



Sight & Sound

We have been busy looking at how our proposed changes will affect noise levels in the area and what changes you might see to the surrounding landscape

How did we assess noise effects?

Refining NZ has consulted with independent experts to carry out two different types of special acoustic assessments.

The first assessment related to underwater noise when the channel is deepened and how this affects marine mammals – you can read about this on our information sheet on marine mammals.

The second assessment looked at air borne noise during the work to deepen the channel, focusing on noise from proposed dredging that may affect a limited number of residents. These could include residential properties along the Whangarei Heads (Reotahi Bay, Little Munroe Bay, McGregors Bay, Taurikura Bay, McKenzie Bay and Urquharts Bay) and the Northport industrial site.

The exact dredging equipment has not yet been selected so noise modelling was carried out based on noise emitted by typical dredging equipment.

The experts used a globally recognised noise prediction software to create models which took into account a variety of relevant considerations including wind conditions, reflection of noise off the water and timing of the dredging work, and the relevant noise limits set by legislation such as the Northland Regional Coastal Plan.

Acceptable noise levels

In the air borne noise assessment, the experts have identified one specific set of climatic conditions where the noise modelling suggests we could exceed relevant planning noise limits when lower noise restrictions apply at night time. In order to avoid this happening, the experts have recommended that we don't dredge at night north of the No. 18 navigation buoy when the wind is blowing from any direction other than north. This restriction may not be necessary if the dredging equipment that is selected for the project generates a lower level of noise than the plant that has been modelled by the experts.

At all other times and under all other weather conditions, noise from dredging should be comfortably compliant with relevant noise limits in all affected areas. In most cases it is expected to fall well within the prescribed limits.

The experts have said noise from dredging may in fact be unnoticeable for a large portion of the project.

Outside the harbour, or east of Busby Head, dredging noise will be inaudible for residents. At other locations within the harbour dredging sounds might be audible, but will often be unheard above other typical sounds in the environment such as wind in the trees, birds, insects and waves on the shore.

Active monitoring will be carried out during dredging to make sure we keep within the limits. We are developing a noise management plan to facilitate this.

How did we assess visual effects?

Refining NZ commissioned experts to carry out a visual effects assessment, which considered how the proposed changes would affect the landscape, natural character and amenity values of Whangarei Harbour, Whangarei Heads and Bream Bay.

It was carried out in line with relevant rules and laws governing new development such as the Resource Management Act, the New Zealand Coastal Policy Statement and the Northland Regional Coastal Plan.

The assessment looked at possible effects arising from:

- Changes to the seafloor from dredging
- Sand disposal within Bream Bay
- New lead lights off Taurikura
- New hazard marker at Home Point
- Underwater sand plumes from dredging and disposal
- Dredging and disposal operations e.g. vessel lighting

It took into account how each of these project components would affect things such as:

- Existing values (how does the area look and feel currently?)
- Prominence (to what extent would the proposed changes be visible?)
- Landscape effects (changes to structure, land use, interplay of natural vs. man-made elements)
- Natural character effects (effects on landform, vegetation, water areas)
- Amenity effects (public perceptions, residential views and related sense of identity and place).

It also took careful note of identified areas of outstanding natural landscapes, high natural character and outstanding natural character, including (but not limited to) along Bream Bay's beachfront, Home Point's historic WWII gun emplacements and around Busby Head.

Low visual impact

The experts found that overall, there will generally be low level effects on the landscape, natural character and amenity values of Whangarei Harbour, Whangarei Heads and Bream Bay. This is illustrated by the 'impact rating' below:

	VALUES	PROMINENCE	LANDSCAPE EFFECTS	NATURAL CHARACTER EFFECTS	AMENITY EFFECTS	IMPACT RATING
4.1 CHANNEL FORMATION	Moderate / High	Very Low	Very Low	Low / Moderate	None	Low / Moderate
4.2 DISPOSAL AREAS	High / Moderate	Very Low	Very Low	Low	Very Low	Low
4.2 LEAD LIGHTS	Moderate / High	Low / Very Low	Very Low	Very Low	Very Low	Very Low
4.4 HOME POINT MARKER	High	Very low	None	Very Low	None	None
4.5 DREDGING & DISPOSAL PLUMES	Moderate / High	Low	Low	Low	Low	Low
4.6 DREDGING & DISPOSAL OPERATIONS	Moderate / High	Low	Low	Very Low	Low	Low

There are a range of small scale effects above and below water. If these are considered together, the cumulative effect on the landscape, natural character and amenity values remains relatively small scale.

Given the scale of this proposal it might be surprising that the visual effects impacts are not greater. This can be explained by a few factors:

- A lot of the change will be underwater. This means that in many instances there will be limited visual change above the surface.
- Underwater, the dredging and disposal areas are relatively bare, undifferentiated 'sand-scapes' that will not be greatly altered.
- The proposed changes are occurring within an area that is already heavily trafficked with a range of vessels and existing buoys and lead lights. Much of the activity will be focused in the shadow of Marsden Point's oil refinery that is already developed and modified.

It is important to note there will be little change anticipated in the outstanding natural landscapes, high natural character areas and outstanding natural character areas identified.

If you'd like to know more of the nuts and bolts of the visual and noise effects of our proposed changes you can get a copy of the assessment reports from the independent experts [here](#)