

NWIFCA Technical Science and Byelaw Meeting

6th of February 2023: 10:00 a.m.

Agenda Item

10

DEFINITION OF EPHEMERALITY FOR SEED MUSSEL

Purpose: To provide information on the NWIFCA's current definition of ephemerality regarding seed mussel.

Recommendation:

- 1) Receive the report
- 2) To approve the definition of seed mussel ephemerality.
- 3) To approve the process by which officers assess seed mussel ephemerality.

1. Background

**This item is a re-visit of Agenda Item 13 from the TSB meeting on the 7th of November 2023 where this topic was discussed and determined to be brought back for consideration.*

At the previous meeting, members discussed the definition of 'ephemerality' as it pertains to seed mussel beds. The Authority has a long-standing method for assessing ephemerality and HRA suitability of seed mussel fisheries. An agreed definition with regards to ephemerality of seed mussel, and the process of determining ephemerality (as applied during inspections), is necessary to streamline the process of agreement with the Authority.

The definition of ephemerality developed and agreed at the Bivalve Mollusc Working Group (BMWG) in 2017 was presented and discussed at the 7th of November meeting alongside the criteria used during inspection.

Feedback from members raised the following points:

With regards to the definition:

- The point referring to '*the mussel mud becoming very soft and loose and at risk of being washed out, taking the mussel with it*' should be split into two separate points.
- Make it clear whether it is necessary that every criterion mentioned in the definition be met in order for the resource to be defined as ephemeral or only some.
- There needs to be distinction between the definition of ephemerality, and the conditions required for a fishery to be opened. This is an important distinction as even if a mussel bed is determined as ephemeral, a fishery may not be HRA compliant.
- Removal of the word 'thousands' in relation to '*or dense settlement being heavily predated by thousands of starfish*' to reduce the likelihood of 'technicality' queries.

With regards to the inspection criteria:

- Make clear the distinction between inspection criteria used to define ephemerality, and that used to identify whether the fishery is HRA compliant.
- Include historical and geographical considerations when considering whether a stock is ephemeral.

2. Proposed definition of seed mussel ephemerality

Following these comments, the definition proposed for approval is as follows:

'A seed mussel is defined as mussel that is less than 45mm in length AND less than 1 years of age.

Ephemerality (as it relates to seed mussel) is defined by NWIFCA as a high proportion of the seed mussel stock being lost to the fishery due to natural causes before it can reach a year post settlement.

All conditions listed below must be met for the NWIFCA to consider an area of seed mussel as ephemeral, these being:

- 1) A settlement of high abundance and density of seed mussel, that is*
- 2) depositing high amounts of pseudofaeces (mussel mud), and*
- 3) the settlement is at risk of being washed away before it can reach size.*

In addition, there are occasions where settlements are lost due to the presence of large numbers of star fish heavily predated the stock. In this scenario, the above conditions do not need to be met in order for the stock to be defined as ephemeral.'

3. Process for determining ephemerality.

The fishery is highly variable depending on the vagaries of the stock and the changes in the dynamic environment of the northwest coast and have to be assessed on a year-by-year basis. The first stage of assessment is to determine if the stock is ephemeral.

'During inspections, officers will assess the following criteria to determine whether stocks are 'imminently likely' to wash away and therefore likely to be considered ephemeral.

1. Ephemerality Inspection Criteria

Inspection criteria	Reason
<i>The presence, thickness and extent of mussel mud</i>	<i>The build-up of mussel mud can mean mussel is vulnerable to being washed away or 'scoured' as they do not typically have secure attachment to the mud.</i>
<i>Evidence of scouring and looseness of mussel</i>	<i>Areas where there is evidence mussel has already washed away (scoured), or where it has become loose and gathered in heaps is indicative of imminent wash off.</i>
<i>High densities of seed mussel from that year</i>	<i>High densities of a single current year class, means the previous year has washed out enabling the new spat settlement, and the possibility it will undergo wash out again (dependent on the presence of the other factors)</i>
<i>Low levels of size mussel or mix of sizes – indicative of surviving the winter to grow on</i>	<i>If there are low densities of seed, and mussel is patchy, or dispersed among size or a mix of sizes that have survived the</i>

winter and grown on, it is not considered ephemeral.

Consideration of historical and geographic factors

Some beds are subject to local environmental conditions, which make them susceptible to loss. Often these beds have shown historical loss.

The second stage of assessment, once ephemerality is determined, is to assess whether a fishery (either hand gathered or dredge) is HRA compliant. During inspection, officers will assess the following criteria to determine whether a proposed fishery would be HRA compliant, along side consultation with Natural England.'

2. HRA Compliance Inspection Criteria

Inspection criteria	Reason
<i>The presence, thickness and extent of mussel mud</i>	<i>The presence of mud means fishers are less likely to contact the substrate when fishing for seed mussel and therefore not interact with the protected cobble and boulder feature beneath.</i>
<i>The extent of exposed cobble substrate</i>	<i>If large amounts of cobble is exposed or covered only by thin mud, it could mean fishing activity will interact with the protected feature.</i>
<i>Presence of Sabellaria</i>	<i>Sabellaria is a protected feature and fishing activity must not interact with this.</i>
<i>Presence of large volumes of star fish.</i>	<i>Star fish can quickly remove large quantities of mussel if present.</i>

Officers go regularly to these areas for inspection (once a month on low spring tides) due to the highly variable nature of the environment and unpredictability of stock and ensure that authorisation / permitting of seed mussel removal only occurs when the mussel is in a vulnerable condition. Detailed reports are subsequently made available to stakeholders via the website and presented to Members of the TSB committee for approval.