

Case Study



Rolling out vessel tracking for commercial fishers under the sustainable fisheries strategy 2017 to 2027.

The Challenge

Under the Queensland Sustainable Fisheries Strategy released in 2017 all commercial fishing boats are required to carry a satellite tracking device, so Fisheries Queensland officers can collect important data for fisheries management and ensure operators are complying with fishing regulations.

The Solution

The SPOT Trace unit is one of five devices that has been approved by Fisheries Queensland for use by commercial fishers. Pivotel has been closely collaborating with the industry and Fisheries Queensland to enhance the devices to ensure they are fit for purpose in a rugged ocean environment.

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The units have been performing well. Pivotel have been very helpful in ensuring that the unit is suitable for industry.

- Donna Walsh
Director
Digital Solutions
Fisheries Information and Shark Control
Fisheries Queensland

The Operational Challenge

Fisheries Queensland's Sustainable Fisheries Strategy 2017 - 2027 provides a road map to manage and preserve Queensland's fish stocks while supporting industry. A key plank in the Strategy is a range of monitoring programs to ensure commercial operators are compliant with relevant regulations and to gather data to allow for effective fisheries management.

Vessel tracking became mandatory for all net, line and pot fishers in January 2019, and it will be required by all harvest, beam trawl and charter fishers by January 2020. Data from vessel tracking is used to monitor quota in near real time, monitor compliance with area and seasonal closures, provide intelligence and evidence for investigations; help validate logbook data on where and when fishing occurred; help estimate the biomass of a fish stock; and help inform fishery management changes that may be needed.

"The challenge was to find a vessel tracking solution that suited all sized boats," says Donna Walsh, Director, Digital Solutions, Fisheries Information and Shark Control, Fisheries Queensland.

The devices needed to be small, portable, waterproof, easy to use, run on battery and external power, and at a cost acceptable to the industry. Extensive consultation with industry showed users were most concerned with issues around cost and data privacy.

The Operational Solution

The SPOT Trace device, supplied and supported by Pivotal, was one of three units chosen by Fisheries Queensland for a 10-month trial.

Fisheries Qld identified the SPOT Trace device as suitable initially because Fisheries Queensland use the SPOT Trace device to keep their remote and isolated Boating and Fisheries Patrol officers safe and connected while in the field. "We're looking for something that operates on a satellite network, with 5-minute reporting at a minimum, the fact that it does have internal battery for fishers who might lose external power, and to do all of that at a reasonable cost," says Donna Walsh.

The SPOT Trace unit meets all these criteria – it is light and portable at just 90 grams, runs on internal or external power, with eight days battery life for constant use or up to 25 days for daily eight-hour operation. The unit costs \$199, or \$299 for a package including waterproof cable and mounting bracket and air-time monthly fee is \$33.30.

"Feedback from trial participants was mostly positive. The unit received good comment regarding its size and portability, as well as ease of set up and use," the trial report states. "Several participants commented the unit was very easily moved from one vessel to another. One participant reported that it was so small and compact, with no wires or antenna and smaller than an iPhone, it had absolutely no impact on operation..."

Participants liked the ability someone at home could log in to the web interface and check to see where they were and if the unit was moving or not, especially when fishing in areas with little to no phone reception." Users also reported improved efficiencies in monitoring their own vessels.

Fisheries Queensland emphasise, however, that tracking devices should not be treated as a maritime safety measure and do not take the place of established safety protocols. Strict data privacy policies ensure individual users' data is safeguarded and only aggregated data is publicly reported.

The Outcome

The SPOT Trace has been approved by Fisheries Queensland for use in vessel tracking and is the most inexpensive among the approved devices, both for unit cost and monthly air-time fees.

The trial process has allowed Pivotal to enhance the device specifically for use in the fishing industry in several key ways, based on feedback from trial participants. These include enabling units to run on external power even when batteries are flat or no batteries are installed and increasing the sensitivity to movement of the unit to prevent the units going into sleep mode while at sea.

The state government, with assistance from the Great Barrier Reef Marine Park Authority, has set aside up to \$3 million to help fishers pay for the purchase and installation costs associated with implementing vessel tracking.

The Hardware

SPOT Trace

Powered by 100% satellite technology the SPOT device allows fishermen to meet the new vessel tracking regulations imposed under the Queensland Sustainable Fisheries Strategy 2017-2027.



The SPOT device sends positional information directly to DAF allowing for a responsive and more informed management of Queensland's waters.

- Receive text or email messages when movement is detected
- Monitor vessels in near real-time
- Compact and easy to install
- Long battery life and line power options

Tracertrak Online Portal

The Tracertrak portal allows vessel owners and operators to monitor their net, line and crab commercial fishing vessels positional information in near real-time.

