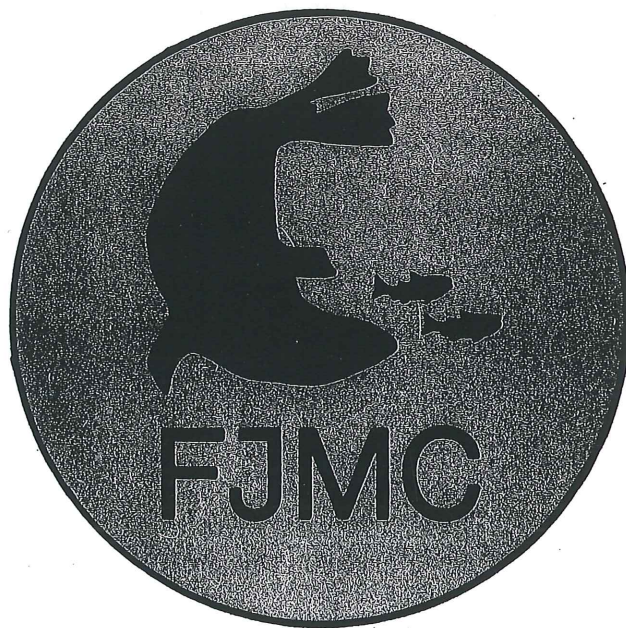


**Inventory of Fisheries Resources
at Jesse Bay 1989**

FJMC 89-007



FISHERIES JOINT MANAGEMENT COMMITTEE

**Inventory of Fisheries Resources
at Jesse Bay 1989**

For
Fisheries Joint Management Committee (FJMC)
Inuvialuit Game Council (IGC)
and
Renewable Resources (GNWT)

Report:

Earl Esau

Field Work:

John Keevik, John Lucas Jr., Earl Esau

Fisheries Joint Management Committee
Report #89-007

Introduction:

Sachs Harbour Hunters and Trappers Committee (SHHTC) asked the Fisheries Joint Management Committee (FJMC) to investigate Jesse Bay first in 1988. It was done in 1989 by John Keevik (project leader), John Lucas Jr. (assistant), Earl Esau (Fisheries trainee).

The objective was to take an inventory of marine mammals and fish resources in Jesse Bay area, primarily belugas. The other objective was to assess the suitability of the site for an outpost camp. We studied this with acoustics, visual surveys and netting fish.

A similar study was done at Johnson Point in 1987. It was a visual survey only with not much success due to bad weather and darkness.

The elders of Sachs Harbour who have stayed on the east coast of Banks Island have reported seeing belugas travelling the Prince of Wales Strait.

Mike Amos stayed 1 year (1946-47) in Jesse Harbour, and travelled from Johnson Point to DeSalis Bay by boat in the fall of '47.

How Many? See lots (never gave number). Travelling north from DeSalis Bay. Travelled by coal mine right by beach and go out towards middle of strait and go back in at Johnson Point, by the mouth of the Johnson Point River. Right by the beach, seen lots of seals and bearded seals also.

Who? William Kuptana

When? Roughly between 1950-55.

How Many? Seen lots of whales at Coal mine (above DeSalis Bay) going south in last week of July. Seen them for 5 days (real lots, steady belugas for 5 days travelling south).

PREPARING FOR STUDY:

- from July 12-18 we bought supplies and got prepared for the field season. We landed at Jesse Harbour on July 19/89. Camped one night at the air strip, then looked for a more suitable camp site.

- on July 20, we moved across the harbour to camp site #2 on map, for better view of the Prince of Wales Strait.

- we rented a 17 ft. metzler rubber boat with a 30 hp outboard motor Evenrude. The camp was made of 3 frame tents, made of 2 x 4's and plywood bought by Sachs harbour

HTC. (One tent was 10 x 12 ft., one was 8 x 10 ft. and one was 7 x 6 ft.)

- we had a supply flight on July 31 (Bell 206) and Earl and Sandra went back to Sachs at that time. John Keevik and family with John Lucas Jr. went back to Sachs on August 26/89.



The aircraft that was chartered was Aklak Air: a twin otter at cost of:

Camp in: Inuvik- Sachs Harbour - Inuvik	4.9 K
Sachs Harbour - Jesse Harbour - Sachs Harbour	2.1 K
Sachs Harbour - Jesse Harbour - Sachs Harbour	2.1 K
Camp out: Inuvik - Sachs Harbour - Inuvik	4.9 K
Sachs Harbour - Jesse Harbour - Sachs Harbour	2.1 K



(airstrip and first camp *1 on map.*2 is 2nd camp)



Radio contact was done on a daily basis with Sachs Harbour during the stay at Jesse Bay. They had no contact with Sachs for about a week, due to atmosphere interference, a trappers radio was used.

METHODS

Three methods were used to survey for beluga

- 1) visual search from shore and boat.
- 2) recording with hydrophone (the hydrophone was loaned by Departments of Fisheries and Oceans, DFO)
- 3) reconnaissance aerial survey

Acoustics

A hydrophone, 50 foot cable, tape recorder and pre-amp were used. The hydrophone was set from either the boat or from the shore. We kept notes as to conditions and sightings and tape position.

Visual Survey

We watched only on calm days and searched the surface for whales. Watches were done for a set period of time (e.g. 2 hours) and then observers were spelled off. Binoculars were used.

Fishing

A 50 foot 5 1/2" mesh gillnet was set with anchors and floats. It was checked every 2-3 days.

Aerial Surveys

Reconnaissance aerial surveys of the Jesse Bay area and surrounding coastlines were conducted July 19 and 31, 1989. Records were kept of all marine mammals sighted and survey conditions.

The July 19 survey was done by two observers from a Twin Otter aircraft at an altitude of 500 feet and airspeed of 108 knots. West and east-bound survey tracks were 7 km in length, and positioned approximately 1 km from shore (see Figure 2). High winds produced sea states exceeding 5 on the Beaufort Scale of Wind Force so the survey was not continued further north in Prince of Wales Strait due to marginal survey conditions.

The July 31 survey was done by one observer from a Bell 206 helicopter at altitudes of 300-500 feet. The survey track was approximately 35 km in length, running 1 km parallel to shore between Treadwell Point and Jesse Harbour. High winds again produced sea states which exceeded 5 on the Beaufort Scale.

Survey conditions were marginal, hampered further by forward glare.

The July 19, aerial survey was done by Lois Harwood and Tim Byers, and on July 31, aerial survey was done by Lois Harwood.

Results

Aerial Surveys

Four ringed seals were sighted on the east bound track of the July 19 survey (Fig. 2), despite the rough seas. No beluga were sighted on this survey.

On the July 31 survey, seabirds were sighted circling approximately 1 km offshore of Schuyter Point. Seals were seen in association with seabirds at that location and on the final approach to the camp at Jesse harbour. No beluga were sighted on this survey.

On both surveys, conditions were too rough to draw any firm conclusions about the presence or absence of beluga in coastal areas.

Results - Visual Shore and Boat Survey

We searched over calm seas for 102.5 hours. See Table 1 for time of watches. Location of watches on Figure 3. There was a great abundance of ringed and bearded seals (both young of year & old). There was alot of schools of arctic cod, which all the marine mammals and birds feed on (not sure of arctic cod). There were no beluga sighted from the boat and shore surveys except two were seen on the evening of August 25, 1989. Seals were taken for food and dog food. Stomachs were examined and were full with what we think were Arctic Cod. (Not sure of identification of fish). All the ringed and bearded seals had these fish when examined.

Beluga Visual Survey from boat and shore - Table 1

<u>Date</u>	<u>Hrs.watched</u>	<u>Conditions (sea)</u>	<u>Whales</u>	<u>Location</u> (see Fig. 3)
July 21	1 hr.	calm	0	1 & 2
July 24	1 hr.	calm	0	3
July 25	1 hr.	choppy	0	4
July 25	4 hrs.	calm	0	4
July 27	1 hr.	choppy (little rough)	0	8
July 28	1 hr.	rough	0	4
Aug. 2	2.5 hrs.	rolls	0	3
Aug. 3	9 hrs.	rolls/choppy	0	4
Aug. 4	5 hrs.	little rolls	0	5
Aug. 7	1 hr.	rolls	0	9
Aug. 7	4 hrs.	rolls	0	4
Aug. 8	7.5 hrs.	calm	0	6 & 7
Aug. 10	8 hrs.	rolls (calm)	0	4 & 8
Aug. 11	0	very rough (fog)	0	0
Aug. 12	.5 hr.	rough (white caps)	0	4
Aug. 13	6.5 hrs.	rough	0	4
Aug. 14	8 hrs.	rough	0	4
Aug. 15	0	very rough	0	0
Aug. 16	0	very rough	0	0
Aug. 17	0	0	0	0
Aug. 18	10.5 hrs.	fairly calm	0	4
Aug. 19	9 hrs.	slight rolls, choppy	0	8
Aug. 20	0	very rough	0	0
Aug. 21	0	very rough	0	0
Aug. 22	9 hrs.	rough	0	4 & 8
Aug. 23	3 hrs.	calm	0	4
Aug. 24	0	very rough	0	4
Aug. 25	0	little choppy in harbor	yes	10

Total hours from July 21 - Aug. 25 is 102.5 hrs.

Beluga Acoustics - Table 2

Date	Hydrophone Total hrs.	sea conditions	whales	location (Fig. 4)	tape
July 20	1 hr.	calm (small rolls)	0	1	(1) 000-070
July 22	.50	ripples	0	2	(1) 070-356
July 22	was about 10-15 seals around boat				
July 24	.20	calm & ice fog	0	2	(1) 361-END
July 24	.20	calm (then choppy)	0	3	side 2
					(1) 021-221
July 25	.20	calm	0	2	side 2
					(1) 204-400
Aug. 1	.10	little rolls	0	2	(2) 000-101
Aug. 2	.15	little rolls (ice)	0	2	(2) 103-201
Aug. 2	.30	rolls	0	4	(2) 201-end
Aug. 4	.15	rolls	0	3	(2) 000-100
Aug. 7	.20	rolls	0	5	
Aug. 25	.5	little choppy	yes	6	

Total 250 minutes -recordings

Net-sets at Jesse Bay 1989 - Table 3

Time Date Set	Time date pulled	Mesh size of net	Depth fished at shore/outer net	O/O Stream	Stream width	Bottom type	Location
July 25/13:30	July 22/15:00	5.5	0	8 ft.	50%	70 yds.	sand/gravel 1
July 29/15:00	Aug.12/16:00	5.5	1 ft.	10 ft.	Bay	Bay	gravel/rocky 2
Aug.12/21:00	Aug.16/00:30	5.5	6-12 in.	8-10 ft.	Bay	Bay	sandy 3
Aug.17/22:15	Aug.18/12:00	5.5	2.5 ft.	8-10 ft.	Bay	Bay	sandy 4
Aug.18/12:00	Aug.23/12:00	5.5	1 ft.	10 ft.	Bay	Bay	sandy 5
Aug.18/14:00	Aug.20/16:00	5.5	.5 ft.	3 ft.	75%	35-40 ft.	gravel/sand 6

*for net set locations see Figure 5.



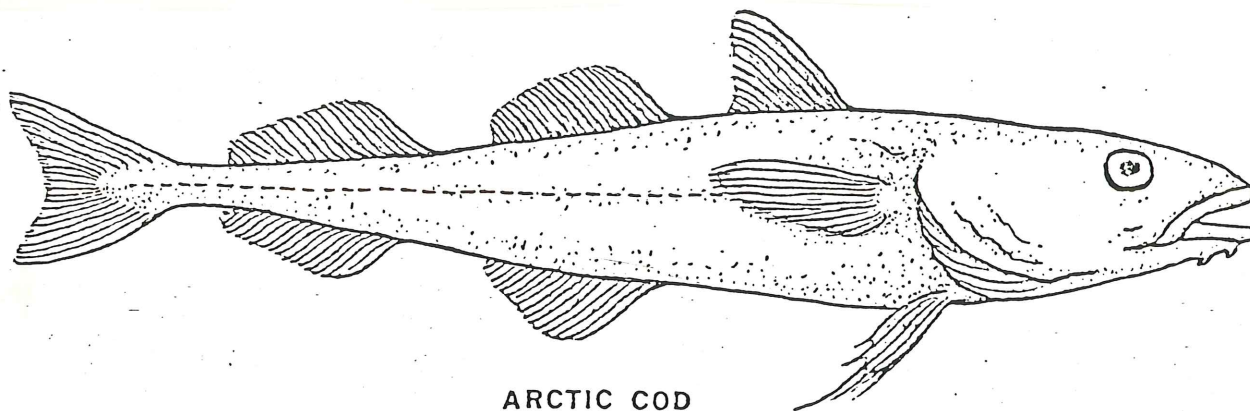
Results - fishing

We had to move our net to camp on account of catching too many ducks, loons and seals. We had to cut part of net from seals making holes.



(seal caught in net)

One Arctic charr was caught on Aug. 12-16 and one sculpin at Location 3 on Fig. 5. On Aug. 18-20 pulled net because loon was tangled in net. There was alot of marine mammals and birds.



ARCTIC COD



The ringed and bearded seals are very common, they are sighted every day in herds of 20-25. When the arctic cod schools that come in the harbour to feed, the seals in Jesse Bay are alot fatter than the ones in Sachs Harbour. Could be because the vast numbers of arctic cod, which I believe they mainly feed on.

Results - Acoustics

250 Minutes of recordings were made (Table 2). No beluga calls were heard, but the equipment wasn't too good as there was alot of background noise. The system was light and moved around alot in the currents. We heard many bearded seal calls on the tape which were easily identified against the two sample tapes we had.



Summary and Recommendations

As for suitability of an outpost camp, based on the amount of ringed and bearded seals spotted, it would be ideal for harvesting the ringed and bearded seals.

Would need to do more studies from mid-August to end of October, or thereabouts for belugas were only sighted at the end of August. It would depend on the weather in early fall. There was a lot of musk-ox close to the shore, so musk-ox meat for food was not a problem. But the caribou was a little harder to get. A 4-wheeler motor bike would be ideal for hunting caribou.



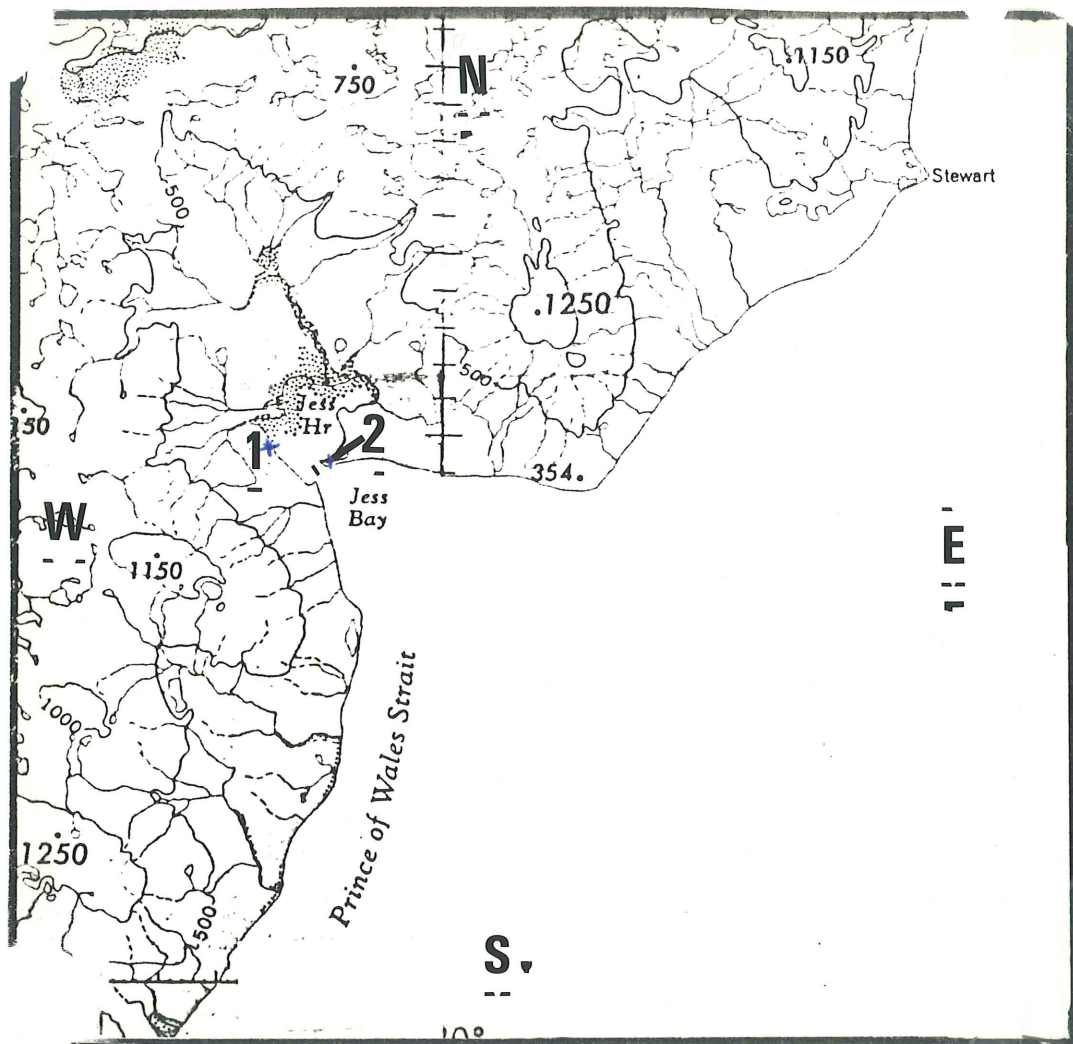


Figure 1
Camp locations, Jesse Harbour

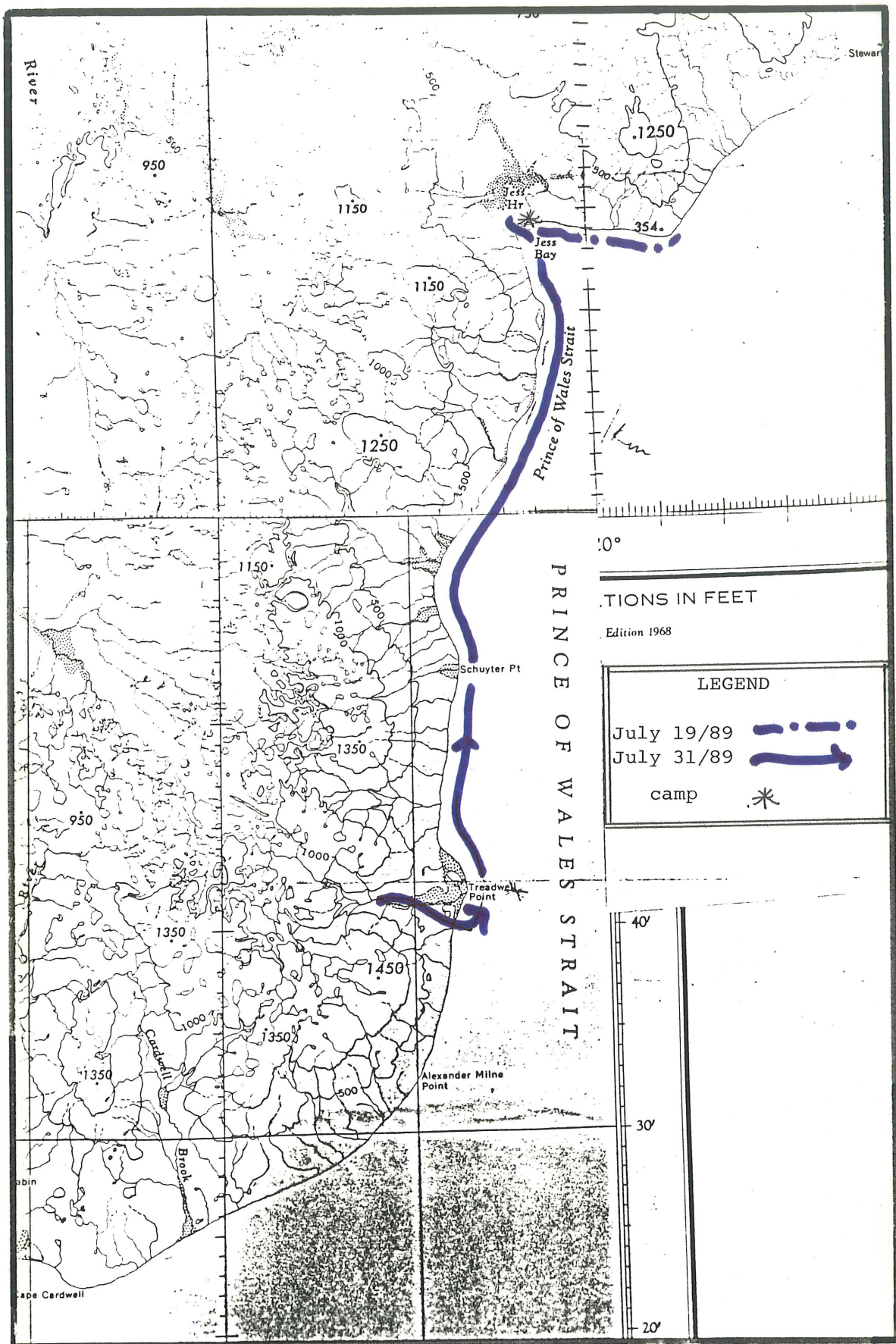


Figure 2 . Reconnaissance Aerial Surveys, Jesse Bay, 1989

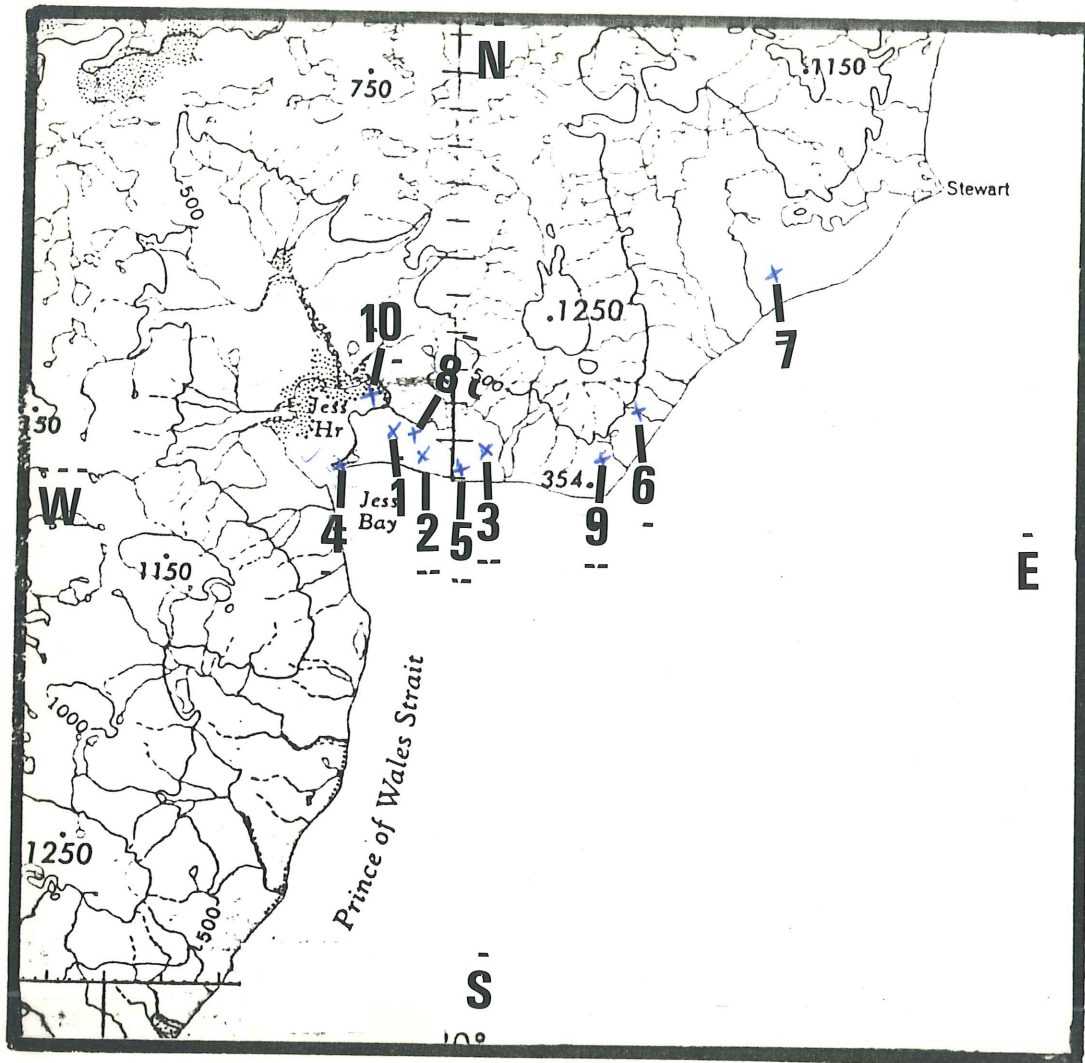


Figure 3

Shorewatch locations for visual
beluga survey, Jesse Bay and
Prince of Wales Strait

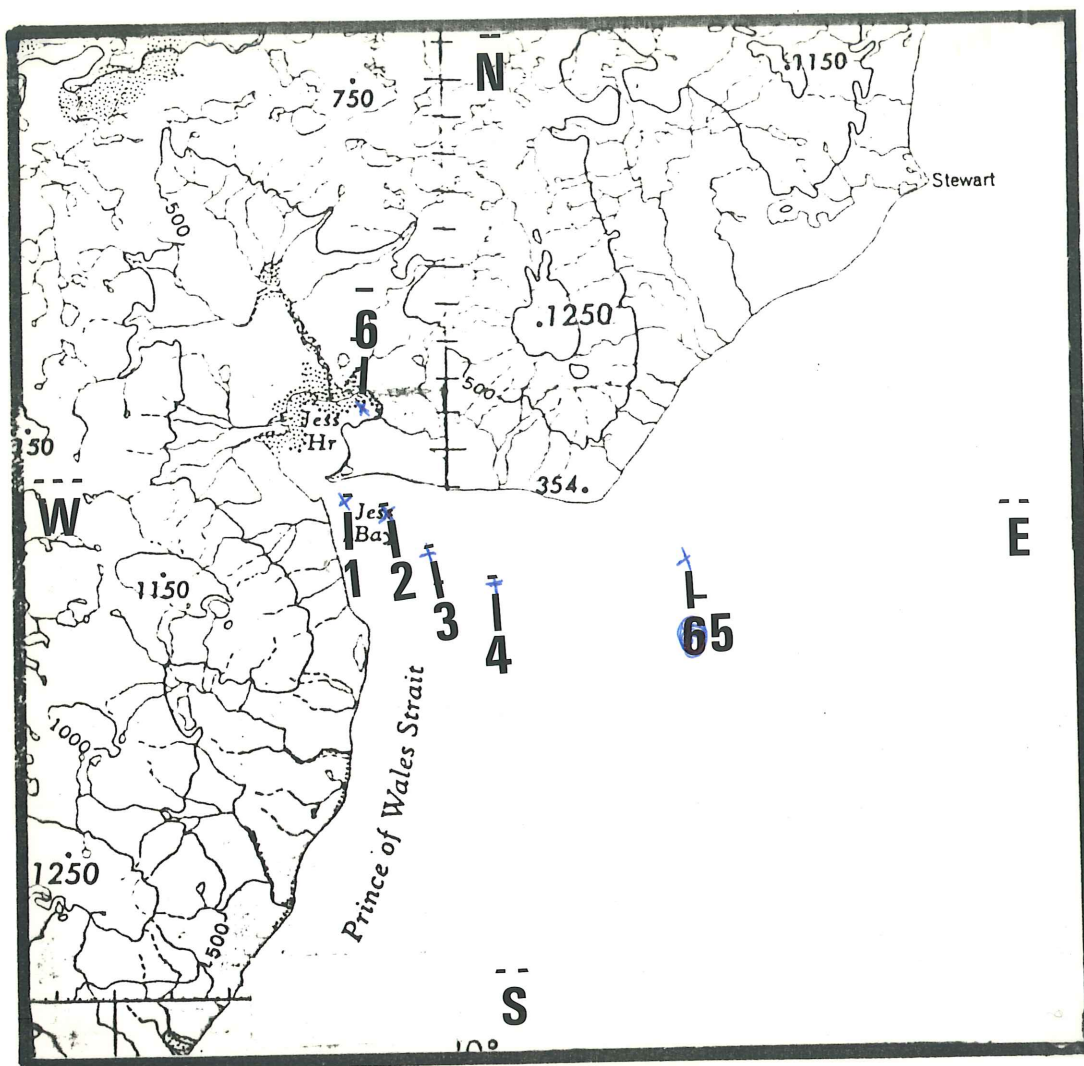


Figure 4
 Locations where hydrophone was
 set,
 Jesse Bay and Jesse Harbour

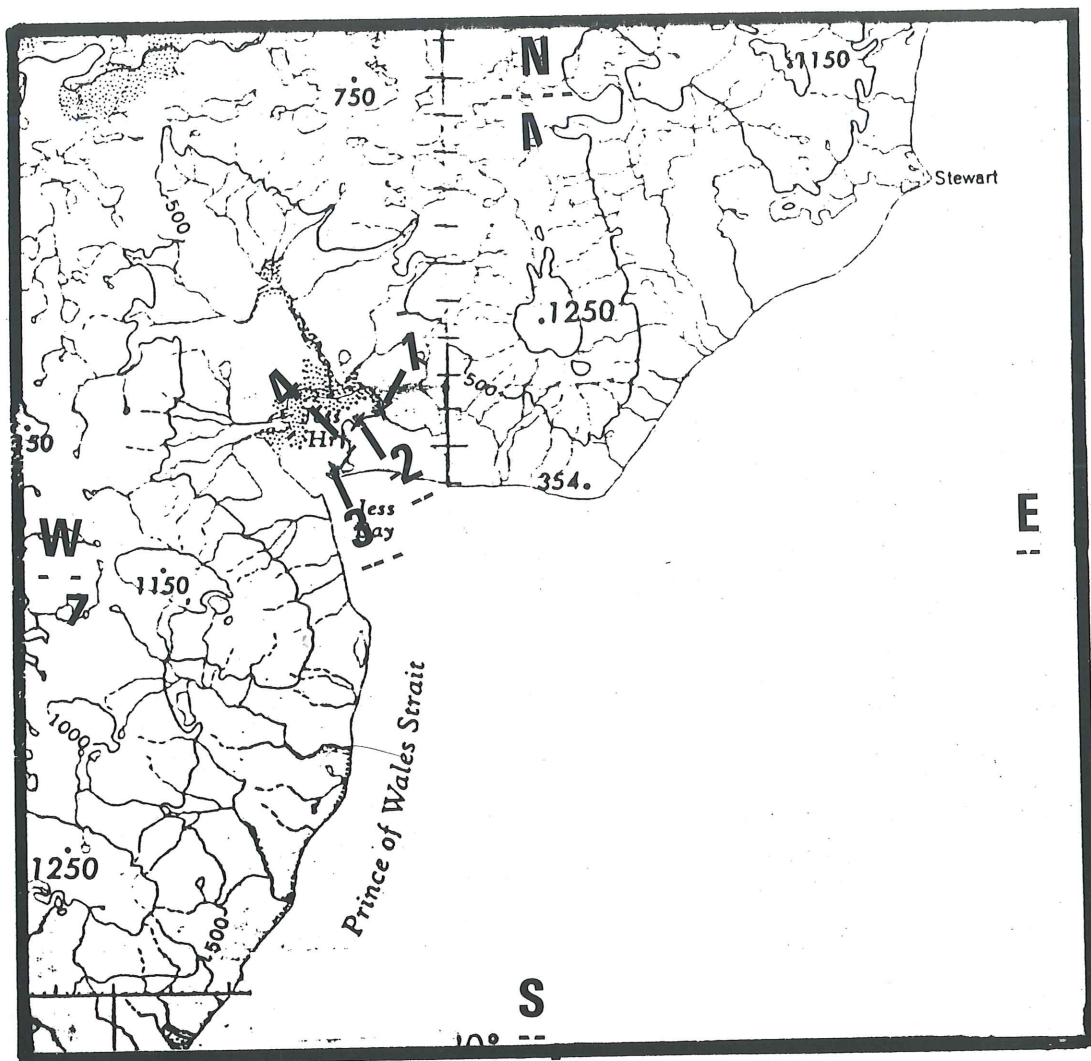


Figure 5
Locations of Gillnet Sets,
Jesse Harbour