



Reports on technical fixes and progress reported for the electronic monitoring trial in the SNA1 trawl fishery

Contents

Electronic monitoring trial in the SNA1 fishery - Summary of progress with technical issues and their solutions	2
Summary of recent monthly reports from the Electronic Monitoring trial in the SNA1 fishery	3
Graph of footage collection	6
Graph of reviews achieved	7

Electronic monitoring trial in the SNA1 fishery - Summary of progress with technical issues and their solutions

Technology impacted	Technical issue	Solution
EM systems and cameras	There was a high failure rate amongst the cameras initially deployed, resulting from moisture ingress.	These cameras were replaced, and an updated camera model was developed.
	Power supply problems, and interference from other vessel equipment on some vessels.	Diagnosed and fixed on a case-by-case basis. A new power supply unit has been developed that helps address the vessel electrical systems that were encountered.
	Difficulty with synchronising recordings from multiple cameras.	Camera software has been updated to improve synchronisation between cameras.
	Image quality affected by sea spray and the weather.	Cameras are monitored daily and maintained when required. Image quality is monitored on-shore through snapshots that are sent while the vessels are at sea. Crew are requested to clean camera lenses if these get dirty.
Footage retrieval	A system was required to retrieve footage from vessels.	A network of port servers was established to retrieve footage from vessels. Establishment of this network took some time.
	Some ports do not have fibre broadband available yet.	In these situations, footage has to be retrieved by visiting the port servers.
Reviewing footage	Problems with synchronising recordings for multiple cameras on a vessel.	The reviewing software has been updated to improve playback performance for footage that was collected early in the programme.

Current as at 3/11/2017



Summary of recent monthly reports from the Electronic Monitoring trial in the SNA1 fishery

Month	EM systems	Footage retrieval	Reviewing footage
Nov 2016	Additional cameras installed on 2 vessels, replacing fly-lead cameras	Footage is reaching port servers well	Reviews have been completed, as shown in the graph below
Dec 2016	1 fly-lead camera, 1 aft camera, and 1 mast camera were replaced on different vessels 1 vessel is being refitted and its cameras have been removed	Footage is reaching port servers well	Reviews have been completed, as shown in the graph below
Jan 2017	1 forward camera, 1 factory camera, and 1 mast camera were replaced on different vessels 1 vessel is being refitted and its cameras have been removed	Footage is reaching port servers well	Reviews have been completed, as shown in the graph below
Feb 2017	1 forward camera and 1 factory camera were replaced on different vessels 1 vessel being refitted and cameras have been removed	Footage is reaching port servers well	Reviews have been completed, as shown in the graph below
Mar 2017	1 power supply failure which lasted 5 days 1 set of faulty cameras to be replaced before the vessel re-enters the fishery 2 additional vessels to be fitted with cameras. One is likely to meet the threshold as a SNA1 EM vessel	Footage is reaching port servers well. Some backlogs of footage transfers were addressed	Reviews have been completed, as shown in the graph below Review summary reports now updated daily
Apr 2017	1 set of cameras was replaced, because a trawl cable damaged it 1 storage device was replaced 1 replacement vessel to the SNA1 EM fleet was fitted with cameras 2 vessels in survey had gear covered and protected	Footage is generally reaching port servers well	Reviews have been completed, as shown in the graph below Daily summary reports were disrupted in early May by changes to MPI-requested summaries



May 2017	<p>1 vessel had its EM system power box was replaced, to address low voltage cut-out</p> <p>1 vessel had a continuous fly-lead camera issue, which was addressed by resetting the system</p> <p>1 vessel had gaps in its footage after powering down the system in port</p>	<p>Footage is generally reaching port servers well.</p> <p>1 vessel needed hard drive swaps while the option of extending the port's Wi-Fi range was investigated</p>	<p>Reviews have been completed, as shown in the graph below</p> <p>Process disrupted by updates in how summaries are formatted</p>
June 2017	<p>3 vessels experienced electrical problems with 1 camera, and 2 cameras on each vessel lost footage.</p> <p>Maintenance was brought forward and batteries were replaced on 1 vessel.</p> <p>A software patch fixed continuous recording on a fly-lead camera</p>	<p>Footage is generally reaching port servers well</p> <p>Storage on review servers was limited, because of the need to maintain footage for MPI audit</p>	<p>Reviews have been re-categorised. Some reviews that were closed (but not complete in terms of the review protocol) have been excluded</p>
July 2017	<p>SIM card failure prevented the sending of snapshots and other diagnostics on 1 vessel.</p> <p>A blown fuse prevented the recording of footage on 1 vessel.</p> <p>3 cameras on 2 vessels needed replacing, partly because of electrical interference.</p> <p>On 1 vessel, a camera was reset.</p> <p>1 vessel needed cabling replaced</p> <p>1 vessel needed file storage replaced</p>	<p>Footage is generally reaching port servers well</p> <p>Storage on review server limited due to the need to maintain footage for MPI audit</p>	<p>Reviews have been completed, as shown in the graph below</p>
August 2017	<p>Faulty cameras were replaced with different version cameras but when returned no fault was found and the cause of their malfunctioning when installed remains unresolved</p> <p>Fore and aft cameras were swapped revealing the poorer performance of one of the cameras was related to the camera itself rather than its</p>	<p>Footage is generally reaching port servers well</p> <p>Storage on review server limited due to the need to maintain footage for MPI audit</p>	<p>Reviews completed, as shown in the table below</p>

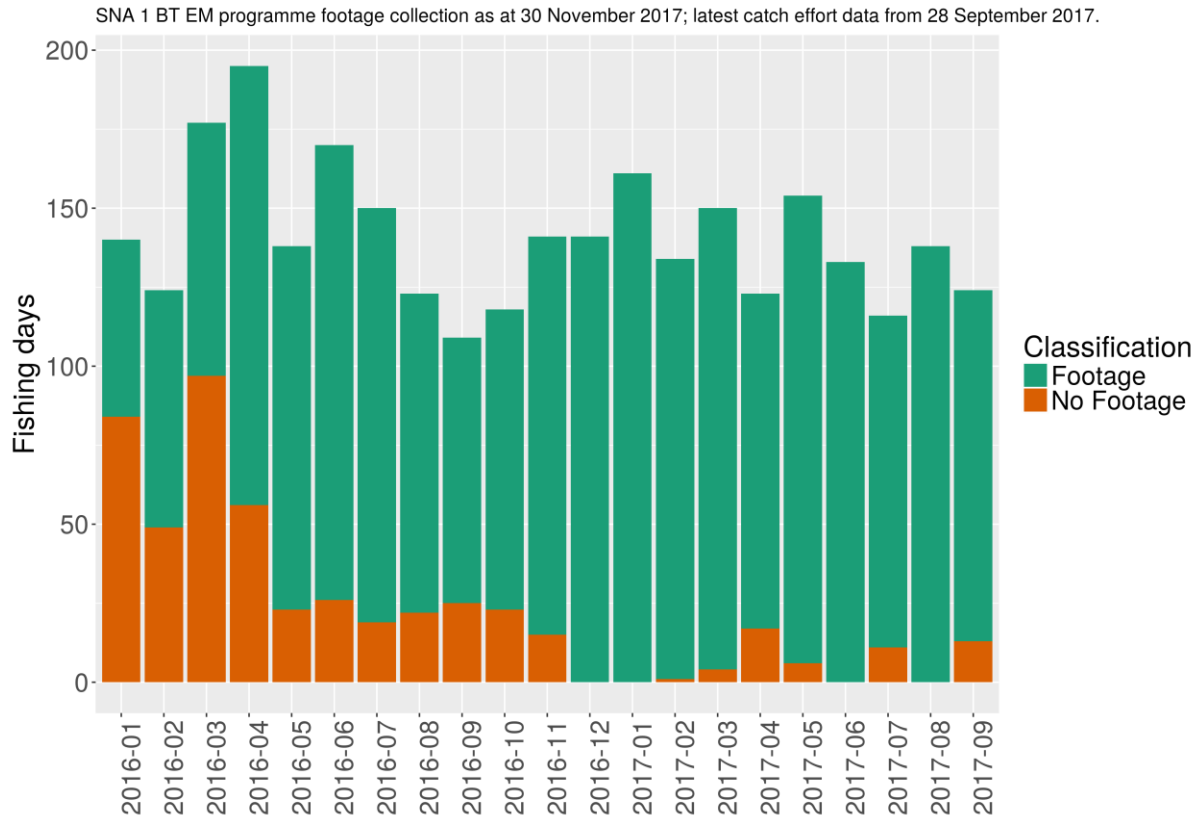


	location. The camera was replaced		
September 2017	<p>A solid state storage device problem required the replacement of two cameras on a vessel</p> <p>Time stamping issues in a camera required footage times to be corrected to facilitate viewing</p> <p>A camera required replacing after storage failure.</p> <p>Work was required to return another EM system to an operational state due to power supply changes during maintenance</p>	<p>Retrieval of footage to port servers is generally functioning well.</p> <p>Storage on the review server has become critical. It is no longer possible to maintain footage on the server while MPI and Trident reviewers work on trips some months apart. Older footage will be removed to tape, and recovered - as required - for review.</p>	Reviews completed, as shown in the table below



Graph of footage collection

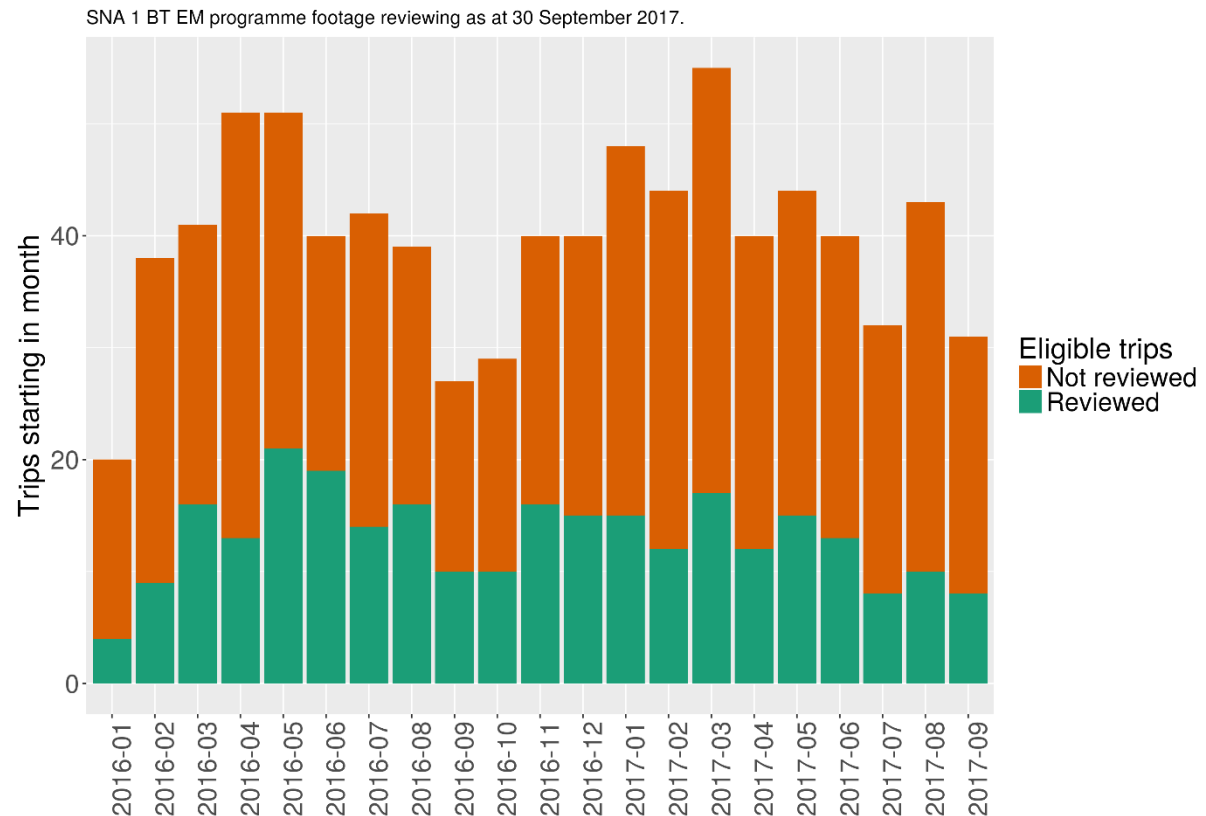
The graph shows the days of fishing conducted by the core SNA 1 EM fleet (vessels catching more than 5 tonne of snapper annually) since the project began, and illustrates whether or not EM footage was obtained. The number of fishing days recorded has steadily improved as cameras have been installed on vessels and as technical issues have been resolved.





Graph of reviews achieved

The graph below shows the number of eligible fishing trips conducted by the core SNA 1 EM fleet and the number of trips which have been reviewed by month since the project began. The number of eligible trips reviewed in the most recent months is incomplete due to the time required for footage collection, footage transfer and cataloguing, identification and selection of footage “slices” for review, review of footage “slices” and quality assurance. The number of trips reviewed by Trident has met the target of 30% of eligible trips.



Current as at 31/12/2017