



SHELLFISH MARKET
ACCESS PROGRAM

Great Oyster Bay Management Plan

ShellMAP

December 2024



Tasmanian
Government

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1 Operation of harvest area

It is the responsibility of each grower to ensure that no triggers for closure have been exceeded and that the harvest area is open prior to commencing harvest.

The closure and opening of a harvest area is the responsibility of ShellMAP.

Harvest Area status is published online via www.nre.tas.gov.au

ShellMAP monitors the risks in harvest areas using several tools including meteorological and hydrological data in conjunction with sampling programs. Harvest areas will be closed if ShellMAP determines that the risk to public health is outside of accepted levels.

Growers are encouraged to consult with ShellMAP when food safety risk is elevated, or if they would like to know more about what can be done to reduce or manage risk in their area.

2 Growing Area Management Details

| Great Oyster Bay Growing Area | |
|--|--|
| Harvest Area | East |
| Classification | Conditionally Approved |
| Species Harvested | Pacific Oyster (<i>Magallana gigas</i>) Blue Mussels (<i>Mytilus galloprovincialis</i>) |
| Lease Numbers | 119, 126, 158, 246 |
| Harvest Area Biotxin Risk Rating | High |
| Biotxin Sample Frequency | Weekly |
| Phytoplankton Sample Frequency | Monthly |
| Bacteriological Sampling Strategy | Adverse pollution conditions (APC) |
| Export Status | Approved - Active |
| Vibrio Control Area | No |
| Harvest Area | West |
| Classification | Conditionally Approved |
| Species Harvested | Not currently farmed |
| Lease Numbers | N/A |
| Harvest Area Biotxin Risk Rating | High |
| Biotxin Sample Frequency | Weekly |
| Phytoplankton Sample Frequency | Monthly |
| Bacteriological Sampling Strategy | Adverse pollution conditions (APC) |
| Export Status | N/A |
| Vibrio Control Area | No |

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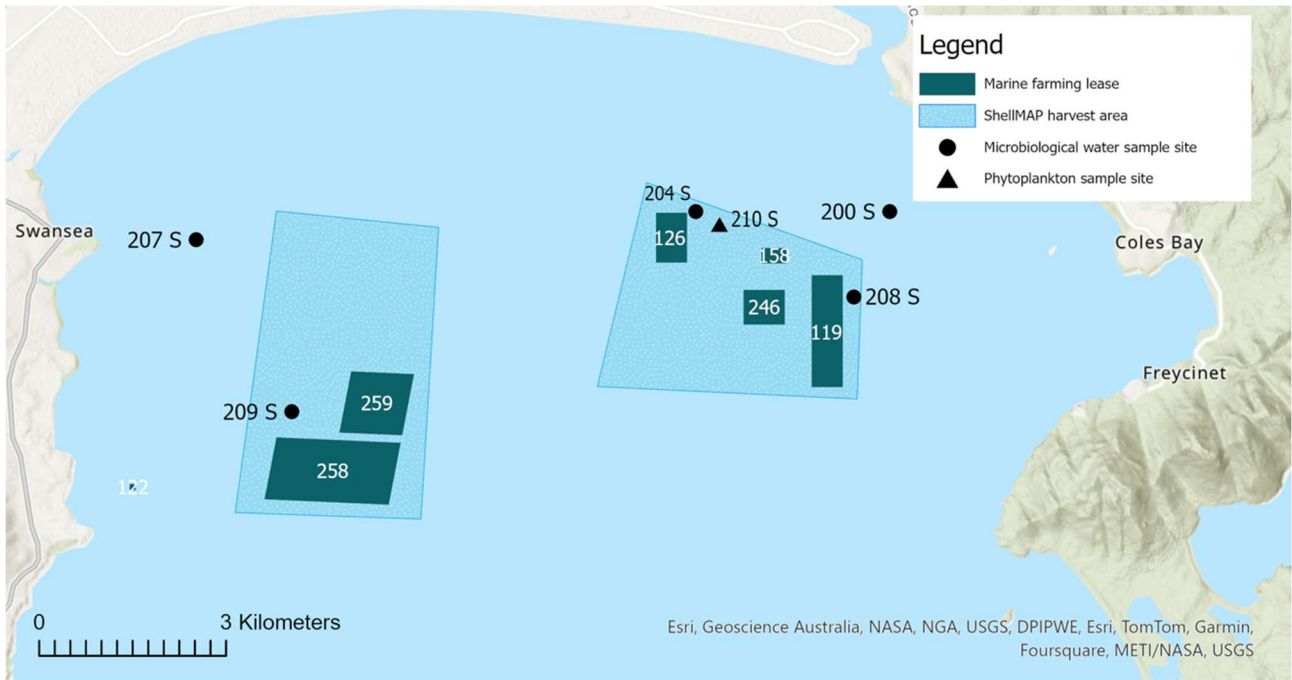


Figure 1. Microbiological and phytoplankton sample sites in Great Oyster Bay, with marine farming leases and the ShellMAP harvest area boundaries.

2.1 Management criteria for temporary harvest closure

2.1.1 Salinity-only management criteria

Table 1. Salinity-only management criteria for temporary harvest closure, MF means marine farming lease.

| HARVEST AREA | SALINITY SENSOR | SALINITY (‰) |
|--------------|-----------------------|-----------------|
| East | Great Oyster Bay East | <30 |
| West | - | N/A |

Following a salinity-only closure based on the ShellPOINT sensor network, harvest areas must demonstrate that environmental conditions meet the requirements of their Harvest Area Risk Management Plan to re-open. To manage potential risk from runoff, 48 hours of satisfactory salinity must be demonstrated by the associated salinity sensor for the harvest area (see Table 1).

For a harvest area to be closed by ShellMAP using the ShellPOINT sensor network, there must be **at least four consecutive readings below the management trigger**. T0 is counted from the first measurement above the management trigger, to manage potential risk from runoff, 48 hours of satisfactory salinity must be observed. If the sensor observes **four consecutive readings below the management trigger** within the 48 hour period, T0 is again set to the first salinity measurement above the management trigger.

In the event that a salinity sensor is no longer providing readings representative of the conditions in the harvest area or a harvest area is unable to be managed using the ShellPOINT sensor network, microbacterial risk of the harvest area will be managed using the combined environmental management criteria (see section 2.12). A salinity sensor may be considered to be no longer providing accurate readings if: A) The sensor has exceeded its 90-day service period, B) The sensor shows abrupt increases or decreases indicative of malfunction, or C) The sensor is no longer consistently providing data.

2.1.2 Combined environmental management criteria

River flow Stations: *Apsley River U/S Coles Bay Rd, 2204*
Swan River at the Grange, 2200

Table 2. Environmental management criteria for temporary harvest closure, MF means marine farming lease.

| HARVEST AREA | SALINITY (‰) | APSLEY RIVER (CUMECS) | SWAN RIVER (CUMECS) |
|--------------|-------------------|--------------------------|------------------------|
| East | <30 at Site 200 S | ≥70 | ≥75 |
| West | <30 | ≥70 | ≥75 |

Following an environmental closure, harvest areas must demonstrate that environmental conditions meet the requirements of their Harvest Area Risk Management Plan to re-open. To manage potential risk from runoff, 48 hours of satisfactory salinity at low tide must be demonstrated.

The first sample collected **once all environmental conditions** meet the open status requirements of this management plan will begin the 48 hours. Time 0 will only be accepted once the river flow is below trigger and, if following a rainfall closure, rainfall has either ceased or daily rainfall is 10% of 7-day rainfall trigger or less. To manage potential risk from runoff, 48 hours of satisfactory salinity must be demonstrated, either measured by growers at low tide or by ShellMAP from a sensor in the ShellPOINT network.

Following river flow exceeding the salinity-check trigger, growers are required to monitor salinity for five days after exceedence. Any salinity measurements that fall outside harvest area management

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criteria must be provided to ShellMAP. Please email salinity measurements to shellmap@nre.tas.gov.au with 'Growing Area Name – salinity' in the email subject and include the harvest area, time/date taken, name of sampling officer and salinity.

Microorganisms

Allowing Time to Purge

Following an event that triggers a temporary harvest closure, a time buffer is required to ensure that an area has flushed and that shellfish have had time to purge any contaminants that they may have accumulated. It is accepted that 48 hours of acceptable salinity is required for this to happen.

IMPORTANT: Viruses such as Norovirus can persist in the tissues of bivalves long after bacterial indicators of pollution are detectable. For this reason, harvest areas must remain closed for a period of 21 days following the cessation of a sewage spill that is assessed to have the potential to impact on the harvest area.

Testing of shellfish for the presence of *E. coli* can be used to demonstrate that the risk following closure is controlled.

As circumstances can sometimes be complex, if you would like to utilise microbial (shellfish meats) testing to re-open your area, please contact ShellMAP to arrange a sampling plan.

2.2 Providing salinity for re-opening

To request a re-opening of a harvest area following a closure based on environmental triggers, 48 hours of acceptable salinity figures must be provided.

Table 1. Salinity required for re-opening each harvest area.

| HARVEST AREA | RE-OPENING SALINITY (‰) |
|--------------|-------------------------|
| East | ≥30 at Site 200 S |
| West | ≥30 |

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Please send an email to shellmap@nre.tas.gov.au with “Growing Area Name - salinities” in the email subject and include the following information, as per the template:

Table 2. Requested salinity format for re-opening for each harvest area.

| # | Sampling Officer | Time taken | Date taken | Source (Growing Area, Harvest Area, Lease) | Tide | Salinity (‰) |
|----------|----------------------------|--------------|----------------|--|------------|--------------|
| | <i>e.g. John Smith</i> | <i>09:55</i> | <i>15/6/18</i> | <i>Big Bay, Zone B, Lease 10</i> | <i>Low</i> | <i>30</i> |
| 1 | (T_{0hrs}) | | | | | |
| 2 | (T_{24hrs}) | | | | | |
| 3 | (T_{48hrs}) | | | | | |

2.3 Biotoxin and phytoplankton sampling

The testing of shellfish meats for biotoxins, and monitoring of water for potentially toxic phytoplankton, is undertaken to control biotoxin risk in Tasmania. The frequency of testing is dependent on the growing area’s risk rating.

The biotoxin sampling schedule is distributed at the start of each calendar year.

Any unusual results may mean that ShellMAP requests additional submissions with costs covered by ShellMAP.

Table 3. Biotoxin and phytoplankton sampling frequency requirements.

| Sample | Frequency | Sample Location |
|---|-----------|---|
| Shellfish - Biotoxin (one dozen) | Weekly | Representative of stock being harvested |
| Water – Phytoplankton Counts | Monthly | Algal Sample Site |

When biotoxins are detected in shellfish exceeding the regulatory limits in [Table 4](#), ShellMAP will close the growing area. In some cases, closures may be backdated to the last passing sample. When phytoplankton are detected in the water meeting or exceeding the regulatory limits in [Table 4](#), ShellMAP will close the growing area, pending a passing biotoxin result. Growers will also be advised when counts of toxic phytoplankton species are elevated.

Further information on biotoxin management is available online via www.nre.tas.gov.au.

Table 4. Biotoxin and phytoplankton regulatory limits.

| Toxin | Regulatory Limit |
|--|----------------------------|
| Amnesic Shellfish Toxin (AST) | 20 mg/kg |
| Diarrhetic Shellfish Toxin (DST) | 0.2 mg/kg |
| Paralytic Shellfish Toxin (PST) | 0.8 mg/kg |
| Neurotoxic Shellfish Toxin (NST) | 0.8 mg/kg (200 MU/kg) |
| Phytoplankton – <i>Alexandrium spp.</i> | 500 cells/L |
| Phytoplankton – <i>Gymnodinium catenatum</i> | 5000 cells/L |
| Phytoplankton – <i>Dinophysis spp.</i> | 1000 cells/L (Alert Level) |

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| | |
|---|---------------------------|
| Phytoplankton – <i>Prorocentrum lima</i> | 500 cells/L (Alert Level) |
| Phytoplankton – <i>Pseudo-nitzschia seriata</i> group and <i>Pseudo-nitzschia delicatissima</i> group | 500,000 cells/L |
| Phytoplankton – <i>Karenia brevis</i> | 5,000 cells/L |
| Phytoplankton – <i>Karenia</i> / <i>Karlodinium</i> / <i>Gymnodinium</i> group | 300,000 cells/L |

Tetrodotoxins (TTXs) are a group of potent neurotoxins with a similar action and potency to PSTs and with a similar acute toxicity to saxitoxin.

Although TTX is found in bivalves it is not regulated due to uncertainty around the sources and mechanism of TTX in bivalve molluscs. The European Food Safety Authority has proposed a TTX safety limit of 0.044mg/kg. New Zealand has demonstrated that shellfish containing PST below regulatory limits could be found to be above saxitoxin equivalents when TTX is included.

Analytical Services Tasmania will report TTX separately. TTX is considered a cumulative total for saxitoxin with an equivalence of one e.g. if PST result is 0.5 mg/kg and TTX is 0.3 mg/kg then an area can be closed based on a saxitoxin equivalent of 0.8 mg/kg. In this way TTX levels may be used to regulate closure for PST toxins. To date the levels of TTX reported in bivalve molluscs are generally low, however growers need to be aware that TTX may be regulated in the future.

Biotoxin Recalls

If a biotoxin result exceeds the regulatory limit, preparations should be made in case a recall is required. In the event of a recall growers will be contacted by the Primary Produce Safety Program:

Primary Produce Safety Program

Ph: 03 6165 3777

E-mail: foodsafety.enquiries@nre.tas.gov.au

2.4 Re-opening after biotoxin closure

After closure due to biotoxin contamination, two successive shellfish samples must be collected to determine that shellfish are safe. These samples must be collected at least 7 days apart to allow enough time for the algal bloom to subside and to demonstrate that biotoxins in the shellfish are consistently below the regulatory limits. The first sample must be collected at least 7 days following an exceedance in regulatory limits, and the second sample must be collected at least 7 days after the first.

If you have any technical questions regarding biotoxin testing or are not receiving your biotoxin results from Analytical Services Tasmania please contact:

Ph: 03 6165 3300

E-mail: enquiries@ast.tas.gov.au

Biotoxins

Allowing Time to Purge

Algal bloom dynamics are complex and difficult to predict. To account for this, following a sample above regulatory limits, time must be allowed for the bloom to subside and for the shellfish to eliminate any accumulated toxins.

IMPORTANT: After closure due to biotoxin contamination, to determine that shellfish are safe, two successive shellfish samples must be collected. These samples must be collected at least 7 days apart to allow enough time to pass for the algal bloom to subside and to demonstrate that biotoxins in the shellfish are consistently below the regulatory limit.

2.5 Shellfish waters (thermotolerant coliforms)

ShellMAP may use results from Adverse Pollution Conditions (APC) sampling to change the status of a harvest area.

The ASQAP requirements for Conditionally Approved passing shellfish water samples are:

- No more than 10% of water samples exceed 21 CFU/100ml
- Median must not exceed 14 CFU/100ml

If water samples taken as part of routine APC water sampling show elevated levels of thermotolerant coliforms a closure would generally be enacted only if a large proportion of the samples are showing failing results and/or samples are showing high level failures (above 70). In these situations, ShellMAP will check sampling sites and may request additional information (including salinities) from growers. Primary Produce Safety Program will also assess the information.

Note that the Public Health Laboratory does not count beyond 100 colonies on a plate. These results are reported as >100 CFU/100 mL and they are high level failures indicating polluted water.

2.5.1 Re-opening after failed thermotolerant coliform results

If routine or APC sampling results in closure, the harvest area may be re-opened 48 hours after the sample was taken, provided all other management criteria (i.e. river flow, rainfall and salinity) are met.

2.6 Shellfish meats (*E. coli*)

Meat samples are generally used for re-opening after sewage spills. ShellMAP may also request meat samples if there are ongoing pollution concerns.

- If five dozen unshucked shellfish are submitted, the regulatory limit is one sample over 2.3 CFU/g but none over 7 CFU/g (FSANZ Schedule 27).
- If only one dozen unshucked shellfish are submitted, the regulatory limit is 2.3 CFU/g.

Five dozen shellfish is the FSANZ standard and the standard ShellMAP requirement. If one dozen shellfish are submitted, ShellMAP will consider the circumstances under which the sample was submitted to allow re-opening. There may be times when one dozen shellfish are not acceptable.

Note that *any* shellfish sample above the regulatory limit will be reported to the Primary Produce Safety Program (not ShellMAP) by the Public Health Laboratory as standard protocol. It is

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important to clearly label meat samples that you may be testing for your own purposes (e.g. trials) so that there is no confusion about this being a ShellMAP requested sample.

ShellMAP samples will be requested in writing.

2.7 Sewage spill closures

TasWater will contact growers and ShellMAP when a spill has occurred, or is about to occur, in a shellfish zone.

ShellMAP assesses this spill after communicating with TasWater regarding the volume and duration of the spill and the type of effluent involved (treated or untreated). ShellMAP will action a closure if necessary, or a precautionary closure if more time is needed to assess the risk to the harvest area. Closures will be communicated to growers through our usual process.

If a closure is not deemed necessary by ShellMAP following investigation, ShellMAP will notify growers via text to advise that a closure will not be actioned.

If growers have received an alert from TasWater advising of a sewage spill that may impact a harvest area, it is advisable that harvest be suspended pending further advice from ShellMAP.

2.8 Re-opening after sewage spill

Viruses such as Norovirus can persist in the tissues of bivalves long after bacterial indicators of pollution are detectable. For this reason, harvest areas must remain closed for a period of 21 days following the cessation of a sewage spill that is assessed to have the potential to impact the harvest area. To re-open a harvest area following a sewage spill, the following conditions must be met:

- Not open within the 21 days following the cessation of the spill
- Submit samples of unshucked shellfish to the Public Health Laboratory for *E. coli* testing at least 14 days after the spill has ceased

For any samples collected after 21 days the harvest area will be open from the time the acceptable sample was taken.

The cost of testing shellfish meat samples following a sewage spill will be borne by ShellMAP.

2.9 Re-opening after a *Vibrio* detection

Any re-opening following a detection of *Vibrio spp.* in shellfish must occur in consultation with the Primary Produce Safety Program.

Primary Produce Safety Program

Ph: 03 6165 3777

E-mail: foodsafety.enquiries@nre.tas.gov.au

Testing is conducted by the Public Health Laboratory.

2.10 Re-opening following prolonged closure

A prolonged closure is generally considered to be 6 months or longer. Please contact ShellMAP to discuss your re-opening after a prolonged closure as specific conditions may apply, allowing for any changes in the growing area catchment.

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Following the prolonged closure of a harvest area it is important to establish the current risk levels prior to re-opening. ShellMAP will require the following:

1. All environmental management criteria must be within acceptable limits.
2. Growers are to provide three acceptable measures of salinity over 48 hours.
3. Two biotoxin samples must be submitted 7 days apart and results below regulatory limits.
4. One phytoplankton sample must be submitted, with results below regulatory limits.

ShellMAP may also request a sample of unshucked shellfish submitted to the Public Health Laboratory for *E. coli* testing. The cost will be covered by ShellMAP.

3 Relay

Relay of stock from closed or restricted harvest areas for natural depuration is allowed **only** with a current relay authorisation from ShellMAP. Where relay authorisations are in place, the closure type of the harvest area may impact on minimum holding periods, particularly if the closure is due to sewage or biotoxins.

It is the responsibility of the relay authorisation holder to inform the receiving business of any relevant minimum holding periods.

Please note: POMS permits must be sought and received before a relay authorisation will be issued and before any shellfish or equipment is moved between growing areas, regardless of harvest area status.

| Relaying From | Authorisation Required From ShellMAP | Minimum Holding Period Post Relay |
|--|--------------------------------------|-----------------------------------|
| Unclassified Areas (Under Certain Conditions) | Yes | 60 days* |
| Restricted or Conditionally Restricted Areas | Yes | 14 days |
| Restricted or Conditionally Restricted Areas that have exceeded thermotolerant coliform water results | Yes | 21 days** |
| Conditionally Restricted Areas that have exceeded environmental criteria | Yes | 21 days** |
| Conditionally Approved or Approved Areas in Closed Status | Yes | 14 days |
| Any Permitted Harvest Area Closed Due to Sewage Contamination | Yes | 21 days |
| Any Permitted Harvest Area Closed Due to Biotoxins | Yes | 60 days*** |

*Additional testing may be required at the cost of the business and all necessary wild fisheries/marine farming permissions must be obtained.

**Relay times for Restricted or Conditionally Restricted Areas that have exceeded thermotolerant coliform water results, or Conditionally Restricted Areas that have exceeded environmental criteria, may resume to 14 days following 48 hours of acceptable salinity at low tide. Stock relayed before the 48-hour period is subject to the 21 day extended relay condition.

*** Biotoxin relay times may be reduced to 14 days following two biotoxin results from samples of relayed stock collected at least 7 days apart to be within limits set out in the Food Standards Code. If biotoxin samples from relayed stock are not submitted, a minimum 60 day holding period is required.

4 Sampling compliance

Sampling schedules are distributed at the beginning of the calendar year. It is your responsibility to ensure that the schedule is adhered to. Non-compliance may result in harvest area closure.

The collection of samples must continue during periods of closure unless discussed with and approved by ShellMAP. Contact ShellMAP if you would like to apply for a temporary exemption from routine sampling.

Please note that if a growing area wishes to enter a voluntary closure period it must be unanimous for all growers in the area. In addition, growers should be aware that a voluntary closure includes the suspension of relay (out) activities as well as direct harvest.

It should also be noted that if you are the designated sampler for a given growing area and you are unable to collect the samples as per the sampling schedule (e.g. holidays), it is your responsibility to arrange an alternate person to collect and submit the sample/s. Please advise ShellMAP of any changes in sampling arrangements.

5 Addendums to management plans

This management plan revokes and replaces all previous management plans and remains in force until revoked in full. Any necessary modifications to the plan will be issued as addendums, which will document the original and revised wording. This approach will enable revisions to subsections of the plan without necessitating a full re-issue of the entire management plan.

Growers are responsible for maintaining the latest version of their management plan as part of their audit records. Growers should contact ShellMAP if they are unsure about any aspects of their management plan.

In the 2023/24 financial year, copies of management plans will be made available on NRE Tas website. This will be the reference site for latest version of management plans.

6 ShellMAP contact details

Growers and harvesters are encouraged to consult with ShellMAP when food safety risk is elevated, or if they would like to know more about what can be done to reduce or manage risk in their area.

ShellMAP

Marine Resources
134 Macquarie Street
Hobart TAS 7000
Phone: 03 6165 3771
E-mail: shellmap@nre.tas.gov.au

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Department of Natural Resources and Environment Tasmania

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