IN THE ENVIRONMENT COURT OF NEW ZEALAND
AUCKLAND REGISTRY

I TE KŌTI TAIAO O AOTEAROA
TĀMAKI MAKAURAU ROHE

IN THE MATTER	of the Resource Management Act 1991
AND	of an appeal under clause 14 of Schedule 1 of the Act
BETWEEN	**ROYAL FOREST AND BIRD PROTECTION SOCIETY OF NEW ZEALAND**
	BAY OF ISLANDS MARITIME PARK INCORPORATED
	Appellants
AND	**NORTHLAND REGIONAL COUNCIL**
	Respondent

PHILIP MAXWELL ROSS REBUTTAL

ECOLOGY

TOPIC 14: MARINE PROTECTED AREAS

22 JUNE 2021

Respondent's Solicitor
PO Box 2401 AUCKLAND 1140
Tel +64 9 300 2600
Fax +64 9 300 2609

Solicitor: M Doesburg
(mike.doesburg@wynnwilliams.co.nz)

WYNNWILLIAMS

Introduction, qualifications, and experience

1. My name is Philip Maxwell Ross. My qualifications and experience are set out in my evidence in chief, dated 16 April 2021.

Code of conduct

2. I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2014 and agree to comply with it. The contents of this statement are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in this statement.

Scope of evidence

3. I have read the evidence in chief filed on behalf of:

    a. Bay of Islands Maritime Park Incorporated (**BOI Maritime Park**), Royal Forest and Bird Protection Society of New Zealand (**Forest and Bird**) and Ngāti Kuta Hapū ki te Rawhiti (**Ngāti Kuta**);

    b. Te Uri o Hikihiki Hapū and Ngāti Manuhiri.

    c. The Fishing Industry Parties;

    d. Minister for Oceans and Fisheries and Minster of Conservation;

    e. Ngātiwai Trust Board;

    f. New Zealand Sports Fishing Council;

    g. Patuharakeke Te Iwi Trust Board;

    h. Te Ohu Kai Moana;

    i. Te Rūnanga-Ā-Iwi o Ngāpuhi; and

    j. Te Rūnanga o Ngāti Rehia.

4. This statement responds to the evidence provided by Mr Jacob Hore on behalf of the Minister for Oceans and Fisheries.

Monitoring of trawling and dredging in New Zealand

5. In my evidence-in-chief, in relation to the impacts of trawling and dredging on seafloor biodiversity, I stated:[1]

---

[1] Paragraph 52.

> Even though MPI states that it "*is important is that these activities are monitored to ensure that impacts are managed*" I am not aware of any monitoring programme in the New Zealand CMA that provides a genuine understanding of the ongoing effects of trawling and dredging.

6. In response, Mr Hore states:[2]

> Mr Ross states that he is unaware of any monitoring programme in the New Zealand Coastal Marine Area on the ongoing effects of trawling and dredging. Since 2007/08 FNZ has conducted annual monitoring of the national trawl footprint for the New Zealand exclusive economic zone and territorial sea.

7. The monitoring of the national trawling footprint is reported in: Baird, S.J.; Mules, R. (2021). Extent of bottom contact by commercial trawling and dredging in New Zealand waters, 1989–90 to 2018–19. New Zealand Aquatic Environment and Biodiversity Report No. 260. 157 (**the Trawl Footprint Report**) and shown in Figure 1 below. Figure 1 demonstrates how little of the coastal seafloor is not impacted by bottom contact fishing gear.

---

[2] Mr Hore EIC (Fisheries Management) on behalf of Minister for Oceans and Fisheries, paragraph 51.

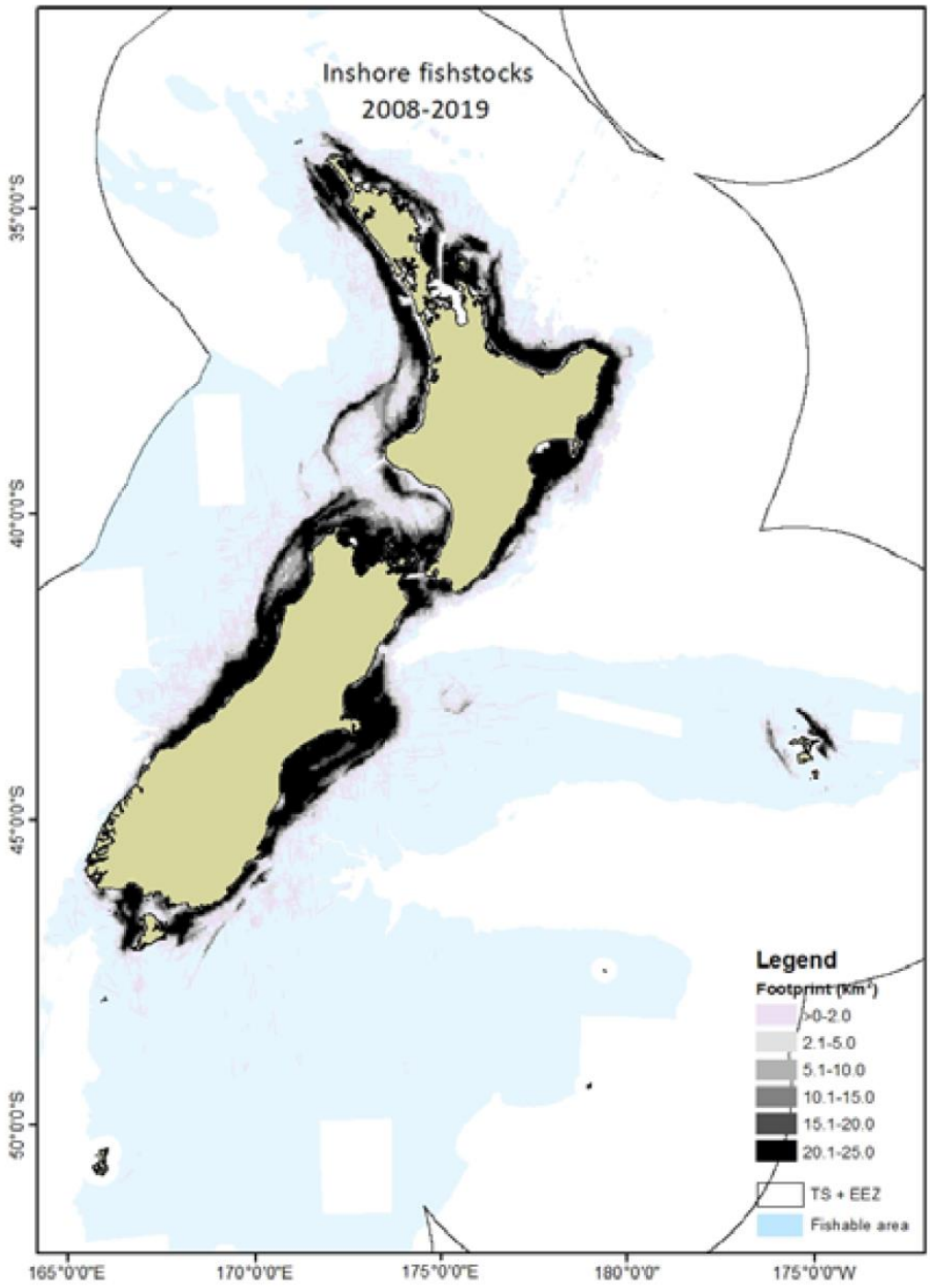

Figure 1. The inshore trawl footprint, by 25-km2 cells, for the 2008–2019 period, with the fishable area shown in light blue. (This figure only includes data for inshore fish stocks and is copied from page 50 of Baird and Mules 2021)

8. I was not previously aware of the Trawl Footprint Report but I have now reviewed the relevant sections. I comment on the Trawl Footprint Report below.

9. In the Trawl Footprint Report the bottom contact data is not presented at the scale of the proposed Te Ha o Tangaroa and Te Mana o Tangaroa

protection areas (although the data is collected at a scale where this could be calculated). For the North East Coast North Island Fisheries Region (FMA 1; North Cape to Cape Runaway), during the 2008-2019 period, the total area of seafloor swept by bottom contact trawl gear was 102,677 km^2. With overlapping trawls taken into account, this gives a total bottom-contact trawl footprint of 22,424 km^2.

10. The difference between total area swept and total footprint indicates that many areas are contacted on multiple occasions (the aggregate area swept is greater than the total footprint). The report reveals that many of the fished 25 km^2 cells (the units which the seafloor was broken into for the purposes of these analyses) were trawled either every year or most years (Fig. 2). Slow growing long-lived benthic organisms that are vulnerable to trawl damage (e.g. corals) are unlikely to be able to either recover, or re-establish, under such a scenario where disturbance occurs frequently.

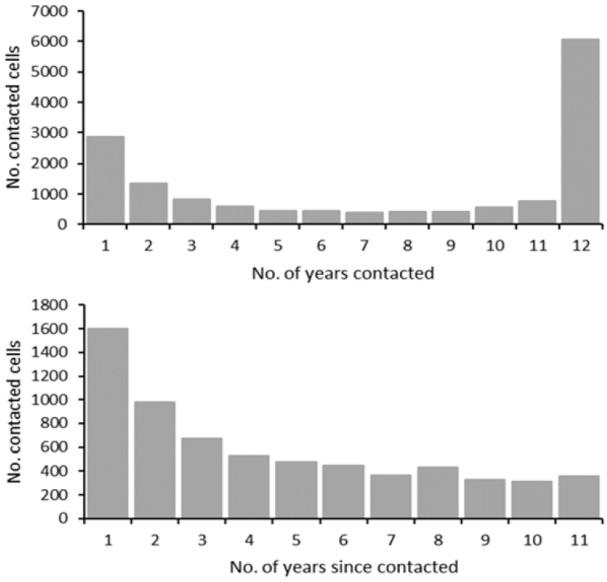

Figure 25: The number of cells contacted in annual bins by the inshore tows for 2008–2019 (upper) and the number of cells in each bin representing the number of years since a cell was last contacted (lower).

Figure 2. The number of cells contacted in annual bins by the inshore tows for 2008–2019 (upper) and the number of cells in each bin representing the number of years since a cell was last contacted (lower). (Figure copied from page 54 of Baird and Mules 2021).

11. The Trawl Footprint Report reveals:

    a. the wide spatial extent of bottom trawling in coastal waters (fig. 1); and

b. the high frequency at which seafloor biodiversity is disturbed (fig. 2).

12. In my opinion, this information further demonstrates the need for representative areas of seafloor to be protected from bottom contact fishing gear to allow for the protection and restoration of benthic biodiversity.

Understanding bottom trawling impacts on benthic biodiversity

13. Mr Hore also states that:[3]

> More recently FNZ has established a comprehensive research programme to improve understanding of the distribution of benthic organisms, the impacts of bottom trawling on benthic habitats and organisms, including identifying potential expansion of the fishing footprint, and the potential for recovery of benthic habitats and organisms impacted by fishing.

14. I understand that Mr Hore is referring to project BEN2019-04, which was awarded to NIWA in 2020. There are currently no outputs for this project (pers. comm. Ian Tuck, FNZ).

15. I understand that the overall objective of BEN2019-04 is:[4]

> Conduct a spatially explicit benthic impact assessment to describe and quantify the likely nature and extent of impacts to benthic taxa or communities by mobile bottom fishing methods in New Zealand.

16. I understand that the specific objectives of this project include:[5]

> 1. Characterise all mobile bottom fishing gear configurations used since 2007/8 for inshore fisheries, and since 1989/90 for deepwater fisheries.
> 2. Determine the spatial and temporal extent of bottom contact by different fishing gear configurations.
> 3. Characterise the impacts of different gear configurations on key benthic taxa and/or communities.
> 4. Use the outputs of objectives 1-3 to provide a measure of the potential nature and extent of impacts of bottom contact fishing to

---

3 Mr Hore EIC (Fisheries Management) on behalf of Minister for Oceans and Fisheries, paragraph 51.

4 pers. comm. Ian Tuck, FNZ.

5 pers. comm. Ian Tuck, FNZ.

benthic taxa or communities across New Zealand's Territorial Sea and Exclusive Economic Zone.

5. Update any relevant sections in the Aquatic Environment and Biodiversity Annual Review and Environmental and Ecosystem considerations sections of the Fisheries Assessment Plenary documents with results from this work.

17. That project BEN2019-04 has been funded to address the above objectives demonstrates our current lack of knowledge around the impacts of bottom contact fishing methods on seafloor biodiversity.

18. It is good to know that this work is underway and once completed it should provide increased certainty around actual fishing impacts and better inform decision-making processes regarding seafloor biodiversity. However, at this point in time, it is my opinion that we do not have a clear understanding of the ongoing effects of trawling and dredging on seafloor biodiversity.

.....

Philip Maxwell Ross

22 June 2021