



February 29<sup>th</sup>, 2016

## CONTRIBUTION TO MRAG'S PUBLIC COMMENT DRAFT REPORT FOR THE NEW ZEALAND ORANGE ROUGHY FISHERY

BLOOM is a non-profit organization founded in 2005 that works to preserve the ocean and to increase social benefits in the fishing sector. One of our main topics of action is the protection of the highly vulnerable deep-sea ecosystems, notably against the impacts of bottom trawling. We would hereby like to express our opposition to the conclusions reached by MRAG's Public Comment Draft Report (PCDR)<sup>1</sup> about New Zealand's (NZ) orange roughy (*Hoplostethus atlanticus*) deep-sea bottom-trawl fishery, which recommended that the fishery receive the Marine Stewardship Council (MSC) certification and therefore that the orange roughy fishery be called "sustainable seafood".

We disagree with this certification on at least two grounds:

1. The highly destructive nature of deep-sea bottom trawling and the little social benefits that are associated to its use. We believe that no fishery using bottom-trawls below 600 meters should, anywhere in the world, be considered "sustainable" by any ecolabel;
2. The impact associated with this fishery: habitat destruction (corals, sponges...) and bycatch. Some of these elements have lead to significant improvement requirements according to MRAG's PCDR.

Because of these issues, the NZ orange roughy fishery should not have received approval for certification.

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<sup>1</sup> MRAG Americas (2016) Full Assessment, New Zealand Orange Roughy Fisheries. Public Comment Draft Report. Prepared for Deepwater Group Ltd. 294pp. Available at : [https://www.msc.org/track-a-fishery/fisheries-in-the-program/in-assessment/pacific/new\\_zealand\\_orange\\_roughy/assessment-downloads-1/20160126\\_PCDR\\_ROU462.pdf](https://www.msc.org/track-a-fishery/fisheries-in-the-program/in-assessment/pacific/new_zealand_orange_roughy/assessment-downloads-1/20160126_PCDR_ROU462.pdf)



## IMPACTS OF DEEP-SEA BOTTOM TRAWLS

The deep sea is widely recognized as a low resilience, highly vulnerable environment of which we still know little.<sup>2</sup> Its particular need for protection against human-induced impacts has been acknowledged in various international regulations such as the United Nations' General Assembly resolutions 61/105,<sup>3</sup> 64/72,<sup>4</sup> and 66/68,<sup>5</sup> the Food and Agriculture Organization's international guidelines for the management of deep-sea fisheries in the High Seas,<sup>6</sup> the relevant provisions of Articles 5 and 6 of the 1995 United Nations' Fish Stocks Agreement,<sup>7</sup> and the Council Regulation (EC) No 734/2008.<sup>8</sup> In 2004, over 1,400 marine scientists and conservation biologists signed a statement in favor of protecting the world's deep-sea coral and sponge ecosystems, noting their profound concern that "human activities, particularly bottom trawling, were causing unprecedented damage" to these ecosystems.<sup>9</sup> In 2013, over 300 researchers signed a declaration calling on European policymakers to protect the deep sea from destructive fishing.<sup>10</sup>

Bottom trawling in shallower waters has been considered altogether as the most damaging gear in a US study that polled representatives of several sectors<sup>11</sup> and in the North Sea, the impact of bottom trawling proved to be much greater than several other industrial activities at sea,<sup>12</sup> and its effects on the sea floor have been compared by researchers to the impacts of destructive land-based practices such as intensive agriculture<sup>13</sup> or forest clear-cutting,<sup>14, 15</sup> with the worrying difference that they were occurring "out-of-sight" and thus would need particular

<sup>2</sup> Mengerink, *et al.* (2014) A Call for deep-ocean Stewardship. *Science* 344: 696-698.

<sup>3</sup> United Nations (2007) Resolution adopted by the General Assembly on 8 December 2006—61/105. Sustainable fisheries, including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related instruments. A/RES/61/105—Sixty-first session, United Nations, New York, NY (USA). 21 p.

<sup>4</sup> United Nations (2010) Resolution adopted by the General Assembly on 4 December 2009—64/72. Sustainable fisheries, including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related instruments. A/RES/64/72—Sixty-fourth session, United Nations, New York, NY (USA). 26 p.

<sup>5</sup> United Nations (2012) Resolution adopted by the General Assembly on 6 December 2011—66/68. Sustainable fisheries, including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related instruments. A/RES/66/68—Sixty-sixth session, United Nations, New York, NY (USA). 30 p.

<sup>6</sup> FAO (2009) International guidelines for the management of deep-sea fisheries in the High Seas Food and Agriculture Organization of the United Nations (FAO), Rome (Italy). xv + 73 p.

<sup>7</sup> United Nations (1995) Agreement for the implementation of the provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the conservation and management of straddling fish stocks and highly migratory fish stocks. Conference on straddling fish stocks and highly migratory fish stocks, 6th session, July 24-August 4, 1995, United Nations, New York, NY (USA). 40 p.

<sup>8</sup> European Union (2008) Council Regulation (EC) No 734/2008 of 15 July 2008 on the protection of vulnerable marine ecosystems in the high seas from the adverse impacts of bottom fishing gears. Official Journal L 201: 8-13.

<sup>9</sup> [https://mcbi.marine-conservation.org/what/what\\_pdfs/dsc\\_signatures.pdf](https://mcbi.marine-conservation.org/what/what_pdfs/dsc_signatures.pdf)

<sup>10</sup> <http://www.bloomassociation.org/en/declaration-of-support-protect-the-deep-sea-from-destructive-fishing/>

<sup>11</sup> Chuenpagdee, *et al.* (2003) Shifting gears: assessing collateral impacts of fishing methods in US waters. *Frontiers in Ecology and the Environment* 10(1): 517-524.

<sup>12</sup> Human activities analysed included waste disposal, telecommunication cables, the hydrocarbon industry, marine research activities, and bottom trawling. see Benn A, Weaver P, Billet D, van den Hove S, Murdock A, Doneghan G and Le Bas T (2010) Human activities on the deep seafloor in the North East Atlantic: an assessment of spatial extent. *PLoS ONE* 5(9): 15.

<sup>13</sup> Puig, *et al.* (2012) Ploughing the deep sea floor. *Nature* 489: 286-290.

<sup>14</sup> Watling and Norse (1998) Disturbance of the seabed by mobile fishing gear: A comparison to forest clearcutting. *Conservation Biology* 12(6): 1180-1197.



stewardship. With specific regards to deep-sea bottom trawling, about 100 scientific peer-reviewed publications show the negative impacts of deep-sea bottom trawls on species and habitats.<sup>16</sup> It was also estimated that one deep-sea bottom trawl had the same impact as 296 to 1,719 longlines.<sup>17</sup>

We realize that mapping of deep-sea habitats is better now than before; science has been striving to develop population models for deep-sea fishes and some management measures (some whose efficacy is highly questionable) have been put in place by companies and fisheries managers in order to try to curb the ongoing depletion of deep-sea fish populations.<sup>18</sup> However, the fishing technique has not changed and deep-sea bottom trawls still scrape the ocean floor, destroying sensitive habitats and species with large wheels and panels. The fishing nets are still non-selective causing high bycatch of vulnerable and poorly-known fauna and deep-sea fishes are still highly vulnerable to fishing pressure. Calling deep-sea bottom trawling a "sustainable fishery" is therefore completely inappropriate. The precise question of whether deep-sea species could be sustainably fished was addressed during an international scientific workshop in 2010 that BLOOM convened. The workshop's key findings concluded that *"The only way for a deep-sea fishery to be sustainable in an ecosystem context is for it to have a slight ecosystem impact. Bottom trawls are non-discriminatory and do irrevocable damage to the ecosystem, and the workshop participants felt that no bottom trawl fishery could ever adequately satisfy the international objectives of fish stock sustainability and habitat preservation."*

In 2015, during the evaluation process of the French Scapêche deep-sea fishery for blue ling, black scabbardfish and roundnose grenadier, the French non-profit organization BLOOM has already expressed concerns to the certification body MacAlister Elliott and Partners about the confusing message that would be sent to consumers if deep-sea fisheries using bottom trawls were labeled "sustainable". This would affect both the credibility of the MSC as a warrant of sustainable practices and the image of the industry. The signal sent by this certification would mean that the industry would rather choose to invest in marketing and communication rather than committing to convert its fleets to truly virtuous and sustainable fishing practices.

Sustainability is a journey faced with a series of challenges.<sup>19</sup> Having companies pledge "sustainable" practices without having endorsed truly ambitious sustainable standards is counter-productive in creating a general move towards sustainability.

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<sup>15</sup> Rossi (2013) The destruction of the 'animal forests' in the oceans: Towards an over-simplification of the benthic ecosystems. *Ocean & Coastal Management* 84: 77-85.

<sup>16</sup> See bibliography at: [http://bloomassociation.org/download/Bibliographie\\_sur\\_les\\_impacts\\_des\\_chaluts\\_profonds.pdf](http://bloomassociation.org/download/Bibliographie_sur_les_impacts_des_chaluts_profonds.pdf)

<sup>17</sup> Pham C, Diogo H, Menezes G, Porteiro F, Braga-Henriques A, Vandeperre F and Morato T (2014) Deep-water longline fishing has reduced impact on Vulnerable Marine Ecosystems. *Scientific Reports* 4: 6.

<sup>18</sup> <https://www.msc.org/track-a-fishery/fisheries-in-the-program/in-assessment/north-east-atlantic/scapêche-roundnose-grenadier-black-scabbard-fish-and-blue-ling-deep-sea/>

<sup>19</sup> Tlusty, et al. (2012) Refocusing Seafood Sustainability as a Journey Using the Law of the Minimum. *Sustainability* 4: 2038-2050.





Demographic models predicting rebuilds of orange roughy biomass have conflicted with real-world observations.<sup>22</sup>

It is acknowledged in the PCDR that: *"The East and South Chatham Rise stock is estimated to be just below the lower bound of the target management range in 2014. There is a 57% probability of being below the lower limit of the target range. The stock is projected to recover to the lower limit of management target range in 2015. However, given the uncertainty in the estimate, more than one year at or above the lower limit or a lower uncertainty is needed to assure that the stock has reached the harvest range. Hence this stock is not considered to meet the SG80, resulting in a condition."*

- The score given by MRAG for this performance indicator is 70, with the associated condition to *"provide evidence that the ESCR stock is at or fluctuating around its target reference point"* through an action plan that will continue to monitor the stock biomass trajectory for the next 5 years. **This condition/action plan does not look like a solid-enough counterpart to uncertainties in the current assessment of the target stock, which are repeatedly acknowledged in the PCDR.**
- **The reasons for rejecting the approval of a sustainable certification for orange roughy is comprised in the very language of the PCDR:**

#### *Life history (PCDR p18-19)*

- *"Although age determination from otolith rings has been validated by length-mode analysis for juveniles up to four years of age in one study (MPI, 2014a), routine ageing of orange roughy has proven difficult."*
- *"Determination of the age of maturation for orange roughy has also proven difficult although it has been inferred that most orange roughy may take more than two decades to reach maturity."*
- *"The larval biology of orange roughy, in common with that for most deepwater marine species, is poorly known."*
- *"The relationship between spawning biomass and recruitment for orange roughy is poorly known owing to a lack of data on recruitment strength and, in particular, the long lag between spawning and subsequent recruitment to the fishable stock."*

#### *Stock assessment (PCDR p19-20)*

- *"it has proven challenging to conduct assessments that are not subject to considerable uncertainty for a variety of reasons. In 2014, stock assessments based on fitting population dynamics models were approved for the first time in many years for the three areas considered in this assessment (MPI, 2014b, c)"*
- *"Independent stock assessment scientists from New Zealand (1), Australia (2), USA (1), and Canada (1) familiar with stock assessment of orange roughy participated in MPI's 2014 DFAWG and Plenary meetings"*

<sup>22</sup> Watling, et al. (2011) Can ecosystem-based deep-sea fishing be sustained? Report of a workshop held 31 August-3 September 2010. 11, University of Maine, Darling Marine Center, Walpole, ME (USA). 84 p.





consistent with a study by NIWA (2015) indicating the potential damage that trawling can have on deep-sea coral communities in fished areas."

"Regarding indirect trawling impacts, MPI's (2015) literature review indicates that trawling has been shown to create a substantial sediment plume, that in low-current deep-sea environments can disperse very slowly, over large distances (Bluhm, 2001, Rolinski et al., 2001). There have been no-specific studies examining sediment mobilization by fishing gear in deep-sea fisheries but sediment plumes generated through trawling over soft substrate have potential impacts on ETP coral species through smothering of small individuals (Glover & Smith, 2003) and preventing settlement of juveniles (Rogers et al., 1999) with deposition of mm to cm depth. Impacts on coral feeding and metabolic function are uncertain, although shallow water stony corals can actively shed sediment (Riegl, 1995) and potentially cope with a sediment plume but deep-sea sponge respiration has been reported as largely shutting down when subjected to heavy sedimentation loads (Tjensvoll et al., 2013). Sediment impacts are likely to be higher on *Goniocorella dumosa* communities as they are distributed over slope habitat of the Chatham Rise dominated by soft sediment interspersed with hard substrate patches. The longer trawl tows on the slope will tend to generate greater sediment clouds than would the shorter tows typical of UTF fishing. Sediment effects will be less on coral assemblages on UTFs where the substratum is typically rocky, with only small patches of interspersed soft-sediment (Clark et al., 2010)."

"According to Black et al. (2013), there have been no studies investigating whether the current trawling activities have had adverse effects on the structure and function of benthic communities, or on the productivity of the associated fisheries. In the orange roughy fishery on the Chatham Rise, which occurs primarily between depths of 800 – 1,200 m, there is evidence that fishing effort has shifted geographically over time in response to changes in catch rates on individual hills (MPI, 2012). While the fishery has moved into new areas each year, the rate of additional 'new area' subjected to trawling in each successive year has continued to decline throughout the time series (Black et al., 2013). In 2009-10 new area amounted to 3,208 km<sup>2</sup>, which is 4% of the 2009-10 trawl footprint of 79,512 km<sup>2</sup> and less than 1% of the cumulative swept area for the period 1989-90 to 2009-10 of 385,032 km<sup>2</sup>."

(PCDR p75)

"However, UTFs considered to be heavily fished still contain diverse assemblages of corals and other epibenthic fauna and no difference in species numbers or community structures in coral-dominated UTFs within or outside of protected areas (coral dominance indicated no or only light fishing) has been observed (Consalvey, 2006; Clark et al., 2015b). This suggests that coral diversity continues to be maintained on fished UTFs, as most UTFs are fished only on established tow lines, leaving areas of many UTFs unfished because the seabed is too rough or steep to trawl, or where orange roughy do not aggregate. Recent information from trawl surveys supports a conclusion that coral will remain well established on fished UTFs, although not at the density prior to trawling."



(PCR p76-77)

*"Cold water corals are fully protected under the Wildlife Act 1953. Interactions with fisheries are monitored through the MPI's Scientific Observer Programme and vessel reporting; however, there is no overall management plan (Boyd 2013). The orange roughy fishery is spatially managed with defined areas where bottom trawling or all trawling is prohibited (e.g., benthic protected areas (BPAs), 'seamount' closures), which provide some protection for corals. Managed areas have closed approximately 68% of UTFs within New Zealand's EEZ and 74% of UTFs within the Kermadec Bioregion to trawling (Table 26); the remaining open areas allow for potential expansion of trawling beyond the current footprint of the fishery. If the protection of corals from trawling in the orange roughy also relies on fishing only on established tow lines, a mechanism for how the restriction to these tow lines occurs is not clear from the available information."*

### Performance indicator 2.3.3

This performance indicator aims to evaluate whether *"relevant information is collected to support the management of the fishery impacts on ETP species, including: information for the development of the management strategy; information to assess the effectiveness of the management strategy; and -information to determine the outcome status of ETP species."*

It is acknowledged in the PCDR that: *"Although there has been analysis on the distribution of corals and its overlap with orange roughy fisheries in the three UoC areas as well as contained within BPAs in these areas (MPI 2015), the large discrepancy between observed and predicted occurrences of coral and the commensurate large discrepancy in observed vs predicted degree of overlap of protected corals with the orange roughy fisheries creates uncertainty in determining whether the fishery may be threat to the protection of these species."*

- The score given by MRAG for this performance indicator is 75, with the assumption that *"by the end of the certification period information must be sufficient to determine whether the fishery may be a threat to protection and recovery of ETP coral species"*. If we understand correctly, MRAG is suggesting that the fishery should be certified before we know whether the NZ orange roughy has an impact on ETP coral species. Given the extensive scientific evidence on the impact of deep-sea bottom trawling on deep-sea corals, such a risky approach should not be endorsed by a "sustainable seafood" label.

### Performance Indicator 3.2.5

This performance indicator aims to evaluate whether *"the fishery-specific management system is subject to regular internal and occasional external review."*

It is acknowledged in the PCDR that: *"Progress against the objectives in the National Fisheries Plan for Deepwater and the Annual Operational Plan is reviewed annually and reported in the Annual Review Report. MPI conducts an extensive review of performance of the deepwater fisheries (e.g., MPI 2015) that incorporates consultations with*



industry and other stakeholders. Parts of the management system, specifically science and enforcement, undergo external review. Although the internal review is very comprehensive and parties external to MPI participate, there is no explicit separate external review reported for the management system."

- The score given by MRAG for this performance indicator is 70, under the condition that *"by the third annual surveillance the fishery-specific management system must undergo occasional external review."* It is however not made clear how the Deepwater group and the MPI intend to make sure some external review of the management system will occur.

## B. >80 scoring performance indicators

### Performance Indicator 2.1.1

This performance indicator aims to evaluate whether *"the fishery does not pose a risk of serious or irreversible harm to the retained species or species groups and does not hinder recovery of depleted retained species or species groups"*

It is acknowledged in the PCDR that: *"Since 2005–06, orange roughy accounted for about 84% of the total observed catch by weight across all orange roughy fisheries combined, including the three fisheries under assessment (MPI, 2015b). Most of the remainder of the total catch (about 10% of the total) comprised oreo species (Family Oreosomatidae): mainly smooth oreo (Pseudocyttus maculatus) and black oreo (Allocttus niger). Rattails (various species) and shovelnose spiny dogfish (Deania calcea) were the species with high discard rates (90% discarded)."* (PCDR p42)

Deep-sea sharks are particularly vulnerable species to bottom trawling. In the PCDR it is mentioned that *"Among the non-QMS species making up the bulk of discards, Baxter's lantern dogfish and other deepwater dogfish make up small quantities of the catch, but exceeded 1% of the catch for the ORH3B NWCR and ORH3B ESCR UoA (MPI, 2015b). These dogfish are not as yet fully managed, but the management system recognizes their vulnerability and the need for explicit management. MPI (2014d) stated the following in regard to these species:*

*"(...) Orange roughy fishing is also known to interact with several species of sharks, many reported using generic codes for 'other sharks and dogfish' and 'deepwater dogfish'. It is considered that these species may have life history characteristics that make them vulnerable to overfishing. As part of the implementation of the NPOA-Sharks 2013, a two-stage risk assessment is being completed for all sharks that will guide ongoing management. A preliminary, expert based assessment should be available in late 2014 and a formal quantitative analysis will be available in 2015 to prioritise actions for species estimated to be at higher risk from fishing activities. Any additional catches of deepwater sharks will be taken into account through the risk assessment process".*"

- The scores given by MRAG for this performance indicator are high: respectively 95, 80 and 80 for areas ORH3B NWCR, ORH3B ESCR and ORH7A. We are wondering whether MRAG considered that the other



commercially-retained species, oreos,<sup>23</sup> are species that were engaged through the Deepwater group in an MSC evaluation but were withdrawn to start a fishery improvement project?<sup>24</sup> MRAG's positive advice for the orange roughly suggests that the same deep-sea bottom fishery is unsustainable for oreos, which does not seem to make a lot of sense.

- Regarding deep-sea sharks, recognizing their vulnerability and the need for explicit management only is not sufficient to guarantee the sustainability for the retained species.

#### Performance Indicator 2.4.2.

This performance indicator aims to evaluate whether there is *"a strategy in place that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to habitat types"*.

It is acknowledged in the PCDR that: *"In the New Zealand Territorial Sea (TS) and EEZ there are substantial areas closed to bottom fishing, including marine reserves, marine protected areas (MPAs) and large Benthic Protected Areas (BPAs) and all contribute to protecting the environment generally and from the impact of trawling" and that "the network of MPAs and BPAs, the representativeness of habitat they encompass, and the restrictions on bottom trawling they include within the UoC areas and the bioregion as a whole comprise at least a partial strategy that is expected to achieve the Habitat Outcome 8o level of performance or above."*

- The score given by MRAG for this performance indicator is 85. We would like to question this scoring given the results of an analysis of the distribution of benthic habitat protection measures adopted by quota-owning industry sectors in New Zealand, Alaska and the Indian Ocean. Conclusions of this study suggest that *"protection of both benthic ecosystems and essential fish habitats are marginal at best when quota owners have primacy in determining the boundaries of BT closures"*, since the majority of the areas in these three regions may not contain vulnerable marine ecosystems and do not have high abundance of commercially important species. In particular, the authors noted that *"about 65% of New Zealand's EEZ is in water more than 1500 m deep and 40% of those deep waters are within the BPAs. Looked at another way, 82.3% of the 1.1 million km<sup>2</sup> of deep-sea bottom set aside as BPAs are in water that is too deep to fish."*<sup>25</sup> **Therefore, we fear that the presence of BPA in itself does not seem to be a powerful enough argument to give a score of 85 to this performance indicator, and we believe that more studies should be conducted in order to ensure that protection measures are not taken on the basis of quota-owners' best interests, but on the interest of the general public.**

#### Performance Indicator 3.1.1

<sup>23</sup> Up to 62,5% of smooth oreo in the retained species in the area ORH3B East and South Chatham Rise.

<sup>24</sup> <http://deepwatergroup.org/species/oreo/oreo-fisheries-improvement-projects/>

<sup>25</sup> Rieser, *et al.* (2013) Trawl fisheries, catch shares and the protection of benthic marine ecosystems: Has ownership generated incentives for seafloor stewardship? Marine Policy 40: 75-83.



This performance indicator aims to evaluate whether *"the management system exists within an appropriate legal and/or customary framework which ensures that it: is capable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2; and observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and incorporates an appropriate dispute resolution framework."*

The PCDR explicitly uses the Intertek rationale as a base for the orange roughy scores for New Zealand hoki, hake, and ling *"in order to ensure harmonization"*:

*"MPI is responsible for the administration of the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992, which implements the 1992 Fisheries Deed of Settlement under which historical Treaty of Waitangi claims relating to commercial fisheries have been fully and finally settled. The Ministry is also responsible for the Maori Fisheries Act 2004, which provides that the Crown allocates 20% of quota for any new quota management stocks brought into the QMS to the Treaty of Waitangi Fisheries commission. For non-commercial fisheries, the Kaimoana Customary Fishing Regulations 1998 and the Fisheries (South Island Customary Fishing) Regulations 1998 strengthen some of the rights of Tangata Whenua to manage their fisheries.*

*These regulations let iwi and hapu manage their non-commercial fishing in a way that best fits their local practices, without having a major effect on the fishing rights of others. When the government sets the total catch limits for fisheries each year, it allows for this customary use of fisheries before allocating commercial quotas. The management system therefore has a mechanism to formally commit to the legal rights created explicitly or established by custom of people dependent on fishing for food and livelihood in a manner consistent with the objectives of MSC Principles 1 and 2. This meets the SG60, SG80, and SG100.*

*References: Fisheries Act 1996; DWG Partnership 2010; Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 Deed of Settlement 1992; Maori Fisheries Act 2004; Customary Fisheries Regulations 1998; MFish 2009a; Intertek 2014a, b and c"*

- The score given by MRAG for this performance indicator is 100, although the references only include institutional texts and are based upon a previous deep-sea fishery assessment. We regret that no scientific input from sociologists or anthropologists is used here. Although we do not have the time for an in-depth study, we would like to quote Dr Howard Schiffman, Director and Clinical Associate Professor at the New York University in his attempt to broaden the scope of the question of the allocation of quotas to Maori populations as an argument for appropriate ethical management.

*"The native Maori population, understandably and rightfully, has a strong influence in New Zealand's commercial fisheries. The Maori fought hard to realize rights to New Zealand fisheries promised to them in 1840. While all [South Pacific Regional Fisheries Management Organization] Parties must be sensitive to this historical fact, a balance must be found between the exercise of these rights and achieving conservation objectives. The use of bottom-trawling to harvest Orange Roughy, with its highly destructive effects on seamounts, forces this issue like no other. Significantly, the Maori never harvested the Orange Roughy, a deep sea species, as part of its traditional catch. Bottom trawling is a modern fishing method. Whether the designation of vulnerable marine ecosystems is sufficient to address the impacts of bottom trawling, as highlighted by the UN General Assembly in Resolution 61-105, is still very much an open question. A precautionary approach seems appropriate since so little is known*



about the ecology of seamounts. Reflection upon the SPRFMO Interim Measures adopted thus far to address bottom-trawling suggests the SPRFMO proceeds from the assumption that bottom trawling can be deployed sustainably. Given its destructive effects, this is a questionable assumption at best."<sup>26</sup>

#### Performance indicator 3.1.4

This performance indicator aims to evaluate whether *"the management system provides economic and social incentives for sustainable fishing and does not operate with subsidies that contribute to unsustainable fishing"*.

The PCDR explains that there are no public subsidies to the fishing industry in New Zealand although:

- The score given by MRAG for this performance indicator is 90 and not 100 because: *"There do not appear to be explicit incentives and encouragement not to catch marine mammals and protected species, i.e. there is no positive feedback for those not catching these species. The management system does not explicitly consider incentives in a regular review of management policy or procedures to ensure they not contribute to unsustainable fishing practices."* Although incentives and encouragement not to catch marine mammals and protected species can certainly be beneficial onboard bottom-trawlers, the impacts of the management system in a broader sense are not reviewed here. We are concerned about the potential indirect effects of the ITQ program on the social and environmental aspects of sustainability. Since the 1980's, New Zealand has converted all its commercial fisheries to a quota-owning system by conveying to fishing companies property rights in percentage shares of the annual catch quotas, set separately for individual fish stocks.<sup>27</sup> The QMS and the use of ITQs is considered in the PCDR as providing *"stability and security for quota owners and hence incentives for sustainable utilisation (Fisheries Act)." It is however argued by several scholars that the "private ownership promotes stewardship" thesis of ITQs is a flawed rationale, and that on the contrary privatization leads to concentration of fishing rights in the hands of a few companies, with direct negative consequences for the small-scale fleets and communities, and indirect consequences for the environment since the capitalization of the fleet results in the few boats left using the most effective gears to catch fish: bottom trawls. In this case, economic sustainability seems to lead to lower environmental standards with a sector using a highly destructive fishing gear.*

Although some argue that private fishing quotas help align the interests of the fishing industry with those of the greater public,<sup>28</sup> it seems that market-based instruments are not designed to address the ecological costs of intensive fishing. In the case of setting the Benthic Protection Areas mentioned above, this would be because *"the fishing industry has an incentive to prevent managers from adopting spatial closures or to ensure they put them where they impose the least cost to industry"*.<sup>29</sup>

<sup>26</sup> Schiffman (2013) The South Pacific Regional Fisheries Management Organization (SPRFMO): an improved model of decision-making for fisheries conservation? J Environ Stud Sci 3: 209-216.

<sup>27</sup> Gibbs (2008) The historical development of fisheries in New Zealand with respect to sustainable development principles. The Electronic Journal of Sustainable Development. 1(2) : 1-11. Available at : [http://www.ejsd.co/public/journal\\_article/7](http://www.ejsd.co/public/journal_article/7)

<sup>28</sup> Helson, et al. (2010) Private rights, public benefits: Industry-driven seabed protection. Marine Policy 34: 557-566.

<sup>29</sup> Ibid. Rieser, et al. (2013).



**In conclusion**, we find particularly inconsistent to grant a positive advice for the certification of the NZ orange roughly fishery given that:

- **The use of deep-sea bottom trawling as a fishing gear is widely recognized as destructive.** The MSC policy is that no fishing gear should be denied access to evaluation except for destructive methods, which, according to MSC standards, only include dynamite and poison fishing. Given the extensive scientific background demonstrating the tremendous impacts of bottom trawling on deep-sea habitats, we pledge that fisheries using bottom trawls gear below 600m should not be entitled to access the MSC assessment/certification process.
- **There is high uncertainty for many parameters and performance indicators assessing the sustainability of this fishery.** Granting a “conditional” certification would be a lie to consumers, who will be lead to believe everything is fine with this fishery. Consumers are not supposed to be experts of the complex MSC certification conditionality and will therefore not understand that the fishery has not yet reached "sustainability". Such discounted certification will bring much discredit to the auditing process, to the Marine Stewardship Council and eco-labeling in general.