

# Review report

## Approach to vessel tracking compliance

November 2022

### 1. Background

This report is prepared in response to section 7 in the Queensland Ombudsman's preliminary observations and proposed actions. It provides an overview of how Department of Agriculture and Fisheries (DAF) compliance activities consider issues such as global positioning system (GPS) accuracy of vessel tracking units and vessel tracking system outages. It also provides a summary review on the polling frequency of the Rockfleet units while operating on internal battery.

**Table 1** Extract from Ombudsman's preliminary observations and proposed actions (section 7)

No.	Observations	Proposed actions
	<b>7. Whether the department's strategy for achieving vessel tracking compliance is reasonable.</b>	
7.1	<p>The department has implemented vessel tracking which assists with its compliance activities. The department has advised that accurate data is needed to achieve this purpose.</p> <p>One complainant has provided data to this Office that indicates the GPS location of a vessel tracking unit's stationary location can be recorded as being variable with a variance of up to 60m between recorded locations.</p> <p>It is unknown whether the department has undertaken any testing or analysis of the accuracy of the vessel tracking data it is receiving and verify that it achieves its intended purpose.</p>	<ul style="list-style-type: none"> <li>Analyse the vessel tracking data the department has received to evaluate whether accuracy is sufficient for its compliance purposes.</li> <li>Publish the results of this analysis in the review report.</li> </ul>
7.2	<p>The vessel tracking system may not function for various reasons (e.g. satellite communications being out, system upgrades, vessel tracking unit malfunctions etc.).</p>	<ul style="list-style-type: none"> <li>Publish guidance for industry about how the department's compliance action considers such issues.</li> </ul>
7.3	<p>The complainants have demonstrated that they have communicated with the department's Vessel Tracking Team about difficulties in complying with the provision of vessel tracking requirements due to the action/inaction of suppliers. However, the department's Boating and Fisheries Patrols appear to have not been advised of these issues. Communication within the department should be improved to appropriately share information to support compliance activities.</p>	<ul style="list-style-type: none"> <li>The department develop a communication protocol to ensure appropriate updates are provided to the Boating and Fisheries Patrols about vessel tracking compliance issues where these may be associated with matters outside of the control of the fisher.</li> </ul>
7.4	<p>Some complainants have identified that when a vessel tracking unit switches to internal battery power for whatever reason, the unit does not continue to poll at the interval required by legislation (e.g. 5 minutes) but polls less frequently (e.g 2 hourly).</p> <p>Vessel tracking units must be connected and operated from a reliable power supply. There are a number of reasons why a vessel tracking unit may operate on internal battery power, with or without the knowledge of the fisher.</p>	<ul style="list-style-type: none"> <li>Review the polling frequency on internal battery power – and consider whether this frequency is appropriate and, if so, explain to industry why.</li> </ul>

Source: [Ombudsman's Preliminary Observations and Proposed Actions](#)

## 2. Consideration of issues in vessel tracking compliance

### 2.1 GPS accuracy of vessel tracking units

Vessel tracking is a form of satellite tracking using transmitters on board fishing boats. Information gathered from the provider or manufacturer of the current approved vessel tracking units indicates GPS accuracy of within 11 m. GPS accuracy of vessel tracking units may be affected by factors such as:

- insufficient satellite coverage/signal blockage
- environmental factors/interference (buildings, trees etc)
- installation (e.g. the unit is installed outside optimal conditions, such as next to a steering column or installed on the incorrect plane (i.e. vertical plane) or without sufficient power)
- malfunctioning unit.

Vessel tracking data is utilised in multiple ways for compliance purposes. It provides the Queensland Boating and Fisheries Patrol (QBFP) with near real-time data that assists with operational planning and auditing/cross-checking against legislated reporting requirements, and is a tool for detecting non-compliant fishing activity. Although vessel tracking information may form part of an investigation for evidentiary purposes, accuracy of the GPS data is considered by officers as part of the investigation proceedings and additional evidence is typically required prior to prosecution.

### 2.2 Vessel tracking system outages

DAF recognises that the vessel tracking system may not function from time to time due to factors such as system outages, system maintenance or malfunctioning units. System outages or maintenance could be planned or unplanned. Duration of the outages vary depending on the causes of outages and how complex they are to resolve. Providers of vessel tracking-related systems currently have notification methods in place to communicate known system outages to DAF. As part of operational procedures, communication about prolonged outages is sent to QBFP and industry members to advise of the outages and any interim measures to comply with the vessel tracking requirements until the outages are resolved.

In relation to malfunctioning units, DAF implemented an [interim vessel tracking unit malfunction procedure](#) in December 2021 to help commercial fishers continue to operate while their malfunctioned units are being repaired or replaced by the vessel tracking providers.

### 2.3 Communication of vessel tracking issues with compliance unit

As part of standard operational procedure, the Vessel Tracking team in DAF keeps a record of known issues that may affect vessel tracking compliance and communicates that with QBFP for consideration in their compliance activities. These issues include, but are not limited to, vessel tracking system outages and temporary permissions for fishers to operate without an operational vessel tracking unit approved under the interim vessel tracking unit malfunction procedure. The GPS accuracy information in section 2.1 above is also shared with QBFP for consideration in compliance investigation. Any new issues that may affect the vessel tracking program in general are also communicated with QBFP.

It is important to note that communication is also reciprocated from QBFP to the Vessel Tracking team about potential system issues that require further troubleshooting and resolution. DAF also maintains regular communication about vessel tracking issues with external government agencies (e.g. the Great Barrier Reef Marine Park Authority) with which DAF has an information-sharing agreement under section 217A of the *Fisheries Act 1994* to share vessel tracking data to assist compliance.

## 3. Polling frequency of Rockfleet units on internal battery

DAF is aware that the Rockfleet units poll at 2-hour intervals when operating on internal battery. As outlined in section 4.2.2 of the [Vessel tracking installation and maintenance standard](#), the Rockfleet units are required to be connected to a reliable external power supply when required to be polling. When the Rockfleet units meet this installation requirement (i.e. connected to a reliable external power supply), the units poll at the required interval, which is 5 minutes for the net, crab, line and inshore trawl fisheries. The polling interval while operating on internal battery becomes irrelevant.