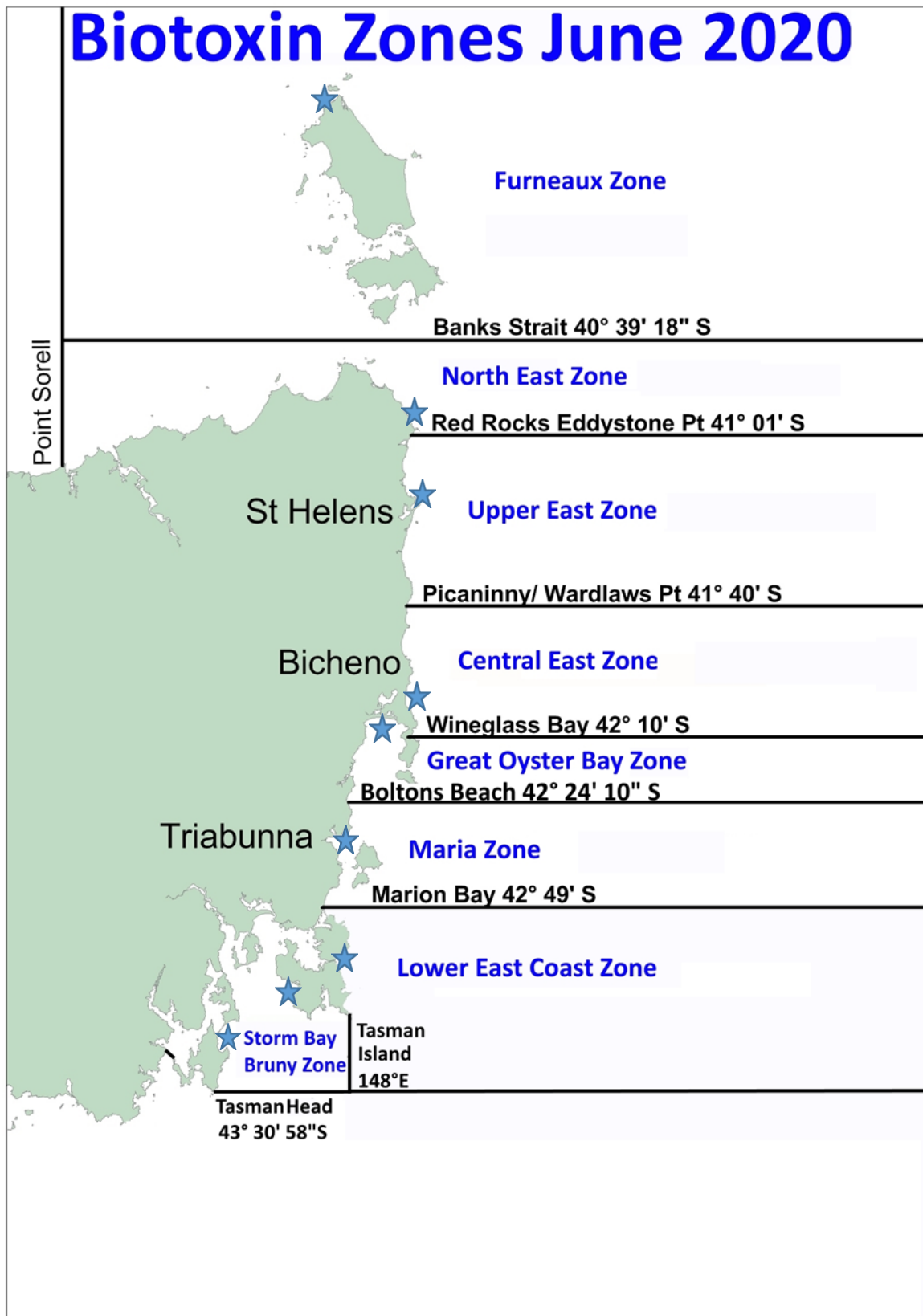


Rock Lobster Biotoxin Monitoring and Decision Protocols

June 2020



★ Sentinel species sampling sites 2020

Sentinel Mussel Sample Sites – 2020

Zone	Location	Description
Furneaux	Palana	Fixed mussel line
North East	Georges Rocks	Fixed mussel line
Upper East	Binalong Bay	Fixed mussel line
Central East	Bicheno	Fixed mussel line
Great Oyster Bay	Great Oyster Bay (northern end)	Shellfish Farm (Mussel)
Maria Island	Spring Bay	Shellfish Farm (Mussel)
Lower East	Pirates Bay	Marine Infrastructure
Storm Bay/ Bruny	White Beach (east Storm Bay) Adventure Bay (Bruny Is)	Marine Infrastructure Marine Infrastructure

Rock Lobster Sample Sites

Rock lobster sampling will be targeted on appropriate rocky reef habitat that is in general proximity to the sentinel mussel sampling site wherever possible.

Sampling Strategy Summary

Mussel samples (pooled sample ~ 15 mussels) to be collected fortnightly from each site between June and December (or longer if a harmful algal bloom (HAB) extends beyond this period). Sample frequency to be increased if there is data indicating an increased HAB risk.

If sampling of rock lobster is triggered in a zone, the zone will be closed and 5 rock lobster collected for individual paralytic shellfish toxin (PST) analysis (hepatopancreas). The highest individual lobster PST result will be used to determine the open / closed status of the biotoxin zone in line with the decision protocols.

Rock Lobster Fishery Seasonal Closures 2020

Commercial Fishery:

- St Helens Point (east coast) south to Sandy Cape (west coast) from 1 September.
- Sandy Cape (west coast) north to St Helens Point (east coast) from 1 October.

Recreational Fishery: Eastern Region from 1 May. Western Region from 1 September.

November / December Season Opening Dates:

To be confirmed

Policy and decision matrix

Decisions on if and when an area will be sampled and subsequent processes and decisions from that point, will be conducted within the decision tree detailed below. The decision matrix will be applied to each PST biotoxin zone.

The decision matrix includes a 2 tier 'early warning' alarm system of bloom activity from sentinel bivalve shellfish meat PST data.

This plan is based on a conclusion that any commercial rock lobster fishing occurring in a biotoxin zone must cease in that zone on the day that a **rock lobster** sample is taken for PST testing from that biotoxin zone. The risk of non-compliant lobster entering the market chain of supply is considered unacceptable at this time.

When a decision to sample rock lobster is made, a process to statutorily close the fishery, inform fishers, allow boats fishing the area with pots in the water to leave the area and ensure all activity has ceased by sampling day, will be expedited. It is envisaged that a period around 2 days will be required to facilitate this outcome so that sampling can proceed with no risk of any catches after that date and possibly non-compliant lobster being in the chain of supply.

If the recreational rock lobster season is open, the same closure / opening decision protocols (detailed below) will apply.

The Wild Fisheries Management Branch (WFMB) will oversee the matrix, monitor information and task the collection of samples as required in consultation with the Tasmanian Rock Lobster Fishermen's Association (TRLFA) and the Institute of Marine and Antarctic Studies (IMAS) as appropriate. The closures and openings of management units will be achieved – at this time - through statutory instruments under the provisions of the *Living Marine Resources Management Act 1995*. Such processes provide statutory rigour to closures, however, may require additional time to implement the necessary instruments and may incur publication costs. Opportunities for more cost efficient processes will be considered wherever possible.

The decision matrix provides decision rules for a range of scenarios, however, not all outcomes and contingencies can be foreseen. As such, some outcomes might not fall neatly into the decision matrix and decisions will need to be made in a manner that is complementary to the rationale behind the explicit management rules. For example, in particular in cases when sentinel information or lobster results are trending consistently in an upwards direction, decisions may be made to sample earlier, if it is clear that the bloom and PST results are increasing. Such decisions will be taken in consultation with the TRLFA.

The decision making process to re-open a biotoxin zone will also give consideration to any fisheries management issues, particularly adverse stock implications that could arise on reopening, if there is a risk of an extended period of localised concentration of fishing effort.

This means biotoxin zones may remain closed for fisheries management reasons even when the lobsters PST results would allow the zone to open under the decision matrix.

The decision matrix is as follows:

1) Monitor the general status of algal bloom activity throughout the year through sentinel data, from the Shellfish Market Access Program (Shellmap) bivalve shellfish meat sampling (including wild scallop PST data) and water sampling program. Noting that the geographical distribution of shellfish farms is concentrated in lower east and south east regions.

If there is evidence of bloom activity **outside** the high risk period (June - December inclusive), initiate wild sentinel sampling under protocol 2.

2) Monitor the status of algal bloom activity in each biotoxin zone from June (start of the high risk period) onwards through the meat PST results from sentinel data collected specifically to inform this plan i.e mussels, scallop or other species. The frequency of sentinel sampling (weekly, fortnightly or monthly) will be determined on a risk based approach by WFMB. At this time, the only zone to be specifically monitored using sentinel data from the Shellmap bivalve shellfish program is the Maria Island zone, using data from a shellfish farm located in the vicinity of Spring Bay.

3) Monitor sentinel meat PST results collected under (2) –

a) If below 0.4mg/kg – no response/action taken other than continued monitoring of sentinel trends through fortnightly sampling.

b) If 0.4mg/kg + (but below 0.8mg/kg) – increase frequency of sentinel monitoring to weekly in affected biotoxin zone and adjacent zones. Notify peak bodies, Biosecurity Tasmania (BT) and Dept. Health and Human Services (DHSS) that the biotoxin risk has increased through increased level of bloom activity. Continue to monitor sentinel data.

c) Sentinel meat results drop below 0.4mg/kg for 2 consecutive weekly sampling episodes reduce sentinel monitoring frequency to fortnightly. Notify peak bodies, BT and DHSS.

4) If a sentinel meat result collected under (2) is 0.8 mg/kg or greater, initiate rock lobster sampling in the affected zone

This is a risk based approach taking into account evidence about the potential toxin uptake rates in the mussels, algal counts, the rate that the bloom is intensifying and/or other information.

When the decision to sample rock lobster is taken - notify rock lobster fishers and processors that sentinel levels exceed threshold trigger levels and the fishery will be closed in the affected zone on a specific date to allow the collection of rock lobster samples for PST testing. Notify peak bodies, BT, Shellmap, DHHS and Commonwealth Dept, of Agriculture, Water and Environment (DAWE).

- **Fishery in biotoxin zones to be sampled closed by Notice** - under the *Fisheries (Rock Lobster) Rules 2011*.
- **Samples of rock lobster collected from biotoxin zones and assigned to laboratory for analysis.**
- **Continue to collect weekly sentinel data from zone and adjacent zones.**

5) All Rock lobster samples return below 0.5 mg/kg

Fishery in that management zone reopened unless there is sentinel data indicating that the bloom activity has intensified significantly during the period between lobster sampling and receiving the results or there are relevant fisheries management implications that necessitate the zone staying closed. If zone is re-opened, revert back to monitoring sentinel data. If zone stays shut, schedule next round of lobster sampling. Notify fishers, processors, peak bodies, BT, Shellmap, DHHS and DAWE.

6) Any Rock lobster samples return above 0.5 mg/kg but below 0.8 mg/kg.

Evaluate sentinel data or other data to assess trends in algal bloom activity (increasing or decreasing) and use a risk based approach to determine whether the zone remains closed or can reopen. Given the average time lag (~3-5 days) between the date of sampling and assessment of the results, the risk based approach will focus on the likelihood that lobster PST levels may be increasing during this period. The risk assessment will consider the latest sentinel data, data on uptake and depuration rates from previous blooms, data from research projects and if applicable, previous lobster PST data for that zone. The zone will remain closed unless the risk of lobster PST levels increasing is assessed to be low.

Assess fishery management implications associated with re opening. If zone is to re-open revert back to monitoring sentinel data. If zone stays closed, continue to monitor sentinel data and schedule next round of lobster sampling. Notify fishers, processors, peak bodies, BT, Shellmap, DHHS and DAWE.

7) Any rock lobster samples return 0.8 mg/kg or above.

Zone continues to be closed to rock lobster fishing. Continue to monitor sentinel data to assess trends in bloom activity and schedule next round of lobster sampling. Assess risk in adjacent zones based this data and sentinel data from each zone. Trigger additional sentinel sampling or lobster sampling in adjacent zones if warranted. Notify fishers, processors, peak bodies, peak bodies, BT, Shellmap, DHHS and DAWE.

- **Further rock lobster samples collected.** Timing of resampling to be determined by Marine Resources, based on evidence that bloom is abating or to check trend in lobster PST levels.
- **Lobster PST Results from further sampling** – go to protocols 5, 6 or 7 as appropriate.

When all biotoxins zone that have been closed are re-open, revert to sentinel monitoring under (2) or high level monitoring under (1) as appropriate.

Rock lobster sampling may also be triggered prior to the start of a new open season in November / December based on a risk assessment of the impact of any HAB activity in a zone during the closed season.

Revised decision rules flow diagram June 2020

