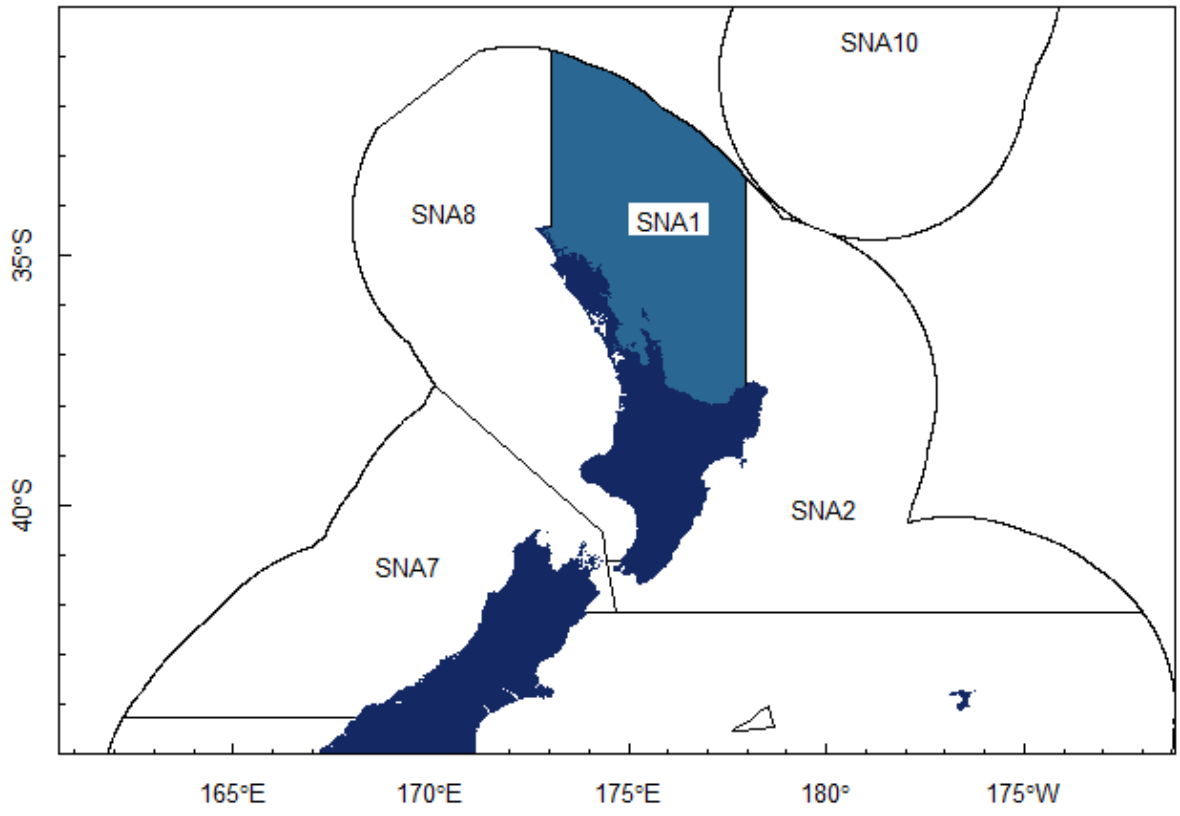
SNAPPER FISHERY SHOWS LEADERSHIP ON AT-SEA TECHNOLOGY

SNA 1 Commercial is a collective of quota owners, licensed fish receivers, vessel operators and fishers. The members of SNA 1 Commercial have been working since 2012 on a set of voluntary rules to better record their fishing effort, provide transparency and reduce waste. They represent 95% of the commercial fishers catching snapper in the SNA 1 area.



Progress on fisher-initiated Electronic Monitoring and Vessel Position programmes

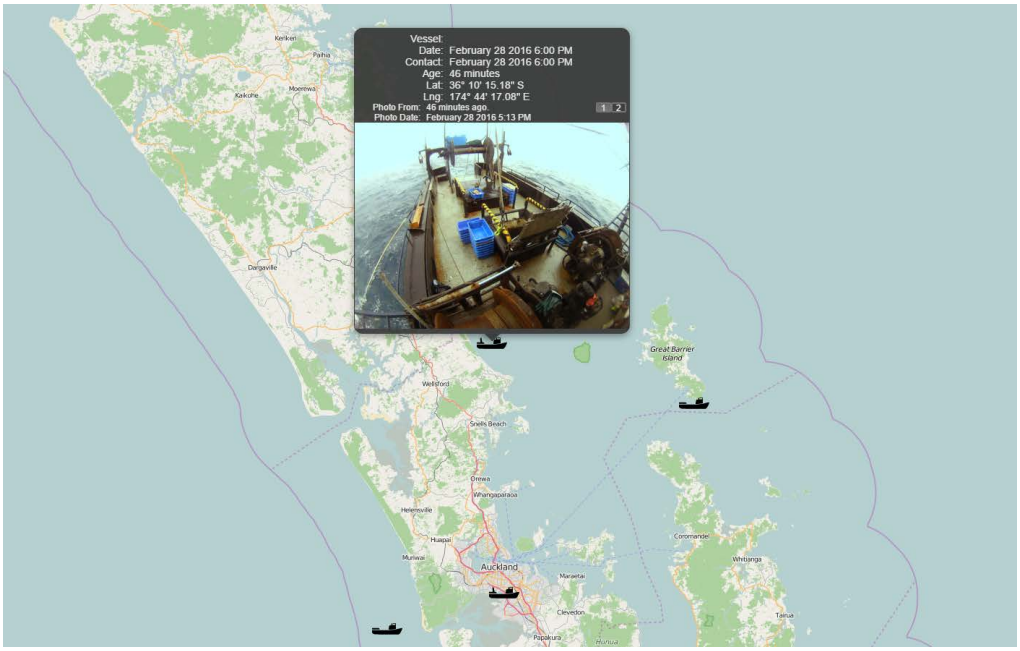
Electronic monitoring (EM), usually referred to as “cameras on boats” has emerged in the last 15 years as a new method to collect and verify fisheries information, and is being applied in a variety of fisheries around the world.

EM involves the use of Global Positioning Systems (GPS) and video camera technology to collect data, including footage from vessels, which is then reviewed by shore-based staff to create the required observational data.

SNA1 Commercial has three voluntary programmes – all predate the Ministry's decision to develop an integrated electronic monitoring and reporting system (IEMRS) on the commercial fishing fleet. While the IEMRS programme is a separate project, the technology programmes in the SNA 1 fishery have presented good opportunities to work through some of the technical details and practical issues associated with the use of cameras and GPS on a voluntary basis with commercial operators, before IEMRS is further developed.

Snapper One EM Programme

The Snapper 1 (SNA 1) EM project is a voluntary fisher-initiated programme intended to help meet fishery monitoring objectives included in the Minister of Primary Industry's 2013 decisions on the SNA 1 fishery.



Cameras are currently monitoring 18 trawl vessels in the Snapper 1 area around the Bay of Plenty, Hauraki Gulf and the east coast of Northland. This is a pilot programme implementing the new

technology over three years. It began with a six month trail in 2014 to test the concepts before being rolled out from the start of 2016.

The three year programme represents a partnership between SNA 1 Commercial and MPI.

SNA1 Commercial reached out to MPI and asked for support with putting cameras on vessels, this collaboration has been recognised internationally as best practice. MPI recovers the cost of the programme, which is $3 million dollars over three years, from the snapper quota owners.

Trident Systems was contracted by MPI to implement the programme after a tender process. Trident provides fisheries research services to MPI and other organisations, often in collaboration with other research providers. Trident shareholders are quota owning companies who have invested in innovative approaches to fisheries research and data collection.

The objectives of the SNA 1 EM trawl programme are to record 100% of the fishing activity carried out by the SNA 1 trawl fleet, 24/7 in order to provide increased verification of the total commercial catch of SNA 1, in particular by verifying the weight of snapper under the minimum legal size (SNX) being returned to the sea (as they are legally required to be).

Fishers were keen to see this information as they wanted to see if they could improve their fishing ability to better target fish and reduce waste.

Fishers document the weight of undersize snapper and the cameras are used to verify their estimates. The Ministry has also provided human observers on some vessels who undertake additional, independent, data collection.

It was important to the fishers that the camera footage is encrypted and cannot be tampered with or altered. Although the main purpose of the camera project is to collect data for verifying the amount of small snapper returned to the sea, the fishers agreed that if MPI needed to, footage could be accessed to support compliance investigations. MPI as the regulator has full access to all the footage at any time, and can choose to review it to verify compliance.

The monitoring of the Snapper 1 trawl fishery has increased substantially as a result of the fisher-initiated programme, providing insight into the potential for electronic monitoring.

Collection of footage

The camera project has been rolling out EM systems across the SNA 1 fleet since January 2016.

A key objective in any research programme deploying new technology is to identify technical issues so that they can be resolved.

It is our expectation that the Ministry will use this information and our experiences when they implement electronic monitoring through the IEMRS programme.

Monthly reports from Trident catalogue each EM system, footage retrieval and review footage issues and their resolution. The monthly report also details daily footage collection and file status (on camera, on server, on review server and any errors) for each vessel in the SNA1 trawl fleet as well as detailing where the vessel is operating. These reports are confidential between Trident and the Ministry as they include vessel-specific information.

Snapper One Vessel Monitoring Programme

The second component of the SNA 1technology project is a voluntary fisher-initiated vessel tracking programme that runs across the commercial fleet – this includes all trawlers, seiners and long line vessels that catch more than 5 tonnes of snapper a year.

A GPS-based vessel tracking system is collecting data on 70 vessels across the Snapper 1 area around the Bay of Plenty, Hauraki Gulf and the east coast of Northland.

Like the camera project, the vessel tracking system runs 24/7 and is encrypted and tamper proof. GPS information showing vessel position is transmitted by satellite from vessels on an hourly basis. The Ministry has access to the tracking data, in real time.

It is very important for fishers that the tracking data is kept confidential to them, the company that owns their fishing vessel and the Ministry. The data is managed by Trident, following strict guidelines.

Snapper One and Bluenose One EM Camera Programme

The third voluntary fisher programme, known as the “Black Petrel project”, uses cameras on 12 long line vessels to monitor any accidental captures of seabirds on commercial fishing hooks.

The long line vessels used in this programme were selected on the basis of being the most active (most fishing days) in the fishery and their willingness to carry cameras.