

Submission

Taskforce on Nature-related Financial Disclosures (TNFD)
Draft sector guidance: Aquaculture

29 March 2024

About the Institute

The McGuinness Institute was founded in 2004 as a non-partisan think tank working towards a sustainable future for Aotearoa New Zealand. *Project 2058* is the Institute's flagship project focusing on Aotearoa New Zealand's long-term future. Because of our observation that foresight drives strategy, strategy requires reporting, and reporting shapes foresight, the Institute developed three interlinking policy projects: *ForesightNZ*, *StrategyNZ* and *ReportingNZ*. Each of these tools must align if we want Aotearoa New Zealand to develop durable, robust and forward-looking public policies. The policy projects frame and feed into our research projects, which address a range of significant issues facing Aotearoa New Zealand. The eleven research projects are: *CivicsNZ*, *ClimateChangeNZ*, *EcologicalCorridorsNZ*, *GlobalConflictNZ*, *OneOceanNZ*, *PandemicNZ*, *PublicScienceNZ*, *ScenariosNZ*, *TacklingPovertyNZ*, *TalentNZ* and *WaterFuturesNZ*.

About the cover

The image above is a drawing of *Hyperoglyphe antarctica* syn. *Eurumelops johnstoni*.¹

To whom it may concern,

Thank you for the opportunity to contribute to this guidance for the aquaculture sector.

Please accept this submission as a brief summary of our observations. Our submission relates to finfish aquaculture only.

In general, the Institute anticipates that this guidance will significantly help steer New Zealand's aquaculture management towards balanced utilisation and protection. New Zealand is unlikely to set any further national or local standards for aquaculture management if the Government's aquaculture proposal (see Section 4.1) is progressed. We sense this may also be the same for other countries (e.g. Canada).² Hence this independent guidance, prepared from outside of industry and outside of politics, is one of the few instruments that we are aware of that could make a difference. We feel confident that there are finfish farmers in New Zealand that would be keen to demonstrate and apply high environmental standards, and report their actions to shareholders, stakeholders and consumers. Unfortunately, there are others who are more likely to fail to disclose their impacts on nature.

The Institute has been actively researching and trying to minimise the impacts of finfish farming in our oceans as part of our *OneOceanNZ* project.³ *OneOceanNZ* aims to contribute to a wider discussion on how we might best manage our oceans, and exercise stewardship to maintain a healthy and productive ocean.

If there are any particular points of interest or questions relating to the Institute's current or previous work, please do not hesitate to contact us. The Institute is keen to contribute towards ensuring our oceans are seen as a resource that must be both protected and managed for future generations – and that means we need to understand our impact on nature.

Thank you again for your ongoing work in this space.

1.0 High-level context

Below are observations that the Institute has made as part of our ongoing work under *OneOceanNZ*. Most of these are directly relevant to marine farming within New Zealand but, we suspect, can be generally applied to global aquaculture practices.

- New Zealand is a hotspot for marine diversity.⁴
- Finfish aquaculture is a significant issue due to direct pollution (including feed, faeces and mortality) and indirect pollution (such as carbon costs from importing feed and exporting fish).
- All feed used in New Zealand is imported.
- A great deal of salmon is exported (often to the other side of the planet). For some companies that is over 60 percent of their product.⁵
- Finfish Mortality is significant (e.g. due to rising water temperatures).^{6,7}
- Finfish marine farmers do not pay any occupational charges for the use of the water space.
- Environmental protections are not well funded or resourced.
- New Zealand's government has a goal of growing the industry significantly. The current government is considering extending all marine farms by another 25 years; which means no public consultation – a blanket extension (see Section 4.1).⁸
- Most finfish farms are located in saltwater, but we do have a few freshwater farms.⁹
- As yet, we have no fully land-based salmon farms. Our hope is that salmon farming in New Zealand will move to land or at the least, put in place protocols that minimise environmental degradation.
- Many of the farms sit in unique water space. For example, New Zealand King Salmon (NZKS) operates in the Marlborough Sounds at the top of the South Island. The Cook Strait (between the North and the South islands) is known as the seabird capital of the world and the marine mammal capital of the world.^{10,11}
- The industry is likely to expand significantly, yet we do not have the systems or standards in place to offer the necessary protections.¹²
- The industry is focused on quantity of fish produced, rather than quality of fish from a quality environment.
- Many companies market their products globally on the basis that they adopt high environmental standards. However, that is not our observation.
- Our hope is that New Zealand finfish farms will consider applying your aquaculture guidance.

2.0 Our observations on the Draft Sector Guidance

Below are our observations on the *Draft Sector Guidance: Aquaculture*, noting our support and our suggestions for where the guidance could potentially be expanded.

- The LEAP assessment makes sense. The effects of finfish farming are highly dependent on where the farm is located. Some farms are in more environmentally sensitive areas than others. To this end, we support the inclusion of considerations for identifying sensitive locations (L4) and identifying dependencies and impacts (E1–E4). These considerations are, in New Zealand’s case, particularly important to acknowledge given the vast amount of biodiversity in New Zealand’s oceans and the fragility of our ecosystems. This point is explored further in our *Discussion Paper 2023/04: Exploring the role of aquaculture in our marine space*, see Section 4.2.
- We support the overall lens of ‘impacts on nature’.
- We support regular and public reporting of key data on how the business model of each company impacts on nature and what the company has undertaken to reduce that impact.
- We consider a life-cycle assessment should be included in reports, and ideally completed by a reputable independent consultant/auditor. For example, see the life-cycle analysis of NZKS in Appendix 1. This may be useful when comparing with your Figure 3: The aquaculture value chain (p. 8).
- Large companies should also produce climate statements (see Section 3.2).
- We consider a precautionary approach should be applied if uncertainty exists and effects have the potential to be significant.
- Table 3: Additional information to gather about the aquaculture value chain (p. 9) could be expanded to include:
 - Where the feed has come from.
 - What the feed is made of (the feed we import includes animal protein and poultry oil).
 - Antibiotic use (although we currently do not use antibiotics, we understand other countries do).¹³
 - The mortality rate, how stressed fish are killed and where dead fish are disposed of (e.g. buried in a landfill or at sea).
 - The number of marine mammals or seabirds caught in salmon farming nets.
 - How much product is exported – and where (e.g. to a neighbouring country or to the other side of the planet) and how (e.g. ship or plane).
 - The co-ordinates of the farm/s.
 - The distance of the farm/s from the coast.
 - The area that the farm/s occupy.
 - The age of the fish when they are moved from land-based systems to saltwater farms.
 - The extent to which permit holders are required to clean up after their permit expires or when they decide to cease operation (e.g. if they are not operating the farm for, say, two years)
 - Pathogens or disease outbreaks reported

3.0 New Zealand context

3.1 Current state of New Zealand’s aquaculture management

New Zealand’s current aquaculture management is inadequate to effectively enable utilisation of our oceans while maintaining the protections needed to preserve it. As summarised in Section 1.0, concerns include inequality in environmental controls, the widely varying ages of existing marine farms across the country, and the often unseen effect of the pollution from marine farming. These issues are especially concerning given that New Zealand has such a large marine area (the fifth largest exclusive economic zone (EEZ) in the world – roughly equal to 430 million hectares) and highly diverse marine ecosystems and species (‘marine scientists estimate that perhaps as much as 80% of New Zealand’s indigenous biodiversity is found in the sea’).¹⁴

3.2 Aotearoa New Zealand Climate Standards

On 27 October 2021, the Financial Sector (Climate-related Disclosures and Other Matters) Amendment Act 2021 (CRD Act) was granted royal assent by the New Zealand Government. The primary objective of the CRD Act is to ensure that the effects of climate change are routinely considered in business and investment decisions. This will help the market allocate investments in a way that contributes to a low-emissions and climate-resilient economy.

In response to this, in December 2022 the External Reporting Board (XRB), under mandate, issued its Aotearoa New Zealand Climate Standards (NZ CS 1, NZ CS 2 and NZ CS 3). Under these standards, climate reporting entities (CREs) must make climate-related disclosures in their annual reports, either through a copy of their climate statement, or a link to a website where this statement can be accessed. Compliance with the standards is mandatory ‘for annual reporting periods beginning on or after 1 January 2023’.¹⁵ For most CREs, this means disclosures will be mandatory from the financial year 2024 (FY24) onwards. There will be around 200 CREs, which are defined under the Act as follows:

- Listed issuers with a total market value of equity securities or total face value of quoted debt securities exceeding \$60 million
- Registered banks, credit unions and building societies with total assets exceeding \$1 billion
- Licensed insurers with total assets exceeding \$1 billion or annual gross premium revenue exceeding \$250 million
- Managers of registered investment schemes with total assets under management exceeding \$1 billion
- Specified Crown Financial Institutions by Enduring Letter of Expectations from the Minister of Finance and Minister of ACC with greater than \$1 billion in total assets under management.^{16,17}

The standards and guidance are based on the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD) ‘with any additions beyond what is contained within the TCFD suite of documents made as best practice evolves and with a view to future proofing the standards’.¹⁸

As stated in Section 19B of the Financial Reporting Act 2013, the purpose of the climate standards is to:

- encourage entities to routinely consider the short-, medium-, and long-term risks and opportunities that climate change presents for the activities of the entity or the entity's group; and
- enable entities to show how they are considering those risks and opportunities; and
- enable investors and other stakeholders to assess the merits of how entities are considering those risks and opportunities.¹⁹

Essentially, the climate standards will provide investors and other users of annual reports with timely, reliable and comparable climate-related disclosures in turn, enabling contribution to the overall aim of the standards: 'support[ing] the allocation of capital towards activities that are consistent with a transition to a low-emissions, climate-resilient future'.²⁰

The Institute believes that, similarly to its predecessor, the Taskforce on Nature-related Financial Disclosures (TNFD) has the potential to be the catalyst for global change in the way that environmental controls, standards and reporting are considered and applied by companies and nations alike.

4.0 Recent Publications

Below are two recent pieces of work by the Institute that may be of interest. For further work relating to New Zealand's oceans, refer to the Institutes *OneOceanNZ* page.²¹

4.1 Submission to the New Zealand Ministry of Primary Industries (MPI) – Notes in response to the Proposal by Government to extend the duration of existing consents for marine farming (March 2024)²²

There are approximately 1200 marine farm consents in New Zealand, 300 of which are due to expire at the end of 2024. In late February, the New Zealand Government issued a proposal to extend all existing marine farm consents by an additional 25 years that will be added to their existing consent terms. The extension will be automatic and no other consent conditions of the farms will be changed or re-considered. Consultation was managed via targeted invitations to comment and a period of one week was provided.

The proposal comes as part of the National Government's coalition agreement with NZ First. Under the heading 'Rebuilding the Economy and Improving Productivity', the agreement includes the statement: 'Deliver longer durations for marine farming permits and remove regulations that impede the productivity and enormous potential of the seafood sector'.²³

The Institute's submission raises concerns such as: the fact that the proposal treats all marine farms as equal, with the same degree of environmental impact (equating shellfish farming to the much more impactful finfish farming); a lack of attempt to work alongside New Zealand's international commitments; and MPI's limitation on the critical role of public engagement. Refer to the submission for further detail, including a copy of the one-pager provided by MPI as part of the proposal. See the link on our website: www.mcguinnessinstitute.org/publications/submissions.

4.2 Discussion Paper 2023/04: Exploring the role of aquaculture in our marine space (December 2023)²⁴

The Institute is interested in using infographics to illustrate complex issues, as we did in *Discussion Paper 2023/04 – Exploring the role of aquaculture in our marine space*. Although this discussion paper sits within Project OneOceanNZ, it aims to conceptualise the scale and significance of aquaculture management from a range of different perspectives, such as science, climate risks and biodiversity.

This Discussion Paper includes seven infographics that illustrate the current state of New Zealand's ocean management in the Marlborough Sounds and Cook Strait by using New Zealand King Salmon (NZKS), the only company that undertakes salmon farming in the Marlborough sounds, as a case study. Each infographic aims to form part of the wider picture of New Zealand's management of the ocean, to help conceptualise the scale and significance of aquaculture management.

The Institute highlights some concerns about New Zealand's aquaculture management such as the lack of scientific research into ocean flora and fauna; that the policy to utilise the ocean for commercial benefit will continue to trump policy to protect; and that the current legal system is failing to take account of climate and biodiversity when making decisions.

The Institute also makes 18 recommendations that suggest possible approaches for tackling the current issues of New Zealand's aquaculture management. See the link on our website: www.mcguinnessinstitute.org/publications/discussion-papers

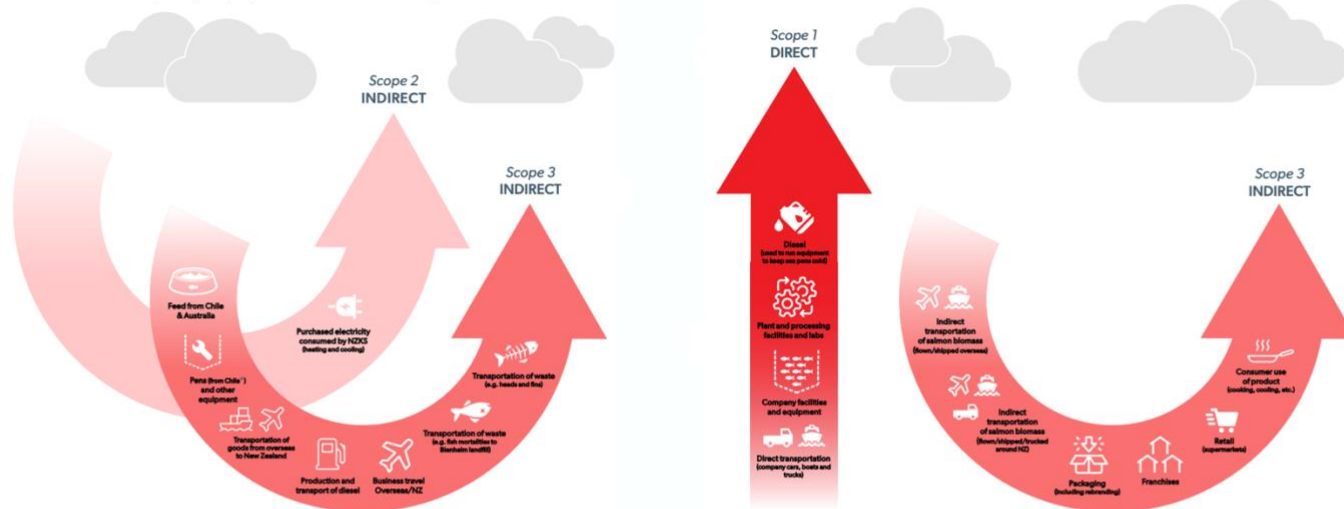
Appendix 1: New Zealand King Salmon Life-cycle Analysis²⁵

Final draft 20230901, Version 1
 Disclaimer: Please do not use this information for investment decisions.
 Feedback: Please email suggestions to enquiries@mcguinnessinstitute.org

Infographic 5: A carbon assessment and life-cycle analysis of NZKS's business model

This infographic forms part of the McGuinness Institute's OneOceanNZ project. For references see www.mcguinnessinstitute.org/publications/infographics

A: A carbon assessment – Exploring Scope 1, 2 and 3 for New Zealand King Salmon's business model



B: Life-cycle analysis – Exploring New Zealand King Salmon's business model



Assumptions and estimates

* Imports: See FY2019 (p. 86); FY2023 (p. 7). See also Winter, C. (8 January 2015). Chilean firm wins King Salmon contract. Stuff. Retrieved 13 June 2023 from www.stuff.co.nz/business/farming/aquaculture/64750652/chilean-firm-wins-king-salmon-contract
 ** Feed volume in tonnes: [(Total live weight harvested + mortality (est, see **)) x Feed conversion ratio (FCR)] (FY2023, pp. 10, 85: [6834 t + 4381 t (see very estimated figure in *** below)] x 1.66 = 18616 t) (FY2019, p. 13).

*** Mortality in cost and tonnes: [Feed volume p.a. divided by FCR] - harvest volume p.a. (FY2019, p. 13: [19593 t / 1.8] - 7931 t = 2954 t). 2023: We have used FY2019 figures to estimate the relationship between cost of mortality and tonnes of mortality. (FY2023: [2019 \$17,465,000 cost / 2954 t = \$5,912 cost of mortality per t, then 2023 \$25,943,000 cost / 2019 \$5,912 cost of mortality per t = 4381 t (a rough estimate). Note: We could not find feed volume in either FY2022 or FY2023, and we could not rely on FY2021 (as it was a seven-month financial year) or FY2020 (as the financial results were significantly impacted by COVID-19).
 **** Faeces: NZKS BOI June 2012 Wybourne: 'Skretting expects that about 20% of the dry matter consumed is excreted as faeces, for NZ King Salmon current salmon diet range'. Faeces estimate based on 20% of feed volume (FY2023: 18616 (pp. 10, 85) (est, see **)) x 0.2 = 3723) (FY2019, p. 13: 19,593 x 0.2 = 3919)

infographic-5, page 1

Endnotes

- ¹ Royal Society of New Zealand (1911). *Transactions of the Royal Society of New Zealand*, Wellington: The Society, 44, p. 201. Retrieved on 8 April 2024 from archive.org/details/transactionsofro1911roya/page/200/mode/2up
- ² SalmonBusiness. (1 April 2024). Hollywood superstar with 62 million followers wades into debate on salmon farming. Retrieved 8 April 2024 from www.salmonbusiness.com/hollywood-superstar-with-62-million-followers-wades-into-debate-on-salmon-farming
- ³ See McGuinness Institute. (n.d.). One Ocean NZ. Retrieved 8 April 2024 from www.mcguinnessinstitute.org/research-projects/one-ocean-nz
- ⁴ See Department of Conservation (DOC). (n.d.). New Zealand's marine biodiversity. Retrieved 8 April 2024 from www.doc.govt.nz/nature/habitats/marine/new-zealands-marine-biodiversity
- ⁵ See New Zealand King Salmon (NZKS). (n.d.). Our Products & Brands. Retrieved 8 April 2024 from www.kingsalmon.co.nz/our-brands
- ⁶ See Save Animals From Exploitation (SAFE). (29 September 2022). NZ King Salmon Mortality Rates Are Ethically And Legally Contentious [press release]. Scoop. Retrieved 8 April 2024 from www.scoop.co.nz/stories/PO2209/S00204/nz-king-salmon-mortality-rates-are-ethically-and-legally-contentious.htm
- ⁷ See Radio New Zealand (RNZ). (27 March 2024). Full-year results met expectations, New Zealand King Salmon says. Retrieved 8 April 2024 from www.rnz.co.nz/news/business/512789/full-year-results-met-expectations-new-zealand-king-salmon-says
- ⁸ See Hubbard, C. (20 March 2024). Aquaculture farms consent extension 'dodgy'. Stuff. Retrieved 8 April 2024 from www.stuff.co.nz/environment/350212702/aquaculture-farms-consent-extension-dodgy
- ⁹ See Mount Cook Alpine Salmon. (n.d.). Our Salmon. Retrieved 8 April 2024 from alpinesalmon.co.nz/our-salmon
- ¹⁰ See Department of Conservation (DOC). (n.d.). Sea and shore birds. Retrieved 8 April 2024 from www.doc.govt.nz/nature/native-animals/birds/sea-and-shore-birds
- ¹¹ See Department of Conservation (DOC). (n.d.). How to report marine mammal sightings. Retrieved 8 April 2024 from www.doc.govt.nz/nature/native-animals/marine-mammals/marine-mammal-sightings
- ¹² See Parminter, A. (10 May 2023). Fish farm proposed. *The Valley Profile*. Retrieved 8 April 2024 from www.valleyprofile.co.nz/2023/05/10/fish-farm-proposed
- ¹³ See Cumming, G. (n.d.). Going wild over farmed salmon. *NZ Herald*. Retrieved 8 April 2024 from www.nzherald.co.nz/nz/going-wild-over-farmed-salmon/7QVZL3D6N457FLPME3H3KKVGD
- ¹⁴ See Department of Conservation (DOC). (n.d.). New Zealand's marine biodiversity. Retrieved 8 April 2024 from www.doc.govt.nz/nature/habitats/marine/new-zealands-marine-biodiversity

See also Ministry for the Environment (MfE). (1 June 2005). *Offshore options: Managing environmental effects in New Zealand's Exclusive Economic Zone*, p. 2. Retrieved 8 April 2024 from environment.govt.nz/publications/offshore-options-managing-environmental-effects-in-new-zealands-exclusive-economic-zone
- ¹⁵ See External Reporting Board (XRB). (14 December 2022). Aotearoa New Zealand Climate Standard 2: Adoption of Aotearoa New Zealand Climate Standards (NZ CS 2), p. 10. Retrieved 8 April 2024 from www.xrb.govt.nz/standards/climate-related-disclosures/aotearoa-new-zealand-climate-standards/aotearoa-new-zealand-climate-standard-2

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- ¹⁶ See Ministry for the Environment (MFE). (18 January 2023). Mandatory climate-related disclosures. Retrieved 8 April 2024 from environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/mandatory-climate-related-financial-disclosures
- ¹⁷ See the Financial Markets Conduct Act 2013 ss 461O–461S. Retrieved 8 April 2024 from www.legislation.govt.nz/act/public/2013/0069/latest/whole.html
- ¹⁸ See External Reporting Board (XRB). (14 December 2022). Aotearoa New Zealand Climate Standard 1: Climate-related Disclosures (NZ CS 1), p. 17. Retrieved 8 April 2024 from www.xrb.govt.nz/standards/climate-related-disclosures/aotearoa-new-zealand-climate-standards/aotearoa-new-zealand-climate-standard-1
- ¹⁹ See the Financial Reporting Act 2013, Section 19B. Retrieved 8 April 2024 from www.legislation.govt.nz/act/public/2013/0101/latest/LMS592170.html
- ²⁰ See External Reporting Board (XRB). (29 November 2023). Aotearoa New Zealand Climate Standards. Retrieved 8 April 2024 from www.xrb.govt.nz/standards/climate-related-disclosures/aotearoa-new-zealand-climate-standards
- ²¹ See McGuinness Institute. (n.d.). One Ocean NZ. Retrieved 8 April 2024 from www.mcguinnessinstitute.org/research-projects/one-ocean-nz
- ²² See McGuinness Institute. (March 2024). Submission – MPI: Notes in response to the Proposal by Government to extend the duration of existing consents for marine farming. Retrieved 8 April 2024 from www.mcguinnessinstitute.org/publications/submissions
- ²³ See National Party & New Zealand First. (n.d.). Coalition Agreement: New Zealand National Party & New Zealand First, p. 7. Retrieved 8 April 2024 from www.national.org.nz/national-act-and-new-zealand-first-to-deliver-for-all-new-zealanders
- ²⁴ See McGuinness Institute. (December 2023). *Discussion Paper 2023/04: Exploring the role of aquaculture in our marine space*. Retrieved 8 April 2024 from www.mcguinnessinstitute.org/wp-content/uploads/2024/04/20240408-5pm-NZKS-DP-2023-04-final-updated.pdf
- ²⁵ See McGuinness Institute. (June 2023). Infographic 5: A carbon assessment and life-cycle analysis of NZKS’s business model. Retrieved 9 April 2024 from www.mcguinnessinstitute.org/publications/infographics