

**PROJECT: COASTAL WILDLIFE SURVEY - SEABIRDS AND MARINE MAMMALS
ALONG THE MALASPINA FORELANDS 1992.**

WRST RESEARCH AND RESOURCE MANAGEMENT REPORT: No. 92-07

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INTRODUCTION

The Outer Continental Shelf (OCS) Lands Act requires the Department of Interior to prepare a 5 year program addressing natural gas and oil resource management in OCS areas. Minerals Management Services (1990), the agency that manages OCS activities, has prepared a 5 year, 1992-1997 comprehensive program which targets the Gulf of Alaska and adjacent lands for oil exploration because of the known natural oil seeps and high potential for discovery. Two areas within the Gulf of Alaska which are adjacent to Wrangell-St Elias National Park and Preserve (WRST), Yakutat and Middleton Island, have been included within the 1992-1997 comprehensive Program. Yakutat is described as category I; studies are planned and it will be considered for leasing in 1995. Middleton Island is category II; studies are planned to gain more knowledge about hydrocarbon resources and environmental characteristics. The State of Alaska has also proposed opening oil and gas leases just west of Icy Bay in 1994.

WRST manages coastal lands that lie onshore or adjacent to these OCS and state lease areas. Bald eagles (scientific names for all species are listed in Appendix A), peregrine falcons (which eat marine bird species), seabirds, and marine mammals are at risk from potential spills and pollution if oil is developed in adjacent offshore areas. Other threats to coastal wildlife in these areas include an increase in cruise ships entering Icy Bay which may disturb some seabirds and marine mammal species during critical breeding periods. Logging along the west side of Icy Bay in 1993 will destroy nesting habitat and cause disturbance during the breeding season for bald eagles, some seabirds (tree nesters such as marbled murrelets), and other coastal species using shoreline areas. The purpose of this study was to gather baseline data on wildlife species using coastal habitat.

STUDY AREA

The study area extends from Disenchantment Bay, west along the Malaspina Forelands to Icy Bay (Fig 1).

METHODS

BOAT SURVEYS

The Malaspina Forelands, from Kwik Stream (Grand Wash) to Point Riou Spit were surveyed from a 14 m boat (Kristeen Sea) on July

25 and 26 in cooperation with the US Fish & Wildlife Service (USFWS). The purpose of the survey was to document seabird and marine mammal numbers in areas that have not been previously surveyed. The same route was traveled both days but in opposite directions. Four observers participated: J Piatt (USFWS), K Kozie, R Mossman, and D Abbe (WRST). Observers generally worked in teams of 2, switching every few hours to avoid observer fatigue. Three to 4 observers participated when recording became more difficult due to high concentrations of seabirds. All birds and marine mammals 100 m on either side of the boat were recorded. Observations beyond 100 m were recorded separately and are not included in data calculations but do contribute to knowledge of bird and marine mammal use along the Forelands. The boat maintained a distance of about 1 km from shore. Each observation consisted of species, number observed, behavior (flying or on water), and on or off transect. Weather and wave conditions were recorded at the start of the survey and when they changed. Latitude and longitude (from LORAN), depth, boat speed, course (compass degrees), and water temperature were recorded every 20 minutes.

Icy Bay was surveyed on July 15-17 using a 4 m zodiac boat. K Kozie, D Abbe, and M DeWinter participated in surveys. Survey methodology did not follow specified protocol but rather all species seen were documented. This involved frequent stops to identify birds at greater distances and also included several ground surveys along shorelines at Kageet Point, Karr Point and Point Riou Spit. The cliffs along Icy Bay were surveyed for peregrine falcons by scanning with binoculars from the boat, clapping loudly, and mimicking falcon calls. Approximate survey routes are outlined in Fig 2.

The east side of Yakutat Bay was surveyed for seabirds and marine mammals north to Calahonda Creek, (just north of Point Latouche) by the US Forest Service on July 17 (US Forest Service 1992). Disenchantment Bay near the Hubbard Glacier and east side of Haenke Island were surveyed by K Kozie, R Mossman, D Abbe, and M DeWinter on July 20. The US Forest Service also surveyed east side of Disenchantment Bay for peregrine falcons from Point Latouche north to the inlet to Russell Fiord on May 28 (Harke 1992). All other birds and marine mammals seen during the May survey were also recorded.

AERIAL SURVEYS

Aerial surveys of bald eagles nesting along the Malaspina Forelands were conducted on May 16 and July 22. The occupancy survey (May 16) was flown in a piper supercub and the productivity survey (July 22) in a Cessna 185. G Rainy piloted and K Kozie acted as the observer on both flights. M DeWinter also assisted in observations on the productivity flight.

RESULTS AND DISCUSSION

MALASPINA FORELANDS

Boat Surveys

A total of 1,584 and 1,645 seabirds were recorded along the Malaspina Forelands during boat surveys on July 25 and 26, respectively (Table 1)(Figs 3 and 4). The majority of observations were marbled and Kittlitz's murrelets (Figs 5 and 6) and glaucous-winged gulls. Latitude and longitude readings from the LORAN were consistently 6.4 to 8 km southwest of known points when the boat was west of about Osar Stream. This error was corrected when mapping seabird and marine mammal locations on Figures 3-6.

Table 1. Number of seabird and marine mammal species observed along the Malaspina Forelands on July 25-26, 1992.

SPECIES	NUMBER OF OBSERVATIONS	
	July 25	July 26
<u>Loons, Shearwaters, & Cormorants</u>	<u>ON (OFF TRANSECT)</u>	<u>ON (OFF)</u>
Pacific Loon (PALO)	3	2
Common Loon (COLO)	6	0
Unidentified Loon (UNLO)	4	1
Short-tailed Shearwater (STSH)	1	0
Double-crested Cormorant (DCCO)	0	1
SUBTOTAL	14	4
<u>Waterfowl</u>		
Red-breasted Merganser (RBME)	1	0
White-winged Scoter (WWSC)	66 (277)	55
Surf Scoter (SUSC)	19	19
Unidentified Scoter (USCO)	5	12 (17)
SUBTOTAL	91	86
<u>Shorebirds</u>		
Red-necked Phalarope (RNPH)	23	70
Unidentified Phalarope (UNPH)	3	67
Unidentified Shorebird (UNSB)	21	23
SUBTOTAL	47	160
<u>Gulls & Terns</u>		
Pomarine Jaeger (POJA)	3	2
Parasitic Jaeger (PAJA)	27	33
Long-tailed Jaeger (LTJA)	1	0
Unidentified Jaeger (UNJA)	2	0
Herring Gull (HERG)	1	2
Mew Gull (MEGU)	20	7
Bonapartes Gull (BOGU)	9	0
Glaucous-winged Gull (GWGU)	227 (9)	159
Black-legged Kittiwake (BLKI)	71	60
Unidentified Gull (UNGU)	4 (702)	1 (550)
Arctic Tern (ARTE)	70	59
Unidentified Tern (TERN)	0	2
SUBTOTAL	435	325

Table 1 continued.

<u>Alcids</u>		
Common Murre (COMU)	1	7
Pigeon Guillemont (PIGU)	1	0
Marbled Murrelet (MAMU)	247 (9)	358 (15)
Kittlitz's Murrelet (KIMU)	501 (104)	382
Unidentified Murrelet (BRMU)	281 (589)	330 (525)
SUBTOTAL	997	1,070
TOTAL	1,584	1,645
<u>Other Birds and Marine Mammals</u>		
Bald Eagle (BAEA)	2	0
Sea Otter (SEOT)	2 (2)	1
Stellers Sea Lion (STSL)	2	0
Harbor Seal (HASE)	7 (1)	0
Harbor Porpoise (HAP0)	4	2
Humpback Whale (HBWH)	4	2 (1)

The area south of Mamby Stream appears to be an important seasonal feeding area. The highest concentration of seabirds and marine mammals were recorded there (Figs 3 and 4). Schools of "feeder" fish were visible from the air on the shelf just south of Mamby Stream. G Rainy, a local pilot, (Fishing & Flying, Yakutat, AK) confirmed she has often seen whales and seabirds feeding in this area.

Phalaropes were commonly observed feeding at the interface between silty glacial and clear water. Kittlitz's murrelets tended to be more common in silty glacial waters. These birds probably nest on the ground in glacial tundra areas although little is actually known about their breeding biology (J Piatt, USFWS, Anchorage, AK, pers commun, G van Vliet 1993).

Aerial Surveys

Fifteen pairs of nesting bald eagles were located along the Malaspina Forelands during the occupancy survey in May. An additional 3 nests with young were found during the productivity survey. This results in a minimum population estimate of 18 nesting territories and 36 breeding adults. Nest success for the 15 pairs of bald eagles located during both surveys was 33%, with 0.6 young per occupied nest. Bald eagles must have at least 50% nest success and produce 0.7 young/occupied nest to maintain a stable population (Sprunt et al 1973) but 1.0 young/occupied nest is more indicative of a healthy population (Wiemeyer et al 1984). Although the Yakutat productivity figures are low, caution should be used when interpreting productivity figures from small sample sizes (Kozie 1992).

Miscellaneous Information

G Rainy reported numbers of Stellers sea lions at a rookery/haul-out site along the Malaspina Forelands (Sitkagi Bluffs)(Latitude 594332 Longitude 1404598) have been declining over the past 10 years. She observed about 200-300 sea lions there in the early

1980's. Sea lions normally remained in this area all year long and young had been observed. Numbers of sea lions gradually declined to 50-100 animals by 1988 and no sea lions were observed during 1991 through the summer of 1992. M Sharpe and R Mossman reported between 50-100 Stellers sea lions at Sitkagi Bluffs on October 11-18, 1992 but none were observed there during early spring 1993 (G Rainy, pers commun).

G Widdows stated he occasionally sees elephant seals while commercial fishing about 80 km offshore. Northern fulmars and albatross are observed there as well. He also reported observing about 200 sea otters 4 years ago on the west side of the Malaspina Forelands toward Disenchantment Bay. This is the highest number reported in Yakutat Bay. US Forest Service personnel observed 74 sea otters during seabird and marine mammal surveys in Yakutat Bay during 1992 (US Forest Service 1992).

G Rainy observed basking sharks in Yakutat Bay about 13 years ago. Basking sharks are harmless sharks which inhabit the Gulf of Alaska and are occasionally seen along coastal areas in schools or pairs (Eschmeyer et al 1983, R Mooris, National Marine Fisheries Service, Anchorage, AK, pers commun).

ICY BAY

Boat Surveys

A total of 1,966 seabirds were observed in Icy Bay on July 15-17 (Table 2). Since the survey took place over a period of 3 days, it is unknown if some birds may have been counted more than once due to movements within the Bay.

Table 2. Number of seabird and marine mammal species observed in Icy Bay on July 15-17, 1992.

BIRDS	NUMBER OF OBSERVATIONS		
	July 15	July 16	July 17
Loons			
Pacific Loon (PALO)	0	0	1
Common Loon (COLO)	0	5	0
Unidentified Loon (UNLO)	0	0	1
SUBTOTAL	0	5	2
Waterfowl			
Canada Goose (CAGO)	70	0	0
Mallard (MALL)	15	3	0
Northern Shoveler (NSHO)	2	6	0
Barrows Goldeneye (BAGO)	0	1	0
White-winged Scoter (WWSC)	25	3	13
Surf Scoter (SUSC)	282	93	188
Unidentified Scoter (USCO)	0	133	125
Harlequin Duck (HADU)	5	4	58
Common Merganser (COME)	77	2	31
SUBTOTAL	476	245	415

Table 2 continued.

<u>Shorebirds</u>			
Black Oystercatcher (BLOY)	16	0	0
Semipalmated Plover (SEPL)	5	10	0
Whimbrel (WHIM)	0	16	0
Red-necked Phalarope (RNPH)	6	0	0
Unidentified Phalarope (UNPH)	3	1	8
Short-billed Dowitcher (SBDO)	0	10	0
Ruddy Turnstone (RUTU)	205	80*	0
Black Turnstone (BLTU)	65	20*	0
Western Sandpiper (WESA)	0	30*	0
Least Sandpiper (LESA)	0	170*	0
SUBTOTAL	300	337*	0
* Represent estimates rather than actual counts.			
<u>Gulls & Terns</u>			
Parasitic Jaeger (PAJA)	8	0	0
Herring Gull (HERG)	1	0	0
Mew Gull (MEGU)	7	14	0
Bonapartes Gull (BOGU)	0	2	0
Glacous-winged Gull (GWGU)	4	2	0
Black-legged Kittiwake (BLKI)	0	0	50
Arctic Tern (ARTE)	0	1	0
SUBTOTAL	20	19	50
<u>Alcids</u>			
Pigeon Guillemont (PIGU)	19	7	0
Marbled Murrelet (MAMU)	3	6	22
Kittlitz's Murrelet (KIMU)	13	5	6
Unidentified Brachyramphus (BRMU)	5	6	5
SUBTOTAL	40	24	33
TOTAL	836	630	500
<u>Other Birds and Marine Mammals</u>			
Bald Eagle (BAEA)	1	1	1
Rufous Hummingbird (RUHU)	0	1	0
Savannah Sparrow (SAVS)	0	1	0
White-crowned Sparrow (WCSP)	0	1	0
Black-billed Magpie (BBMA)	1	0	0
Harbor Seal (HASE)	2	52	3
Harbor porpoise (HAPO)	2	0	0

Icy Bay supported large numbers of waterfowl including white-winged and surf scoters, Canada geese, and common mergansers as well as several species of shorebirds. Canada geese were in a flightless stage of molting and highly susceptible to disturbance. Harlequin ducks were most often observed close to shore along rocky areas. Ruddy and black turnstones, and least sandpipers were commonly observed along beach areas. Some species, including ruddy turnstones, western sandpipers, and whimbrels which breed in northern areas of Alaska, were already migrating south. D Burgess (1992) documented more extensive migrational movements of birds in Icy Bay from August 17-25. Semi-palmated sandpipers, common mergansers, and mew gulls were all seen with partially grown young, confirming breeding.

Most cliff areas in Icy Bay did not have suitable ledges to support nesting peregrine falcons. Cliff habitat improved toward the southwest end of the Bay but no falcons were observed. Disturbance from logging activity in this area may have interfered with nesting if there were any falcons there

historically.

Miscellaneous Information

Point Riou spit is an important breeding area for both Arctic and Aleutian terns (Sowls et al 1978). Several hundred terns were observed there on July 25. An osprey was observed flying along the mainland several kilometers east of Tsimpshian Point (Point Riou Spit). Ponds and shoreline in this area should be searched for a possible nest. A group of 24 sanderlings were also observed by J Piatt on Point Riou Spit on July 25.

A colony of bank swallows were observed by D Abbe and M DeWinter about 3.5 km east along the first river (no name) south of Kageet Point in May 1992.

J Braekal (Alaska Discovery, Juneau, AK), a guide familiar with Glacier Bay, flew over Icy Bay and estimated harbor seal numbers were 3 times higher than those she had observed in John Hopkins Inlet (Glacier Bay). By her estimates, there may be as many as 6000 seals in Icy Bay, which would make it the largest seal population in southeast Alaska (E Mathews, University of Alaska-Juneau, pers commun). There are no other estimates available for this population.

Whale bones were found in Riou Bay on July 16. G Rainy had observed the beached whale during the fall of 1991 and described it to whale biologist K Winn (University of Alaska, Fairbanks, AK), who informed her it was probably from a minke whale.

DISENCHANTMENT BAY

Boat Surveys

Weather was extremely poor on July 20 and may have influenced the success of our observations. About 20 birds were observed near Hubbard Glacier, including Arctic terns, black-legged kittiwakes, and a few pigeon guillemonts and murrelets. On Haenke Island, about 600 black-legged kittiwakes, 100 glaucous-winged gulls, 1 pelagic cormorant, 20-30 pigeon guillemonts, 1 spotted sandpiper, 15 northwestern crows, a colony of unidentified swallows, and 1 adult bald eagle were observed.

Miscellaneous Information

About 700-900 harbor seals were observed by R Mossman on ice flows in front of the Hubbard Glacier on April 6, 1992. No peregrine falcons were observed in Disenchantment Bay on May 28 by US Forest Service personnel. A peregrine falcon was observed in Hatchet Pass (Yakutat Bay) on June 10 but no nest was found (Harke 1992).

RECOMMENDATIONS

- 1) The Malaspina Forelands should be surveyed for seasonal distribution of seabirds and marine mammals throughout the breeding season (June-September). This could be accomplished using bi-monthly aerial surveys along the shoreline of the Forelands and documenting concentrations of seabirds and marine mammals within 1 kilometer of shore. This information could then be used to schedule boat surveys to document shifts in species and their abundance throughout the breeding season.
- 2) There are 6 seabird nesting areas in Yakutat and Icy Bays which have not been surveyed since the 1970's (Fig 7) (Sowls et al 1978). Population surveys should be repeated and productivity data collected if possible. Two surveys, one during incubation and one during the late nestling phase, would be needed to document productivity. The colonies near Yakutat and in Disenchantment Bay could be surveyed in cooperation with the US Forest Service.
- 3) Icy Bay may contain the largest breeding population of harbor seals in southeast Alaska. A minimum population estimate should be obtained for harbor seals in Icy Bay. Given recent declines in seal populations, the problems of potential oil drilling in the area, and increases in cruise ships entering Icy Bay, methods should be developed and implemented to track trends in seal populations in Icy and Disenchantment Bays (E Mathews 1992). The northern sea lion rookery/haul-out site along the Malaspina Forelands should also be monitored annually.

LITERATURE CITED

- Burgess D. 1992. Birds of the Arrowhead and Icy Bay, Alaska. Rep to Natl Park Serv, Glennallen, AK
- Eschmeyer WN, ES Herald, H Hammann. 1983. A field guide to Pacific coast fishes of North America. Houghton Mifflin Co., Boston.
- Harke VL. 1992. 1992 peregrine falcon/marine bird survey at Dry Bay and Disenchantment Bay. Yakutat Ranger District, Chatham Area. Tongass National Forest. Rep to US For Serv, Yakutat, AK
- Kozie KD. 1992. Bald eagle productivity surveys for Wrangell-St Elias National Park and Preserve 1992. Rep to Natl Park Serv, Glennallen, AK
- Mathews E. 1992. Project Proposal: Longterm monitoring of harbor seals and northern sea lions in Glacier Bay and Wrangell-St Elias National Parks. Proposal to Natl Park Serv, Glennallen, AK

Mineral Management Service. 1990. Outer continental shelf natural gas and oil resource management comprehensive program 1992 to 1997. US Dept Inter, Mineral Management Serv, Washington, D.C.

Sowls AL, SA Hatch, CJ Lensink. 1978. Catalog of Alaskan seabird colonies. US Fish & Wildl Serv, FWS/OBS/78/78.

Sprunt IV A, WB Robertson Jr, S Postupalsky, RJ Hensel, CE Knoder, and FJ Ligas. 1973. Comparative productivity of six bald eagle populations. Trans N Am Wildl Nat Resour Conf 38:96-106

US Forest Service. 1992. 1992 offshore murrelet survey, Yakutat ranger district. Rep to US For Serv, Yakutat, AK

van Vliet G. 1993. Status concerns for the "global" population of Kittlitz's murrelet: is the "glacier murrelet" receding? Unpub Rep, Auke Bay, AK

Wiemeyer SN, TG Lamont, CM Bunk, CR Sindelar, FJ Gramlich, JD Fraser, and MA Byrd. 1984. Organochlorine pesticide, polychlorobiphenyl, and mercury residues in bald eagle eggs 1969-1979 and their relationships to shell thinning and reproduction. Arch Environ Contam Toxicol 13:529-549

Appendix 1. Scientific names of animal species mentioned in this report.

Birds

AOU CODE	COMMON NAME	SCIENTIFIC NAME
PALO	Pacific Loon	<i>Gavia pacifica</i>
COLO	Common Loon	<i>Gavia immer</i>
UNAL	Unidentified Albatross	<i>Diomedea</i> spp
NOFU	Northern Fulmar	<i>Fulmarus glacialis</i>
SHOS	Short-tailed Shearwater	<i>Puffinus tenuirostris</i>
DCCO	Double-crested Cormorant	<i>Phalacrocorax auritus</i>
PECO	Pelagic Cormorant	<i>Phalacrocorax pelagicus</i>
CAGO	Canada Goose	<i>Branta canadensis</i>
MALL	Mallard	<i>Anas platyrhynchos</i>
NSHO	Northern Shoveler	<i>Anas clypeata</i>
HARD	Harlequin Duck	<i>Histrionicus histrionicus</i>
SUSC	Surf Scoter	<i>Melanitta perspicillata</i>
WWSC	White-winged Scoter	<i>Melanitta fusca</i>
USCO	Unidentified Scoter	<i>Melanitta</i> spp
BAGO	Barrow's Goldeneye	<i>Bucephala islandica</i>
COME	Common Merganser	<i>Mergus merganser</i>
RBME	Red-breasted Merganser	<i>Mergus serrator</i>
OSPR	Osprey	<i>Pandion haliaetus</i>
BAEA	Bald Eagle	<i>Haliaeetus leucocephalus</i>
PEFA	Peregrine Falcon	<i>Falco peregrinus</i>
SEPL	Semipalmated Plover	<i>Charadrius semipalmatus</i>
BLOY	Black Oystercatcher	<i>Haematopus bachmani</i>
SPSA	Spotted Sandpiper	<i>Actitis macularia</i>
WHIM	Whimbrel	<i>Numenius phaeopus</i>
RUTU	Ruddy Turnstone	<i>Arenaria interpres</i>
BLTU	Black Turnstone	<i>Arenaria melanocephala</i>
SAND	Sanderling	<i>Calidris alba</i>
WESA	Western Sandpiper	<i>Calidris mauri</i>
LESA	Least Sandpiper	<i>Calidris minutilla</i>
SBDO	Short-billed Dowitcher	<i>Limnodromus griseus</i>
RNPH	Red-necked Phalarope	<i>Phalaropus lobatus</i>
UNSB	Unidentified Shorebird	<i>Scolopacidae</i> (Family)
POJA	Pomarine Jaeger	<i>Stercorarius pomarinus</i>
PAJA	Parasitic Jaeger	<i>Stercorarius parasiticus</i>
BOGU	Bonaparte's Gull	<i>Larus philadelphia</i>
MEGU	Mew Gull	<i>Larus canus</i>
HEGU	Herring Gull	<i>Larus argentatus</i>
GWGU	Glaucous-winged Gull	<i>Larus glaucescens</i>
UNGU	Unidentified Gull	<i>Larus</i> and/or <i>Rissa</i> spp
BLKI	Black-legged Kittiwake	<i>Rissa tridactyla</i>
ARTE	Arctic Tern	<i>Sterna paradisaea</i>
ALTE	Aleutian Tern	<i>Sterna aleutica</i>

AOU CODE	COMMON NAME	SCIENTIFIC NAME
COMU	Common Murre	Uria aalge
PIGU	Pigeon Guillemot	Cepphus columba
MAMU	Marbled Murrelet	Brachyramphus marmoratus
KIMU	Kittlitz's Murrelet	Brachyramphus brevirostris
BRMU	Unidentified Murrelet	Brachyramphus spp
RTHU	Ruby-throated Hummingbird	Archilochus colubris
BANS	Bank Swallow	Riparia riparia
UNSW	Unidentified Swallow	Hirundinidae (Family)
BBMA	Black-billed Magpie	Pica pica
NWCR	Northwestern Crow	Corvus caurinus
SAVS	Savannah Sparrow	Passerculus sandwichensis

Marine Mammals

HASE	Harbor Seal	Phoca vitulina
ELSE	Elephant Seal	Mirounga angustirostris
STSL	Steller Sea Lion	Eumetopias jubatus
SEOT	Sea Otter	Enhydra lutris
HAPO	Harbor Porpoise	Phocoena phocoena
HBWH	Humpback Whale	Megaptera novaeangliae
MIWH	Minke Whale	Balaenoptera acutorostrata

Fish

	Basking Shark	Cetorhinus maximus
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