Summary of Submissions – Enabling Innovative Trawl Technology Consultation Document

1.1 SUBMISSIONS RECEIVED

As part of the wider Future of our Fisheries consultation process, MPI developed a submission form that covered all four consultation documents. Questions in the submission form either asked for a response on particular issues (using a five-point rating scale from strongly disagree to strongly agree) or contained spaces for written responses to specific questions. Submitters were also free to provide submissions in any format they saw fit.

For the EITT proposals, the submission form contained seven rating scale questions that related to different aspects of the consultation document as well as space to answer the follow-up questions.

A total of 60 submissions were received that contained a specific response to the EITT proposals. Of these, 44 responded on MPI's submission form while there were 16 stand-alone submissions. Only 20 of the submission forms contained written comments as well as responses to the rating scale questions.

1.2 SUMMARY OF SUBMISSIONS

Responses to the five-point rating scale questions are summarised in Table 1 below.

Table 1. Summary of responses to the rating scale questions in MPI's submission form relating to EITT proposals

Question	Number of responses to rating					Total number of responses
	Strongly disagree	Disagree	Neither	Agree	Strongly Agree	
Do you agree with the description of the EITT state?	1	2	15	15	4	37
Do you agree with the description of the EITT problem?	1	3	13	13	4	34
Do you agree with the EITT objectives?	1	2	12	13	6	34
Do you agree with the range of options addressed?	1	5	14	10	3	33
Have the correct EITT assessment criteria been identified?	2	2	12	11	6	33
Do you agree with the EITT application process and costs set out in Annex II	2	1	20	5	3	31
Do you agree with the EITT identified risks?	1	1	15	10	1	28

Table 1 clearly indicates that the most common response to six of the seven questions was "neither". MPI interprets this to mean that, in most cases, the respondent was not able to provide an informed response to MPI's proposals. Additionally, several submissions contained wording to the effect that the submitter did not know enough about the proposals to provide an informed response.

Relevant submissions are summarised below. This includes analysis of the rating scale questions together with written responses.

1.2.1 Description of EITT state

This section of the consultation document provided some background information on the number of vessels that use trawling as a fishing method and the proportion of total catch taken by trawling. It also set out some of the drivers for innovation.

19 of the 37 rating scale responses to this question agreed or strongly agreed with MPI's description of the current state. Many of the submitters that neither agreed nor disagreed commented that they either didn't know anything about it or weren't involved in trawl fisheries.

A common theme was that submitters felt that the focus of trawl innovation should be on better environmental outcomes with improving product quality as the secondary objective. Some submitters commented that improving selectivity would reduce discarding, which would be a better option than the electronic monitoring proposed in a separate consultation document.

1.2.2 EITT problem definition

The problem definition section of the consultation document detailed how the prescriptive nature of the existing regulatory regime governing the use of trawl gear hindered innovation.

17 of 34 rating scale responses to this question agreed or strongly agreed with the problem definition outlined in the consultation document.

Submitters who disagreed with the problem definition felt that it did not take into account the need for better environmental outcomes.

1.2.3 EITT objectives

The consultation document set out five high-level objectives for EITT. These are set out in the Executive Summary.

19 of 34 rating scale responses to this question agreed or strongly agreed with EITT objectives that were set out in the consultation document.

Again, several submitters felt that objectives should focus on environmental outcomes.

1.2.4 Range of options proposed

The four options MPI proposed in the consultation document spanned the range from use of existing non-regulatory measures to deregulating the use of trawl gear. MPI's preferred option was to amend regulations to enable innovative trawl technologies to be assessed and approved by the Director-General.

13 of 33 rating scale responses to this question agreed or strongly agreed with the range of options proposed by MPI. MPI's preferred option was favoured by the majority of submissions that expressed a preference.

Some submitters questioned MPI's rationale for including the deregulation of trawl gear as an option and felt it was a poor option to have included.

Other options that submitters felt should have been included were:

- Increasing minimum net mesh sizes to reduce catch of small fish
- Introduction of square mesh nets and escape hatches in trawl nets[1]

1.2.5 Assessment criteria

The consultation document set out proposed criteria by which the performance of innovative trawl gear could be assessed against conventional trawl gear. Examples proposed by MPI included species and size composition of catch, impact on protected species and benthic impacts.

17 of 33 rating scale responses agreed or strongly agreed that the correct assessment criteria had been identified.

One submitter noted that the term "conventional trawl gear", as used by MPI in the consultation document, is somewhat of a misnomer. Existing regulations already provide for multiple designs and materials including the use of square mesh.

Several submissions addressed the issue of criteria. Some reiterated the need for criteria to be clear while others sought to be involved in the process of developing performance criteria.

Submitters were asked whether there were any other assessment criteria that should be considered. Two thought that fuel efficiency should be considered while others felt that survivability of fish released after being taken by innovative trawl gear should also be considered.

1.2.6 Application process and costs

The consultation document provided an outline for how the process of assessing and approving use of new trawl technologies could operate. It also proposed a cost of around $150 per hour for the approvals process.

Only 11 of 31 responses to this question provided a response other than "neither". Eight agreed or strongly agreed with the proposed application process and costs.

Some submissions noted concerns that the proposed process, together with the associated costs, could prove a barrier to applicants operating on small budgets. Some suggested the Crown and industry should provide financial assistance while another noted that understanding the standard of evidence required on a case by case basis was important.

The proposed process noted MPI's preference for the use and uptake of approved trawl gear to be tracked by MPI. Some submitters did not agree with this proposal. One noted that a separate method code would be sufficient and that notification of intent to use approved gear appeared unnecessary. Another submission, however, suggested that MPI should condition approvals of innovative trawl gear to approved manufacture together with gear identification in order to facilitate monitoring. This approach would also contribute to ensuring that ongoing performance of approved gear was comparable to that achieved during controlled trials.

[1] Use of square mesh nets and escape hatches on trawl nets is already provided for under existing regulations. The choice of whether to use them is up to fishers.

1.2.7 Risks

The consultation document outlined the potential risks associated with MPI's preferred option. These included: the proposed process and associated costs could be a disincentive for innovation; the need for approved gear to be able to be identified in data reporting; and the need to ensure all regulations were drafted appropriately.

11 of the 28 responses to this rating-scale question agreed or strongly agreed with the identified risks. Other potential risks identified in submissions included:

- Conflicts of interest between innovators, FishServe, fishing companies and IEMRS[2] systems;
- Intellectual propriety costs reducing uptake;
- Lack of transparency in the assessment process.

1.2.8 Other matters raised

Enabling use of net sonde cables

A net sonde cable is defined in regulations as a continuous cable or wire that is operated from the stern of a fishing vessel and leads directly to an electronic recorder or monitor attached to a trawl net. Use of such cables was prohibited in 1992 in response to the number of seabird fatalities caused by the cables in the years immediately prior to the prohibition.

Several submissions noted that trawl monitoring systems that use a cable to transmit data (including real time video) from the net to the vessel can provide considerably more information than the wireless systems currently in use in New Zealand. They contend that an enabling provision providing for use of these systems would enhance the use of innovative trawl technology.

Amending the current prohibition on the use of net sonde cables is beyond the scope of this process. MPI notes, however, that a small number of special permits have been issued in recent years to provide for trialling of such cables. Depending on the outcome of the trials, MPI may contemplate providing for wider use of net sonde cables.

Requiring mandatory use of innovative trawl technology

Several submitters were concerned that MPI may require use of innovative trawl technology once it had been approved. MPI can confirm that the intent of the proposal is for fishers to be able to choose between the trawl gear currently provided for and any approved innovative trawl technology.

Why only trawling?

Some submitters thought that any improvement in fishing gear in terms of catch value and sustainability should be within the scope of the regulatory amendment. The rationale for restricting the proposal in the consultation document solely to trawl gear was that MPI is not aware of regulatory constraints applying to other fishing methods. Submissions did not identify any other methods where regulatory amendment was necessary to encourage innovation.

[2] Integrated Electronic Monitoring and Reporting System

Extending proposal to on-board handling systems including survivability of fish returned to the sea

Two submissions thought that the proposal could be extended to include on-board handling processes including assessing survivability of fish returned to the sea. MPI notes that any consideration of changes to the current requirements relating to returning fish to the sea were contained in Volume II of the Future of our Fisheries consultation documents and are out of the scope of this decision document.

MPI also notes that if a type of innovative trawl gear has objectives relating to product quality, MPI would expect those objectives to have been achieved prior to an application to use that gear on an ongoing basis being lodged. MPI also notes that as there are no existing requirements under fisheries legislation that relate to on-board handling systems or product quality, there would be no justification for considering these in an application to use innovative trawl gear.

Out of scope

Other issues raised in submissions included: the desire to see trawling phased out altogether; no expansion of trawling outside the areas where it currently takes place; and prohibiting trawling in areas where it is currently permitted. These issues were identified at the start of the consultation document as being out of scope. These issues, together with those questioning MPI's investment in the Primary Growth Partnership - Precision Seafood Harvesting Programme and requiring fishers to obtain a resource consent, are acknowledged but are not addressed in this decision document.

Volume IV: Enabling Innovative Trawl Technologies (IEMRS)

Current state

Do you agree with the description of the EITT current state?

Strongly disagree	Disagree	Neither	Agree	Strongly agree

2

Would you like to comment?

Internationally, lobby groups basically say a trawl is a trawl. A trawl that is "better" is still a trawl. This won't change much in that regard, regardless of technology. Some eNGOs have made this very clear. Enabling "alternative" fishing technologies would be a better objective (e.g., better line fisheries), rather than the focus on trawling.
If, however, it increases product quality, then that seems beneficial regardless of societal perspectives.

I agree with enabling innovative trawl technologies, but only if these are properly documented and the associated research is carried out to estimate selectivity, survival etc compared to traditional gear.

I strongly support EITT as I believe there is enormous potential to enable bottom trawls to minimise bycatch and habitat damage issues. There is enormous effort internationally on dealing with these issues and, while they are very challenging to solve, advance in new technology generally are stunning and it is hard to see how some of these could not provide solutions for these issues. We need to keep an open mind and keep trying, but, as with all marine research costs can be prohibitive.

Problem definition

Do you agree with the description of the EITT problem?

Strongly disagree	Disagree	Neither	Agree	Strongly agree

Would you like to comment?

Objectives

Do you agree with the EITT objectives?

Strongly disagree	Disagree	Neither	Agree	Strongly agree
○	○	○	○	○

2

Would you like to comment?

Legislation should allow for the development and use of innovative technologies, but their effects (selectivity, fish survival etc) need to be robustly quantified before widespread use

Options and impact analysis

Do you agree with the range of options addressed?

Strongly disagree	Disagree	Neither	Agree	Strongly agree
○	○	○	○	○

2

Would you like to comment?

Are there other options that we have not considered? If so, what are the potential costs and benefits of these options?

Do you agree with MPI's assessment of each option's contribution to achieving the EITT objectives?

The way this is issue is described in the volume IV document favours option 3 and in principal the case provided in support of this is reasonable and well considered. I believe a fundamental premise that the new technology should not engender more fishing mortality or negative environmental impact than the gear it is intended to replace is a good one. It is also reasonable that the legislation should be agile enough to both encourage the development of new technologies and allow its speedy introduction if proved beneficial.

Lacking in the discussion document is more clarity around the criteria by which new gear technologies would be evaluated. I believe the evaluation process needs to firstly identify/state the intended benefits of the new technology and then to develop evaluation criteria specific to these.

I see most trawl technology potential benefits as falling under one or more objectives:

1. To reduced negative impacts on the environment (e.g. benthic disturbance) and non-target fish species.
2. To reduce mortality of younger fish and thus to increase yield from the stock as a whole (i.e. to optimise yield per-recruit).
3. To increase the landed value of fish, e.g. fish in better condition and of more optimal marketable size.

It could argued that MPI should be primarily concerned with evaluating new technologies under objective 1 & 2 criteria and possibly less concerned with objective 3 criteria.

As stated in my submission under "discarding of fish", the impacts of a new fishing technology should ideally be measured and evaluated on how well it performs in three key areas: encounter avoidance; encounter selection (fish condition after interacting with the gear and then released (sorted) at depth); encounter retention (fish condition after being landed on the vessel deck and subsequently released).

Preferred Option - Amend existing regulations

Have the correct EITT assessment criteria been identified

Strongly disagree	Disagree	Neither	Agree	Strongly agree
○	○	○	○	○

Would you like to comment?

Are there other EITT assessment criteria that should be considered?

Costs

Do you agree with the EITT application process and costs set out in Annex II?

Strongly disagree	Disagree	Neither	Agree	Strongly agree
○	○	○	○	○

Would you like to comment?

Risks

Do you agree with the EITT identifi risks?

Strongly disagree	Disagree	Neither	Agree	Strongly agree
○	○	○	○	○

Would you like to comment?

AUCKLAND CONSERVATION BOARD

Te Runanga Papa Atawhai o Tāmaki Makaurau

[Out of Scope]

Introduction of Innovative Harvest Technologies

Traditional trawl fishing methods can be unselective, resulting in unwanted by-catch and the accidental capture of seabirds, marine reptiles and mammals. Bottom trawling and dredging has long been recognised as one of the most environmentally destructive fishing methods due to the damage caused to natural sea bed communities. The Auckland Conservation

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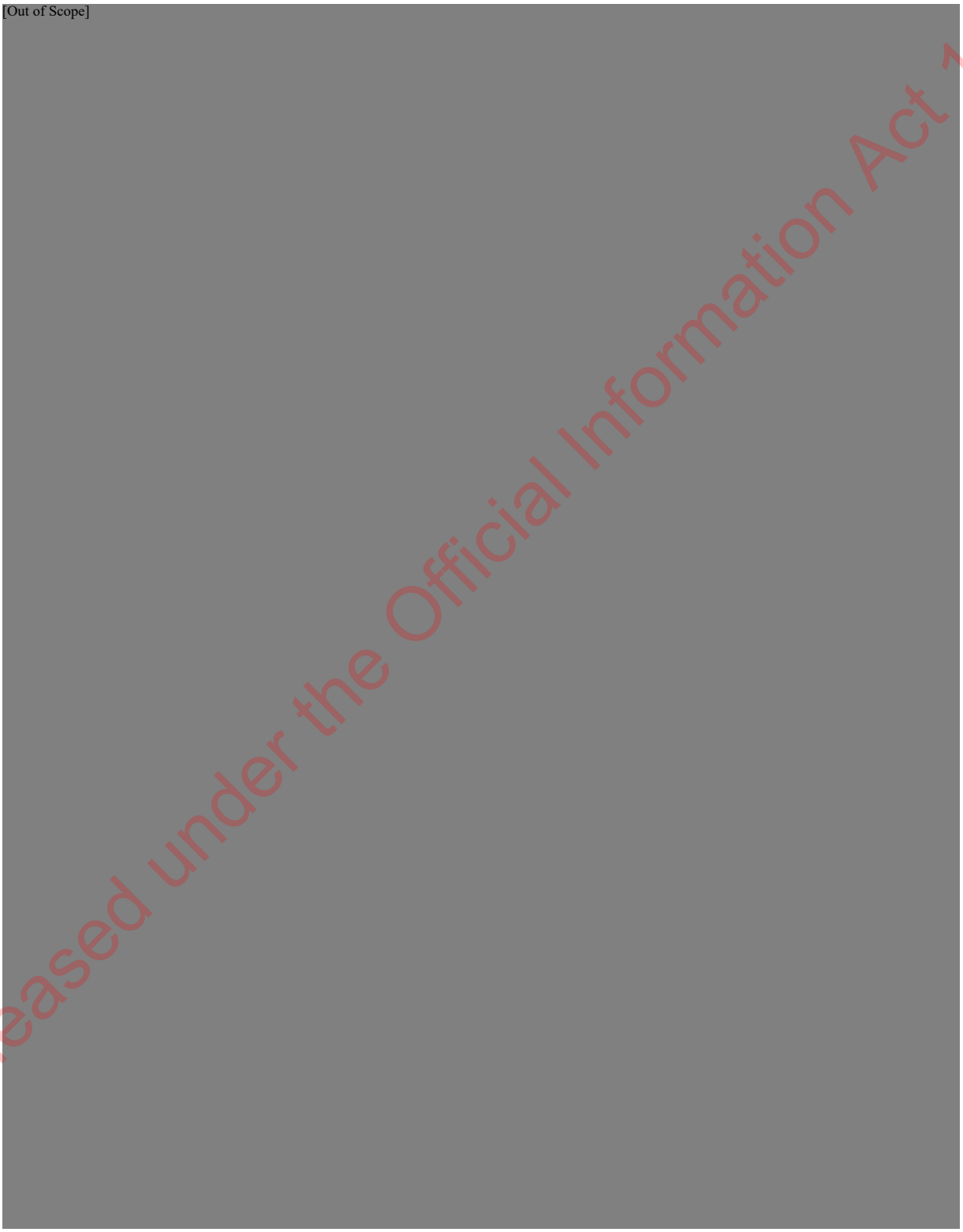
Board welcomes the reduction and elimination of environmental impacts through technological improvements in fishing practices, and is supportive of changes in legal frameworks to promote improved environmental outcomes from the introduction of new fishing technologies. MPI should be actively encouraging innovation in harvesting technologies to increase the value of fished products and reduce the overall environmental impact of fishing activity in New Zealand waters.

[Out of Scope]



Enabling Innovative Trawl Technologies (EITT)

EITT Current State

Sealord is generally in support of the EITT current state as described in the FOOF document noting the following points:

a. The description of trawling is one-dimensional, it implies that a trawl fishery is only about dragging the net. Trawling is about finding the right species and size of fish using combined decades of experience and advanced acoustic technology. In most fisheries the net is deployed with a high degree of accuracy to catch only the targeted fish.
b. We disagree with the statement; "*Conventional trawls rely mostly on net mesh size and shape to select for desirable fish size…*" It is primarily the fishing practice informed by acoustic technology that selects desirable fish size and species.
c. Any changes that can improve the fishing process in terms of catch value and sustainability should be in the scope of EITT – not limited to innovative trawl gear.
d. Net-sonde (third wire) cables to monitor and control trawl nets were banned in the late 80's; advances in wireless systems provided an alternative as the seabird mitigation measures for these cables were not sufficiently evolved. In the last 30 years there have been significant changes to fishing technology and practice; review of this regulation should be in the scope of the Future of our Fisheries proposal.

    i. The rest of the world has continued to use and improve trawl equipment that is enabled by netsonde cables. The applications and potential benefits now far exceed wireless monitoring, the development of which has remained relatively static.
    ii. Management of seabird interaction with trawl gear has steadily improved. Deploying bird bafflers and managing offal discharge have improved the situation so that warp strikes are now uncommon. The use of tori lines can be implemented to further reduce incidence of strikes.

As discussed above Sealord recommends and supports regulatory change that will allow the use of net-sonde cables without the need for a special permit. The drivers for this recommendation are as follows:

a. **Smart fishing:** A net-sonde cable is primarily a data conduit between the net and the bridge. Net monitoring equipment using a wireless data signal, the currently allowed alternative, can provide limited trawl net information with a low data rate. Conversely, a broadband net-sonde cable with an optic fibre connection enables real time video, soundscape and multi-frequency sonar data streams. It also allows for power supply and active control from the bridge of smart fishing technology.
b. **Obstacle avoidance:** Faster data transfer from the net enables more accurate geo-positioning of the gear. Using real-time video link or net mounted trawl sonar will enable a fisher to lift-up and avoid ecologically sensitive areas such as deepwater coral beds. It is also possible with this technology to protect benthic habitat by fishing on some species without the trawl gear touching the bottom.
c. **Catch control:** Changes to the regulation prohibiting the use of net-sonde cables will allow fishers a much greater control over what they are catching. A video link can inform exactly what species are being caught and multibeam trawl sonar can inform on average size. Armed with this information a skipper can decide to move-on if the species or size is not desirable or send a signal to open or close escape panels or the cod-end.
d. Similarly, if an electronically tagged protected species gets into the net, the broadband technology would allow the skipper to detect this and take steps to remove the animal from the net.

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e. **Precision Harvesting:** The use of a broadband net-sonde cable has the potential to significantly assist commercialisation of this innovative new fishing technology in the deepsea fishery. A new approach to catch monitoring (assessing amount of fish in the trawl) is required for PSH; a video link from the PSH system will allow a skipper to control catch and haul the net when the required catch is taken. All smart fishing options will be improved with the combination of real-time monitoring and precision harvesting – as the catch remains swimming in PSH any active control measures can hold or release catch or bycatch in perfect health.

f. **Fisheries science:** Sealord operates New Zealand's most advanced Acoustic Optical System (**AOS**). The MSC certification of our three largest orange roughy fisheries was a direct result of biomass information gathered using this system combined with acoustic fisheries science from CSIRO and modelling by Innovative Solutions Ltd. Operating the AOS in real-time increases the quality of the data, more information can be collected and more vessel time can be spent on the survey areas.
Sealord fully supports the Precision Harvesting programme and endorse the PSH submission to FOOF.

EITT Problem Definition

Sealord strongly agrees with the problem definition in that prescriptive regulations are stifling of innovation and that changing to an outcome based approach will be better for fishing and environmental concerns.

EITT Objectives

Sealord agrees with the objectives noting that it is critical that a clear standard of evidence, required to prove that an innovation performs *"…as well as permitted by existing regulations*", is developed by MPI in the first instance. Fishing companies considering adoption of an innovation that enables catch value or sustainability improvement must be able to evaluate the cost versus benefit before investing in development.

Sealord want to encourage focus on the purpose of the Fisheries Act and caution against simple criteria to evaluate new technologies. Two hypothetical examples…

a. In the case of PSH it is possible that the gear could land 5% more undersized hoki but juveniles escaping at depth have an estimated 70% improvement in survivability. A simple measurement could conclude not as good as conventional but a nuanced assessment from an expert could conclude it a better practice.

b. In an inshore fishery the combination of PSH harvesting and improved in-water on-board handling could lead to a 95% survivability for all fish returned to water. An auditable process driven approach combined with camera oversight could lead to improved sustainability and increased resource value.

Options and Impact analysis

Sealord strongly agrees that the options are a reasonable spectrum between do-nothing and deregulation noting the following points under each of the questions in the submission guide.

Question: *Are there other options that we have not considered? If so, what are the potential costs and benefits of these options?*

A literal reading of "innovative trawl gear" leaves outside the scope changes to net-sonde regulations and onboard handling. This wording should be changed or better defined to represent the whole scope of trawl fishing and allow any potentially beneficial innovation for review.

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Another option would be similar to the preferred #3, with an expanded scope to include innovations outside of "trawl gear".

Question: *Do you agree with MPI's assessment of each option's contribution to achieving the EITT objectives?*

Under option #4 it is indicated that deregulating trawl gear would be against supporting sustainable use of fishery resources. It is in no stakeholder's interest to fish unsustainably least of all quota holders and it is stated that fishermen would be required to achieve sustainability measures. This section is worded poorly in a way that encourages disharmony between the fishing sectors.

Preferred Option – Amend Existing Regulations

Sealord agrees with the preferred option of amending the Existing Regulations. The four criteria are good categories to assess innovative technology. However, reasonable assessment requires understanding of the total net benefit for fishery from proposed innovation. Refer the two hypothetical examples outlined above.

It is important to recognise the role that special permits play as a low cost and low threshold method of evaluating early innovative concepts. The transition from special permit to commercial / regulatory validation is a big step and needs to be based on good early results to justify expenditure.

While an innovation is in the special permit stage MPI should communicate case specific assessment. And how to define total net benefit as assessed by independent experts.

Net-sonde cables will improve the ability to collect data for regulation of trawl innovations and as discussed above in our submission only enhance the amendments being considered.

EITT Costs

Sealord agrees with the approach outlined.

EITT Risks

Sealord agrees with the risks outlined noting that a well-documented pathway for innovation from special permit to regulatory approval will reduce the risk of stifling innovation. Understanding the standard of evidence required for an individual case and the ongoing assessment and monitoring costs will help.

[Out of Scope]

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[Out of Scope]

Doug Paulin GM – Group Operations Sealord Group Ltd

[Out of Scope]

5 Regulatory proposals

5.1 Enabling innovative trawl technologies (EITT)

80. MPI proposes to amend regulations relating to trawl net restrictions to enable the use of innovative trawl technologies. This is prevented by the current prescriptive wording of regulations. MPI's preferred option is to amend the regulations to allow the Director General to assess and approve new trawl technologies based on performance based criteria promulgated through regulation and circulars. The industry supports this option with the modification that the approach should be expanded to allow any new commercial fishing gear that would be precluded by the current regulations but meets the performance criteria.

81. The performance criteria could be used to consider approval of changes to gear not currently allowed by regulation that improve:

- the selectivity of gear with respect to species or size of fish;
- the extent of environmental impact (e.g., interaction with protected species);
- the quality, and survivability, of fish landed on the vessel; or
- the efficiency of the gear, including through fuel savings.

82. Such a regulatory framework will be necessary to deliver the benefits of the industry and government investment in Precision Seafood Harvesting (PSH). As with PSH, initial trials and assessment could take place using a special permit before approval for commercial use. Ongoing monitoring of the new gear would be facilitated by creating a discrete method code to be provided in statutory reporting. Notification of intent to use the gear once approved would seem unnecessary. Costs for MPI approval should be kept to a minimum so as not to discourage innovation and as improvements will benefit all sectors, the Crown should provide assistance towards such innovation.

[Out of Scope]

[Out of Scope]

Innovative harvest technologies

Forest & Bird would support innovative harvest technologies where they demonstrate significantly improved environmental outcomes. Forest & Bird would want to see how new harvest technologies would be assessed. Recent experience with the certification of orange roughy gives little confidence in industry-led processes.

MPI should also strongly drive industry to existing low-impact technologies where they exist such as shifting the squid fisheries from trawling and jigging. The failure of MPI to transition the squid trawl fishery to jigging on environmental grounds does not give Forest & Bird great confidence in MPI's commitment to seriously lifting the environmental performance of fishing gear.

[Out of Scope]

Option 2: Encourage and enable innovative harvest technologies.

- We strongly support greater flexibility for industry to innovate in gear types. In particular, we support Precision Seafood Harvest being able to be used as soon as it is ready by industry. We urge that this be classified as a modular harvest system and not trawl gear.
- It is simply impractical for the Ministry or for that matter society to require that all fish species can be caught by line. Flat fish are but one example and ironically where the trawl alternative "set netting" is also under attack from NGOs.
- This is poorly considered policy. The implications for gear conflict given the increased number of longlines and hooks in the water needed to catch the volumes of fish traditionally taken by trawl between and within sectors (commercial /recreational and customary) will become immense let alone increase bird by-catch risks.
- Bottom contact gear is inevitable for some species. We would suggest that the first focus should be to restrict such activity within agreed zones. Limiting the trawl footprint means we can then take a more detailed look at the full implications of trawling in such zones and make considered management decisions based on more detailed information.

[Out of Scope]

3. Enabling innovative trawl technologies: Proposed regulations to allow innovative trawl gear to be approved for commercial use. This would partially deregulate trawl gear controls.

[Out of Scope]

- ***"Encourage innovative harvesting technologies"*** (Volume IV proposals – Regulatory Option 2).
  This proposal should not be limited to trawl fisheries – all fisheries should innovate in an open and transparent way - but only if it reduces the environmental impacts and "footprint". It is doubtful that the so-called "Precision Harvesting" will actually benefit the environment. There are clearly problems with capture of juvenile snapper and it doesn't avoid the impacts of bottom trawling destroying benthic species (eg corals, bryzoans and other species). It is also unclear what are the effects on seabirds, marine mammals, sharks and other threatened or at risk species.

[Out of Scope]

Volume IV: Enabling Innovative Trawl Technologies (IEMRS)

Current state

Do you agree with the description of the EITT current state?

Strongly disagree	Disagree	Neither	Agree	Strongly agree
o	o	o	o	o

Would you like to comment?

This proposal should not be limited to trawl fisheries – all fisheries should innovate in an open and transparent way - but only if it reduces the environmental impacts and footprint.

It is doubtful that the so-called "Precision Harvesting" will actually benefit the environment. There are clearly problems with capture of juvenile snapper and it doesn't avoid the impacts of bottom trawling destroying benthic species (eg corals, bryzoans and other species). It is also unclear what are the effects on seabirds, marine mammals, sharks and other threatened or at risk species.

The Ministry sets out what it considers are the "primary benefits of trawling" without identifying the costs of, or damage from trawling. Nor is there consideration of the benefits of the use of other methods and the fish include caught by alternative methods eg snapper by longline, jack mackerel and trevally by purse seine. There is also no comparison between true mid-water trawls – which are not close to the bottom, and those fished near or on the bottom, such as hoki or squid.

The suggestion that factory vessels and on-board/at-sea processing are a benefit is arguable especially if it doesn't consider what alternative methods may result. In addition, large long-line vessels have process catch on board so the analysis is flawed.

The Ministry should consider and create incentives (but not subsidies) for alternatives to trawling which have a lower environmental footprint eg squid jigging as opposed to trawling. Most species are caught by multiple methods each having their own environmental footprint.

The discussion does not consider the concern internationally about bottom trawling and other damaging fishing methods, nor does it acknowledge or discuss the commitments globally to protect vulnerable marine ecosystems (VMEs). These include UNCLOS, the Fish Stocks Agreement, the UNGA resolutions and the work by the FAO.

Of particular importance are the UNGA resolutions 71/123 (2016), 64/72 (2009), particularly

paragraphs 119[i] and 120,[ii] and resolution 66/68 (2011),[iii] as well as resolution 61/105[iv] (2006) and the 2008 United Nations Food and Agriculture Organisation International Guidelines for the Management of Deep-Sea Fisheries in the High Seas (FAO Guidelines).[v] This includes ensuring the sustainability of deep-sea stocks and non-target species.

MPI needs to assess cumulative impacts of trawling, including past impacts from bottom fishing and impacts from other sources than bottom fishing, such as from ocean acidification and climate change and take further measures to protect VMEs accordingly

This should include the use of environmental assessments to assess the impact of catches in the environment.

Problem definition

Do you agree with the description of the EITT problem?

Strongly disagree	Disagree	Neither	Agree	Strongly agree
O	O	O	O	O

Would you like to comment?

The problem definition here is a relatively minor issue. The real problem is the impact of bottom trawling on benthic species and modifying benthic habitat, and the bycatch including invertebrates as well as protected species.

Regulatory requirements, penalties and incentives are needed to move away from bottom trawling and to more benign fishing methods.

Objectives

Do you agree with the EITT objectives?

Strongly disagree	Disagree	Neither	Agree	Strongly agree
o	o	o	o	o

agree

Would you like to comment?

The objectives should focus on reducing the environmental footprint of bottom fishing and moving to other methods – adding value should be a secondary objective of any new arrangement. The objectives should be to:

- Provide requirements, penalties and incentives to reduce the environmental footprint of the fishing method;
- Protect vulnerable marine ecosystems;
- Avoid catching protected or threatened species.
- Ensure enforceability is not compromised;
- Require publicly reviewable environmental assessment processes and processes to ensure that these are relevant, publicly available and reviewed.

The lost opportunities are the failure of the fishing industry to develop fishing techniques that avoid bottom fishing and reduce the overall impact of bottom fishing.

Options and impact analysis

Do you agree with the range of options addressed?

Strongly disagree	Disagree	Neither	Agree	Strongly agree
o	o	o	o	o

Would you like to comment?

The options look only at trawling and do not consider general penalties, rules and incentives created by regulations to reduce the environmental footprint of the fishing industry.

Are there other options that we have not considered? If so, what are the potential costs and benefits of these options?

Existing regulations should be amended (option 3 is the closest) to provide for a phase out of bottom trawling and damaging Danish seining methods. The industry must be provided with decision structures and penalties that incentivize fishing methods and practices that reduce the environmental footprint of fishing.

Do you agree with MPI's assessment of each option's contribution to achieving the EITT objectives?

ECO agrees there need to be clear criteria to assess proposals to develop new fishing methods but old ones also should be assessed.

Preferred Option - Amend existing regulations

Have the correct EITT assessment criteria been identified?

Strongly disagree	Disagree	Neither	Agree	Strongly agree
o	o	o	o	o

Would you like to comment?

ECO agrees there need to be clear criteria to assess proposals to develop new fishing methods.

This process is an equivalent of an environmental assessment process and should be undertaken in a way that is public and transparent.

Are there other EITT assessment criteria that should be considered?

Other assessment criteria that should be included are:

- Ensure it improves and does not reduce the sustainability of target, bycatch and impacted species and ecosystems.
- Impact on threatened species – not just protected species eg does it increase shark bycatch or that of other chondrichthyans.
- Impact on vulnerable marine ecosystems as defined by the UN General Assembly and the FAO.

Costs

Do you agree with the EITT application process and costs set out in Annex II?

Strongly disagree	Disagree	Neither	Agree	Strongly agree
o	o	o	o	o

Would you like to comment?

The application process must be transparent and involve clear environmental assessment procedures. This includes:

- Clear processes to assess the efficacy of any method prior to a commercial trial;
- Comparison between different methods using MPI observers to assess the methods.

This should be a cost recovered process but the whole cost recovery arrangements need to be reviewed so that the status quo in gear, TACs, etc, don't become fossilized and that it does not drive industry capture of fisheries research and management.

The cost recovery system as currently applied creates poor incentives to carry out environmental research and assess the impacts of different fishing techniques.

Risks

Do you agree with the EITT identified risks?

Strongly disagree	Disagree	Neither	Agree	Strongly agree
o	o	o	o	o

Would you like to comment?

There are other risks that need to be managed as part of any decision process. These include:

- Conflicts of interests eg between innovator, FishServe, fishing companies, and IEMRS systems;
- Intellectual proprietary costs reducing uptake of methods that will reduce environmental impacts of trawling or other methods;
- Potential for orphan and mis-directed investment in bottom trawling when the technique is being questioned globally by decision makers and consumers so that trawlers become "stranded assets". – a obsolete technology whose owners then fight to retain the right to use in the face of environmental and reputational damage to New Zealand.
- Lack of transparency in the assessment system based on recent spin without much light on the so-called "precision harvesting" method;
- Trial and coverage will be insufficient to prove that the system works.
- ECO opposes the subsidies to this precision harvesting project since it seems to have few environmental benefits and has only private benefits to the industry. It is not deserving of the lavishing of public funds it has had, given the lack of environmental benefits.

[i] UNGA Resolution 64/72 (2009) paragraph 119(a): Conduct the assessments called for in paragraph 83 (a) of its resolution 61/105, consistent with the Guidelines, and to ensure that vessels do not engage in bottom fishing until such assessments have been carried out.

[ii] UNGA resolution 64/72 paragraph 120: "Calls upon flag States, members of regional fisheries management organizations or arrangements with the competence to regulate bottom fisheries and States participating in negotiations to establish such organizations or arrangements to adopt and implement measures in accordance with paragraphs 83, 85 and 86 of its resolution 61/105, paragraph 119 of the present resolution, and international law, and consistent with the Guidelines, and not to authorize bottom fishing activities until such measures have been adopted and implemented."

[iii] A/RES/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 (to be issued).

[iv] At http://www.un.org/Docs/journal/asp/ws.asp?m=A/RES/61/105.

[v] FAO, International Guidelines for the Management of Deep-Sea Fisheries in the High Seas (2009). At http://www.fao.org/docrep/011/i0816t/i0816t00 htm.

Volume IV: Enabling Innovative Trawl Technologies (EITT)

Current state

Do you agree with the description of the EITT current state (please tick only one box)?

- Strongly disagree ☐
- Disagree ☐
- Neither ☐
- Agree ☐
- Strongly Agree ☐

Would you like to comment?

Problem definition

Do you agree with the description of the EITT problem (please tick only one box)?

- Strongly disagree ☐
- Disagree ☐
- Neither ☐
- Agree ☐
- Strongly Agree ☐

Would you like to comment?

Objectives

Do you agree with the EITT objectives (please tick only one box)?

Strongly disagree	☐
Disagree	☐
Neither	☐
Agree	☐
Strongly Agree	☐

Would you like to comment?

Options and impact analysis

Do you agree with the range of options addressed (please tick only one box)?

Strongly disagree	☐
Disagree	☐
Neither	☐
Agree	☐
Strongly Agree	☐

Would you like to comment?

Are there other options that we have not considered? If so, what are the potential costs and benefits of these options?

No there aren't but I would like to see a more rapid move to systems that are showing better protection for juvenile stocks. There needs to be changes in Law that allow the return of these juvenile fish to the sea. Proven systems to date are still being used scarcely.

Do you agree with MPI's assessment of each option's contribution to achieving the EITT objectives?

Preferred Option – Amend existing regulations

Have the correct EITT assessment criteria been identified (please tick only one box)?

Strongly disagree	☐
Disagree	☐
Neither	☐
Agree	☐
Strongly Agree	☐

Would you like to comment?

Are there other EITT assessment criteria that should be considered?

Costs

Do you agree with the EITT application process and costs set out in Annex II (please tick only one box)?

Strongly disagree	☐
Disagree	☐
Neither	☐
Agree	☐
Strongly Agree	☐

Would you like to comment?

Risks

Do you agree with the EITT identified risks (please tick only one box)?

Strongly disagree	☐
Disagree	☐
Neither	☐
Agree	☐
Strongly Agree	☐

Would you like to comment?