

7 December 2021

Mr D Bolger
Fisheries New Zealand
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**FISHERIES INSHORE NEW ZEALAND SUBMISSION ON:
“WIDER ROLL-OUT OF ONBOARD CAMERAS”**

1. Thank you for the opportunity to respond on the consultation “Wider Roll-out of Onboard Cameras”. This response is prepared jointly by Fisheries Inshore and Southern Inshore Fisheries Management.
2. We do not intend our response to conflict with or override any response provided independently by fishers, quota owners, or independent companies we represent.
3. Any queries should be directed to Laws Lawson, Chairperson, Fisheries Inshore New Zealand Limited.

Fisheries Inshore New Zealand

4. Fisheries Inshore New Zealand Ltd (FINZ) is the Sector Representative Entity for inshore finfish, pelagic and tuna fisheries in New Zealand.
5. Our role is to represent the policy and operational interests of the industry, whilst working with Crown agencies such as Fisheries New Zealand, the Department for Conservation (DOC), and the Ministry for the Environment, liaising with environmental and other organisations and participating in collaborations to inform and assist in the management of fisheries resources and the wider aquatic environment. To assist us represent the industry, we have established management committees for the North Island inshore finfish stocks and the Highly Migratory Species (HMS). Those committees have been consulted in the preparation of this submission.
6. We are committed to sustainable utilisation of our fisheries and any wider fishing activity while supporting the conservation and sustainability of wider marine biodiversity. Key outputs of FINZ are the development of, and agreement to appropriate policy frameworks, processes, and tools to assist the sector to undertake its responsibilities in better managing our fisheries and to minimise our impacts on the associated marine ecosystems and work positively with other fishers and users of the marine space where we carry out our harvesting practices.
7. We represent by value and volume, over 80% of the quota for inshore finfish, pelagic and tuna, as well as the fishers and Licensed Fish Receivers involved.
8. The role our stakeholders play is to provide the team of 5 million New Zealanders with their share of the fisheries resources in the inshore waters. More than 80% of Kiwis eat fish at least once a month while only 9% go fishing once a year. We catch the fish of, and for, those New Zealanders who have not the time, the expertise or the resources to catch fish themselves. Those New Zealanders have the right to consume their fish. We make that possible. Our fishers, quotas owners and licensed fish receivers are members of their local communities providing employment opportunities and drawing services from and providing fish to those communities.

Southern Inshore Fisheries Management

9. Southern Inshore Fisheries Management Co. (Southern Inshore) represents 104 inshore fishstocks throughout the Fisheries Management Areas 3,5,7 & 8. In addition to representation and advocacy for shareholders the Company also invests in annual research projects, for additional monitoring of key stocks, over and above the cost recovery process.
10. Southern Inshore affiliates to and works closely with FINZ on regional and national matters. The roll-out of onboard cameras is of great concern on the basis of how quickly the Ministry is trying to rush its implementation and the substantial costs involved.

The Proposal

11. The Ministry for Primary Industries is consulting on details for the implementation of cameras on 300 inshore vessels. The vessels proposed to be electronically monitored identified in this proposal are inshore and HMS vessels that are trawling, longlining¹, setnetting (where larger than 8m), danish seining and purse seining.

The Wider Issue of use of Cameras

12. We support and endorse the submission of Seafood New Zealand on the implementation of electronic monitoring, recovery of costs and the need for a pause of the process until Fisheries New Zealand has established a future based strategic plan for the management of New Zealand's fisheries resources.
13. We support the concept of electronic monitoring in an integrated forward looking fisheries management framework. However, that support is conditional upon any camera programme being able to *demonstrably*, not hypothetically, advance fisheries management through:
 - the overall system being cost effective at providing:
 - i. improved scientific information
 - ii. more agile sustainability management
 - iii. improved fisher behaviour
 - preserving confidentiality and privacy, and
 - providing fishers (and their approved agents) with appropriate access to footage taken on their vessel.
14. The last point is critical. Right from the start of the Integrated Electronic Monitoring and Reporting System (IEMRS) programme in 2016, MPI stated that information from the different elements of these programmes would be shared with industry participants and that there would be no need to have duplicative systems, with both government and industry able to access the data gathered by industry (subject to the normal authorising processes to respect confidentiality, intellectual property and privacy). Notwithstanding some difficulties, there have been agreed mechanisms developed for authorised transfer of both ER and GPR data. It must be made clear by FNZ that the same principles will apply to EM and engagement on how this will happen. This should consider access to particular information related to specific events to assist fishers to consider those circumstances and further improve performance and the use of more generic but personal information for wider positive purposes.
15. We cannot support the current proposal where electronic monitoring is being implemented only as an additional add-on to the current management framework rather than presenting a critical fundamental step in a step change for fisheries management.
16. Our assessment of the proposal and Request for Information documentation indicates that the objectives for this initial stage are built around catch verification, by-catch interactions and mitigation use. These were the same operational objectives for the 'proof of concept' trial with cameras on the West Coast North Island since 2019. Despite repeated requests over the past 12 months for reports on the efficacy of the cameras, we are yet to receive any such report. The

¹ Longlining includes some deepwater vessels that are catching ling

consultation document makes numerous assertions as to the success of that 'proof of concept' trial yet provides no detailed assessment of design or implementation issues nor independent assessment of the overall trial or any additional aspects needed to fully operationalise such a programme.

17. Our own experience of electronic monitoring using similar technology has shown that this can only provide limited results. The technology has shown it can provide identification of fishing events occurring e.g., shooting and hauling, sorting and returns to the sea at a scale level but is inadequate to provide detailed identification and volume counts of the species. The capability to identify species is somewhat better in single capture fisheries such as longline and setnetting but even in those cases it is unable to differentiate between species that have subtle differentiations e.g., between species of albatross or between petrel and shearwater species. In terms of mitigation use, electronic monitoring has shown it is only capable of distinguishing a binary used/not used result. Again, it is not possible to obtain a detailed evaluation of mitigation devices.
18. We are advised that DOC has not been able to view any footage from the trial to assess the efficacy of the technology from a protected species perspective. Much of the justification for the programme is dependent on the benefits to protected species. We see limited benefits stemming from the cameras and those benefits are not commensurate with the costs. While the number of interactions may be better observed, the lack of species identification and the camera's inability to verify cryptic mortality will not provide any greater certainty as to the risk from commercial fishing vessels to protected species. Currently risk assessments for protected species are based only on the data from observers with this then scaled up for the whole fleet. That means there will likely be little gains from camera coverage in this regard.
19. We would be interested in working with DOC to establish a means to gather better quality information on any captures of protected species. That might include the landing of carcasses or part of the carcass for identification. We have been endeavouring, albeit unsuccessfully, for the past five years at least to be empowered to land any Maui or Hector's dolphins to DOC for biological research. We are not hopeful therefore of a positive outcome to our endeavours in this matter.
20. FNZ has provided no evidence that the basic operating objectives can be achieved, let alone the more advanced objectives alluded to in the document. We have sought but not been provided any independent or internal assessment reports as to the outcomes of the proof of concept undertaken on the WCNI. Based on our experience, we have no reason to believe that the trial was as successful as depicted in the consultation document. A post implementation review of the project could have allayed our concerns as to the ability of the technology to successfully deliver on the objectives for the programme.
21. FNZ has provided a statement of the benefits of implementing electronic monitoring including:
 - better decision-making
 - improved species protection
 - maintain market access
 - improve industry reputation
 - improve returns
 - change behaviours and
 - provide a cost-effective fisheries review and verification capability.
22. While those benefits are theoretically possible from the implementation of electronic monitoring, they lack any substantive support and appear illusory in comparison to the likely scale and nature of deliverables from a simple installation of cameras on vessels and analysis of the footage provided by current technology that can be deployed on vessels. To achieve the benefits claimed, FNZ will first need a generation of cameras not yet available that have far greater resolution in the working environment and far greater success in translation of those images into specific fish and protected species identification. That will likely mean far more investment in Artificial Intelligence functionality than is included in the programme with a lot of experimentation to gain meaningful results. Until this is possible Fisheries New Zealand cannot claim the benefits it suggests will be provided by the current systems. Based on overseas work it is doubtful that even with changes to vessel configurations the benefits claimed can be achieved. With the age of our vessel fleet

and level of profitability there is no ability to re-engineer vessel configurations and Fisheries New Zealand have assured the sector that such changes will not be necessary.

23. Our goal for our fisheries must be to improve sustainable utilisation. That means investing in areas and issues that will assist those outcomes. It would be highly desirable if FNZ was able to provide an indication of the deliverables or the milestones they wish to achieve with electronic monitoring towards achieving that goal. It would be preferable that FNZ identify the minimum of deliverables they wish to provide and the timespan for those deliverables. For example, it might say
- October 2022 first cameras installed
 - December 2024 all cameras installed to provide:
 - i. Catch verification for QMS fisheries by species and volume for serial fisheries and by event for bulk fisheries
 - ii. Bycatch verification by estimated amount, number and species
 - iii. Verification of whether mitigation used
 - December 2027
 - i. AI used to generate species identification of all QMS catch and by-catch
 - ii. AI used to estimate QMS catch numbers and species for serial fisheries
 - December 2030 to provide
 - i. AI used to identify and estimate volumes of QMS returns to sea and verify life status
 - ii. AI used to provide QMS species, length and life status of retained catch
 - iii. AI used to verify the details of mitigation used.
24. At present, stakeholders have no idea of what are the deliverables nor the timeframe for their delivery. We are purchasing unidentified services. While we appreciate that the deliverables will be clarified during the acquisition process, FNZ should be able to state the minimum level of deliverables being purchased with the initial programme. All we glean from the document is that all the vessels in scope should have cameras by the end of 2024.
25. The placement of cameras on up to 300 vessels, implementation of monitoring, transferring of footage and subsequent analysis of a suitable portion of it is budgeted to have a cost of \$68 m in the first four years. Approximately \$20 m of that is capital purchase of the cameras, the functionality and the storage capacity. Operating expenditure is estimated to be \$48 m over the initial four years. FNZ has provided an estimate of operating expenses of over \$15m per annum when cameras are installed on all inshore vessels. That is equivalent to an annual operating cost of \$50,000 per vessel. That cost appears to exclude any costs associated with the replacement of cameras which currently have an operational and functional life of less than 3 years.
26. We submit the Government needs to rethink its allocation of resources in the management of New Zealand's fisheries. Adding the expected future cost to the existing appropriation for fisheries activities would see the annual appropriation rise to approximately \$130 m, of which \$70 m would be spent on enforcement and monitoring. In contrast, research funding to inform sustainable utilisation would be less than half the cost of enforcement and monitoring. In the past decade, expenditure on enforcement and monitoring has increased by over 50% while the increase in research has been less than 10%, while at the same time the commercial fishing fleet has decreased by 20%.
27. Our goal for our fisheries must be to improve sustainable utilisation. That means investing in areas and issues that will assist those outcomes. The sustainability of New Zealand's fisheries depends on robust scientific information, not an over-resourced enforcement and monitoring regime that seeks to ensure that poorly informed sustainability settings are rigidly enforced.
28. This situation has existed for many years but the imposition of the costs of electronic monitoring necessitates a re-examination of the basic management tenets of our fisheries.
29. The Ministry's estimates indicate that the annual operational cost to electronically monitor each vessel in the inshore fleet will exceed \$50,000. To put that in context, it is:
- more than the net return to the owner of an inshore fishing vessel

- more than the current average annual spend by Fisheries New Zealand on the management of an inshore fishstock
 - more than the current cost per vessel of compliance for all commercial vessels and
 - nearly triple the amount spent on research for inshore finfish and HMS stocks.
30. We do not consider the existing mix of expenditure to be a wise ongoing investment by the Crown in gaining the outcomes New Zealanders want from their fisheries, let alone further distorting that through the proposed spend on the camera programme. Nor is the programme a cost that can be carried by the industry. Imposing excessive costs on the sector will only serve to limit the ability of the sector to catch and supply fish to the team of 5 million New Zealand consumers and deny those consumers their right to partake of their share of New Zealand's fisheries resources.
 31. There is some illegal behaviour in fishing activity, and that is understandable in a sector which the MPI has estimated there are over 9,000 separate regulatory provisions to be followed. With the frequency and scale of reporting of commercial catch and approved harvest levels based off landed catch, none of that behaviour compromises the sustainability of fisheries resources.
 32. Misled by industry critics, the Government has forsaken robust resource management with a preference for rigid control. Cameras are intended as a further part of that control.
 33. The reform of fisheries management in New Zealand may appear to be an integrated whole. In reality it is an assemblage of concepts thrown together in an ad-hoc manner without any coherent strategic direction or integration. We are certain that it cannot result in robust fisheries management and a sector that can positively contribute to New Zealand's economic future.
 34. We consider electronic monitoring can be a valuable fisheries management tool when used appropriately. However, it will take the Government, the industry and the system providers working together to achieve maximum benefits from the implementation of electronic monitoring. Electronic monitoring is not a panacea to resolve the deficiencies of the current management system.
 35. Conversely, with its costs and intrusive nature and when not integrated into a fisheries management framework, electronic monitoring will be an impediment to sound fisheries management, with fisher attention focused on its downside threats rather than positive benefits.
 36. To ensure that benefits are maximised, industry will need to be assured of the commitment by the Government and FNZ to provide for a future based fisheries management framework. That too will only be achieved by industry and FNZ collaboratively developing a management framework for future management and charting a development path from the current framework to the new framework. That transformation plan will need to pause both the implementation of cameras and the implementation of the fisheries reforms to landings and discards that have been announced to construct a world leading fisheries management system.
 37. We will need to collaboratively to set out the management framework, the management needs, the management tools and the responsibilities of parties. That will define the role of electronic monitoring and the pathway of developments needed to undertake that role. The team of 5 million rely and trust the Government to deliver their benefits to them through a robust effective fisheries management system. The industry is ready and willing to commit to that construct and pathway. Its future depends on a robust fisheries management system.

The Implementation Path

38. We now comment on the specifics of the implementation. However, our support for cameras on the inshore vessels is conditional on matters raised earlier and satisfactory resolution of implementation matters.

Key Implementation issues

39. No matter what vessels are involved, what order the programme proceeds and who will pay there are some key aspects that FNZ must provide to fishers, the rest of industry and the broader public for there to be adequate understanding of what it is intended that the system will provide, the conditions it will be established under and then operate.

40. To date information and assurances on the following high level operational policy matters have not been provided:
- What will be the scanning levels of footage for the various fleets?
 - Will the cameras be active 24/7 or for events only?
 - Who will pay the cost of transmitting the footage?
 - Who within Fisheries New Zealand can access imagery and for what purpose and within what control system? Will all footage remain encrypted? Will any involvement by other parts of MPI only be at the invitation of Fisheries New Zealand image analysis personnel due to concerns they hold, or will there be routine transfer? If the latter, what is the programme's justification for this?
 - Under what circumstance will the imagery be released to other Crown agencies? Will all footage remain encrypted? How will other agencies access the footage and what controls will be placed on their access and use and who will be responsible for maintaining its security?
 - How will the release of imagery to external parties be made consistent with the Privacy Act and Official Information Act?
 - What system will be provided around the country for fishers and permit holders to access footage taken on their vessel(s)?
41. In addition to the high level issues above, fishers need to be informed and assured as to the following operational activities. While some fishers have experienced working with cameras, the majority of fishers have not. No information has been provided to fishers as to operational issues that have arisen in respect of Electronic Reporting and Geospatial Reporting activities.
- What processes and preparation is required by permit holders and skippers to prepare any vessel for camera installation?
 - What period of notification will be provided to warn about installation time?
 - What is the expected period that any vessel will be expected to spend in port to have the vessel system upgraded if necessary and have the camera system installed?
 - Will the need for electronic monitoring limit the duration of a fishing trip? Or time to port to download footage?
 - Based on previous experience what is the expected level of gear failure in any year for a particular method?
 - What happens when there is a breakdowns or failure of the gear? What ability does the fisher have to continue operations in the trip when equipment breaks? Who is responsible for repairs or replacements? What will be the required response time from the Government contractor so that fishing can proceed? If the contractor indicates that repairs or replacements cannot be provided prior to the vessel's next sailing what system of approval will be provided?

Which Vessels

42. The consultation proposes cameras should be installed on vessels which undertake on a full-time or part-time basis:
- trawling on vessels under 32 metres (excluding those vessels exclusively targeting scampi)
 - setnetting on vessels 8 metres or over
 - bottom longlining
 - surface longlining
 - purse seining, and
 - danish seining.
43. We generally agree that these types of vessels make up the inshore fleet. We recognise that the placement of observers on such vessels is difficult and a greater level of monitoring of activity is

appropriate. Undertaking scientific sampling and research on inshore vessels is generally not possible due to the cramped working conditions and the instability of a working platform. Sampling is undertaken in sheds on land. Electronic monitoring, suitably scoped, functionally developed and implemented, could be a cost-effective alternative for both observer activity and scientific sampling.

44. The consultation provides an option for discussion in respect of placing cameras on only larger vessels and the possible retention of observers on smaller vessels or vessels with lower levels of activity. We have been provided no information to evaluate the relative costs and benefits of cameras vs observers. We would expect MPI to have done its analysis on that question as part of seeking approval for cameras. However, we have seen no evidence of such options being costed and provided to Ministers and Cabinet for their consideration. At \$1,500 per seaday for an observer and with the delivery problems associated with the deployment of observers on onshore vessels, we are doubtful that observers are a cheaper more practical option than cameras but have no information to support that premise. We note that the proposition appears to lack an understanding of the reality of observer placement. Smaller vessels are less able to accommodate the imposition of an observer as it creates operational and safety problems. Conversely larger vessels are more able to handle requests for observer placements. A proposal to place cameras on only larger vessel and retain observers for small vessels would appear contrary to the ability of those vessels to accommodate observers.

The Deployment Schedule

45. On a simplistic protected species risk prioritisation basis, the deployment schedule seems reasonable.
46. However, a smarter approach would be to recognise:
- There will be teething problems with any new systems, gear, software and hardware (While it will be for the procurement process to determine, it seems highly likely that there will be, at a minimum, new elements in an overall programme for 300 vessels given the required scale of the operation compared with the 'proof of concept' trial and other experiences)
 - Camera coverage is critical on the WCNI
 - The camera operation on the WCNI is operational albeit expensive and possibly not technically efficient but could continue to operate in the interim
 - A region with fisheries with lower risk levels and a wider set of fishing methods would be more appropriate to operate a proof of operations, trialling and debugging the new system to ensure all parts mesh together as required.
47. We do not consider WCNI would be an appropriate area to begin any implementation.
48. The initial implementation should take place in an area with:
- a strong technical base,
 - readily accessible port and transport links,
 - a good representation of vessel and gear types
 - vessels operating on a day return basis, and
 - an existing familiarity with camera operations.
49. Implementation of cameras on the WCNI would be better upgraded when the technology is stable and the units are proved reliable and capable of fulfilling the objectives.
50. In respect of the wider implementation while a fleet-based approach may seem reasonable and will generally be regionally based, it may prove an expensive option as implementation crews are moved around the ports chasing vessels of a particular fleet. It would mean that any port-based handling facilities would need to be established across the country for what might be low numbers of vessels in any one port. Multiple installation teams might be needed to install systems on fleets spread across the country.

51. Implementation might be better undertaken on a port-by-port-basis consolidating installation advisory functions and installation teams in an area until the systems are installed, then moving to a new area to repeat the process.
52. However, neither we nor MPI are experts in the implementation of such systems on vessels and consider that the most appropriate way to proceed is to discuss the matter with the successful vendor and let it propose the most efficient process for the installation, noting the need for a proof of operations as part of the implementation programme.

Cost Recovery

53. We cannot support recovery of electronic monitoring costs for the reasons set out in the SNZ submission.
54. We consider that the cameras are being imposed on the fleets as a consequence of a political commitment rather than a strategic step towards a future based fisheries management framework. Fisheries management benefits will not stem from the simple receipt of footage of fishing activity. Benefits will only be received when additional management information can be extracted from the footage – and that is some years away. No new fisheries benefits will be delivered in the implementation phase to meet current objectives. Given the origin of the commitment to place cameras on vessels, the placement of cameras can only be a public good, undertaken for the wrong reasons and at a high cost to the New Zealand taxpayer that isn't commensurate with the benefits to be obtained.
55. While we can assess the likely quality of the deliverables of the programme, FNZ are unable to transparently state the outcomes other than the statement that "every vessel will have a camera". That is hardly a ground for imposing additional costs on an already beleaguered industry.
56. Any proposal to have costs imposed through cost recovery can only occur if it is consistent with the cost recovery principles in the Fisheries Act and the Cost Recovery Rules. The principles in section 262 of the Fisheries Act permit cost recovery where services are undertaken to the benefit of persons harvesting the resources or in the case of services to avoid, remedy or mitigate a risk adverse effect to the aquatic environment or the biological diversity of the aquatic environment be attributed to the persons who are causing that risk or effect.
57. It is clear that with little to no additional management benefits from this first generation of cameras, the costs cannot be attributed to quota owners and fishers as harvesters. Equally it is also clear that the provision of cameras is not likely to avoid, remedy or mitigate a risk to or adverse effects on the environment from fishing using the harvesting gear included. In any respect, the adverse effects of fishing which may be observable from camera operations have already been mitigated to levels below that required by the environmental principles of the Fisheries Act. We note those residual risks are not uniform across the sectors, gear sectors or individuals and nor do they bear any relationship to the methodology proposed in the consultation document.
58. The inshore sector is currently under considerable financial stress and cannot be expected to be able to absorb additional cost recovery levies, in particular when there are no offsetting reductions in the costs of existing services and there are no revenue benefits from which to finance the additional costs.
59. FNZ's own analysis in the consultation document shows that annual operational costs of this additional camera programme alone will equal or exceed the net profit before owner's drawings from an inshore commercial fishing enterprise. That profit analysis is based on 2019/20 IRD data and obviously does not reflect either the impact of Covid or the full increased costs associated with electronic positional and catch reporting. The current position would reflect a lower net earnings position. For comparison, the Ministry's own analysis of the operational costs of \$50,000 per vessel per year – with that figure excluding any element of capital costs incurred in purchasing the initial gear.
60. It is likely that the gross annual cost of operating an electronic monitoring system after inclusion of those costs will exceed the after-tax return of a significant number of operators and in some cases exceed value of the vessels and other assets of operators. Such costs are disproportionate to the purported benefits to be received by fishers and broader industry.

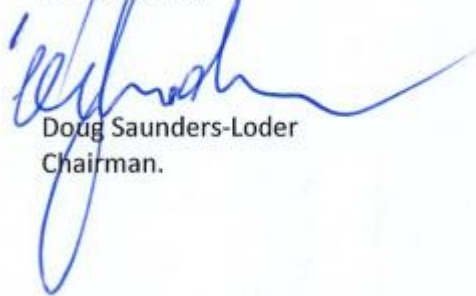
61. Many vessel owners have chosen to exit the industry when faced with increased electronic reporting costs – the total fleet has declined by over 200 vessels in the last 5 years, with 75 of those in the last 18 months. The majority of those exits have been in the inshore fleet, including trawlers, longliners and setnetters. Maintenance has declined to such levels that fishers are unable to obtain survey certificates for their vessels. We are aware that some fishers with no other prospect of an alternative livelihood have chosen to take mortgages on their houses to provide for cashflow and deferred maintenance.
62. Proposals to impose more costs on small medium enterprises are contrary to Government policy when it is purportedly seeking to sustain such entrepreneurs and maintain regional employment.
63. Any suggestion that vessel owners should bear any additional costs, whether directly through fees or indirectly through fisheries levies on quota, is untenable.
64. The Ministry has indicated it will undertake a disciplined, first principles based review of cost recovery in 2022. This review is long overdue. It would not be appropriate to introduce a new activity for cost recovery until that review is concluded. The cost to Government of deferral is minimal and will not impact the implementation of cameras as they are fully funded from appropriations. Cost recovery of electronic monitoring should be considered in the light of any revamped cost recovery practices that arise as a consequence of the wider review.
65. For the above reasons, we cannot at this time support the recovery of any costs associated with electronic monitoring.

Best Regards



Laws Lawson
Chairman
Fisheries Inshore New Zealand

Best Regards,



Doug Saunders-Loder
Chairman.