Frequently Asked Questions: On-board Cameras

2022

INSTALLATION GUIDANCE

1. How will the location and fields of view of the cameras be determined?

Before any cameras can be installed, our installers will conduct an onboard assessment with the vessel owner and agree a Vessel Installation Plan together. This plan confirms the camera locations, fields of view and any important privacy considerations, and must be approved by the vessel owner before cameras are installed.

2. What will the cameras see?

The field of view for each camera will be set out and confirmed with vessel owners in the Vessel Installation Plan. As part of the installation, the cameras are also connected to a real-time display monitor in the wheelhouse, which indicates onscreen whether the camera is recording and shows each cameras field of view. This is a display screen only and doesn't allow people to rewind or interact with the footage in any other way. It provides vessel owners with a real-time, live display of what each camera sees.

3. What happens if the cameras aren't working? Can we still fish?

If for any reason there is a problem with the operation of the on-board cameras, the Skipper/Vessel Owner will have access to a 0800 number as a single point of contact for support request. This number is staffed 24 hours a day, 7 days a week.

Fishers can use this number to log any issues identified prior to departure or that occur at sea. The helpdesk staff will work with them urgently to resolve any issues and minimise any potential disruption to fishing activities.

If there is a system issue while at sea, as long as this is reported as soon as practicable, the vessel will be able to complete its current trip before returning to port. If an issue is identified before departing, it will need to be resolved before the vessel can embark on any new fishing activities.

4. What do I need to do with the camera system – what operational requirements sit with fishers? –
Ensure all cameras are viewable on the monitor provided and if any aren't, the fisher needs to ensure that the issue is reported. MPI Exemption contact point - digitalmonitoring@mpi.govt.nz. A Spark Fisher Quick Reference Guide will be provided by the installation team.

5. Where will the data be stored?

These details are not made public as part of our privacy and security agreements. See 12. For more privacy information.

6. Where are the cameras made and have they been used elsewhere globally?

The Hanwha Cameras are made in Vietnam and Korea (MPI and Spark have avoided those on the NDAA ban list). They have been used widely in many different applications. One similar to this project is the 250 camera rollout to 20 City Ferries in Turkey - https://www.hanwha-security.com/ru/solutions/case-study/80537/

7. Can the AI can estimate the size of fish being hauled?

No. The solution we have procured employs artificial intelligence and machine learning to recognise when relevant activities occur and capture only those events.

The cameras employ AI that use scene detection, and pose detection models to determine in-scope fishing activities such as setting or retrieving fishing gear and sorting catch etc.

This drives the collection of footage, including the resolution that it is stored at so that we only collect and retain the footage that we need. Examples of footage activity the AI will capture:

- identify if captured species is protected (seabird, marine mammal etc
- presence/absence of mitigation devices (tori lines, bafflers, warp scarers etc.,
- identification of species and volume of all fish caught (set net and longline only)

- confirming if discarding occurred

8. What's the brand of AI?

Spark Business Group has employed its technology partner: Integrated Monitoring to provide the electronic monitoring solution comprising a secure communications server (yellow fin box), Hanwha Fixed Dome IP cameras, EM software, antenna and HD system display. Integrated Monitoring is the market-leading EM solution provider founded by two Kiwis and have extensive experience in this field.

9. Will the system be running even when the vessel is switched off?

The system will still be running as it operates over a dedicated Spark network. However, the camera system is configured to capture and store footage only when fishing activity is occurring.

10. Will data drives still be required (my understanding is we are going to some sort of real time system?)

No, footage will now be uploaded digitally and automatically. Manual data transfer using data drives will only be used as an exception process in case of inability to transfer over the network.

11. When the new cameras are installed, will there be a viewing monitor on-board like there is at the moment (ie so skippers can see what the cameras see)?

Yes, there will be an on-board screen showing all camera views, and displaying to the fisher when footage is being captured.

PRIVACY

12. How we will protect your privacy?

The Ministry for Primary Industries (MPI) is committed to ensuring the privacy, security, and confidentiality of all the information we collect, hold and use (subject to any applicable legislation or court orders requiring or authorising disclosure). We understand that the way we collect and manage information is important to maintain the public's trust and confidence, and the trust and confidence of our stakeholders and those we work with.

This update provides information to fishers on how MPI will manage the information we collect through on-board camaras and who to contact if they have any questions about the programme or how their information will be protected.

An overview of MPI's approach to ensuring the privacy and confidenitality of any information we collect can be found on our website: How MPI manages your privacy and security.

Any fishers who have concerns relating to the management of information or footage collected from their vessel can contact us at onboardcameras@mpi.govt.nz. You can also contact our Chief Privacy Officer at CPO@mpi.govt.nz or the Office of the Privacy Commissioner.

The following notes provide an outline of the key mechanisms that have been put in place for on-board cameras to ensure fisher privacy is protected in accordance with applicable legislation.

Before cameras are installed

- Before any cameras can be installed, our installers are required to develop a Vessel Installation Plan that has to be agreed with the Vessel Owner. This plan confirms the camera locations and each camera's field of view for observing fishing activity.
- As part of the installation, the cameras are also connected to a real-time display monitor in the wheelhouse. This is a display screen only and doesn't allow people to rewind or interact with the footage in any other way, it simply provides a real-time, live-stream display of what each camera sees.

- As part of the installation, vessels will be provided with an onboarding kit, providing skippers and crew with operational guidance and reference photos for the cameras.

What is collected once cameras are installed

- Before a vessel departs port, the operator needs to conduct a pre-departure check (ensuring the camera system is on, recording mode is activated and images are showing on the monitor).
- All fishing activity captured by the cameras is encrypted and stored securely on the vessel hard-drive. This is uploaded to the cloud over a dedicated 4G network.
- The cloud-based system then applies any necessary privacy protections and the privacy-protected file is used by MPI for review purposes.

How footage is reviewed

Once relevant footage related to fishing events has been identified and stored, privacy-protected and available for selected review, the following controls come into effect:

- All footage is matched to the Electronic Reporting data[1] provided by the vessel – this provides another mechanism to ensure only footage relating to fishing activity is reviewed.
- MPI will review a selection of footage based on a mix of random-selection, and targeted risk-based factors (such as risk posed to protected species, analysis of ER/GPR data and intelligence received.
- There are a number of protocols in place to prevent any unauthorised footage access. Every instance of access to footage will have its own audit trail, recording the time, date, footage accessed and business reason why it was accessed. In addition, reviewers are not able to choose which footage is selected for their review.

Sharing footage

- Sometimes we need to share information to fulfil obligations of government accountability and transparency, and to uphold the law. Any information sharing is done in line with the Official Information Act 1982 (OIA), the Privacy Act 1993, and the Fisheries Act 1996.
- All requests for information are considered case by case. Information would normally be withheld under the OIA or the Privacy Act where it's necessary to:
    - protect the privacy of a person or people;
    - prevent the release of a trade secret or avoid prejudicing the commercial position of a person or company;
    - ensure the information continues to be provided in the future.
- Any information will only be shared with other government agencies for limited and specific purposes - such as: law enforcement, conservation, health and safety, maritime safety, compliance, and employment conditions.
- When sharing information, we will in most cases not release the full camera footage. Providing a written summary or still images will be preferred. Where we need to share footage or still images, these will be edited to protect personal and commercial identities by obscuring identifying features as appropriate.
- Access to view footage or images can also be limited to government premises, rather than through providing copies of files.
- Under the Privacy Act, anybody can ask us to access whatever information we hold about them. A person can also ask us to correct any information about them if they consider it is inaccurate, misleading, incomplete, or out-of-date.
- We recognise there is significant potential value in being able to share footage with fishers and industry bodies and for fishers to use the footage to help 'tell the story' of their catch. We are aware of this need and plan to work on this with industry during 2023. This work includes developing the technical solution to enable fisher access (with appropriate security measures) and a full assessment of the legal and privacy aspects.

Retention of footage

[1] Provided under the Fisheries(Reporting) Regulations 2017

- Once footage is uploaded to the cloud, all previous footage on the vessels hard-drive is eventually over-written as new footage is collected.
- We are currently developing the policies that will determine how long footage is stored in the cloud and for what purpose footage may be retained beyond initial review.
- Once the retention policy for the wider rollout of cameras is finalised we will also make it available.

In the event the camera system is not functioning properly

- If for any reason there is a problem with the operation of the on-board cameras, the Skipper/Vessel Owner will have access to a 0800 number as a single point of contact for support request. This number is staffed 24 hours a day, 7 days a week.
- Fishers can use this number to log any issues identified prior to departure or that occur at sea. The helpdesk staff will work with them urgently to resolve any issues and minimise any potential disruption to fishing activities.
- If there is a system issue while at sea, as long as this is reported as soon as practicable, the vessel will be able to complete its current trip before returning to port.

We are also currently working our privacy advisors to complete a more detailed Privacy Impact Assessment regarding the rollout of on-board cameras. Once this is finalised, we will also make that publicly available. In the meantime, the above provisions should provide greater clarity regarding the privacy provisions and protections we will ensure are in place to protect fishers operating with on-board cameras on their vessels.

COST

14.What does it cost to have cameras on my vessel?

There are no direct, fixed costs to fishers for having cameras installed on their vessel. The Government is covering the majority of the cost of the rollout and there are no additional charges for hardware, data transfer, remediation or any other aspect of the installation or operation of cameras for the rollout.

Of the total rollout cost (expected to be around $68 million over the next three years), around $10 million will be recovered from quota owners through a levy on specific fish stocks in total over the 2023/2024 and 2024/2025 fishing years. No costs will be recovered for the initial 2022/2023 fishing year.

Following the rollout, from 2025/2026 onwards, any camera-related operating costs will be recovered through the annual quota levy process. What portion of these costs are passed on to fishers is something that quota owners will determine independently.

15. How will the levies be worked out for cost recovery?

These levies are confirmed in September following a public consultation during May/June (noting that costs associated with onboard cameras are not being levied in the 2022/23 fishing year).

For context, the levies recovered from the industry over the last two years combined totalled $69.8 million. Over the 2023/24 and 2024/25 fishing years as close as possible to $10 million will be recovered for cameras.

Fish stock levies depend on a range of year-to-year factors, such as what research or observer coverage is planned, changes in catch limits or port prices, and any under- or over-recovery in previous years.

As a result, those fish stocks to be levied for onboard cameras are expected to see an increase in levies. However, some of the cost of onboard cameras may be offset by a reduction in observer coverage costs. This will be determined on a fishery-by-fishery basis.

The below table shows the order of fisheries to receive cameras and it is the key fish stocks in those fisheries to which the costs of cameras will be levied. For example, onboard cameras will be operating on most inshore setnet vessels on the West Coast of the North Island, and the East, South and North coasts of the South Island from July 2023. The levies for the key fish stocks taken in those fisheries will include onboard cameras costs in the 2023/24 levies.

From the 2025/26 fishing year onwards, the Government confirmed that the operating costs of the onboard camera programme will be recovered through the levy process. MPI will know what the ongoing costs of the programme will be until late 2024/ early 2025, but we will be working to minimise the ongoing costs of the programme. We will provide this information as soon as it is available.

Priority Group Number	Priority Group Name
1	West Coast North Island trawl & set net
2	*North, East & South coast South Island set net*
3	*North, East & South coast South Island trawl*
4	Surface longline
5	FMA1 bottom longline
6	All other bottom longline
7	All other trawl
8	All other set net
9	Purse seine
10	Danish seine

CAMERAS & OBSERVERS

16. If a vessel has cameras installed, will that automatically mean observers are no longer required?

For vessels operating with in-scope, inshore fishing methodologies, on-board cameras are expected to be the primary verification tool. It is expected they will replace observers in most of these situations.
Observers are also likely to be the most effective approach where additional information is needed beyond what cameras can provide – such as more detailed scientific data and research. There are also some instances where our international commitments may require the ongoing use of observers.
These details will be confirmed via vessel-specific monitoring plans.

17. What does the rollout of cameras mean for observers? Will we see less observers on boats?

Observers perform one of the most important functions of the work that MPI do. They collect critical data and information in what are often very challenging conditions.

The wider rollout of on-board cameras will not alter the role for observers on deep water vessels. However, we do expect this will enable us to reduce the degree to which observers operate on in-shore vessels as cameras increasingly come online.

From a health and safety point of view, in-shore vessels present the greatest number of safety risks observers need to manage on a daily basis. The installation of cameras will enable us to maintain the level of visibility we need without the health and safety risks often associated with these environments.

It will take 2-3 years to complete the rollout of on-board cameras, so any changes to the role of observers on these vessels is likely to be phased in progressively over time.

18. Are observers being replaced by machines and artificial intelligence?

While the technology behind onboard cameras has progressed significantly in recent years, and continues to evolve rapidly, there are still many things that require human judgement.

Cameras are simply a means of capturing visible data that can then be assessed by human reviewers, who apply their professional analysis and evaluation to the interpret the data.

Approximately 70% of our existing observer coverage occurs on vessels that are not in-scope to receive cameras and will not be affected by the wider rollout.

TECHNICAL DETAILS OF THE SOLUTION

19. Who do fishers call if the system is down?
Spark will provide basic troubleshooting guides but we will also establish a dedicated 24/7 service desk.

20. Is Spark the right company to support the project?

Spark Business Group emerged as the clear leader through the robust selection process, not only meeting, but exceeding these requirements with a solution that capitalised on current innovations, was well positioned to incorporate future technology and still remaining cost effective for New Zealand taxpayers.

Spark Business Group has the breadth of knowledge and experience in delivering IoT, Mobile, WiFi and Satellite Communications for its customers: e.g. Spark provides the connectivity and tech solution to enable monitoring of conservation projects like DOC's Kakapo Recovery on Cod Island in Foveaux Strait and the MAUI63 dolphin conservation project

Spark Business Group will also partner with a Nelson-based fishing industry specialist for collaborative fisher engagement, and a local marine electrical contractor to deploy the on-board camera systems, prepare vessels for install and completing the vessel monitoring system installation.

OTHER GENERAL QUESTIONS

21. What about cameras for the remainder of the fishing fleet?
On-board cameras are not being proposed for other inshore vessels at this time as these vessels generally use more selective fishing methods (for example, potting), pose a lower risk to protected species and catch smaller volumes per fishing trip.

Additionally, observer coverage rates on larger deepwater vessels are relatively high, greater than 40 percent.

Consequently, there are no plans underway to expand the use of on-board cameras in deepwater and other inshore fisheries over the medium to long term. It is proposed that the Fisheries (Electronic Monitoring on Vessels) Regulations 2017 will be amended to reflect the finalised scope of the rollout.

22. Why are scampi vessels exempt?
Scampi trawl vessels are not being considered at this time as they are considered deepwater trawl vessels and have higher rates of observer coverage compared with other vessels within the scope of the camera programme (14% for scampi trawl compared with an average of <5% for other in-scope vessels). F

There also is likely to be a continued need for observer coverage on scampi trawl vessels due to the management need for biological information (such as scampi length) to inform stock assessments.

23. What about 2019 Proof-of-Concept Vessels
The new cameras use a different system, so we will need to upgrade any existing cameras (ie (Black Petrel, SNA1, 2019 Maui Dolphins etc) on in-scope vessels.

Our team will be in touch shortly to confirm when this needs to happen and to plan and appropriate time to arrange the upgrade together. We expect to upgrade the camera systems for Proof of Concept vessels from 7th November onwards. Until then, Proof of Concept vessels need to continue to meet their existing requirements for footage capture with the current system.

24. What if I have another set of (non-MPI) cameras on my vessel?

For any other cameras, you'll need to talk to the owner of any existing camera system and confirm whether they would like that system to remain in place. We are happy to talk with them and confirm the preferred approach and arrange to either:

i. Remove the existing system as we install the new system
ii. Leave any current systems intact and install the new system independently of any existing wiring.

We will discuss this with you as part of the initial installation assessment process.

25. What footage and detail can be accessed by people under the OIA? (Fishers are worried about anti-fishing groups getting hold of footage and using it out of context).

Footage collected through on-board cameras will be subject to the OIA. However, when deciding whether to release footage, we will weigh the public interest against withholding grounds in the Official Information Act (OIA) such as commercial sensitivity and personal privacy.

26. What if I plan to sell my vessel?

Any vessel that is expected to undertake set net or trawl fishing activity along the West Coast North Island will need to operate on-board cameras from 30 November 2022. For those considering selling their vessel in the immediate period, we still recommend completing an initial pre-installation assessment with our install team.

This way, even if you do sell the vessel ahead of 30 November, the ground work has already been done for the new owner to progress with the installation of cameras if they plan to retain the vessel for relevant fishing activities.

27. How many fishers are likely to go out of business?

This isn't something we can speculate on. Commercial fishers operate in a business environment and the way costs are shared between quota owners and permit holders will depend on their commercial arrangements.

However, recovering costs by levying quota will allow quota owners and permit holders to determine the distribution on a commercial basis. What portion of those costs might be passed on by quota holders is something they will determine with those that fish on their behalf.

It may be that we continue to see some consolidation across the industry in response to this, but these are commercial decisions for the industry.

27. What about quota owners that don't fish their ACE, or operators that fish the same stocks but aren't required to have cameras on their vessels – isn't this unfair?

The levies will be applied to quota owners on the basis of catch landed vessels with onboard cameras. Cost recovery will be in proportion to catch from those vessels with onboard cameras.

The decisions about which vessels are in-scope for cameras is based on the risk presented to protected species from the type of fishing activity.

28. Given all the other economic pressures the industry is facing – global pandemic, rising fuel costs etc – why do this now? Doesn't it threaten the viability of New Zealand's fishing industry?

Our marine ecology is under pressure with increasing calls for fishing bans, rāhui, protection of sea mounts and other measures. We need accurate, reliable data about our fisheries and fishing activity, which supports better, more timely management decisions. This can't wait.

We are also seeing consumer expectations that New Zealand's fisheries are managed sustainably. New Zealand's introduction of onboard cameras will provide consumers, at home and internationally, additional assurance that we are serious about sustainable fisheries management, and that in buying our seafood products they are supporting sustainable fishing practices.

However, the Government has decided that no costs will be recovered in the initial 2022/23 fishing year, and only partial cost recovery in the 2023/24 and 2024/25 fishing year. This allows fishers to adjust over time, rather than facing the full cost burden from the start of the rollout.

29. What does this approach mean for the interests of Iwi? Doesn't this essentially have the effect of de-valuing their settlement?

The decision to recover costs from quota owners adds an additional cost of doing business. However, it also protects the future value of the quota they hold by ensures the future sustainability of both our marine environment and our industry.

All quota owners, including Māori, will be required to contribute to the cost of cameras. However, they will also benefit from the long-term protection of the value of their asset through better fisheries management.

30. What is the timing for the rollout (when are cameras required to be operational on which vessels)?
We have confirmed a priority order for installation. Cameras will first be placed on vessels that pose the greatest risk to protected species.

Cameras need to be installed and begin transmitting footage from these dates:

30 November 2022

1. Inshore trawl and set net vessels fishing off the west coast of the North Island

14 June 2023

2. Set net vessels fishing off the north, east and south coasts of the South Island
3. Inshore trawl vessels fishing off the north, east, and south coasts of the South Island

29 November 2023

4. All surface longline vessels fishing anywhere in New Zealand
5. Bottom longline vessels fishing in northern New Zealand

5 June 2024

6. All remaining bottom longline vessels
7. All remaining inshore trawl vessels

27 November 2024

8. All remaining set net vessels
9. All purse seine vessels
10. All Danish seine vessels.