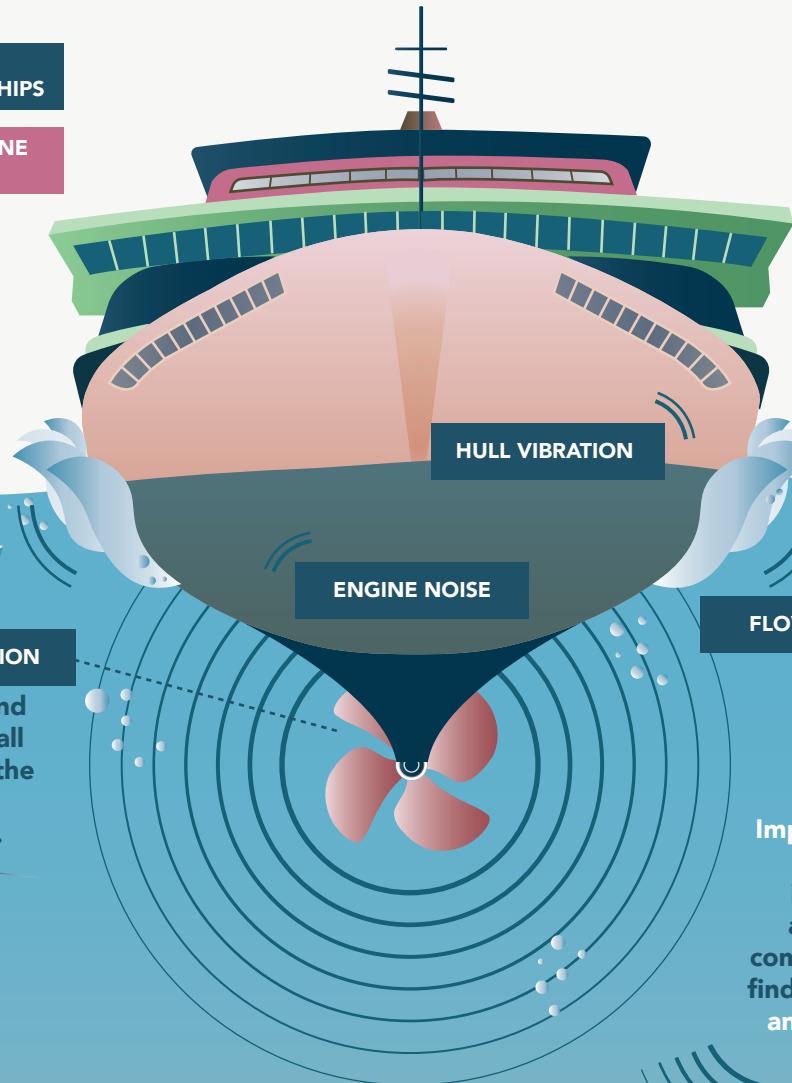


Underwater noise from ships: impacts

Underwater noise comes from a number of sources - including ships.

MAJOR SOURCES OF UNDERWATER NOISE FROM SHIPS

EXAMPLES OF ARCTIC MARINE SPECIES AFFECTED



Human-sourced underwater noise impacts a wide range of marine wildlife.

At least **150 marine species** have been reported to be affected by underwater noise including whales, fish, crabs, shellfish and zooplankton.

WALRUS



PROPELLER CAVITATION

The formation and implosion of small bubbles against the propellers as they rotate.

NARWHAL



Narwhals become motionless and fall silent even at low noise levels.

FLOW NOISE

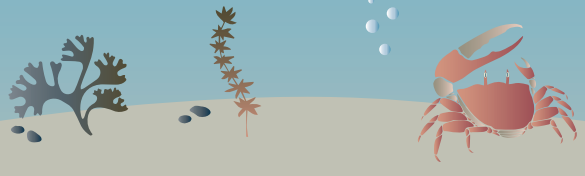
BELUGA



Beluga whales lose pod integrity, move rapidly, change their vocal behaviour, and avoid icebreakers at very low noise levels.

Impacts of underwater noise include interference with animals' ability to communicate, navigate, find food, find partners, and can cause stress.

Impacts in fish and shellfish include slower response to predators, stress, masking of communication, reduced feeding.

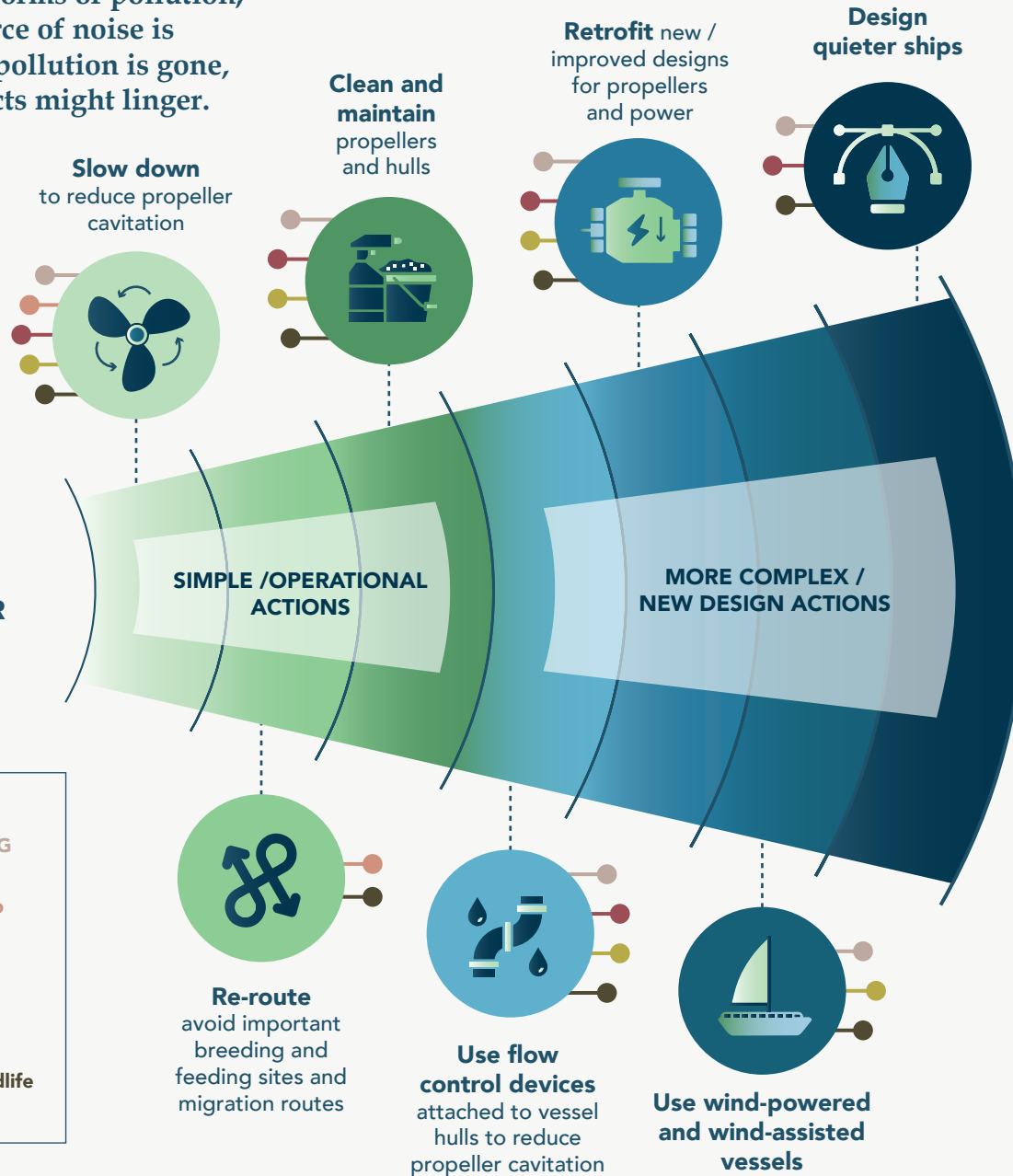


BOWHEAD WHALE



Underwater noise from ships: solutions

Unlike other forms of pollution, when the source of noise is removed, the pollution is gone, although effects might linger.



MEASURES THAT CAN BE VALUABLE TO REDUCE NOISE LEVELS

THE IMO AND ITS MEMBER STATES SHOULD:



- Regulate noise emissions from international shipping:
 - Require ships to prepare noise management plans
 - Set explicit targets for underwater ship noise reduction

SHIPOWNERS AND OPERATORS SHOULD:



- Develop and implement ship-based noise management plans that aim to reduce ship noise levels
- Recognise the importance of Indigenous Knowledge on noise impacts on marine wildlife and develop voyage plans and operations to minimise impacts
- Slow down, especially in and near important marine habitats
- Design and develop quieter ships

ADMINISTRATIONS AND OTHER STAKEHOLDERS SHOULD:



- Provide financial incentives for ship quieting measures
- Support research and monitoring of impacts and solutions
- Provide educational tools, e.g. information on important wildlife areas and migration routes