

MIT2013-03: Characterisation of smaller vessel deepwater bottom longline operations in relation to risk factors for seabird capture

Proposed methods

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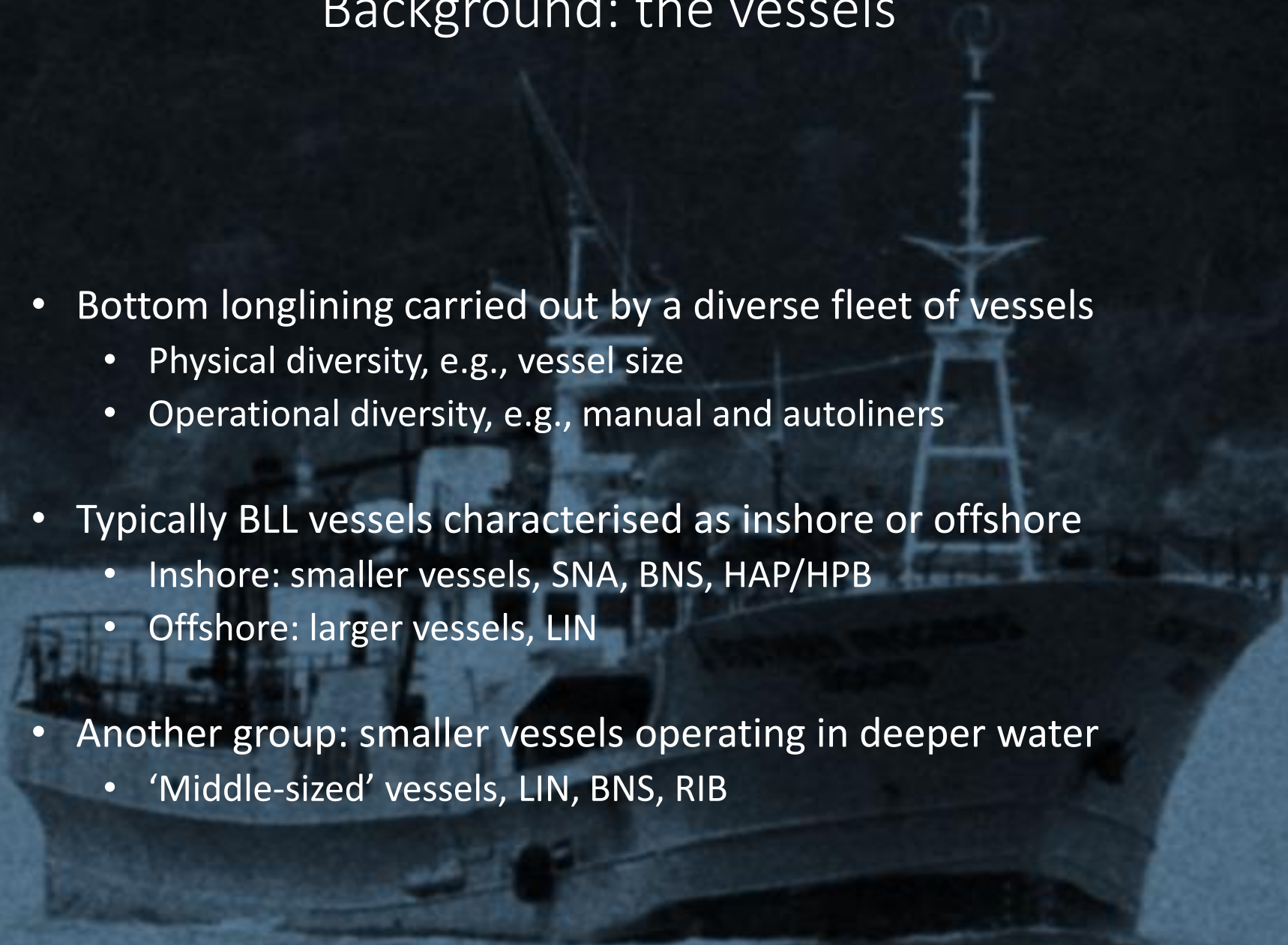
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Background: the vessels

- Bottom longlining carried out by a diverse fleet of vessels
 - Physical diversity, e.g., vessel size
 - Operational diversity, e.g., manual and autoliners
- Typically BLL vessels characterised as inshore or offshore
 - Inshore: smaller vessels, SNA, BNS, HAP/HPB
 - Offshore: larger vessels, LIN
- Another group: smaller vessels operating in deeper water
 - 'Middle-sized' vessels, LIN, BNS, RIB



Background: the risks

- Risk factors
 - Bait attractant
 - Auto-baiting systems: large numbers of hooks, trail of bait bits
 - Some processing at sea
 - Some day-setting
 - Variable mitigation use
 - Diverse gear setups incl. for different target species
- Highest risk to seabirds and greatest uncertainty
 - Richard and Abraham 2013
 - Vessels < 34 m that do not target SNA, BNS
 - Chatham albatross, Salvin's albatross, Black petrel, Flesh-footed shearwater
- Vessels < 34 m targeting BNS the next highest risk group, then vessels > 34 m



Image: DOC



Objectives

A large fishing vessel is shown at sea at night. The ship's mast and various antennas are visible against the dark sky. The ship's hull is dark, and the water is also dark, creating a monochromatic scene.

Overall objective:

To characterise the smaller vessel deep water bottom longline fishery with respect to factors relating to seabird capture.

Specific objectives:

1. To review observer, fisher and catch effort data on vessel operations, and findings from previous mitigation projects in deep water bottom longline fisheries, and identify key risk factors for seabird interactions.
2. To characterise the range of bottom longline vessels over 20m with respect to factors relating to seabirds captures.
3. To provide recommendations on mitigation practices in this fishery.

Specific Objective 1: Review

- Fisher and catch effort data on vessel operations
 - MPI Warehou database (2001/02 – 2011/12)
 - Vessel, catch, and effort data
 - Fisher-reported seabird capture data
 - Explore patterns in fishing activity that relate to seabird bycatch risk
 - Date, time, location, target species, vessel characteristics
- Observer data
 - MPI COD database (10 years, 2001/02 – 2011/12)
 - Observer trip reports, diaries
 - Gear characteristics e.g., hooks set, weighting regimes
 - Mitigation practices
 - Seabird captures
 - Focus more detailed investigation on selected key trips

Specific Objective 1: Review

- Industry sources
 - Industry codes of practice
 - Industry operational guidelines
 - Interview operators of vessels > 20 m
- Previous work on mitigation measures: deep water BLL
 - Review of past work on mitigation measures, NZ and international
- Regulations in place
- Identify key risk factors for seabird interactions

Specific Objective 2: Characterisation

- Characterise vessels > 20 m with respect to bycatch risk
 - Number of vessels
 - Distribution of effort across vessels
 - Patterns of spatial and temporal effort distribution
 - Seabirds caught
- Consider broader contextual changes
 - Changes in quota, introduction of seabird mitigation regulations
- Identify knowledge gaps and improvements to data collection to facilitate understanding bycatch risk
- Describe risk factors quantitatively when data are sufficient
 - Step analysis

Specific Objective 3: Recommendations

- Recommend appropriate methods with which to reduce risk of seabird bycatch
- Identify barriers to implementation
- Identify improvements for observer data collection to characterise bycatch risk
- Describe future work to reduce bycatch risk



Outputs

- Report
- Fact sheet
- Findings promulgated in industry newsletters
- Industry liaison

