

**Can can we better interpret the fate of injured seabirds from observer  
PSI forms by additionally triaging birds as low, moderate or high  
probability (ABC) of survival based on all injuries sustained ?**

**Based on ABC health assessment protocol developed in CSP project  
INT2019-06 (WMIL).**

# Observer Protected Species Interaction Form



(V 3 July 2019)

Write the trip number      Were there protected species interaction(s) for this trip (Y/N)

- Protected species includes seabird, marine mammals, marine reptiles and protected fish/sharks (for a full list of species to be included, consult the observer manual). Protected corals are still to be recorded on the Benthic materials form.
- Protected species interactions are deemed to have occurred when animal(s) have become fixed, entangled or trapped so that is prevented from moving freely or freeing itself. A bird which lands on the vessel, and leaves the vessel **without assistance** from yourself/crew should not be recorded on this form.
- Complete a **separate entry** for each individual interaction.
- If the protected species interaction is an impact /landing interaction type, record negative one (-1) for tow/set numbers not associated with fishing events and 'L' for the interaction type.
- Tick the appropriate box to indicate whether any protected species interactions occurred during this trip.

Interaction number	On duty (Y/N)	Witnessed interaction (Y/N)	Animal seen (Y/N)	Tow/set number	Observation date	Observation time	Species code	Life status when first sighted*	Interaction type*	Only complete these sections if interaction type is "F" or "M"		Injury/bodily status*	Length (cm)	Measurement method A or E	Sex	CSP tag number you attached	Codes for samples taken*	End status*
										Location of capture*	Part of body*							
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Tag number or marking on animal at time of capture		Image file name			Observer code		.		Comments									

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\*Refer to instructions overleaf

**Life status when first sighted**

Use one of the codes below to indicate the life status of the animal when it was first observed.

1	Alive
2	Dead (showing no sign of life)
4	Decomposing

**Interaction type**

Use one of the codes below to indicate the interaction type. Note that for the purposes of interaction type, SLEDs can be considered a part of the net. Therefore any SLED captures should be coded under “F”.

F	Caught in the fishing gear (this includes warps, paravanes or any other equipment directly involved in fishing).
M	Caught in seabird mitigation device (i.e. tori line or bird baffler)
L	Deck impact/deck landing (use this code for birds that impact against the superstructure of the vessel or land on the deck and are assisted off the vessel)
B	Brought on board (use this code for when an animal is brought on board the vessel and released by crew but was not tangled in commercial fishing gear (e.g. animals “riding” the cod-end)
R	Caught in recreational gear (for interactions used on board this vessel)
O	Other (any other capture type that does not meet any definition above; describe in comments)
U	Unknown (you do not know how the interaction occurred, describe circumstances in comments)

**Part of body**

Use one of the codes below to indicate which part of the body was caught.

E	Entire body caught (i.e. net/warp capture, tangled in line or foul hooked)
W	Caught by wing (seabirds and protected rays)
F	Caught by flipper/feet
H	Caught by head (e.g. in net mesh)
M	Caught by mouth (i.e. hook in mouth)
U	Unknown (you do not know which part of the body was caught)

**End status**

Use one of the codes to indicate what happened to the animal at the end of the incident.

R	Whole body retained	U	Returned alive but injury status unknown
A	Returned alive and uninjured	D	Returned dead and unmarked
I	Returned alive and injured	M	Marked or tagged and then discarded dead
F	Returned alive but unlikely to survive	L	Not recovered
T	Tagged/banded and released alive uninjured	V	Tagged/banded and released alive injured
W	Tagged/banded and released unlikely to survive		

**Code for samples taken**

Use as many codes as applicable to indicate the samples taken from the animal.

B	Head	L	Feather
C	Leg	M	Tissue
E	Stomach	O	Other (detail in comments)
F	Teeth	V	Video
G	Skin sample	Y	More than 4 samples
J	Image (photograph)	Z	No samples collected
K	Ovary		

**Location of capture**

Use one of the codes below to indicate where the capture occurred (note that some codes are method specific). Complete this column if the interaction type is “F” or “M”.

<b>Trawl/danish seine vessels</b>	
S	Caught on warp or door
NI	Internal net capture (the animal was caught inside the trawl net/codend/pounds)
NC	External net capture (the animal was caught/tangled in mesh of the cod-end)
NL	External net capture (the animal was caught/tangled in the mesh of the lengthener/taper)
NW	External net capture (the animal was caught in the mesh of the net wings/body)
SC	Animal was caught in the centre net of a triple-rig (SCI only)
SH	Animal was caught/tangled in the hood of the SLED
SG	Animal was caught on the grid of the SLED
L	Animal was caught/tangled in the net lazy line or paravane
OT	Other capture location on a trawl vessel (describe in comments)
<b>Longline vessels</b>	
TM	Tangled in mainline
TF	Tangled in float line
TS	Tangled in snood/branch line
TU	The line the animal was tangled in was unable to be determined
H	Caught on hook
TH	Animal was both caught on the hook and tangled in line
LL	Other type of gear capture on longline vessel (describe in comments)
<b>Mitigation device – all vessels</b>	
TO	Tangled in tori line
BB	Caught in bird baffler
WS	Caught in warp scarer
ML	Caught in longline hauling mitigation device
MO	Caught in other mitigation device (describe in comments)
<b>Other</b>	
NO	Net capture (purse seine or set net vessels only)
P	Caught in fishing pot
R	Caught in gear retrieval rope (i.e. potting/set netting)
O	Other location (only use this code if no others apply; describe in comments)
W	Caught on troll lure
X	Unknown

**Injury/bodily status**

Use as many of the codes as applicable to indicate the injury status of the animal.

A	Broken or drooping wing	P	Disorientated or unco-ordinated
B	Broken beak	Q	Froth or foam present in mouth/nostrils
C	Broken leg	R	Body in rigour
D	Broken flipper, fin or tail	S	Predated upon (e.g. by shark)
E	Broken shell	T	Liced
F	Open wound	V	Decaying
1	Killed by crew	W	Waterlogged
2	Injured by crew	X	Greased/oiled
K	Swallowed hook	O	Other describe in comments
L	Severed body part	U	Unknown (not able to assess)
M	Bleeding from orifices	Y	More than three visible injuries
N	Breathing but unconscious	Z	No visible injuries

## **ABC survival probability ranking - additional commercial fisheries seabird interaction health assessment tool**

Assessment tool used to assess injuries to seabirds that interact with commercial fisheries based on survival probability from injuries sustained. All alive birds returned to sea should be assessed based on injuries listed in table and example images on the following page, and given a ranking (A, B or C).

Ranking	Injuries	PSI form Injury code	Survival prospects	Justification
A	Broken wing bones	A	Low	Pelagic seabirds with broken wings are unable to fly, and therefore forage so survival prospects are negligible.
	Large open wound to any part of body (wound >2cm), broken bill	B, F, L, Y		Large open wounds and significant injuries to the bill are significant trauma that a pelagic seabird is unlikely to recovery from.
	Grease or oil covering >10% of feathering	X		Grease and oil compromises water proofing and significant oiling is likely to be fatal to pelagic seabird.
B	Broken leg or foot	C	Moderate	Pelagic seabirds are known to survive with missing legs and feet, so some leg injuries may not be fatal.
	Minor open wound (wound <2cm, i.e. small wound from hook injury), bleeding from mouth	F, K, M		Pelagic seabirds are known to survive with hook injuries; therefore, some minor wounds are known not to be fatal.
	Grease or oil covering <10% of feathering	X		Grease and oil compromises water proofing and minor oiling may not be fatal.
C	No visible injuries (i.e. nocturnal deck-strikes)	P, Z	High	Birds with no visible injuries (including no grease or oil of feathering), mostly birds which are attracted to boats at night due to lights and are classified as deck-strikes.



Examples of seabird injuries for each ranking A-C. 'A' examples: Live white-capped albatross with broken wing; Live white-capped albatross with broken wing caught in line; dead white-capped albatross with large open wound in neck; dead grey petrel with large open wound in neck. 'B' examples: white-capped albatross with minor open wound (hook in wing), royal albatross with minor open wound (hook in bill), white-capped albatross with grease covering <10% of feathering, white-headed petrel with grease covering <10% of feathering. 'C' examples: uninjured Salvin's albatross aboard a vessel, white-chinned petrel aboard a vessel, white-headed petrel nocturnal deck-strike, grey-backed storm petrel nocturnal deck-strike.