

TRIDENT'S INVOLVEMENT IN SNA1 FISHERIES MONITORING

QUESTIONS AND ANSWERS

ABOUT TRIDENT SYSTEMS

WHAT IS TRIDENT SYSTEMS?

Trident Systems is a provider of fisheries research services.

Trident undertakes Research and Development to find new ways of addressing fisheries management information needs and uses the outcomes of this R&D to provide specific contracted research services.

WHAT TYPE OF RESEARCH SERVICES DOES TRIDENT PROVIDE?

Trident undertakes “end to end” research, from data collection through to the provision of science advice on specific fisheries management issues.

Trident's R&D has focussed in three specific areas, and this influences the contracted research we undertake:

- Data collection: fisheries catch sampling, and electronic and video observation of fishing vessels
- Data use: more efficient use of fisheries data
- Evaluation of management procedures for lower information fish stocks

HOW DOES TRIDENT OPERATE?

Trident pursues a “best teams” approach. It has a small core staff and works primarily by collaboration with other research organisations and those who have the right skills for the task at hand. In particular we work with seafood companies to integrate research into their normal operations.

WHO OWNS TRIDENT SYSTEMS?

Trident is a Limited Partnership, established in 2012. Trident's 14 Limited Partners are companies that own NZ fisheries quota and have chosen to invest in R&D as part of their strategy to maintain the long term value of their quota assets.

WHO CONTRACTS TRIDENT SYSTEMS?

Trident provides research services to government, seafood industry organisations, non-government organisations and seafood companies.

ABOUT TRIDENT'S 'FISHEYE' VIDEO OBSERVATION SYSTEM

WHAT IS FISHEYE?

FishEye is the catch-all term for Trident's electronic monitoring and video observation services.

FishEye is a modular system. At its most basic it provides a Vessel Monitoring System: essentially live GPS tracking of fishing vessels. Extending the system to include cameras allows for "video observation" – the collection of observational data on fisheries activity and fish catches. FishEye is being developed to support electronic reporting of data provided by fishers, and to use fishing vessels as "vessels of opportunity" for oceans research.

WHO DEVELOPED FISHEYE?

Trident worked with Nelson-based Snap Information Technologies Ltd to develop the FishEye system. Snap's innovative "full hemisphere" camera technology was further developed for use on fishing vessels, and paired with systems for efficient retrieval of footage and review of this footage by land based observers.

WHY WAS FISHEYE DEVELOPED?

FishEye was developed in response to seafood industry requests for ways of providing observational data from fisheries that have proved challenging to observe by deploying human fisheries observers.

ABOUT TRIDENT'S MONITORING OF SNA1 FISHERIES

WHAT IS TRIDENT'S INVOLVEMENT IN MONITORING SNA1 FISHERIES?

Trident provides two monitoring services in the SNA1 commercial fishery:

- A Vessel Monitoring System (VMS) – GPS tracking of the full commercial fleet
- Video observation of the full SNA1 trawl fleet

WHAT VESSELS ARE MONITORED?

The SNA1 fleet is defined as those vessels that catch > 5 tonnes of SNA 1 annually.

ARE ANY SNA1 VESSELS NOT MONITORED?

The monitoring programme is restricted to the commercial fisheries. It excludes recreational charter vessels.

Trident's FishEye VMS system was not fitted to SNA1 vessels if they had an existing VMS solution that made tracking data available to the Ministry for Primary Industries.

WHO PAYS FOR THE SNA1 MONITORING UNDERTAKEN BY TRIDENT?

The SNA1 vessel monitoring system was put in place at the request of SNA 1 Commercial. Equipment was funded by SNA1 quota owners and vessel operators. Vessel operators pay the monthly monitoring costs

(primarily satellite data transmission). The Ministry of Primary Industries supported the installation programme.

The video observation programme of the SNA1 trawl fleet is contracted by the Ministry for Primary Industries. MPI pays for the programme by cost recovery from SNA1 quota owners.

WHO HAS ACCESS TO THE MONITORING DATA?

Trident provides access to the monitoring data under agreements with vessel operators. This includes the operators themselves, and the Ministry for Primary Industries.

IS TRIDENT MONITORING OTHER FISHERIES?

Yes, however monitoring of the SNA1 fishery has been a particular focus for the development of new monitoring approaches. This followed the Minister for Primary Industries' decisions in 2013.

ABOUT THE SNA1 VIDEO OBSERVATION PROGRAMME

WHY IS VIDEO OBSERVATION BEING USED IN THE SNA1 TRAWL FISHERY?

Deploying traditional (human) observers in inshore fisheries is logistically challenging. The Ministry for Primary Industries trialled the use of video observation in a 2014 trial. Trident was one of two providers that took part in the trial. MPI reviewed the results of the trial in 2015 and decided that video observation could meet its monitoring objectives in the SNA1 trawl fishery.

WHY DID MPI CHOOSE TRIDENT?

MPI tendered for a video observation programme of the SNA1 trawl fleet in 2015. Trident submitted a proposal and was subsequently contracted by MPI to deliver a three year programme.

WHAT DOES TRIDENT OFFER?

Trident considers that key features of its FishEye service in the context of SNA1 monitoring include:

- Innovative technology that has been shown to be capable of capturing the required footage, and supporting the observations required;
- Good working relationships with the seafood industry required to make the programme work;
- A commitment to high quality fisheries research and moving the use of video observation from "trial" to "operational" as efficiently as possible

ABOUT THE INTEGRITY OF THE PROGRAMME

WHY SHOULD AN INDUSTRY OWNED COMPANY BE TRUSTED?

New Zealand's Quota Management System provides quota owners with an incentive to invest in obtaining reliable information in support of sustainable fisheries management.

The Ministry for Primary Industries operates a best practice process for the review of science information used in fisheries management decision making. It provides a level playing field for science to be peer reviewed through an open and transparent process.

CAN THE VIDEO FOOTAGE BE MANIPULATED?

The footage collected by Trident's FishEye system is encrypted and securely stored on the vessel, and transmitted for review by secure networking. The systems record around the clock when the vessels are at sea. The systems are monitored remotely to ensure they are working and the continuity of footage monitored.

WHO REVIEWS THE FOOTAGE?

Part of Trident's contract with MPI includes the reviewing of footage to extract particular observational data. Trident is also contracted to provide MPI staff with training in the use of video observation.

IS VIDEO OBSERVATION A SILVER BULLET?

Video observation is a relatively new tool for fisheries management. It provides a number of advantages, in particular the ability to observe inshore fisheries, and the ability to double check observations against the footage. However, it is not a panacea and other monitoring tools will have a continued role. Prudent use of video observation, amongst other innovations, should ensure that New Zealand retains its place as a world-leader in fisheries management.