

Perth Harbour Plough Dredging Species Protection Plan Freshwater Pearl Mussel



1. Introduction

Freshwater pearl mussel (FWPM) are protected under the Wildlife and Countryside Act 1981 (as amended), meaning it is an offence to kill, injure, disturb or take specimens of this species or to damage or destroy their habitat.

This Species Protection Plan (SPP) sets out the measures that must be adhered to at all times during the dredging works to protect FWPM.

2. FWPM distribution

[Redacted]

The habitat in the harbour area and on the bar at the entrance is considered to be unsuitable for FWPM.

3. Measures to protect FWPM

Prior to dredging commencing, a qualified ecologist will carry out a pre-works survey to check for the presence of freshwater pearl mussel within the dredge area. If no FWPM are found, the dredging may commence. If FWPM are found, dredging cannot commence until NatureScot have been consulted and any licensing requirements and/or additional mitigation measures have been agreed.

The measures set out in the table below will ensure that FWPM outwith the dredge area are protected from indirect effects of dredging, i.e. smothering by silt.

| Mitigation Measure | Reason |
|---|--|
| Dredging may only be carried out on flood tide | By restricting ploughing operations to the flood tide only, any suspended sediment will tend to be moved in towards the harbour by the rising tidal flow. By not dredging on the ebb tide the risk of significant quantities of suspended sediment migrating into the River Tay is mitigated against. The material to be dredged has a high fine sand content so it is expected that any material put into suspension will settle back to the riverbed quickly and will not migrate very far from the dredge area. |
| Ploughing may only be carried out towards the harbour, i.e. ploughing material from the river side into the harbour area | By ploughing the material from the river side into the harbour area, all material will be moved away from the river current and into the relatively benign area of the harbour. This will mitigate against any significant quantities of suspended material entering the River Tay. |
| The plough must be lowered in small steps of approximately 0.1 m increments | By carrying out the ploughing activity in small depth increment steps (circa 0.1 m increments) it reduces the risk of the plough box filling up and material being released over the back of the box if overfilled. By limiting the depth of cut on each pass it also reduces the thrust required by the tug to pull the plough through the dredge area. |
| Ploughing lines must be planned in advance by the vessel master, ensuring that the plough box capacity is not exceeded on a single line | By planning the ploughing lines based on the capacity of the plough, the risk of overfilling can be prevented and the need to use excessive thrust is minimised. |
| Thrust from the tug propulsion system must be minimised at all times | As the plough is mounted over the stern of the vessel it is close to the propulsion system of the tug. By minimising the depth of cut of the plough, or overfilling, the propulsion thrust necessary can be minimised. This will minimise the risk of the propeller wash disturbing the material contained in the plough or the disturbed riverbed in the dredge area. |
| An accurate navigation system must be operational at all times | By having an accurate navigation system on the tug, the dredging operation can be carefully controlled and carried out in the most efficient manner with all dredging being targeted in the required dredge area. |
| The tug master must have access to accurate tide/height information | By having access to accurate water level height, the dredging can be targeted accurately to only those areas where dredging is required. It will also enable to plough blade to be set to the required level hence minimising the risk of over cut or over dredge. |