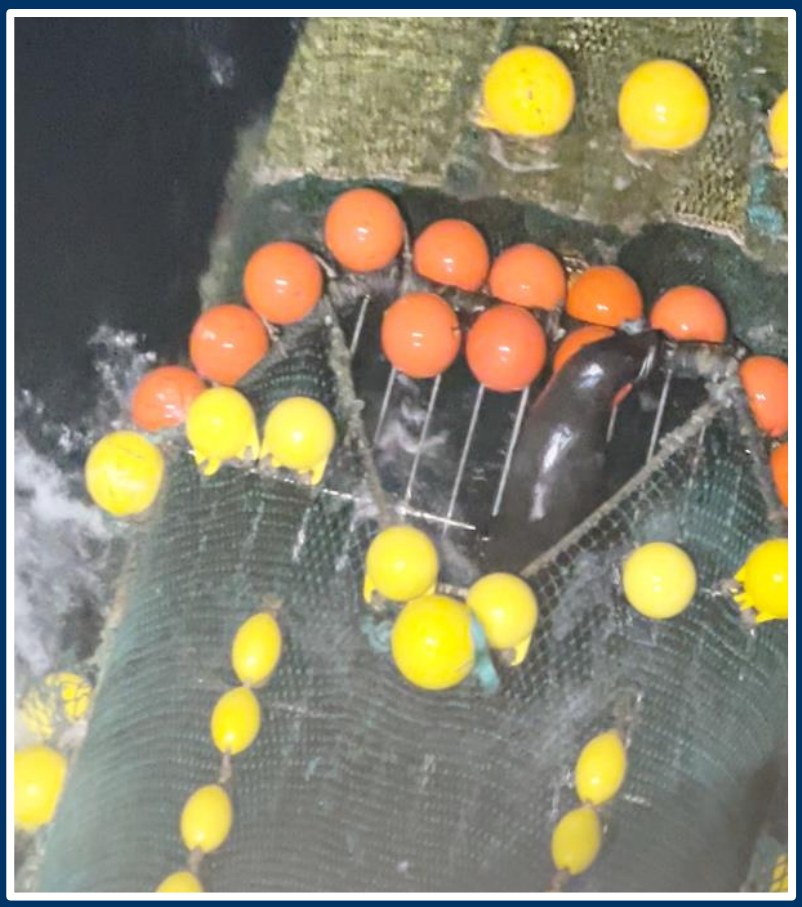
LOL 2025-C MMO Monitoring Program Report



LOL 2025-C

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Previous related reports:

Iriarte, V. (2025). LOL 2024-C MMO Monitoring Report. Fisheries Department, Directorate
of Natural Resources, Falkland Islands Government, Stanley, Falkland Islands. 9 pp.

Iriarte, V. (2023). LOL 2023-X MMO Monitoring Report. Fisheries Department, Directorate of Natural Resources, Falkland Islands Government, Stanley, Falkland Islands. 7 pp.

Iriarte, V. (2023). LOL 2023-C MMO Monitoring Report. Fisheries Department, Directorate of Natural Resources, Falkland Islands Government, Stanley, Falkland Islands. 13 pp.

Iriarte, V. (2023). LOL 2022-X MMO Monitoring Report. Fisheries Department, Directorate of Natural Resources, Falkland Islands Government, Stanley, Falkland Islands. 14 pp.

Iriarte, V. (2022). LOL 2022-C MMO Monitoring Report. Fisheries Department, Directorate of Natural Resources, Falkland Islands Government, Stanley, Falkland Islands. 19 pp.

Contents

1. Introduction

This report presents the data regarding seabird and marine mammal interactions with the Patagonian longfin squid (*Doryteuthis gahi*, hereafter LOL) fishery, collected by the marine mammal observers (MMO) during the 2025-C season. For a description of the MMO Monitoring Program, MMO duties and sampling protocols, see report 2022-C.

The LOL 2025-C season started on 1 March 2025, with eight vessels with an MMO aboard, SEDs being mandatory for the whole fleet. At the end of the first month of the season, observer coverage was transferred to the other half of the fleet, except for one of the vessels, which was covered by a Scientific Fisheries Observer.

The MMOs were supplied by MRAG (UK) and as part of a general training provided by the Falkland Islands Fisheries Department (FIFD), were briefed on seabird and marine mammal data collection by the Bycatch Mitigation Officer.

2. Results

2.1 Manoeuvre monitoring

Of 2,000 trawls carried out in the season, 975 (48.7%) were performed with an MMO aboard. These included the monitoring of 973 shoots (48.65%) and 973 hauls (48.65%). Of the monitored shoots, 567 (58.2%) were observed from the gantry, 405 (41.2%) from the bridge/bridge wings, and 1 from the stern deck/other (Fig.1). Regarding the monitored hauls, 810 (83%) were observed from the gantry, 162 (16.5%) from the bridge/bridge wings, and one from the stern deck/other (Fig.1).

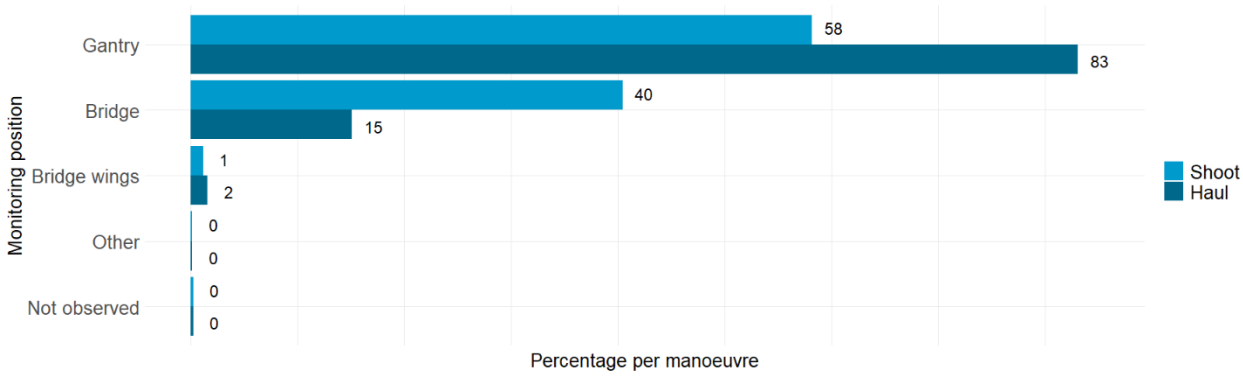

Fig.1. MMO observation effort.

Sixty-six percent of the monitored fishing effort took place south of 52° S and 34% north (Fig.2). XVAJ was the most visited grid square (158 shoots; 120 hauls), followed by XVAK (121 shoots; 148 hauls), XPAP (127 shoots; 110 hauls), XVAH (113 shoots; 116 hauls) and XVAL (107 shoots; 113 hauls) (Fig.3).

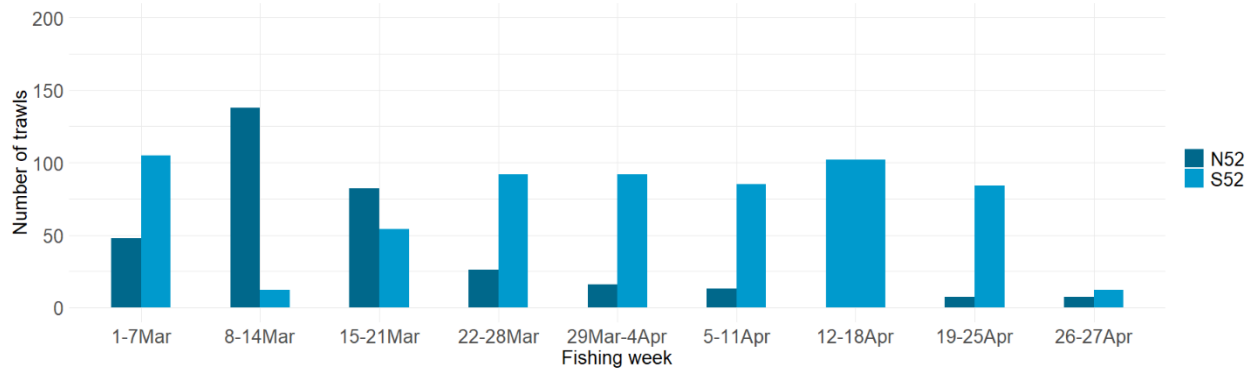

Fig.2. Observed fishing effort north and south of parallel 52°S.

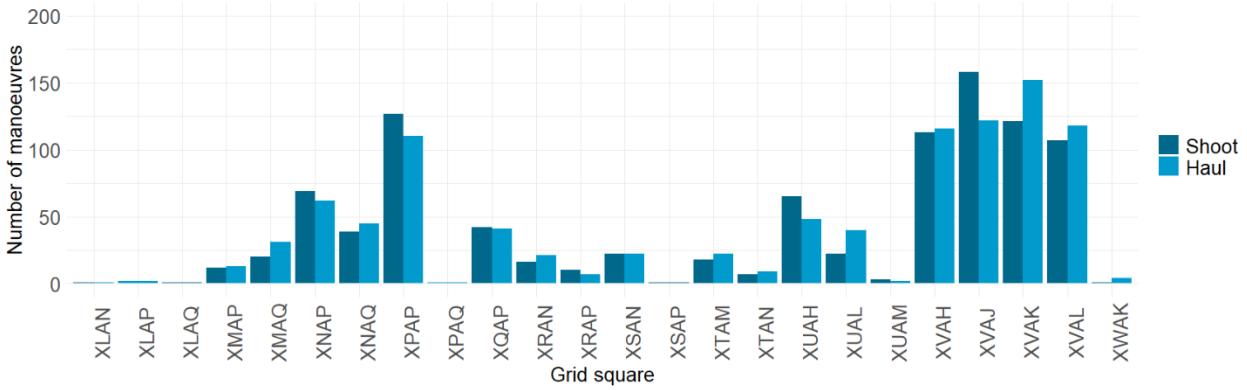

Fig.3. Observed fishing effort per grid square.

2.2. Pinniped sightings

A total of 883 seals [837 South American fur seals (*Arctocephalus australis*, hereafter ARA), 25 South American sea lions (*Otaria flavescens*, hereafter OTB), 21 unknown species (UN)] attended the monitored fishing operations. Eighty-nine percent of the sightings were recorded south of 52º S (Table 1), particularly in grid squares XVAL (30.3%), XVAK (23.8%), XVAJ (14.2%) (Fig.4), with ARA representing 94.7% of the sightings in the whole fishing area (Table 1).

Unlike previous C seasons, pinniped attendance to the observed vessels had a peak during the first fishing week (1-7 March). However, after an abrupt decline during the second week (8-14 March), the usual C-season seal attendance pattern was re-established, increasing throughout the fishing season and reaching a peak during week 6 (5-11 April).

Table 1. Observed pinniped interactions per region**.**

Region	Species	N° sighted	SED escapes	Deck releases	Mortalities
North 52° S	OTB	14	0	0	0
	ARA	75	0	0	0
	UN	4	0	0	0
Sub-total north		93	0	0	0
South 52° S	OTB	11	0	0	0
	ARA	762	2	0	0
	UN	17	0	0	0
Sub-total south		790	2	0	0
TOTAL		**883**	**2**	**0**	**0**

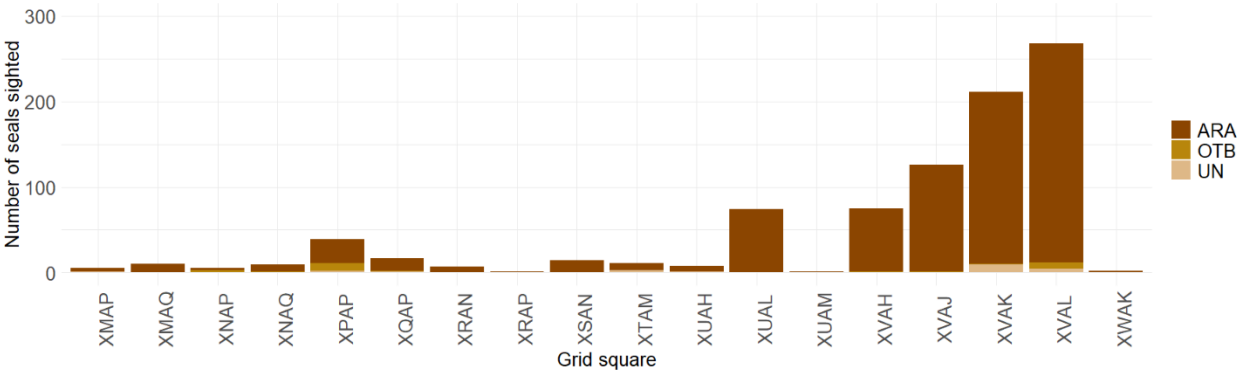

Fig.4. Observed pinniped attendance per grid square.

2.2.1 Pinniped attendance to vessels and behaviour

Of the 883 seals sighted, 650 (613 ARA, 18 OTB, 19 UN) were observed during hauling, comprising 74% of the individuals recorded. The remaining individuals (233) were seen during shooting (4%), trawling (10%), turning (4%) and steaming (8%). In 88% of the hauling attendance, seal behaviour was strictly related to foraging, with both ARA and OTB directly targeting unmeshed squid around the fishing gear (55%), eating from the net (22%) and eating from the net and climbing on top of it (11%) (Fig.6). In the remaining vessel manoeuvres, the most common pinniped behaviour was to follow the vessel (approaching and keeping pace with the vessel) (55%), swim astern (not sure if the pinniped is foraging) (22%) and forage in the discard chute area (13%) (Fig.7). Observers may also record no interaction, when an animal is either more than 200 m distant from the vessel, in transit, or remaining port / starboard without engaging with a vessel manoeuvre.

2.2.2 Pinniped bycatch

Two live ARA were caught south of 52° S, one in grid square XVAK and the other in XVAL (cover photo). No incidental mortalities were recorded by the MMOs.

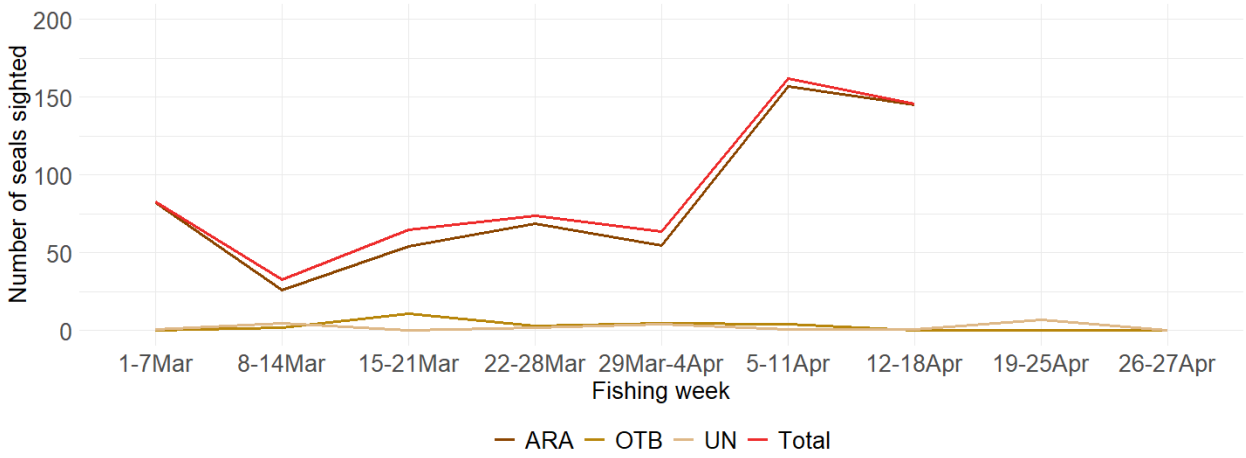

Fig.5. Cumulative pinniped sightings in monitored trawls per fishing week.

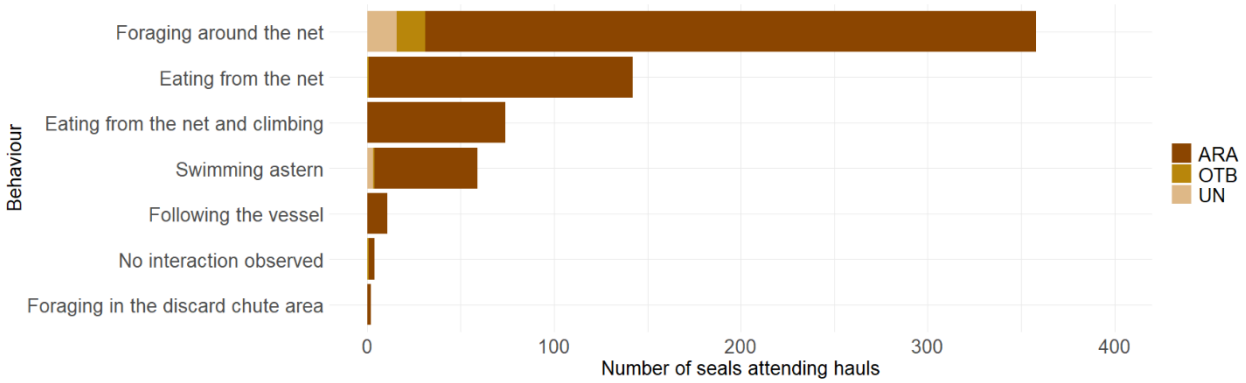

Fig.6. Pinniped abundance and behaviour exhibited during observed hauls.

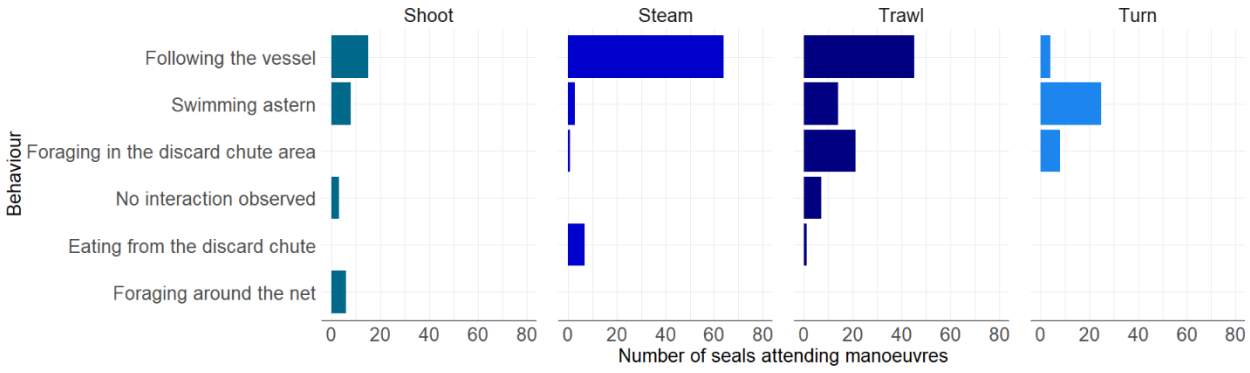

Fig.7. Pinniped abundance and behaviour exhibited during manoeuvres.

2.2.3 SED escapes

During hauling two ARA were seen escaping from the trawl through the SED hatch. The number of individuals that escaped when the SED was below the surface during both shooting and hauling remains unknown. No deck releases were observed.

2.3 Seabird bycatch

Seabird interactions involved the black-browed albatross (*Thalassarche melanophris*/DIM), the giant petrel (*Macronectes spp./*MAX), and the Wilson's storm petrel (*Oceanites oceanicus*/OCO*).* A total of 17 seabird interactions were observed in the monitored stations, of which 53% comprised net entanglements, 24% entangled in the BSL, 12% landed on the vessel, and 12% collided against the vessel (Fig. 8. Table 2). The outcome of these interactions was four (24%) live releases, six (35%) live escapes, and seven (41%) mortalities, of which six comprised net entanglements (Fig. 8, Table 2). Of these, four DIM broke a wing during the hauling manoeuvre. Eighty-nine percent of the net entanglements occurred south of 52º S (Table 2). Unfortunately, observers failed to provide net plans with details on the exact location, mesh, thread, and commercial name of the twine in which seabird entanglements occurred (Table 2).

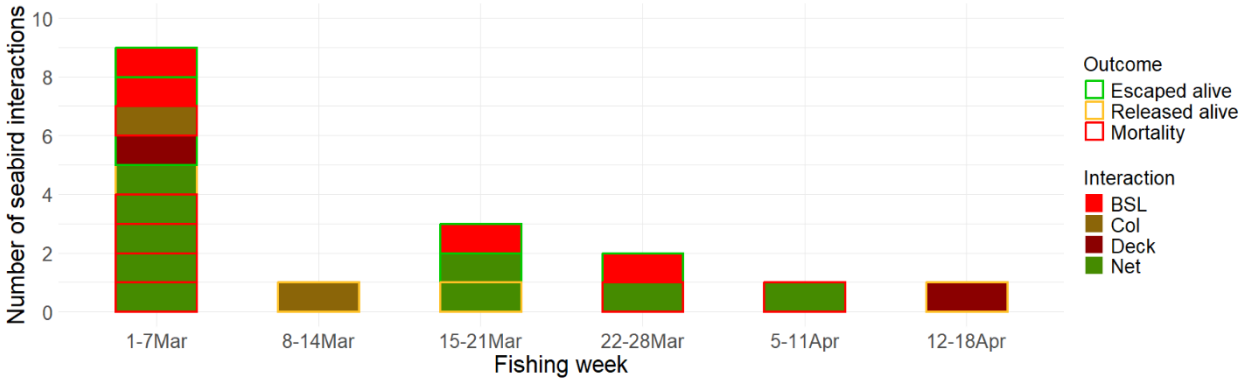

Fig.8. Number, type, and outcome of seabird interactions recorded per fishing week.

Table 2. Seabird observed interactions.

Date	Grid	Manoeuvre	Spp	Interaction	Location	Mesh (mm)	Outcome	Week
02/03/25	XVAK	Haul	DIM	Net	Mouth	400	Released alive	1
02/03/25	XVAH	Haul	DIM	Net	UN	UN	Mortality	1
03/03/25	XVAJ	Haul	DIM	BSL	NA	NA	Escaped alive	1
03/03/25	XVAJ	Haul	DIM	BSL	NA	NA	Escaped alive	1
04/03/25	XVAL	Haul	DIM	Net	Body	200	Mortality	1
04/03/25	XVAH	Haul	DIM	Net	SED-ext	UN	Mortality	1
04/03/25	XVAH	Haul	DIM	Net	Codend	100	Mortality	1
05/03/25	XVAH	Shoot	DIM	Deck	NA	NA	Escaped alive	1
05/03/25	XVAH	Shoot	OCO	Col	NA	NA	Mortality	1
10/03/25	XPAP	Haul	DIM	Col	NA	NA	Released alive	2
17/03/25	XVAH	Shoot	DIM	BSL	NA	NA	Escaped alive	3
20/03/25	XPAP	Haul	DIM	Net	Wing	UN	Escaped alive	3
21/03/25	XVAH	Haul	DIM	Net	Wing	UN	Released alive	3
26/03/25	XTAM	Haul	DIM	BSL	NA	NA	Escaped alive	4
29/03/25	XVAL	Haul	DIM	Net	UN	UN	Mortality	4
09/04/25	XVAJ	Haul	DIM	Net	Chafer	NA	Mortality	6
16/04/25	XVAK	Trawl	MAX	Deck	NA	NA	Released alive	7

Spp=species; **SED-ext**=SED net extension; **UN**=unknown; **NA**=not applicable.

3. Conclusions

3.2. 2025-C is the second fishing season in which MMO coverage was reduced to 50%.

3.3. In comparison to season 2024-C, no variations were seen in the pinniped bycatch numbers for the observed vessels.

3.4. Contrasted to season 2024-C, a peak in pinniped attendance was recorded in the first week. However, overall pinniped attendance increased throughout the season.

3.5. The number of observed seabird interactions was similar to season 2024-C.

3.6. As observed in previous C seasons, seabird interactions concentrated within the first two fishing weeks, whenever DIM chicks were fledging.

3.7. Following preceding fishing seasons, most of the pinniped and seabird interactions took place south of 52° S, specifically around Beauchêne Island (grid squares XVAK, XVAJ, XVAL, XVAH), where megafauna concentrations are prevalent and also where fishing effort is higher.

3.8 Net entanglements continue to be the predominant cause of seabird incidental mortality. It is crucial observers are encouraged to collect complete net

entanglement information: location of the seabirds in the trawl, mesh size, characteristics of the mesh thread such as commercial material and diameter, and schematic trawl net diagram.