

## Harbourmasters response to Minute 16

### As issued by the Hearing Panel for the Proposed Marlborough Environment Plan

How long has the 'bungy' system been in use - in the Marlborough Sounds in particular, but also generally how widespread is its use in NZ waters?

The history of bungee systems in the Marlborough Sounds is closely aligned with the history of the Picton based N-Viro mooring systems. Mike Baker, a director of N-Viro began installing bungee type systems in the Marlborough Sounds in 1998 and occupies a 'niche' market where specialist mooring solutions are required.

There are five main providers of bungee style moorings as listed below. All have a presence in the New Zealand market.

- Seaflex
- Hazelett Marine
- Datawell (scientific instruments)
- Marine Flex (N-Viro)
- Black Snake (nylon mooring strop)

Harbourmasters in Auckland Northland and Tauranga report the use of bungee systems in their Harbours but consider such systems to be uncommon.

Based on discussion with industry and colleagues I estimate that less than 2% of all recreational moorings are bungee style in Marlborough and that nationally the figure is likely lower than 1%. The higher figure in Marlborough is assumed on account of the local presence of N-Viro.

Do you have records of any flipping of vessels in the Sounds which has been shown to be definitively caused by the 'bungy' system; and if so, on how many occasions and when, and have any improvements led to a reduction in frequency?

Incidents of vessels capsizing on moorings in strong winds are known to occur in the Sounds. Harbours staff attended a case of a vessel flipping on a mooring in Dryden Bay in January 2018. The mooring was a standard block and tackle mooring. We have no record of such incidents occurring on a 'bungy' mooring but not all incidents are reported to the Harbours office.

I would expect a vessel on a single point 'bungy' mooring to weather vane effectively and round up into the wind more or less as it would on a standard block and tackle mooring.

The usual cause of a 'flipping' is poor seamanship i.e. the boat operator has underestimated the wind and swells that occur in the area and/or failed to properly consider the effect such conditions may have on a lightweight vessel attached to a single point mooring.

If not, do you have any concerns as to the suitability and practicality of the use of the 'bungy' system of securing vessels to moorings in the Sounds?

Bungee style moorings are suitable for use in the Marlborough Sounds and can be used in shallow and deep water. From a navigation safety perspective they can provide a mooring option that is at least as safe and secure as any other design and they are space efficient.

However, not all bungee systems are created equal. Low cost bungee systems are readily available over the internet but these are generally not suitable for large vessels or long term use. At the other end of the spectrum, highly engineered systems have been used to successfully moor vessels,

marine structures, navigation aids and scientific instruments but may be unnecessary for some recreational applications for example, the temporary mooring of a small fish boat.

Is there any other mooring system available which would avoid use of the heavy chain system?

To my knowledge there are at least two consented moorings in use in the Marlborough Sounds using the concept of a midwater buoy to provide floatation. The float suspends the tackle leading to the block off the sea floor and also serves to dampen the snatching effect that can arise when sufficient pull is rapidly applied to the tackle (as can occur in wind and waves). These concepts are tried and tested but must be properly designed and engineered to ensure a safe mooring set up.

I've heard it suggested that maintenance costs of such float systems are higher than that of a standard block and tackle mooring due to the need to keep the midwater float clean. However, I cannot comment as to the accuracy or otherwise of this assertion.

Interest in overcoming the environmental concerns created by traditional block and tackle moorings is widespread throughout New Zealand and Australia at present which suggests there is a growing incentive for the market to deliver new and cost effective solutions.