

Chair  
Cabinet Economic Growth and Infrastructure Committee

## **Improving fisheries management through an Integrated Electronic Monitoring and Reporting System (IEMRS) and Enabling Innovative Trawl Technologies (EITT)**

### **Proposal**

1. I seek Cabinet agreement to strengthen the New Zealand fisheries management system through new regulations made under the Fisheries Act 1996 to:
  - Require fishing permit holders to use electronic catch reporting, geospatial position reporting and electronic (camera) monitoring of commercial fishing activity, and
  - Enable the use of innovative trawl technologies.

### **Executive Summary**

2. Fishing is important to the New Zealand economy and our society, contributing 16,000 jobs and \$4.2 billion in total economic activity.
3. Our fisheries management system, built around the 1986 Quota Management System (QMS), is designed to ensure the sustainability of our fisheries. There has been considerable social and economic change during intervening years and the emergence of new technologies, alongside significant developments in how fisheries and aquatic ecosystems are managed around the world.
4. In response to these changes, I announced a review of the fisheries management system to be conducted on my behalf by the Ministry for Primary Industries (MPI). Then in 2016, MPI consulted on the Future of our Fisheries work programme. This programme will be delivered over five years, and comprises:
  - Three strategic proposals (maximising value from our fisheries, better fisheries information, agile and responsive decision-making); and
  - Two regulatory change proposals:
    - i. Integrated Electronic Monitoring and Reporting System (IEMRS); and
    - ii. Enabling Innovative Trawl Technologies (EITT).
5. This paper covers the two regulatory change proposals included in the Future of our Fisheries programme. The proposed changes will provide for significant improvements in fisheries information and fishing technologies, thereby addressing existing issues in fisheries management and positioning the management system well for the future.

6. IEMRS is expected to provide important contributions to Future of our Fisheries strategic proposals. These include:
- Reduction of wastage in commercial fisheries: Camera monitoring of commercial fishing operations by IEMRS will encourage full catch reporting and eliminate discarding of unreported catch.
  - Improvement of the information base to support fisheries management: Timely catch reporting and monitoring via IEMRS will improve the information base for setting sustainable catch limits. This presents a significant opportunity to improve the value realised from commercial fisheries, particularly for those stocks for which there is currently limited information.
  - More responsive decision-making: The availability of more comprehensive, timely and fine-scale information on fishery interactions with fish stocks and the environment will enable a decision-making framework that is more responsive to risk, and better able to assure the sound environmental performance of New Zealand fisheries.
7. In addition, EITT is integral to the Future of our Fisheries strategic initiative to maximise the value of fisheries, enabling more efficient utilisation of commercial fish stocks that eliminates catch that is of sub-optimal size and allows catch to be landed in a state that maximises opportunities for value-added processing.

*Integrated Electronic Monitoring and Reporting System (IEMRS)*

8. IEMRS will provide verifiable, accurate, integrated and timely data on commercial fishing activity to inform decisions of fisheries managers in Government and industry. IEMRS will cover all New Zealand commercial fishing activity (excluding aquaculture) within New Zealand waters, land-based commercial fishing operations, and on the high seas. There will be three components to IEMRS:
1. Electronic reporting of all commercial fishing catch and fishing effort
  2. Position reporting from vessels and land-based fishing operations, and
  3. Electronic monitoring of fishing activity through the mandatory use of cameras on-board commercial fishing vessels.
9. Better and verifiable information from commercial fisheries will contribute to significant improvements in fisheries management. For example, IEMRS information will enable more accurate determination of the actual fish catch in at-sea and land-based fisheries, relative to the total allowable commercial catch set under the QMS. IEMRS will also provide more information on capture and disposal of non-target species (discards), protected species and undersize fish.

10. In addition to enabling significant improvements in fisheries management, IEMRS is expected to generate economic benefit for New Zealand. [REDACTED] s9(2)(f)(iv)
- [REDACTED] Monetised benefits result from, for example, securing and increasing access for New Zealand's wild-caught seafood to premium markets that require assurance of sustainable fish production and 'boat to plate' tracking.
11. IEMRS also delivers substantial non-monetised benefits. The introduction of IEMRS will increase public confidence in New Zealand's fisheries and fisheries management system, strengthen our international reputation and help minimise the impact of commercial fishing on the aquatic environment.
12. Costs for IEMRS will be shared between Government and industry. MPI's cost of implementing the programme is estimated at \$16.7 million over 15 years. Industry costs will include equipment purchase and data transfer to comply with IEMRS. This is estimated at \$28.6 million over 15 years. Costs for each fishing permit holder of complying with IEMRS will vary, for example, depending on equipment they already possess, and the size of the vessel and therefore the number of cameras required. Cost recovery is expected to include review of camera imagery and associated data, and data management costs post roll-out.
13. During consultation, key concerns expressed in submissions included timeframes, costs of implementation, potential for fishers to exit the commercial industry, and privacy of on-board crew. All submissions were carefully considered.
14. I propose to amend regulations made under the Fisheries Act 1996 (the Act) to provide for the three components of IEMRS.

#### *Enabling Innovative Trawl Technologies (EITT)*

15. EITT will provide for the use of new trawl technologies to catch better quality fish, reduce catch of unwanted fish, improve efficiency of trawl activity, and will also lead to better environmental outcomes.
16. The proposal presents significant improvements for the commercial fishing industry as existing regulations are very prescriptive, and are hindering innovations for trawl fishing gear. Trawling is New Zealand's most important commercial fishing method, with around 85 percent of total catch taken using trawl methods.
17. During consultation, concerns were raised about the need for a clear and transparent assessment process and minimising costs to applicants. All submissions were carefully considered.
18. I propose amending regulations made under the Act to allow for flexibility in assessing and approving new trawl fishing gear for commercial use by the Director-General of the Ministry for Primary Industries.

19. Establishment costs for EITT will be shared between Government and industry, with cost recovery consistent with existing practices. Innovative trawl gear development and trialling costs will be met by the individual applicant. MPI costs consist of an establishment cost of around \$115,000 with ongoing future costs of between \$155,000 and \$225,000. MPI will charge a fee of \$150.65 per hour (including GST) to process applications.
20. I will consult with Cabinet on the work programme for the strategic proposals of the wider Future of our Fisheries programme in June 2017.

## **Background**

21. Fishing is important to the New Zealand economy and society. Overall, fishing contributes some 16,000 jobs and about \$4.2 billion in total economic activity.
22. Our fisheries management system has three sectors, customary, recreational and commercial, and is built around the QMS. The total allowable commercial catch is set for all QMS stocks based on the best available information on the amount of fish that can be sustainably harvested. Anyone with a commercial fishing permit may catch fish but this must be balanced against an Annual Catch Entitlement (ACE). Most fish meant for sale must be landed to licensed fish receivers.
23. Tangata whenua are inextricably linked to New Zealand's seas and fisheries by whakapapa, and over 200 kaitiaki have been appointed to exercise guardianship over marine resources. Forty-two mataitai and ten taiapure reserves have been established to provide for tangata whenua's special relationship with their traditional fishing grounds.
24. Fishing is a popular recreational activity for many New Zealanders – approximately 700,000 people fish each year, spending around \$946 million.
25. The QMS is 30 years old and the Fisheries Act 1996 is 20 years old, and there has been considerable social and economic change during intervening years. This includes increased recreational fishing, greater public recognition of the value of the marine environment, and growing consumer awareness of the environmental impact of commercial fishing. There have also been significant developments in new fishing technologies and how fisheries and aquatic ecosystems are managed around the world.
26. In August 2015, I announced a review of the fisheries management system to be conducted on my behalf by MPI. The aim of the review was to ensure that our fisheries management system is fit for purpose now and in the future.
27. Since then, there have been two phases of engagement and consultation (2015 and 2016). The feedback received during the 2015 engagement was that the fisheries system was generally sound but could be improved with a focus on 'strengthening the core' and 'building for the future' (Sub 16-0089 – EGI-16-Min-0294 refers).

28. In response, MPI developed three strategic policy proposals and two regulatory change proposals for the consultation on the Future of our Fisheries programme in November and December 2016. The consultation covered:
- Three strategic policy proposals looking at: maximising value; better fisheries information; and agile and responsive decision-making;
  - Two regulatory change proposals:
    - i. Providing accurate, integrated and timely reporting and monitoring data on commercial fishing activity to inform fisheries management decisions by both Government and industry, using an Integrated Electronic Monitoring and Reporting System (IEMRS); and
    - ii. Creating a regulatory regime that enables the development of innovative trawl technologies (EITT) for commercial use.
29. This paper covers the IEMRS and EITT regulatory proposals. Implementation of these two proposals will address existing issues (detailed below) and ensure that the fisheries management system is well positioned for future developments progressed through the wider Future of our Fisheries programme.
30. Implementing proposals for IEMRS and EITT requires amendments to regulations under the Act. These proposals do not require changes to the Act itself. However, further regulatory or legislative changes may be necessary to implement strategic proposals under the wider Future of our Fisheries Programme. I expect to consult with Cabinet on those strategic proposals in more detail in June this year.

## **Proposals for the amendment of Fisheries regulations**

### ***Part 1: Integrated Electronic Monitoring and Reporting System (IEMRS)***

31. The purpose of IEMRS is to provide verifiable, accurate, integrated and timely data on commercial fishing activity (catch and effort) to support decision-making by fisheries managers in Government and industry. IEMRS covers three components: electronic reporting; position reporting by vessels and for land-based fishing activity; and electronic monitoring of fishing activity through the mandatory use of cameras on-board commercial fishing vessels. All New Zealand commercial fishing activity (excluding aquaculture) within New Zealand waters, conducted from land (e.g. eel fisheries, hand-gathering of shellfish), and on the high seas will be covered.
32. Currently, commercial fishing permit holders are required to provide catch-effort reports but these vary across different fisheries and use a largely paper-based system. Electronic reporting and geospatial position reporting are in place now on about 10 percent of commercial fishing vessels on either a voluntary or mandatory basis. Electronic monitoring is in place on a voluntary basis on less than 1 percent of commercial vessels.
33. Licensed fish receivers are also required to provide returns that document the amount and species of fish that they receive from permit holders. 98 percent of the 206 licensed fish receivers already file their returns electronically.

34. The introduction of IEMRS will provide better information on commercial fishing that will help resolve key fisheries management issues, including:
- Reducing waste in fisheries by monitoring disposal activities of fishers, particularly for inshore fisheries;
  - Managing the environmental impacts of fishing including protected species bycatch;
  - Supporting fish stock management including setting catch limits;
  - Strengthening public confidence in fisheries management through verifiable information;
  - Supporting requirements of third party sustainability assessments; and
  - Supporting market access requirements that require 'boat to plate' tracking.
35. Three options for commercial fisheries reporting and monitoring systems were consulted on:
1. Retaining the status quo of monitoring and paper-based reporting;
  2. Implementing only the electronic reporting and position reporting components of IEMRS; and
  3. Implementing all three elements of IEMRS including electronic (camera) monitoring.
36. Implementation of all three components of IEMRS is the preferred approach to deliver most effectively on the overall purpose of IEMRS and the information needed to address the key fisheries management issues identified above.
37. Fishing activity will be recorded by five types of 'event' to provide consistent information across all fisheries. This will help support integration between the electronic reporting and monitoring information captured by cameras. Where appropriate, events will be designed to reflect information already captured on paper-based forms to ensure continuity of existing data sets. The five events are:
1. Fish catch event;
  2. Non-fish and protected species catch event;
  3. Processing event;
  4. Landing event; and
  5. Disposal event (includes return to sea, bait use).

38. I propose that all commercial fishing permit holders be required to implement the components of IEMRS as follows:
1. Complete event-based mandatory electronic catch and fishing effort reporting in a timely<sup>1</sup> manner for all fisheries (electronic reporting);
  2. Provide automated position reporting of the locations of all commercial fishing operations (this would include land-based operations, for example, eel fishing); and
  3. Use automated cameras (electronic monitoring) on commercial fishing vessels (but not for land-based fishing).
39. I note that MPI's proposed implementation of IEMRS will broadly take the following approach (Annex 1):
- The progression of IEMRS is enabled by Fisheries regulations;
  - The Director-General of MPI promulgates circulars that articulate the standards and specifications for IEMRS reporting and monitoring which fishing permit holders are required to meet;
  - Permit holders source (and purchase directly themselves) the technologies required to meet MPI's standards and specifications (i.e. MPI will not purchase or supply any IEMRS technologies to permit holders);
  - Permit holders provide fisheries information directly to MPI in accordance with regulatory requirements, as well as standards and specifications articulated in circulars; and,
  - MPI owns that information and is responsible for its management in accordance with Government requirements.

### *Electronic reporting*

40. Currently commercial fishers are required to use a paper-based reporting system set out in regulations, and provide information to MPI within 15 days after the end of the trip or calendar month in which fishing occurred. Paper-based reporting can be time-consuming for all involved (including completing forms, postage, data entry, error resolution) and it may take several months to eliminate errors. While the use of electronic reporting is allowed by regulation, it is voluntary and only used by 10 percent of fishers. The error rate of the paper-based system is significantly higher than the rate for existing users of electronic reporting.
41. Permit holders report different information for different fisheries. For example, catch reporting forms may require only the top five to eight species of fish to be reported and there is not a consistent requirement to report fish caught below minimum legal size<sup>2</sup>. This means that significant numbers of non-target species and undersize fish are not currently required to be reported.

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<sup>1</sup> Permit holders will be required to complete catch and effort reporting and queue reports for submission within a specified timeframe after events conclude.

<sup>2</sup> A limited number of species (13) are subject to minimum legal size limits. Any fisher who catches an undersized fish is required to discard that fish, whether it is alive or dead. These limits, which pre-date the QMS, were imposed to reduce the incentives to catch small fish, on the assumption that harvest at that size would damage the sustainability of the fishery.

42. I consider that mandatory electronic reporting across the commercial fishing sector is the best option to improve the current reporting system, providing for a better understanding of total catch, and allowing for:
- Greater standardisation of data reporting across fisheries;
  - Increased ease of use;
  - Reduced errors from paper forms; and
  - Efficient integration of catch and effort data with electronic monitoring and geospatial position reporting.

#### Regulations for electronic reporting

43. I propose the implementation of three new reporting requirements:
1. All fishing permit holders to report all information electronically in a more timely<sup>3</sup> manner, compared to the current paper-based requirements;
  2. All reporting is based on 'events' (see paragraph 37); and
  3. Fishing permit holders are to report the total catch, including all sizes of aquatic life, so that requirements are consistent for all fisheries.
44. Current fisheries reporting requirements are set out in the Fisheries (Reporting) Regulations 2001 and the Fisheries (Recordkeeping) Regulations 1990. Retention of reports is covered by existing arrangements and will not change. Regulatory amendment would be required to:
- Support changes in reporting timeframes (e.g. with information recorded as soon as practical after the event and provided directly to MPI in a timely manner after the events are completed);
  - Allow changes in timeframes that permit holders must retain copies of their own catch effort information, after it is received by MPI;
  - Align regulations with changes in data fields that comprise statutory reporting;
  - Enable processes for secure transmission of data direct to MPI;
  - Include equipment malfunction procedures; and
  - Establish arrangements for an orderly transition to electronic reporting.
45. I propose to increase flexibility in reporting by amending regulations to:
- No longer require forms be specified in a reporting regulation;
  - Enable data fields to be stipulated through circulars;
  - Specify the types of information that are required; and
  - Empower the Director-General of MPI to detail the technical specifications for electronic reporting in circulars.
46. I propose that it be mandatory for licensed fish receivers to report electronically, in addition to all commercial fishing permit holders. Of the 206 licensed fish receivers, 98 percent already report electronically, so this requirement would ensure consistency for all licensed fish receivers.

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<sup>3</sup> Permit holders will be required to complete catch and effort reporting and queue reports for direct submission to MPI within specified time periods after events conclude.



## *Geospatial Position Reporting*

47. Currently only some fishing vessels are required to provide MPI with detailed position reporting (e.g. those over 28 metres long, or those used in the orange roughly or scampi fisheries must use Vessel Monitoring Systems (VMS)). Detailed position reporting that provides information analogous to VMS is not currently required for smaller vessels and land-based commercial fisheries (e.g. commercial fishing for eels).

### Regulations for geospatial position reporting

48. I propose to amend regulations to require mandatory position reporting for all fishing permit holders (including land-based operations) to MPI so that the position of events is recorded automatically and securely transmitted to an agreed standard. The regulations would include provision for situations of equipment malfunction. This information will provide verification of fishing activity location for all commercial fishers.
49. I propose the Director-General of MPI be able to make circulars detailing the technical specifications for position reporting technology.

## *Electronic monitoring (cameras)*

### Rationale for electronic monitoring

50. There is currently no accurate way of monitoring or verifying catch-effort or protected species bycatch reporting by fishers unless there is a fisheries observer<sup>4</sup> on-board a vessel. Overall about 8 percent of all commercial fishing activity is monitored by observers, with observers more commonly present on the deepwater fleet compared to inshore fishing vessels. Uncertainty of catch-effort information can lead to:
- Risks in the total allowable commercial catch;
  - Lack of resolution of issues around discarding and protected species;
  - Limited opportunities for value-added markets; and
  - Low public confidence in the management of the impacts of fishing.
51. Due to cost and logistical constraints it is impractical to increase on-board observer monitoring (e.g. some inshore vessels are too small to accommodate an observer). However, observers will still be needed, for example, to collect scientific data and samples, which could not be performed by cameras.
52. Electronic monitoring by use of automated cameras to record events in each fishery will provide verification of fish and non-fish catch in a more cost-effective manner than the use of observers and will provide this monitoring capability across the fishing fleet. Verification of event data involves extracting fishing information from camera imagery and then comparing that information and position reporting information with electronic reports submitted by fishing permit holders.

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<sup>4</sup> A fisheries observer is stationed on-board a fishing vessel to observe and record fishing activity.

53. I propose to require camera monitoring of commercial fishing activity on vessels for up to 24 hours per day to provide for the verification of catch-effort reporting and to monitor total catch retained and disposed of. A proportion of this monitoring information will be reviewed by MPI across fisheries for management and compliance purposes.

#### Electronic monitoring operations

54. Cameras will only monitor fishing and related activities, in those areas of a vessel and for time periods associated with these activities. For example, cameras may be located above deck to monitor fishing gear deployment and catch, and below deck if a fishing vessel has a below-deck fish processing capability.
55. Electronic monitoring is not intended to cover those parts of a vessel unconnected to fishing and fishing-related activities, such as the bridge, crew quarters, messes, heads, and engine room.
56. The duration of camera operation will vary with fishing method and the characteristics of individual fishing operations. For example, cameras may operate for up to 24 hours a day on some very specific areas of the vessel (e.g. discard chutes through which fish waste is disposed to sea). Cameras will capture all activity within a required 'field of view'. Crew and observers working in the field of view will be recorded and their images stored.
57. I propose that circulars set out requirements relating to the required field of view for cameras, to ensure appropriate recording. In addition, regulations will provide for vessel-specific monitoring plans as required by the Director-General of MPI. These plans will need to be approved by the Director-General of MPI and are a mechanism to articulate specific requirements for vessel-based camera monitoring. Plans will specify requirements of how electronic monitoring data would be captured, such as camera placement, field of view, and catch handling procedures for an individual vessel.
58. All camera imagery and associated data will be provided to MPI within a specified timeframe following the conclusion of fishing trips. Currently, this amount of data is too large to electronically transmit so transfer will occur through a specified process, for example by postage of a data hard drive or similar method. The details of the process will be set out by the Director-General of MPI in circulars.
59. Once received by MPI, the camera imagery and associated data will be managed in accordance with government information management requirements, including security provisions.

#### Privacy

60. Privacy concerns raised in stakeholder submissions related to the imposition of electronic monitoring in the work place. MPI completed a privacy impact assessment for this proposal, which showed that there are high risks related to

the large amount of personal information collected, the sensitive nature of the information collected, and the storage security and disposal of the information. In consultation with the Privacy Commissioner and the Government Chief Privacy Officer, MPI has identified appropriate controls that can be used to mitigate these risks.

61. I propose a number of measures to mitigate privacy concerns to meet the principles under the Privacy Act 1993. These include the secure transmission of data to be detailed in circulars, and storage to Government requirements with all data being owned by MPI.
62. This information will be a public record and subject to the Official Information Act 1982 and Privacy Act 1993.
63. All camera imagery and associated data will be provided to and stored by MPI. A substantial quantity of imagery will be accumulated much of which, once processed for review, will no longer be required for fisheries purposes. MPI, subject to agreement of the Chief Archivist, has proposed a Disposal Schedule for these redundant images. The Schedule would set out requirements to retain images for a period of not less than 3 months and then dispose of the unneeded imagery. All other images and associated data are intended to be retained for a period of not less than 7 years.

#### Electronic monitoring implementation

64. Submissions raised concerns that some fishers would exit the industry because they are unable to afford IEMRS technology (electronic monitoring cameras in particular) or because they are opposed to its deployment on their vessels.
65. MPI is unable to quantify this effect with confidence. MPI does not hold information on the profitability of fishing operations or the income of fishers, and therefore cannot assess with any precision whether operators are able to absorb additional costs.
66. MPI also notes that in the past, the commercial fishing industry in New Zealand has undergone significant rationalisation. For example, in the 18 years following the introduction of the QMS in 1986, the number of vessels in the domestic fishing fleet declined from 2,747 to 1,700. The reduction in fleet size by more than 1,000 vessels resulted in a redistribution of catching capacity amongst the remaining operators.
67. More recently, in 2004, southern bluefin tuna was introduced into the QMS. This resulted in a 50% reduction in the number of vessels fishing for that species. Again, catching capacity was redistributed amongst the remaining operators.
68. While rationalisation is recognised as a potential non-monetised cost of IEMRS, it is also expected to facilitate fishers being better able to match their catch with available ACE. ACE must be acquired to cover the catch of QMS species, or a deemed value paid. Currently, ACE is extremely hard to acquire to cover the catch of some species, and this situation creates an incentive for illegal discarding.

69. Prior to implementation of cameras in each fishery, MPI will advise me about implementation matters, including any available information on the number of fishers who may exit the industry as a result of camera deployment.

#### Regulations and circulars for electronic monitoring

70. I propose that new regulations be created under the Act to allow for electronic monitoring of fishing activity. Regulations will:
- Provide for the mandatory installation, maintenance, and servicing of electronic monitoring equipment, including on-board practices required to optimise camera performance (e.g. lens cleaning);
  - Provide for the operation of electronic monitoring systems including cameras for up to 24 hours per day;
  - Provide for camera imagery and associated data describing fishing activity to be captured, stored, and supplied to MPI;
  - Specify required processes (e.g. notifications) for when electronic monitoring equipment stops working;
  - Specify required gear and catch handling practices to provide clear camera views of fishing activity;
  - Not preclude use of other observational technologies including use of observers;
  - Require adherence to a Vessel-Specific Monitoring Plan, if required by the Director-General of MPI;
  - Provide for the technical details of the Vessel-Specific Monitoring Plan requirements to be specified by circular;
  - Allow for the phase-in of electronic monitoring over time, based on the evaluation of risk and the management regime for different fisheries;
  - Specify when electronic monitoring information (imagery and associated data describing fishing activity) must be provided to MPI; and
  - Provide for circulars to be created by the Director-General of MPI to specify technical details of electronic monitoring requirements.
71. I propose that circulars issued by the Director-General of MPI under Fisheries regulations will specify:
- The locations in which cameras are to be installed, and fishing activities to be monitored;
  - Required fields of camera view;
  - Requirement to modify on-vessel operations (e.g. catch handling practices) to enable cameras to effectively capture the necessary imagery;
  - How electronic monitoring imagery and associated data describing fishing activities are to be provided to MPI;
  - Standards and specifications for camera operations;
  - Standards and specifications for imagery captured;
  - Standards and specifications for electronic monitoring hardware;
  - Service and maintenance requirements; and
  - Required content of a Vessel-Specific Monitoring Plan.

## *Compliance and enforcement for IEMRS*

### Electronic reporting

72. The mandatory use of electronic reporting by all vessels, land-based fishers and licensed fish receivers will require amending the existing offences for non-compliance to reflect the electronic nature of reporting (rather than paper-based) and any new time frames for reporting. The associated penalties for non-compliance will remain substantially the same as existing.
73. Existing offences and associated penalties for electronic reporting include:
- Serious offences under applicable provisions of the Act, such as making a false or misleading statement under sections 230 and 231 of the Act, which carry penalties including fines of up to \$250,000, imprisonment, and forfeiture (or \$500,000 and forfeiture for foreign persons)
  - Offences for contravening the reporting and record-keeping requirements in the regulations which carry fines of up to \$100,000
  - Infringement offences for contravening the reporting regulations which carry infringement fees of up to \$750. Infringement offences may be amended to include court-imposed infringement fines of up to \$1,500.

### Geospatial position reporting

74. The mandatory use of position reporting by all vessels and land-based fishers will require extending the existing offences for non-compliance to all permit holders.
75. Existing offences and associated penalties for geospatial position reporting include:
- Serious offences under applicable provisions of the Act, such as making a false or misleading statement under sections 230 and 231 of the Act, which carry penalties including fines of up to \$250,000, imprisonment, and forfeiture (or \$500,000 and forfeiture for foreign persons)
  - Offences for contravening the reporting requirements in the regulations which carry fines of up to \$100,000. These offences will include additional fines of up to \$1,000 per day for continuing the offence (e.g. for continuing to fish without position reporting).

### Electronic monitoring

76. Compliance for electronic monitoring will follow the well-established fisheries compliance model currently used by MPI. This involves an escalating and graduated series of steps working through voluntary measures, assisted compliance and warnings to criminal offences and associated penalties.

77. I propose the offences and level of penalties for failing to comply with the requirements in relation to electronic monitoring will be commensurate with existing offences and levels of penalty for fisheries offences. Broadly speaking this will allow for offences with a maximum penalty of up to \$100,000 and additional fines of up to \$1,000 per day for continuing the offence. There are existing offences in the Act that would apply to failing to provide information when required and providing false or misleading information (which would include tampering with electronic monitoring imagery and associated data) which attract maximum penalties of \$250,000, imprisonment and forfeiture (or \$500,000 and forfeiture for foreign persons).

### Costs of IEMRS

78. Costs for IEMRS set up and ongoing operational costs will be shared between government and industry for each component of IEMRS. Industry costs for compliance with IEMRS are outlined below. Cost recovery and Crown-funded costs of IEMRS are described from under Financial Implications.

### Direct costs to industry

79. Fishing permit holders will be required to comply with IEMRS and bear the costs for the necessary equipment and its ongoing maintenance. Costs are outlined below with more detail provided in the Regulatory Impact Statement for IEMRS.
80. For electronic reporting, MPI's initial estimates of the industry direct-purchase costs are:
- The cost of a reporting device, for example a tablet or mobile phone. Many fishers will already have the required electronic reporting hardware;
  - Transmission costs, which will vary depending on number of reports filed and mechanism for transmission; and
  - The cost of electronic logbook software, to be set by providers.
81. For position reporting, MPI's initial estimates of the industry direct-purchase costs are:
- Hardware and installation are estimated at \$1,000 - \$2,000 per vessel (or operation). Some fishers will already have the required position reporting hardware;
  - Ongoing operating costs are estimated at \$800 - \$1,000 per annum;
  - Costs may be reduced for electronic reporting and geospatial position reporting, where geospatial position reporting is part of an electronic reporting tool; and
  - Costs are expected to be less for land-based fishing operations (e.g. eel fishing), where locations will be provided from a hand-held device.
82. For electronic monitoring using automated on-vessel cameras, MPI's initial estimates of the industry direct-purchase costs include:
- Electronic monitoring hardware and installation, estimated at \$5,000 – \$18,000, depending on the system fitted and number of cameras; and

- Electronic monitoring servicing costs estimated at around \$2,000 annually.
83. MPI estimates the overall direct cost to industry to be \$14 million in up-front costs for the first four years, and \$28.6 million over 15 years. Ongoing direct costs to industry will be focused on servicing and maintenance of equipment and replacement as required.
84. Costs are considered with more detail in the Regulatory Impact Statement.

***Part 2: Enabling Innovative Trawl Technologies (EITT)***

85. EITT provides for the use of new trawl technologies to catch better quality fish, reduce catch of unwanted fish and improve efficiency of trawl activity.
86. The prescriptive nature of existing regulations governing the use of trawl fishing gear, which are primarily based around the specification of minimum net mesh sizes, hinders innovation. For example, some new types of trawl gear under development include materials that cannot be defined as mesh. If mesh size cannot be measured, the trawl gear as a whole does not comply with the existing regulations.
87. Drivers for innovation include improving selectivity (i.e. catching less of the fish that fishers don't want) and improving catch quality.
88. The special permit provisions in the Act allow trialling and development of innovative trawl gear. There is currently, however, no mechanism that enables such gear to move from the special permit phase to being approved for fully commercial use. This results in lost opportunities to create and add value to the wild fish harvest and dampens the incentives to innovate.
89. The preferred option to address this issue is to amend the existing regulations to provide a framework allowing innovative trawl gear to be assessed and approved for commercial use subject to possible conditions (e.g. restricting use of approved trawl gear to specific geographic areas).

*Regulations and circulars for EITT*

90. I propose that the Director-General of MPI be able to assess and approve innovative trawl technologies for commercial use. I propose that the amendments to regulations:
- Set out the matters the Director-General of MPI may consider in his/her assessment of an application with respect to how the following compare to traditional trawl gear:
    - i. Species composition of catch;
    - ii. Size composition of catch;
    - iii. Impact on protected species;
    - iv. Benthic impacts;
    - v. Relevant Fisheries Plans approved under section 11A of the Act;

- vi. Whether the gear provides for better utilisation of the fisheries resource; and
  - vii. Any other matters that the Director-General of MPI considers relevant.
- Provide for circulars to be made relating to technical information to be included in an application;
  - Contain a mechanism that sets out how the Director-General of MPI's approval is to be implemented;
  - Provide for the Director-General of MPI to impose conditions relating to the use of approved, innovative trawl gear;
  - Provide for offences and associated penalties if the conditions of an approval are not met; and
  - Set an hourly fee of \$150.65 (GST inclusive) for MPI to process applications.
91. If a person uses innovative trawl gear that is not approved, or a person fails to meet the conditions imposed by the Director-General relating to the use of the gear, then the existing offences and penalties relating to trawl use in the regulations will apply, with a penalty of up to \$100,000.

### **Timing and Process**

92. I propose that EITT, and the electronic reporting and geospatial position reporting components of IEMRS come into effect from 1 October 2017 (the start of the 'fishing year' for most of the fleet). The amended regulations for electronic reporting and geospatial position reporting would be gazetted in June 2017 to provide certainty to MPI, service providers and fishing permit holders that:
- MPI's data aggregation service provider is able to receive electronic reporting information from 1 October 2017;
  - Service providers will develop platforms on which fishers can complete their electronic reporting obligations; and
  - Fishing permit holders and vessel owners have sufficient time to obtain and install the necessary technology.
93. There are risks around the timeframe for implementation of IEMRS. For electronic reporting and position reporting, a considerable amount of work is required by MPI for a new catch-effort database and data management. For electronic monitoring, MPI must also establish its IT support systems and a supply market must be established in New Zealand. For all components of IEMRS, there is some uncertainty about the speed of, and capability for, industry adoption of the new technologies.
94. MPI is actively monitoring timing risks on an ongoing basis and will advise me of these as appropriate. As part of that effort, MPI is establishing a working group with industry participants and service providers, to progress the implementation of IEMRS, including the necessary technical specifications and implementation planning.



95. I propose that while the intended commencement date for new regulations for electronic reporting and geospatial position reporting is 1 October 2017, I may consider a longer lead-in time appropriate, specifically if risks such as those identified above are realised. In that case, the commencement date(s) for these components of IEMRS would be the earliest possible date(s) after 1 October 2017.
96. The electronic monitoring component of IEMRS will be gazetted in June 2017 with an intended commencement date from 1 October 2018. If the risks identified above are realised, I may consider a longer lead-in time appropriate. As such, the commencement date for electronic monitoring would become the earliest possible date after 1 October 2018.

## **Consultation**

97. A six week public consultation programme on the broader Future of our Fisheries programme took place from November to December 2016. Overall, 426 submissions were received. Those relating to the IEMRS and EITT proposals are outlined below.
98. In addition to this, MPI continues to engage constructively with Te Ohu Kaimoana (TOKM) regarding the Future of our Fisheries strategic proposals, and will continue to keep me informed of progress.

## **IEMRS**

99. MPI received 110 submissions relating wholly or partly to the IEMRS proposal. While a considerable amount of feedback was received with varying levels of support, no unexpected or new issues arose in consultation.
100. Submissions on IEMRS highlighted concerns about the timeframe and cost for implementation, data management and information sharing, technical issues for implementation, privacy issues with cameras on vessels, compliance and enforcement issues if cameras observe infringements, and effectiveness of IEMRS to address the management issues identified.
101. Submissions on electronic reporting and geospatial position reporting raised concerns about commercial sensitivity and technical feasibility. Commercial sensitivity relates to information about location of fishing activity and individual fishing techniques. Encrypted data transmission and data management in accordance with Government requirements, together with official information request protections and Privacy Act 1993 information sharing principles, can mitigate these concerns.
102. Submissions on electronic monitoring have raised concerns about the privacy of crew. A privacy impact assessment was completed as detailed above, and appropriate controls have been identified to mitigate this issue.
103. The Office of the Privacy Commissioner and the Government Chief Privacy Officer (Department of Internal Affairs) were consulted and gave advice around the proposed ways to protect the privacy of crew and MPI staff.

## **EITT**

104. Sixty-one submissions on the EITT proposals were received through the 2016 public consultation process. Qualified support was expressed for the preferred option of the Director-General of MPI being able to assess and approve innovative trawl technologies for commercial use. Concerns were expressed that the assessment process needed to be clear and transparent, and that costs to applicants are carefully considered.

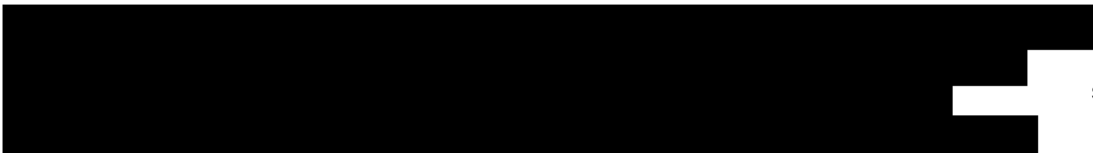
## **Government agencies**

105. The following government departments were consulted in the development of the draft Cabinet paper and their views incorporated into this paper: the Ministry for Business, Innovation and Employment, Department of Conservation, Department of Internal Affairs (Government Chief Privacy Officer), Ministry for the Environment, Ministry of Foreign Affairs and Trade, Ministry of Justice, Maritime New Zealand, Office of the Privacy Commissioner, Te Puni Kokiri, and the Treasury.

106. The Department of Prime Minister and Cabinet was informed.

## **Financial Implications**

### **IEMRS**

107.  s9(2)(f)(iv)

108. In 2017/18 MPI will implement cost recovery consistent with the approach for existing fisheries and conservation services, for which consultation with the fishing industry occurs each year before the levies are set. Ongoing costs associated with IEMRS that could be recovered are expected to include:

- The ongoing operating costs associated with the electronic reporting systems;
- The ongoing costs associated with receipt and handling of additional geospatial position reporting information; and
- Costs associated with reviewing electronic monitoring imagery and storage of that imagery.

109. Costs associated with electronic monitoring will be new costs for industry. As such, MPI considers further consultation is required and will undertake this as part of the First Principles Review of Cost Recovery. An amendment to the existing fisheries cost recovery settings is required to recover these costs which MPI also proposes to progress within the First Principles Review.

110. MPI also acknowledges that savings in existing areas of cost recovery, such as observers, may offset additional recovery associated with IEMRS.

### ***EITT***

111. There would be an implementation cost to MPI to develop any methodology needed to assess performance of new trawl technologies. In the short term (current financial year) this cost is estimated to be around \$115,000.

112. MPI anticipates there will be ongoing operational costs associated with monitoring and review of these technologies. This cost is estimated to be between \$155,000 and \$225,000, which would be met from baseline funding under existing funding arrangements.

113. It is proposed that all costs associated with developing and trialling innovative trawl gear up to the point at which an application is submitted would be met by the individual innovator.

114. The assessment and approval process for enabling innovative trawl technologies would be recovered through direct charges. The total time spent on an individual application, and therefore the full cost of the process, will vary with the complexity of the technology being assessed. This means a variable charge (an hourly rate for staff time) is likely to be the best means to recover costs. The total cost to the applicant for this service is too hard to estimate at the present time as there are no comparative processes currently at MPI.

115. I recommend setting an hourly fee of \$150.65 (including GST) to process applications. This will be added to the existing schedule of fees set out in the Fisheries (Commercial Fishing) Regulations 2001.

### **Legislative Implications**

116. Regulations are required to implement the proposals in this paper. These proposals do not require changes to the Fisheries Act 1996. Subject to Cabinet approval, these regulations would be drafted for gazettal in June 2017, to commence in accordance with timeframes set out in this Cabinet paper.

117. Beyond the scope of this paper, further regulatory or legislative changes may be necessary to implement strategic proposals under the wider Future of our Fisheries Programme. I expect to consult with Cabinet on those strategic proposals in more detail in June this year.

### **Regulatory Impact Analysis**

118. The Regulatory Impact Analysis requirements apply to both proposals. Regulatory Impact Statements have been prepared and are attached to this Cabinet Paper.

119. The Regulatory Impact Analysis Team at the Treasury (RIAT), jointly with the Regulatory Impact Analysis Panel of the Ministry for Primary Industries has reviewed the Regulatory Impact Statement “Integrated Electronic Monitoring and Reporting System” produced by the Ministry for Primary Industries and dated 13 March 2017. The joint review team considers that the Regulatory Impact Statement **partially meets** the quality assurance criteria.
120. The IEMRS Regulatory Impact Statement clearly sets out the extent and nature supporting the case for the proposed new requirements and how they are expected to contribute to the achievement of the Ministry’s objectives. It also makes clear the high level of uncertainty around the impact that the proposed change is likely to have on different parts of the fishing industry, and shows that some level of uncertainty is inevitable, given that impacts will depend on the individual responses of fishers in widely differing circumstances.
121. Some of the uncertainty at this stage, however, results from the fact that details of the phasing and timing of the implementation of the proposed reform have not yet been developed, pending broad Ministerial direction. Different approaches in this regard could lead to widely differing results and so Ministers may wish to consider inviting the Ministry to undertake further detailed implementation planning before finalising their decision
122. MPI’s independent Regulatory Impact Statement review panel has reviewed the Regulatory Impact Statement on EITT and considers that the information and analysis summarised in it meets the quality assurance criteria.

### **Human Rights Implications**


123. The proposals have no implications for the rights protected in the New Zealand Bill of Rights Act 1990 and the Human Rights Act 1993.

### **Publicity**

124. Following Cabinet decisions, these will be communicated to key stakeholders (e.g. Seafood New Zealand, Te Ohu Kaimoana).
125. I intend to issue a press release outlining Cabinet’s decisions as soon as practicable.
126. I propose to publish this Cabinet Paper at the earliest opportunity to help aid development of the regulations.
127. I propose the Parliamentary Counsel Office is able to circulate exposure drafts of the proposed regulations to iwi and relevant stakeholders from the fisheries industry for expert input and to identify any implementation issues.

## Recommendations

128. I recommend that the Cabinet Economic Growth and Infrastructure Committee:

1. **Note** that Cabinet agreed to the release of the consultation document on the Future of our Fisheries programme in November 2016 (EGI-16-MIN-0294 refers).
2. **Note** that consultation was undertaken between November and December 2016, and that I am now seeking Cabinet agreement on final policy proposals on two aspects of the Future of our Fisheries programme:
  - i. The Integrated Electronic Monitoring and Reporting System; and
  - ii. Enabling Innovative Trawl Technology.
3. **Agree** that enabling innovative trawl technology regulations will come into effect on 1 October 2017.
4. **Agree** with the policy intent that IEMRS electronic reporting and geospatial position reporting regulations will come into effect on 1 October 2017.
5. **Agree** with the policy intent that IEMRS electronic monitoring regulations will come into effect from 1 October 2018.
6. **Note** that if required due to progression of the preparatory work for IEMRS, and to enable industry adoption of the new requirements, I may agree to a longer lead-in time between promulgation and the commencement date of these regulations.
7. s9(2)(f)(iv)  

8. **Note** that separate to the proposals for IEMRS and EITT, further legislative changes may be necessary to implement strategic proposals under the wider Future of our Fisheries Programme over time. I expect to consult with Cabinet on those proposals in more detail in June this year.

### *Integrated Electronic Monitoring and Reporting System (IEMRS)*

9. **Note** the Ministry for Primary Industries needs comprehensive and accurate information on fishing activity to provide for the use of fisheries resources while ensuring sustainability.
10. **Note** the IEMRS proposals are intended to improve fisheries management through the collection of verifiable, accurate, integrated and timely data on commercial fishing activity by amending regulations under the Fisheries Act 1996.

11. **Note** that IEMRS comprises three parts – electronic reporting, geospatial position reporting, and electronic monitoring (using automated cameras) - and the preferred option is to implement all three to achieve the objective above.
12. **Agree** to amend Fisheries regulations to require mandatory **electronic reporting** of fisheries information in a timely manner by all fishing permit holders.
13. **Agree** that amended Fisheries regulations relating to **electronic reporting** will:
  - i. No longer require catch-effort reporting forms to be specified;
  - ii. Describe the types of information that are required to be provided by fishing permit holders;
  - iii. Require reporting to be completed for each of five categories of event that describe: fish catch, non-fish catch, processing, landing, and disposal (including return to sea and bait use);
  - iv. Require that the location of fishing activity is recorded in electronic reports;
  - v. Require that total catch is reported by fishing permit holders, including quota and non-quota species, protected species and fish below any minimum legal sizes;
  - vi. Require that electronic reports will be securely transmitted directly to the Ministry for Primary Industries, in a timely manner;
  - vii. Allow changes in timeframes that permit holders must retain copies of their own catch effort information, after it is received by the Ministry for Primary Industries;
  - viii. Specify required processes (e.g. notifications) for when electronic reporting equipment stops working;
  - ix. Require that fishing permit holders must maintain records until able to electronically enter and transmit data;
  - x. Require that licensed fish receivers must provide their returns electronically; and
  - xi. Enable the Director-General of the Ministry for Primary Industries to make circulars that specify technical details including the data fields and technical requirements for electronic reporting.
14. **Note** that electronic reporting will maintain continuity of historical fisheries catch and effort records as appropriate to support fisheries management.
15. **Agree** to amend Fisheries regulations to require mandatory automated **geospatial position reporting** of vessels and land-based fishing activity by all fishing permit holders.
16. **Agree** that amended Fisheries regulations relating to **geospatial position reporting** will:
  - i. Provide for the direct transmission of location data to the Ministry for Primary Industries and for this transmission process to be conducted using secure means that meet a defined standard;

- ii. Specify required processes (e.g. notifications) for when geospatial position reporting equipment stops working; and
  - iii. Enable the Director-General of the Ministry for Primary Industries to make circulars detailing the technical specifications for geospatial position reporting technology.
17. **Agree** to amend Fisheries regulations to require **electronic monitoring** by all fishing permit holders of fishing and fishing-related activity on vessels.
18. **Agree** that amended Fisheries regulations relating to **electronic monitoring** will:
- i. Require the operation of electronic monitoring equipment as specified;
  - ii. Require electronic monitoring of fishing activity for up to 24 hours a day;
  - iii. Provide for electronic monitoring of those areas of a vessel where fishing-related activity occurs, while excluding electronic monitoring from areas used solely by crew for other activities;
  - iv. Provide for the collection of all images within the field of view of electronic monitoring systems, including images of crew;
  - v. Provide for the transfer of electronic monitoring imagery and associated data to Ministry for Primary Industries in a specified timeframe after the fishing trip is completed;
  - vi. Not preclude use of additional observational technologies including use of observers;
  - vii. Provide for the mandatory installation, maintenance, and servicing of electronic monitoring equipment, including on-board practices required to optimise camera performance (e.g. lens cleaning);
  - viii. Provide for electronic monitoring imagery and associated data describing fishing activity to be captured, stored, and supplied to the Ministry for Primary Industries;
  - ix. Specify required gear and catch handling practices to provide clear camera views of fishing activity;
  - x. Specify required processes (e.g. notifications) for when electronic monitoring equipment malfunctions or stops working;
  - xi. Require adherence to a Vessel-Specific Monitoring Plan if required by the Director-General of the Ministry for Primary Industries;
  - xii. Provide for the phase-in of electronic monitoring over time in different fisheries at specific times. This will be based on the evaluation of risk and the management regime; and
  - xiii. Allow the Director-General of the Ministry for Primary Industries to make circulars about the technical specifications for electronic monitoring technology and other technical requirements.

19. **Agree** that circulars issued under Fisheries regulations may specify:
- i. The locations in which cameras are to be installed, and fishing activities to be monitored;
  - ii. Required fields of camera view;
  - iii. How on-vessel operations (e.g. catch handling practices) must be modified to enable cameras to effectively capture the necessary imagery and associated data;
  - iv. How electronic monitoring imagery and associated data are to be provided to the Ministry for Primary Industries;
  - v. Standards and specifications for camera operations;
  - vi. Standards and specifications for imagery captured;
  - vii. Standards and specifications for electronic monitoring hardware;
  - viii. Service and maintenance requirements; and
  - ix. Required content of a Vessel-Specific Monitoring Plan.
20. **Note** that the Ministry for Primary Industries will be the owner of IEMRS information and will develop procedures that detail the specific instructions for the collection, storage, transmission, use, sharing and disclosure of the IEMRS data.
21. **Note** that employers are responsible for informing staff of electronic monitoring so that they are clear they are being observed, and in what parts of the vessel this will occur, under the requirements of the Privacy Act 1993.
22. **Note** that imagery and data collected through IEMRS will be subject to the Official Information Act 1982 and the Privacy Act 1993.
23. **Note** that fishing permit holders, crew and other staff will be able to access information about themselves.
24. **Note** that other agencies may be provided with data collected by the Ministry for Primary Industries through IEMRS if it is lawful to do so.
25. **Note** the intention to develop a Disposal Schedule under the Public Records Act 2005 to retain images for a period of not less than 3 months and then dispose of the unneeded imagery. All other images and records of activities of interest are intended to be retained for a period of not less than 7 years.

#### *Enabling Innovative Trawl Technology*

26. **Note** that currently there are no means by which innovative trawl gear that does not meet existing regulatory specifications can be approved for commercial use.
27. **Agree** to amend Fisheries regulations to enable the Director-General of the Ministry for Primary Industries to assess and approve applications to use innovative trawl technologies for commercial use.



28. **Agree** that the amendment to the existing regulations also contains the following:
- i. Matters the Director-General of the Ministry for Primary Industries may consider in his/her assessment of an application;
  - ii. A means of providing for circulars to be made relating to technical information to be included in an application;
  - iii. A mechanism that sets out how the Director-General of the Ministry for Primary Industries' approval would be implemented;
  - iv. The ability for the Director-General of the Ministry for Primary Industries to impose conditions relating to the use of approved, innovative trawl gear; and
  - v. The ability to charge an hourly fee of \$150.65 (GST inclusive) for the Ministry for Primary Industries to process applications.

#### *Offences and penalties*

29. **Agree** to amend regulations to include offences and associated penalties relating to the use of electronic reporting, geospatial position reporting, and electronic monitoring commensurate with the existing level of comparable offences and penalties.
30. **Note** that these offences and associated penalties could include:
- i. Serious offences under applicable provisions of the Fisheries Act 1996;
  - ii. Offences for contravening the new regulations for IEMRS; and
  - iii. Infringement offences for contravening the new regulations for IEMRS.
31. **Authorise** the Minister for Primary Industries in consultation with the Minister of Justice, to approve the detail of offences and penalties that are broadly commensurate with the existing offences and penalties in the Fisheries regulations, and report back to the Cabinet Legislation Committee on these matters.
32. **Note** that if a person uses innovative trawl gear that is not approved, or a person fails to meet the conditions imposed by the Director-General relating to the use of the gear, then the existing offences and penalties relating to trawl use in the regulations will apply, with a penalty of up to \$100,000.

#### *Next Steps*

33. **Authorise** the Minister for Primary Industries to issue drafting instructions to the Parliamentary Counsel Office to implement the agreed regulations.
34. **Authorise** the Minister for Primary Industries to make decisions on detail and to make changes, consistent with the policy intent outlined in this paper, on any issues that arise during the drafting process for the regulations.

35. **Approve** the release of exposure drafts of the regulations to iwi and relevant stakeholders for input and to identify any implementation issues.
36. **Agree** that the Minister for Primary Industries may publish a copy of this paper on the website of the Ministry for Primary Industries having regard to the objectives of the Official Information Act 1982.

Authorised for lodgement

Hon Nathan Guy  
Minister for Primary Industries

**Annex 1. IEMRS implementation cycle, with responsibilities and accountabilities identified.**

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