FINAL REPORT

Aerial Surveys of Steller's eiders (*Polysticta stelleri*) and other waterbirds and marine mammals in Southwest Alaska areas proposed for navigation improvements by the U. S. Army Corps of Engineers, Alaska

February and March, 2000

By:

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Abstract. We conducted aerial shoreline surveys in Southwest Alaska in February and March, 2000, to help estimate potential impacts of proposed marine harbor and navigation improvement projects on the threatened Alaska breeding population of Steller's eiders. Most of the habitat within 800 meters offshore between Umnak Island and Wide Bay was covered at least once during the period from 7 February to 11 March, and designated impact areas surrounding 6 proposed project sites (Chignik Bay, Sand Point, Perryville, False Pass, Akutan, and Dutch Harbor) were each surveyed twice. High winds and turbulence during the survey significantly compromised results in the Aleutians portion of the survey area, including the Dutch Harbor and Akutan project areas. Comparing results of the two surveys suggests that many birds had moved from their wintering habitats by mid-March. The total estimate for the habitats covered in the survey was 17,236 eiders in mid-February. Steller's eiders estimated within the harbor project survey areas comprised 40 percent of the February survey total. However, this only represents 7 percent of Alaskan wintering birds as estimated during spring migration surveys. The March survey included Izembek and Nelson Lagoons, Sanak Islands, and other areas not surveyed in February. The March Steller's eider total was 35,673, approximately double the February total, but changes in distribution indicated that considerable migration had taken place since the first survey. Project survey areas contained 60 percent fewer eiders in March than in February. Distribution results indicate a strong attraction of Steller's eiders to harbor facilities, especially those containing seafood processing facilities, which raises concerns about survival and reproductive success of those birds. We include maps of all survey flight lines, Steller's eider and other sea duck distribution.

Key Words: Steller's eider, *Polysticta stelleri*, population, Aerial, survey, waterfowl, waterbirds, Alaska

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INTRODUCTION

The U. S. Army Corps of Engineers (the Corps) is reviewing proposals to establish new or improve existing harbor and marine navigation facilities at six locations in Southwest Alaska: Akutan, Chignik Bay, Dutch Harbor, False Pass, Perryville, and Sand Point. All of these projects lie within the wintering range of the Steller's eider, the Alaska breeding population of which is listed as threatened under the Endangered Species Act. Since it is not currently possible to distinguish Alaska breeders from Russian birds, the default requirement is to treat all Steller's eiders as Alaska breeding birds with regard to provisions of the Act. In order to determine whether or not the proposed projects were likely to impact Steller's eiders a series of ground-based and aerial surveys were conducted in the vicinity of the various projects throughout the winter, as well as more extensive aerial surveys of most potential Steller's eider winter habitats in southwest Alaska to put the more focused results in broader context. This final report presents the methods and results of the aerial survey portion of these investigations.

STUDY AREA AND METHODS

We defined a survey area to include the nearshore waters (within 800 meters of shoreline plus extensive shoal areas >10 meters depth) of all Aleutian and Alaska Peninsula islands from Umnak Island to the Shumagin Islands, plus nearshore waters of the south side of the Alaska Peninsula mainland from False Pass to Wide Bay, and the north side of the Alaska Peninsula from False Pass to Moffett Bay. For consistency with historical data, Alaska Peninsula shoreline habitats were broken into the same numbered segments that have been used by the U. S. Fish and Wildlife Service for Spring and Fall emperor goose aerial surveys (U. S. Fish and Wildlife Service, unpublished data) (Figures 15-18), and data are summarized by those segments (Table 2, Appendix 2).

We initially intended to search all project areas as defined by the Corps, and all other likely Steller's eider habitats within our survey area twice during the winter, and compare results between surveys to obtain a measure of seasonal fidelity to wintering habitats. However, it soon became evident that this was not possible within the constraints of budget and weather. We therefore compromised with two surveys, one in mid-February and one in mid-March, with coverage of each intensive project survey area twice, and complementary single coverage of as many other habitats as possible between the two surveys. Actual coverage is depicted as recorded flight paths for each survey in figures 19 and 20, and the combined coverage in figure 21. Only actual survey portions of flight paths are shown in these maps; we deleted direct (point-to-point) flightpaths to simplify interpretation.

We used a chartered Aero-Commander model 680 for all surveys. The aircraft was equipped with "bubble" windows for improved viewing and a Global Positioning System receiver with serial signal downloading ports. The aircraft was flown at 150 to 200 feet (46-61 meters) altitude, and at an airspeed of 100 kts (185 km/hr). Observers occupied the Starboard forward (copilot) seat and the second row port seat (immediately behind the pilot). The primary objective

was to obtain a replicable index to the abundance of Steller's eiders within the project areas and the total survey area. Our experience with numerous sea duck surveys has found this species generally occupies shallow waters (<10 meters) along exposed shorelines and over preferred feeding areas within and adjacent to estuaries and protected embayments. We therefore flew transects 400 meters or less offshore along exposed shorelines and covered estuaries with adaptive grid search patterns until we felt we had seen all or mostSteller's eiders within. These flight paths are depicted in detail in figures 1-14 and 22-30. In addition to Steller's eiders, All other waterbirds, marine mammals and vessels observed during the surveys were recorded, to the extent that such observations did not appear to compromise Steller's eider counts. The censusing of other species was considered incidental to the Steller's eider counts, and was not intended to be a thorough census within the survey area. Other sea duck species such as king eiders (*Somateria spectabilis*), common eiders (S. mollissima), scoters (*Melanitta* spp.), and long-tailed ducks (*Clangula hyemalis*), as well as loons (*Gavia* spp.) and red-necked grebes (*Podiceps grisegena*), are often found in deeper waters offshore, and the proportion of their population within the nearshore survey area at any given time may depend upon the severity of offshore conditions that might cause them to seek shelter in the coastal environment. Harlequin ducks (*Histrionicus histrionicus*) are mostly within the surveyed area, but a thorough census of them would require closer scrutiny of the littoral and kelp bed zones than we were able to accomplish during this survey. These and other incidental species were observed and recorded with the objective of providing "presence or absence" and relative abundance data for future reference. These data may be useful in designing future surveys as other species come under investigation.

Each observer recorded his observations directly into a laptop computer which was connected to the onboard GPS through a serial cable, entering observations by means of a small microphone taped to a "Propoint"computer mouse which activated the computer. A custom program developed by John Hodges (U.S. Fish and Wildlife Service, Migratory Bird Management, Juneau, AK) recorded our flight path and automatically linked GPS coordinates to each recorded observation. The computer recording program also incorporated a moving map which displayed the aircraft's current position and recorded flight path over a mosaic of digitized U. S. G. S. 1:250,000 scale topographic maps. This system facilitated precise navigation, orientation and complete coverage of bays and estuaries with no duplication. We also recorded ancillary data, including the tide stage (high, medium, low, unknown), ice cover in tenths, sea condition (calm, light chop, medium chop to occasional whitecaps, heavy chop with prevalent whitecaps), and sky cover (clear, scattered, broken, overcast).

The recorded observations were later played back using a transcribing program (also developed by Hodges), which produced an Ascii file wherein each line contained one species and number observation along with date, time, observer, position in aircraft, survey segment, latitude, longitude, tide, ice cover, sea condition, sky cover, and incidental notes. These files were manipulated using computer spreadsheets for summaries and observations were mapped using Arcview GIS software. The flight path was also saved to an Ascii file as a position each five seconds, which enabled us to later plot our route precisely, for exact replication on future surveys, and to help with flight planning as the survey progressed.

We have used this equipment with a minimum of problems over the past few years. However, during these surveys three problems occurred which resulted in lost data. The first was a microphone plug that became loose during a period of extreme turbulence. Reoccurrence of this problem was prevented by taping all connections on subsequent flights. The second was an error in using the program by a substitute observer with little experience with the program (he was also airsick at the time). The third problem was an intermittent computer audio card malfunction which operational spot checks did not pick up until a significant amount of data was lost. This is the first time an error of this kind was experienced, and subsequently we incorporated an audio feedback system that allows frequent operational system checks. The result of the latter problem was computer files that contained a position for each observation but no intelligible voice recording of species and number. In some cases the observer was able to fill in some of the missing data from memory, but these data, which are flagged in tables and maps, should be treated as anecdotal.

SURVEY NARRATIVE

The following daily journal should be helpful in planning future similar expeditions at this time of year:

7 Feb.
Pilot Tom Blaesing and observers Bill Larned and Chris Dau flew to Cold Bay and prepared aircraft for predicted high winds. Flight time 3.7 hrs.

8 Feb.
De-iced and prepared aircraft. Delay in departure due to problems with airport fuel delivery system. 1100 departed Cold Bay, surveyed northern shoreline of Unimak I., portions of Akutan and Akun Islands. 1250 Stopped at Dutch Harbor for fuel - delays due to empty fuel truck etc., airborne again at 1417. Surveyed Dutch Harbor and Unalaska I. in moderate turbulence due to strong SE wind. Surveyed Akutan, Akun, Tigalda, Ugamak, and south side of Unimak I. Landed in Cold Bay at 1900. Secured aircraft in 35 knot wind. Flight time 6.5 hrs.

9 Feb.
Grounded due to high winds, rain, snow.

10 Feb.
Grounded due to high winds, rain, fog, snow.

11 Feb.
Grounded due to continued winds & precip.

12 Feb.
Weather slightly improved, especially eastbound. Flew surveys Alaska Peninsula to Stepovak Bay, Sand Point project area, Unga and Popof Islands. Landed for lunch break in Sand Point. Tried to fly Pavlof Islands, but ran into low visibilities. Returned to Cold Bay on instruments. Flight time 5.1 hrs.

13 Feb.
Continued windy from the southeast 20-30 kts. Attempted to resurvey Akutan because we weren't happy with the survey on 8 Feb. Turbulence precluded a good survey on this day also. Too turbulent to survey other Islands in the Krenitzin Islands area, so flew east and surveyed False Pass area. Conditions were better there so we successfully completed False Pass and the shoreline back to Cold Bay. Flight time 4.7 hrs.

14 Feb.
Received word that the contractor Commander Northwest had an insurance discrepancy and that we could not fly after today, so we packed up and surveyed on the way back to Anchorage. Snow showers delayed departure until 1145. Flew over low weather conditions to Perryville where conditions were calm but visibility low. We completed Perryville, Chignik project areas and Wide Bay - conditions very calm with occasional minor visibility problems – then flew back to Anchorage. Arrived at 1815. Flight time 6.2 hrs.

5 Mar.
Flew to Cold Bay, weather there wind gusting to 40 knots, snow showers. Flight time 4.2 hrs.

6 Mar.
Grounded due to high winds, snow, rain

7 Mar.
Observer Mike Roy feeling ill with flu but improved somewhat by late morning. Departed Cold Bay 1100. Surveyed along north side of Unimak Island, then attempted to survey Akutan area, but turbulence was too bad – observer Roy was extremely airsick. We then surveyed the south side of Unimak Island and Sanak Island, where conditions were calmer and observer was much improved. Returned to Cold Bay surveying Deer Island on the way. Deer Island turbulent and observer was airsick again. Arrived at Cold Bay 1630. Flight time 5.3 hrs.

8 Mar.
Weather Reports were better to the east than west so we flew direct to Sand Point, surveyed Sand Point and other islands (Nagai, Andronica, Korovin, Pavlof islands) then flew back to Cold Bay. Stopped at Sand Point for lunch break. Observer airsick and had problem with computer saving data so his data for part of survey was lost (½ of Nagai Island and all of Andronica and Korovin Islands). Flght time 5.8 hrs.

9 Mar.
Gave training in use of computer survey program to new observer Linda Ziemba, and departed 1030 after deicing aircraft. Flew direct to Umnak Island. Surveyed Umnak I. but abbreviated the north side due to turbulence and sick observer. Surveyed Dutch Harbor, which was very turbulent, Akutan, also turbulent, then False Pass, which was failrly calm and good conditions. Stopped at Dutch Harbor for lunch and fuel. Arrived at Cold Bay at 1930. Larned's computer had intermittent problem with sound card so no usable observation data for Starboard side of aircraft for Akutan and False Pass project areas, only positions of flocks recorded. Flight time 8.0 hrs.

10 Mar.
Port survey observer Linda Ziemba. Departed Cold Bay at 1015, surveyed Izembek Lagoons including Moffett Bay and Kinzerof Lagoon. Good weather conditions and very little ice remaining in the lagoons (<10% coverage). Refueled in Cold Bay and Departed again at 1210. Surveyed Nelson Lagoon and Port Moller – good conditions with wind about 10 kts. Flew direct to Perryville, very windy there but successfully surveyed the coastal portion of the project survey area. We couldn't safely survey the area around Jacob and Paul Islands due to extreme turbulence in the lee of abrupt terrain. Returned direct to Cold Bay.

11 Mar.
Couldn't obtain a second observer so decided to finish Perryville and Chignik project survey areas with one observer, flying directly over the shoreline and trying to see everything within 800 meters. Packed up and departed Cold Bay at 1040. Conditions were excellent with good light and very calm winds. Flew the islands at Perryville we didn't do on the 10th, and completed Chignik. It seemed like we were able to see most of the birds within the 800 meter transect. Returned to Anchorage. When we got back we found that more than half of the observations were inaudible due to the intermittent problem with the computer audio system. Flight time 6.1 hrs.

RESULTS AND CONCLUSIONS

Habitat and survey conditions

Southwest Alaska is well known for its poor winter flying conditions, which is why we obtained an IFR equipped multi-engine aircraft with full de-icing capability for our surveys. During much of February, including the survey dates, the interior of Alaska was dominated by a stationary high pressure ridge, which blocked a series of lows moving eastward along the Aleutians, which compressed the pressure gradient and created persistent strong southeast winds. This relentless wind channeled and eddied around the rugged terrain of the Aleutian Islands, making it impossible to safely complete thorough aerial coverage of the Dutch Harbor and Akutan project survey areas and adjacent areas. Turbulence in other portions of the survey area further east was not as bad, but fog, snow, and turbulence often decreased efficiency of the surveys. In March the synoptic weather pattern was more normal, with brief lulls between the storm systems. We

still were not able to accomplish completely satisfactory survey coverage of the Dutch Harbor and Akutan project areas, and had to accept our " best effort" under difficult and uncomfortable circumstances. Again, we encountered much better weather in the eastern portions of the survey area, although we lost some efficiency due to the necessity of climbing over some extensive fog, rain and low stratus.

Results related to specific study objectives

The "Scope of work" document signed by cooperators for this project stated the following specific objectives:

a. Determine the number and distribution of Steller's eiders which will be directly affected by each project, and compare distributions among surveys (February vs. March).

b. Quantify, map, and identify by type, all boats observed within the project areas.

c. Estimate the area indirectly affected by each project (increased boat traffic, new routes used, effects of increased human and boat population, pollution, etc.).

d. Delineate a survey area encompassing all (potential) suitable Steller's eider wintering habitat from Umnak Island to Chignik Lagoon, including Sanak and Shumagin Islands. Determine the proportion of birds occupying the survey area that would be affected directly and indirectly by the projects.

e. Determine all above for other sea duck species as time and resources allow.

Objective a.
Table 1. and figures 1 through 14 detail totals and distribution of Steller's eiders within the project survey areas. Turbulent flight conditions and the propensity for Steller's eiders to congregate in the immediate vicinity of harbor facilities (Larry Bartlett, pers. comm.) resulted in low aerial counts relative to ground counts in those portions of the project survey areas. It was suggested that this apparent attraction is related to food resources artificially enhanced by fish processing waste (ibid.). Therefore we assume that the numbers of Steller's eiders at risk within the project areas are uniformly greater than the aerial data indicate, though we feel that the spacial distributions are accurate for the brief time periods during which the surveys were conducted.

Regarding distribution comparisons among surveys, we intended to target typical winter conditions with both surveys when sea and estuary ice was at its greatest extent and birds would be established on their normal winter habitats. The February coverage seemed to be well timed for this objective, with extensive ice coverage in Bristol Bay and major estuaries such as the Izembek Lagoons almost completely ice-covered, preventing its use by Steller's eiders and other waterbirds. March, however, which is often the month of greatest ice extent in the Bering Sea, saw the nearly complete dispersal of most lower peninsula sea ice, permitting reoccupation by

eiders, brant and other waterbirds in estuarine habitats. This early ice dispersal likely resulted from the persistent warm moist southeast winds during much of the late winter period. The resulting waterfowl movements were clearly reflected in our survey results, as in every case March estimates were substantially less than those of February for project survey areas (Table 1).

Objective b.

We recorded all boats observed during the surveys other than those docked or anchored at harbor facilities. Our observations are mapped by survey (Figures 33 and 34), with symbols classifying boats observed into Small skiffs (<25 ft.), Medium (25-100 ft.), and Large (>100 ft). We did not record many vessels during this survey, probably due to the unusually adverse weather and sea conditions we encountered, as well as the seasonal and daily fluctuations in water traffic due to opening and closing of brief commercial fish seasons. As such these brief surveys are not necessarily representative of typical vessel activity. We recorded 17 vessels in February (4 large, 11 medium, and 2 small), and 14 in March (12 large and 2 medium).

Objective c.

It was not possible for us to evaluate or estimate the distribution or extent of indirect effects of the proposed harbor facility expansions, such as increased boat traffic, new routes, effects of increased human and boat population, pollution, etc. However, results of this survey and any subsequent similar efforts at determining the distribution and movement of Steller's eiders and other waterbirds provide will provide the biological data necessary for evaluating such effects.

Objective d.

We delineated the survey area encompassing most known or suspected Steller's eider habitat from Umnak Island to Chignik Bay, including most islands. As we were not able to survey the entire area during each of the two survey periods, the survey total for each period included substantially fewer birds than were actually within the survey area. Although our conclusions are tentative based on this single year of data from these partial coverages, it appears that Steller's eiders are highly mobile during the winter, and respond to changing sea ice and other conditions by moving rapidly into preferred habitats (such as Bechevin Bay, Izembek Lagoons, and Nelson Lagoon) as they become available. We also suspect that large numbers of birds were present in the ice-free nearshore environment adjacent to Izembek and other favored estuaries even during February when the ice extent in lagoons was the greatest, as flocks were sighted offshore at that time between Izembek lagoons and Bechevin Bay. Unfortunately time and resources did not allow coverage of the Bristol Bay Lagoons and shorelines during the February survey. We also suspect that substantially larger numbers of eiders were present during February in the shoals of Sanak Islands and perhaps other island groups south of the Alaska Peninsula, which we covered only in March after major movements into the favored Bristol Bay lagoons had apparently occurred. This hypothesis is supported by a subsequent and on-going Steller's eider satellite telemetry project, which indicated that some Steller's eiders which breed in the Barrow area move from Peninsula lagoons to Sanak Islands and back again during the winter (Philip Martin pers. comm.). Although our counts around Sanak Islands in March revealed only 1,578 Steller's eiders, this area, which has extensive eelgrass shoals and relatively mild winter temperatures probably winters much larger numbers, as suggested by survey results from about 10 years ago

when approximately 10,000 Steller's eiders were recorded there in the winter by Chris Dau and other Izembek National Wildlife Refuge personnel (Dau, Pers. comm.).

In summary, the data in table 3 indicate the numbers of Steller's eiders recorded within the Project survey areas in February represent relatively high percentages of the total of the February survey total – the combined project total being 40 percent. But the February survey was a partial survey at best, missing birds from some very important areas such as along the Alaska Peninsula north shore and the Sanak Islands, not to mention birds wintering outside the survey area, such as Kodiak, Cook Inlet, and the Aleutians west of Umnak. Since the species seems to be highly mobile within its wintering range, perhaps the best way to place the populations wintering in project areas in numerical perspective is to use the totals from the annual spring Steller's eider migration surveys. This survey estimated that during the past 5 years at least 69,000 to 108,000 Steller's eiders that presumably wintered in Southwest Alaska, were migrating northward along the coast of the eastern Bering Sea in April (Larned 2000). The combined February Steller's eider estimates from the six project areas investigated during this study, which as we previously stated were biased somewhat low, comprised about 7 percent of the average southwest Alaska spring population as estimated during our migration survey. This would be a reasonable estimate of the proportion of the Alaskan wintering population of Steller's eiders at risk from direct effects of the projects.

We are at a loss as to how to estimatethe proportion of Alaska birds potentially exposed to indirect effects. One could argue that the majority of the Alaska wintering population of roughly 100,000 would be at risk, as most at some time during the year pass through the area affected by the proposed projects, with the possible exception of some of the birds wintering in Cook Inlet and Bristol Bay. This issue could be better addressed with more specific projections of increases of boat traffic, human population growth etc.

Objective e.

We have mapped distributions of common eiders, king eiders, long-tailed ducks, harlequin ducks, and combined scoter species (figures 35-44). As expected, distributions show some movement for all species northward between surveys, though this is somewhat obscured by the largely non-overlapping coverages. Percentages of these species within the project areas and therefore theoretically at risk for direct effects of the projects ranged generally from 24 to 49 percent of survey totals, with one outlier (common eiders within project areas comprised only 1 percent of March survey totals). However, we caution that very little is known of wintering distributions or abundance for most of these species, making these percentages difficult to interpret at this time. Again, these data are mainly valuable as baseline information for designing future studies.

RECOMMENDATIONS

This study, like many one-year or first-year investigations, provided a lot of tantalizing hints at truths about the wintering habits of the subject species, but few defendable conclusions. It should, however, provide a good basis and training ground for further study should funding become available in subsequent years. Certainly the planning of any followup surveys will be vastly easier and the expectations more realistic and predictable. The aerial survey crew can suggest several specific improvements for aerial survey design and execution. But the first step in considering further investigations should be to review thoroughly all data collected this year from ground surveys and aerial surveys, as well as past data and anecdotal observations. Perhaps when it is all synthesized and assimilated we may have a more complete picture than we now think. We then could prioritize the unanswered questions, brainstorm ideas on how to address them, and allocate the funds accordingly.

ACKNOWLEDGMENTS

I gratefully acknowledge the assistance of manager Rick Poetter and the staff of Izembek National Wildlife Refuges, who provided for the logistic needs of crew and aircraft. Many thanks to observers Chris Dau, Mike Roy and Linda Ziemba who braved rather extreme flying conditions to help complete the surveys. Most especially thanks to pilots Tom Blaesing and Dave Weintraub who somehow managed to take us to the ducks and back safely and professionally, if not always comfortably, in some very challenging conditions.

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Table 1. Total birds observed in each project survey area as mapped in Figures 1-14.

	Akutan		Chignik		Dutch Harbor		False Pass		Perryville		Sand Point		Subtotal	Subtotal
Species	02/08/00	03/09/00	02/14/00	03/11/00	02/08/00	03/09/00	02/13/00	03/09/00	02/14/00	03/10,11/00	02/12/00	03/08/00	survey 1	survey 2
Red-necked grebe			17						1	6		8	18	14
Yellow-billed loon											1		1	
Common loon			4		2		7		1				14	
Pacific loon			1		4		1						6	
Loon sp.1		1	13	13		2	5	16	4	5	3	21	25	58
Crested auklet	7,100				60								7160	
Pigeon guillemot					22								22	
Murre sp. 2			4	20	5,405	740	5	4	3	2		27	5417	793
Mew gull		94	127	110	60			2			716	12	903	218
Black-legged kittiwake	3,120				509	901			2				3631	901
Large gull 3	5,759	311	182	427	3,186	4,202	56	97	10	16	1,434	1,774	10627	6827
Jaeger sp.														
Cormorant sp. 4	115	50	209	89	98	1	39	94	26	60	53	60	540	354
Common merganser			17	20				35					17	55
Red-breasted merganser		20	317	42	6		98	44			57	43	478	149
Mallard		40	593	41				10			473	20	1066	111
Northern pintail		50		20										70
Greater scaup	2		2,385	430	12		270	410			7	18	2676	858
Goldeneye sp.		74	2,771	1,512			87	420	2	11	181	116	3041	2133
Bufflehead		10	344	334				26		6	45	92	389	468
Long-tailed duck	2	27	638	1,064	380	23	86	123	9	15	303	878	1418	2130
Harlequin duck	70	121	787	304	86	31	143	81	51	17	99	245	1236	799
Steller's eider	727	141	976	151	1,334	248	2,872	1,836	51	22	1,028	351	6988	2749
Common eider					162		30	4	1				193	4
King eider			3	118	74	76	579	139	3		3	4	662	337
Scoter sp.			400	481		28			50	70		32	450	611
Black scoter	172	209	2,731	1,367	149	129	440	204	293	269	1,408	426	5193	2604
White-winged scoter	30	24	749	1,384	21	34	240	105	331	306	516	779	1887	2632
Surf scoter			110	76			4		638	150		21	752	247
Canada goose														
Black Brant							7,059	1,225					7059	1225
Emperor goose	40	75	2,154	1,100	672	25	316	82			504	317	3686	1599
Tundra swan														
Small shorebird 5			60	200									60	200
Large shorebird 6														
Bald eagle	5	3	7	3	111	13	9	4	8	2	14	34	154	59
American crow												1		1
Sea otter		11	154	68	9		137	87	1	3	63	79	364	248
Seal sp.	1		3	23			26	2			5	2	35	27
Steller's sea lion									1		2	28	3	28
Harbor porpoise				1			2			2			2	3
Boat						3	2		5				7	3

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

Table 2. Total birds observed in each survey segment as mapped in Figures 15-18.

	50	53	54	55	60	61	62	63	64	65	66		67		68		Subtotal	Subtotal
Species	03/10/00	03/10/00	03/10/00	03/10/00	03/10/00	03/10/00	03/10/00	03/10/00	03/10/00	03/10/00	02/08/00	03/09/00	02/13/00	03/09/00	02/13/00	03/09/00	survey 1	survey 2
Red-necked grebe																		
Yellow-billed loon																		
Common loon																		
Pacific loon																		
Loon sp.1													1	3	1	5	2	8
Crested auklet																		
Pigeon guillemot																		
Murre sp. 2													5				5	
Mew gull					1													1
Black-legged kittiwake																		
Large gull 3				440		70	6		8		514		16	37	8	16	538	577
Jaeger sp.																		
Cormorant sp. 4													15	3	2	2	17	5
Common merganser													35				35	
Red-breasted merganser				20					3				58	34	40		98	57
Mallard														10				10
Northern pintail						60			70	50								180
Greater scaup				190									270	410			270	600
Goldeneye sp.				9	8		7		30	2			73	391	14	20	87	467
Bufflehead														26				26
Long-tailed duck	30	100	932	855	64	150							33	87	15	8	48	2,226
Harlequin duck													86	50	8		94	50
Steller's eider	1,000	200	40	9,151	2,016	5,238	2,312	3	3,370	4,632	2,025	50	471	1,037	2,303	742	4,799	29,791
Common eider											58	6	10		14		82	6
King eider				100							9		238	65	9		256	165
Scoter sp.																		
Black scoter		4,257		70							6		78	72	79	26	163	4,425
White-winged scoter															7	8	7	8
Surf scoter																		
Canada goose																		
Black Brant						2,693	560	510	28	65	10		5,984	1,223	1,075	2	7,069	5,081
Emperor goose									10	375	4		31	17	285	65	320	467
Tundra swan																		
Small shorebird 5											5						5	
Large shorebird 6																		
Bald eagle									1		1		1		1	1	3	2
American crow																		
Sea otter			5	319	45	173	46	1	24	7	2		113	21	12	38	127	679
Seal sp.		44		5							1		25	1	1	1	27	51
Steller's sea lion											2						2	
Harbor porpoise																		
Boat															1		1	

1. May include common, Pacific, arctic, yellow-billed, and red-throated 2. Includes mainly common, but may include a few thick-billed. 3. May include glaucous, glaucous-winged, and herring gulls.

4. May include pelagic, red-faced and double-crested. 5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.

6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

Table 2. Total birds observed in each survey segment as mapped in Figures 15-18.

	69		70		71		72		74		75		76		77		Subtotal	Subtotal
Species	02/08/00	03/07/00	02/08/00	03/07/00	02/08/00	03/07/00	02/08/00	03/07/00	02/08/00	03/07/00	02/08/00	03/07/00	02/08/00	03/07/00	02/13/00	03/09/00	Survey 1	Survey 2
Red-necked grebe				1		5												6
Yellow-billed loon													1				1	
Common loon	3						1	2							6		10	2
Pacific loon															1		1	
Loon sp.1						3		2		3					7	14	7	22
Crested auklet																		
Pigeon guillemot																		
Murre sp. 2								1								4		5
Mew gull											4						4	
Black-legged kittiwake																		
Large gull 3	43	13	701	1,288	1,214	640	352	234	410	43	36	149	2	418	113	14	2,871	2799
Jaeger sp.						1												1
Cormorant sp. 4					1		41	12	4	1	87		1	1	122	29	256	43
Common merganser																		
Red-breasted merganser	4		5		250										10		269	
Mallard																		
Northern pintail																		
Greater scaup																		
Goldeneye sp.				2	50										2	9	52	11
Bufflehead															5		5	
Long-tailed duck	2		6	8		4	7	1	16	3	6	9	15	12	4	10	56	47
Harlequin duck					20								8		97	22	125	22
Steller's eider	20	2	2	27	135	115			54	15			30	2	303	30	544	191
Common eider	6		31	10		8	3								5	26	45	44
King eider			8		7	2				60					343	16	358	78
Scoter sp.																30		30
Black scoter			20	20	90	73	48	14	261	265	31	107		428	976	109	1,426	1016
White-winged scoter				21						10		1	8	3	260	63	268	98
Surf scoter													7	1	3		10	1
Canada goose																		
Black Brant																		
Emperor goose															147	30	147	30
Tundra swan			2		50										2		54	
Small shorebird 5																		
Large shorebird 6																		
Bald eagle			6		2				3	2		1	4	2	6	1	21	6
American crow																		
Sea otter			2									1				14	2	15
Seal sp.				29	1											15	1	44
Steller's sea lion				19				81		9					1		1	109
Harbor porpoise																		
Boat								1		1					4		4	2

1. May include common, Pacific, arctic, yellow-billed, and red-throated 2. Includes mainly common, but may include a few thick-billed. 3. May include glaucous, glaucous-winged, and herring gulls.

4. May include pelagic, red-faced and double-crested. 5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.

6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

Table 2. Total birds observed in each survey segment as mapped in Figures 15-18.

	78		79	80	81	82	83	84	85		86	87	88	89	90	91	Subtotal	Subtotal
Species	2/13/00	3/9/00	2/13/00	2/13/00	2/13/00	2/13/00	2/13/00	2/12/00	2/12/00	3/10/00	2/12/00	2/12/00	2/12/00	2/12/00	2/12/00	2/12/00	Survey 1	Survey 2
Red-necked grebe													6				6	
Yellow-billed loon																		
Common loon	4					1	1					5	3	2	2	2	20	
Pacific loon											1			1	4	2	8	
Loon sp.1	1	7			1	2	1					1	1		4		11	7
Crested auklet																		
Pigeon guillemot											15						15	
Murre sp. 2												5	2		1		8	2
Mew gull		2																
Black-legged kittiwake																		
Large gull 3	30	40	7	43	143	367	44	1	1	40	3	558	33	32	106	60	1428	80
Jaeger sp.																		
Cormorant sp. 4	32	74	1			11	1		1		9	14	12	50	9	5	145	74
Common merganser						3					10		2	34	19		68	
Red-breasted merganser		10		390	4		2		20		10				77	12	515	10
Mallard					7								20				27	
Northern pintail				25													25	
Greater scaup								1				5	30		20		56	
Goldeneye sp.				209	2				2		14	1	45				273	
Bufflehead							11			20	1		5		8		25	20
Long-tailed duck	38	18	2		2	14					5	7	12	2	98	48	228	18
Harlequin duck	49	22	44	30	33	127	76	27	22		129	84	7	25	175		828	22
Steller's eider	96	57	4	543		1,695	145	47	1,394	2,290	124	87	90	189	598	1	5013	2347
Common eider	2	2															2	2
King eider	259	58	20		1	23						2	17	47	47	8	424	58
Scoter sp.																		
Black scoter	141	47	18	20	195	612	288	16	53		45	124	396	125	920	117	3070	47
White-winged scoter	113	34	35		34	110	11	1			6	50	46	32	327	181	946	34
Surf scoter												2	12			13	27	
Canada goose																		
Black Brant				2,750						2,380							2750	2380
Emperor goose				212	85	52	1,645			50							1994	50
Tundra swan																		
Small shorebird 5																		
Large shorebird 6																		
Bald eagle	7	2		2	1	14	3		3			9	3	1	4	1	48	2
American crow																		
Sea otter	12	14			3	1	11		2	12	10		2				41	26
Seal sp.															6		6	
Steller's sea lion																3	3	
Harbor porpoise	2																2	
Boat	1																1	

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

Table 2. Total birds observed in each survey segment as mapped in Figures 15-18.

	92	93	94	95	96	97	98	99	100	111	112	113		114		Subtotal	Subtotal
Species	2/12/00	2/12/00	2/12/00	2/12/00	2/12/00	2/12/00	2/12/00	2/12/00	2/12/00	2/14/00	2/14/00	2/14/00	3/10/00	2/14/00	3/10/00	Survey 1	Survey 2
Red-necked grebe												1				1	
Yellow-billed loon																	
Common loon	2		2				3	1	1							9	
Pacific loon																	
Loon sp.1			3					1	1			5	2			10	2
Crested auklet																	
Pigeon guillemot												2	2			2	2
Murre sp. 2		13	1													14	
Mew gull	1															1	
Black-legged kittiwake												2				2	
Large gull 3	527	31	96	53	683	101	13	130	1		2	10	2		10	1,647	12
Jaeger sp.																	
Cormorant sp. 4		1	2	48	2		9	1	61	2	12	16	48	5		159	48
Common merganser																	
Red-breasted merganser	61	117	5	1			2	54								240	
Mallard		20	2					80								102	
Northern pintail								35								35	
Greater scaup																	
Goldeneye sp.	1	331	2	2			1	41				2				380	
Bufflehead	2		10	1			1	20								34	
Long-tailed duck	99	228	6			10		33	4	1	1	7	1	1		390	1
Harlequin duck	60	20	449	49	13	63	27	48			13	54				796	
Steller's eider	52		75	402	475	140	8	100	42			51				1,345	
Common eider	3		7									1				11	
King eider			10	10			10	6				5		2		43	
Scoter sp.													20		2		22
Black scoter	547	12	242	427	229	231	143	434	106	120	57	292	102	32	22	2,872	124
White-winged scoter	220	20	130	197	13	20	41	86	47		47	307	109	31	7	1,159	116
Surf scoter						6		19				614	20	3		642	20
Canada goose																	
Black Brant																	
Emperor goose	733	20	20	20	205	40		150								1,188	
Tundra swan																	
Small shorebird 5	1	5	230													236	
Large shorebird 6																	
Bald eagle	17	2	1	1	1	1		2	1	2	2	5	1	3		38	1
American crow																	
Sea otter	63	17	2	2		22	3					1				110	
Seal sp.	10	170	2	6		8										196	
Steller's sea lion						1					1	1				3	
Harbor porpoise															2		2
Boat			1											5		6	

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6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

Table 2. Total birds observed in each survey segment as mapped in Figures 15-18.

	115		116	117	123	124		125		126		137	138	Akun I.		Subtotal	Subtotal
Species	2/14/00	3/10/00	2/14/00	2/14/00	2/14/00	2/14/00	3/11/00	2/14/00	3/11/00	2/14/00	3/11/00	2/14/00	2/14/00	2/8/00	3/9/00	Survey 1	Survey 2
Red-necked grebe		6	8			2				15						25	6
Yellow-billed loon						2										2	
Common loon			1					1		1		2				5	
Pacific loon					1					0						1	
Loon sp.1					6	4		1	7	8	6					19	13
Crested auklet					1									400		401	
Pigeon guillemot																	
Murre sp. 2	1				3	3		1	20						5	8	25
Mew gull								127	100		10					127	110
Black-legged kittiwake																	
Large gull 3			1		5	75	184	98	236	9	7	43	7	3,453	54	3691	481
Jaeger sp.																	
Cormorant sp. 4	5	6	6	2	14	16	13	18	26	44	50			348	35	453	130
Common merganser								17	20			2				19	20
Red-breasted merganser					5	46	10	254	31	17	1	1			20	323	62
Mallard								593	41			51			30	644	71
Northern pintail									20						50		70
Greater scaup								2,385	430							2385	430
Goldeneye sp.				15	34	43	111	2,728	1,401			26		10	68	2856	1580
Bufflehead			3	14	2	50	68	248	266	46		5			10	368	344
Long-tailed duck	1	6	4		11	74	44	406	269	158	751	7	6	3,515	25	4182	1095
Harlequin duck				20	96	200	89	427	152	173	63	72	80	132	110	1200	414
Steller's eider						76	58	858	93	42		56	289	91	81	1412	232
Common eider														10		10	
King eider					40	3								3		46	
Scoter sp.	50	26			40					400	481					490	507
Black scoter	9	35	5	15	192	522	93	38	26	64	1,248	1,312	109	191	155	2457	1557
White-winged scoter	29	32	152	31	115	36	36	3	4	7	1,344	1,351	12	21	10	1757	1426
Surf scoter	21	10	15		107	11	10			99	66	165				418	86
Canada goose														6		6	
Black Brant																	
Emperor goose								2,136	1,100	24		24	65	36	100	2285	1200
Tundra swan																	
Small shorebird 5								60	200			400				460	200
Large shorebird 6																	
Bald eagle	1			2	1	1		6			3	6	1	13		31	3
American crow																	
Sea otter		3			3	22	14	7		124	54	18	3	1	7	178	78
Seal sp.									8	3	15	3			50	6	73
Steller's sea lion																	
Harbor porpoise											1						1
Boat																	

1. May include common, Pacific, arctic, yellow-billed, and red-throated 2. Includes mainly common, but may include a few thick-billed. 3. May include glaucous, glaucous-winged, and herring gulls.

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6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

Table 2. Total birds observed in each survey segment as mapped in Figures 15-18.

	Akutan I.		Andronica I.	Deer I.	Korovin I.	Nagai I.	Pavlof Is.		Popof I.		Rootok I.	Sanak I.	Tigalda I.	Ugamak I.		Umnak I.	Subtotal	Subtotal
Species	2/8/00	3/9/00	3/7/00	3/7/00	3/8/00	3/8/00	2/12/00	3/8/00	2/12/00	3/8/00	3/7/00	3/7/00	3/7/00	2/8/00	3/7/00	3/9/00	Survey 1	Survey 2
Red-necked grebe						1		3		2		2						8
Yellow-billed loon									1								1	
Common loon							1					1					1	1
Pacific loon																		
Loon sp.1		1	1	9	2	15		34		5		3	1			2		73
Crested auklet													1,000	10,000			10,000	1000
Pigeon guillemot								1										1
Murre sp. 2	5							1		7		522	20			1	5	551
Mew gull		95	6					11	13								13	112
Black-legged kittiwake	1,340											10					1,340	10
Large gull 3	684	277	20	43	13	22	9	140	375	154	8	186	51		5	213	1,068	1132
Jaeger sp.																		
Cormorant sp. 4	207	24	12	6	10	90	12	79	24	16	1	112	16	2	5	262	245	633
Common merganser												2						2
Red-breasted merganser				2				10	1	2		71	80			14	1	179
Mallard		10				10		51				15				40		126
Northern pintail												200						200
Greater scaup	2											45					2	45
Goldeneye sp.		6				11		11				111	50			2		191
Bufflehead						33		8		5		30						76
Long-tailed duck		2		8	115	174	7	126	164	478		115	8			250	171	1276
Harlequin duck	24	11		139	36	46	10	272	48			385	23		3	240	82	1155
Steller's eider	647	142		4		150	130	51	471	315		1,578	10			596	1,248	2846
Common eider	2							6				14				218	2	238
King eider	913			1	8		1	308				3				25	914	345
Scoter sp.			80		465	115		507								130		1297
Black scoter	463	54	20	183	1,016	486	186	1,807	398	76		1,752	35		5	1,239	1,047	6673
White-winged scoter	29	14	101	32	1,906	1,125	72	948	223	410		132	2			120	324	4790
Surf scoter						22	50	13		6		5				2	50	48
Canada goose																		
Black Brant												3,249				2		3251
Emperor goose	210	25	15		75	111		329				2,320	167		115	2,193	210	5350
Tundra swan												2						2
Small shorebird 5												330						330
Large shorebird 6																		
Bald eagle	10	3		1	1	22		22	4	8		18	6			11	14	92
American crow										1		60						61
Sea otter		14			8	16	5	28			1	3				34	5	104
Seal sp.	2					60		37				53				32	2	182
Steller's sea lion	175											505					175	505
Harbor porpoise												1						1
Boat						1		1	1								1	2

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6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

Table 2. Total birds observed in each survey segment as mapped in Figures 15-18.

	Unalaska I.		Unalga I.	Unga I.		Subtotal	Subtotal	Grand Total	Grand Total
Species	2/8/00	3/9/00	3/9/00	2/12/00	3/8/00	Survey 1	Survey 2	Survey 1	Survey 2
Red-necked grebe					5		5	32	25
Yellow-billed loon								4	
Common loon	5			3		8		53	3
Pacific loon	6					6		16	
Loon sp.1		2		5	16	5	18	54	143
Crested auklet	860					860		11,261	1,000
Pigeon guillemot	23					23		25	3
Murre sp. 2	9,576	740			1	9,576	741	9,623	1,322
Mew gull	60			732	4	792	4	945	229
Black-legged kittiwake	509	901				509	901	1,851	911
Large gull 3	5,751	4,202		1,156	1,598	6,907	5800	18,150	10,881
Jaeger sp.									1
Cormorant sp. 4	698	1		71	44	769	45	2,044	978
Common merganser								122	22
Red-breasted merganser	6			56	41	62	41	1,508	349
Mallard	37			475	20	512	20	1,285	227
Northern pintail								60	450
Greater scaup	12			7	18	19	18	2,732	1,093
Goldeneye sp.				181	116	181	116	3,829	2,365
Bufflehead				45	87	45	87	477	553
Long-tailed duck	555	23		177	395	732	418	5,807	5,081
Harlequin duck	486	31		96	156	582	187	3,707	1,850
Steller's eider	1,937	248		938	18	2,875	266	17,236	35,673
Common eider	239					239		391	290
King eider	138	76		4	4	142	80	2,183	726
Scoter sp.		28			28		56	490	1,912
Black scoter	382	129	3	1,322	268	1,704	400	12,739	14,242
White-winged scoter	421	34		363	305	784	339	5,245	6,811
Surf scoter				8	15	8	15	1,155	170
Canada goose								6	
Black Brant								9,819	10,712
Emperor goose	2,617	25	46	644	317	3,261	388	9,405	7,485
Tundra swan								54	2
Small shorebird 5				10		10		711	530
Large shorebird 6									
Bald eagle	135	13	1	18	26	153	40	308	146
American crow									61
Sea otter	29			72	73	101	73	564	975
Seal sp.	35			45	3	80	3	318	353
Steller's sea lion	540			2	28	542	28	726	642
Harbor porpoise								2	4
Boat	1	3				1	3	14	7

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

Table 3. Percentages of Steller's eider survey totals observed within six harbor improvement project study areas during February and March aerial surveys, south west Alaska, 2000.

	February Survey		March Survey	
Survey Totals	17,236		35,673	
Project Survey Areas:	Estimates	% of Survey Total	Estimates	% of Survey Total
Akutan	727	4	141	0.4
Chignik	976	6	151	0.4
Dutch Harbor	1,334	8	248	0.7
False Pass	2,872	17	1,836	5.1
Perryville	51	0.3	22	0.1
Sand Point	1.028	6	351	1.0
Total Projects	**6,988**	**40**	**2,749**	**8**

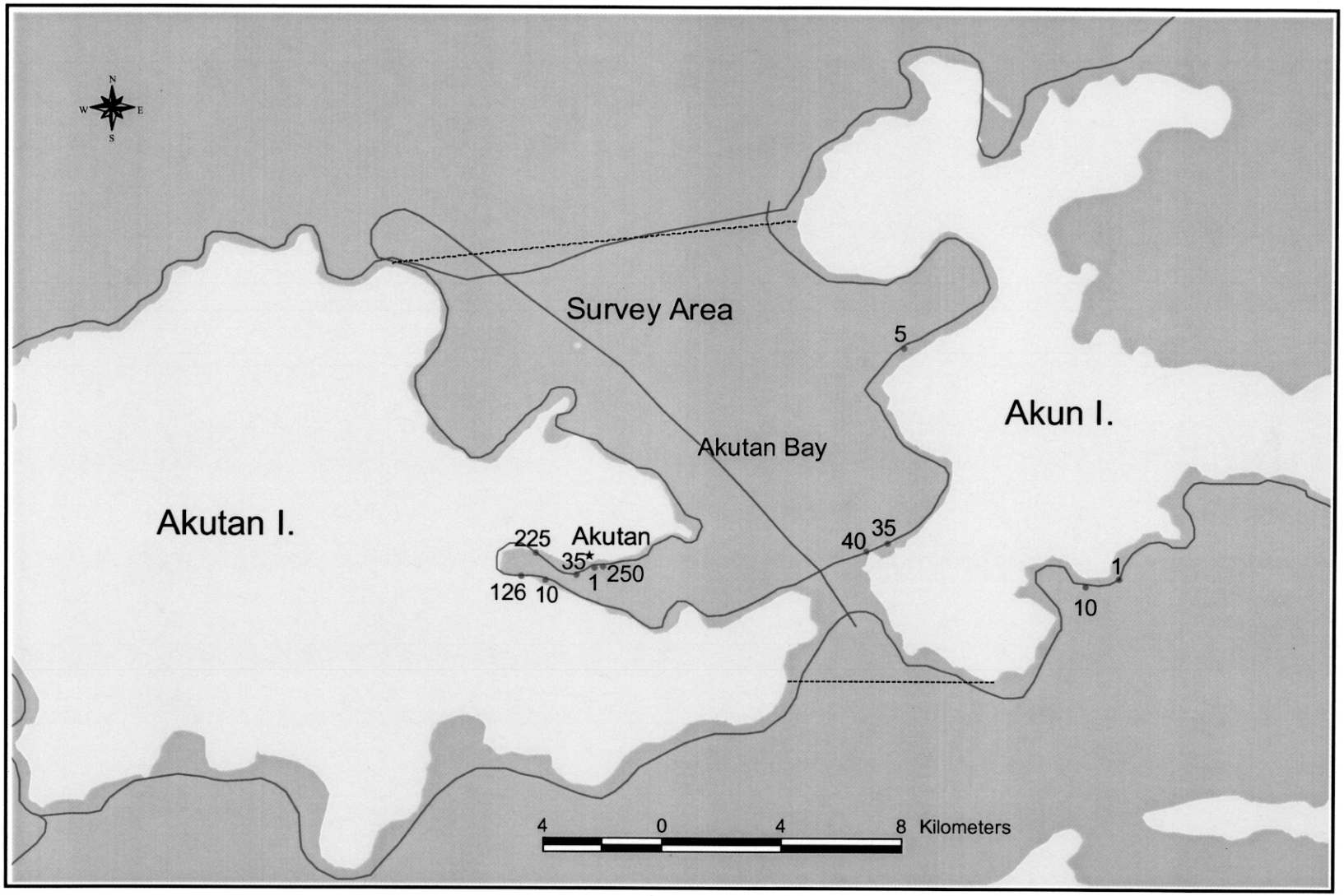

Figure 1. Akutan project survey area showing location and number of Steller's eiders at each observation, 8,13 Feb. 2000.

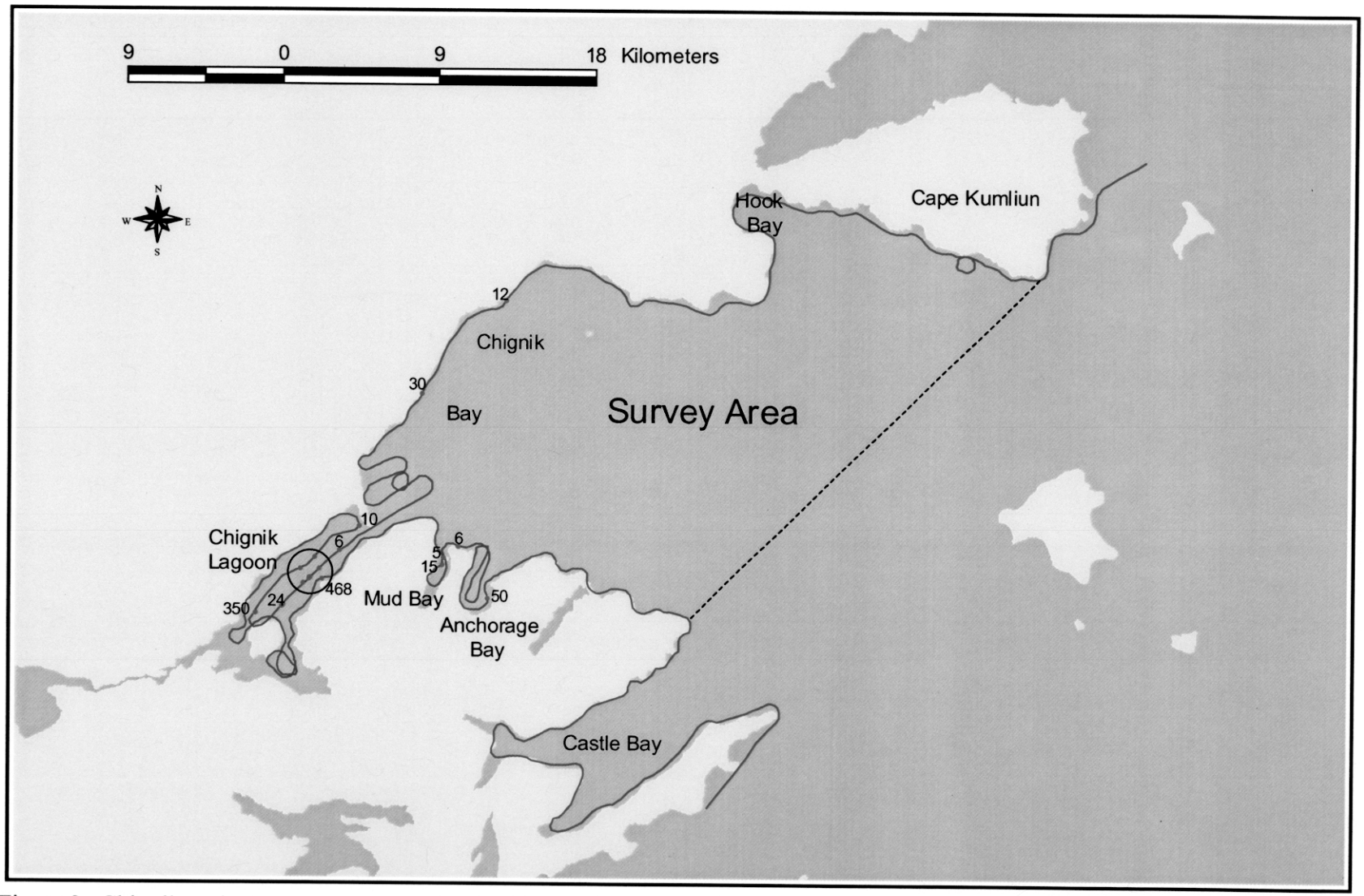

Figure 2. Chignik project survey area showing location and number of birds at each Steller's eider observation, 14 Feb. 2000.

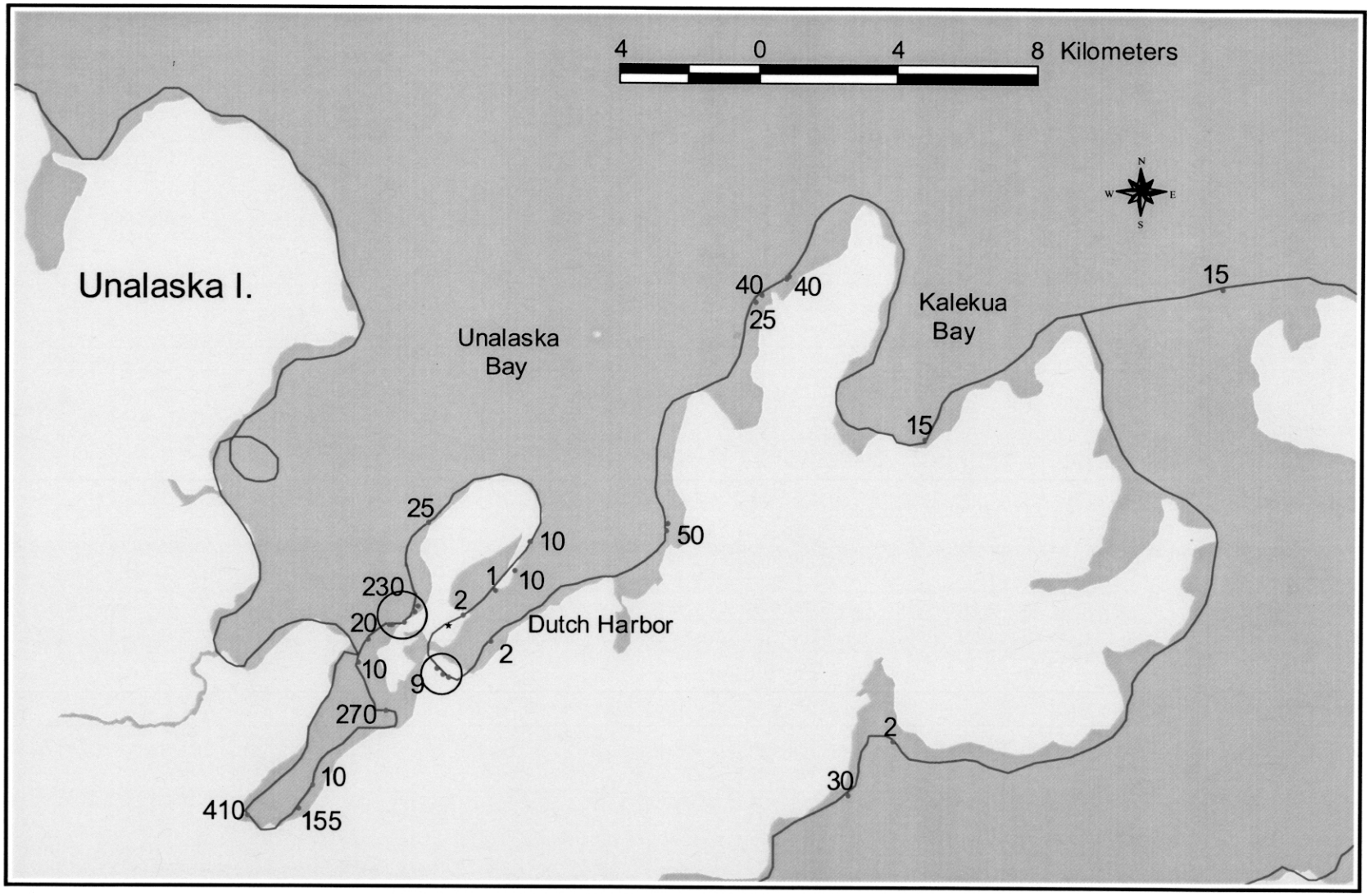

Figure 3. Dutch Harbor project survey area showing location and number of birds at each Steller's eider observation, 8 Feb. 2000.

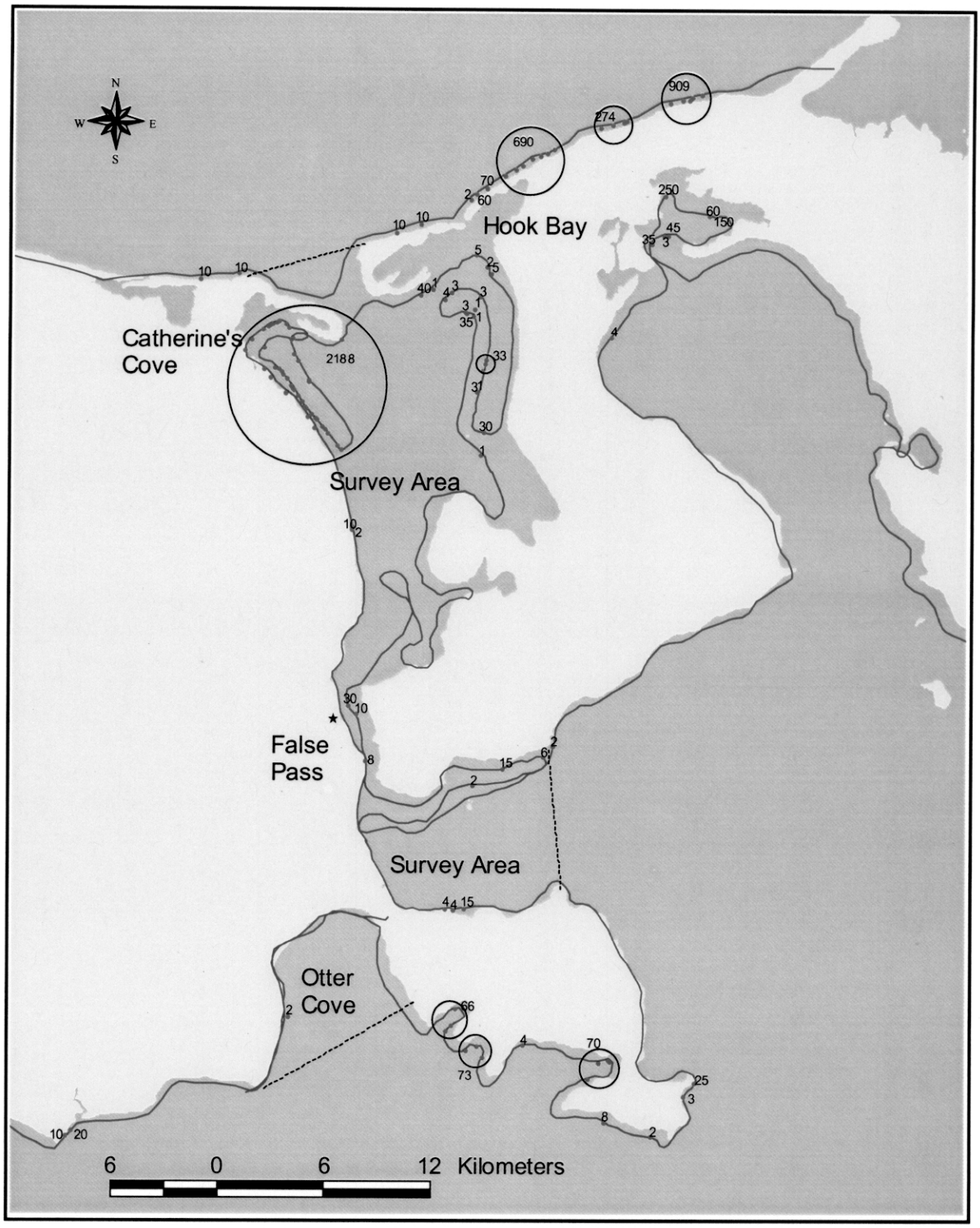

Figure 4. False Pass project survey area, showing location and number of Steller's eiders at each observation, 13 Feb. 2000.

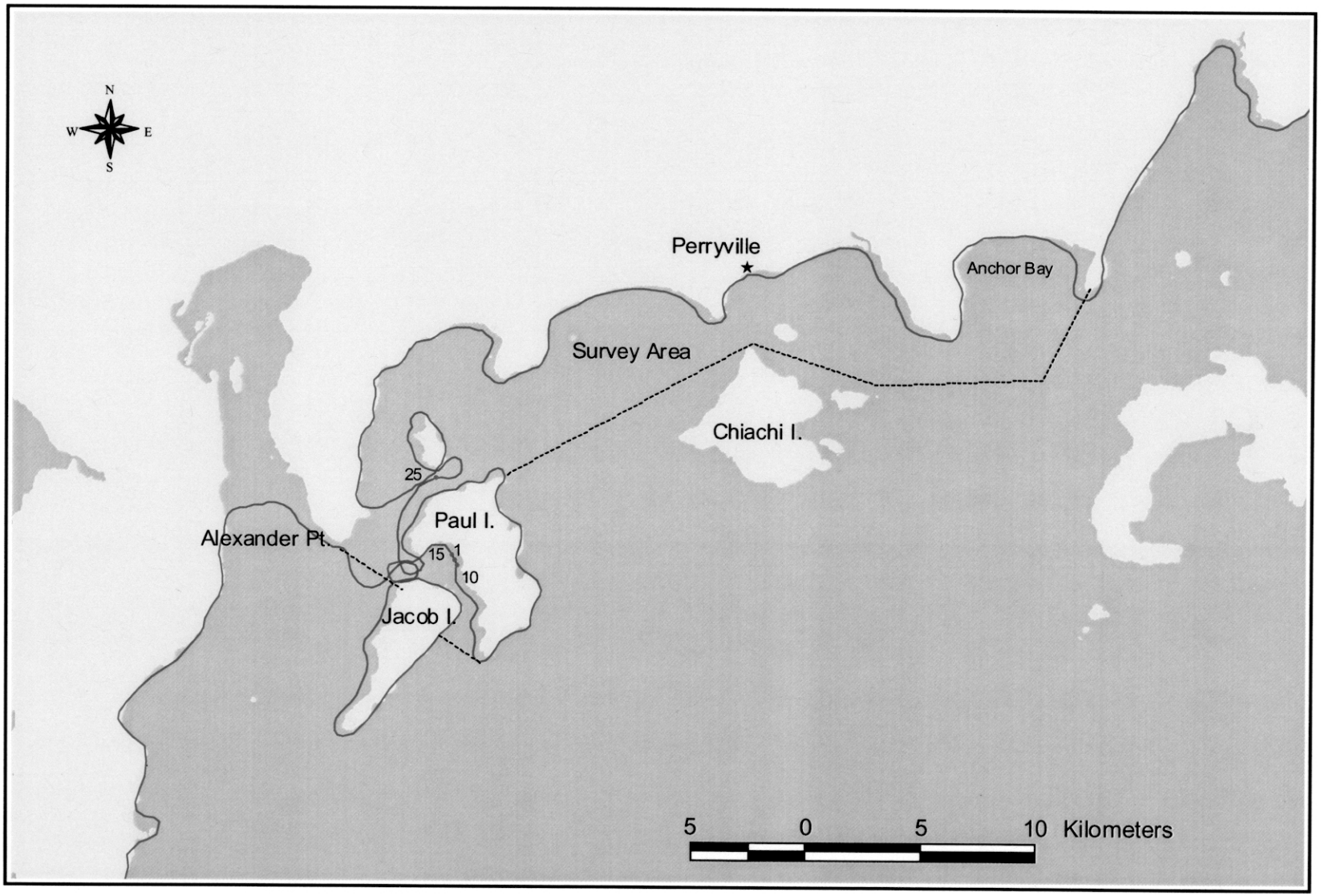

Figure 5. Perryville project survey area, showing location and number of Steller's eiders at each observation, 14 Feb. 2000.

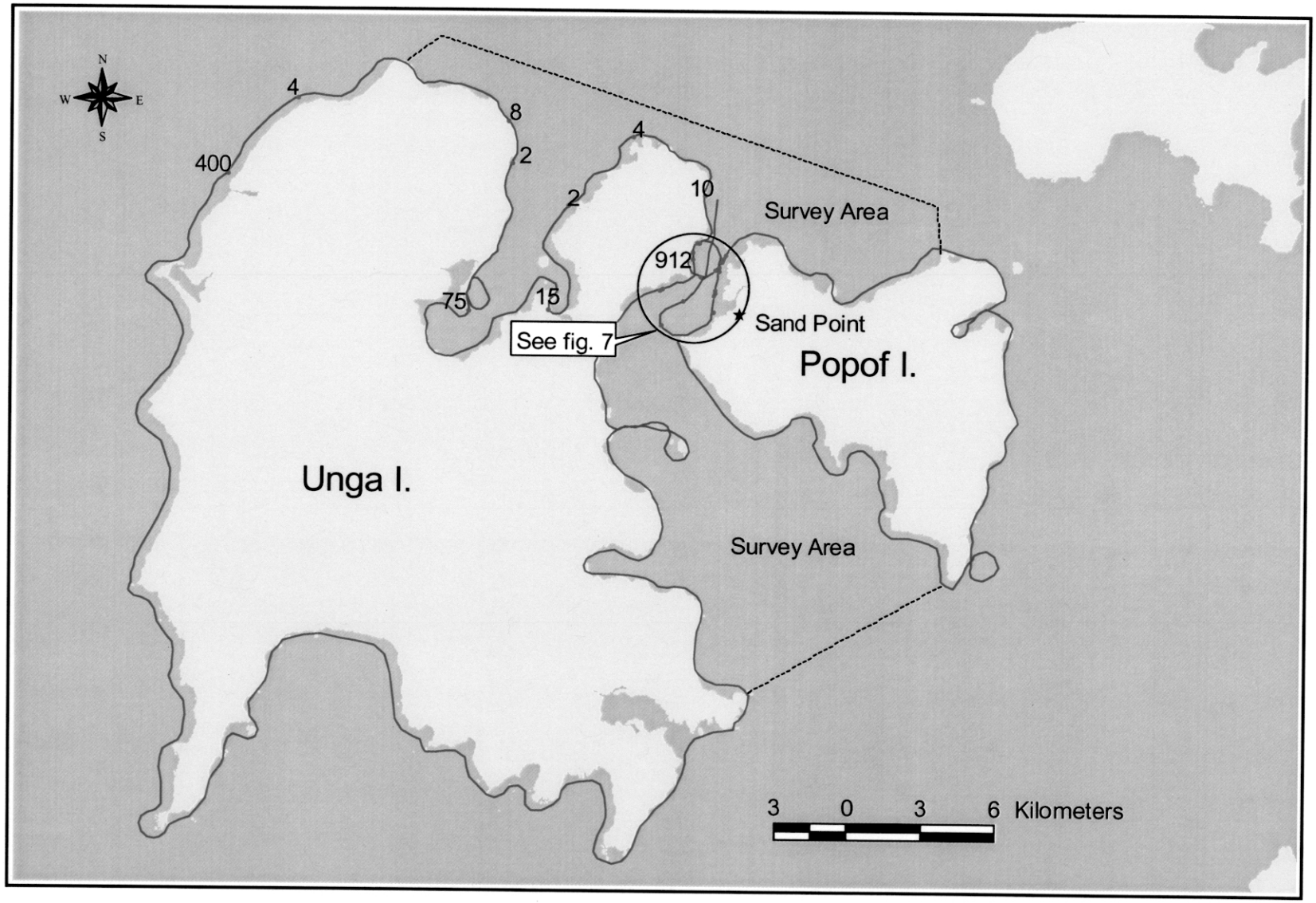

Figure 6. Sand Point project survey area showing location and number of Steller's eiders at each observation, 12 February 2000.

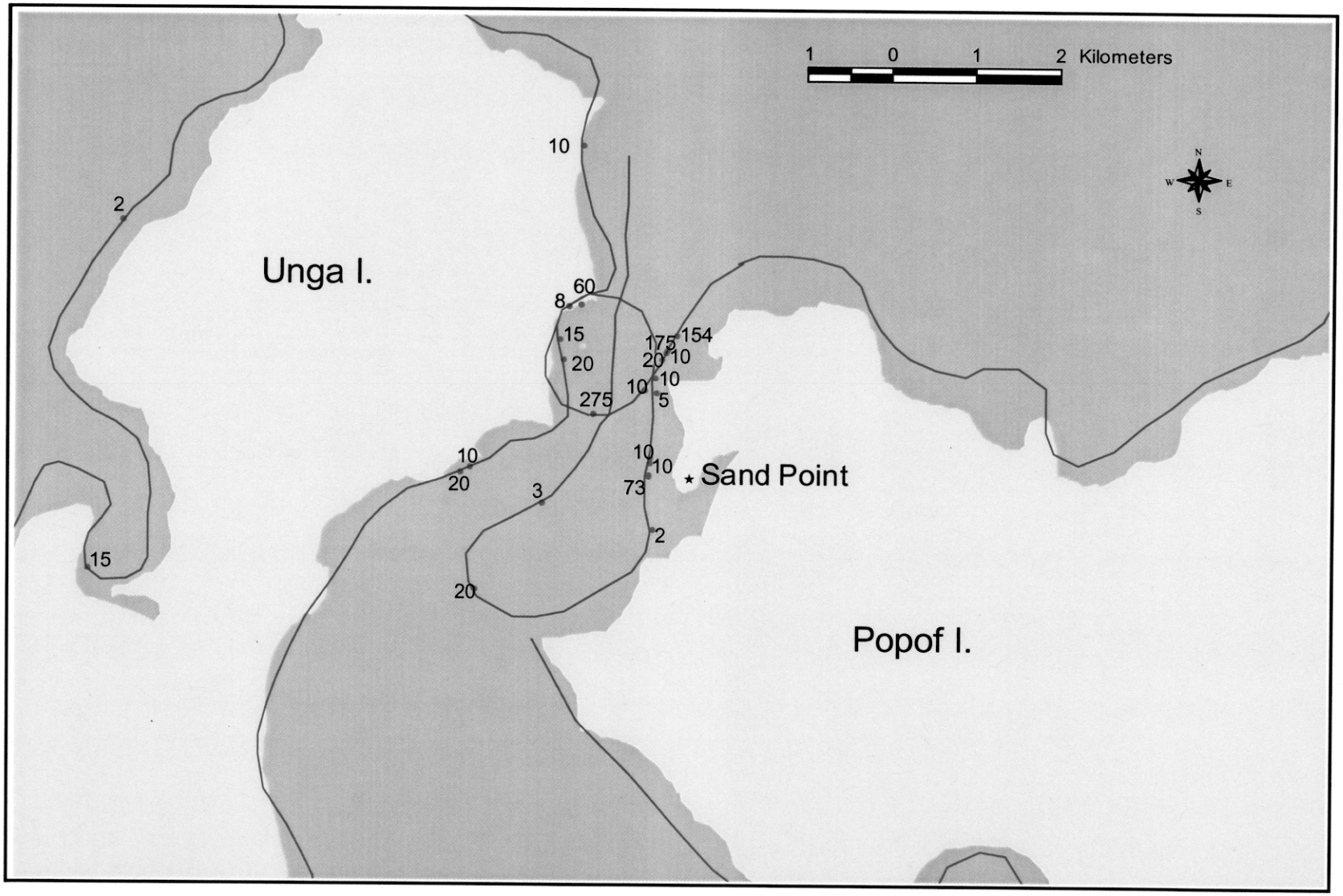

Figure 7. Detail of Sand Point project survey area, showing location and number of Steller's eiders at each observation, 12 Feb. 2000.

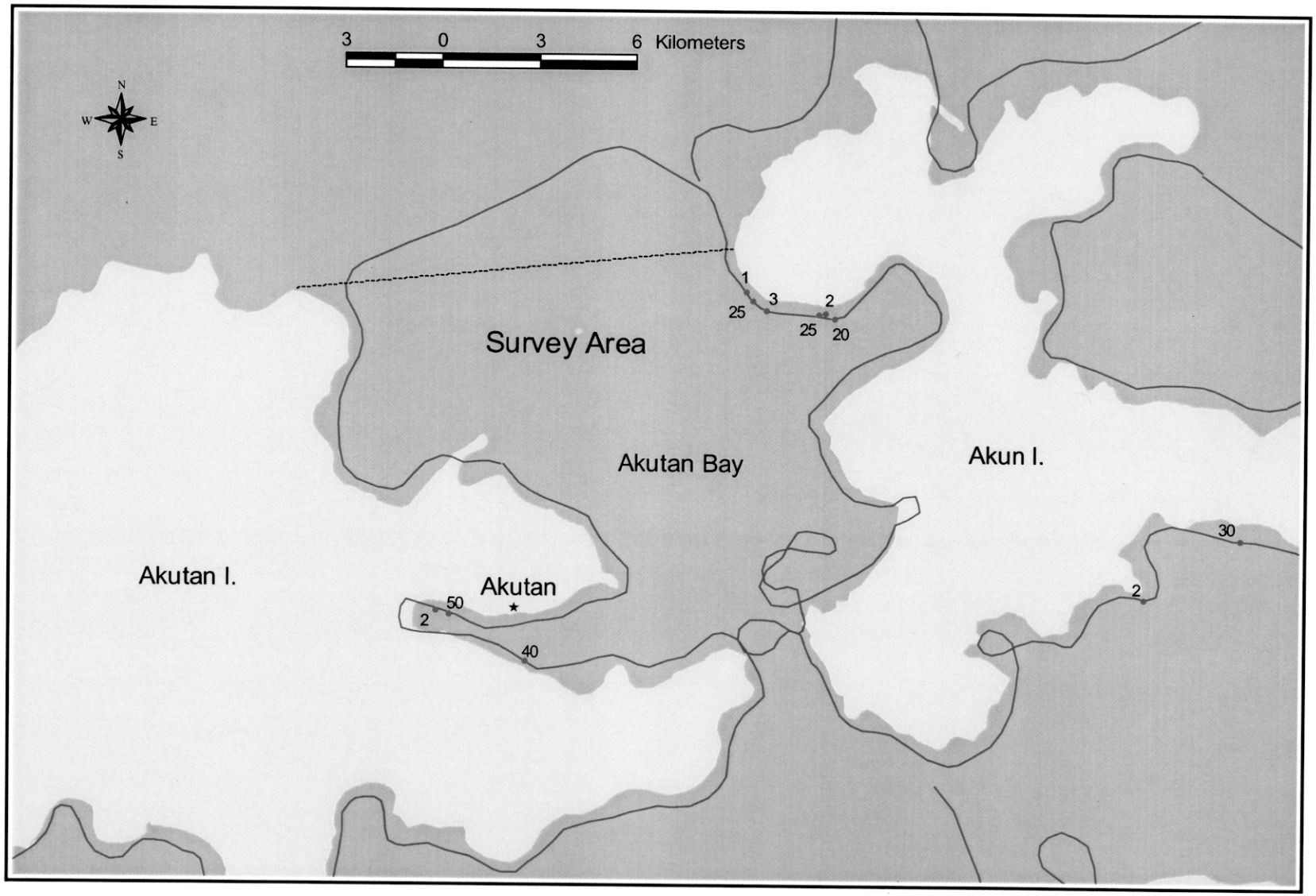

Figure 8. Akutan project survey area showing location and number of Steller's eiders at each observation, 9 March 2000.

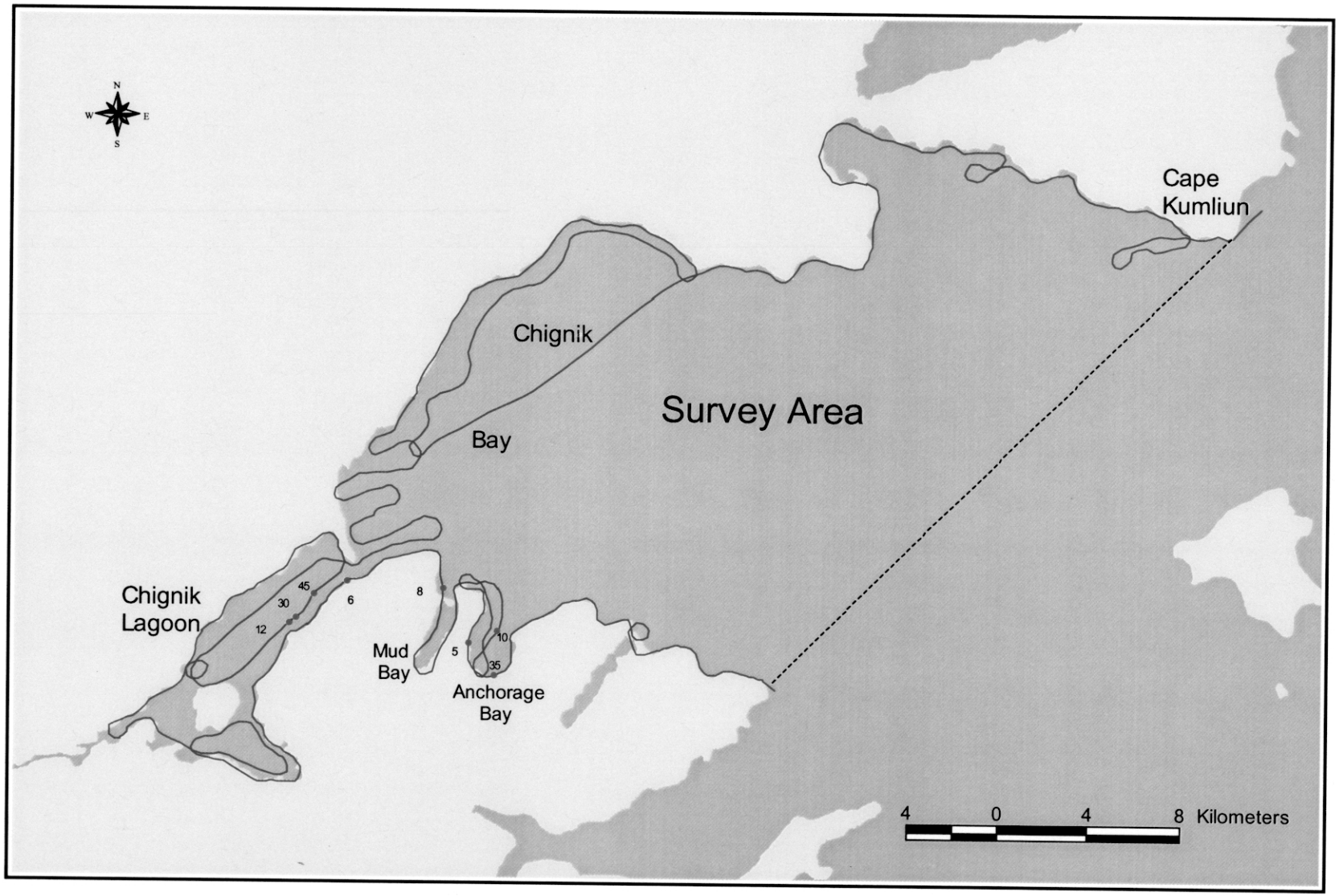

Figure 9. Chignik project survey area showing location and number of Steller's eiders at each observation, 11 March 2000.

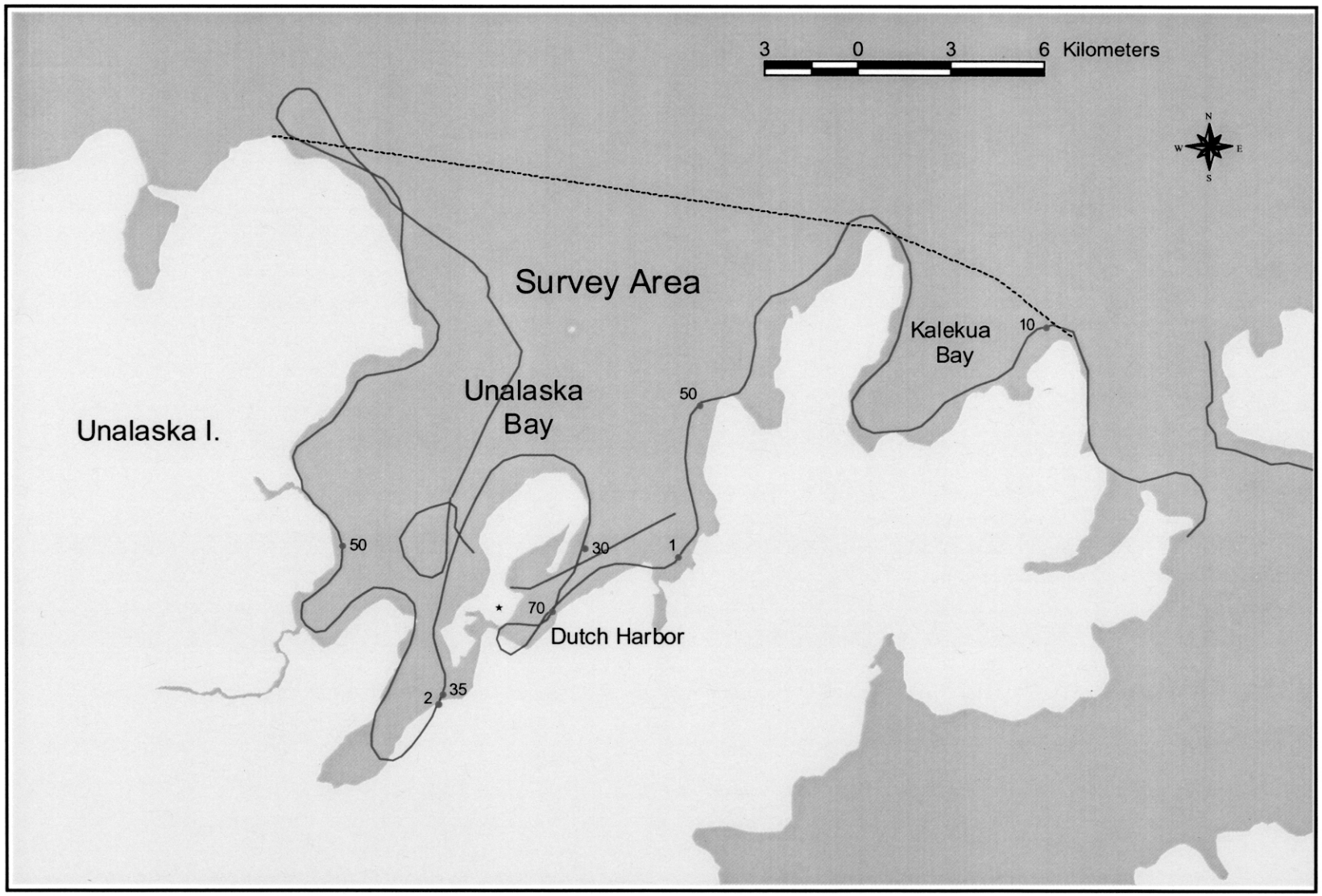

Figure 10. Dutch Harbor project survey area, showing location and number of birds at each Steller's eider observation, 9 Mar. 2000.

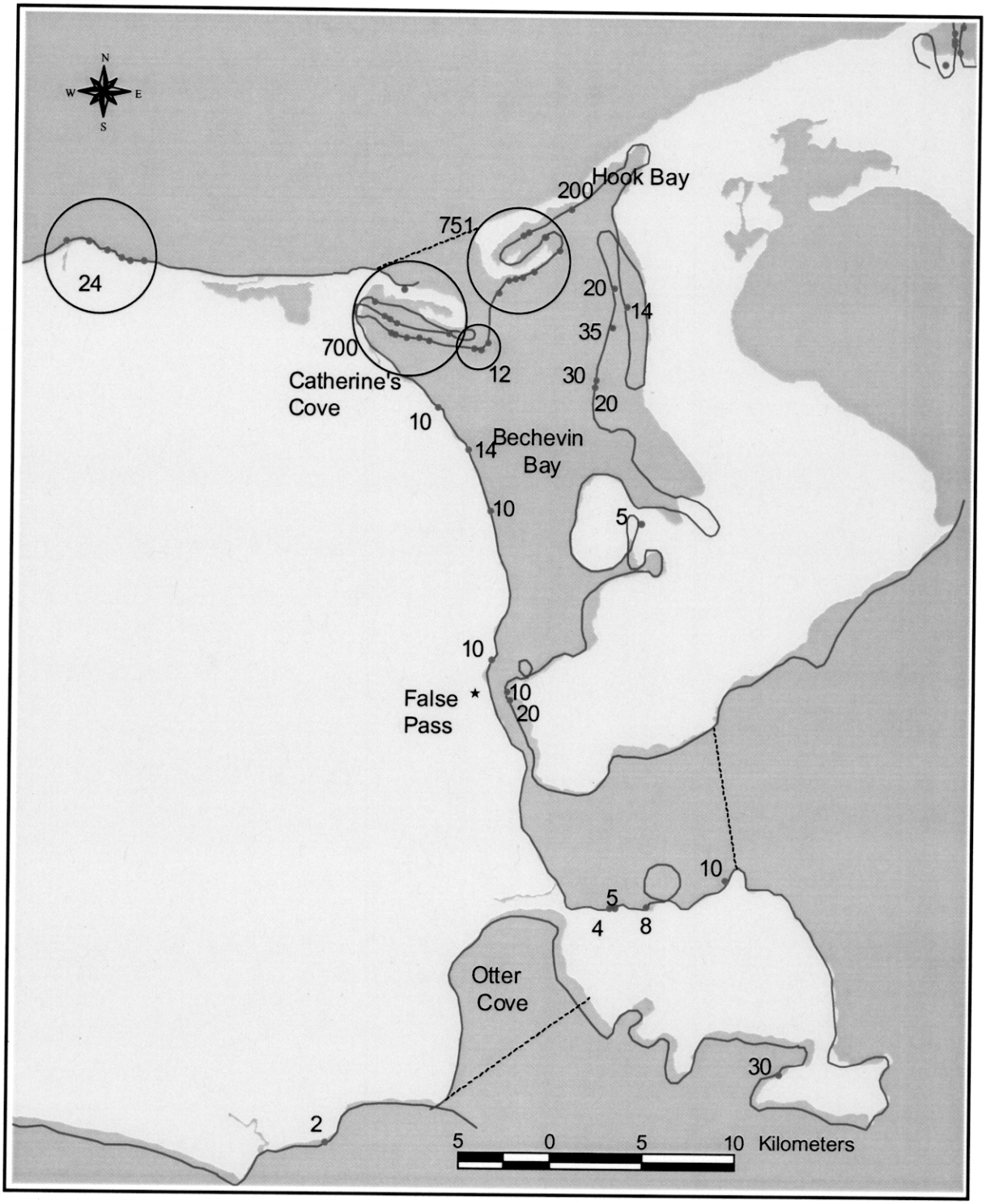

Figure 11. False Pass project survey area, showing location and number of Steller's eiders at each observation, 8 March 2000.

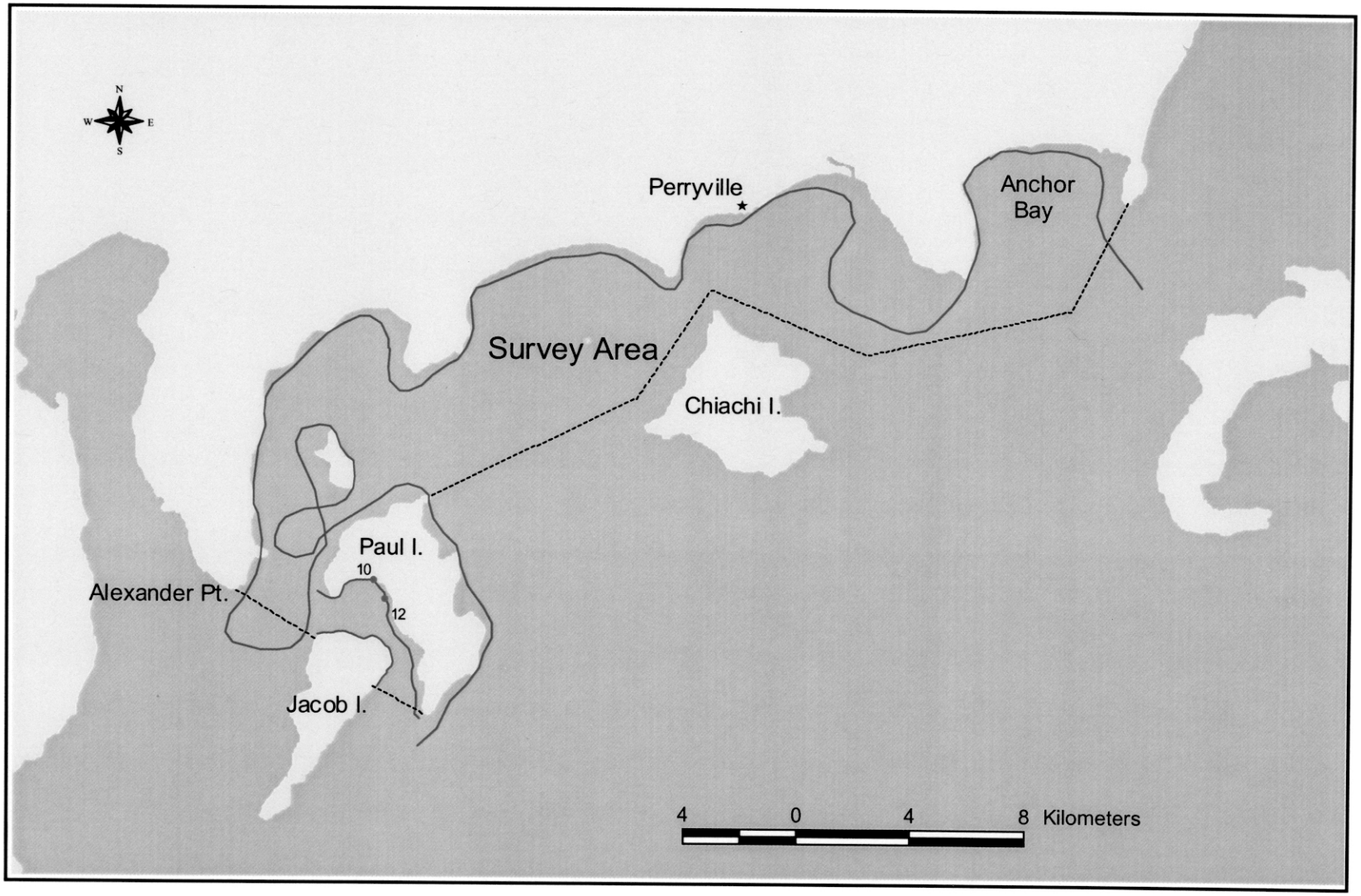

Figure 12. Perryville project survey area, showing location and number of Steller's eiders at each observation, 10-11 Mar. 2000.

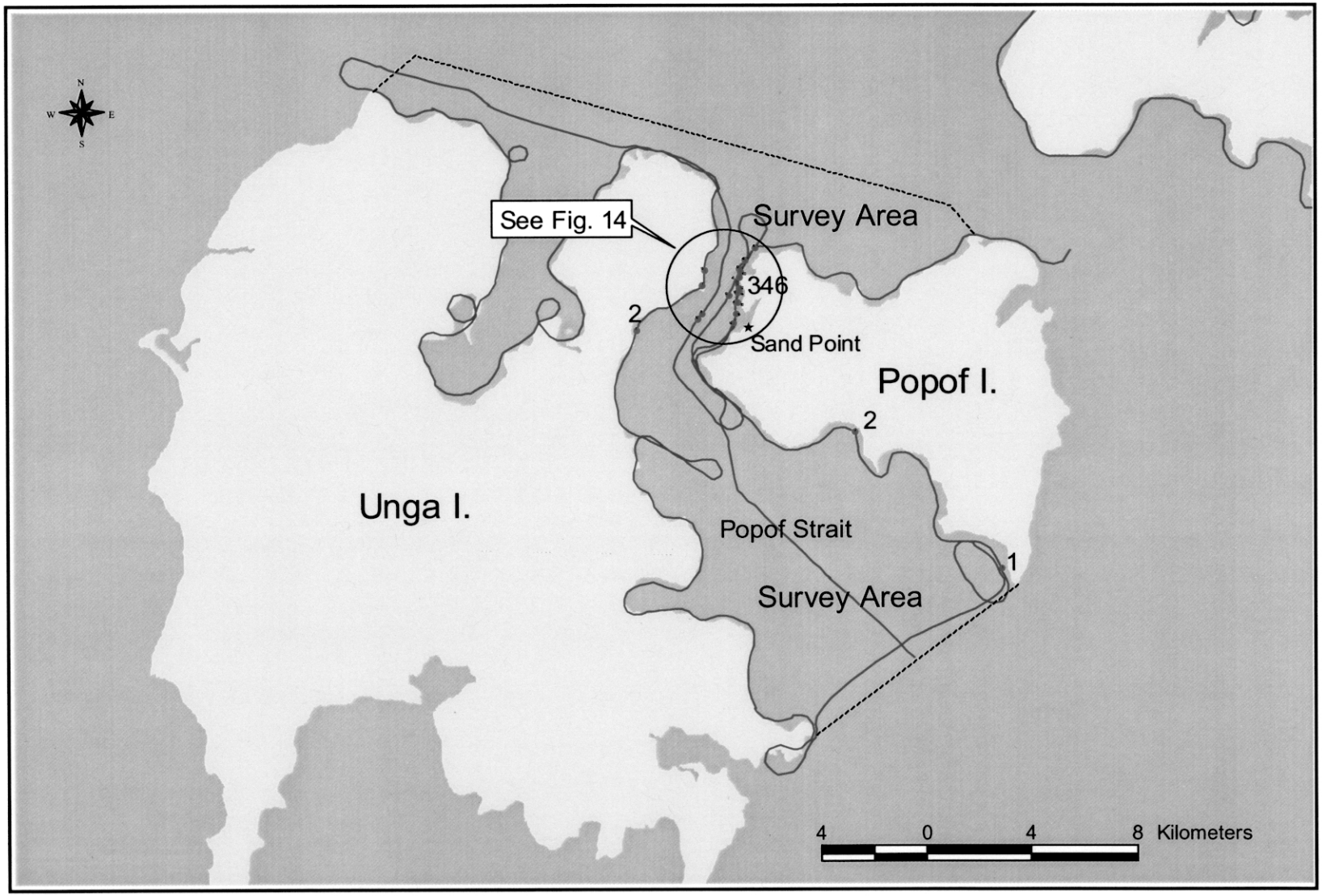

Figure 13. Sand Point project survey area, showing location and number of Steller's eiders at each observation,8 Mar. 2000.

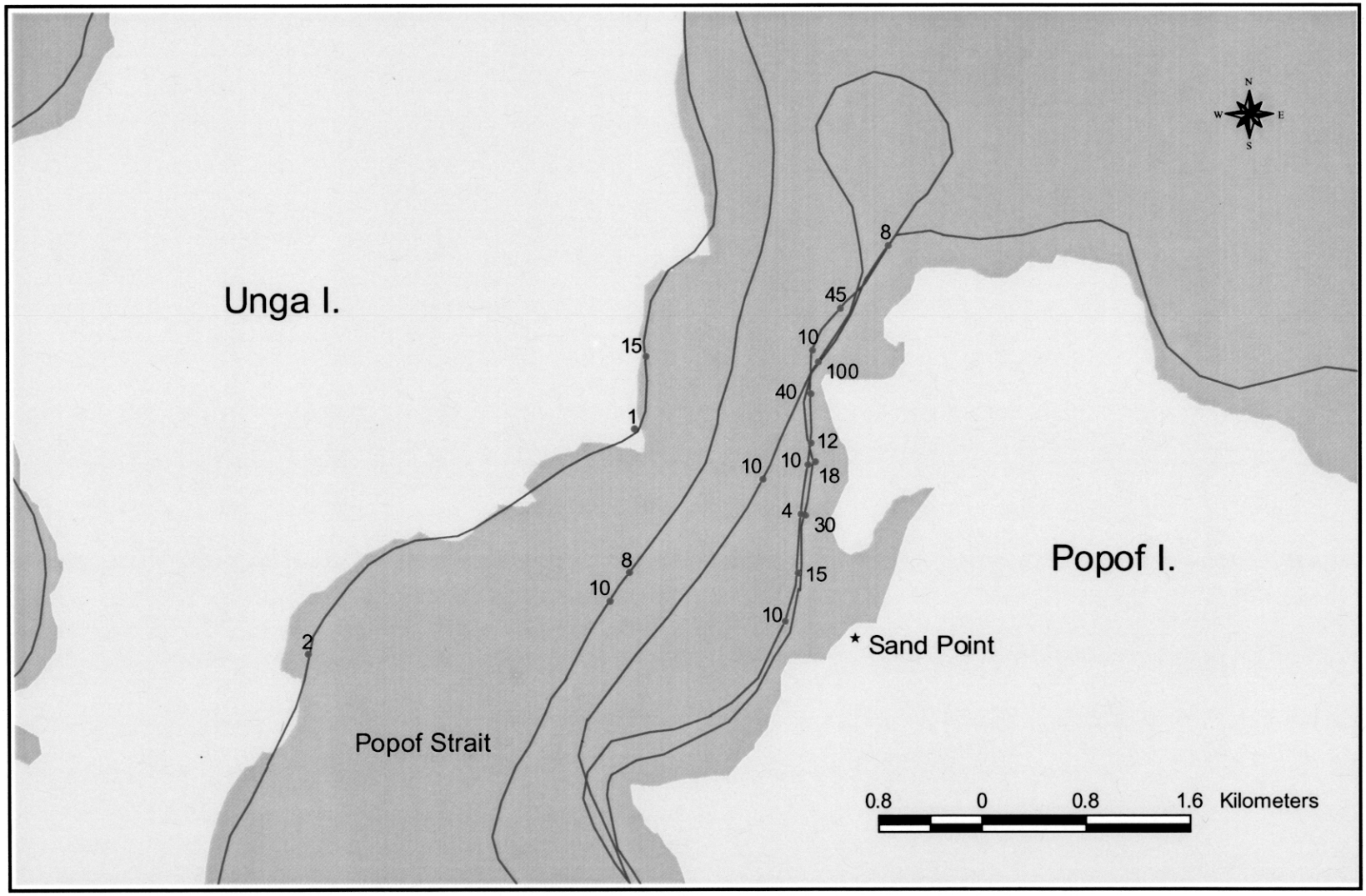

Figure 14. Detail of Sand Pt. Project survey area, showing location and number of Steller's eiders at each observation, 8 Mar. 2000.

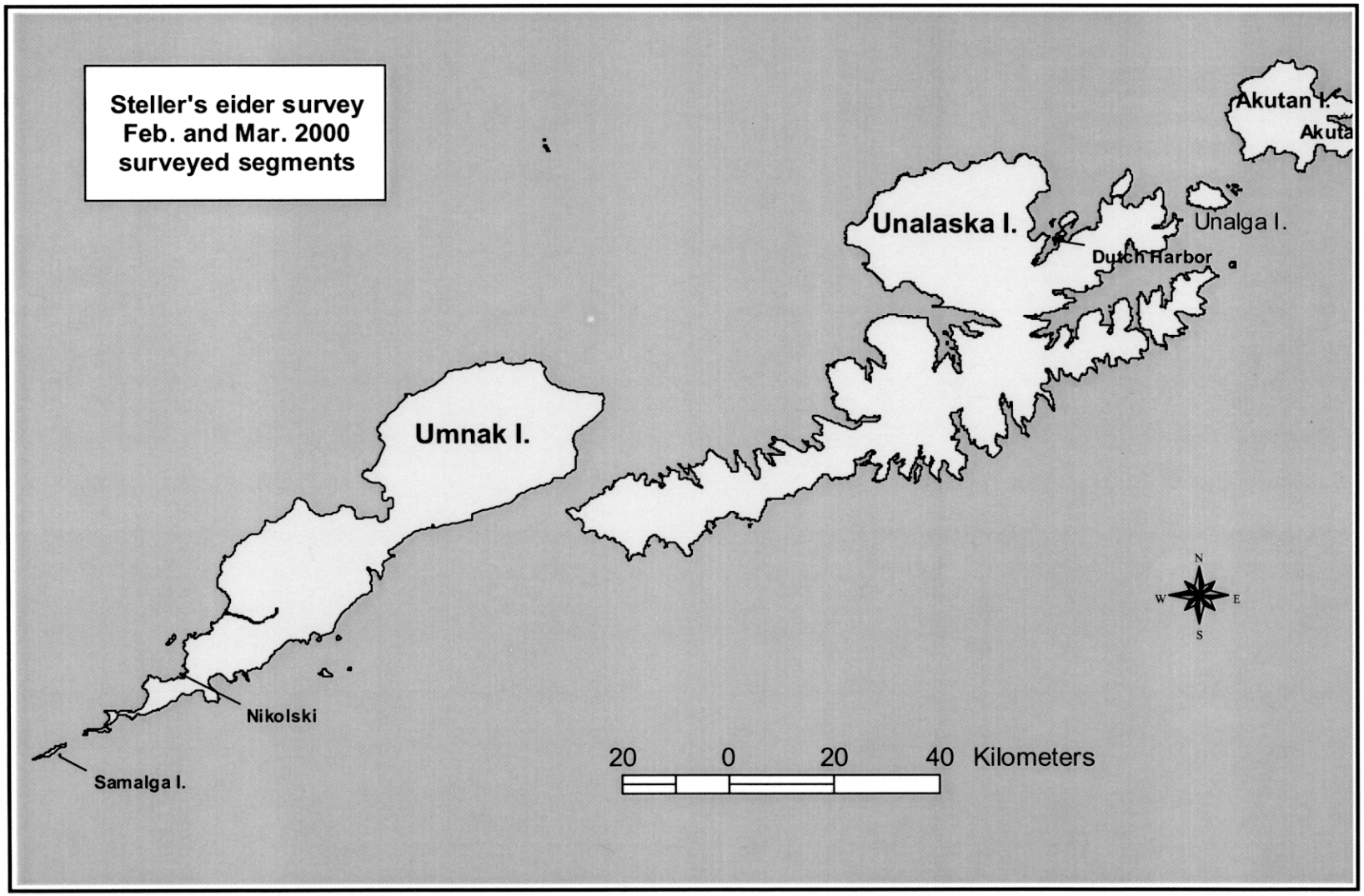

Figure 15. Location map 1 of surveyed segments and project survey areas, Steller's Eider Surveys, southwest Alaska, February and March 2000.

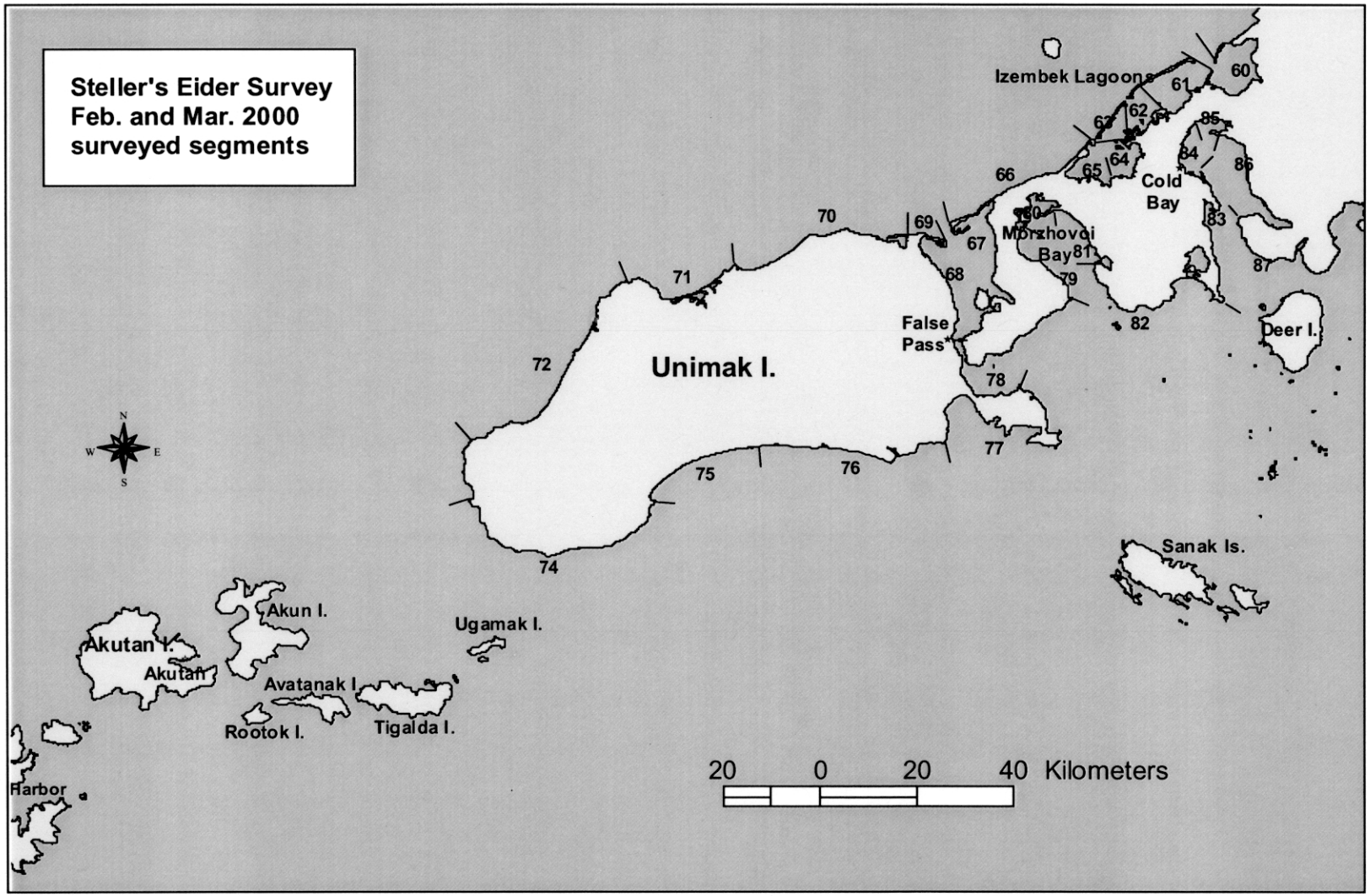

Figure 16. Location map 2 of surveyed segments and project survey areas, Steller's Eider Surveys, southwest Alaska, February and March 2000.

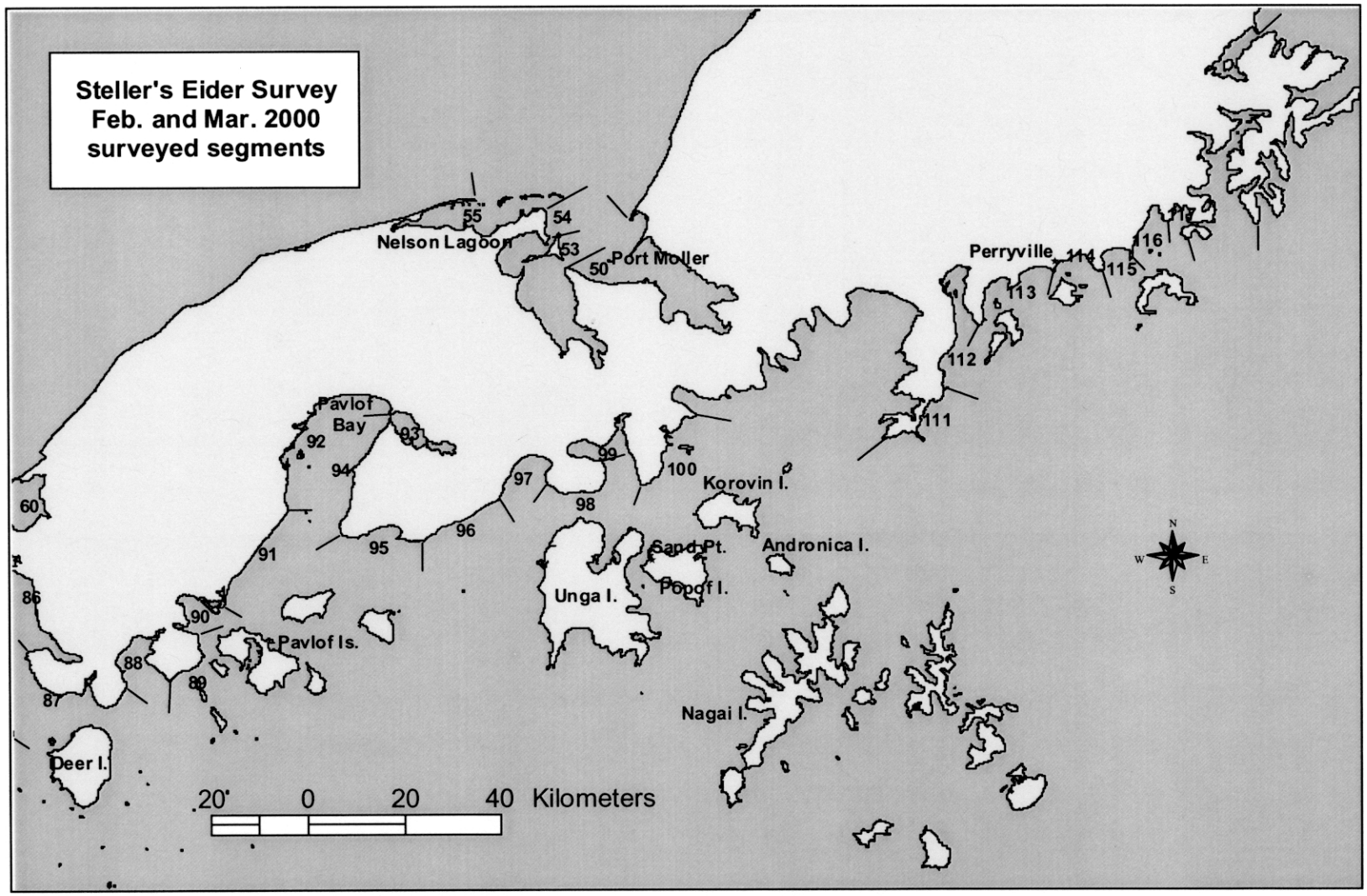

Figure 17. Location map 3 of surveyed segments and project survey areas, Steller's Eider Surveys, southwest Alaska, February and March 2000.

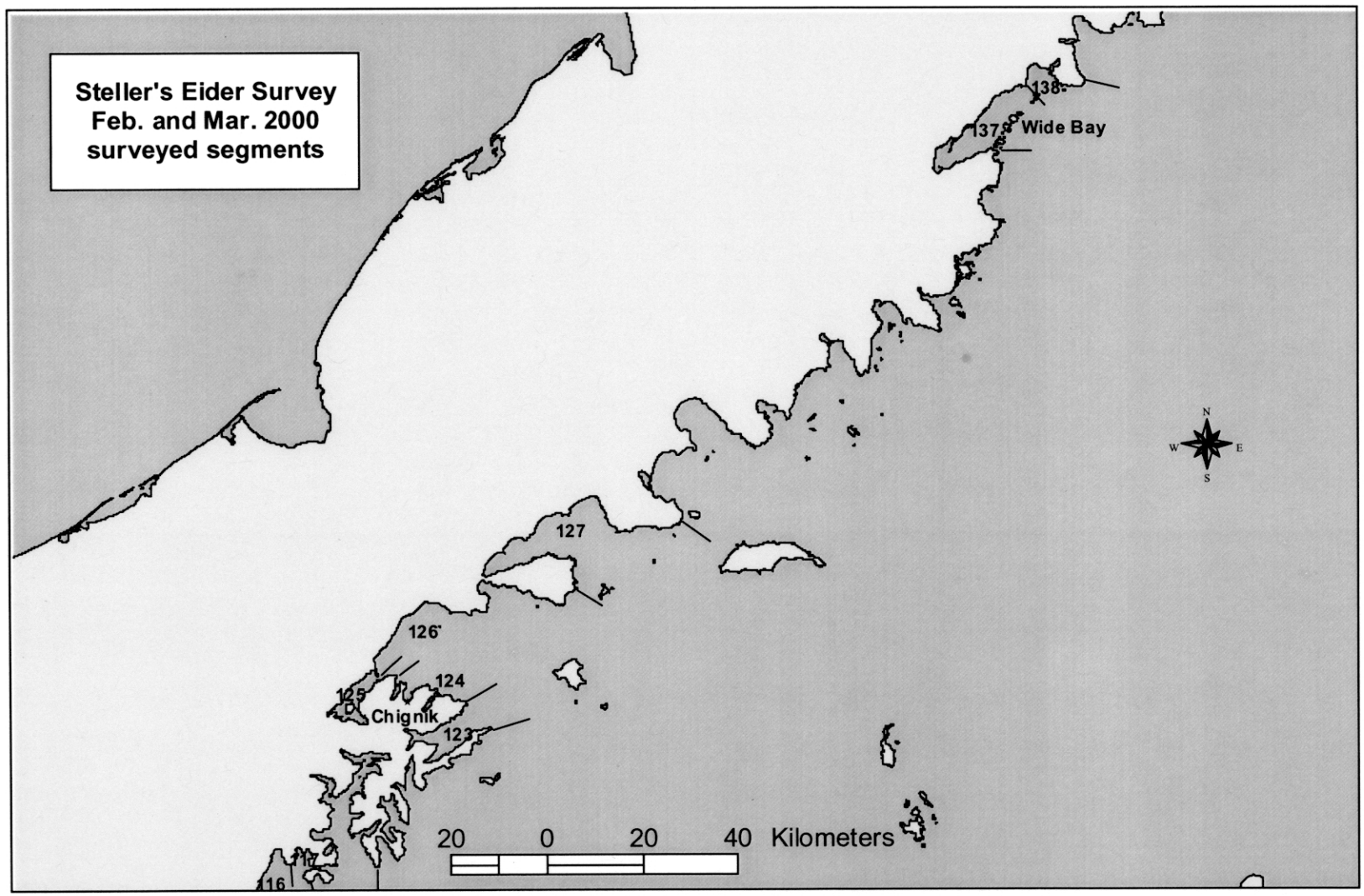

Figure 18. Location map 4 of surveyed segments and project survey areas, Steller's Eider Surveys, southwest Alaska, February and March 2000.

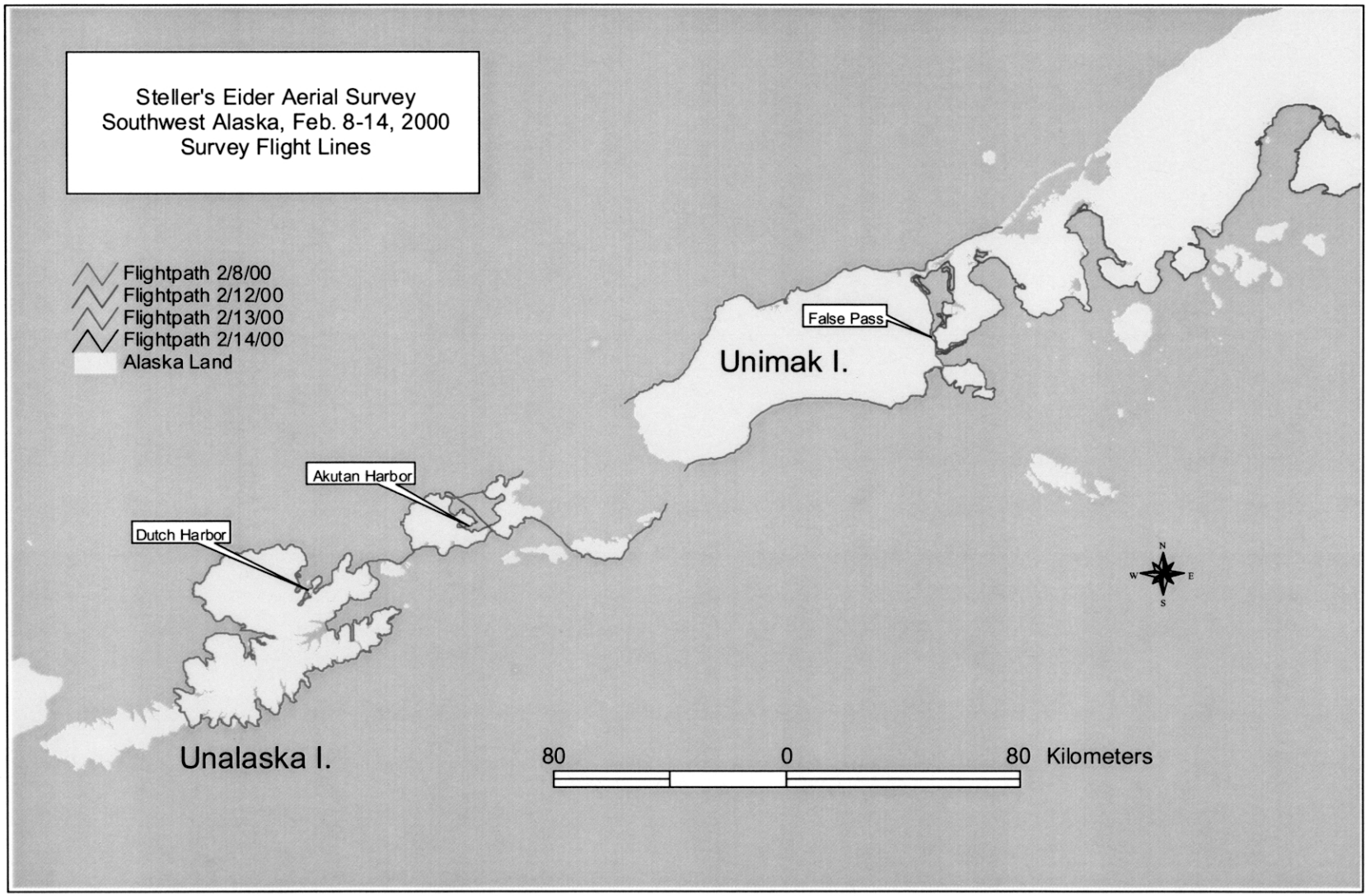

Fig. 19a. Survey flight paths flown during aerial surveys of Steller's eiders in southwest Alaska, 8-14 Feb. 2000. Point-to-point flight paths not shown.

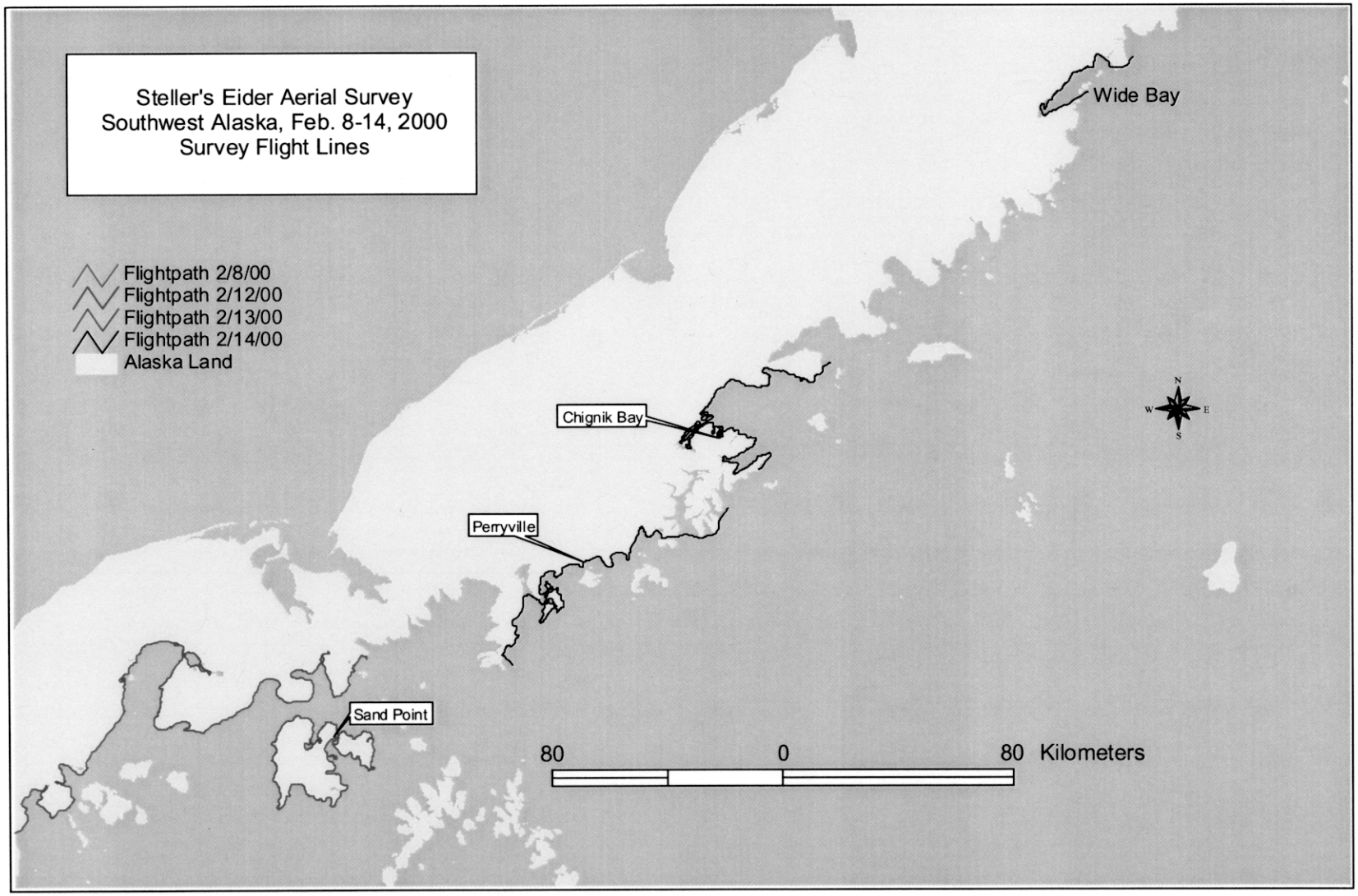

Figure 19b. Survey flight paths flown during aerial surveys of Steller's eiders in southwest Alaska, 8-14 Feb. 2000. Point-to-point flight paths not shown.

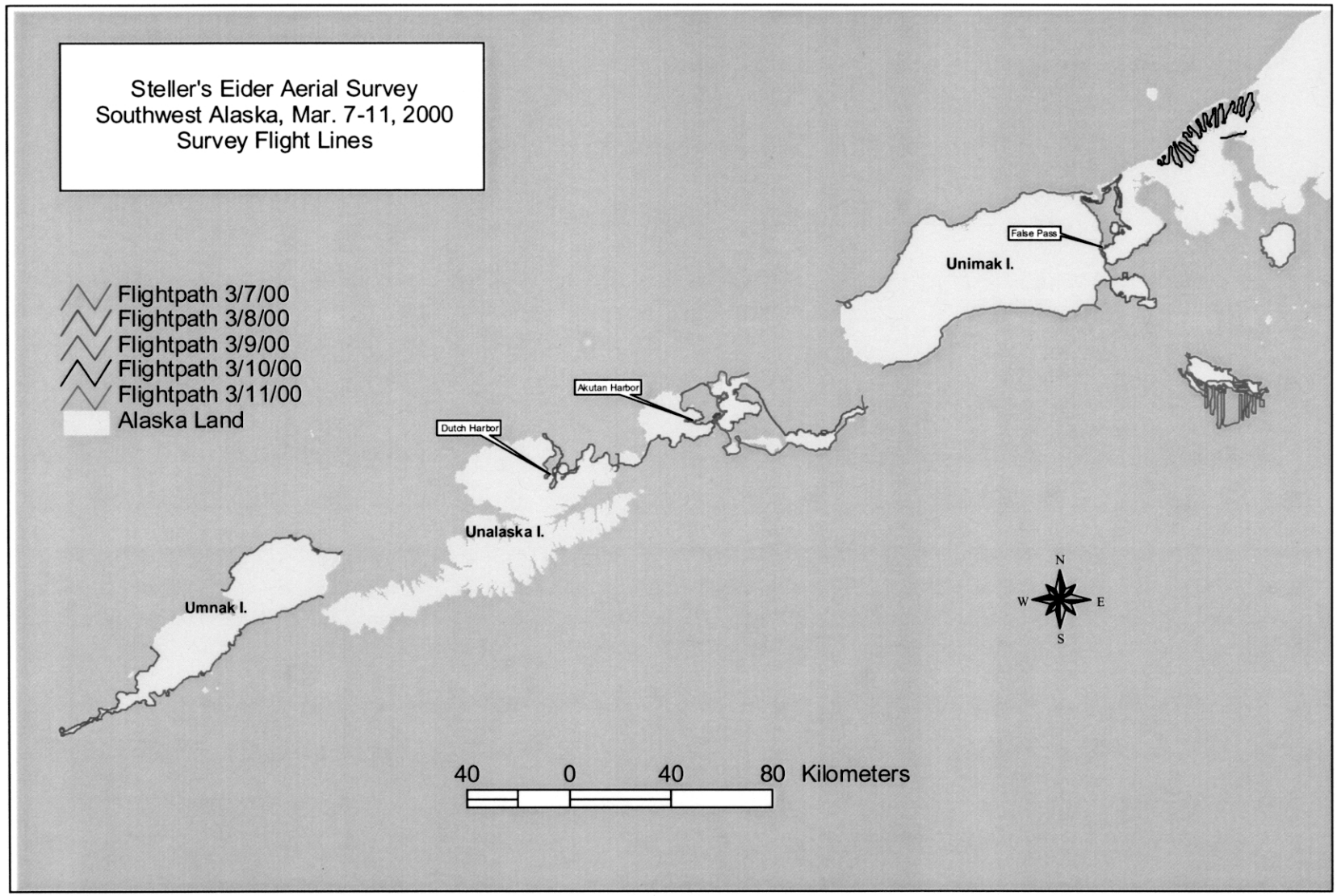

Figure 20a. Survey flight paths flown during aerial surveys of Steller's eiders in southwest Alaska, 7-11 Mar. 2000. Point-to-point flight paths not shown.

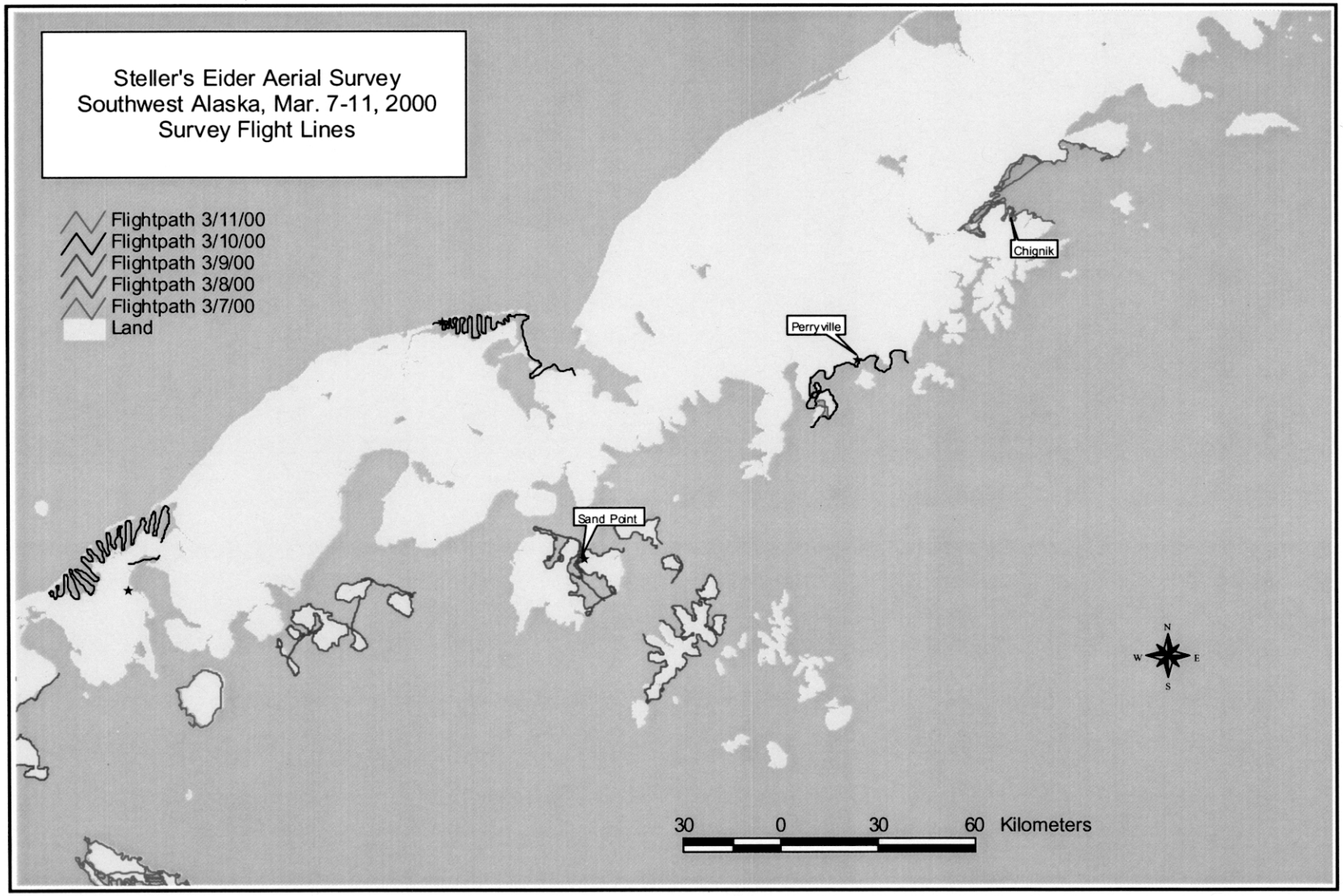

Figure 20b. Survey flight paths flown during aerial surveys of Steller's eiders in southwest Alaska, 7-11 Mar. 2000. Point-to-point flight paths not shown.

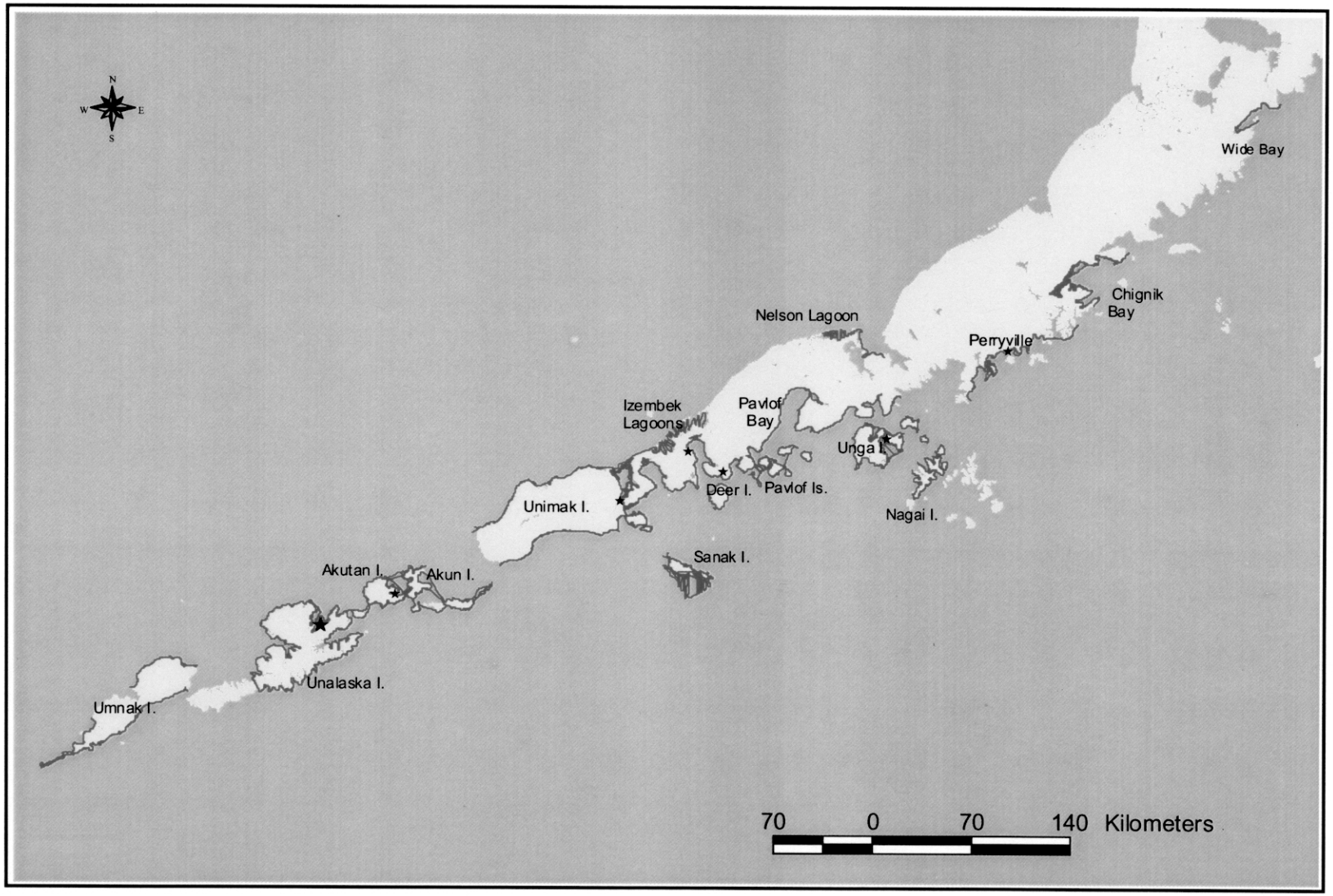

Figure 21. Survey flight paths flown during aerial surveys of Steller's eiders, southwest Alaska, February and March, 2000. Point-to-point flights are not shown.

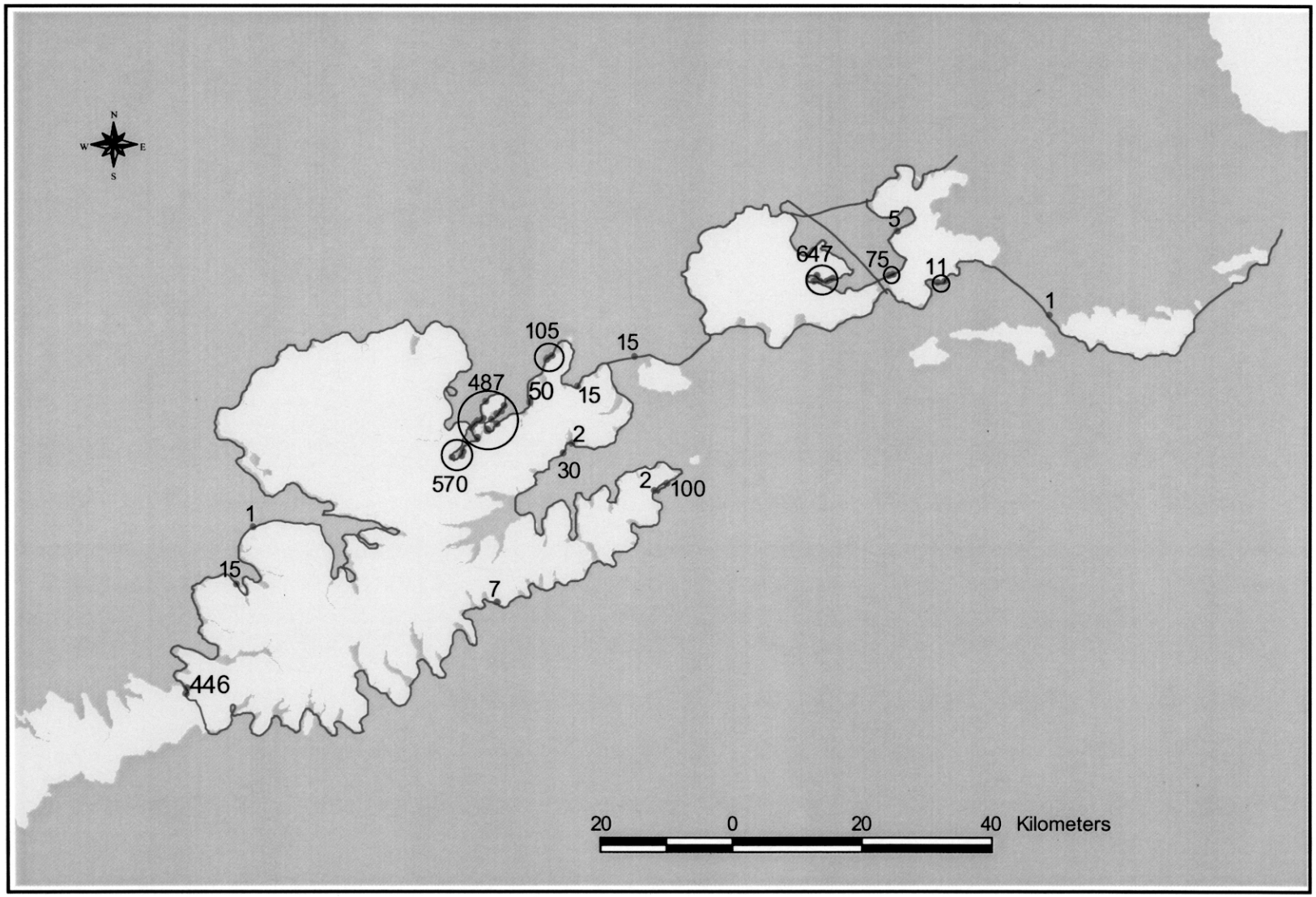

Figure 22. Location and numbers of Steller's eiders observed during aerial surveys, southwest Alaska, 8-14 February, 2000. Dense aggregations of observations are circled, with totals adjacent. Flight paths are depicted as blue lines. Map 1 of 4.

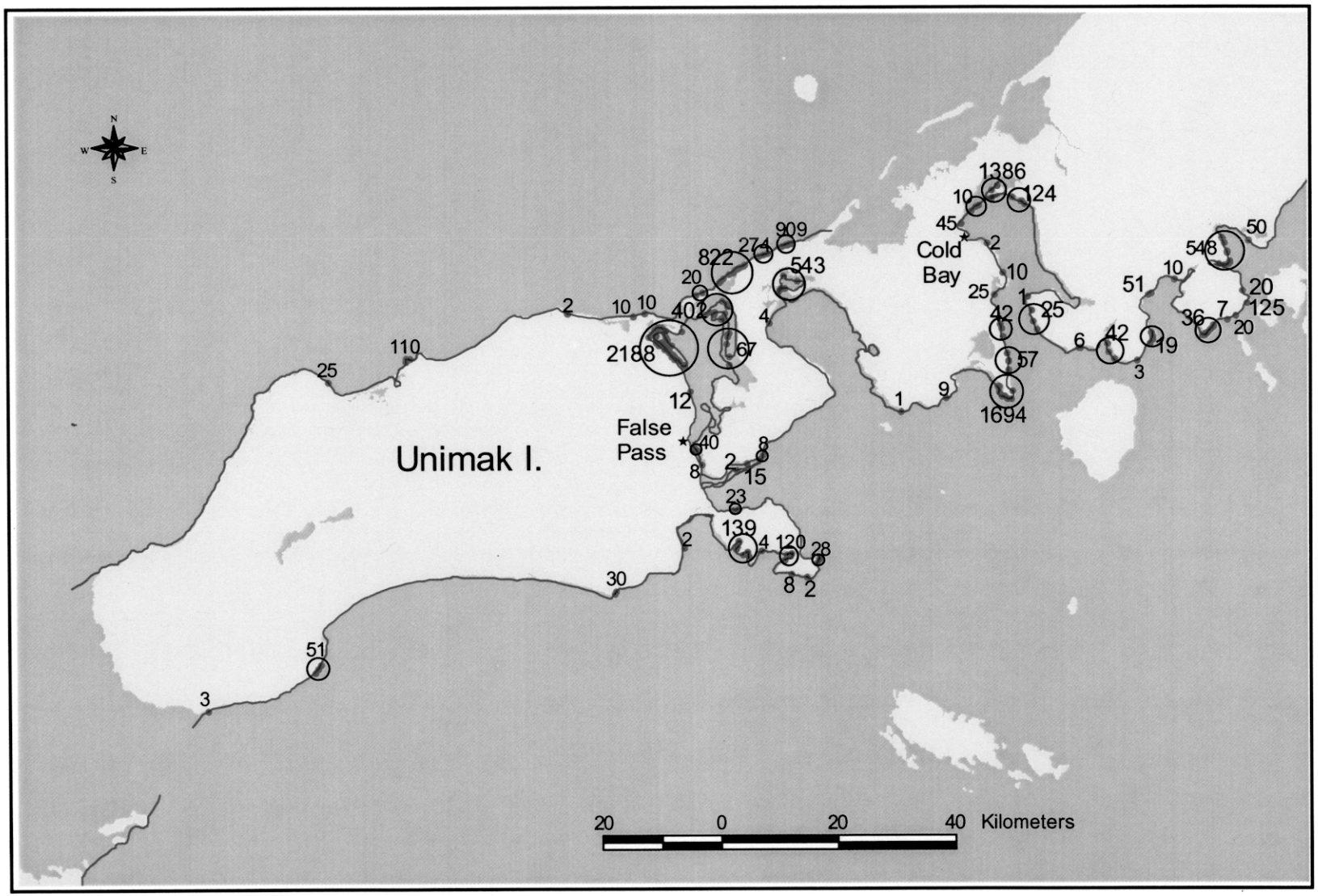

Figure 23. Location and numbers of Steller's eiders observed during aerial surveys, southwest Alaska, 8-14 February, 2000. Dense aggregations of observations are circled, with totals adjacent. Survey flight paths are depicted as blue lines. Map 2 of 4.

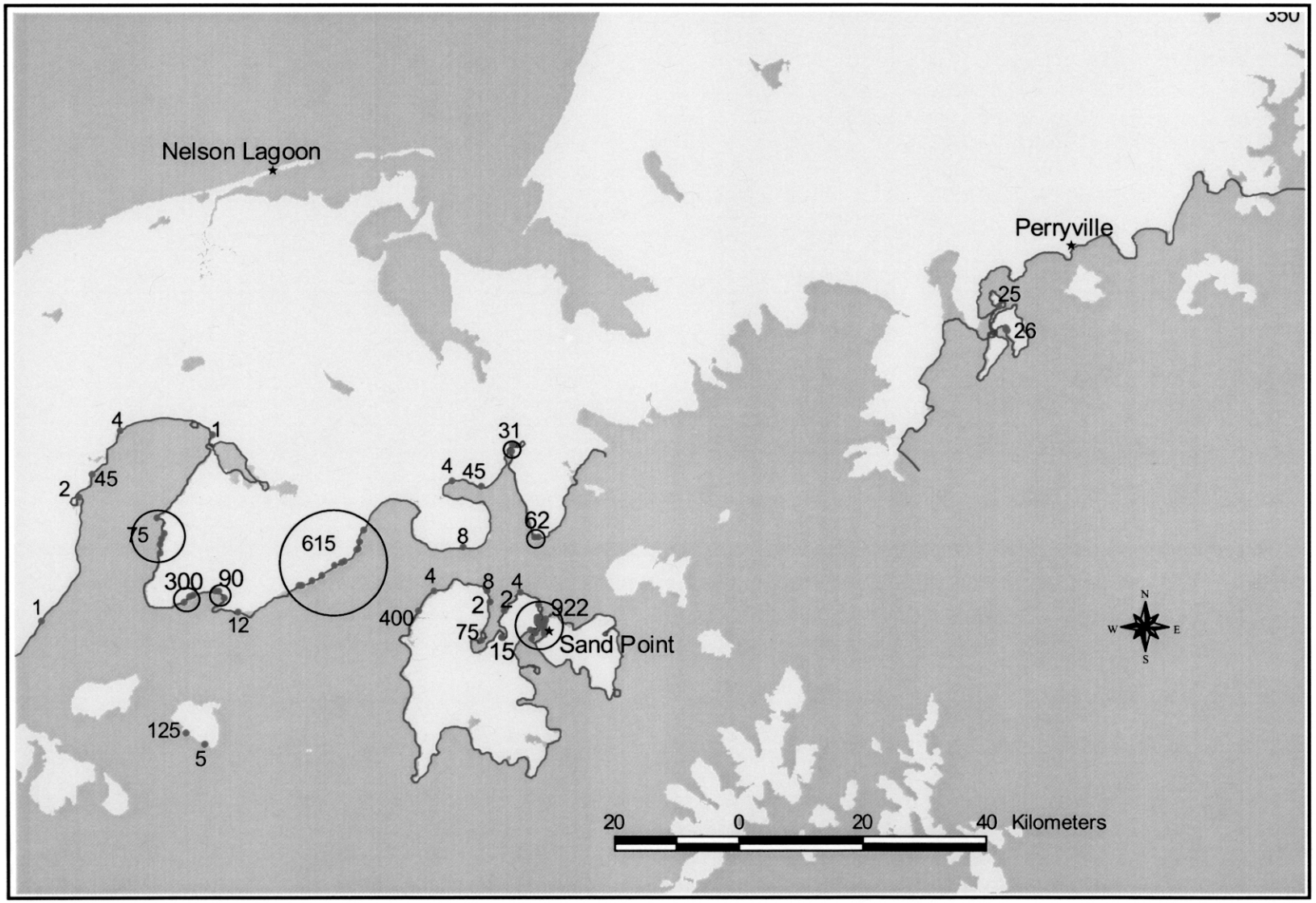

Figure 24. Location and numbers of Steller's eiders observed during aerial surveys, southwest Alaska, 8-14 February, 2000. Dense aggregations of observations are circled, with totals adjacent. Flight paths are depicted as blue lines. Map 3 of 4.

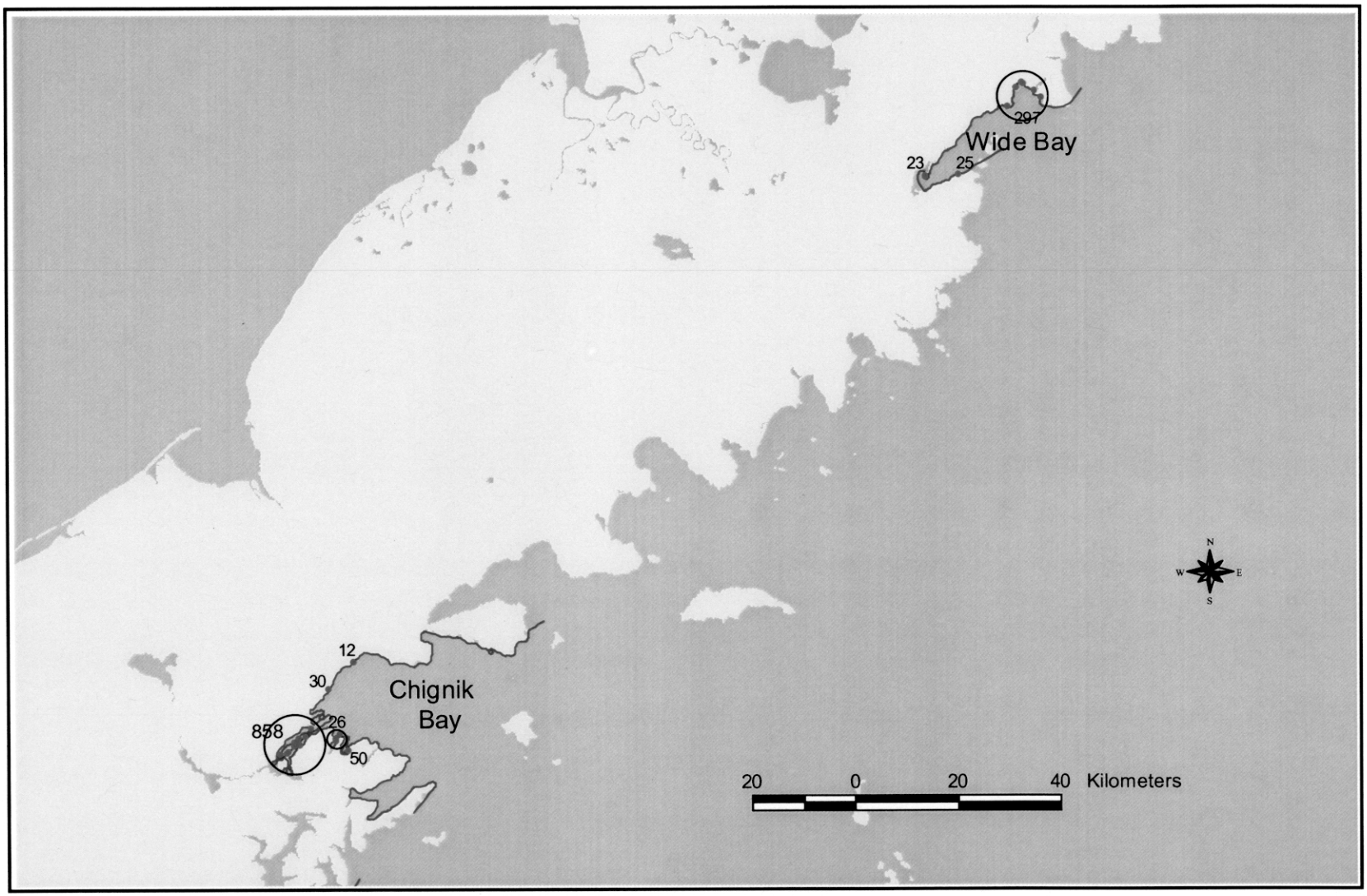

Figure 25. Location and numbers of Steller's eiders observed during aerial surveys, southwest Alaska, 8-14 February, 2000. Dense aggregations of observations are circled, with totals adjacent. Flight paths are depicted as blue lines. Map 4 of 4.

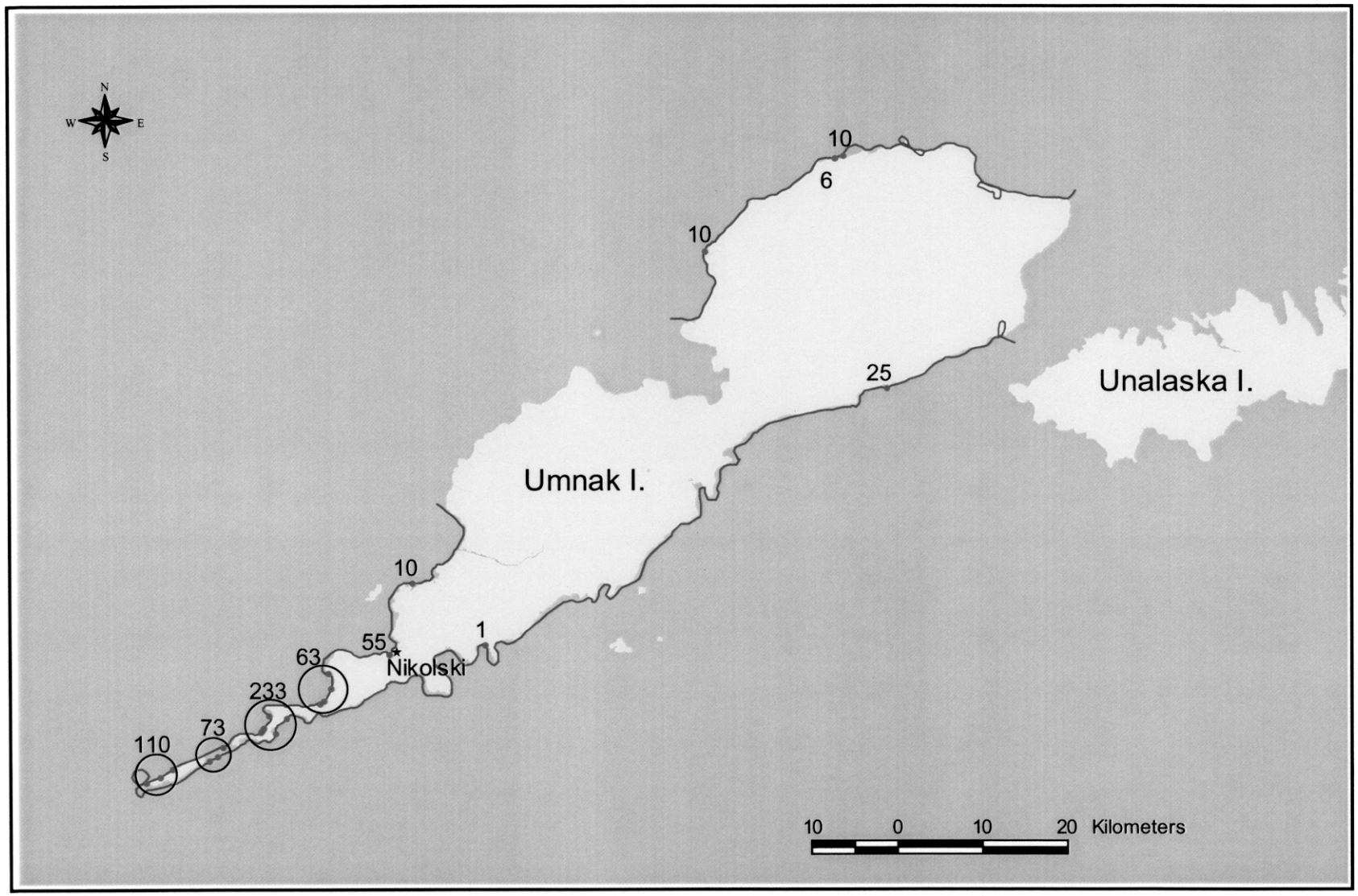

Figure 26. Location and numbers of Steller's eiders observed during aerial surveys, SW Alaska, 7-11 March, 2000. Dense aggregations of observations are circled, with totals adjacent. Flight paths are depicted as blue lines. Map 1 of 5.

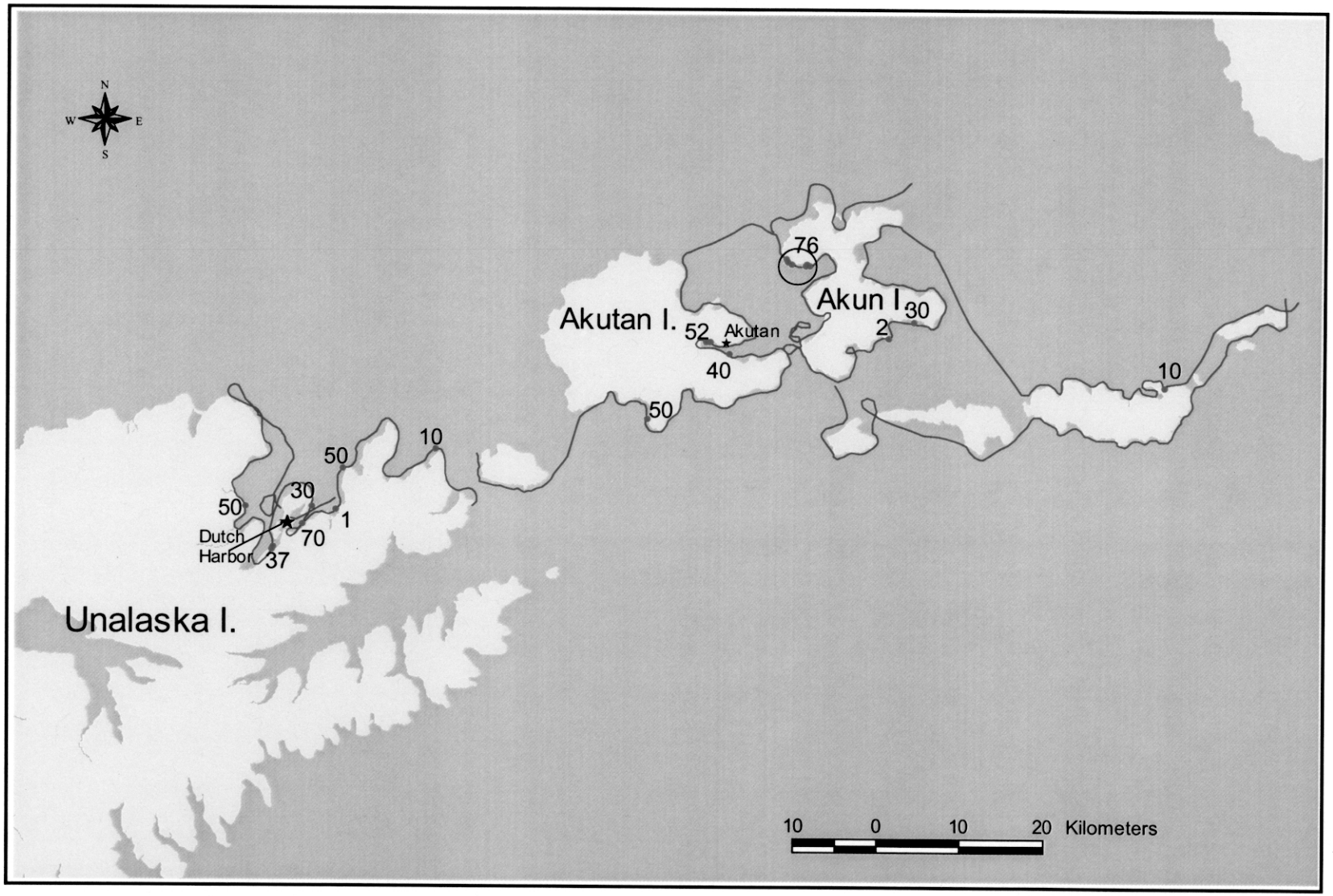

Figure 27. Location and numbers of Steller's eiders observed during aerial surveys, SW Alaska, 7-11 March, 2000. Dense aggregations of observations are circled, with totals adjacent. Flight paths are depicted as blue lines. Map 2 of 5.

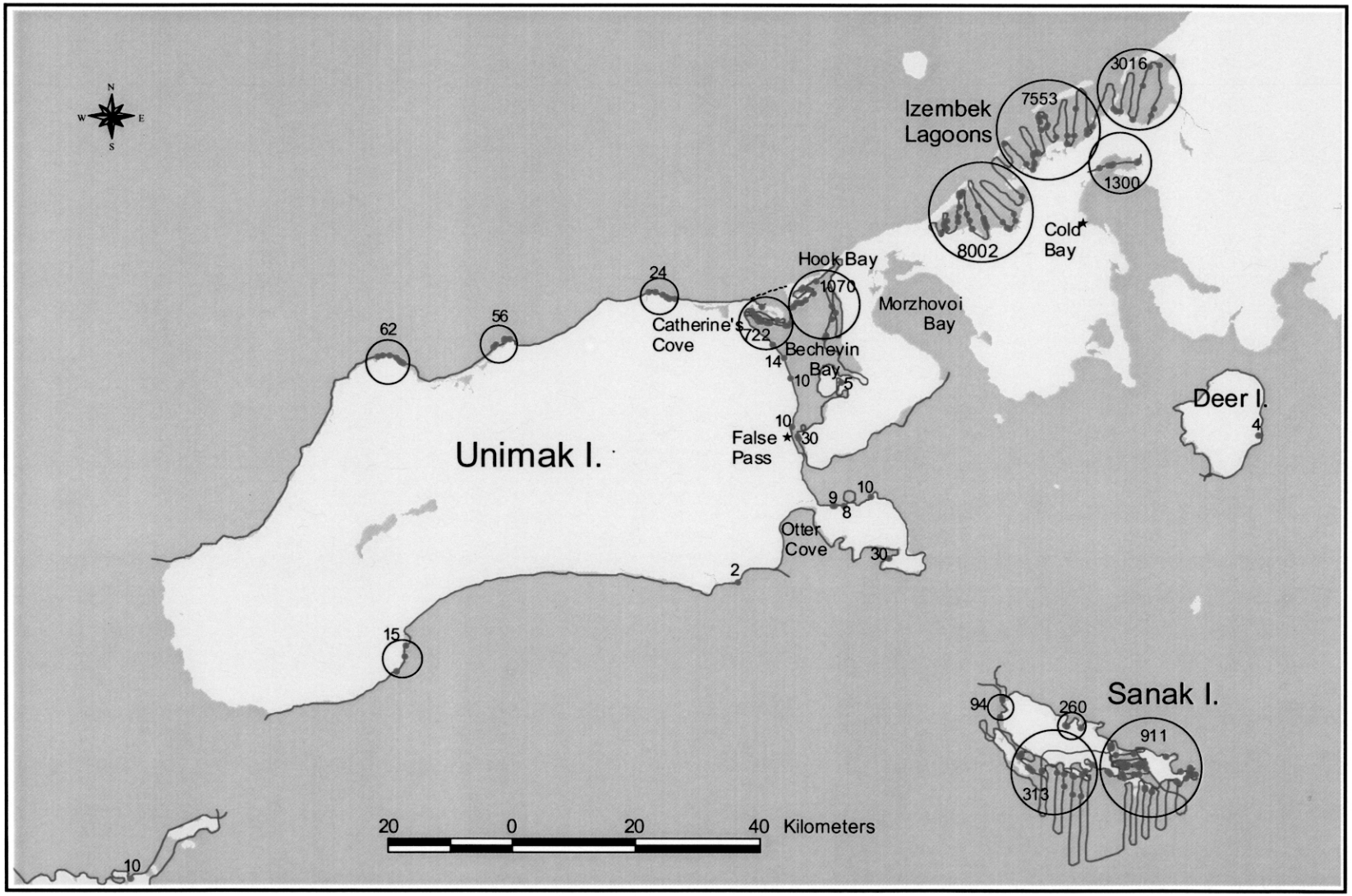

Figure 28. Location and numbers of Steller's eiders observed during aerial surveys, SW Alaska, 7-11 March, 2000. Dense aggregations of observations are circled, with totals adjacent. Flight paths are depicted as blue lines. Map 3 of 5.

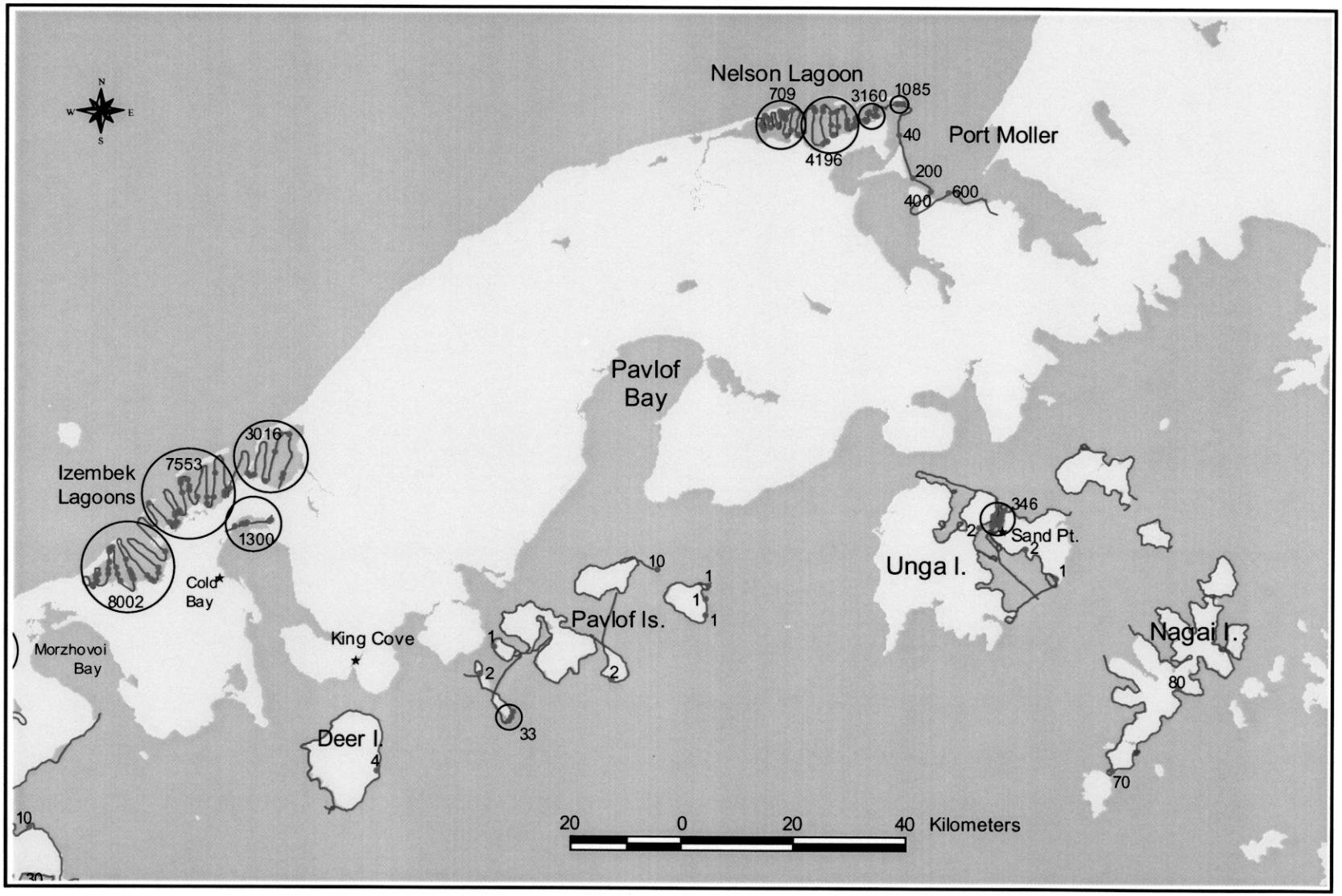

Figure 29. Location and numbers of Steller's eiders observed during aerial surveys, SW Alaska, 7-11 March, 2000. Dense aggregations of observations are circled, with totals adjacent. Flight paths are depicted as blue lines. Map 4 of 5.

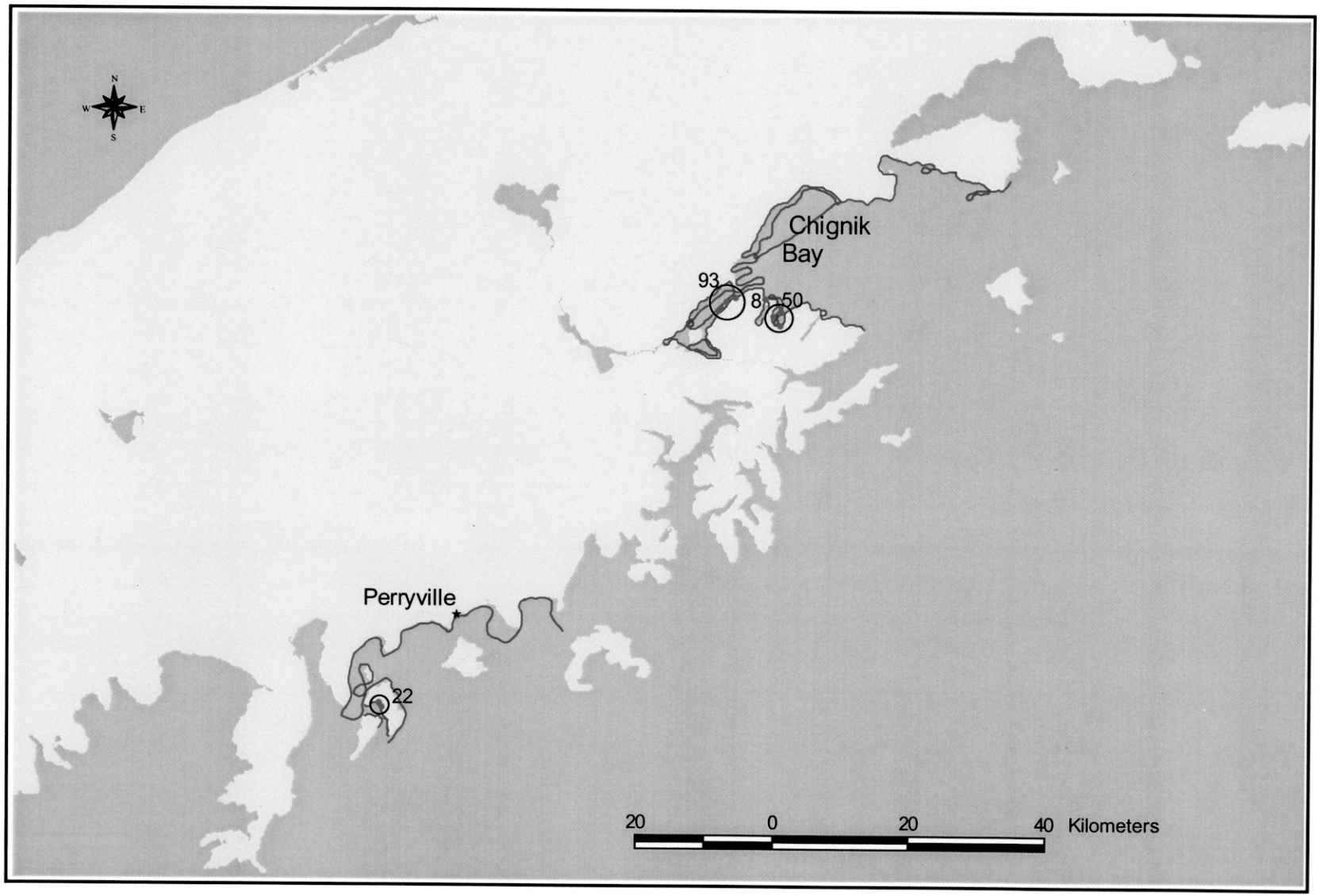

Figure 30. Location and numbers of Steller's eiders observed during Aerial surveys, SW Alaska, 7-11 March, 2000. Dense aggregations of observations are circled, with totals adjacent. Flight paths are depicted as blue lines. Map 5 of 5.

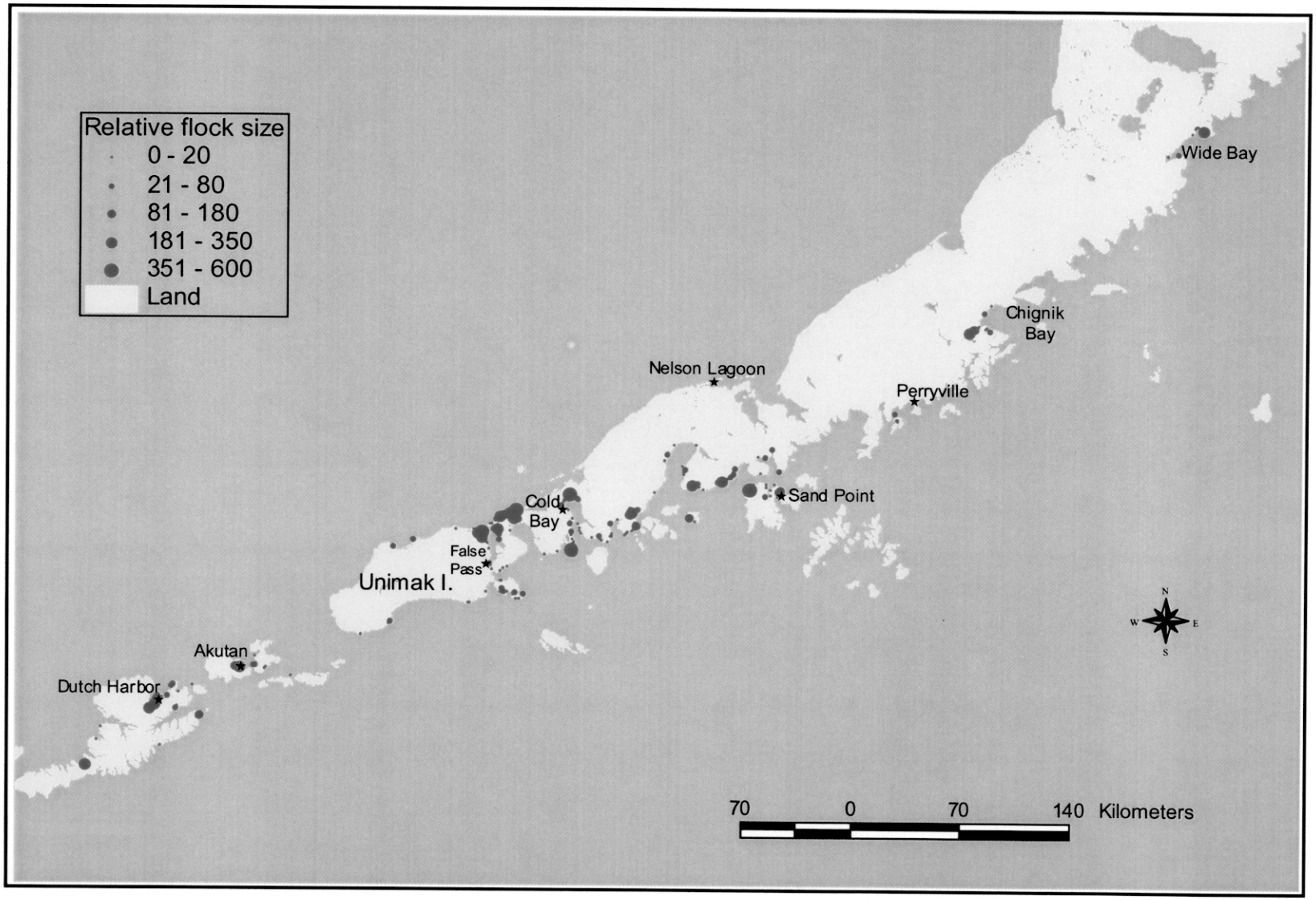

Figure 31. Distribution of Steller's eiders observed during aerial surveys, SW Alaska, 8-14 February 2000.

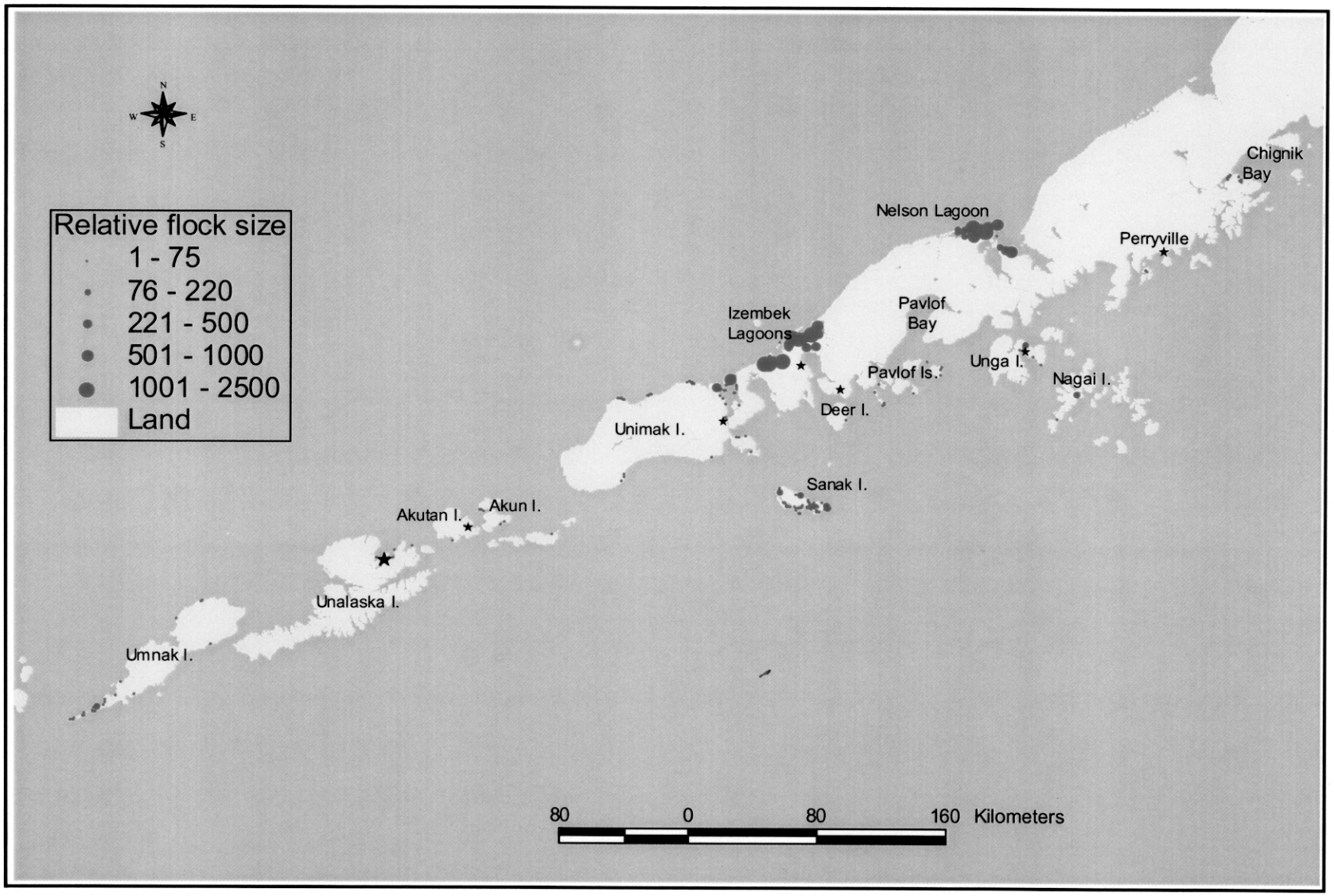

Figure 32. Distribution of Steller's eiders observed during aerial surveys, SW Alaska, 7-11 March 2000.

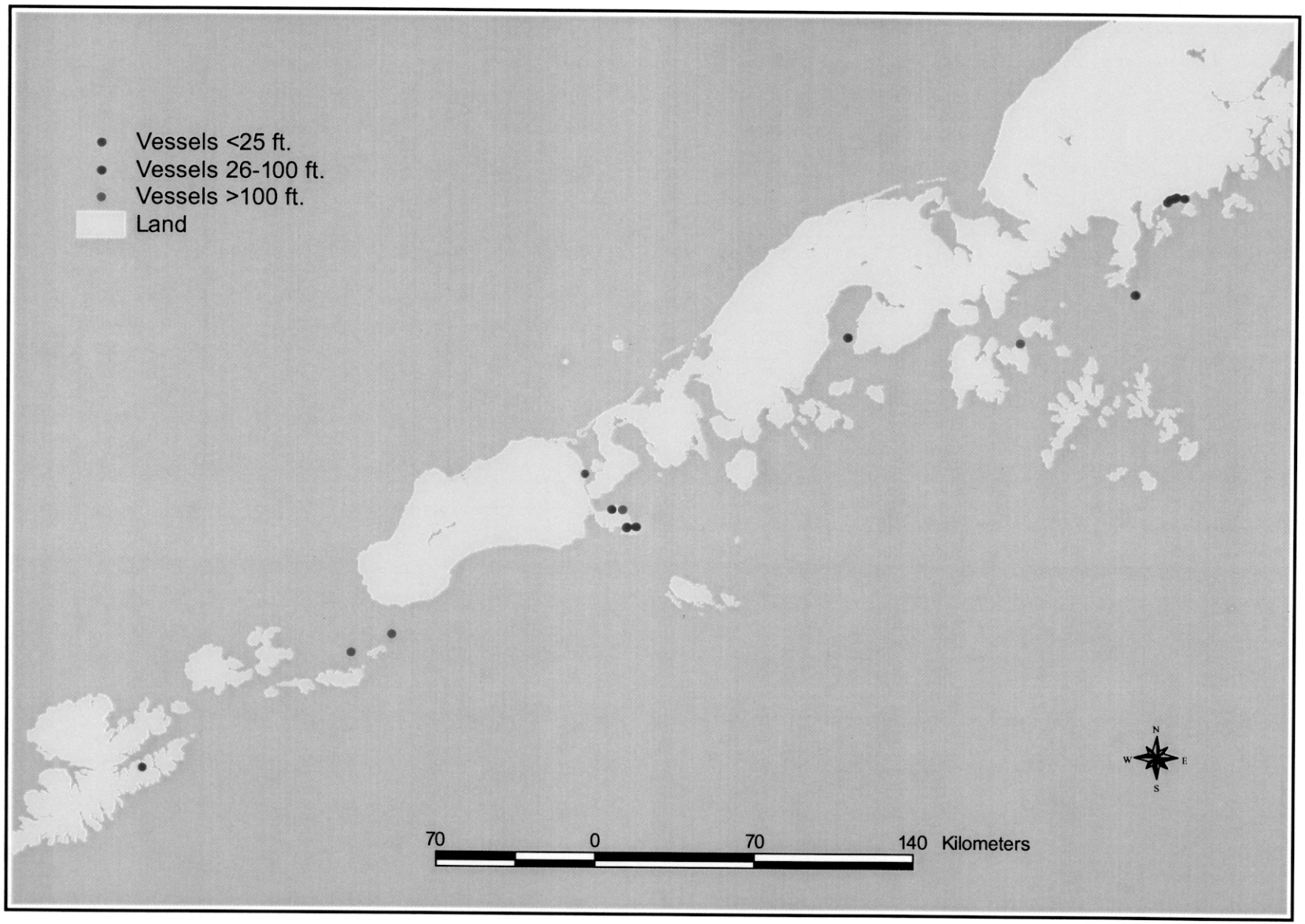

Figure 33. Vessels observed during aerial Steller's eider surveys, Southwest Alaska, February, 2000.

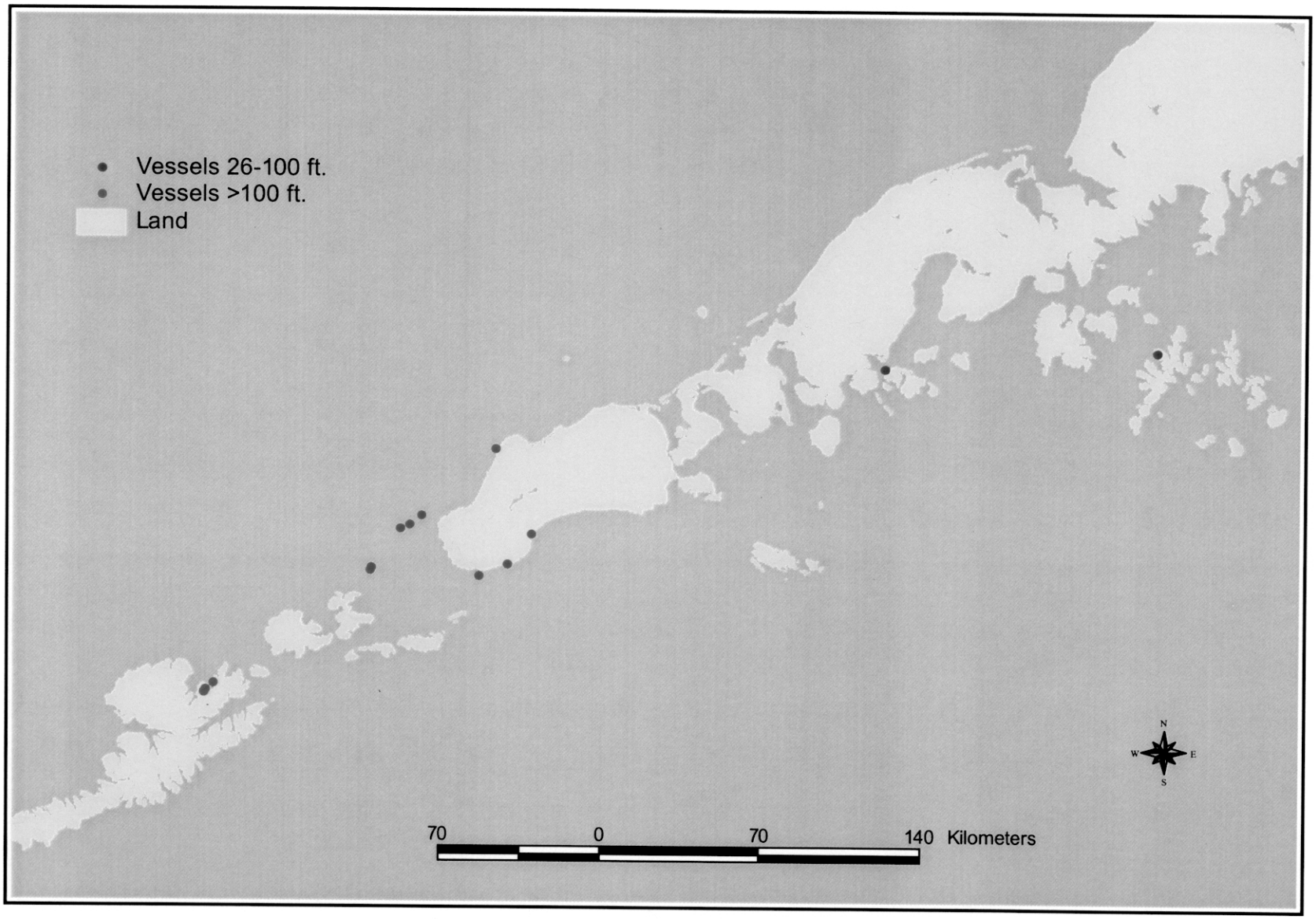

Figure 34. Vessels observed during aerial Steller's eider surveys, Southwest Alaska, March, 2000.

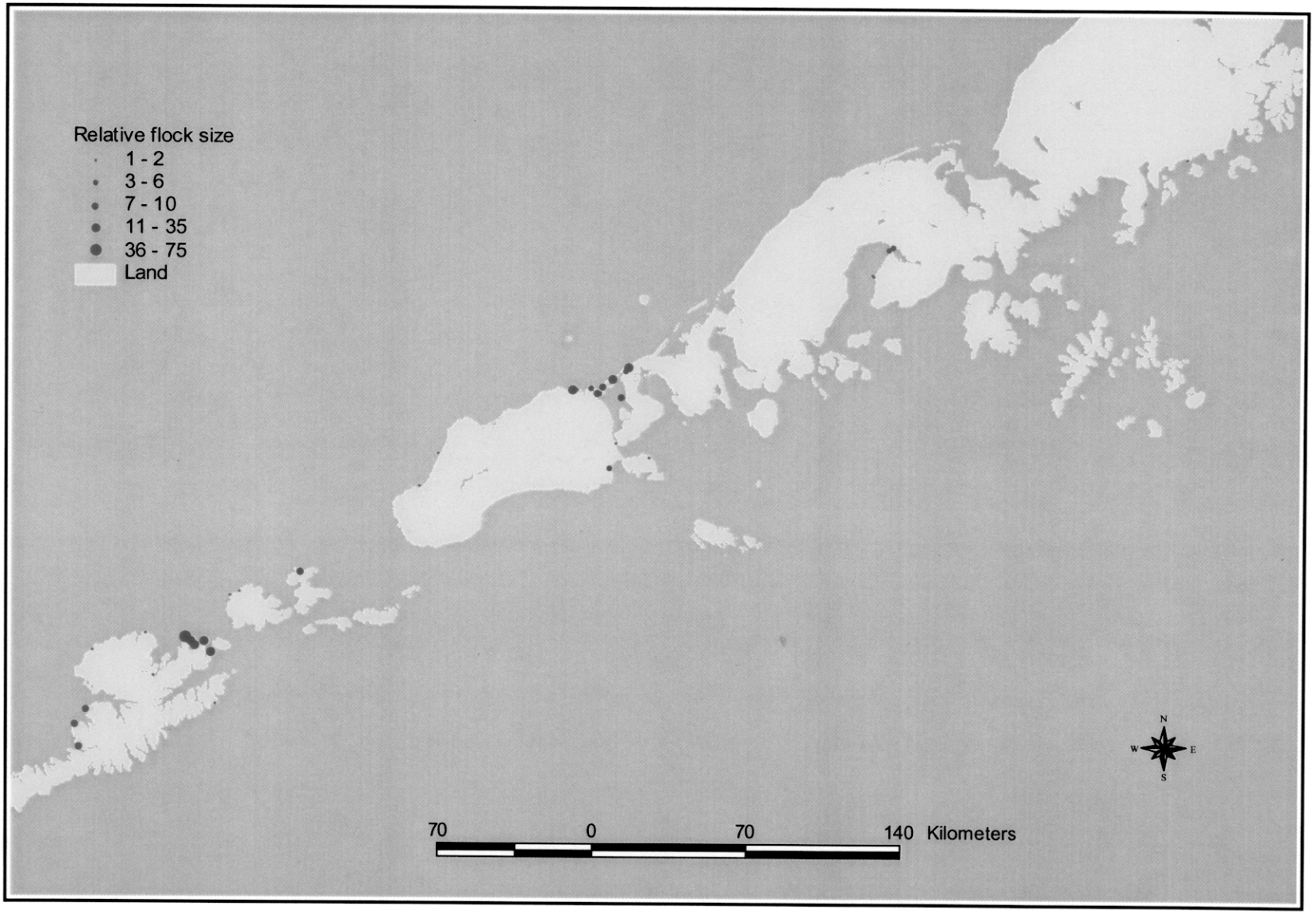

Figure 35. Distribution of common eider observations from Steller's eider surveys, southwest Alaska, February, 2000.

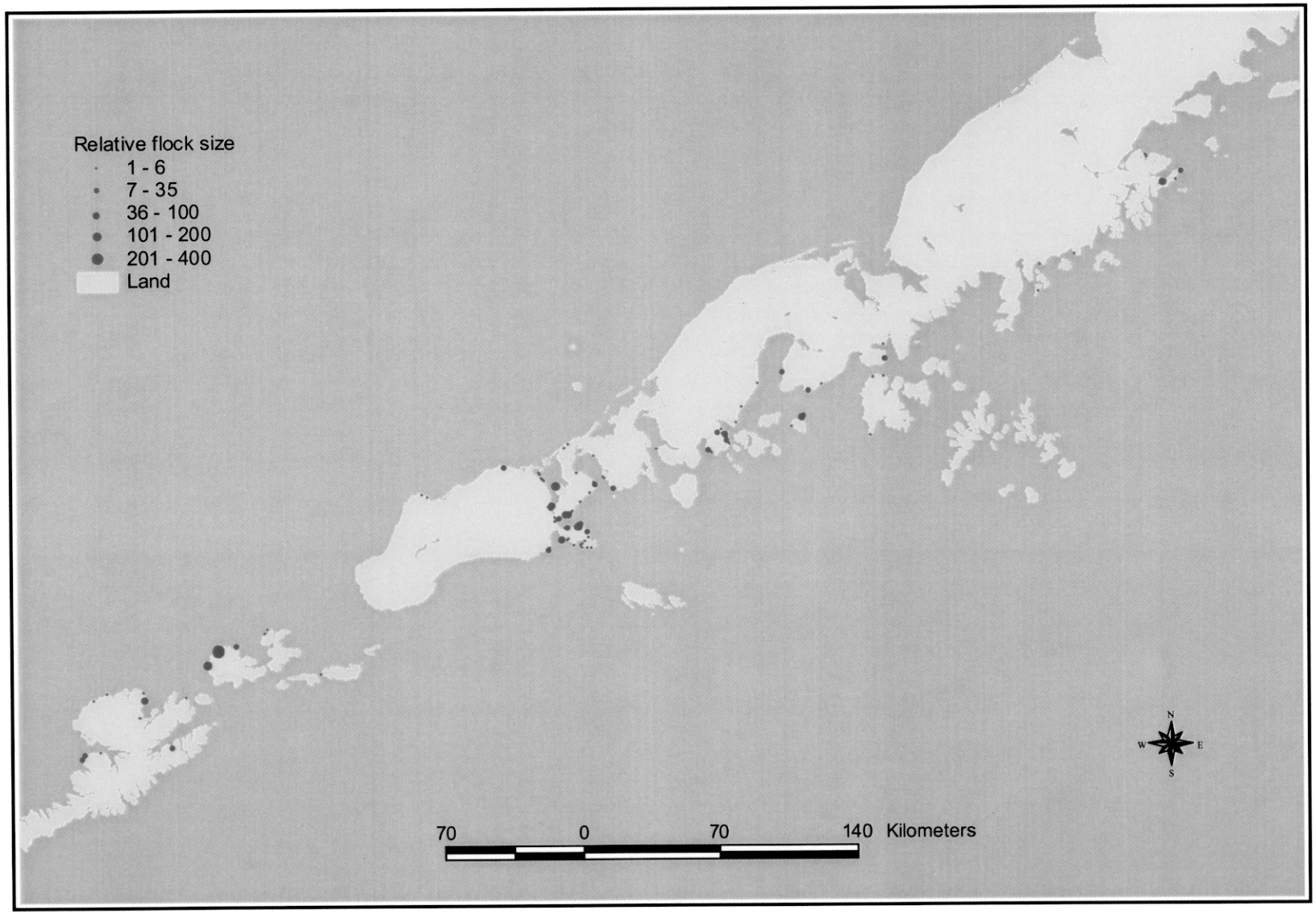

Figure 36. Distribution of king eider observations from Steller's eider surveys, southwest Alaska, February, 2000.

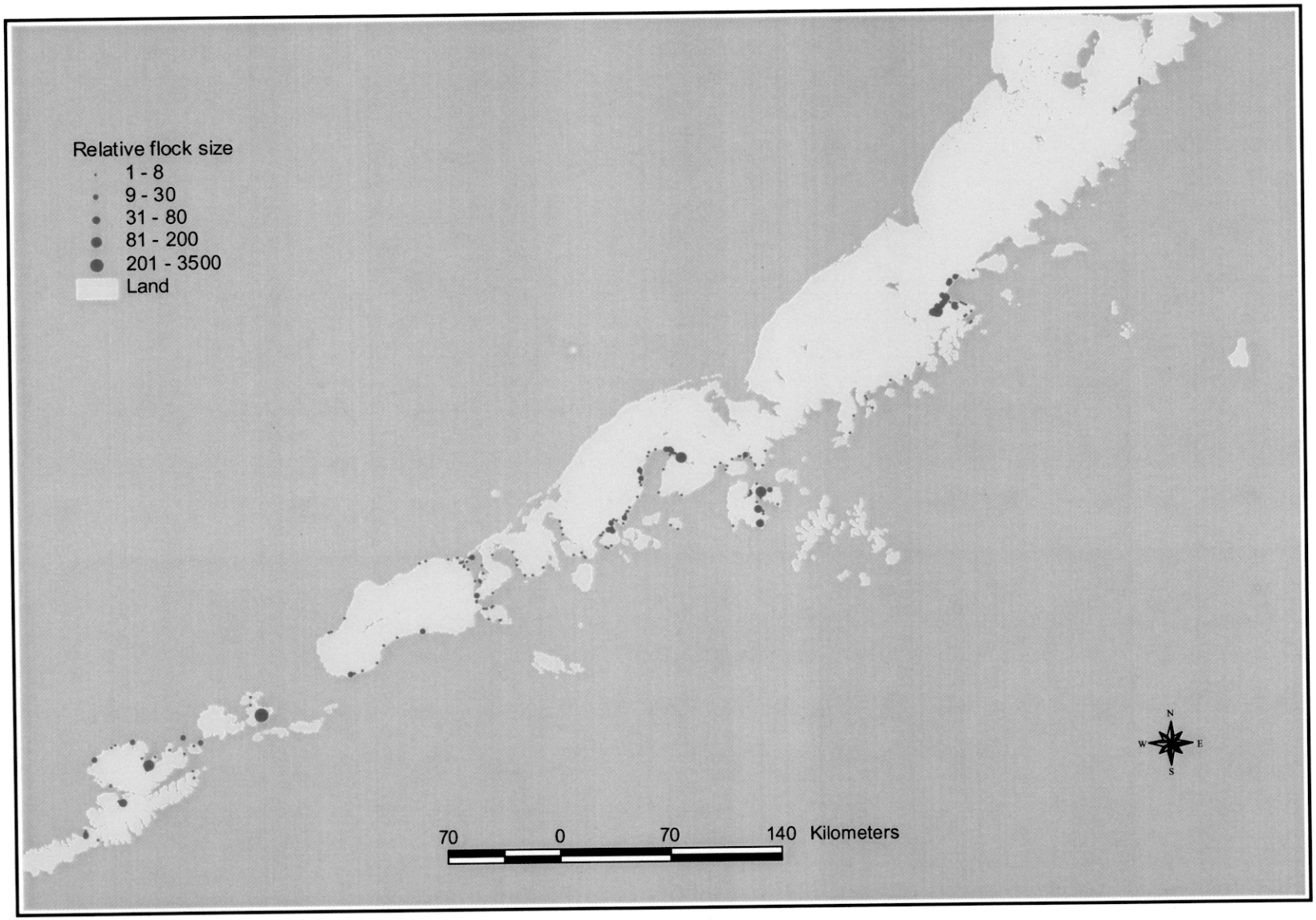

Figure 37. Distribution of Long-tailed duck observations from Steller's eider surveys, southwest Alaska, February, 2000.

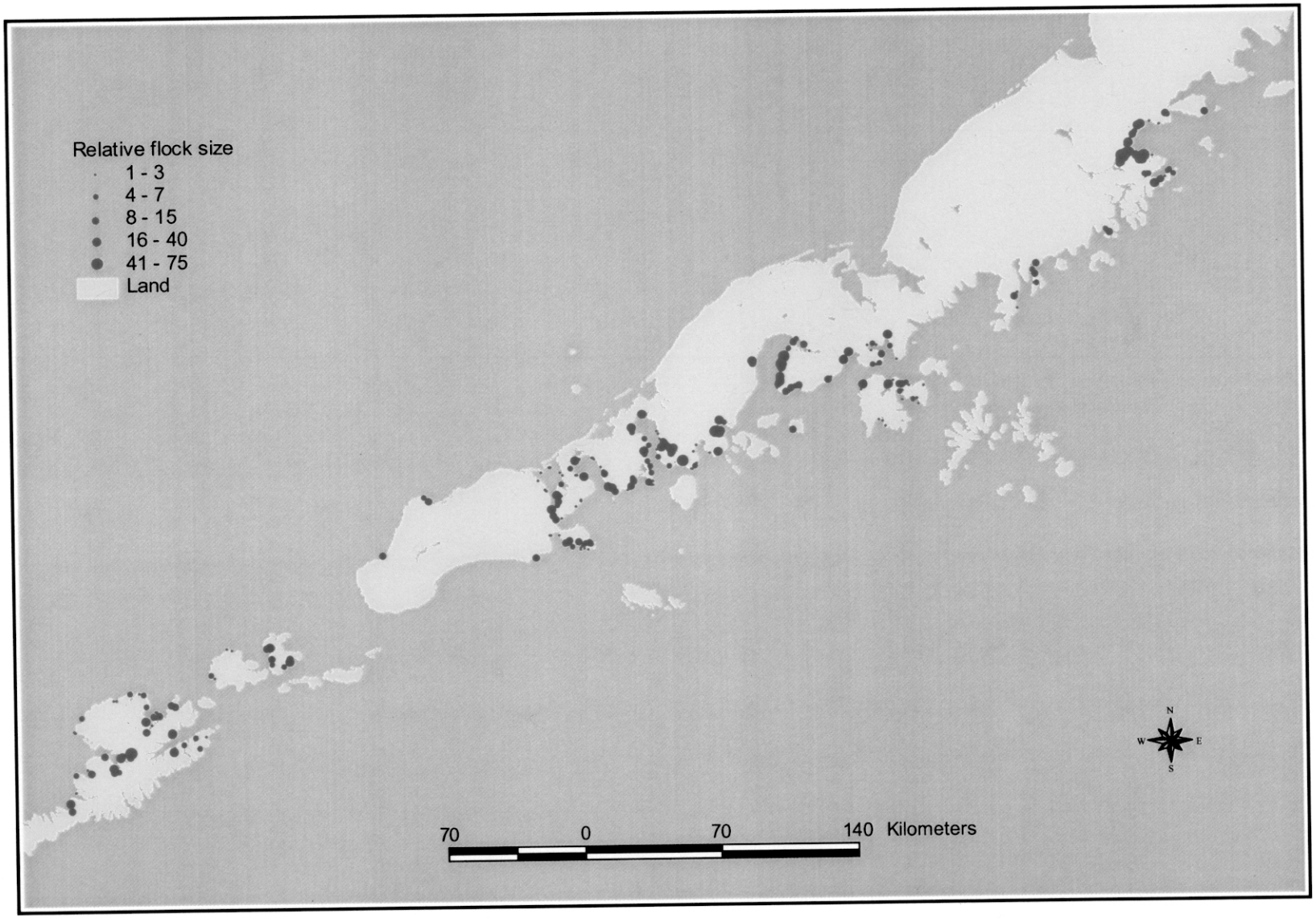

Figure 38. Distribution of harlequin duck observations from Steller's eider surveys, southwest Alaska, February, 2000.

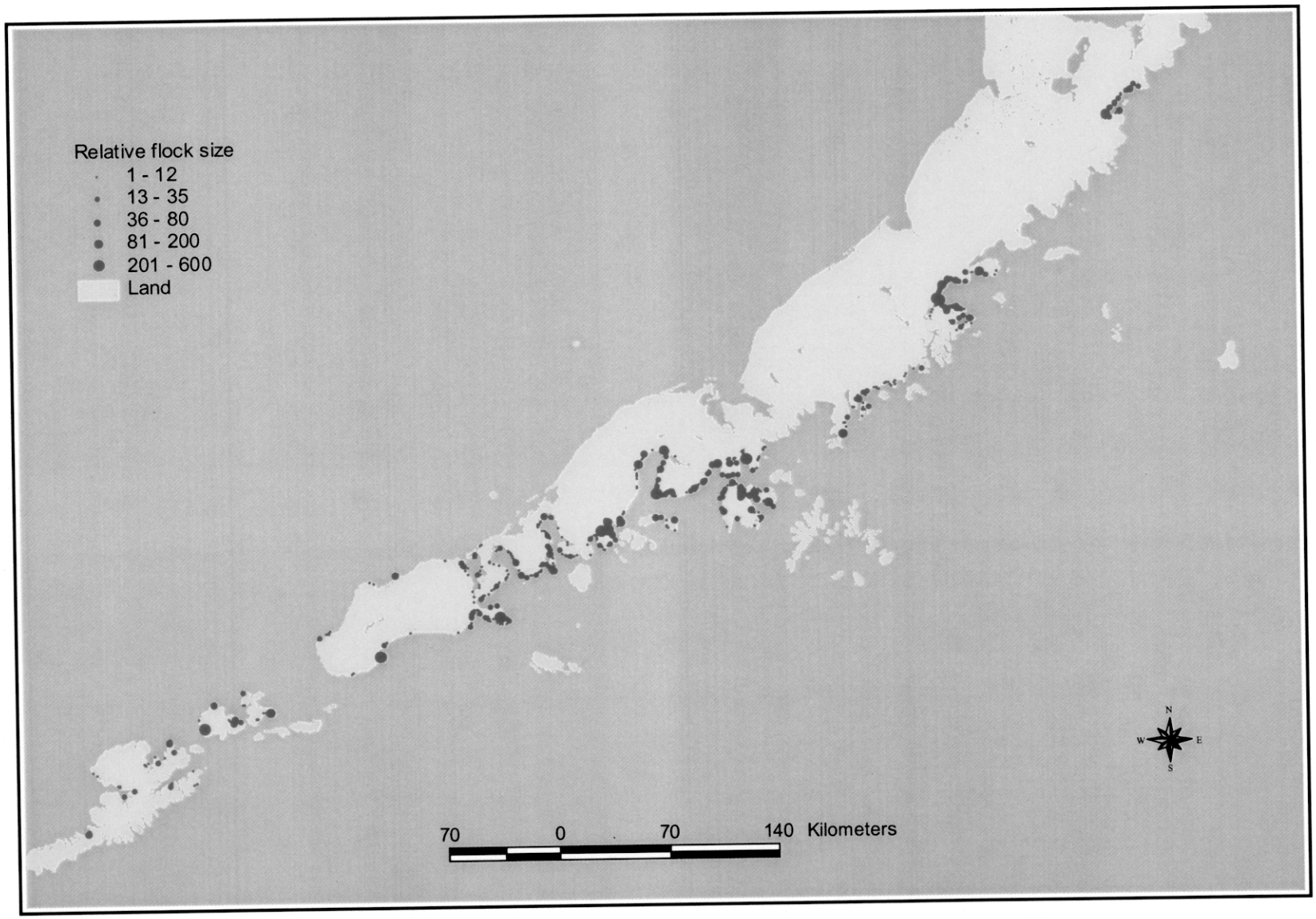

Figure 39. Distribution of scoter observations from Steller's eider surveys, southwest Alaska, February, 2000.

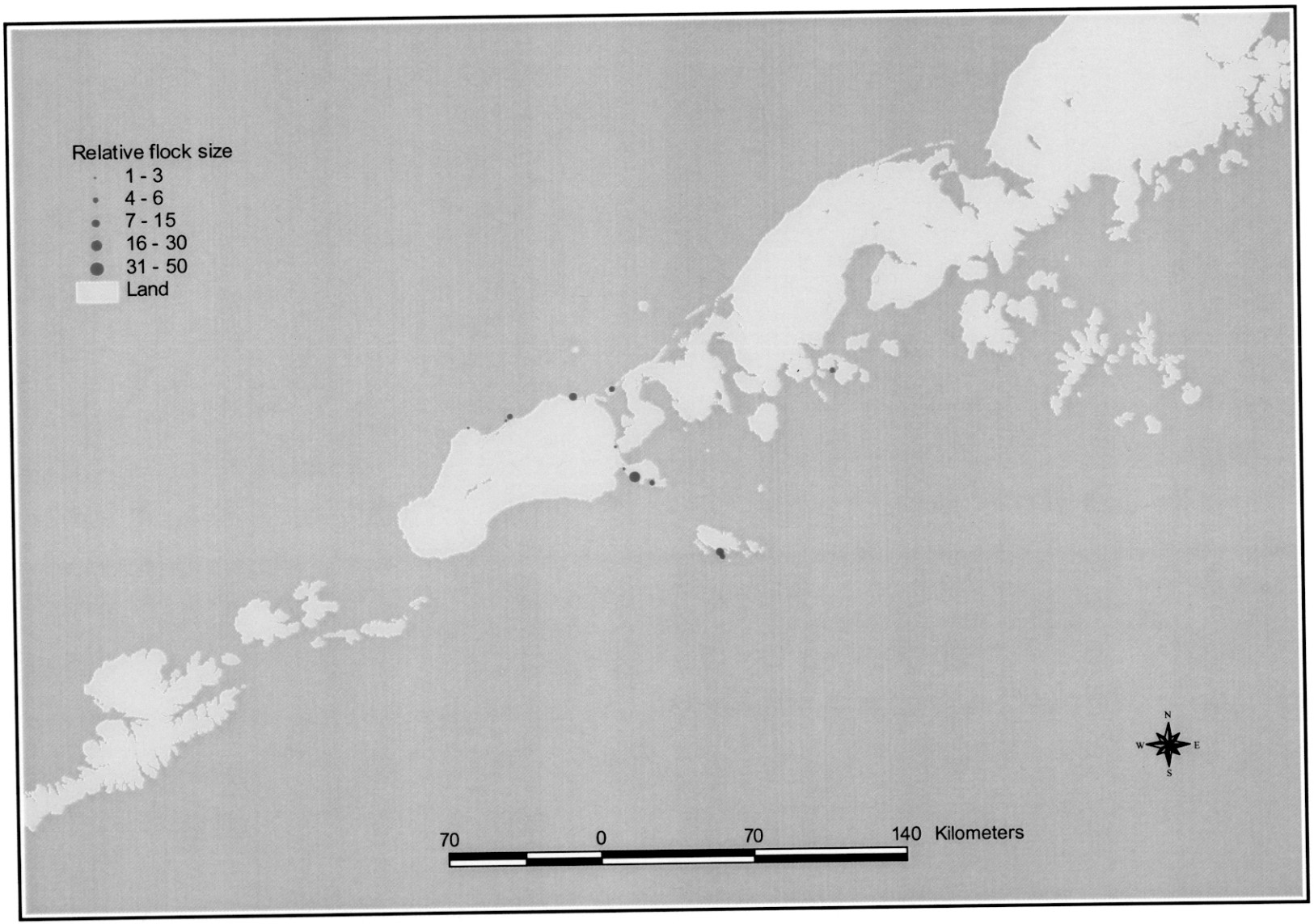

Figure 40. Distribution of common eider observations from Steller's eider surveys, southwest Alaska, March, 2000.

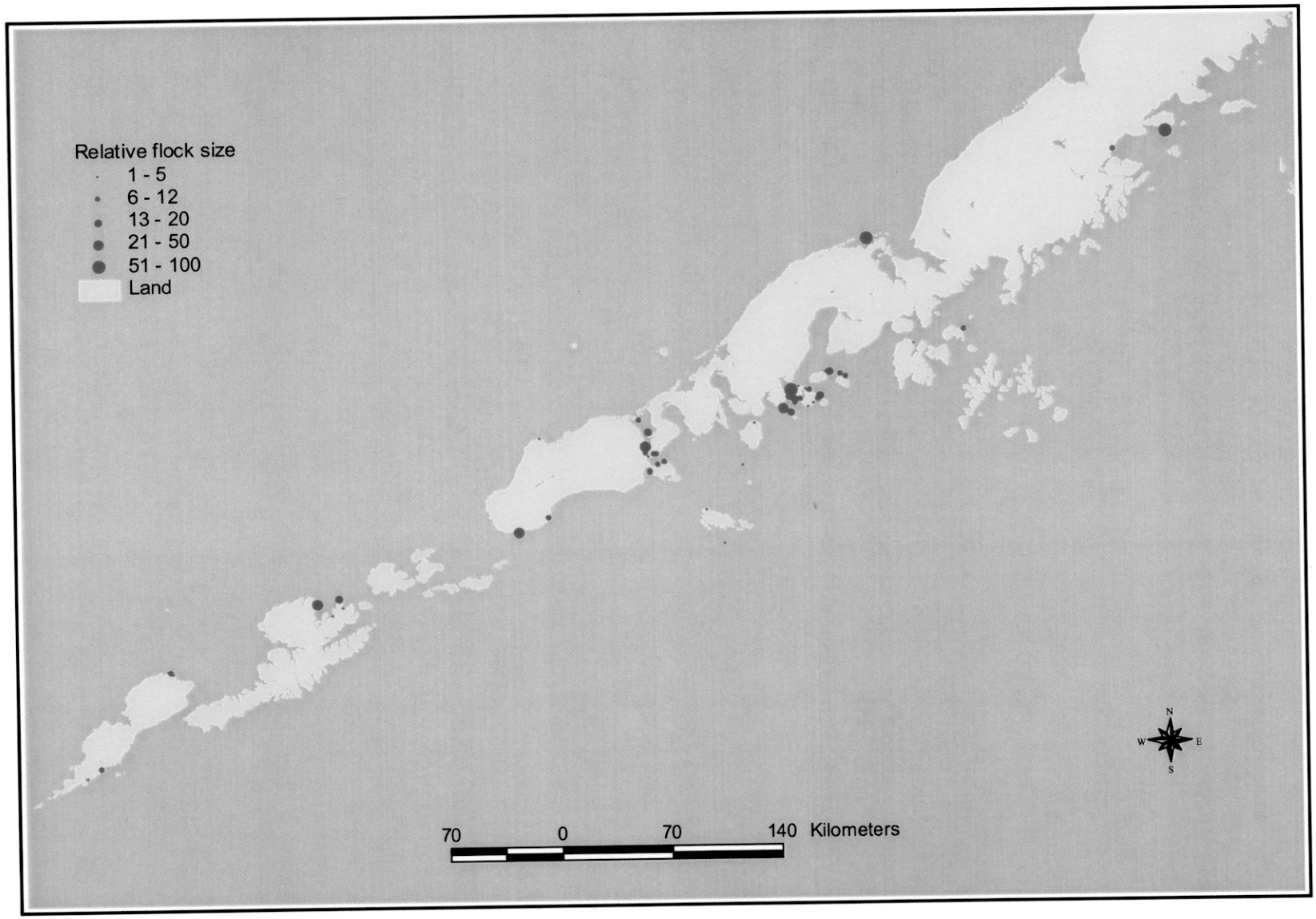

Figure 41. Distribution of king eider observations from Steller's eider surveys, southwest Alaska, March, 2000.

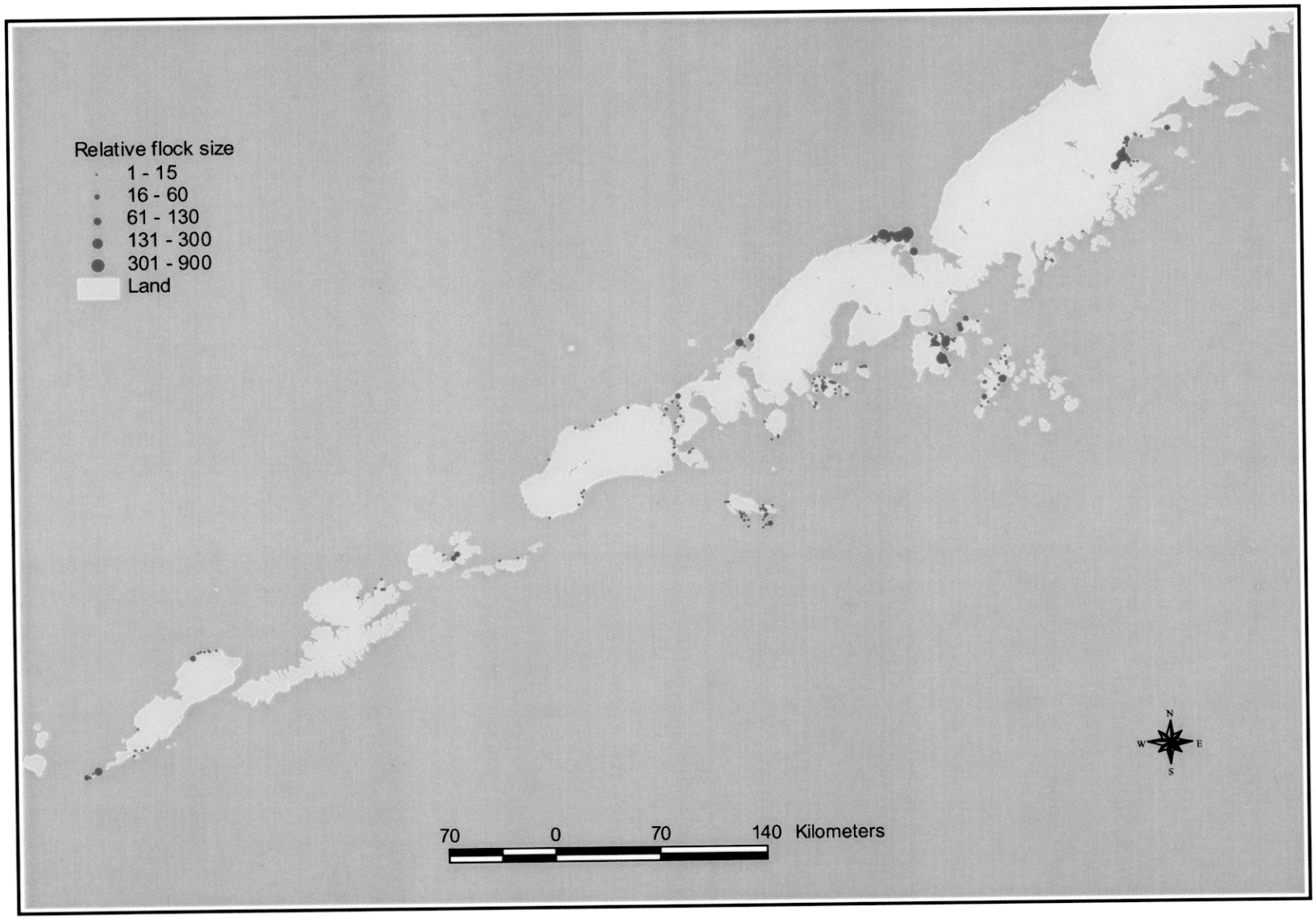

Figure 42. Distribution of long-tailed duck observations from Steller's eider surveys, southwest Alaska, March, 2000.

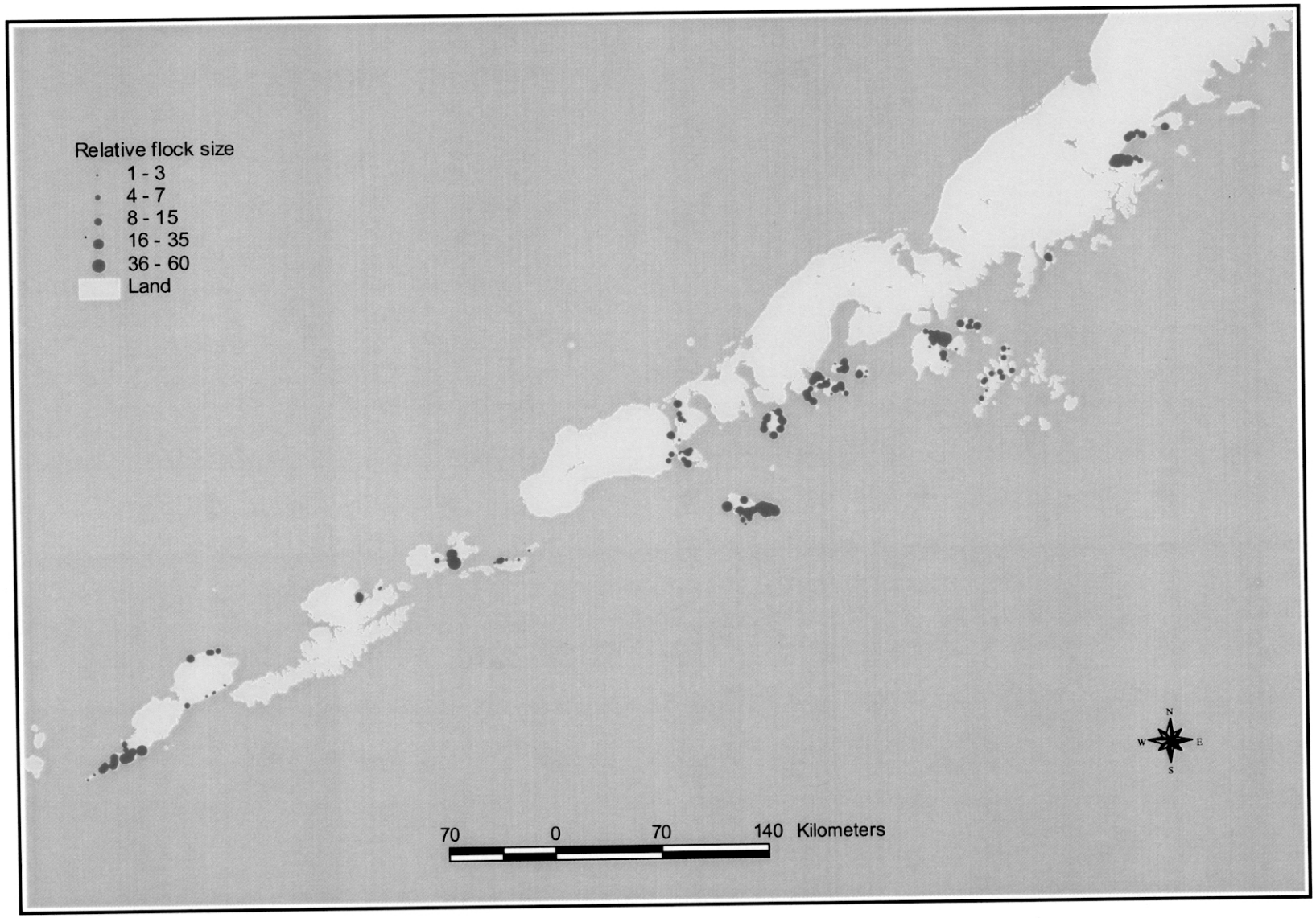

Figure 43. Distribution of harlequin duck observations from Steller's eider surveys, southwest Alaska, march, 2000.

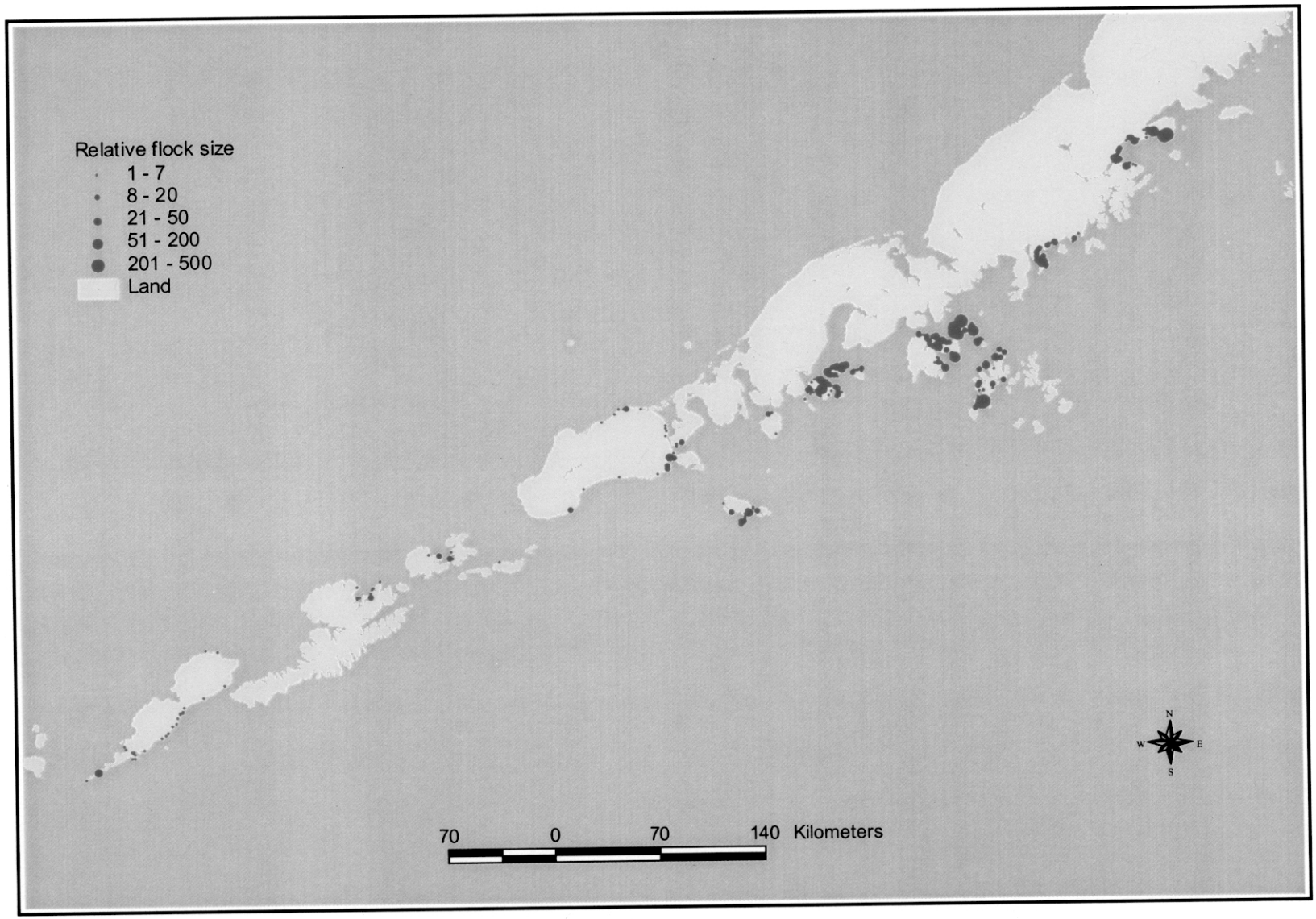

Figure 44. Distribution of scoter observations from Steller's eider surveys, southwest Alaska, March, 2000.

APPENDIX 1. Common and scientific names of species mentioned in the text and tables.

Common Name	Scientific Name
Birds:	
Red-necked grebe	*Podiceps grisegena*
Common loon	*Gavia immer*
Yellow-billed loon	*Gavia adamsii*
Pacific loon	*Gavia pacifica*
Red-throated loon	*Gavia stellata*
Crested auklet	*Aethia cristatella*
Pigeon guillemot	*Cepphus columba*
Unidentified murre	*Uria aalge, U. lomvia*
Mew gull	*Larus canus*
Black-legged kittiwake	*Rissa tridactyla*
Large gull	*Larus glaucescens, L. hyperboreus, L. argentatus, L. schistisagus*
Jaegers	*Stercorarius parasiticus, S. longicaudus*
Cormorant	*Phalacrocorax auritus, P. pelagicus, P. urile*
Common merganser	*Mergus merganser*
Red-breasted merganser	*Mergus serrator*
Mallard	*Anas platyrhynchos*
Northern pintail	*Anas acuta*
Greater scaup	*Aythya marila*
Goldeneye	*Bucephala clangula, B. islandica*
Bufflehead	*Bucephala albeola*
Harlequin duck	*Histrionicus histrionicus*
Long-tailed duck	*Clangula hyemalis*
Common eider	*Somateria mollissima*
King eider	*Somateria spectabilis*
Steller's eider	*Polysticta stelleri*
Black scoter	*Melanitta nigra*
White-winged scoter	*Melanitta fusca*
Surf scoter	*Melanitta perspicillata*
Canada goose	*Branta canadensis*
Black brant	*Branta bernicla*
Emperor goose	*Chen canagica*
Tundra swan	*Cygnus columbianus*
Bald eagle	*Haliaeetus leucocephalus*
American crow	*Corvus brachyrhynchos*
Marine mammals:	
Sea otter	*Enhydra lutris*
Seal	*Phoca spp., esp. Phoca vitulina*
Steller's sea lion	*Eumetopias jubatus*
Harbor porpoise	*Phocoena phocoena*

APPENDIX 2

Numerical summaries of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska.

1. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 1, 8, 16 for location of survey area and Steller's eider observations.

Survey area: Akutan Project Survey Area

2/8 Larned data computer malfunction, no starboard data

3/9 Intermittent computer sound card failure, locations recorded but spp. and numbers recreated from memory.

	Survey 1 02/08/2000			Survey 2 03/09/2000		
	Port	Starboard		Port	Starboard	
Species	Dau	Larned	Total	Ziemba	Larned	Total
Red-necked grebe						
Yellow-billed loon						
Common loon						
Pacific loon						
Loon sp.1					1	1
Crested auklet	7,100		**7,100**			
Pigeon guillemot						
Murre sp. 2						
Mew gull				4	90	**94**
Black-legged kittiwake	3120		**3,120**			
Large gull 3	5,759		**5,759**	185	126	**311**
Jaeger sp.						
Cormorant sp. 4	115		**115**	3	47	**50**
Common merganser						
Red-breasted merganser					20	**20**
Mallard					40	**40**
Northern pintail					50	**50**
Greater scaup	2		**2**			
Goldeneye sp.					74	**74**
Bufflehead					10	**10**
Oldsquaw	2		**2**		27	**27**
Harlequin duck	70		**70**	5	116	**121**
Steller's eider	727		**727**	116	25	**141**
Common eider						
King eider						
Scoter sp.						
Black scoter	172		**172**	**16**	193	**209**
White-winged scoter	30		**30**		24	**24**
Surf scoter						
Canada goose						
Black Brant						
Emperor goose	40		**40**		75	**75**
Tundra swan						
Small shorebird 5						
Large shorebird 6						
Bald eagle	5		**5**	1	2	**3**
American crow						
Sea otter				6	5	**11**
Seal sp.	1		**1**			
Steller's sea lion						
Harbor porpoise						
Boat						

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

2. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 2, 9, 18 for location of survey area and Steller's eider observations.

Survey area: Chignik Project Survey Area

3/11 Intermittent computer sound card failure, locations recorded but some spp. and numbers recreated from memory.

3/11 no port observer on board, standard transect (400 m.) covered by starboard observer.

	Survey 1 02/14/2000				Survey 2 03/11/2000		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total			Larned	Total
Red-necked grebe		17	**17**				
Yellow-billed loon							
Common loon	4		**4**				
Pacific loon	1		**1**				
Loon sp.1		13	**13**			13	**13**
Crested auklet							
Pigeon guillemot							
Murre sp. 2	2	2	**4**			20	**20**
Mew gull		127	**127**			110	**110**
Black-legged kittiwake							
Large gull 3	137	45	**182**			427	**427**
Jaeger sp.							
Cormorant sp. 4	162	47	**209**			89	**89**
Common merganser		17	**17**			20	**20**
Red-breasted merganser	282	35	**317**			42	**42**
Mallard	591	2	**593**			41	**41**
Northern pintail						20	**20**
Greater scaup	855	1,530	**2,385**			430	**430**
Goldeneye sp.	1,941	830	**2,771**			1,512	**1,512**
Bufflehead	186	158	**344**			334	**334**
Oldsquaw	239	399	**638**			1,064	**1,064**
Harlequin duck	623	164	**787**			304	**304**
Steller's eider	716	260	**976**			151	**151**
Common eider							
King eider		3	**3**			118	**118**
Scoter sp.		400	**400**			481	**481**
Black scoter	1,335	1,396	**2,731**			1,367	**1,367**
White-winged scoter	79	670	**749**			1,384	**1,384**
Surf scoter	35	75	**110**			76	**76**
Canada goose							
Black Brant							
Emperor goose	396	1,758	**2,154**			1,100	**1,100**
Tundra swan							
Small shorebird 5		60	**60**			200	**200**
Large shorebird 6							
Bald eagle	7		**7**			3	**3**
American crow							
Sea otter	56	98	**154**			68	**68**
Seal sp.	1	2	**3**			23	**23**
Steller's sea lion							
Harbor porpoise						1	**1**
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

3. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 3, 10, 15 for location of survey area and Steller's eider observations.

Survey area: Dutch Harbor Project Survey Area

	Survey 1 02/08/2000			Survey 2 03/09/2000		
	Port	Starboard		Port	Starboard	
Species	Dau	Larned	Total	Ziemba	Larned	Total
Red-necked grebe						
Yellow-billed loon						
Common loon	1	1	**2**			
Pacific loon	3	1	**4**			
Loon sp.1					2	**2**
Crested auklet		60	**60**			
Pigeon guillemot		22	**22**			
Murre sp. 2	3,549	1,856	**5,405**		740	**740**
Mew gull		60	**60**			
Black-legged kittiwake	252	257	**509**	401	500	**901**
Large gull 3	2,178	1,008	**3,186**	6	4,196	**4,202**
Jaeger sp.						
Cormorant sp. 4	47	51	**98**		1	**1**
Common merganser						
Red-breasted merganser		6	**6**			
Mallard						
Northern pintail						
Greater scaup		12	**12**			
Goldeneye sp.						
Bufflehead						
Oldsquaw	200	180	**380**		23	**23**
Harlequin duck	76	10	**86**		31	**31**
Steller's eider	1,165	169	**1,334**	160	88	**248**
Common eider	155	7	**162**			
King eider	1	73	**74**		76	**76**
Scoter sp.					28	**28**
Black scoter	149		**149**	**7**	122	**129**
White-winged scoter	6	15	**21**		34	**34**
Surf scoter						
Canada goose						
Black Brant						
Emperor goose	648	24	**672**	25		**25**
Tundra swan						
Small shorebird 5						
Large shorebird 6						
Bald eagle	102	9	**111**	4	9	**13**
American crow						
Sea otter	9		**9**			
Seal sp.						
Steller's sea lion						
Harbor porpoise						
Boat					3	**3**

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

4. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 4, 11, 16 for location of survey area and Steller's eider observations.

Survey area: False Pass Project Survey Area

3/9 Intermittent computer sound card failure, locations recorded but spp. and numbers recreated from memory.

	Survey 1 02/13/2000				Survey 2 03/09/2000		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total		Ziemba	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon	6	1	**7**				
Pacific loon	1		**1**				
Loon sp.1		5	**5**		3	13	**16**
Crested auklet							
Pigeon guillemot							
Murre sp. 2		5	**5**		4		**4**
Mew gull					2		**2**
Black-legged kittiwake							
Large gull 3	45	11	**56**		3	94	**97**
Jaeger sp.							
Cormorant sp. 4	27	12	**39**		77	17	**94**
Common merganser					30	5	**35**
Red-breasted merganser	86	12	**98**		32	12	**44**
Mallard						10	**10**
Northern pintail							
Greater scaup		270	**270**		350	60	**410**
Goldeneye sp.	15	72	**87**		63	357	**420**
Bufflehead						26	**26**
Oldsquaw	4	82	**86**		11	112	**123**
Harlequin duck	125	18	**143**			81	**81**
Steller's eider	1,929	943	**2,872**		525	1,311	**1,836**
Common eider	1	29	**30**		2	2	**4**
King eider	35	544	**579**			139	**139**
Scoter sp.							
Black scoter	201	239	**440**		**37**	167	**204**
White-winged scoter	31	209	**240**		**3**	102	**105**
Surf scoter	4		**4**				
Canada goose							
Black Brant	6,341	718	**7,059**		535	690	**1,225**
Emperor goose	306	10	**316**			82	**82**
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	8	1	**9**		1	3	**4**
American crow							
Sea otter	110	27	**137**		34	53	**87**
Seal sp.	15	11	**26**		2		**2**
Steller's sea lion							
Harbor porpoise		2	**2**				
Boat	2		**2**				

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

5. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 5, 12, 17 for location of survey area and Steller's eider observations.

Survey area: Perryville Project Survey Area

	Survey 1 02/14/2000				Survey 2 3/10,11		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total		Ziemba	Larned	Total
Red-necked grebe		1	**1**			6	**6**
Yellow-billed loon							
Common loon	1		**1**				
Pacific loon							
Loon sp.1		4	**4**			5	**5**
Crested auklet							
Pigeon guillemot							
Murre sp. 2		3	**3**			2	**2**
Mew gull							
Black-legged kittiwake	2		**2**				
Large gull 3		10	**10**			16	**16**
Jaeger sp.							
Cormorant sp. 4	4	22	**26**		47	13	**60**
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.	1	1	**2**		1	10	**11**
Bufflehead						6	**6**
Oldsquaw		9	**9**		8	7	**15**
Harlequin duck	44	7	**51**			17	**17**
Steller's eider	25	26	**51**			22	**22**
Common eider	1		**1**				
King eider		3	**3**				
Scoter sp.		50	**50**		67	3	**70**
Black scoter	63	230	**293**		137	132	**269**
White-winged scoter	13	318	**331**		70	236	**306**
Surf scoter	2	636	**638**		10	140	**150**
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	8		**8**		1	1	**2**
American crow							
Sea otter	1		**1**			3	**3**
Seal sp.							
Steller's sea lion	1		**1**				
Harbor porpoise					2		**2**
Boat	5		**5**				

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

6. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 6, 7, 13, 14, 17 for location of survey area and Steller's eider observations.

Survey area: Sand Point Project Survey Area

	Survey 1 02/12/2000			Survey 2 03/08/2000		
	Port	Starboard		Port	Starboard	
Species	Dau	Larned	Total	Roy	Larned	Total
Red-necked grebe				2	6	**8**
Yellow-billed loon		1	**1**			
Common loon						
Pacific loon						
Loon sp.1		3	**3**	9	12	**21**
Crested auklet						
Pigeon guillemot						
Murre sp. 2				15	12	**27**
Mew gull	606	110	**716**		12	**12**
Black-legged kittiwake						
Large gull 3	1,307	127	**1,434**	1,553	221	**1,774**
Jaeger sp.						
Cormorant sp. 4	27	26	**53**	8	52	**60**
Common merganser						
Red-breasted merganser	57		**57**	9	34	**43**
Mallard	378	95	**473**		20	**20**
Northern pintail						
Greater scaup		7	**7**	10	8	**18**
Goldeneye sp.	38	143	**181**	12	104	**116**
Bufflehead	10	35	**45**	7	85	**92**
Oldsquaw	92	211	**303**	255	623	**878**
Harlequin duck	73	26	**99**	149	96	**245**
Steller's eider	707	321	**1,028**	11	340	**351**
Common eider						
King eider		3	**3**		4	**4**
Scoter sp.				**4**	28	**32**
Black scoter	399	1,009	**1,408**	**122**	304	**426**
White-winged scoter	88	428	**516**	**75**	704	**779**
Surf scoter					21	**21**
Canada goose						
Black Brant						
Emperor goose	504		**504**	45	272	**317**
Tundra swan						
Small shorebird 5						
Large shorebird 6						
Bald eagle	14		**14**	32	2	**34**
American crow					1	**1**
Sea otter	18	45	**63**	15	64	**79**
Seal sp.	5		**5**	2		**2**
Steller's sea lion	2		**2**	28		**28**
Harbor porpoise						
Boat						

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

7. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See Figs. 16, 22, 28 for location of survey area and Steller's eider observations.

Survey area: Akun Island

	Survey 1 02/08,13/2000			Survey 2 03/09/2000		
	Port	Starboard		Port	Starboard	
Species	Dau	Larned	Total	Ziemba	Larned	Total
Red-necked grebe						
Yellow-billed loon						
Common loon						
Pacific loon						
Loon sp.1						
Crested auklet		400	**400**			
Pigeon guillemot						
Murre sp. 2				5		**5**
Mew gull						
Black-legged kittiwake						
Large gull 3	3,451	2	**3,453**	1	53	**54**
Jaeger sp.						
Cormorant sp. 4	319	29	**348**	6	29	**35**
Common merganser						
Red-breasted merganser					20	**20**
Mallard					30	**30**
Northern pintail					50	**50**
Greater scaup						
Goldeneye sp.	10		**10**		68	**68**
Bufflehead					10	**10**
Oldsquaw	2	3,513	**3,515**		25	**25**
Harlequin duck	127	5	**132**		110	**110**
Steller's eider	80	11	**91**	56	25	**81**
Common eider		10	**10**			
King eider		3	**3**			
Scoter sp.						
Black scoter	45	146	**191**	5	150	**155**
White-winged scoter	1	20	**21**		10	**10**
Surf scoter						
Canada goose		6	**6**			
Black Brant						
Emperor goose	33	3	**36**	10	90	**100**
Tundra swan						
Small shorebird 5						
Large shorebird 6						
Bald eagle	13		**13**			
American crow						
Sea otter		1	**1**	5	2	**7**
Seal sp.					50	**50**
Steller's sea lion						
Harbor porpoise						
Boat						

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

8. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 22, 27 for location of survey area and Steller's eider observations.

Survey area: Akutan Island

Survey 1 partial data - Larned's computer malfunctioned during the portion within the Akutan Project survey area (Akutan Bay)

	Survey 1 02/08/2000				Survey 2 03/09/2000		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total		Ziemba	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1						1	**1**
Crested auklet							
Pigeon guillemot							
Murre sp. 2	2	3	**5**				
Mew gull					5	90	**95**
Black-legged kittiwake	1340		**1,340**				
Large gull 3	684		**684**		204	73	**277**
Jaeger sp.							
Cormorant sp. 4	200	7	**207**		3	21	**24**
Common merganser							
Red-breasted merganser							
Mallard						10	**10**
Northern pintail							
Greater scaup	2		**2**				
Goldeneye sp.						6	**6**
Bufflehead							
Oldsquaw						2	**2**
Harlequin duck	14	10	**24**		5	6	**11**
Steller's eider	647		**647**		142		**142**
Common eider		2	**2**				
King eider	905	8	**913**				
Scoter sp.							
Black scoter	463		**463**		11	43	**54**
White-winged scoter	29		**29**			14	**14**
Surf scoter							
Canada goose							
Black Brant							
Emperor goose	210		**210**		25		**25**
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	10		**10**		1	2	**3**
American crow							
Sea otter					11	3	**14**
Seal sp.	1	1	**2**				
Steller's sea lion	175		**175**				
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

9. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 29 for location of survey area and Steller's eider observations.

Survey area: Andronica Island

Survey 2 Roy data lost due to computer malfunction

	Survey 1 Not Surveyed			Survey 2 03/07/2000		
	Port	Starboard		Port	Starboard	
Species			Total	Roy	Larned	Total
Red-necked grebe						
Yellow-billed loon						
Common loon						
Pacific loon						
Loon sp.1					1	**1**
Crested auklet						
Pigeon guillemot						
Murre sp. 2						
Mew gull					6	**6**
Black-legged kittiwake						
Large gull 3					20	**20**
Jaeger sp.						
Cormorant sp. 4					12	**12**
Common merganser						
Red-breasted merganser						
Mallard						
Northern pintail						
Greater scaup						
Goldeneye sp.						
Bufflehead						
Oldsquaw						
Harlequin duck						
Steller's eider						
Common eider						
King eider						
Scoter sp.					80	**80**
Black scoter					20	**20**
White-winged scoter					101	**101**
Surf scoter						
Canada goose						
Black Brant						
Emperor goose					15	**15**
Tundra swan						
Small shorebird 5						
Large shorebird 6						
Bald eagle						
American crow						
Sea otter						
Seal sp.						
Steller's sea lion						
Harbor porpoise						
Boat						

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

10. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 17, 28 for location of survey area and Steller's eider observations.

Survey area: Deer Island

	Survey 1 Not Surveyed				Survey 2 03/07/2000		
	Port	Starboard			Port	Starboard	
Species			Total		Roy	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1					1	8	**9**
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3					3	40	**43**
Jaeger sp.							
Cormorant sp. 4					1	5	**6**
Common merganser							
Red-breasted merganser						2	**2**
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead							
Oldsquaw						8	**8**
Harlequin duck					53	86	**139**
Steller's eider						4	**4**
Common eider							
King eider						1	**1**
Scoter sp.							
Black scoter						183	**183**
White-winged scoter						32	**32**
Surf scoter							
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle					1		**1**
American crow							
Sea otter							
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

11. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 29 for location of survey area and Steller's eider observations.

Survey area: Korovin Island

3/8 Roy data computer malfunction - no data recorded for port side

	Survey 1 Not Surveyed				Survey 2 03/08/2000		
	Port	Starboard			Port	Starboard	
Species			Total		Roy	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1						2	**2**
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3						13	**13**
Jaeger sp.							
Cormorant sp. 4						10	**10**
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead							
Oldsquaw						115	**115**
Harlequin duck						36	**36**
Steller's eider							
Common eider							
King eider						8	**8**
Scoter sp.						465	**465**
Black scoter						1,016	**1,016**
White-winged scoter						1,906	**1,906**
Surf scoter							
Canada goose							
Black Brant							
Emperor goose						75	**75**
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle						1	**1**
American crow							
Sea otter						8	**8**
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

12. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 29 for location of survey area and Steller's eider observations.

Survey area: Nagai Island

3/8 Roy data computer malfunction - no data recorded after 12:53:34 (about 1/2 of Nagai Island)

	Survey 1 Not Surveyed				Survey 2 03/08/2000		
	Port	Starboard			Port	Starboard	
Species			Total		Roy	Larned	Total
Red-necked grebe						1	**1**
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1					2	13	**15**
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3					2	20	**22**
Jaeger sp.							
Cormorant sp. 4					26	64	**90**
Common merganser							
Red-breasted merganser							
Mallard						10	**10**
Northern pintail							
Greater scaup							
Goldeneye sp.						11	**11**
Bufflehead					1	32	**33**
Oldsquaw					82	92	**174**
Harlequin duck					8	38	**46**
Steller's eider					150		**150**
Common eider							
King eider							
Scoter sp.					25	90	**115**
Black scoter					365	121	**486**
White-winged scoter					10	1,115	**1,125**
Surf scoter						22	**22**
Canada goose							
Black Brant							
Emperor goose					23	88	**111**
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle					18	4	**22**
American crow							
Sea otter					2	14	**16**
Seal sp.						60	**60**
Steller's sea lion							
Harbor porpoise							
Boat						1	**1**

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

13.Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 29 for location of survey area and Steller's eider observations.

Survey area: Pavlof Islands

2/12 survey covered shoreline of Wosnesenski Island only

	Survey 1 02/12/2000			Survey 2 03/08/2000		
	Port	Starboard		Port	Starboard	
Species	Dau	Larned	Total	Roy	Larned	Total
Red-necked grebe					3	**3**
Yellow-billed loon						
Common loon	1		**1**			
Pacific loon						
Loon sp.1				4	30	**34**
Crested auklet						
Pigeon guillemot					1	**1**
Murre sp. 2					1	**1**
Mew gull					11	**11**
Black-legged kittiwake						
Large gull 3	5	4	**9**	13	127	**140**
Jaeger sp.						
Cormorant sp. 4	5	7	**12**	19	60	**79**
Common merganser						
Red-breasted merganser				2	8	**10**
Mallard					51	**51**
Northern pintail						
Greater scaup						
Goldeneye sp.				3	8	**11**
Bufflehead					8	**8**
Oldsquaw	1	6	**7**	10	116	**126**
Harlequin duck	10		**10**	86	186	**272**
Steller's eider	130		**130**	25	26	**51**
Common eider					6	**6**
King eider		1	**1**		308	**308**
Scoter sp.					507	**507**
Black scoter	95	91	**186**	75	1,732	**1,807**
White-winged scoter	8	64	**72**	188	760	**948**
Surf scoter		50	**50**	2	11	**13**
Canada goose						
Black Brant						
Emperor goose				304	25	**329**
Tundra swan						
Small shorebird 5						
Large shorebird 6						
Bald eagle				16	6	**22**
American crow						
Sea otter	3	2	**5**	17	11	**28**
Seal sp.				7	30	**37**
Steller's sea lion						
Harbor porpoise						
Boat					1	**1**

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

14. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 6, 13, 17 for location of survey area and Steller's eider observations.

Survey area: Popof Island

boat count does not include boats at dock.

	Survey 1 02/12/2000				Survey 2 03/08/2000		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total		Roy	Larned	Total
Red-necked grebe					2		**2**
Yellow-billed loon		1	**1**				
Common loon							
Pacific loon							
Loon sp.1						5	**5**
Crested auklet							
Pigeon guillemot							
Murre sp. 2						7	**7**
Mew gull	3	10	**13**				
Black-legged kittiwake							
Large gull 3	262	113	**375**		112	42	**154**
Jaeger sp.							
Cormorant sp. 4	14	10	**24**		1	15	**16**
Common merganser							
Red-breasted merganser	1		**1**			2	**2**
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead					5		**5**
Oldsquaw	37	127	**164**		8	470	**478**
Harlequin duck	34	14	**48**		50	39	
Steller's eider	405	66	**471**		1	314	**315**
Common eider							
King eider							
Scoter sp.							
Black scoter	79	319	**398**		22	54	**76**
White-winged scoter	44	179	**223**		9	401	**410**
Surf scoter						6	**6**
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	4		**4**		8		**8**
American crow						1	**1**
Sea otter							
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat		1	**1**				

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

15. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See Figs. 16, 27 for location of survey area and Steller's eider observations.

Survey area: Rootok Island

	Survey 1 Not Surveyed				Survey 2 03/07/2000		
	Port	Starboard			Port	Starboard	
Species			Total		Roy	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3						8	8
Jaeger sp.							
Cormorant sp. 4						1	1
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead							
Oldsquaw							
Harlequin duck							
Steller's eider							
Common eider							
King eider							
Scoter sp.							
Black scoter							
White-winged scoter							
Surf scoter							
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle							
American crow							
Sea otter						1	1
Seal sp.							
Steller's sea lion							
Harbor porpoise							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

16. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See Figs. 16, 28 for location of survey area and Steller's eider observations.

Survey area: Sanak Islands

	Survey 1 Not Surveyed				Survey 2 03/07/2000		
	Port	Starboard			Port	Starboard	
Species			Total		Roy	Larned	Total
Red-necked grebe						2	**2**
Yellow-billed loon							
Common loon						1	**1**
Pacific loon							
Loon sp.1						3	**3**
Crested auklet							
Pigeon guillemot							
Murre sp. 2					400	122	**522**
Mew gull							
Black-legged kittiwake						10	**10**
Large gull 3					26	160	**186**
Jaeger sp.							
Cormorant sp. 4					90	22	**112**
Common merganser					2		**2**
Red-breasted merganser					20	51	**71**
Mallard						15	**15**
Northern pintail						200	**200**
Greater scaup					45		**45**
Goldeneye sp.					48	63	**111**
Bufflehead						30	**30**
Oldsquaw					7	108	**115**
Harlequin duck					107	278	**385**
Steller's eider					378	1,200	**1,578**
Common eider						14	**14**
King eider						3	**3**
Scoter sp.							
Black scoter					553	1,199	**1,752**
White-winged scoter					69	63	**132**
Surf scoter						5	**5**
Canada goose							
Black Brant					2,121	1,128	**3,249**
Emperor goose					1,503	817	**2,320**
Tundra swan						2	**2**
Small shorebird 5						330	**330**
Large shorebird 6							
Bald eagle					12	6	**18**
American crow						60	**60**
Sea otter					3		**3**
Seal sp.					50	3	**53**
Steller's sea lion					503	2	**505**
Harbor porpoise						1	**1**
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

17. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See Figs. 16, 22, 27 for location of survey area and Steller's eider observations.

Survey area: Tigalda Island

	Survey 1 Not Surveyed			Survey 2 03/07,09/2000		
	Port	Starboard		Port	Starboard	
Species			Total	Roy/Ziemba	Larned	Total
Red-necked grebe						
Yellow-billed loon						
Common loon						
Pacific loon						
Loon sp.1					1	**1**
Crested auklet					1,000	**1,000**
Pigeon guillemot						
Murre sp. 2					20	**20**
Mew gull						
Black-legged kittiwake						
Large gull 3				16	35	**51**
Jaeger sp.						
Cormorant sp. 4				1	15	**16**
Common merganser						
Red-breasted merganser					80	**80**
Mallard						
Northern pintail						
Greater scaup						
Goldeneye sp.					50	**50**
Bufflehead						
Oldsquaw					8	**8**
Harlequin duck					23	**23**
Steller's eider				10		**10**
Common eider						
King eider						
Scoter sp.						
Black scoter					35	**35**
White-winged scoter					2	**2**
Surf scoter						
Canada goose						
Black Brant						
Emperor goose				70	97	**167**
Tundra swan						
Small shorebird 5						
Large shorebird 6						
Bald eagle					6	**6**
American crow						
Sea otter						
Seal sp.						
Steller's sea lion						
Harbor porpoise						

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

18. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See Figs. 16, 22, 27 for location of survey area and Steller's eider observations.

Survey area: Ugamak Island

	Survey 1 02/08/2000				Survey 2 03/07/2000		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total		Roy	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet		10,000	**10,000**				
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3					1	4	**5**
Jaeger sp.							
Cormorant sp. 4	2		**2**		3	2	**5**
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead							
Oldsquaw							
Harlequin duck						3	**3**
Steller's eider							
Common eider							
King eider							
Scoter sp.							
Black scoter						5	**5**
White-winged scoter							
Surf scoter							
Canada goose							
Black Brant							
Emperor goose						115	**115**
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle							
American crow							
Sea otter							
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

19. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See Figs. 15, 26 for location of survey area and Steller's eider observations.

Survey area: Umnak Island

3/9, about 1/2 of the north shoreline of Umnak I. Not surveyed due to turbulence near rough terrain

	Survey 1 Not Surveyed				Survey 2 03/09/2000		
	Port	Starboard			Port	Starboard	
Species			Total		Ziemba	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1						2	**2**
Crested auklet							
Pigeon guillemot							
Murre sp. 2					1		**1**
Mew gull							
Black-legged kittiwake							
Large gull 3					137	76	**213**
Jaeger sp.							
Cormorant sp. 4					70	192	**262**
Common merganser							
Red-breasted merganser					12	2	**14**
Mallard						40	**40**
Northern pintail							
Greater scaup							
Goldeneye sp.						2	**2**
Bufflehead							
Oldsquaw					33	217	**250**
Harlequin duck					46	194	**240**
Steller's eider					215	381	**596**
Common eider					123	95	**218**
King eider						25	**25**
Scoter sp.						130	**130**
Black scoter					159	1,080	**1,239**
White-winged scoter					43	77	**120**
Surf scoter						2	**2**
Canada goose							
Black Brant					2		**2**
Emperor goose					1,124	1,069	**2,193**
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle					5	6	**11**
American crow							
Sea otter					32	2	**34**
Seal sp.						32	**32**
Steller's sea lion							
Harbor porpoise							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

20. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See Figs. 15, 22, 27 for location of survey area and Steller's eider observations.

Survey area: Unalaska Island

3/9 only small portion of Island near Dutch Harbor was surveyed.

boats don't include boats at dock

	Survey 1 02/08/2000				Survey 2 03/09/2000		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total		Ziemba	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon	2	3	**5**				
Pacific loon	5	1	**6**				
Loon sp.1						2	**2**
Crested auklet		860	**860**				
Pigeon guillemot		23	**23**				
Murre sp. 2	3,611	5,965	**9,576**			740	**740**
Mew gull		60	**60**				
Black-legged kittiwake	252	257	**509**		401	500	**901**
Large gull 3	4,434	1,317	**5,751**		6	4,196	**4,202**
Jaeger sp.							
Cormorant sp. 4	600	98	**698**			1	1
Common merganser							
Red-breasted merganser		6	**6**				
Mallard	37		**37**				
Northern pintail							
Greater scaup		12	**12**				
Goldeneye sp.							
Bufflehead							
Oldsquaw	250	305	**555**			23	**23**
Harlequin duck	436	50	**486**			31	**31**
Steller's eider	1,627	310	**1,937**		160	88	**248**
Common eider	155	84	**239**				
King eider	31	107	**138**			76	**76**
Scoter sp.						28	**28**
Black scoter	341	41	**382**		7	122	**129**
White-winged scoter	172	249	**421**			34	**34**
Surf scoter							
Canada goose							
Black Brant							
Emperor goose	2,309	308	**2,617**		25		**25**
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	122	13	**135**		4	9	**13**
American crow							
Sea otter	13	16	**29**				
Seal sp.	35		**35**				
Steller's sea lion	540		**540**				
Harbor porpoise							
Boat	1		**1**			3	**3**

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

21. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See Figs. 15, 22, 27 for location of survey area and Steller's eider observations.

Survey area: Unalga Island

	Survey 1 Not Surveyed				Survey 2 03/09/2000		
	Port	Starboard			Port	Starboard	
Species			Total		Ziemba	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3							
Jaeger sp.							
Cormorant sp. 4							
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead							
Oldsquaw							
Harlequin duck							
Steller's eider							
Common eider							
King eider							
Scoter sp.							
Black scoter					3		**3**
White-winged scoter							
Surf scoter							
Canada goose							
Black Brant							
Emperor goose					46		**46**
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle					1		**1**
American crow							
Sea otter							
Seal sp.							
Steller's sea lion							
Harbor porpoise							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

22. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See Figs. 17, 24, 29 for location of survey area and Steller's eider observations.

Survey area: Unga Island

3/8 Only the portion of Unga Island within the Sand Pt. Project area was surveyed.

	Survey 1 02/12/2000				Survey 2 03/08/2000		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total		Roy	Larned	Total
Red-necked grebe						5	**5**
Yellow-billed loon							
Common loon	1	2	**3**				
Pacific loon							
Loon sp.1		5	**5**		9	7	**16**
Crested auklet							
Pigeon guillemot							
Murre sp. 2						1	**1**
Mew gull	603	129	**732**			4	**4**
Black-legged kittiwake							
Large gull 3	1,134	22	**1,156**		1,439	159	**1,598**
Jaeger sp.							
Cormorant sp. 4	33	38	**71**		7	37	**44**
Common merganser							
Red-breasted merganser	56		**56**		9	32	**41**
Mallard	380	95	**475**			20	**20**
Northern pintail							
Greater scaup		7	**7**		10	8	**18**
Goldeneye sp.	38	143	**181**		12	104	**116**
Bufflehead	10	35	**45**		2	85	**87**
Oldsquaw	54	123	**177**		247	148	**395**
Harlequin duck	81	15	**96**		99	57	**156**
Steller's eider	302	636	**938**			18	**18**
Common eider							
King eider	1	3	**4**			4	**4**
Scoter sp.						28	**28**
Black scoter	537	785	**1,322**		30	238	**268**
White-winged scoter	52	311	**363**		30	275	**305**
Surf scoter		8	**8**			15	**15**
Canada goose							
Black Brant							
Emperor goose	579	65	**644**		45	272	**317**
Tundra swan							
Small shorebird 5	10		**10**				
Large shorebird 6							
Bald eagle	16	2	**18**		24	2	**26**
American crow							
Sea otter	23	49	**72**		15	58	**73**
Seal sp.	45		**45**		2	1	**3**
Steller's sea lion	2		**2**		28		**28**
Harbor porpoise							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

23. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 29 for location of survey area and Steller's eider observations.

Survey area: Seg. 50 Port Moller

	Survey 1 Not Surveyed				Survey 2 03/10/2000		
	Port	Starboard			Port	Starboard	
Species			Total		Ziemba	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3							
Jaeger sp.							
Cormorant sp. 4							
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead							
Oldsquaw					30		**30**
Harlequin duck							
Steller's eider						1,000	**1,000**
Common eider							
King eider							
Scoter sp.							
Black scoter							
White-winged scoter							
Surf scoter							
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle							
American crow							
Sea otter							
Seal sp.							
Steller's sea lion							
Harbor porpoise							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

24. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 29 for location of survey area and Steller's eider observations.

Survey area: Seg. 53 Haque Channel

	Survey 1 Not Surveyed				Survey 2 03/10/2000		
	Port	Starboard			Port	Starboard	
Species			Total		Ziemba	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3							
Jaeger sp.							
Cormorant sp. 4							
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead							
Oldsquaw						100	**100**
Harlequin duck							
Steller's eider						200	**200**
Common eider							
King eider							
Scoter sp.							
Black scoter					257	4,000	**4,257**
White-winged scoter							
Surf scoter							
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle							
American crow							
Sea otter							
Seal sp.					44		**44**
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

25. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 29 for location of survey area and Steller's eider observations.

Survey area: Seg. 54 Walrus Islands

	Survey 1 Not Surveyed				Survey 2 03/10/2000		
	Port	Starboard			Port	Starboard	
Species			Total		Ziemba	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3							
Jaeger sp.							
Cormorant sp. 4							
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead							
Oldsquaw					30	902	**932**
Harlequin duck							
Steller's eider						40	**40**
Common eider							
King eider							
Scoter sp.							
Black scoter							
White-winged scoter							
Surf scoter							
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle							
American crow							
Sea otter					5		**5**
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

26. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 29 for location of survey area and Steller's eider observations.

Survey area: Seg. 55 Nelson Lagoon

	Survey 1 Not Surveyed				Survey 2 03/10/2000		
	Port	Starboard			Port	Starboard	
Species			Total		Ziemba	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3						440	**440**
Jaeger sp.							
Cormorant sp. 4							
Common merganser							
Red-breasted merganser					20		**20**
Mallard							
Northern pintail							
Greater scaup						190	**190**
Goldeneye sp.					9		**9**
Bufflehead							
Oldsquaw					142	713	**855**
Harlequin duck							
Steller's eider					1,558	7,593	**9,151**
Common eider							
King eider						100	**100**
Scoter sp.							
Black scoter					40	30	**70**
White-winged scoter							
Surf scoter							
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle							
American crow							
Sea otter					168	151	**319**
Seal sp.						5	**5**
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

27. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 29 for location of survey area and Steller's eider observations.

Survey area: Seg.60 Moffett Bay

	Survey 1 Not Surveyed				Survey 2 03/10/2000		
	Port	Starboard			Port	Starboard	
Species			Total		Ziemba	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull						1	**1**
Black-legged kittiwake							
Large gull 3							
Jaeger sp.							
Cormorant sp. 4							
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.						8	**8**
Bufflehead							
Oldsquaw						64	**64**
Harlequin duck							
Steller's eider					1,670	1,346	**2,016**
Common eider							
King eider							
Scoter sp.							
Black scoter							
White-winged scoter							
Surf scoter							
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle							
American crow							
Sea otter					32	13	**45**
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

28. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 29 for location of survey area and Steller's eider observations.

Survey area: Seg. 61 Round Island to Strawberry Pt.

	Survey 1 Not Surveyed				Survey 2 03/10/2000		
	Port	Starboard			Port	Starboard	
Species			Total		Ziemba	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3						70	**70**
Jaeger sp.							
Cormorant sp. 4							
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail						60	**60**
Greater scaup							
Goldeneye sp.							
Bufflehead							
Oldsquaw						150	**150**
Harlequin duck							
Steller's eider					1,850	3,388	**5,238**
Common eider							
King eider							
Scoter sp.							
Black scoter							
White-winged scoter							
Surf scoter							
Canada goose							
Black Brant					2,110	583	**2,693**
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle							
American crow							
Sea otter					30	143	**173**
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

29. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 29 for location of survey area and Steller's eider observations.

Survey area: Seg. 62 Tern Island to Round Island

	Survey 1 Not Surveyed				Survey 2 03/10/2000		
	Port	Starboard			Port	Starboard	
Species			Total		Ziemba	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3						6	**6**
Jaeger sp.							
Cormorant sp. 4							
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.					7		**7**
Bufflehead							
Oldsquaw							
Harlequin duck							
Steller's eider					802	1,510	**2,312**
Common eider							
King eider							
Scoter sp.							
Black scoter							
White-winged scoter							
Surf scoter							
Canada goose							
Black Brant					110	450	**560**
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle							
American crow							
Sea otter					9	37	**46**
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

30. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 29 for location of survey area and Steller's eider observations.

Survey area: Seg. 63 Grant Point to Tern Island

	Survey 1 Not Surveyed				Survey 2 03/10/2000		
	Port	Starboard			Port	Starboard	
Species			Total		Ziemba	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3							
Jaeger sp.							
Cormorant sp. 4							
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead							
Oldsquaw							
Harlequin duck							
Steller's eider						3	**3**
Common eider							
King eider							
Scoter sp.							
Black scoter							
White-winged scoter							
Surf scoter							
Canada goose							
Black Brant					85	425	**510**
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle							
American crow							
Sea otter					1		**1**
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

31. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 29 for location of survey area and Steller's eider observations.

Survey area: Seg. 64 Applegate Cove

	Survey 1 Not Surveyed				Survey 2 03/10/2000		
	Port	Starboard			Port	Starboard	
Species			Total		Ziemba	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3						8	**8**
Jaeger sp.							
Cormorant sp. 4							
Common merganser							
Red-breasted merganser					3		**3**
Mallard							
Northern pintail						70	**70**
Greater scaup							
Goldeneye sp.						30	**30**
Bufflehead							
Oldsquaw							
Harlequin duck							
Steller's eider					3,240	130	**3,370**
Common eider							
King eider							
Scoter sp.							
Black scoter							
White-winged scoter							
Surf scoter							
Canada goose							
Black Brant					28		**28**
Emperor goose						10	**10**
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle					1		**1**
American crow							
Sea otter					24		**24**
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

32. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 29 for location of survey area and Steller's eider observations.

Survey area: Seg. 65 Norma Bay

	Survey 1 Not Surveyed			Survey 2 03/10/2000		
	Port	Starboard		Port	Starboard	
Species			Total	Ziemba	Larned	Total
Red-necked grebe						
Yellow-billed loon						
Common loon						
Pacific loon						
Loon sp.1						
Crested auklet						
Pigeon guillemot						
Murre sp. 2						
Mew gull						
Black-legged kittiwake						
Large gull 3						
Jaeger sp.						
Cormorant sp. 4						
Common merganser						
Red-breasted merganser						
Mallard						
Northern pintail					50	50
Greater scaup						
Goldeneye sp.				2		2
Bufflehead						
Oldsquaw						
Harlequin duck						
Steller's eider				3,158	1,474	4,632
Common eider						
King eider						
Scoter sp.						
Black scoter						
White-winged scoter						
Surf scoter						
Canada goose						
Black Brant				50	15	65
Emperor goose				350	25	375
Tundra swan						
Small shorebird 5						
Large shorebird 6						
Bald eagle						
American crow						
Sea otter				4	3	7
Seal sp.						
Steller's sea lion						
Harbor porpoise						
Boat						

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

33. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 23 for location of survey area and Steller's eider observations.

Survey area: Seg. 66 Shoreline Bechevin Bay to Norma Bay

	Survey 1 02/08/2000				Survey 2 03/07/2000		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total		Roy	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3	506	8	**514**				
Jaeger sp.							
Cormorant sp. 4							
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead							
Oldsquaw							
Harlequin duck							
Steller's eider	850	1,175	**2,025**			50	**50**
Common eider		58	**58**			6	**6**
King eider	5	4	**9**				
Scoter sp.							
Black scoter		6	**6**				
White-winged scoter							
Surf scoter							
Canada goose							
Black Brant		10	**10**				
Emperor goose	4		**4**				
Tundra swan							
Small shorebird 5	5		**5**				
Large shorebird 6							
Bald eagle	1		**1**				
American crow							
Sea otter	2		**2**				
Seal sp.		1	**1**				
Steller's sea lion	2		**2**				
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

34. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 23, 28 for location of survey area and Steller's eider observations.

Survey area: Seg. 67 Hook Bay, Bechevin Bay East

3/9 Larned had Intermittent computer sound card failure, locations recorded but spp. and numbers recreated from memory.

	Survey 1 02/13/2000				Survey 2 03/09/2000		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total		Ziemba	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1		1	1			3	3
Crested auklet							
Pigeon guillemot							
Murre sp. 2		5	5				
Mew gull							
Black-legged kittiwake							
Large gull 3	13	3	16			37	37
Jaeger sp.							
Cormorant sp. 4	13	2	15		1	2	3
Common merganser	30	5	35				
Red-breasted merganser	48	10	58		32	2	34
Mallard						10	10
Northern pintail							
Greater scaup		270	270		350	60	410
Goldeneye sp.	1	72	73		54	337	391
Bufflehead						26	26
Oldsquaw	1	32	33		6	81	87
Harlequin duck	70	16	86			50	50
Steller's eider	354	117	471		77	960	1,037
Common eider		10	10				
King eider		238	238			65	65
Scoter sp.							
Black scoter	25	53	78		15	57	72
White-winged scoter							
Surf scoter							
Canada goose							
Black Brant	5,346	638	5,984		533	690	1,223
Emperor goose	31		31			17	17
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	1		1				
American crow							
Sea otter	102	11	113		7	14	21
Seal sp.	15	10	25		1		1
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

35. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 23, 28 for location of survey area and Steller's eider observations.

Survey area: Seg. 68 Bechevin Bay west, Catherine's Cove

3/9 Larned had intermittent computer sound card failure, locations recorded but spp. and numbers recreated from memory.

	Survey 1 02/13/2000				Survey 2 03/09/2000		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total		Ziemba	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1		1	**1**		3	2	**5**
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3	6	2	**8**		3	13	**16**
Jaeger sp.							
Cormorant sp. 4		2	**2**			2	**2**
Common merganser							
Red-breasted merganser	38	2	**40**				
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.	14		**14**		8	12	**20**
Bufflehead							
Oldsquaw	3	12	**15**			8	**8**
Harlequin duck	6	2	**8**				
Steller's eider	1,563	740	**2,303**		423	319	**742**
Common eider	1	13	**14**				
King eider	7	2	**9**				
Scoter sp.							
Black scoter	22	57	**79**			26	**26**
White-winged scoter	1	6	**7**			8	**8**
Surf scoter							
Canada goose							
Black Brant	995	80	**1,075**		2		**2**
Emperor goose	275	10	**285**			65	**65**
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle		1	**1**			1	**1**
American crow							
Sea otter	6	6	**12**		22	16	**38**
Seal sp.		1	**1**		1		**1**
Steller's sea lion							
Harbor porpoise							
Boat	1		**1**				

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

36. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 23, 28 for location of survey area and Steller's eider observations.

Survey area: Seg. 69 Swanson Lagoon to Bechevin Bay

	Survey 1 02/08/2000			Survey 2 03/07/2000		
	Port	Starboard		Port	Starboard	
Species	Dau	Larned	Total	Roy	Larned	Total
Red-necked grebe						
Yellow-billed loon						
Common loon		3	**3**			
Pacific loon						
Loon sp.1						
Crested auklet						
Pigeon guillemot						
Murre sp. 2						
Mew gull						
Black-legged kittiwake						
Large gull 3	41	2	**43**		13	**13**
Jaeger sp.						
Cormorant sp. 4						
Common merganser						
Red-breasted merganser	3	1	**4**			
Mallard						
Northern pintail						
Greater scaup						
Goldeneye sp.						
Bufflehead						
Oldsquaw		2	**2**			
Harlequin duck						
Steller's eider		20	**20**		2	**2**
Common eider		6	**6**			
King eider						
Scoter sp.						
Black scoter						
White-winged scoter						
Surf scoter						
Canada goose						
Black Brant						
Emperor goose						
Tundra swan						
Small shorebird 5						
Large shorebird 6						
Bald eagle						
American crow						
Sea otter						
Seal sp.						
Steller's sea lion						
Harbor porpoise						
Boat						

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

37. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 23, 28 for location of survey area and Steller's eider observations.

Survey area: Seg. 70 Cape Lapin to Swanson Lagoon

	Survey 1 02/08/2000				Survey 2 03/07/2000		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total		Roy	Larned	Total
Red-necked grebe						1	**1**
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3	401	300	**701**		768	520	**1,288**
Jaeger sp.							
Cormorant sp. 4							
Common merganser							
Red-breasted merganser	5		**5**				
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.						2	**2**
Bufflehead							
Oldsquaw	2	4	**6**		1	7	**8**
Harlequin duck							
Steller's eider		2	**2**		2	25	**27**
Common eider	1	30	**31**			10	**10**
King eider		8	**8**				
Scoter sp.							
Black scoter	10	10	**20**		**8**	12	**20**
White-winged scoter						21	**21**
Surf scoter							
Canada goose							
Black Brant							
Emperor goose							
Tundra swan	2		**2**				
Small shorebird 5							
Large shorebird 6							
Bald eagle	6		**6**				
American crow							
Sea otter	2		**2**				
Seal sp.					27	2	**29**
Steller's sea lion					7	12	**19**
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

38. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 23, 28 for location of survey area and Steller's eider observations.

Survey area: Seg.71 Urilia Bay

2/8 Larned computer malfunction, no data Starboard (offshore) side.

	Survey 1 02/08/2000				Survey 2 03/07/2000		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total		Roy	Larned	Total
Red-necked grebe						5	**5**
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1						3	**3**
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3	1,214		**1,214**		512	128	**640**
Jaeger sp.					1		**1**
Cormorant sp. 4	1		**1**				
Common merganser							
Red-breasted merganser	250		**250**				
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.	50		**50**				
Bufflehead							
Oldsquaw						4	**4**
Harlequin duck	20		**20**				
Steller's eider	135		**135**		22	93	**115**
Common eider						8	**8**
King eider	7		**7**			2	**2**
Scoter sp.							
Black scoter	90		**90**		**44**	29	**73**
White-winged scoter							
Surf scoter							
Canada goose							
Black Brant							
Emperor goose							
Tundra swan	50		**50**				
Small shorebird 5							
Large shorebird 6							
Bald eagle	2		**2**				
American crow							
Sea otter							
Seal sp.	1		**1**				
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

39. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 23, 28 for location of survey area and Steller's eider observations.

Survey area: Seg. 72 Cape Sarachef to Cape Mordvinof

2/8 Larned computer malfunction, no data Starboard (offshore) side.

	Survey 1 02/08/2000			Survey 2 03/07/2000		
	Port	Starboard		Port	Starboard	
Species	Dau	Larned	Total	Roy	Larned	Total
Red-necked grebe						
Yellow-billed loon						
Common loon	1		**1**		2	**2**
Pacific loon						
Loon sp.1					2	**2**
Crested auklet						
Pigeon guillemot						
Murre sp. 2					1	**1**
Mew gull						
Black-legged kittiwake						
Large gull 3	352		**352**	203	31	**234**
Jaeger sp.						
Cormorant sp. 4	41		**41**	1	11	**12**
Common merganser						
Red-breasted merganser						
Mallard						
Northern pintail						
Greater scaup						
Goldeneye sp.						
Bufflehead						
Oldsquaw	7		**7**		1	**1**
Harlequin duck						
Steller's eider						
Common eider	3		**3**			
King eider						
Scoter sp.						
Black scoter	48		**48**	6	8	**14**
White-winged scoter						
Surf scoter						
Canada goose						
Black Brant						
Emperor goose						
Tundra swan						
Small shorebird 5						
Large shorebird 6						
Bald eagle						
American crow						
Sea otter						
Seal sp.						
Steller's sea lion				81		**81**
Harbor porpoise						
Boat					1	**1**

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

40. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 23, 28 for location of survey area and Steller's eider observations.

Survey area: Seg. 74 Seal Cape

	Survey 1 02/13/2000				Survey 2 03/07/2000		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total		Roy	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1						3	**3**
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3	400	10	**410**		7	36	**43**
Jaeger sp.							
Cormorant sp. 4	2	2	**4**		1		**1**
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead							
Oldsquaw		16	**16**			3	**3**
Harlequin duck							
Steller's eider	45	9	**54**			15	**15**
Common eider							
King eider						60	**60**
Scoter sp.							
Black scoter		261	**261**		25	240	**265**
White-winged scoter						10	**10**
Surf scoter							
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	3		**3**		1	1	**2**
American crow							
Sea otter							
Seal sp.							
Steller's sea lion					9		**9**
Harbor porpoise							
Boat						1	**1**

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

41. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 23, 28 for location of survey area and Steller's eider observations.

Survey area: Seg. 75 Unimak Bight west

	Survey 1 02/13/2000				Survey 2 03/07/2000		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total		Roy	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull		4	**4**				
Black-legged kittiwake							
Large gull 3	35	1	**36**		125	24	**149**
Jaeger sp.							
Cormorant sp. 4	85	2	**87**				
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead							
Oldsquaw		6	**6**			9	**9**
Harlequin duck							
Steller's eider							
Common eider							
King eider							
Scoter sp.							
Black scoter	10	21	**31**			107	**107**
White-winged scoter						1	**1**
Surf scoter							
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle					1		**1**
American crow							
Sea otter						1	**1**
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

42. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 23, 28 for location of survey area and Steller's eider observations.

Survey area: Seg. 76 Unimak Bight East

	Survey 1 02/13/2000				Survey 2 03/07/2000		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total		Roy	Larned	Total
Red-necked grebe							
Yellow-billed loon		1	**1**				
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3	1	1	**2**		327	91	**418**
Jaeger sp.							
Cormorant sp. 4		1	**1**			1	**1**
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead							
Oldsquaw		15	**15**		1	11	**12**
Harlequin duck		8	**8**				
Steller's eider		30	**30**			2	**2**
Common eider							
King eider							
Scoter sp.							
Black scoter					**3**	425	**428**
White-winged scoter		8	**8**			3	**3**
Surf scoter		7	**7**			1	**1**
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	2	2	**4**		2		**2**
American crow							
Sea otter							
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

43. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 23, 28 for location of survey area and Steller's eider observations.

Survey area: Seg. 77 Otter Cove to Ikatan Pt.

3/9 Larned had Intermittent computer sound card failure, locations recorded but spp. and numbers recreated from memory.

	Survey 1 02/13/2000				Survey 2 03/09/2000		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total		Ziemba	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon	5	1	**6**				
Pacific loon	1		**1**				
Loon sp.1		7	**7**		13	1	**14**
Crested auklet							
Pigeon guillemot							
Murre sp. 2					4		**4**
Mew gull							
Black-legged kittiwake							
Large gull 3	82	31	**113**		10	4	**14**
Jaeger sp.							
Cormorant sp. 4	81	41	**122**		29		**29**
Common merganser							
Red-breasted merganser	10		**10**				
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.	2		**2**		1	8	**9**
Bufflehead	5		**5**				
Oldsquaw	2	2	**4**			10	**10**
Harlequin duck	78	19	**97**		13	9	**22**
Steller's eider	206	97	**303**		30		**30**
Common eider		5	**5**		26		**26**
King eider	22	321	**343**			16	**16**
Scoter sp.					**30**		**30**
Black scoter	293	683	**976**		**69**	40	**109**
White-winged scoter	36	224	**260**			63	**63**
Surf scoter	1	2	**3**				
Canada goose							
Black Brant							
Emperor goose	143	4	**147**		30		**30**
Tundra swan	2		**2**				
Small shorebird 5							
Large shorebird 6							
Bald eagle	6		**6**			1	**1**
American crow							
Sea otter					1	13	**14**
Seal sp.					15		**15**
Steller's sea lion	1		**1**				
Harbor porpoise							
Boat	2	2	**4**				

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

44. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 23, 28 for location of survey area and Steller's eider observations.

Survey area: Seg. 78 Ikatan Bay

3/9 Larned had Intermittent computer sound card failure, locations recorded but spp. and numbers recreated from memory.

	Survey 1 02/13/2000				Survey 2 03/09/2000		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total		Ziemba	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon	4		4				
Pacific loon							
Loon sp.1		1	1			7	7
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull					2		2
Black-legged kittiwake							
Large gull 3	22	8	30			40	40
Jaeger sp.							
Cormorant sp. 4	6	26	32		61	13	74
Common merganser							
Red-breasted merganser						10	10
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead							
Oldsquaw		38	38		5	13	18
Harlequin duck	47	2	49			22	22
Steller's eider	10	86	96		25	32	57
Common eider		2	2			2	2
King eider	8	251	259			58	58
Scoter sp.							
Black scoter	44	97	141		3	44	47
White-winged scoter	35	78	113		3	31	34
Surf scoter							
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	7		7		1	1	2
American crow							
Sea otter	2	10	12		4	10	14
Seal sp.							
Steller's sea lion							
Harbor porpoise		2	2				
Boat	1		1				

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

45. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 23, 28 for location of survey area and Steller's eider observations.

Survey area: Seg. 79 Morzhovoi Bay west

	Survey 1 02/13/2000				Survey 2 Not Surveyed		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total				Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3	1	6	**7**				
Jaeger sp.							
Cormorant sp. 4		1	**1**				
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead							
Oldsquaw	2		**2**				
Harlequin duck	33	11	**44**				
Steller's eider		4	**4**				
Common eider							
King eider		20	**20**				
Scoter sp.							
Black scoter	11	7	**18**				
White-winged scoter	18	17	**35**				
Surf scoter							
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle							
American crow							
Sea otter							
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

46. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 23, 28 for location of survey area and Steller's eider observations.

Survey area: Seg. 80 Big Lagoon

	Survey 1 02/13/2000				Survey 2 Not Surveyed		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total				Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3	18	25	**43**				
Jaeger sp.							
Cormorant sp. 4							
Common merganser							
Red-breasted merganser	390		**390**				
Mallard							
Northern pintail		25	**25**				
Greater scaup							
Goldeneye sp.	207	2	**209**				
Bufflehead							
Oldsquaw							
Harlequin duck	2	28	**30**				
Steller's eider	330	213	**543**				
Common eider							
King eider							
Scoter sp.							
Black scoter	1	19	**20**				
White-winged scoter							
Surf scoter							
Canada goose							
Black Brant	2,450	300	**2,750**				
Emperor goose	210	2	**212**				
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	2		**2**				
American crow							
Sea otter							
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

47. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 23, 28 for location of survey area and Steller's eider observations.

Survey area: Seg. 81 Morzhovoi Bay east

	Survey 1 02/13/2000			Survey 2 Not Surveyed		
	Port	Starboard		Port	Starboard	
Species	Dau	Larned	Total			Total
Red-necked grebe						
Yellow-billed loon						
Common loon						
Pacific loon						
Loon sp.1		1	**1**			
Crested auklet						
Pigeon guillemot						
Murre sp. 2						
Mew gull						
Black-legged kittiwake						
Large gull 3	140	3	**143**			
Jaeger sp.						
Cormorant sp. 4						
Common merganser						
Red-breasted merganser		4	**4**			
Mallard		7	**7**			
Northern pintail						
Greater scaup						
Goldeneye sp.		2	**2**			
Bufflehead						
Oldsquaw	1	1	**2**			
Harlequin duck	10	23	**33**			
Steller's eider						
Common eider						
King eider		1	**1**			
Scoter sp.						
Black scoter	97	98	**195**			
White-winged scoter	2	32	**34**			
Surf scoter						
Canada goose						
Black Brant						
Emperor goose		85	**85**			
Tundra swan						
Small shorebird 5						
Large shorebird 6						
Bald eagle	1		**1**			
American crow						
Sea otter	3		**3**			
Seal sp.						
Steller's sea lion						
Harbor porpoise						
Boat						

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

48. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 23, 28 for location of survey area and Steller's eider observations.

Survey area: Seg. 82 Thin Point to Morzhovoi Bay

	Survey 1 02/13/2000				Survey 2 Not Surveyed		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total				Total
Red-necked grebe							
Yellow-billed loon							
Common loon	1		**1**				
Pacific loon							
Loon sp.1		2	**2**				
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3	357	10	**367**				
Jaeger sp.							
Cormorant sp. 4	5	6	**11**				
Common merganser	3		**3**				
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead							
Oldsquaw	5	9	**14**				
Harlequin duck	90	37	**127**				
Steller's eider	1,060	635	**1,695**				
Common eider							
King eider		23	**23**				
Scoter sp.							
Black scoter	198	414	**612**				
White-winged scoter	42	68	**110**				
Surf scoter							
Canada goose							
Black Brant							
Emperor goose	52		**52**				
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	14		**14**				
American crow							
Sea otter	1		**1**				
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

49. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 23, 28 for location of survey area and Steller's eider observations.

Survey area: Seg. 83 Cold Bay

	Survey 1 02/13/2000				Survey 2 Not Surveyed		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total				Total
Red-necked grebe							
Yellow-billed loon							
Common loon		1	**1**				
Pacific loon							
Loon sp.1		1	**1**				
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3	30	14	**44**				
Jaeger sp.							
Cormorant sp. 4		1	**1**				
Common merganser							
Red-breasted merganser		2	**2**				
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead	10	1	**11**				
Oldsquaw							
Harlequin duck	46	30	**76**				
Steller's eider	60	85	**145**				
Common eider							
King eider							
Scoter sp.							
Black scoter	122	166	**288**				
White-winged scoter		11	**11**				
Surf scoter							
Canada goose							
Black Brant							
Emperor goose	1,645		**1,645**				
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	3		**3**				
American crow							
Sea otter	8	3	**11**				
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

50. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 23, 28 for location of survey area and Steller's eider observations.

Survey area: Seg. 84 Cold Bay west

	Survey 1 02/12/2000				Survey 2 Not Surveyed		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total				Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3		1	**1**				
Jaeger sp.							
Cormorant sp. 4							
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup		1	**1**				
Goldeneye sp.							
Bufflehead							
Oldsquaw							
Harlequin duck	27		**27**				
Steller's eider	47		**47**				
Common eider							
King eider							
Scoter sp.							
Black scoter	11	5	**16**				
White-winged scoter		1	**1**				
Surf scoter							
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle							
American crow							
Sea otter							
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

51. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 23, 28 for location of survey area and Steller's eider observations.

Survey area: Seg. 85 Kinzerof Lagoon

	Survey 1 02/12/2000				Survey 2 03/10/2000		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total		Ziemba	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3		1	**1**			40	**40**
Jaeger sp.							
Cormorant sp. 4	1		**1**				
Common merganser							
Red-breasted merganser		20	**20**				
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.		2	**2**				
Bufflehead						20	**20**
Oldsquaw							
Harlequin duck	22		**22**				
Steller's eider	1,386	8	**1,394**		880	530	**2,290**
Common eider							
King eider							
Scoter sp.							
Black scoter	50	3	**53**				
White-winged scoter							
Surf scoter							
Canada goose							
Black Brant					1,790	590	**2,380**
Emperor goose					50		**50**
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	3		**3**				
American crow							
Sea otter	2		**2**			12	**12**
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

52. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 23, 28 for location of survey area and Steller's eider observations.

Survey area: Seg. 86 Leonard Harbor

	Survey 1 02/12/2000				Survey 2 Not Surveyed		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total				Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon		1	**1**				
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2	1	14	**15**				
Mew gull							
Black-legged kittiwake							
Large gull 3	1	2	**3**				
Jaeger sp.							
Cormorant sp. 4	7	2	**9**				
Common merganser	10		**10**				
Red-breasted merganser	10		**10**				
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.	14		**14**				
Bufflehead		1	**1**				
Oldsquaw	4	1	**5**				
Harlequin duck	119	10	**129**				
Steller's eider		124	**124**				
Common eider							
King eider							
Scoter sp.							
Black scoter	7	38	**45**				
White-winged scoter	2	4	**6**				
Surf scoter							
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle							
American crow							
Sea otter	10		**10**				
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

53. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 16, 23, 28 for location of survey area and Steller's eider observations.

Survey area: Seg. 87 King Cove, Deer Passage

	Survey 1 02/12/2000				Survey 2 Not Surveyed		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total				Total
Red-necked grebe							
Yellow-billed loon							
Common loon	3	2	**5**				
Pacific loon							
Loon sp.1		1	**1**				
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull		5	**5**				
Black-legged kittiwake							
Large gull 3	492	66	**558**				
Jaeger sp.							
Cormorant sp. 4	8	6	**14**				
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup		5	**5**				
Goldeneye sp.	1		**1**				
Bufflehead							
Oldsquaw	1	6	**7**				
Harlequin duck	84		**84**				
Steller's eider	50	37	**87**				
Common eider							
King eider		2	**2**				
Scoter sp.							
Black scoter	71	53	**124**				
White-winged scoter	4	46	**50**				
Surf scoter		2	**2**				
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	8	1	**9**				
American crow							
Sea otter							
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

54. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 23 for location of survey area and Steller's eider observations.

Survey area: Seg. 88 Belkovski Bay

	Survey 1 02/12/2000				Survey 2 Not Survveyed		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total				Total
Red-necked grebe		6	**6**				
Yellow-billed loon							
Common loon	3		**3**				
Pacific loon							
Loon sp.1		1	**1**				
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull		2	**2**				
Black-legged kittiwake							
Large gull 3	31	2	**33**				
Jaeger sp.							
Cormorant sp. 4	11	1	**12**				
Common merganser	2		**2**				
Red-breasted merganser							
Mallard		20	**20**				
Northern pintail							
Greater scaup		30	**30**				
Goldeneye sp.	5	40	**45**				
Bufflehead	1	4	**5**				
Oldsquaw	6	6	**12**				
Harlequin duck	7		**7**				
Steller's eider	26	64	**90**				
Common eider							
King eider		17	**17**				
Scoter sp.							
Black scoter	372	24	**396**				
White-winged scoter	2	44	**46**				
Surf scoter	2	10	**12**				
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	3		**3**				
American crow							
Sea otter	2		**2**				
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

55. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 23 for location of survey area and Steller's eider observations.

Survey area: Seg. 89 Belkovski

	Survey 1 02/12/2000			Survey 2 Not Surveyed		
	Port	Starboard		Port	Starboard	
Species	Dau	Larned	Total			Total
Red-necked grebe						
Yellow-billed loon						
Common loon	2		**2**			
Pacific loon	1		**1**			
Loon sp.1						
Crested auklet						
Pigeon guillemot						
Murre sp. 2						
Mew gull						
Black-legged kittiwake						
Large gull 3	18	14	**32**			
Jaeger sp.						
Cormorant sp. 4	49	1	**50**			
Common merganser	34		**34**			
Red-breasted merganser						
Mallard						
Northern pintail						
Greater scaup						
Goldeneye sp.						
Bufflehead						
Oldsquaw		2	**2**			
Harlequin duck	23	2	**25**			
Steller's eider	148	41	**189**			
Common eider						
King eider	6	41	**47**			
Scoter sp.						
Black scoter	87	38	**125**			
White-winged scoter		32	**32**			
Surf scoter						
Canada goose						
Black Brant						
Emperor goose						
Tundra swan						
Small shorebird 5						
Large shorebird 6						
Bald eagle	1		**1**			
American crow						
Sea otter						
Seal sp.						
Steller's sea lion						
Harbor porpoise						
Boat						

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

56. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 23 for location of survey area and Steller's eider observations.

Survey area: Seg. 90 Volcano Bay

	Survey 1 02/12/2000				Survey 2 Not Surveyed		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total				Total
Red-necked grebe							
Yellow-billed loon							
Common loon	1	1	**2**				
Pacific loon		4	**4**				
Loon sp.1		4	**4**				
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull		1	**1**				
Black-legged kittiwake							
Large gull 3	93	13	**106**				
Jaeger sp.							
Cormorant sp. 4	5	4	**9**				
Common merganser	19		**19**				
Red-breasted merganser	43	34	**77**				
Mallard							
Northern pintail							
Greater scaup		20	**20**				
Goldeneye sp.							
Bufflehead		8	**8**				
Oldsquaw	3	95	**98**				
Harlequin duck	109	66	**175**				
Steller's eider	445	153	**598**				
Common eider							
King eider	30	17	**47**				
Scoter sp.							
Black scoter	467	453	**920**				
White-winged scoter	96	231	**327**				
Surf scoter							
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	4		**4**				
American crow							
Sea otter							
Seal sp.		6	**6**				
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

57. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 24 for location of survey area and Steller's eider observations.

Survey area: Seg. 91 Volcano Bay to Pavlof Bay

	Survey 1 02/12/2000				Survey 2 Not Surveyed		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total				Total
Red-necked grebe							
Yellow-billed loon							
Common loon		2	**2**				
Pacific loon		2	**2**				
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3	60		**60**				
Jaeger sp.							
Cormorant sp. 4	5		**5**				
Common merganser							
Red-breasted merganser	12		**12**				
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead							
Oldsquaw	1	47	**48**				
Harlequin duck							
Steller's eider		1	**1**				
Common eider							
King eider	6	2	**8**				
Scoter sp.							
Black scoter	17	100	**117**				
White-winged scoter	75	106	**181**				
Surf scoter	10	3	**13**				
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	1		**1**				
American crow							
Sea otter							
Seal sp.							
Steller's sea lion	3		**3**				
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

58. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 24 for location of survey area and Steller's eider observations.

Survey area: Seg. 92 Pavlof Bay west

	Survey 1 02/12/2000				Survey 2 Not Surveyed		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total				Total
Red-necked grebe							
Yellow-billed loon							
Common loon	2		**2**				
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull		1	**1**				
Black-legged kittiwake							
Large gull 3	526	1	**527**				
Jaeger sp.							
Cormorant sp. 4							
Common merganser							
Red-breasted merganser	35	26	**61**				
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.	1		**1**				
Bufflehead	1	1	**2**				
Oldsquaw	28	71	**99**				
Harlequin duck	60		**60**				
Steller's eider	48	4	**52**				
Common eider		3	**3**				
King eider							
Scoter sp.							
Black scoter	128	419	**547**				
White-winged scoter	33	187	**220**				
Surf scoter							
Canada goose							
Black Brant							
Emperor goose	550	183	**733**				
Tundra swan							
Small shorebird 5	1		1				
Large shorebird 6							
Bald eagle	17		**17**				
American crow							
Sea otter	51	12	**63**				
Seal sp.	6	4	**10**				
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

59. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 24 for location of survey area and Steller's eider observations.

Survey area: Seg. 93 Canoe Bay

	Survey 1 02/12/2000				Survey 2 Not Surveyed		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total				Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2	13		**13**				
Mew gull							
Black-legged kittiwake							
Large gull 3	11	20	**31**				
Jaeger sp.							
Cormorant sp. 4	1		**1**				
Common merganser							
Red-breasted merganser	117		**117**				
Mallard		20	**20**				
Northern pintail							
Greater scaup							
Goldeneye sp.		331	**331**				
Bufflehead							
Oldsquaw		228	**228**				
Harlequin duck	12	8	**20**				
Steller's eider							
Common eider							
King eider							
Scoter sp.							
Black scoter		12	**12**				
White-winged scoter		20	**20**				
Surf scoter							
Canada goose							
Black Brant							
Emperor goose		20	**20**				
Tundra swan							
Small shorebird 5	5		5				
Large shorebird 6							
Bald eagle	2		**2**				
American crow							
Sea otter	17		**17**				
Seal sp.	40	130	**170**				
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

60. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 24 for location of survey area and Steller's eider observations.

Survey area: Seg. 94 Pavlof Bay east

	Survey 1 02/12/2000				Survey 2 Not Surveyed		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total				Total
Red-necked grebe							
Yellow-billed loon							
Common loon	2		**2**				
Pacific loon							
Loon sp.1		3	**3**				
Crested auklet							
Pigeon guillemot							
Murre sp. 2	1		**1**				
Mew gull							
Black-legged kittiwake	5						
Large gull 3	89	7	**96**				
Jaeger sp.							
Cormorant sp. 4		2	**2**				
Common merganser							
Red-breasted merganser	5		**5**				
Mallard	2		**2**				
Northern pintail							
Greater scaup							
Goldeneye sp.	2		**2**				
Bufflehead	10		**10**				
Oldsquaw	2	4	**6**				
Harlequin duck	434	15	**449**				
Steller's eider	62	13	**75**				
Common eider		7	7				
King eider		10	**10**				
Scoter sp.							
Black scoter	136	106	**242**				
White-winged scoter	4	126	**130**				
Surf scoter							
Canada goose							
Black Brant							
Emperor goose		20	**20**				
Tundra swan							
Small shorebird 5	230		**230**				
Large shorebird 6							
Bald eagle	1		**1**				
American crow							
Sea otter	2		**2**				
Seal sp.	1	1	**2**				
Steller's sea lion							
Harbor porpoise							
Boat		1	**1**				

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

61. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 24 for location of survey area and Steller's eider observations.

Survey area: Seg. 95 Coal Bay

	Survey 1 02/12/2000			Survey 2 Not Surveyed		
	Port	Starboard		Port	Starboard	
Species	Dau	Larned	Total			Total
Red-necked grebe						
Yellow-billed loon						
Common loon						
Pacific loon						
Loon sp.1						
Crested auklet						
Pigeon guillemot						
Murre sp. 2						
Mew gull						
Black-legged kittiwake						
Large gull 3	53		**53**			
Jaeger sp.						
Cormorant sp. 4	46	2	**48**			
Common merganser						
Red-breasted merganser	1		**1**			
Mallard						
Northern pintail						
Greater scaup						
Goldeneye sp.	2		**2**			
Bufflehead	1		**1**			
Oldsquaw		1				
Harlequin duck	30	19	**49**			
Steller's eider	305	97	**402**			
Common eider						
King eider		10	**10**			
Scoter sp.						
Black scoter	22	405	**427**			
White-winged scoter	7	190	**197**			
Surf scoter						
Canada goose						
Black Brant						
Emperor goose	20		**20**			
Tundra swan						
Small shorebird 5						
Large shorebird 6						
Bald eagle	1		**1**			
American crow						
Sea otter	1	1	**2**			
Seal sp.		6	**6**			
Steller's sea lion						
Harbor porpoise						
Boat						

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

62. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 24 for location of survey area and Steller's eider observations.

Survey area: Seg. 96 Coal Bay to Beaver Bay

	Survey 1 02/12/2000			Survey 2 Not Surveyed		
	Port	Starboard		Port	Starboard	
Species	Dau	Larned	Total			Total
Red-necked grebe						
Yellow-billed loon						
Common loon						
Pacific loon						
Loon sp.1						
Crested auklet						
Pigeon guillemot						
Murre sp. 2						
Mew gull						
Black-legged kittiwake						
Large gull 3	683		**683**			
Jaeger sp.						
Cormorant sp. 4	2		**2**			
Common merganser						
Red-breasted merganser						
Mallard						
Northern pintail						
Greater scaup						
Goldeneye sp.						
Bufflehead						
Oldsquaw						
Harlequin duck	3	10	**13**			
Steller's eider		475	**475**			
Common eider						
King eider	1					
Scoter sp.						
Black scoter	51	178	**229**			
White-winged scoter		13	**13**			
Surf scoter						
Canada goose						
Black Brant						
Emperor goose	200	5	**205**			
Tundra swan						
Small shorebird 5						
Large shorebird 6						
Bald eagle	1		**1**			
American crow						
Sea otter						
Seal sp.						
Steller's sea lion						
Harbor porpoise						
Boat						

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

63. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 24 for location of survey area and Steller's eider observations.

Survey area: Seg. 97 Beaver Bay

	Survey 1 02/12/2000			Survey 2 Not Surveyed		
	Port	Starboard		Port	Starboard	
Species	Dau	Larned	Total			Total
Red-necked grebe						
Yellow-billed loon						
Common loon						
Pacific loon						
Loon sp.1						
Crested auklet						
Pigeon guillemot						
Murre sp. 2						
Mew gull						
Black-legged kittiwake						
Large gull 3	101		**101**			
Jaeger sp.						
Cormorant sp. 4						
Common merganser						
Red-breasted merganser						
Mallard						
Northern pintail						
Greater scaup						
Goldeneye sp.						
Bufflehead						
Oldsquaw	6	4	**10**			
Harlequin duck	63		**63**			
Steller's eider		140	**140**			
Common eider						
King eider						
Scoter sp.						
Black scoter	91	140	**231**			
White-winged scoter		20	**20**			
Surf scoter		6	**6**			
Canada goose						
Black Brant						
Emperor goose	40		**40**			
Tundra swan						
Small shorebird 5						
Large shorebird 6						
Bald eagle	1		**1**			
American crow						
Sea otter	2	20	**22**			
Seal sp.	6	2	**8**			
Steller's sea lion	1		**1**			
Harbor porpoise						
Boat						

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

64. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 24 for location of survey area and Steller's eider observations.

Survey area: Seg. 98 Cape Aliaksin, Unga Strait

	Survey 1 02/12/2000			Survey 2 Not Surveyed		
	Port	Starboard		Port	Starboard	
Species	Dau	Larned	Total			Total
Red-necked grebe						
Yellow-billed loon						
Common loon	2	1	**3**			
Pacific loon						
Loon sp.1						
Crested auklet						
Pigeon guillemot						
Murre sp. 2						
Mew gull						
Black-legged kittiwake						
Large gull 3	10	3	**13**			
Jaeger sp.						
Cormorant sp. 4		9	**9**			
Common merganser						
Red-breasted merganser	2		**2**			
Mallard						
Northern pintail						
Greater scaup						
Goldeneye sp.	1		**1**			
Bufflehead	1		**1**			
Oldsquaw						
Harlequin duck	7	20	**27**			
Steller's eider		8	**8**			
Common eider						
King eider		10	**10**			
Scoter sp.						
Black scoter	26	117	**143**			
White-winged scoter		41	**41**			
Surf scoter						
Canada goose						
Black Brant						
Emperor goose						
Tundra swan						
Small shorebird 5						
Large shorebird 6						
Bald eagle						
American crow						
Sea otter	3		**3**			
Seal sp.						
Steller's sea lion						
Harbor porpoise						
Boat						

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

65. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 24 for location of survey area and Steller's eider observations.

Survey area: Seg. 99 Balboa Bay

	Survey 1 02/12/2000				Survey 2 Not Surveyed		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total				Total
Red-necked grebe							
Yellow-billed loon							
Common loon	1		**1**				
Pacific loon							
Loon sp.1		1	**1**				
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3	88	42	**130**				
Jaeger sp.							
Cormorant sp. 4	1		**1**				
Common merganser							
Red-breasted merganser	36	18	**54**				
Mallard	60	20	**80**				
Northern pintail	35		**35**				
Greater scaup							
Goldeneye sp.		41	**41**				
Bufflehead	5	15	**20**				
Oldsquaw	2	31	**33**				
Harlequin duck	48		**48**				
Steller's eider	35	65	**100**				
Common eider							
King eider		6	**6**				
Scoter sp.							
Black scoter	298	136	**434**				
White-winged scoter	22	64	**86**				
Surf scoter	15	4	**19**				
Canada goose							
Black Brant							
Emperor goose	150		**150**				
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	2		**2**				
American crow							
Sea otter							
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

66. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 24 for location of survey area and Steller's eider observations.

Survey area: Seg. 100 Unga Strait, Guillemot Isl.

	Survey 1 02/12/2000				Survey 2 Not Surveyed		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total				Total
Red-necked grebe							
Yellow-billed loon							
Common loon	1		**1**				
Pacific loon							
Loon sp.1		1	**1**				
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3	1		**1**				
Jaeger sp.							
Cormorant sp. 4	56	5	**61**				
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead							
Oldsquaw		4	**4**				
Harlequin duck							
Steller's eider	2	40	**42**				
Common eider							
King eider							
Scoter sp.							
Black scoter	16	90	**106**				
White-winged scoter	2	45	**47**				
Surf scoter							
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	1		**1**				
American crow							
Sea otter							
Seal sp.							
Steller's sea lion							
Harbor porpoise							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

67. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 24 for location of survey area and Steller's eider observations.

Survey area: Seg. 111 Bluff Point to Fox Cape

	Survey 1 02/14/2000				Survey 2 Not Surveyed		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total				Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3							
Jaeger sp.							
Cormorant sp. 4	2		**2**				
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead							
Oldsquaw		1	**1**				
Harlequin duck							
Steller's eider							
Common eider							
King eider							
Scoter sp.							
Black scoter		120	**120**				
White-winged scoter							
Surf scoter							
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	2		**2**				
American crow							
Sea otter							
Seal sp.							
Steller's sea lion							
Harbor porpoise							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

68. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 24 for location of survey area and Steller's eider observations.

Survey area: Seg. 112 Fox Cape to Ivanof Bay

	Survey 1 02/14/2000				Survey 2 Not Surveyed		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total				Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3		2	**2**				
Jaeger sp.							
Cormorant sp. 4	3	9	**12**				
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead							
Oldsquaw		1	**1**				
Harlequin duck	13		**13**				
Steller's eider							
Common eider							
King eider							
Scoter sp.							
Black scoter	19	38	**57**				
White-winged scoter	4	43	**47**				
Surf scoter							
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	2		**2**				
American crow							
Sea otter							
Seal sp.							
Steller's sea lion	1		**1**				
Harbor porpoise							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

69. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 24, 30 for location of survey area and Steller's eider observations.

Survey area: Seg. 113 Ivanof Bay to Perryville

	Survey 1 02/14/2000			Survey 2 03/10/2000		
	Port	Starboard		Port	Starboard	
Species	Dau	Larned	Total	Ziemba	Larned	Total
Red-necked grebe		1	**1**			
Yellow-billed loon						
Common loon						
Pacific loon						
Loon sp.1	1	4	**5**		2	**2**
Crested auklet						
Pigeon guillemot		2	**2**		2	**2**
Murre sp. 2						
Mew gull						
Black-legged kittiwake	2		**2**			
Large gull 3		10	**10**		2	**2**
Jaeger sp.						
Cormorant sp. 4	4	12	**16**	44	4	**48**
Common merganser						
Red-breasted merganser						
Mallard						
Northern pintail						
Greater scaup						
Goldeneye sp.	1	1	**2**			
Bufflehead						
Oldsquaw		7	**7**	1		**1**
Harlequin duck	44	10	**54**			
Steller's eider	25	26	**51**			
Common eider	1		**1**			
King eider		5	**5**			
Scoter sp.				17	3	**20**
Black scoter	90	202	**292**	61	41	**102**
White-winged scoter	30	277	**307**	46	63	**109**
Surf scoter	2	612	**614**	10	10	**20**
Canada goose						
Black Brant						
Emperor goose						
Tundra swan						
Small shorebird 5						
Large shorebird 6						
Bald eagle	5		**5**	1		**1**
American crow						
Sea otter	1		**1**			
Seal sp.						
Steller's sea lion	1		**1**			
Harbor porpoise						

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

70. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 24, 30 for location of survey area and Steller's eider observations.

Survey area: Seg. 114 Perryville

	Survey 1 02/14/2000				Survey 2 03/10/2000		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total		Ziemba	Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3						10	**10**
Jaeger sp.							
Cormorant sp. 4		5	**5**				
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead							
Oldsquaw		1	**1**				
Harlequin duck							
Steller's eider							
Common eider							
King eider		2	**2**				
Scoter sp.					**2**		**2**
Black scoter	8	24	**32**		**22**		**22**
White-winged scoter		31	**31**		**7**		**7**
Surf scoter		3	**3**				
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	3		**3**				
American crow							
Sea otter							
Seal sp.							
Steller's sea lion							
Harbor porpoise					2		**2**
Boat	5		**5**				

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

71. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 24, 30 for location of survey area and Steller's eider observations.

Survey area: Seg. 115 Perryville to Mitrofania Bay

	Survey 1 02/14/2000				Survey 2 03/10/2000		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total		Ziemba	Larned	Total
Red-necked grebe						6	**6**
Yellow-billed loon							
Common loon							
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2		1	**1**				
Mew gull							
Black-legged kittiwake							
Large gull 3							
Jaeger sp.							
Cormorant sp. 4		5	**5**		1	5	**6**
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead							
Oldsquaw		1	**1**		6		**6**
Harlequin duck							
Steller's eider							
Common eider							
King eider							
Scoter sp.		50	**50**		**26**		**26**
Black scoter		9	**9**		**24**	11	**35**
White-winged scoter		29	**29**		**7**	25	**32**
Surf scoter		21	**21**			10	**10**
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	1		**1**				
American crow							
Sea otter						3	**3**
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

72. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 17, 24 for location of survey area and Steller's eider observations.

Survey area: Seg. 116 Mitrofania Bay West

	Survey 1 02/14/2000				Survey 2 Not Surveyed		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total				Total
Red-necked grebe	6	2	**8**				
Yellow-billed loon							
Common loon	1		**1**				
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3	1		**1**				
Jaeger sp.							
Cormorant sp. 4	3	3	**6**				
Common merganser							
Red-breasted merganser							
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead	3		**3**				
Oldsquaw		4	**4**				
Harlequin duck							
Steller's eider							
Common eider							
King eider							
Scoter sp.							
Black scoter	5		**5**				
White-winged scoter	72	80	**152**				
Surf scoter	10	5	**15**				
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle							
American crow							
Sea otter							
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

73. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 18, 24 for location of survey area and Steller's eider observations.

Survey area: Seg. 117 Mitrofania Bay East

	Survey 1 02/14/2000			Survey 2 Not Surveyed		
	Port	Starboard		Port	Starboard	
Species	Dau	Larned	Total			Total
Red-necked grebe						
Yellow-billed loon						
Common loon						
Pacific loon						
Loon sp.1						
Crested auklet						
Pigeon guillemot						
Murre sp. 2						
Mew gull						
Black-legged kittiwake						
Large gull 3						
Jaeger sp.						
Cormorant sp. 4	2		**2**			
Common merganser						
Red-breasted merganser						
Mallard						
Northern pintail						
Greater scaup						
Goldeneye sp.	1	14	**15**			
Bufflehead	13	1	**14**			
Oldsquaw						
Harlequin duck	5	15	**20**			
Steller's eider						
Common eider						
King eider						
Scoter sp.						
Black scoter	15		**15**			
White-winged scoter	11	20	**31**			
Surf scoter						
Canada goose						
Black Brant						
Emperor goose						
Tundra swan						
Small shorebird 5						
Large shorebird 6						
Bald eagle	2		**2**			
American crow						
Sea otter						
Seal sp.						
Steller's sea lion						
Harbor porpoise						
Boat						

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

74. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 18, 25, 30 for location of survey area and Steller's eider observations.

Survey area: Seg. 123 Castle Bay

	Survey 1 02/14/2000				Survey 2 Not Surveyed		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total				Total
Red-necked grebe							
Yellow-billed loon							
Common loon							
Pacific loon	1		**1**				
Loon sp.1	2	4	**6**				
Crested auklet	1		**1**				
Pigeon guillemot							
Murre sp. 2	1	2	**3**				
Mew gull							
Black-legged kittiwake							
Large gull 3	5		**5**				
Jaeger sp.							
Cormorant sp. 4	13	1	**14**				
Common merganser							
Red-breasted merganser	5		**5**				
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.	2	32	**34**				
Bufflehead	2		**2**				
Oldsquaw		11	**11**				
Harlequin duck	92	4	**96**				
Steller's eider							
Common eider							
King eider		40	**40**				
Scoter sp.		40	**40**				
Black scoter	111	81	**192**				
White-winged scoter		115	**115**				
Surf scoter	59	48	**107**				
Canada goose							
Black Brant							
Emperor goose							
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle	1		**1**				
American crow							
Sea otter	1	2	**3**				
Seal sp.							
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

75. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 18, 25, 30 for location of survey area and Steller's eider observations.

Survey area: Seg. 124 Chignik

3/11 Intermittent computer sound card failure, some locations recorded and spp. and numbers recreated from memory.

3/11 starboard observer only, standard survey transect width completed by starboard observer.

	Survey 1 02/14/2000			Survey 2 03/11/2000		
	Port	Starboard		Port	Starboard	
Species	Dau	Larned	Total		Larned	Total
Red-necked grebe		2	**2**			
Yellow-billed loon	2		**2**			
Common loon						
Pacific loon						
Loon sp.1		4	**4**			
Crested auklet						
Pigeon guillemot						
Murre sp. 2	1	2	**3**			
Mew gull						
Black-legged kittiwake						
Large gull 3	73	2	**75**		184	**184**
Jaeger sp.						
Cormorant sp. 4	5	11	**16**		13	**13**
Common merganser						
Red-breasted merganser	42	4	**46**		10	**10**
Mallard						
Northern pintail						
Greater scaup						
Goldeneye sp.		43	**43**		111	**111**
Bufflehead	12	38	**50**		68	**68**
Oldsquaw	25	49	**74**		44	**44**
Harlequin duck	190	10	**200**		89	**89**
Steller's eider	50	26	**76**		58	**58**
Common eider						
King eider		3	**3**			
Scoter sp.						
Black scoter	302	220	**522**		93	**93**
White-winged scoter	31	5	**36**		36	**36**
Surf scoter		11	**11**		10	**10**
Canada goose						
Black Brant						
Emperor goose						
Tundra swan						
Small shorebird 5						
Large shorebird 6						
Bald eagle	1		**1**			
American crow						
Sea otter	22		**22**		14	**14**
Seal sp.						
Steller's sea lion						
Harbor porpoise						
Boat						

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

76. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 18, 25, 30 for location of survey area and Steller's eider observations.

Survey area: Seg. 125 Chignik Lagoon

3/11 Intermittent computer sound card failure, locations recorded but some spp. and numbers recreated from memory.

3/11 starboard observer only, standard survey transect width completed by starboard observer.

	Survey 1 02/14/2000				Survey 2 03/11/2000		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total			Larned	Total
Red-necked grebe							
Yellow-billed loon							
Common loon	1		**1**				
Pacific loon							
Loon sp.1		1	**1**			7	**7**
Crested auklet							
Pigeon guillemot							
Murre sp. 2	1		**1**			20	**20**
Mew gull		127	**127**			100	**100**
Black-legged kittiwake							
Large gull 3	55	43	**98**			236	**236**
Jaeger sp.							
Cormorant sp. 4	1	17	**18**			26	**26**
Common merganser		17	**17**			20	**20**
Red-breasted merganser	227	27	**254**			31	**31**
Mallard	591	2	**593**			41	**41**
Northern pintail						20	**20**
Greater scaup	855	1,530	**2,385**			430	**430**
Goldeneye sp.	1,941	787	**2,728**			1,401	**1,401**
Bufflehead	149	99	**248**			266	**266**
Oldsquaw	200	206	**406**			269	**269**
Harlequin duck	311	116	**427**			152	**152**
Steller's eider	636	222	**858**			93	**93**
Common eider							
King eider							
Scoter sp.							
Black scoter	13	25	**38**			26	**26**
White-winged scoter	1	2	**3**			4	**4**
Surf scoter							
Canada goose							
Black Brant							
Emperor goose	396	1,740	**2,136**			1,100	**1,100**
Tundra swan							
Small shorebird 5		60	**60**			200	**200**
Large shorebird 6							
Bald eagle		6	**6**				
American crow							
Sea otter		7	**7**				
Seal sp.						8	**8**
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

77. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 18, 25, 30 for location of survey area and Steller's eider observations.

Survey area: Seg. 126 Chignik Bay

3/11 Intermittent computer sound card failure, some locations recorded and spp. and numbers recreated from memory.

3/11 starboard observer only, standard survey transect width completed by starboard observer.

	Survey 1 02/14/2000				Survey 2 03/11/2000		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total			Larned	Total
Red-necked grebe		15	**15**				
Yellow-billed loon							
Common loon	1		**1**				
Pacific loon	1		**1**				
Loon sp.1		8	**8**			6	**6**
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull						10	**10**
Black-legged kittiwake							
Large gull 3	9		**9**			7	**7**
Jaeger sp.							
Cormorant sp. 4	156	19	**175**			50	**50**
Common merganser							
Red-breasted merganser	13	4	**17**			1	**1**
Mallard							
Northern pintail							
Greater scaup							
Goldeneye sp.							
Bufflehead	25	21	**46**				
Oldsquaw	14	144	**158**			751	**751**
Harlequin duck	135	38	**173**			63	**63**
Steller's eider	30	12	**42**				
Common eider							
King eider							
Scoter sp.		400	**400**			481	**481**
Black scoter	1,028	1,151	**2,179**			1,248	**1,248**
White-winged scoter	56	663	**719**			1,344	**1,344**
Surf scoter	35	64	**99**			66	**66**
Canada goose							
Black Brant							
Emperor goose	6	18	**24**				
Tundra swan							
Small shorebird 5							
Large shorebird 6							
Bald eagle						3	**3**
American crow							
Sea otter	33	91	**124**			54	**54**
Seal sp.	1	2	**3**			15	**15**
Steller's sea lion							
Harbor porpoise						1	**1**
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

78. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 18, 25 for location of survey area and Steller's eider observations.

Survey area: Seg. 137 Wide Bay west

	Survey 1 02/14/2000				Survey 2 Not Surveyed		
	Port	Starboard			Port	Starboard	
Species	Dau	Larned	Total				Total
Red-necked grebe							
Yellow-billed loon							
Common loon	2		**2**				
Pacific loon							
Loon sp.1							
Crested auklet							
Pigeon guillemot							
Murre sp. 2							
Mew gull							
Black-legged kittiwake							
Large gull 3	40	3	**43**				
Jaeger sp.							
Cormorant sp. 4							
Common merganser		2	**2**				
Red-breasted merganser	1		**1**				
Mallard	51		**51**				
Northern pintail							
Greater scaup							
Goldeneye sp.	6	20	**26**				
Bufflehead	5		**5**				
Oldsquaw	1	6	**7**				
Harlequin duck	56	16	**72**				
Steller's eider	26	30	**56**				
Common eider							
King eider							
Scoter sp.							
Black scoter	97	545	**642**				
White-winged scoter	4	18	**22**				
Surf scoter		9	**9**				
Canada goose							
Black Brant							
Emperor goose	365	153	**518**				
Tundra swan							
Small shorebird 5	400		**400**				
Large shorebird 6							
Bald eagle	5	1	**6**				
American crow							
Sea otter	3	15	**18**				
Seal sp.		3	**3**				
Steller's sea lion							
Harbor porpoise							
Boat							

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others

79. Numerical summary of waterbirds and marine mammals observed during aerial surveys of coastal marine habitats in south west Alaska. See figs. 18, 25 for location of survey area and Steller's eider observations.

Survey area: Seg. 138 Wide Bay east

	Survey 1 02/14/2000			Survey 2 Not Surveyed		
	Port	Starboard		Port	Starboard	
Species	Dau	Larned	Total			Total
Red-necked grebe						
Yellow-billed loon						
Common loon						
Pacific loon						
Loon sp.1						
Crested auklet						
Pigeon guillemot						
Murre sp. 2						
Mew gull						
Black-legged kittiwake						
Large gull 3	6	1	**7**			
Jaeger sp.						
Cormorant sp. 4						
Common merganser						
Red-breasted merganser						
Mallard						
Northern pintail						
Greater scaup						
Goldeneye sp.						
Bufflehead						
Oldsquaw	2	4	**6**			
Harlequin duck	80		**80**			
Steller's eider	250	39	**289**			
Common eider						
King eider						
Scoter sp.						
Black scoter	53	56	**109**			
White-winged scoter	12		**12**			
Surf scoter						
Canada goose						
Black Brant						
Emperor goose	51	14	**65**			
Tundra swan						
Small shorebird 5						
Large shorebird 6						
Bald eagle	1		**1**			
American crow						
Sea otter	1	2	**3**			
Seal sp.						
Steller's sea lion						
Harbor porpoise						
Boat						

1. May include common, Pacific, arctic, yellow-billed, and red-throated
2. Includes mainly common, but may include a few thick-billed.
3. May include glaucous, glaucous-winged, and herring gulls.
4. May include pelagic, red-faced and double-crested.
5. May Include plovers, lesser yellowlegs, all sandpipers, phalaropes, dowitchers, common snipe, turnstones, surfbird, dunlin and others.
6. May Include godwits, whimbrel, Bristle-thighed curlew, greater yellowlegs and others