

Best Practice Environmental option
Helmsdale Dredge
Marine Directorate 2026

This document outlines the consequences of not dredging, chosen dredging methods and chosen disposal sites.

Need to dredge

Due to its location and proximity to the adjacent river Helmsdale Harbour is subject to silting from river deposits, these tend to get driven into the basin and settle due to the interruption of flow by the sea wall.

The basin and approach are also subject to deposits of sand and stone from the adjacent beach. This is done by wave action forcing deposits around the pier head or over the wall during storms.

Dredging must be carried out due to the following reasons:

- Safe navigation in and out of the harbour and to avoid damage to vessels from grounding inside the basin while berthed.
- Maintain the jobs and livelihoods of the commercial harbour users through the continued use of the harbour. The current situation is restricting the days and time the vessels can work.
- Not dredging would eventually result in the closure of the harbour due to it silting up to the point it is too shallow to berth in and a hazard to navigate the entrance. The Harbour is currently closed to visiting vessels.

Dredging options & chosen method

Options

- Barge.
Helmsdale harbour and approaches are difficult to navigate with narrow channel and harbour entrance. The river also runs past the entrance creating fast running currents. There are 2x sets of pontoons within the basin. Dredging by barge is not an option due to navigational and area constraints.
- Cutter suction.
Due to the constraints mentioned above a cutter suction dredge is more suitable for the dredging of the basin. The cutter suction dredge will be able to operate in shallow water and around the pontoons.
Cutter suction also allows for material to be piped to disposal site to reduce transport risks and disruption to the local community.
- Excavator.
Allows safe access from the shoreline and pier deck regardless of weather or tidal conditions.

Chosen methods

- Dredging of area B to be dredged by cutter suction.
- Dredging of area A to be carried out by excavator.

Disposal area options & chosen method

- Disposal at a waste disposal site is not an option due to the remoteness of the location. The transport of the material would cause disruption to the local area with an increase in heavy traffic and cause damage to the already poorly conditioned local road network.
Disposal and transport costs would likely make the project unviable and increase the possibility of the works not going ahead.
- Disposal by contractor is not an option as the materials to be dredged are not suitable for recycling in the construction industry.

Chosen Method – Beach / Sea disposal

- Disposal of material from Area B (basin) will be on the South side of the South breakwater.
This will allow for natural dispersion along the shoreline and limit the likelihood of it being washed back into the basin, assisted by the prevailing currents and the flow of the river.
This will also reduce the impact of the deposited material on the local community as it is away from the main residential parts of the village. During the last dredge project there were complaints of mess / smell from the dredged material.
The cutter/suction dredge transports the material to the deposit site by pipe removing the possibility of accidental spillage or contamination.
- Disposal of material from area A (approach) will be on the beach to the East of the East Harbour wall. *The material has clearly come from the disposal site and has been witnessed during storms.*
This will allow for natural replenishment of the beach and provide undermining protection to the Harbour wall.
This will also shorten the transport distance minimising disruption the community.
The material is clean and will not cause any issues with regards to mess / smell.

