

# WhaleLog 2007

**Report from the Irish Whale and Dolphin Group**



SUPPORTED BY THE HERITAGE COUNCIL.



LE CLUIDIÚ AN CHOMHAIRLE OIDHBEACHTA

**Final Report to the Heritage Council for  
Wildlife Grant Number 15290**

# WhaleLog 2007



Long-finned pilot whales © Maritime Squadron

## Report from the Irish Whale and Dolphin Group

Prepared by Dr Simon Berrow

IWDG Co-ordinator

Irish Whale and Dolphin Group

Merchants Quay, Kilrush, Co Clare



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## **WhaleLog 2007**

### **Summary**

The IWDG WhaleLog project has been going since 1995 when the Maritime Squadron were requested to record and obtain images of any cetacean sightings made during routine flights. During the current project the IWDG developed this relationship by providing training to Air Corps staff on cetacean identification and recording. A draft Service Level Agreement was produced and IWDG personnel accompanied the Maritime Squadron on fisheries patrol to gain experience and an understanding of their operation. We also carried out a review of sightings data since WhaleLog began.

Since 1996 the IWDG have received 39 sighting records of seven different species of whales and dolphins. Many of these sightings were accompanied by some fantastic images, including of fin whales, pilot whales and dolphins. The number of records peaked in 1998 at the start of WhaleLog but tailed off over the last 10 years with just one or two records per annum. WhaleLog 2007 has rekindled the interest within the Air Corps. The most frequently reported species were bottlenose dolphin, long-finned pilot whale, sperm whale and fin whale followed by common and Atlantic White-sided dolphin. There was also one record of the rarely observed Northern bottlenose whale. Most records were of unidentified dolphin (28%) and unidentified whales (23%).

During this project we managed to accompany five flights, one per month between July and October and one in December with four IWDG personnel. Although no sightings were made, mainly due to poor weather conditions (low cloud and strong winds) during flights the IWDG gained invaluable experience.

We identified a number of issues regarding cetacean recording and some interesting areas worth developing including claims that the radar will pick up large schools of dolphins in favourable sea conditions. We also present proposed survey methodology for future flights.

## WhaleLog

To date 24 different cetacean (whales, dolphins and porpoise) species have been recorded in the Irish Exclusive Economic Zone (EEZ). These include the harbour porpoise to the largest animal ever to have lived on Earth, the blue whale. The harbour porpoise is probably the most abundant and widespread cetacean species in Ireland but is restricted to continental shelf waters, while the blue whale migrates annually along the edge of the continental shelf off the western seaboard. At least 10 species are reported regularly including seven species of dolphin (common, bottlenose, Risso's, white-sided and white-beaked dolphin and long-finned pilot and killer whale) and three species of baleen whale (minke, fin and humpback whale). The deep water to the west of the shelf edge provides good feeding habitats for sperm whales and beaked whales (family: Ziiphiidae) which really are the deep diving specialists and are thought to associate with deep canyons. Vagrants also occur in Irish waters, occasionally from colder waters to the north e.g. beluga but more frequently species usually found further south e.g. false killer whales.

The EEZ extends to 200nmls (360km) off the coast and, if recent negotiations with the UN to extend the Irish EEZ are successful, will soon extend to 350 nmls (630km) offshore. This extension will not only increase Ireland's claim to important oil and gas reserves but also increases our conservation obligations especially regarding cold water coral reefs and mobile marine megafauna. The area of the present EEZ is approximately 237,600 km<sup>2</sup> (132,000 square miles), which is 16% of the total EU sea fisheries area. This in itself represents an area almost five times the land area of Ireland and encompasses perhaps one of the most productive fisheries in the world.

Ireland is obliged under the EU Habitats Directive to provide strict protection to all cetacean species found within the Irish EEZ and establish a "*comprehensive, systematic, ongoing monitoring programme*".

The IWDG are contracted to carry out inshore monitoring of cetaceans on behalf of the National Parks and Wildlife Service. Monitoring offshore waters is a far greater challenge, as access to these sites, especially in good sea conditions, can be extremely difficult. The IWDG have identified the Air Corps 101 Squadron of Number 1 Operations Wing (101 Squadron, No. 1 Operations Wing) as a potential partner in recording and monitoring cetaceans through the provision of a suitable platform from which to observe cetaceans in Irish waters. This platform could take advantage of good weather conditions where a considerable area could be surveyed very efficiently. In order to develop the potential of the Air Corps Maritime Squadron for recording and monitoring marine megafauna it is important to understand their operation and logistics.

The Air Corps are part of the Irish Army and are based at Casement Aerodrome, Baldonnel, consists of a headquarters, two operational wings, two support wings, an Air Corps Training College, and a Communication and Information Services Squadron. The operational wings consist of a training/light strike squadron; helicopter squadrons; a maritime squadron; a transport squadron and a fixed wing reconnaissance squadron. The support wings are tasked with specialist maintenance of the aircraft fleet.

The objectives of WhaleLog 2007 were to:

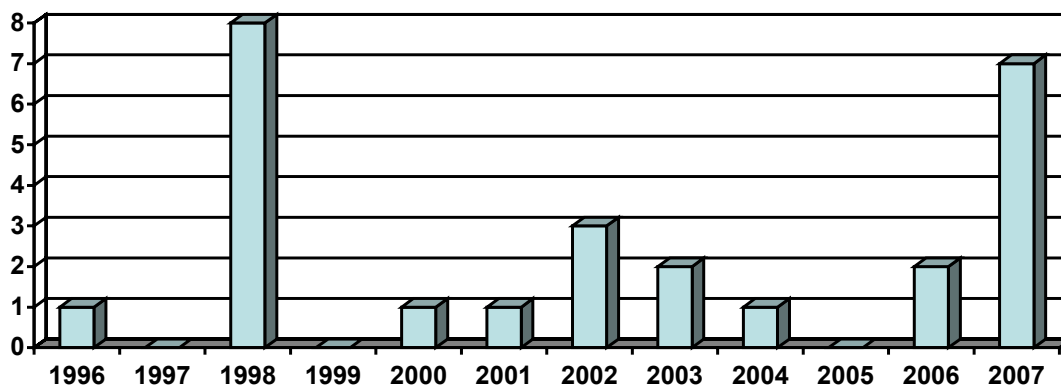
1. Provide training to Air Corps staff on cetacean identification and recording
2. Improve procedures for obtaining cetacean sighting records
3. Develop a Service Level Agreement with the Maritime Squadron
4. Accompany the Maritime Squadron on fisheries patrol to gain experience and an understanding of their operation

## History of WhaleLog

The WhaleLog project with the Air Corps began in 1995 following a request from the IWDG to the then Minister for Defence, Mr. Sean Barrett T.D. for the Casa Maritime Squadron to log sightings of whales and dolphins during daily patrols.

To improve the quality of the data, the IWDG applied for a grant in early 1999 from the Heritage Council Wildlife Grant Scheme. The Heritage Council in May 1999 approved a grant of £1000 for a Whale Identification Workshop with the Casa aircrews and the purchase of an auto-focus camera to photograph whales and dolphins during patrols. The IWDG, with funding from the Heritage Council, purchased one Canon EOS 5 camera and 75-300 mm lens in December 1999 and loaned it to the Air Corps Maritime Squadron in January 2000 for use photographing any whales or dolphins sighted during their maritime patrols.

A course on the identification and recording of cetaceans was held in November 1999 by Emer Rogan and Shay Fennelly on behalf of the IWDG. The initial project objective was to help create a photographic record to aid species identification and over time help identify individual whales, track whale movements and identify areas significant to whales in Irish waters.



**Figure 1. Number of days with sightings of cetaceans per year, since the start of Whale Log**

Since 1996 the IWDG have received 39 sighting records of seven different species of whales and dolphins (Table 1). Many of these sightings were accompanied by some fantastic images, including of fin whales, pilot whales and dolphins. The number of records peaked in 1998 at the start of WhaleLog but tailed off over the last 10 years with just one or two records per annum. WhaleLog 2007 has rekindled the interest within the Air Corps and reminded the squadron that we are interested in all records. We hope that this level of interest can be maintained.

The most frequently reported species were bottlenose dolphin, long-finned pilot whale, sperm whale and fin whale followed by common and Atlantic White-sided dolphin. There was also one record of the rarely observed Northern bottlenose whale. Most records were of unidentified dolphin (28%) and unidentified whales (23%).

The high proportion of unidentified whales and dolphins demonstrates the difficulties of obtaining images of cetaceans from the aircraft. However these records, even if not identified to species level, are still very valuable as they indicate there were animals at this location and at this point in time which given the paucity of offshore records still provide very valuable information.



**First image received: a dead sperm whale Fin whale off southwest Ireland**

**©Maritime Squadron**



**Table 1. List of sightings received by the IWDG from the Maritime Squadron since the start of WhaleLog in 1995**

Date	Species	No's	Location		Region	Images	Record Number
			Latitude	Longitude			
16/06/1996	Sperm whale	1	53.97	-12.63	West coast	Yes	Dead, adult floating
4/10/1998	Whale Species	4	51.39	-11.59	Southwest	Yes	CASA 252, 216/98, Zone 7
4/10/1998	Whale Species	1	51.41	-11.62	Southwest	Yes	CASA 252, 216/98, Zone 7
4/10/1998	Whale Species	1	51.2	-11.46	Southwest	Yes	CASA 252, 216/98, Zone 7
6/10/1998	Blue/fin/sei whale	6	51.9	-11.72	Southwest	Yes	CASA 252, 195/98, Zone 7
6/10/1998	Dolphin species	C40	51.55	-11.45	Southwest	Yes	CASA 252, 195/98, Zone 7
9/11/1998	Large whale species.	2	51.6	-7.77	South	No	CASA 252, 217/98, Zone 10
13/11/1998	Dolphin species	14+	51.56	-8.25	South	No	CASA 252, 219/98, Zone 7-10
13/11/1998	Dolphin species	30+	51.63	-8.07	South	No	CASA 252, 219/98, Zone 7-10
23/11/1998	Dolphin species	3	48.74	-10.12	South	No	CASA 252, 225/98, Zone 8
27/11/1998	Whale Species	1	50.96	-11.25	Southwest	No	CASA 252, 229/98, Zone 8
1/12/1998	Common dolphin	100+	52.84	-12.11	West coast	Yes	CASA 252, 23298, Zone 2 & 8
1/12/1998	Common dolphin	140+	53.4	-11.76	West coast	Yes	CASA 252, 23298, Zone 2 & 8
5/12/1998	Dolphin species	20	52.39	-10.98	Southwest	No	CASA 252, 235/98, Zone 7
5/12/1998	Dolphin species	10+	51.62	-11.1	Southwest	No	CASA 252, 235/98, Zone 7
5/12/1998	Large whale species	2	51.01	-9.42	Southwest	No	CASA 252, 235/98, Zone 7
2/06/2000	Sperm whale	1	56.62	-11.85	Northwest	Yes	
4/06/2001	Fin whale	3	51.38	-7.96	Southwest	Yes	CASA 252, 2 adults & 1 calf
26/07/2002	Fin whale	4	48.55	-11.8	South	Yes	CASA 252, 161/02
5/09/2002	Whale Species	2	48.58	-11.29	Southwest	No	CASA 253, 202/02
10/10/2002	Fin whale	6-10	49.55	-13.05	Southwest	Yes	CASA 253, 221/02
10/01/2003	Dolphin species	50-70	52.65	-12.02	West coast	No	
10/01/2003	Cetacean species	14	52.81	-11.94	West coast	No	
2/12/2003	Bottlenose dolphin	35-40	54.08	-11.33	Northwest	Yes	
9/07/2004	Dolphin species	c125	51.71	-14.92	Southwest	Yes	Porcupine Bank
17/07/2006	Dolphin species	40+	51.71	-12.96	Southwest	Yes	Mission 134/06

Date	Species	No's	Location		Region	Images	Record Number
			Latitude	Longitude			
8/08/2006	Cetacean species	2-3	50.22	-10.95	Southwest	Yes	Awaiting images, (Probable Risso's)
23/02/2007	Sperm whale	9	54.50	-12.51	West coast	Yes	CASA 252, images sent to IWDG
18/06/2007	Northern Bottlenose whale	2	50.9	-13.36	Southwest	Yes	CASA 252, 113/07
18/06/2007	Bottlenose dolphin	8	50.06	-13.67	Southwest	Yes	CASA 252, 113/07
18/06/2007	Pilot whale (LF)	11	49.02	-13.51	Southwest	Yes	CASA 252, 113/07
13/07/2007	Bottlenose dolphin	20	56.65	-13.57	Northwest	Yes	
13/07/2007	Pilot whale (LF)	19	56.02	-9.76	Northwest	Yes	
13/07/2007	Atlantic white-sided dolphin	3	55.98	-9.74	Northwest	Yes	
15/07/2007	Pilot whale (LF)	3	55.73	-9.82	Northwest	Yes	
15/07/2007	Atlantic white-sided dolphin	11	55.72	-9.81	Northwest	Yes	
8/08/2007	Dolphin species	20+	54.29	-8.67	Northwest	Yes	Off Sligo airport, awaiting images
6/09/2007	Whale Species	1	55.53	-10.75	Northwest	No	
7/09/2007	Dolphin species	100	53.46	-13.02	West coast	Yes	Awaiting images

Yes = images received and archived by the IWDG

## **WhaleLog 2007**

### Training course and improved procedures

A training course was organized and delivered by Simon Berrow at the offices of the Air Corps at Baldonnell airport, Co Dublin on 11 May 2007. The attendance was very high with representatives from all aspects of the operation including pilot, navigators, photographers and ground crew. The presentation included a review of current knowledge of cetaceans in Irish waters and present conservation issues, including statutory obligations. The presentation was followed by a very useful discussion where the logistics of the crew were discussed. One issue that became clear is the desire by the IWDG to obtain records of all cetacean species including dolphins and not just whales.

At this course it was agreed that formal permission from the Minister of Defence should be sought prior to IWDG accompanying the Maritime Squadron on patrol. It was anticipated that this should not be a problem but it placed the relationship between the Air Corps and the IWDG on a more formal structure. This could also assist in developing a Service Level Agreement.

### Service Level Agreement

One of the proposed deliverables from this project was the negotiation of a Service Level Agreement between the IWDG and the Air Corps. The IWDG successfully negotiated one with the Irish Navy in 2005 and it was hoped that a similar agreement with the Air Corps would strengthen the relationship and assist the development of utilising Maritime Patrols for recording and surveying cetaceans in the future.

The IWDG wrote to the Secretary General at the Department of Defence on 14 May 2007 (see Appendix I). After an acknowledgement was received on 15 May 2007, no further communication was received, probably due to the impending General Election. A follow up email and phone call on 16 July 2007 urged the Department to consider the IWDG request as

opportunities for carrying out the WhaleLog 2007 project were being restricted. The Secretary General granted permission on 20 July 2007. Due to the delay in obtaining permission the time period available for accompanying maritime patrols was reduced. The first flight was arranged 4 days after formal permission was received.

To date a Service Level Agreement has not been completed but the process is underway and we are hopeful of concluding this in the near future.

### Maritime aircraft

The Irish Air Corps have two Casa CN235 aircraft. Casa EADS Defence in Spain built both these aircraft in 1994 for the Department of Defence. Although now aging they have provided a good platform for maritime patrols. The aircraft have a payload of 15.8 metric tonnes and 9000lbs of fuel. This gives it an operational range of 10 hours or around 1200 nmls (2160kms). They are fitted with Litton V5 radar for detecting vessels. This radar has a very high resolution, which means targets the size of a trawler can be detected from an altitude of 5000ft but this is dependant on the atmospheric conditions and sea state, also the material make-up of the target can have an effect on its detection range. The footprint of the radar at this altitude is 155km<sup>2</sup> (87 nmls), which provides a very effective tool for surveillance.

The aircraft are fitted with two bubble windows, one on each side of the aircraft and situated to the rear. These windows enable an observer to look below and ahead of the aircraft during flight and are retractable to facilitate photography.

One aircraft is currently being refitted in Spain, which means the Air Corps have been operating with only one aircraft since the beginning of 2007. The current operational aircraft will also be sent for refitting on return of the aircraft from Spain in mid-December 2008. The refit includes a significant upgrade of mission equipment including two colour screens on the radar to improve contrast on targets and higher resolution. A major addition is real time image transfer via satellite communications to enable the aircraft to transmit images to

colleagues on land at sea, further facilitating the Irish Naval Service in fisheries protection and other tasks.

CASA Statistics	
<b>Aircraft Type</b>	Casa CN235-100 MPA
<b>Role(s)</b>	Maritime patrolling, air ambulance, military transport, Search and Rescue top cover and Parachuting operations
<b>Crew</b>	2 Pilots, 2 Sensor and Radar Operators, 1 Photographer
<b>Powerplant</b>	2 x General Electric CT7-9C turbo props
<b>Wing Span</b>	25.81 metres (84 feet 8 inches)
<b>Height</b>	8.12 metres. (26 feet, 8 inches)
<b>Length</b>	21.4 metres (70 feet, 3 inches)
<b>Armament</b>	Not Applicable
<b>Entered Service</b>	1994

CASA Performance	
<b>Max T/O Weight</b>	15,800 Kilograms (34,800 pounds)
<b>Service Ceiling</b>	25,000 feet
<b>Cruise Speed</b>	180 Knots (Patrol cruise)
<b>Maximum Speed</b>	240 knots
<b>Endurance</b>	8 hours (Plus reserves)
<b>Range</b>	1,440 nautical miles (Patrol operations)

**Figure 2. Details of spec and performance of Casa aircraft (from Air Corps website)**

### Maritime Patrol Operations

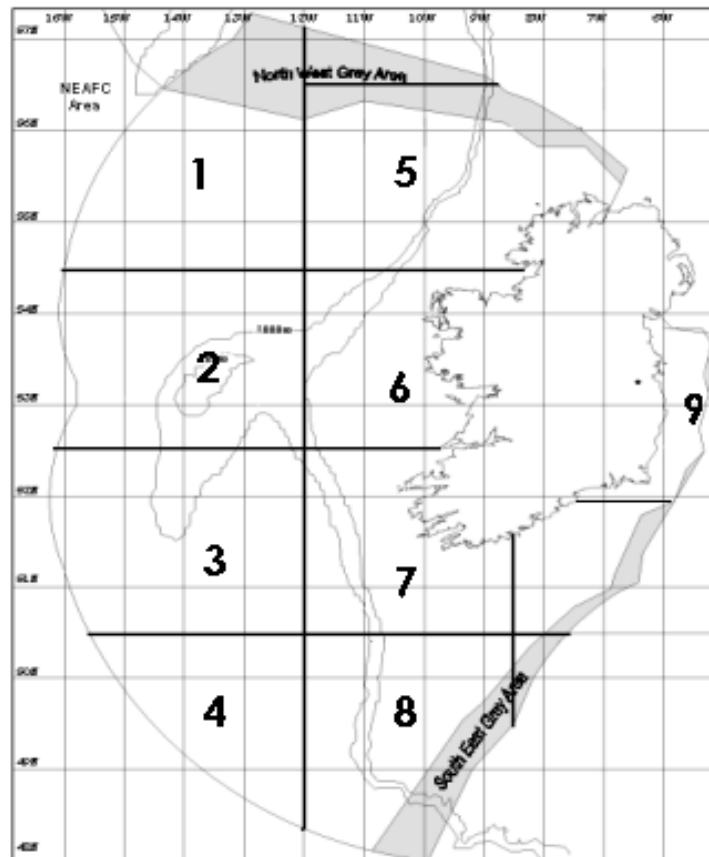
The Air Corps fly maritime patrols every day. The schedule for the week is forward to operations on a Sunday and this identifies which marine zones (Fig 3) are to be visited each day. This schedule can change with short notice, usually at the request of the Naval Service.



Navigator at radar console



Photographer at retractable bubble window



**Figure 3. Marine survey zones**

### Maritime Patrols

In the original proposal we had hoped to carry out 10 dedicated flights with the Maritime Squadron. Due to constraints brought about by having only one operational aircraft (the second aircraft was in Spain for a refit) this was not possible so IWDG personnel accompanied routine maritime patrols.

Identifying a suitable patrol provided quite difficult. The greatest factors influencing the ability to detect cetaceans at sea are cloud height and sea-state. Weather conditions during the summer of 2007 were poor with high winds and often low cloud layer predominating.

The procedure was to examine the long-term weather forecast to identify potentially good surveying conditions. Once a suitable date was chosen the Air Corps were contacted by

phone to see if they were flying on the chosen day and whether it was convenient for IWDG to accompany them. Once agreed, the aircraft landed at Shannon airport to pick up IWDG personnel before continuing on their mission. It was important to identify handling agents at the chosen airport, carry means of identification and/or a passport for airport security.

**Table 2. Maritime flights accompanied during WhaleLog 2007**

Date	Location	Personnel	Sightings	Comments
24 July	West coast	SB/PW	None	Low cloud, sea-state generally greater than 2
24 August	West coast	SB/PW	None	
17 September	Southwest coast	SB/MO'C	None	
26 October	Southwest coast	SB/MO'C	None	Cloud high, sea-state 5+
23 and 26 November	Cancelled due to technical problems both days	DW	-	Fuel gauge and compass failure resulted in aircraft being grounded.
12 December	Northwest	DW	None	Cloud cover low, sea-state 4-6

SB=Simon Berrow, PW=Pádraig Whooley, MO'C=Mick O'Connell, DW=Dave Wall

During this project we managed to accompany five flights, one per month between July and October and one in December with four IWDG personnel gaining invaluable experience (Table 2).



Typical targets – Fishing vessels

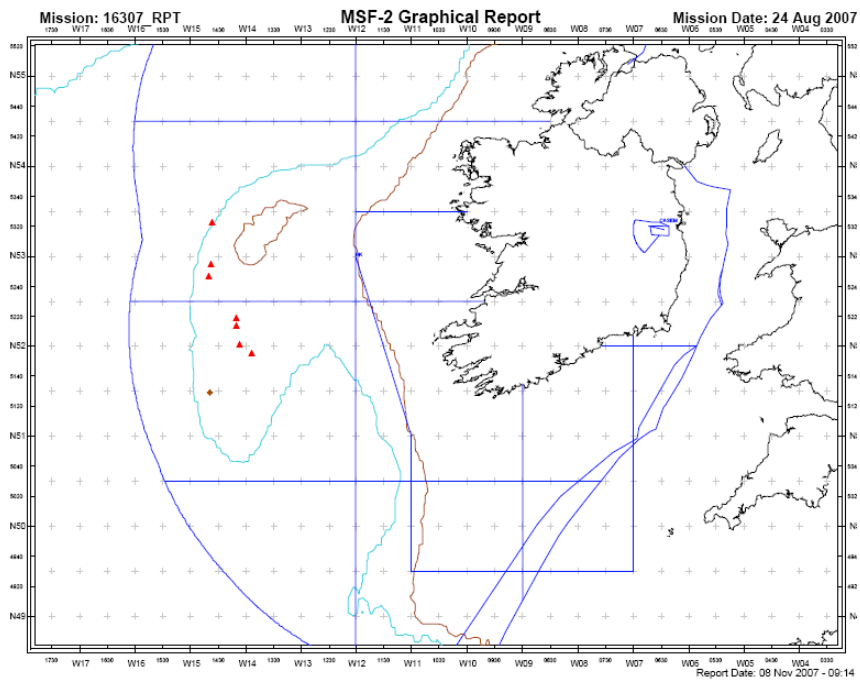


Fig 4a. 24 July 2007

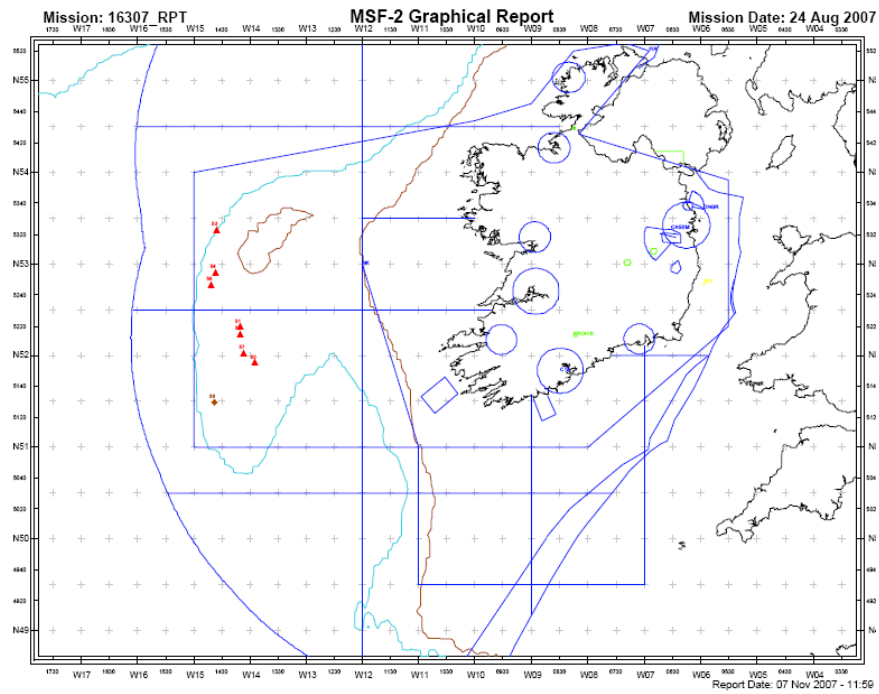


Fig 4b. 24 August 2007



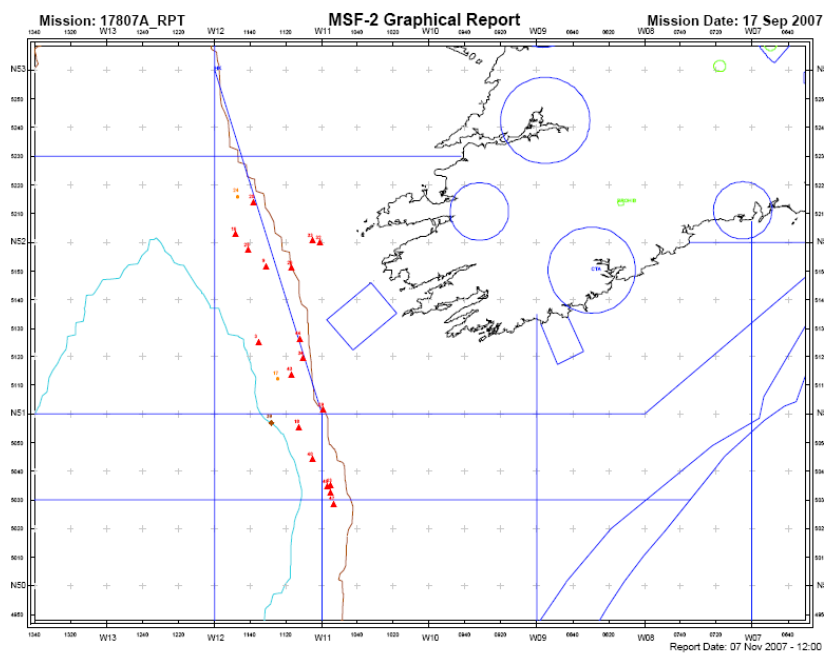


Fig 4c. 17 September 2007

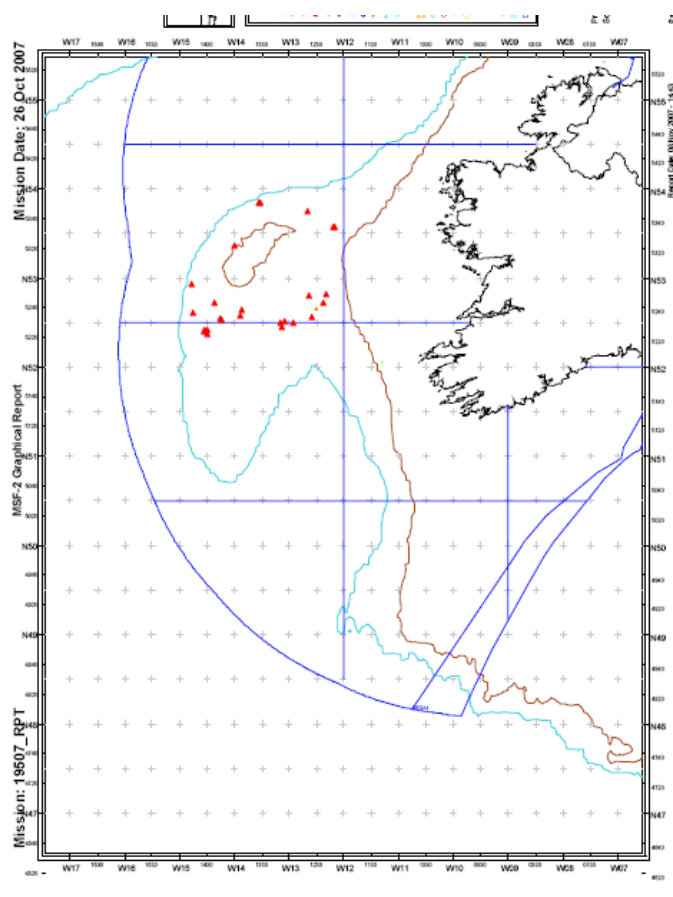
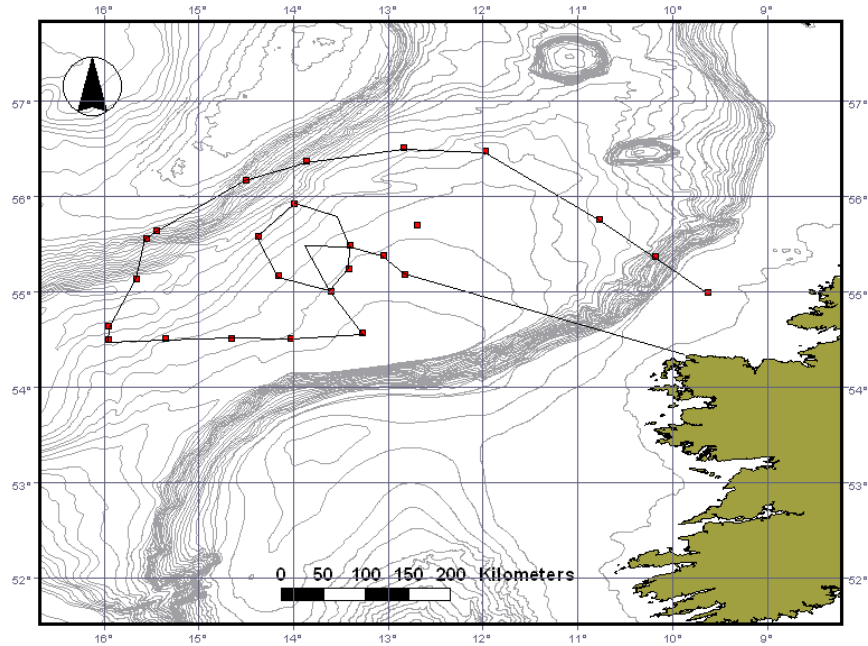


Fig 4d. 26 October 2007



**Fig 4e. 12 December 2007**

During take-off and landing all crew are secured in seat with a safety belt. However during the flight, providing conditions are acceptable, crew are permitted to move around inside the aircraft. IWDG personnel took it in turns to observe through one of the bubble windows (the other being used by the Air Corps photographer). We were able to listen in to communications between the pilots and navigators through personal intercom in each ear-protector, which plugged into a convenient jack plugs throughout the aircraft. This meant we knew what approaches the aircraft was making to fishing vessels.

The usual flight pattern was during passage to the target area the aircraft cruised at an altitude of 5000ft at a speed of 150knots. Once in the vicinity of a target or targets, the aircraft descends to around 1000ft before making a low approach of around 500ft when the photographer retracts the bubble window and obtains images of the fishing or other vessel detected.

## **Discussion**

The experience gained during WhaleLog 2007 has been invaluable and a much greater understanding of the operations, logistics and constraints of the Air Corps Maritime Squadron have been gained.

Issues with recording sightings:

1. There are difficulties in obtaining images of cetaceans at sea after they have been made. The aircraft must make a tight turn in order to fly over the area of the sighting. This may take up to a minute by which time the position can be hard to determine but more importantly, especially in the case of whales, the animal may have dived and thus is not visible. The staff thought we only required photographs and not records and unless they could obtain images did not record the sighting. Images are very important for validating records but even a sighting that cannot be identified to species level is still very useful information, especially from offshore waters.
2. Prior to the recent training course the Air Corps thought that the IWDG were only really interested in records of whales and not dolphins. It was emphasized that IWDG are interested in all records of all species. This has already increased the number of dolphin records received.
3. An interesting feature of the maritime squadron operation is the claim from navigators that they can recognize marks created by schools of dolphins on the radar. This is most apparent in good weather when sea conditions are less than two (i.e. no white-caps or disturbance of the waters surface by waves). The splashes caused by a group of dolphins, creates a distinctive mark. This claim needs to be validated (which was not possible during WhaleLog 2007 due to lack of sightings) but if reliable could provide a very interesting way of surveying large groups of dolphins during favourable sea conditions.

4. Due to the success of WhaleLog the IWDG have recently proposed the Air Corps Maritime Squadron as partners in an IWDG/GMIT joint proposal to the Marine Institute recent call for funding under their SeaChange initiative.
5. The recommendations here equally apply to the recording of other marine megafauna including marine turtles, basking sharks and sunfish.

Proposed survey methodology:

1. A minimum of two surveyors are required to conduct aerial surveys on board the CASA CN235 aircraft. One surveyor acts as observer, seated at the port or starboard bubble window, the other surveyor acts as data recorder. These positions would be interchanged to avoid fatigue by the observer. Where three surveyors are available, two surveyors may act as observers to port and starboard (however only one bubble window will be available) and the third surveyor will act as data recorder.
2. Survey effort will be logged on data sheets (modeled on sheets used during ship surveys), with position, altitude, course, speed and environmental data being logged every 15 minutes. Position, altitude, course and speed data are available from the radar screen adjacent to the observer position.
3. The observer will monitor a horizontal line running at 90° from the observer window. Most effort will be focused on an arc running from directly below the aircraft to an angle of 40°. Occasional sweeps to the horizon will be conducted. Sightings will be logged as animals pass the horizontal line. Angle of declination to the sighting will be measured using an angle board. Distance to the sighting will be calculated using the angle of declination and the known height of the aircraft.
4. The radar operator on a cue from the observer will instantaneously log sighting positions. This will allow for the accurate recording of sighting position and allow the aircraft to return to the sighting position for purposes of photographing and

identifying the sighting. The data recorder will log all other sightings data on a data sheet. See Appendix III.

5. Air Corps personnel conducting photographic recording of fishing and commercial vessels will obtain photographs of sightings.
6. The data recorder will also log the point at which the aircraft leaves the track to double back for an identification fly-by, the point at which the aircraft returns to the track and the points at which the aircraft changes altitude. See Appendix III.



**Large group of sperm whales off the west coast © Maritime Squadron**

## **Acknowledgements**

This project is completely reliable the co-operation and collaboration between the Air Corps Maritime Squadron and the Irish Whale and Dolphin Group. The level of co-operation we have received has been truly fantastic and we greatly appreciate it. We would particularly like to thank Commander Ronan Verling and Flight Lieutenant John McMahon who was often the one tasked with communication with the IWDG.

However without the full support of pilots, navigators and ground crew this project would not have been possible. We also wish to thank the Secretary General at the Department of Defence Michael Howard for allowing the IWDG to accompany the maritime squadron on fishery patrols. We look forward to more and enhanced collaboration in the future.

This project was funded by the Heritage Council under the Wildlife Grant Scheme 2007.



**Pilot whales off County Mayo © Maritime Squadron**



## Appendix I: Correspondence with Department of Defence

Merchants Quay  
Kilrush,  
County Clare

Tel: 00 353 86 8545450  
Fax: 00 353 65 9052326  
Email: [Simon.Berrow@iwdg.ie](mailto:Simon.Berrow@iwdg.ie)

Secretary,  
Department of Defence,  
Parkgate,  
Infirmary Road,  
Dublin 7



14 May 2007

**RE: Maritime Squadron**

Dear Mr Howard,

I am writing to you for permission for the Irish Whale and Dolphin Group (IWDG) to develop their relationship with the Maritime Squadron and accompany them during their routine fisheries patrols.

The IWDG have been working with the Maritime Squadron since 1995 when we supplied them with high quality SLR cameras as part of a project called WhaleLog. Whenever possible, the Maritime Squadron have taken images of any whales or dolphins they observed during their reconnaissance.



Images obtained from WhaleLog including a fin whale 280 miles off southwest of Ireland, long-finned pilot whales off the west coast and bottlenose dolphins off Co Mayo. Images Courtesy of the Air Corps



IWDG/Air Corps



IWDG/Air Corps

In recent years the IWDG have improved cetacean recording by state agencies through a project called ISCOPE (leaflet enclosed). Some of the objectives of ISCOPE are to "encourage greater participation from government agencies and professional staff who are regularly at sea, including; National Parks and Wildlife Service, Marine Institute, Department of the Marine, Irish Navy and Coastguards" and "make cetacean recording a routine part of all surveys carried out by government agencies". This project has become more important following the recent European Court of Justice ruling against the Irish Government for failure to

*The Irish Whale and Dolphin Group is dedicated to the conservation and better understanding of cetaceans (whales, dolphins and porpoises) in Irish waters, through study, education and interpretation.*

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put in place a "comprehensive system for recording and monitoring all species of cetaceans in Irish waters".

For 2007, the IWDG have received funding from the Heritage Councils' Wildlife Grant to develop the relationship with the Maritime Squadron. We hope to:

1. Improve the procedure for obtaining sighting records including
2. Provide training to staff on identification and recording
3. Accompany 10 flights to determine efficacy of this platform for observing cetaceans
4. Promote this relationship with the media

The IWDG have recently signed a Service Level Agreement with the Navy and we would hope to be able to negotiate a similar agreement with Maritime Squadron.

I visited Baldonnell last week at the invitation of Cmd Ronan Verling and discussed this proposal with him and his staff. They are very supportive and are happy to allow us to accompany them on flights. Apparently they do regularly observe cetaceans during flights but cannot always obtain images. I presented a talk on the IWDG Sightings schemes and how we handle sightings data, which greatly improved their understanding of cetacean recording schemes and datasets.

I am seeking your permission to continue to develop this relationship and initially accompany 10 routine flights this summer. There is no additional cost to the Maritime Squadron and will provide excellent publicity regarding the support the Maritime Squadron can provide to these initiatives.

I look forward to your response to this request.

Yours sincerely,



Dr Simon Berrow  
IWDG Co-ordinator

Cc: Cmd Ronan Verling





**Office of the Secretary General**  
Oifig an Ard Rúnaí

**Department of Defence**  
An Roinn Cosanta

LSU May 2007

Dr. Simon Berrow,  
IWDG Co-ordinator,  
Irish Whale and Dolphin Group Ltd.,  
Merchants Quay,  
Kilrush,  
Co. Clare.

Dear Dr. Berrow,

I wish to acknowledge receipt of your letter to the Secretary General, requesting permission for the IWDG to develop their relationship with the Maritime Squadron and accompany them during their routine fisheries patrols.

Your letter has been referred to our Executive Branch who will be in touch with you shortly in relation to this matter.

Yours sincerely,

Eilish Murphy,  
P.S to the Secretary General

Parkgate, Infirmary Road, Dublin 7  
Geata na Páirce Bóthar na hOtharlainne, Baile Átha Cliath 7

**Simon Berrow**

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**From:** "Grainne Guinan" <grainne.guinan@defence.irlgov.ie>  
**To:** <simon.berrow@iwdg.ie>  
**Cc:** <ronan.verling@defenceforces.ie>  
**Sent:** Friday, July 20, 2007 5:36 PM  
**Subject:** Air Corps Maritime Patrols

Dr. Berrow,

Your letter to the Secretary General requesting permission to accompany Air Corps Maritime Squadron on a number of routine maritime patrols refers - apologies for the delay in responding to your request.

I am pleased to inform you that this request has been approved. You should now contact Comdt Verling, OC 101 Squadron, on 01-4037571 to make the necessary arrangements in this regard.

If you have any further queries please let me know.

Best regards,

Gráinne Guinan.

Gráinne Guinan  
Aviation & Maritime Unit  
Executive Branch  
Department of Defence  
Infirmary Road  
Dublin 7

Phone: 01 8042180  
Fax: 01 6779023  
Email: grainne.guinan@defence.irlgov.ie

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8/1/2007

## Appendix II: Draft Service Level Agreement

### SERVICE LEVEL AGREEMENT

#### AIR CORPS MARITIME SQUADRON AND THE IRISH WHALE AND DOLPHIN GROUP

1. **Duration of Agreement and Notice for Termination.** The Maritime Squadron and the Irish Whale and Dolphin Group have agreed the types of services and the parameters that will govern the level of services that each will provide. This agreement may be terminated by mutual agreement three months after the receipt of a written request by either party.
2. **Objectives of the Agreement.** The purpose of this agreement is to regularise the provision of services by the Maritime Squadron to the Irish Whale and Dolphin Group and the Irish Whale and Dolphin Group to the Maritime Squadron. The objectives of the agreement are:
  - a. To specify the types of services.
  - b. To specify the parameters that will govern the provision of the services. These will include:
    - (1) **Opportunity services.** These relate to services that arise as an added value to service provision to another party and may include services delivered as a result of a specific request.
    - (2) **Contingent services.** These relate to services that arise in response to a specific request that requires the dedication of NS resources for a particular purpose.
3. **Role and Responsibilities of SLA Parties.** In so far as this agreement is concerned the roles and responsibilities of both parties are as follows:
  - a. **Maritime Squadron.**
    - (1) To provide information on cetaceans sightings on a continuous basis
    - (2) To provide a point of contact in Maritime Squadron Operations and on each participating aircraft
    - (3) Consider any additional requests as they arise.
  - b. **Irish Whale and Dolphin Group**
    - (1) To provide necessary documentation and support to facilitate
    - (2) To provide training and getting educational briefings as required from time to time
4. **Services Descriptions.** The following services are encompassed in this agreement.
  - a. **Maritime Squadron to Irish Whale and Dolphin Group** The services provided by the Maritime Squadron to Irish Whale and Dolphin Group Service are categorised as follows:
    - (1) provide timely information on cetaceans sightings and supplemented by photographs where possible
    - (2) each aircraft will make contact with the IWDG through designated Air Corps personnel
    - (3) the Maritime Squadron will provide space for IWDG surveyors if possible and when compatible with Maritime Squadron Patrol profile
  - b. **Irish Whale and Dolphin Group to Maritime Squadron**
    - (1) to provide necessary documentation and support to Maritime Squadron aircraft
    - (2) to provide training and guidance as required from time to time
    - (3) where appropriate to acknowledge the Maritime Squadron in any public relation events dealing with the activities of the IWDG



### Appendix III: Log for flight on 12 December

Date	Aircraft	Position	Observer	Time	DigiLat	DigiLong	Course	Speed	Altitude	Sea State	Cloud Cover	Cloud Height	Swell	Notes
12/12/2007	CASA	Port Bubble	DW	10:08	54.9983	-9.6336	320	357	395	4	7	L	2	
12/12/2007	CASA	Port Bubble	DW	10:17	55.3586	-10.1821	320	322	465.7	4	4	L	2	
12/12/2007	CASA	Port Bubble	DW	10:27	55.7547	-10.7690	310	339	465.2	4	5		2	
12/12/2007	CASA	Port Bubble	DW	10:47	56.4751	-11.9628	270	346	600.5	4	4		3	
12/12/2007	CASA	Port Bubble	DW	10:56	56.5040	-12.8262	270	329	590	5	4		3	
12/12/2007	CASA	Port Bubble	DW	11:10	56.3685	-13.8512	227	150	521	6	6		3	Break off to photo tanker
12/12/2007	CASA	Port Bubble	DW	11:22	56.1719	-14.4982	225	303	577	6	7		3	
12/12/2007	CASA	Port Bubble	DW	11:38	55.6354	-15.4428	225	310	583	6	7		3	
12/12/2007	CASA	Port Bubble	DW	11:41	55.5552	-15.5508	180	277	572	6	8		3	
12/12/2007	CASA	Port Bubble	DW	11:51	55.1424	-15.6528	192.5	277	571	8	7		3	
12/12/2007	CASA	Port Bubble	DW	12:03	54.6429	-15.9451	200	294	561.1	8	7		3	
12/12/2007	CASA	Port Bubble	DW	12:07	54.4995	-15.9464	85	296	550.2	8	7		3	
12/12/2007	CASA	Port Bubble	DW	12:16	54.5111	-15.3427	90	289	566	8	8		3	
12/12/2007	CASA	Port Bubble	DW	12:25	54.5164	-14.6423	90	297	436	6	8		3	
12/12/2007	CASA	Port Bubble	DW	12:33	54.5175	-14.0213	90	274	300.7	6	8	L	3	
12/12/2007	CASA	Port Bubble	DW	12:44	54.5693	-13.2619	350	372	317.9	6	8	L	3	
12/12/2007	CASA	Port Bubble	DW	13:00	55.1839	-12.8208	40	329	331	5	8	L	3	
12/12/2007	CASA	Port Bubble	DW	13:10	55.6902	-12.6910	335	372	322	5	8	L	3	
12/12/2007	CASA	Port Bubble	DW	13:26	55.9165	-13.9900	235	322	289.6	8	8	L	3	
12/12/2007	CASA	Port Bubble	DW	13:35	55.5764	-14.3694	189	280	281.5	8	8	L	3	
12/12/2007	CASA	Port Bubble	DW	13:46	55.1735	-14.1556	135	266	283.7	7	8	L	3	
12/12/2007	CASA	Port Bubble	DW	13:55	55.0051	-13.6009	90	280	289.7	7	8	VL	3	
12/12/2007	CASA	Port Bubble	DW	14:03	55.2446	-13.4082	350	379	281.3	6	8	L	3	
12/12/2007	CASA	Port Bubble	DW	14:08	55.4782	-13.3977	120	273	280.5	6	8	L	3	
12/12/2007	CASA	Port Bubble	DW	14:14	55.3788	-13.0401	115	268	298.8	6	8	VL	3	

## Appendix IV: AIRCRAFT BASED EFFORT RECORDING

Please send data to: IWDG, Merchants Quay, Kilrush, Co. Clare

DATE ( dd / mm / yy )		NAME OF AIRCRAFT		OBSERVER NAMES
POSITION ON AIRCRAFT (Window Port /Starboard.)		CONTACT INITIALS & ADDRESS		1. 2. 3. 4.

**IMPORTANT:** (1) Record every 15 minutes and when course or altitude changes  
(2) \* = critical fields required for effort-based analyses

TIME*	LOCATION		COURSE DETAILS		WEATHER							
	Latitude*	Longitude*	Course*	Speed*	Altitude*	Sea state*	Visibility*	Cloud / Height	Swell Height	Wind Speed/Direction	Precipitation	
(00:00)	(Deg & Decimal Mins)	(Deg & Decimal Mins)	(degrees)	(knots)		(Code 0-9)	(Code 1-6)	(Code 0-8) / meters	(Code 0-3)		Type	Intensity
								/				
								/				
								/				
								/				
								/				
								/				
								/				
								/				
								/				

# FOR CETACEAN SIGHTINGS MADE DURING EFFORT BASED AERIAL SURVEYS

Please send data to: IWDG, Merchants Quay, Kilrush, Co. Clare.

<b>DATE</b> ( dd / mm / yy )		<b>NAME OF AIRCRAFT</b>		<b>OBSERVER NAMES</b>
<b>POSITION ON AIRCRAFT</b>  Observer 1 Observer 2		<b>CONTACT INITIALS &amp; ADDRESS</b>		5. 6. 7. 8.

Time	Species	Certainty			Group Size	Calves?	Angle	Swim Direction	Reaction to Plane?	Animal Diving?	Altitude	Sighting No.
Perpendicular to Window		1	2	3			Declination					

## SUPPORTING IDENTIFICATION & OTHER NOTES

Sighting Ref. No.

Sighting Ref. No.

## ASSOCIATED SEABIRDS

Sighting Ref. No.

Sighting Ref. No.

