

APPENDIX A:
2000 Long-Tailed Duck Density by
Survey and Historical Data

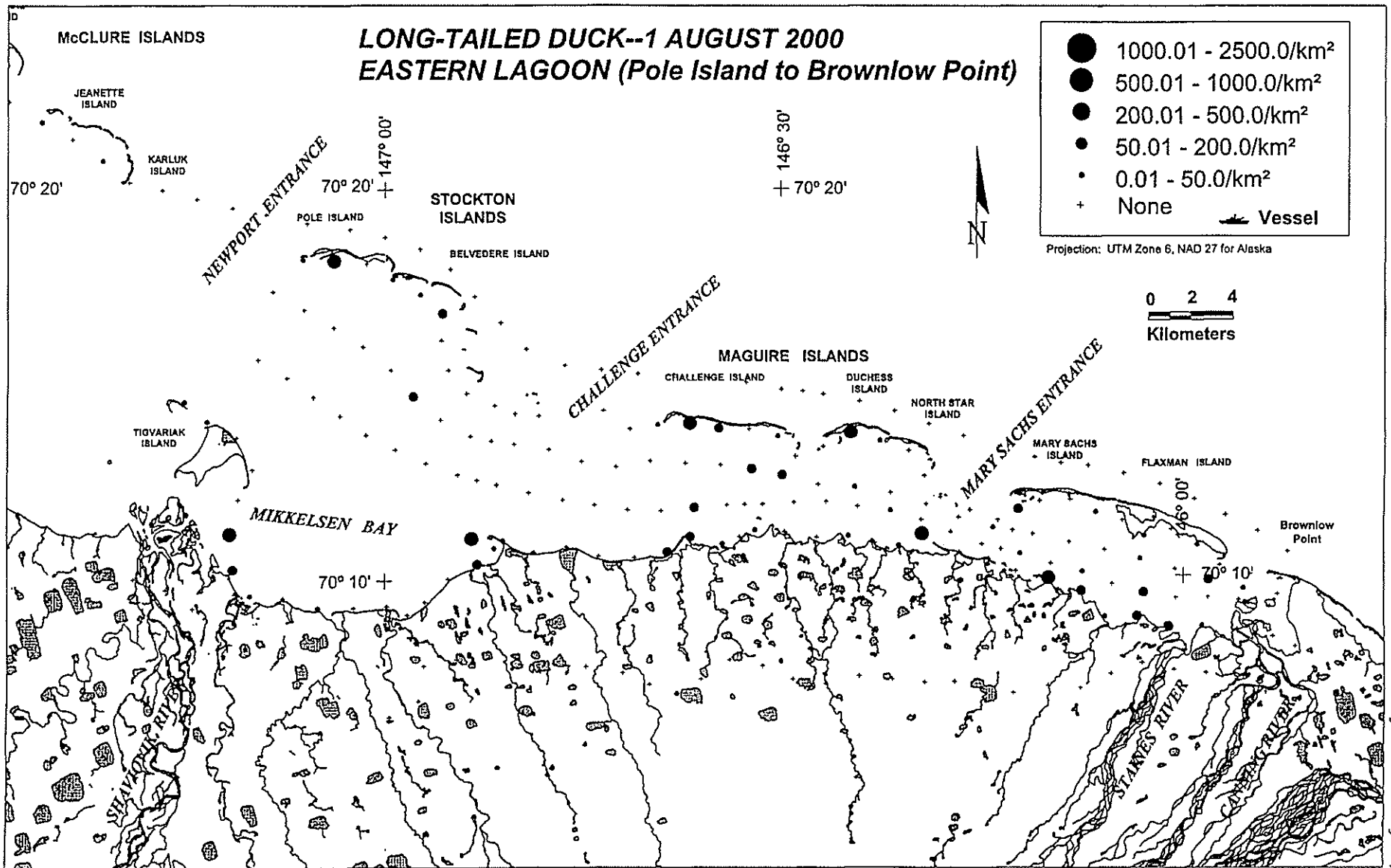


Figure A1. Summary of density for long-tailed ducks by 30-s time period segments in the barrier island-lagoon system between Pole Island and Brownlow Point, Alaska, 1 August 2000.

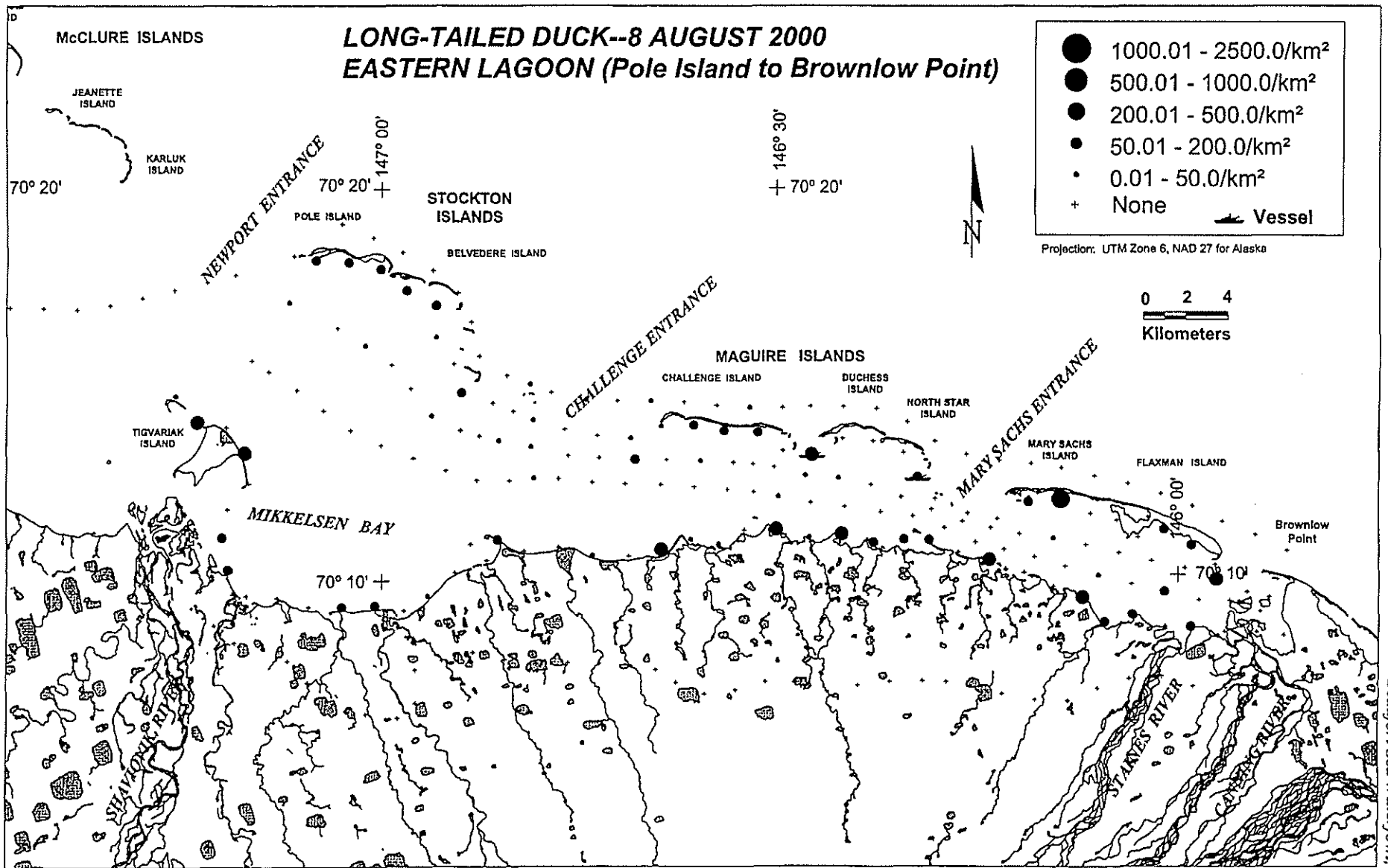


Figure A2. Summary of density for long-tailed ducks by 30-s time period segments in the barrier island-lagoon system between Pole Island and Brownlow Point, Alaska, 8 August 2000.

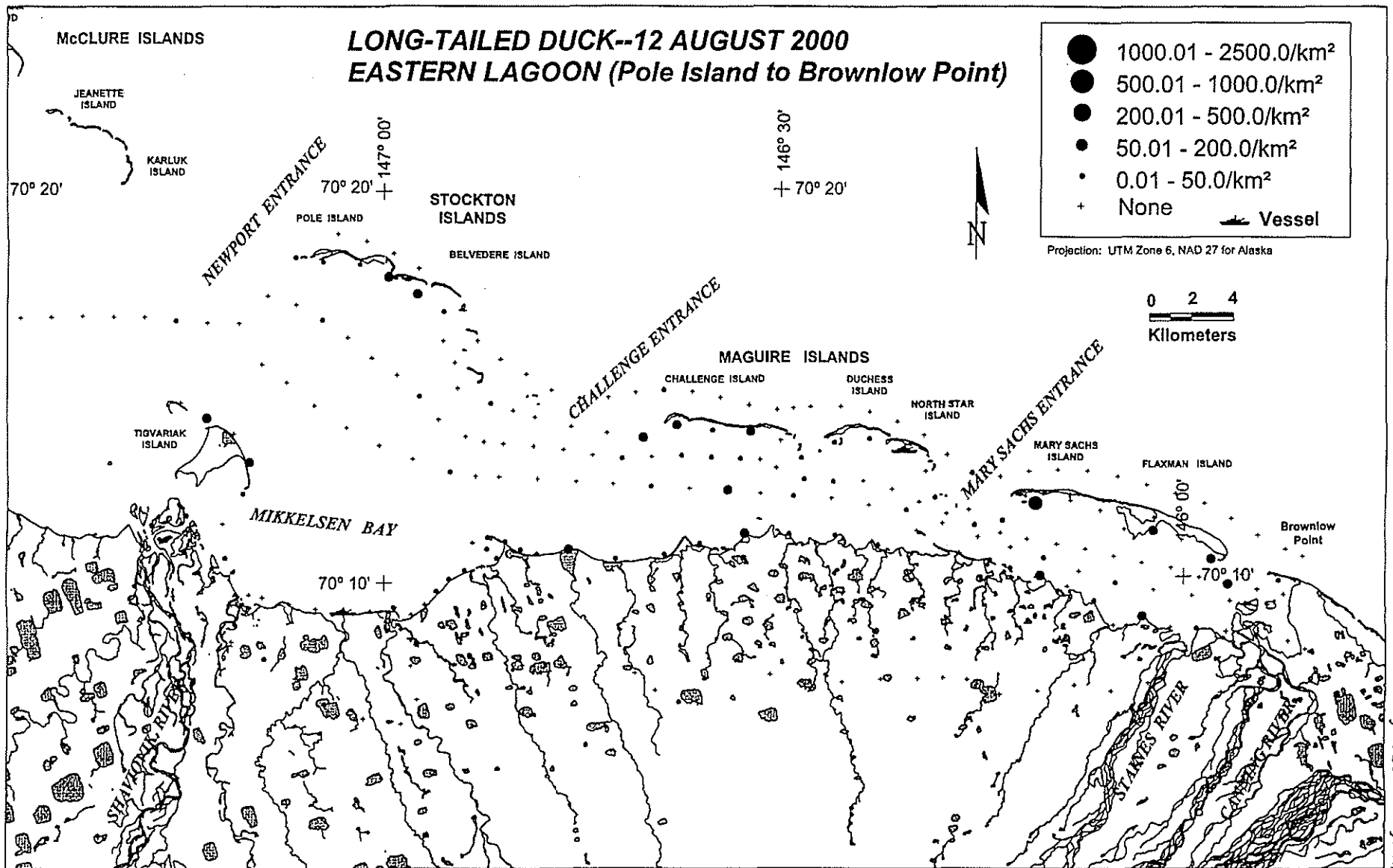


Figure A3. Summary of density for long-tailed ducks by 30-s time period segments in the barrier island-lagoon system between Pole Island and Brownlow Point, Alaska, 12 August 2000.

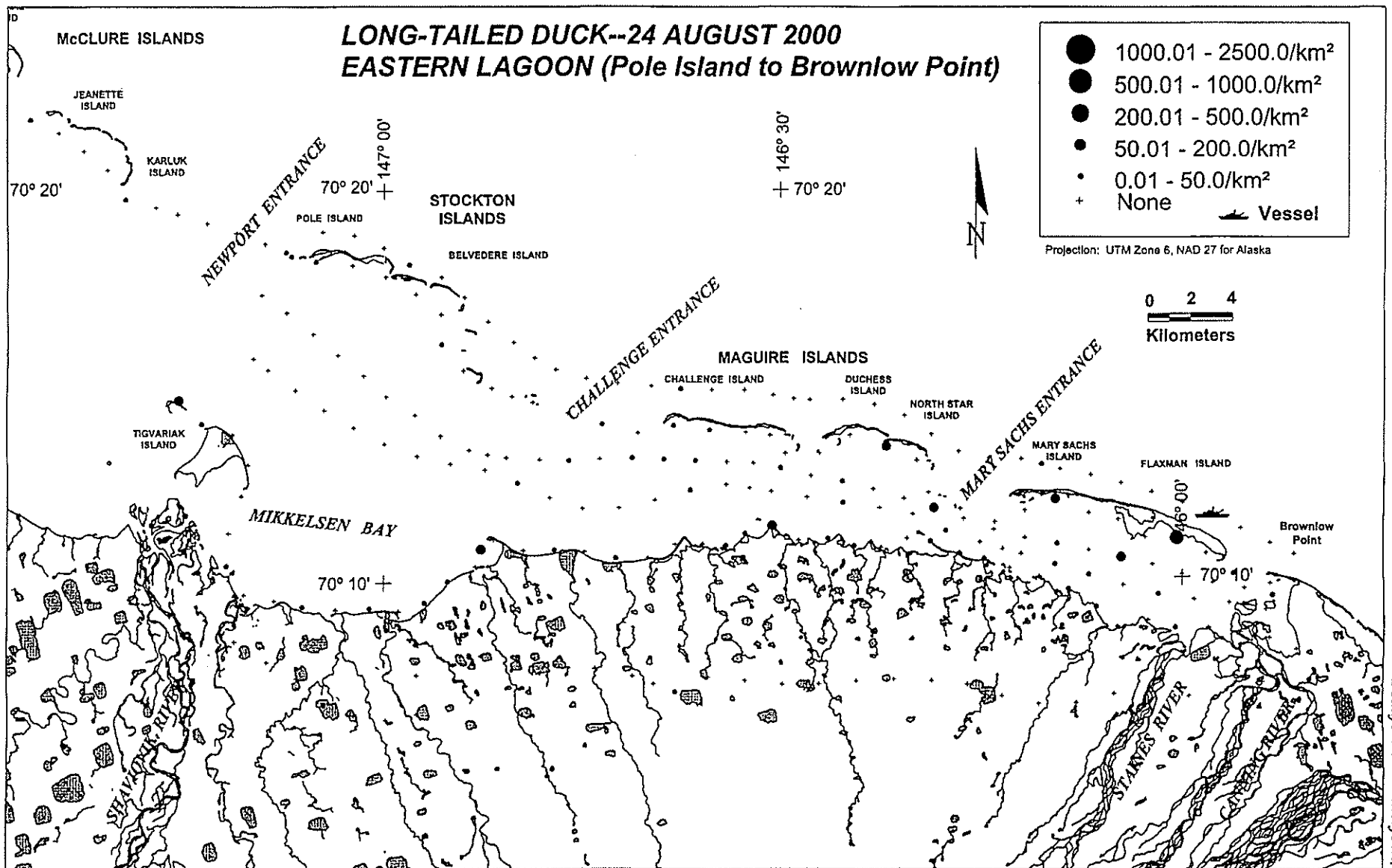


Figure A4. Summary of density for long-tailed ducks by 30-s time period segments in the barrier island-lagoon system between Pole Island and Brownlow Point, Alaska, 24 August 2000.

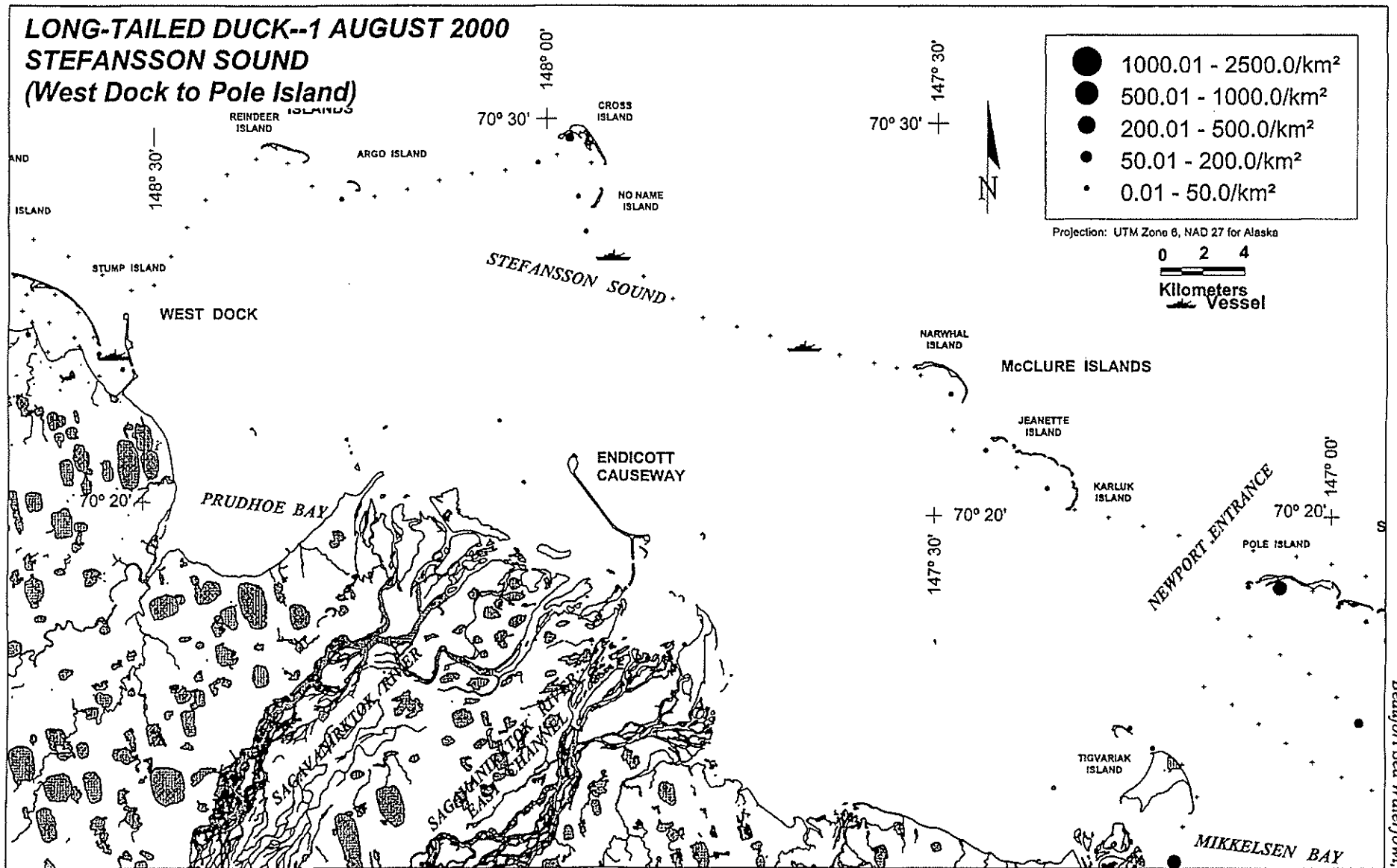


Figure A5. Summary of density for long-tailed ducks by 30-s time period segments in the barrier island-lagoon system between West Dock and Pole Island, Alaska, 1 August 2000.

LONG-TAILED DUCK--8 AUGUST 2000
STEFANSSON SOUND
(West Dock to Pole Island)

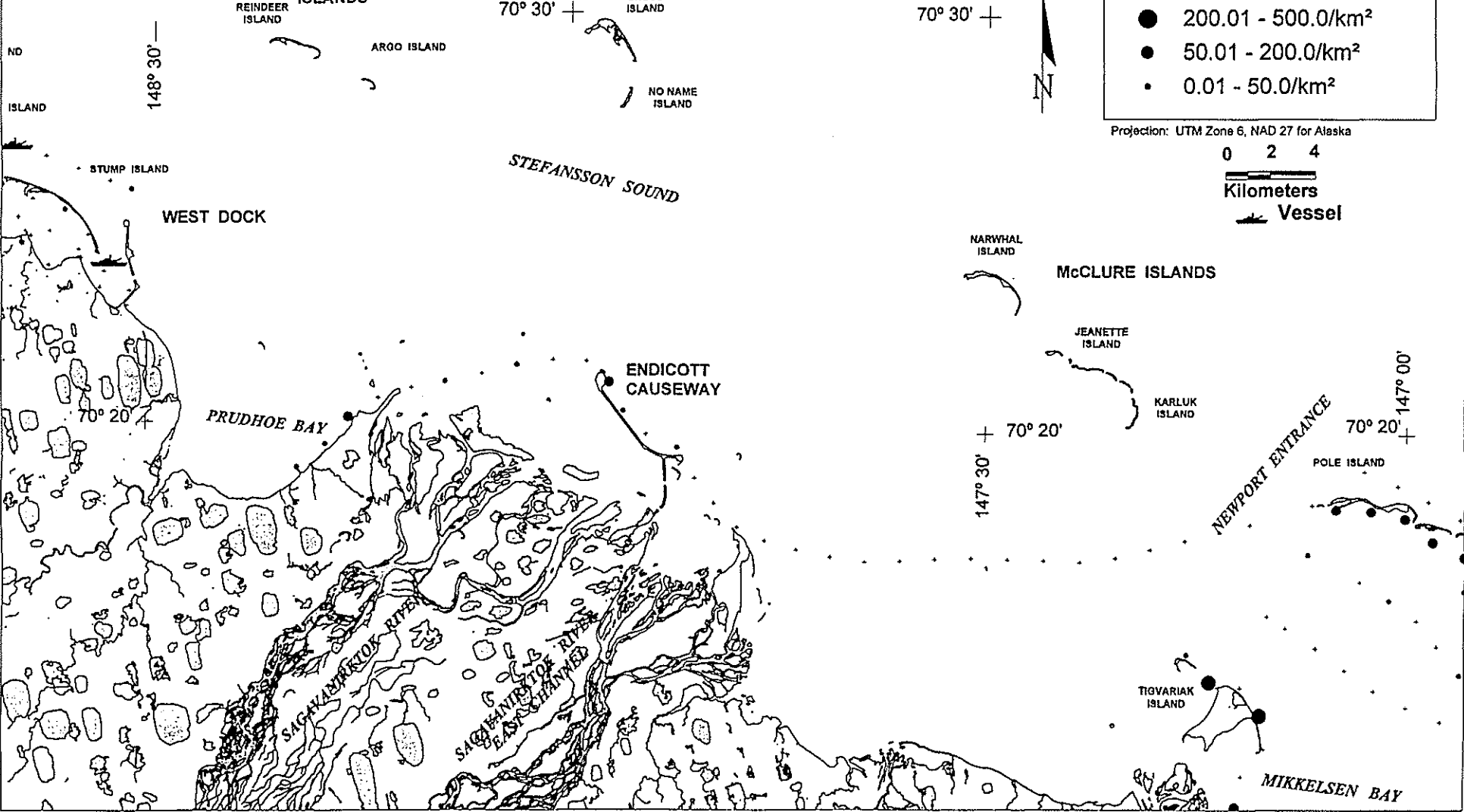


Figure A6. Summary of density for long-tailed ducks by 30-s time period segments in the barrier island-lagoon system between West Dock and Pole Island, Alaska, 8 August 2000.

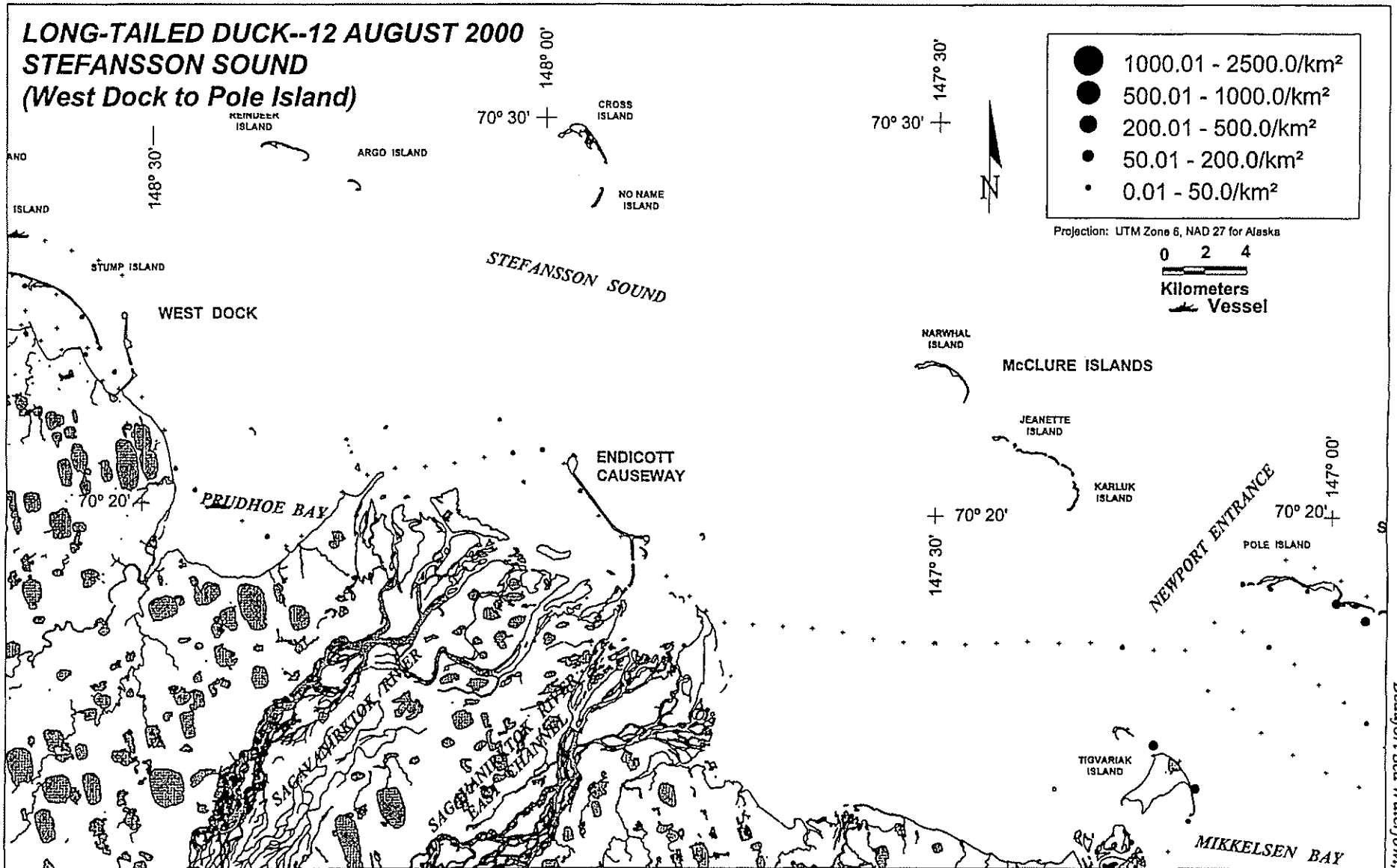


Figure A7. Summary of density for long-tailed ducks by 30-s time period segments in the barrier island-lagoon system between West Dock and Pole Island, Alaska, 12 August 2000.

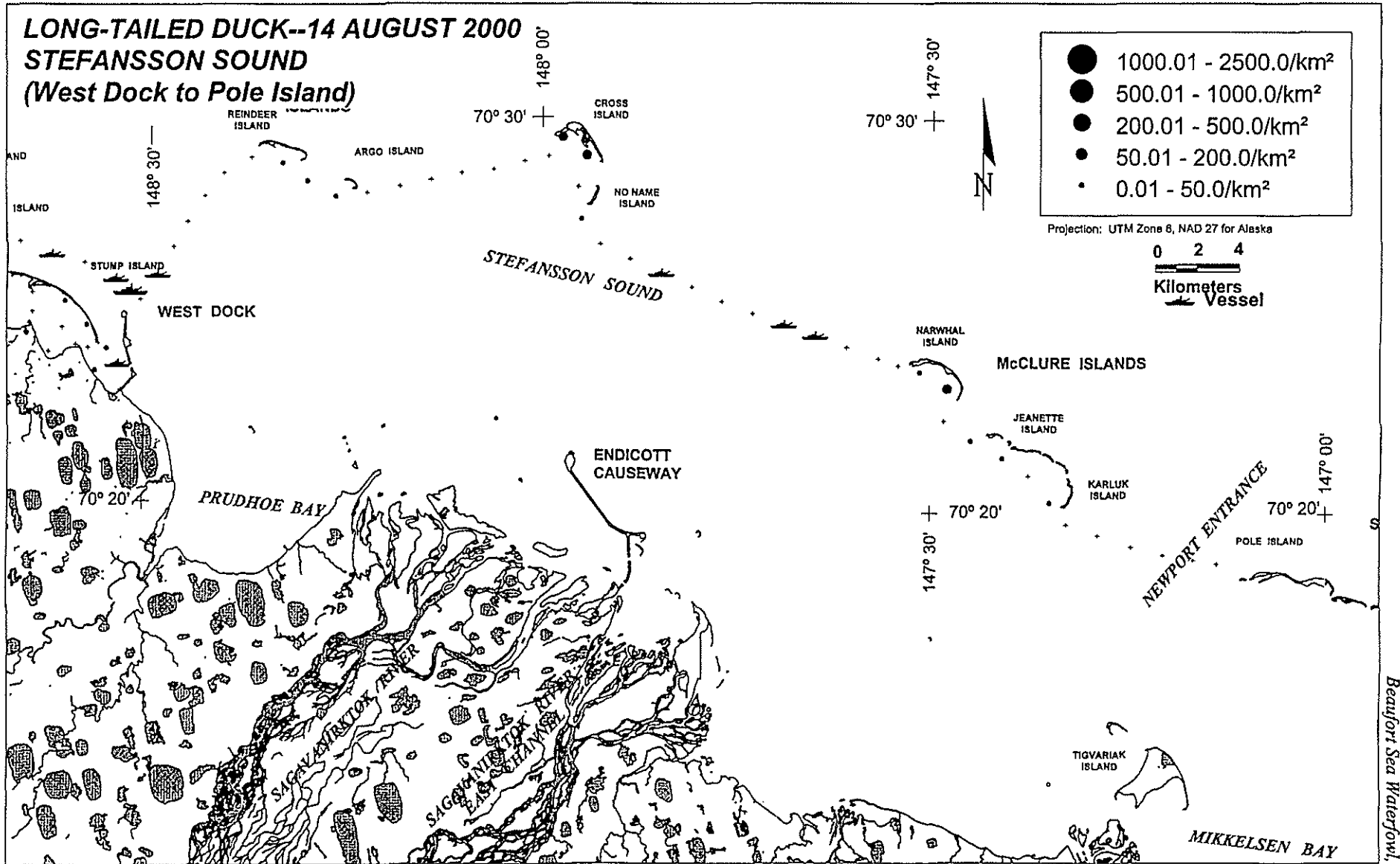


Figure A8. Summary of density for long-tailed ducks by 30-s time period segments in the barrier island-lagoon system between West Dock and Pole Island, Alaska, 14 August 2000.

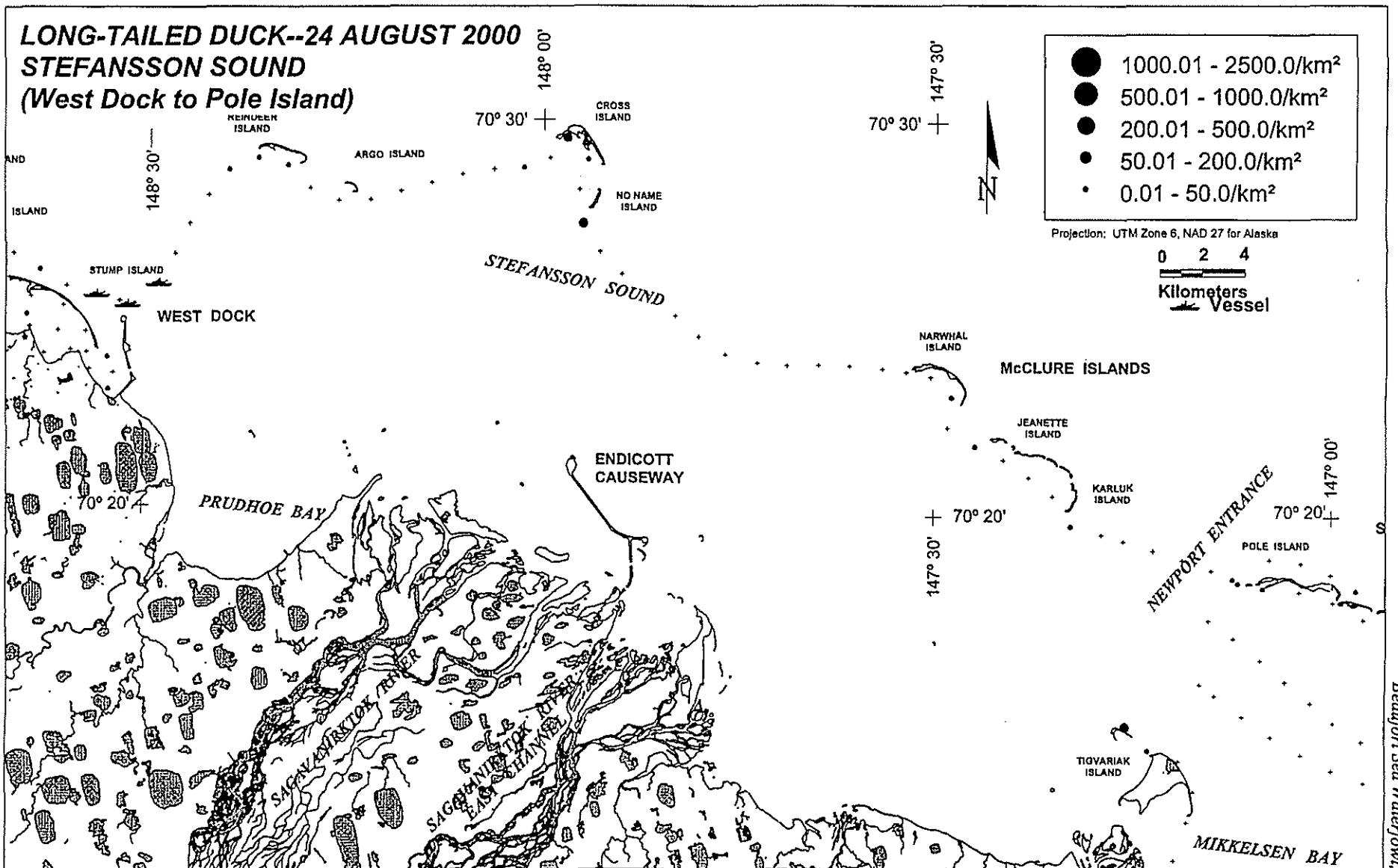


Figure A9. Summary of density for long-tailed ducks by 30-s time period segments in the barrier island-lagoon system between West Dock and Pole Island, Alaska, 24 August 2000.

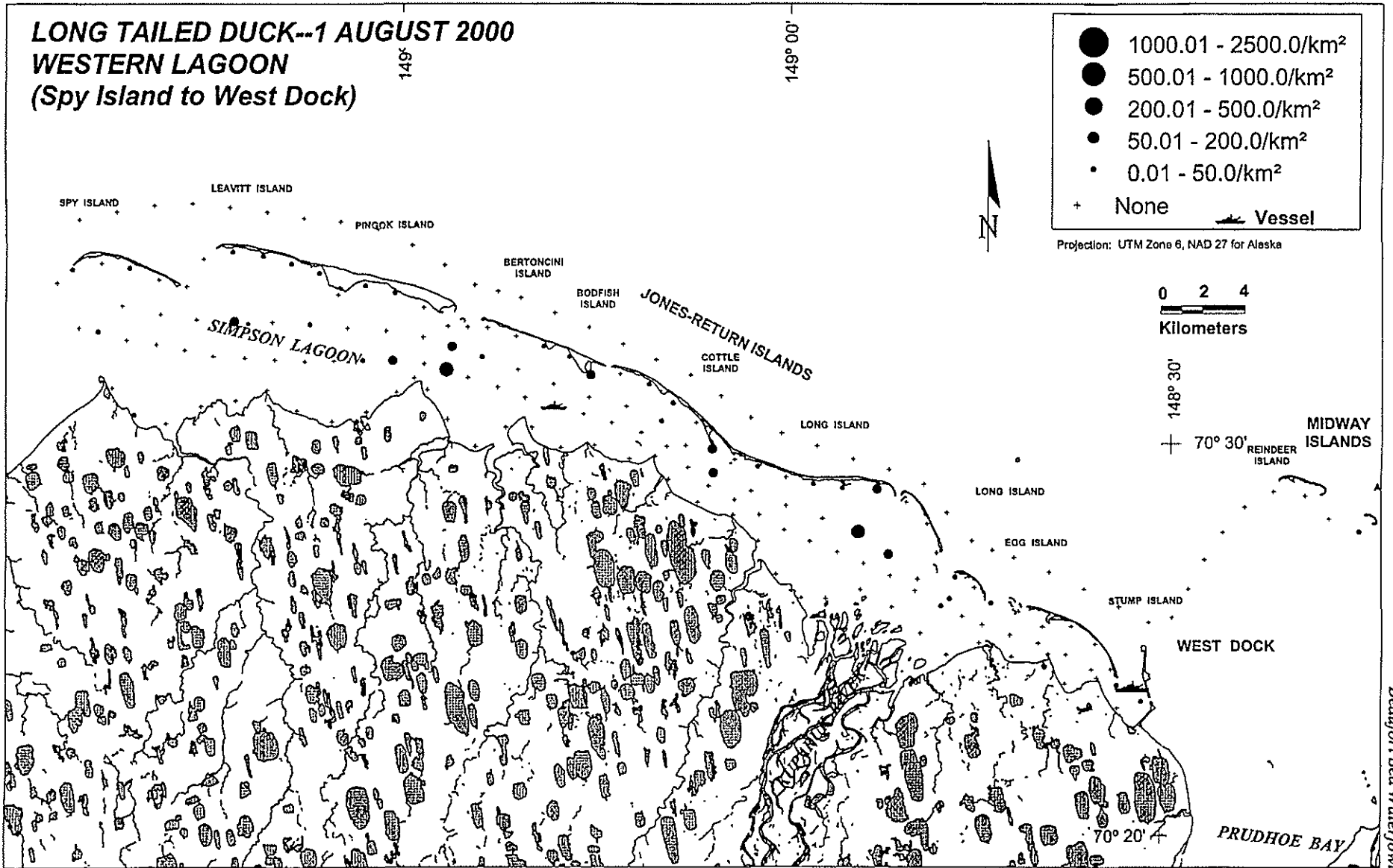


Figure A10. Summary of density for long-tailed ducks by 30-s time period segments in the barrier island-lagoon system between Spy Island and West Dock, Alaska, 1 August 2000.

LONG-TAILED DUCK--8 AUGUST 2000
WESTERN LAGOON
(Spy Island to West Dock)

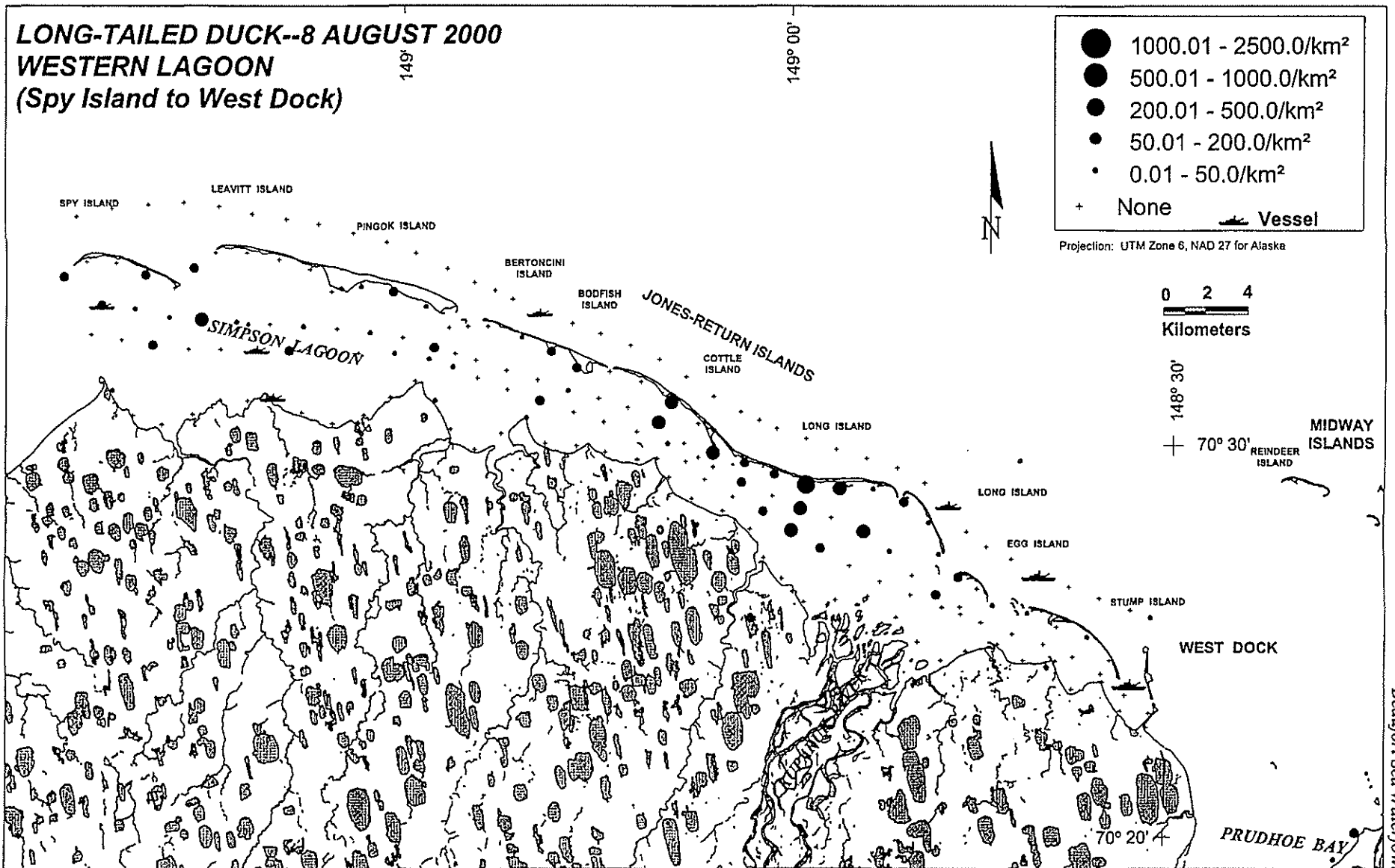


Figure A11. Summary of density for long-tailed ducks by 30-s time period segments in the barrier island-lagoon system between Spy Island and West Dock, Alaska, 8 August 2000.

LONG-TAILED DUCK--12 AUGUST 2000
WESTERN LAGOON
 (Spy Island to West Dock)

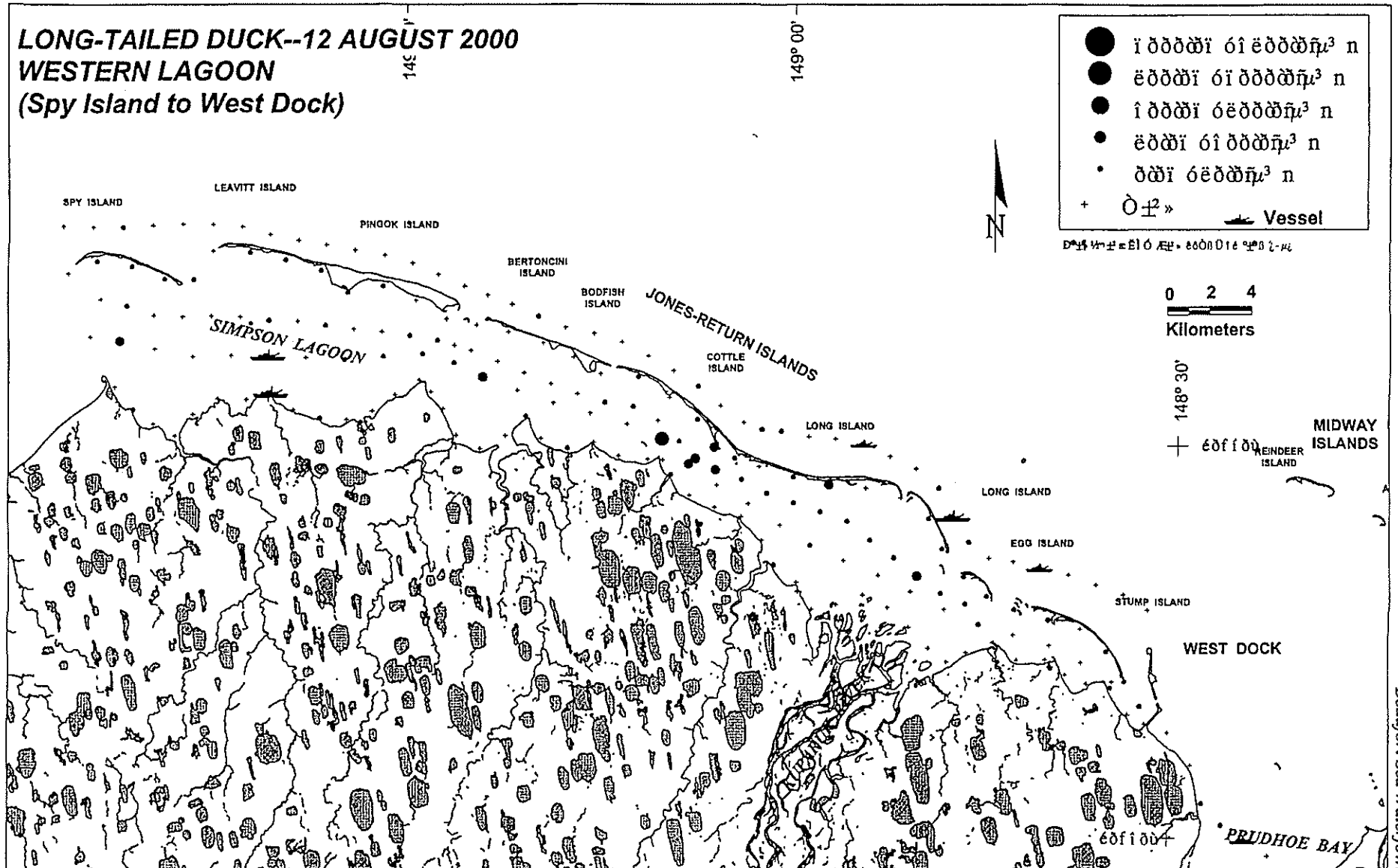


Figure A12. Summary of density for long-tailed ducks by 30-s time period segments in the barrier island-lagoon system between Spy Island and West Dock, Alaska, 12 August 2000.

LONG-TAILED DUCK--14 AUGUST 2000
WESTERN LAGOON
(Spy Island to West Dock)

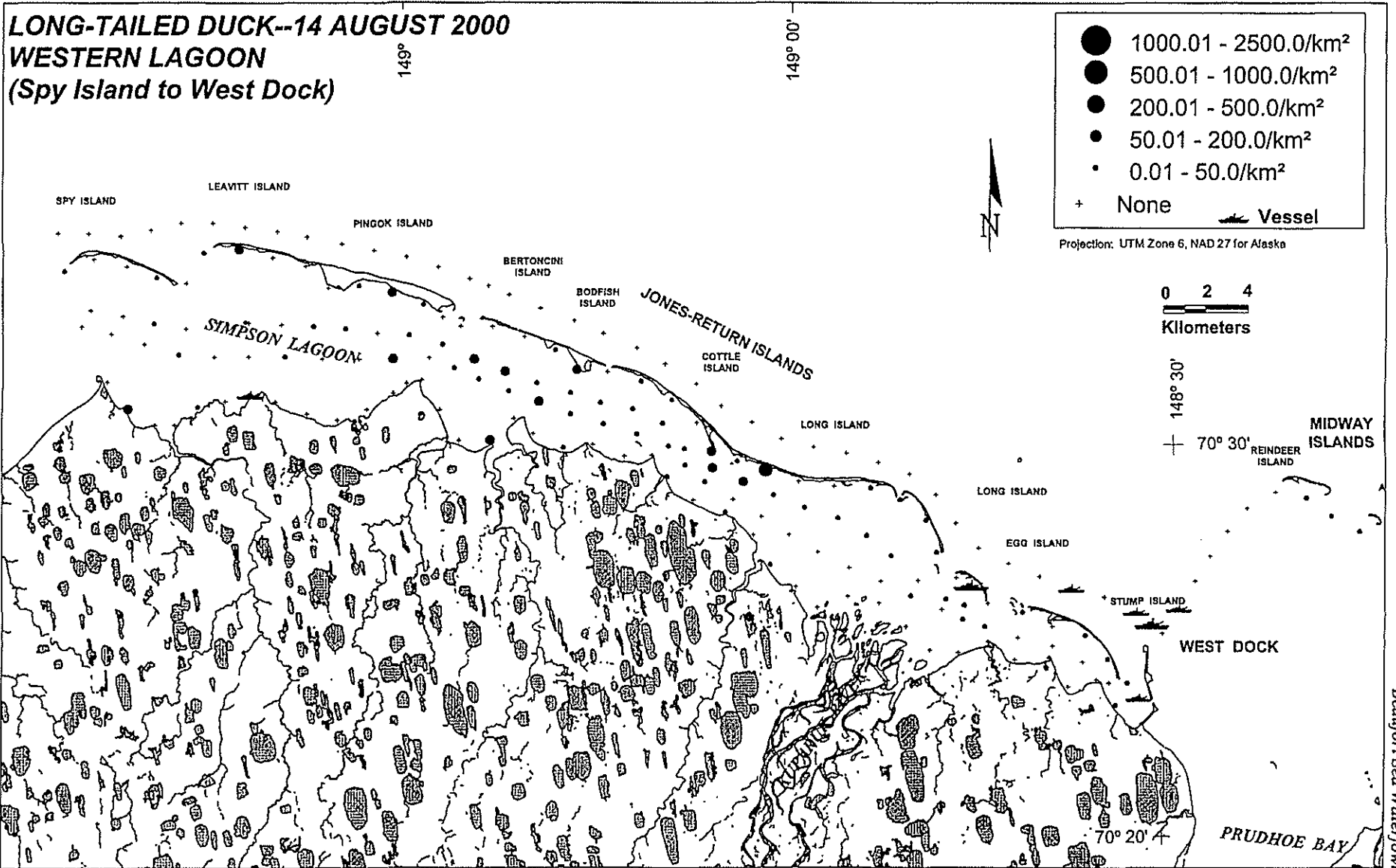


Figure A13. Summary of density for long-tailed ducks by 30-s time period segments in the barrier island-lagoon system between Spy Island and West Dock, Alaska, 14 August 2000.

LONG-TAILED DUCK--24 AUGUST 2000
WESTERN LAGOON
(Spy Island to West Dock)

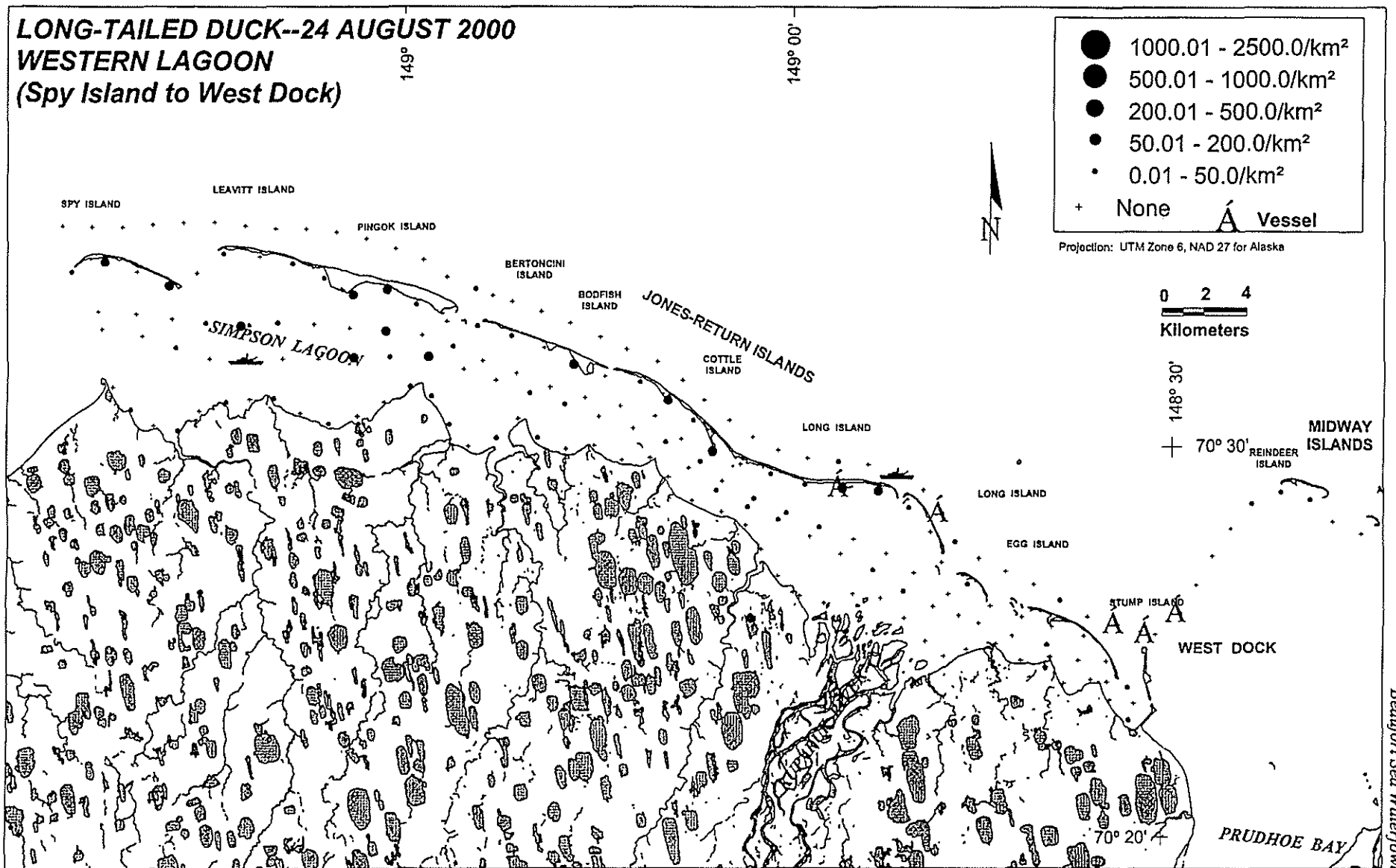


Figure A14. Summary of density for long-tailed ducks by 30-s time period segments in the barrier island-lagoon system between Spy Island and West Dock, Alaska, 24 August 2000.

Table A1. Numbers and percentages of long-tailed ducks counted during aerial surveys in nearshore waters of the central Alaska Beaufort Sea, 1977-2000 (Johnson and Gazey 1992; Noel et al. 1999, 2000).

Category*	Survey Year														All Years
	1977	1978	1979	1980	1981	1982	1983	1984	1989	1990	1991	1998	1999	2000	
Numbers															
1	20,695	111,594	28,598	22,777	30,597	31,927	-	21,998	102,968	163,915	31,316	24,455	26,478	17,836	635,154
2	58,310	141,801	36,157	27,826	48,711	46,964	6,144	28,399	110,975	220,758	61,441	41,344	58,773	35,618	923,221
3	94,461	215,199	49,456	37,549	65,768	66,794	-	33,987	138,729	277,327	120,397	43,639	64,393	40,862	1,248,561
4	104,318	231,307	54,049	38,364	71,104	69,775	-	34,972	149,408	312,073	138,408	48,979	75,173	50,787	1,378,717
Percentages															
5	90.55	93.04	91.50	97.88	92.50	95.73	-	97.18	92.85	88.87	86.99	89.10	85.66	80.46	91.82
6	55.90	61.30	66.90	72.53	68.51	67.31	-	81.20	74.28	70.74	44.39	84.41	78.18	70.13	68.80
7	21.91	51.86	57.83	60.66	46.52	47.80	-	64.72	74.22	59.11	26.01	56.04	41.12	43.65	50.65
8	19.84	48.24	52.91	59.37	43.03	45.76	-	62.90	68.92	52.52	22.63	49.93	35.22	35.12	46.77
9	61.73	65.89	73.11	74.11	74.06	70.31	-	83.56	79.99	79.60	51.03	94.74	91.27	87.17	74.95
10	35.49	78.70	79.09	81.86	62.81	67.98	-	77.46	92.78	74.25	50.97	59.15	45.05	50.08	67.13

- * 1 = No. of long-tailed ducks on-transect only on barrier island transects during all surveys
- 2 = No. of long-tailed ducks on-transect on all lagoon transects during all surveys
- 3 = No. of long-tailed ducks on- and off-transect on all lagoon transects during all surveys
- 4 = No. of all birds of all species on- and off-transect on all lagoon transects during all surveys
- 5 = Cat. 3/Cat. 4
- 6 = Cat. 2/Cat. 4
- 7 = Cat. 1/Cat. 3
- 8 = Cat. 1/Cat. 4
- 9 = Cat. 2/Cat. 3
- 10 = Cat. 1/Cat. 2

Table A4. Habitat associations of geese and swans during aerial surveys in the barrier island-lagoon system and tundra transects between Spy Island and Brownlow Point, Alaska, 1–24 August 2000.

General Habitat Type	Specific Habitat Type	Black Brant		Canada Goose		Greater White-fronted Goose		Tundra Swan	
		Number of Sightings	Percent of Total	Number of Sightings	Percent of Total	Number of Sightings	Percent of Total	Number of Sightings	Percent of Total
Lagoon (9)	Lagoon (9)	-	-	-	-	-	-	-	-
Barrier Island (11)	Lagoon (9)	-	-	-	-	-	-	-	-
	Shoreline (water side; 15)	1	2.3	-	-	2	6.3	-	-
Nearshore Sea <3 mi. (13)	Ocean (8)	-	-	-	-	-	-	-	-
Unclassified Tundra (19)	Pond or Lake (18)	-	-	1	12.5	2	6.3	4	25.0
	Unclassified Tundra (19)	-	-	-	-	1	3.1	-	-
	Lake w/o Emergents (43)	-	-	-	-	-	-	1	6.3
	Pond with Emergents (45)	-	-	1	12.5	-	-	4	25.0
	Small Lake (48)	-	-	1	12.5	-	-	-	-
	Large Lake (49)	-	-	-	-	1	3.1	-	-
	River (54)	-	-	1	12.5	-	-	-	-
Wet Tundra (25)	Pond or Lake (18)	1	2.3	1	12.5	4	12.5	-	-
	Unclassified Tundra (19)	-	-	-	-	1	3.1	-	-
	Wet Tundra (25)	-	-	-	-	2	6.3	-	-
	Lake w/o Emergents (43)	-	-	-	-	-	-	1	6.3
	Lake Shore (44)	-	-	1	12.5	1	3.1	-	-
	Pond with Emergents (45)	-	-	-	-	-	-	2	12.5
	Large Lake (49)	-	-	1	12.5	-	-	-	-
River (54)	1	2.3	1	12.5	-	-	-	-	
Mainland Coast (27)	Spit (10)	-	-	-	-	-	-	-	-
	Shoreline (land side; 14)	9	20.9	-	-	2	6.3	-	-
	Shoreline (water side; 15)	29	67.4	-	-	10	31.3	-	-
	Pond (47)	1	2.3	-	-	-	-	-	-
	Onshore Lagoon (61)	-	-	-	-	1	3.1	1	6.3
	High-centered Polygon (95)	-	-	-	-	-	-	2	12.5
Lake Shore (44)	Shoreline (water side; 15)	-	-	-	-	1	3.1	-	-
Pond with emergents (45)	Shoreline (water side; 15)	-	-	-	-	-	-	1	6.3
Large Lake (49)	Shoreline (land side; 14)	1	2.3	-	-	-	-	-	-
	Shoreline (water side; 15)	-	-	-	-	2	6.3	-	-
River Delta (92)	Tide Flat (13)	-	-	-	-	1	3.1	-	-
	Stream (55)	-	-	-	-	1	3.1	-	-
TOTAL		43	100	8	100	32	100	16	100

Table A5. Long-tailed duck behavior during aerial surveys in the barrier island-lagoon system and tundra transects between Spy Island and Browlow Point, Alaska, 1–24 August 2000.

Specific Behaviors	Sightings 1 Aug 00	Sightings 8 Aug 00	Sightings 12 Aug 00	Sightings 14 Aug 00	Sightings 24 Aug 00	Total All Surveys	Percent of Total
Hauled out on ice (01)	1	-	-	-	1	2	0.1
Hauled out on land (02)	-	-	1	2	-	3	0.1
Hauled out on land-swim/dive (06)	-	-	-	-	1	1	0.0
Swimming (07)	230	368	671	357	271	1897	94.8
Swimming then diving (08)	4	6	7	8	3	28	1.4
Flying (11)	1	2	1	1	18	23	1.1
Standing (15)	3	10	6	12	9	40	2.0
Unknown or unrecorded (99)	2	3	1	1	1	8	0.4
TOTAL	241	389	687	381	304	2002	100

APPENDIX B:
2000 Distribution Maps for Selected Species

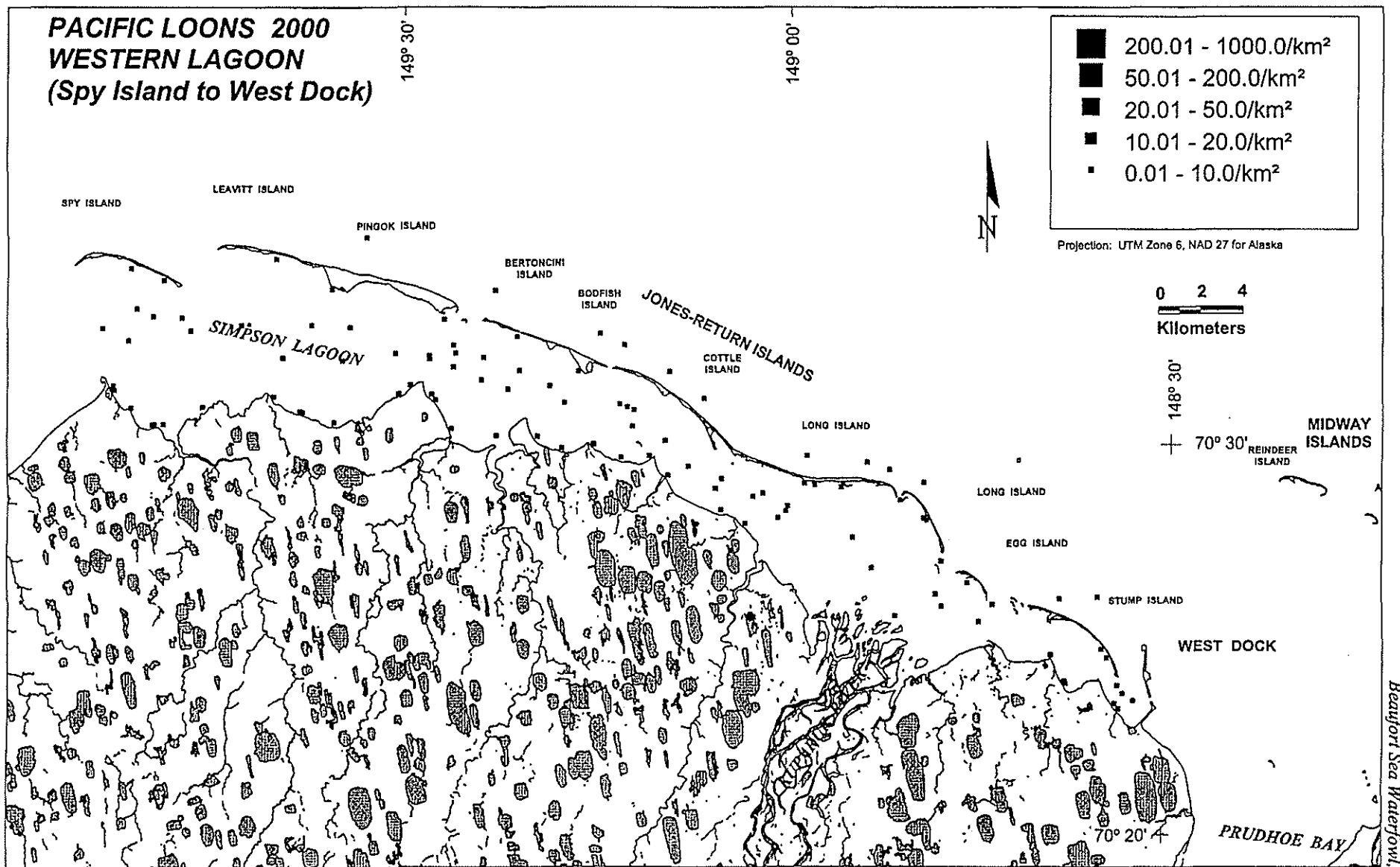


Figure B1. Summary of density for Pacific loons by 30-s time period segments in the barrier island-lagoon system between Spy Island and West Dock, Alaska, 1-24 August 2000.

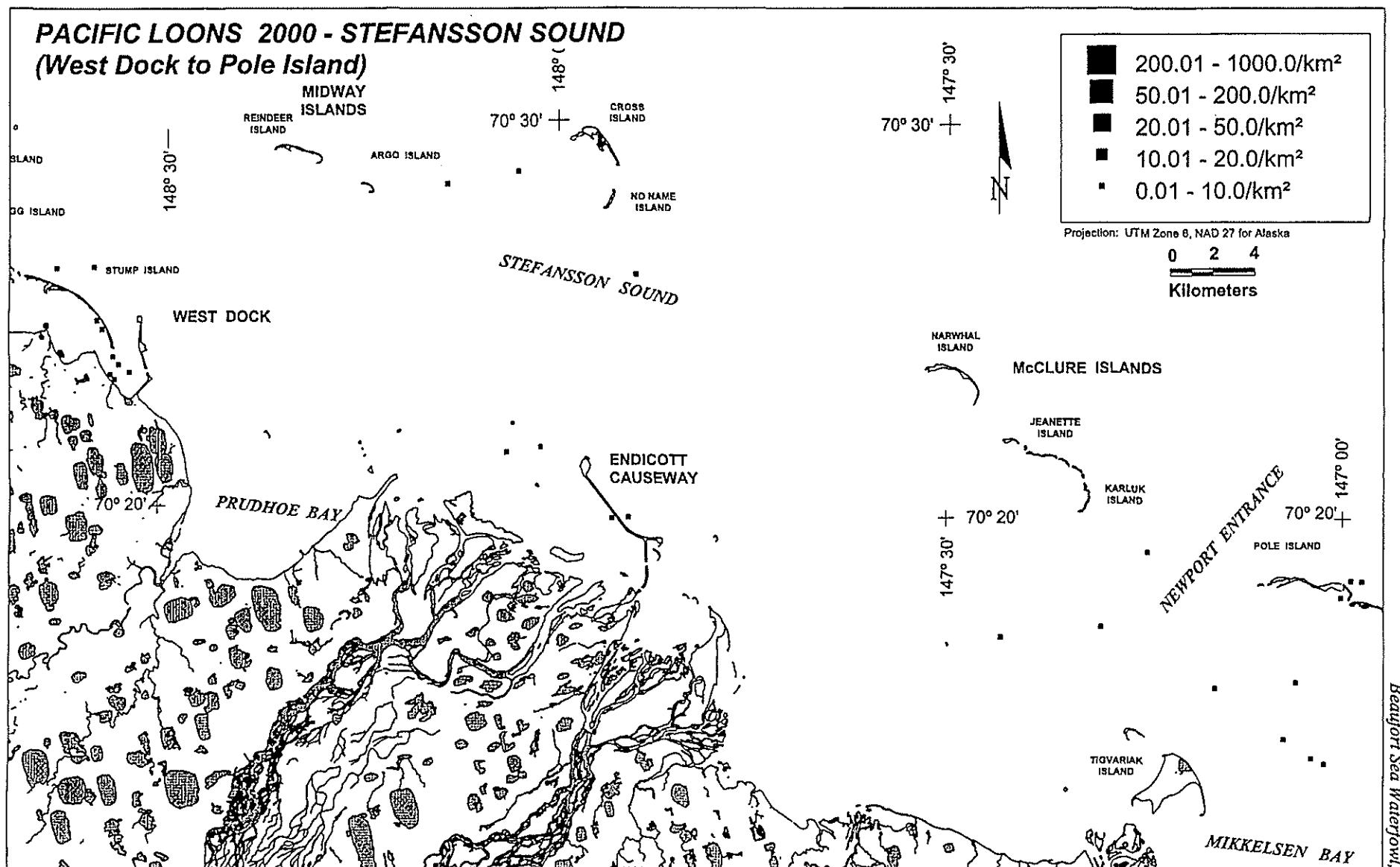


Figure B2. Summary of density for Pacific loons by 30-s time period segments in the barrier island-lagoon system between West Dock and Pole Island, Alaska, 1-24 August 2000.

Beaufort Sea Waterfowl, 2000

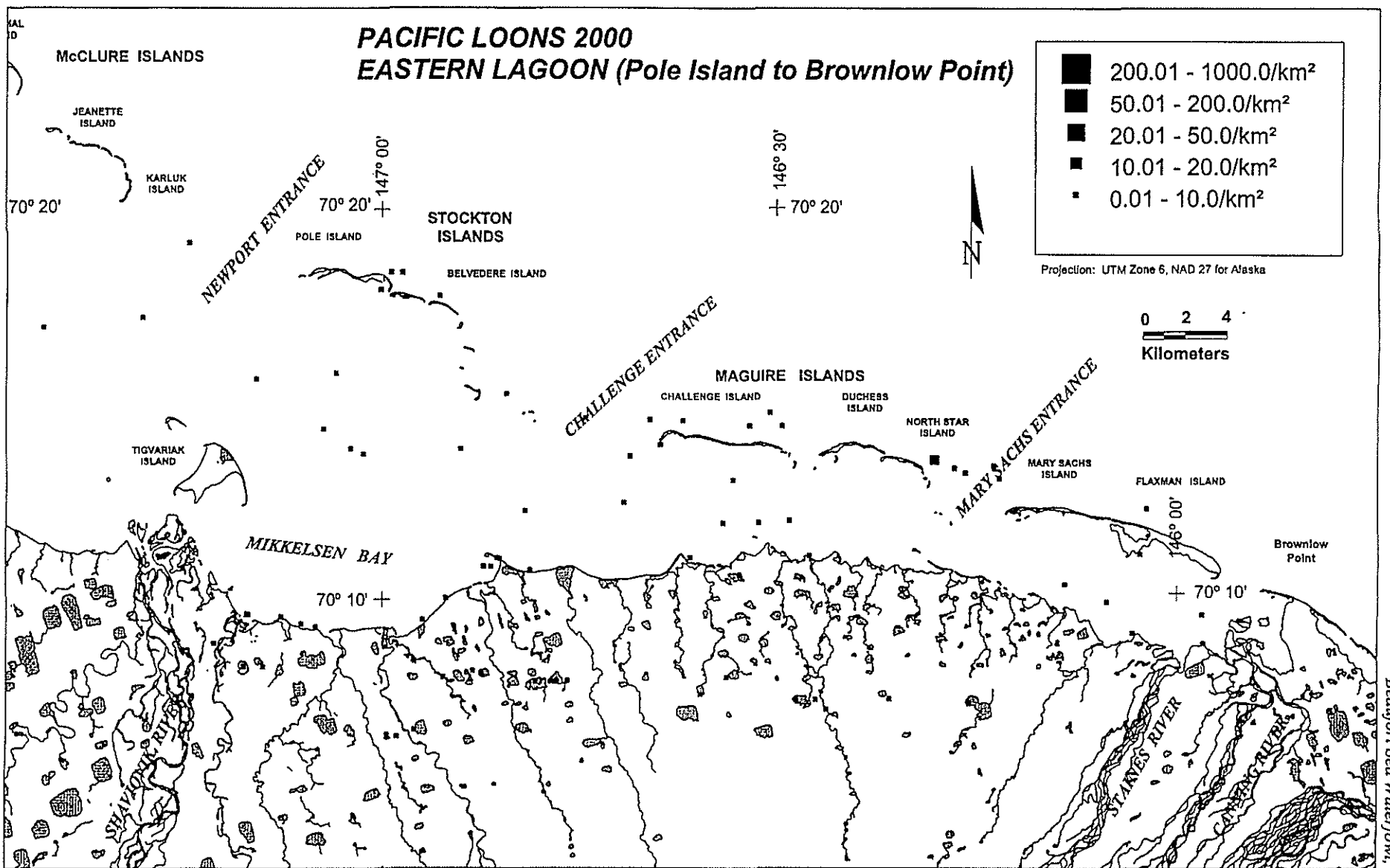


Figure B3. Summary of density for Pacific loons by 30-s time period segments in the barrier island-lagoon system between Pole Island and Brownlow Point, Alaska, 1-24 August 2000.

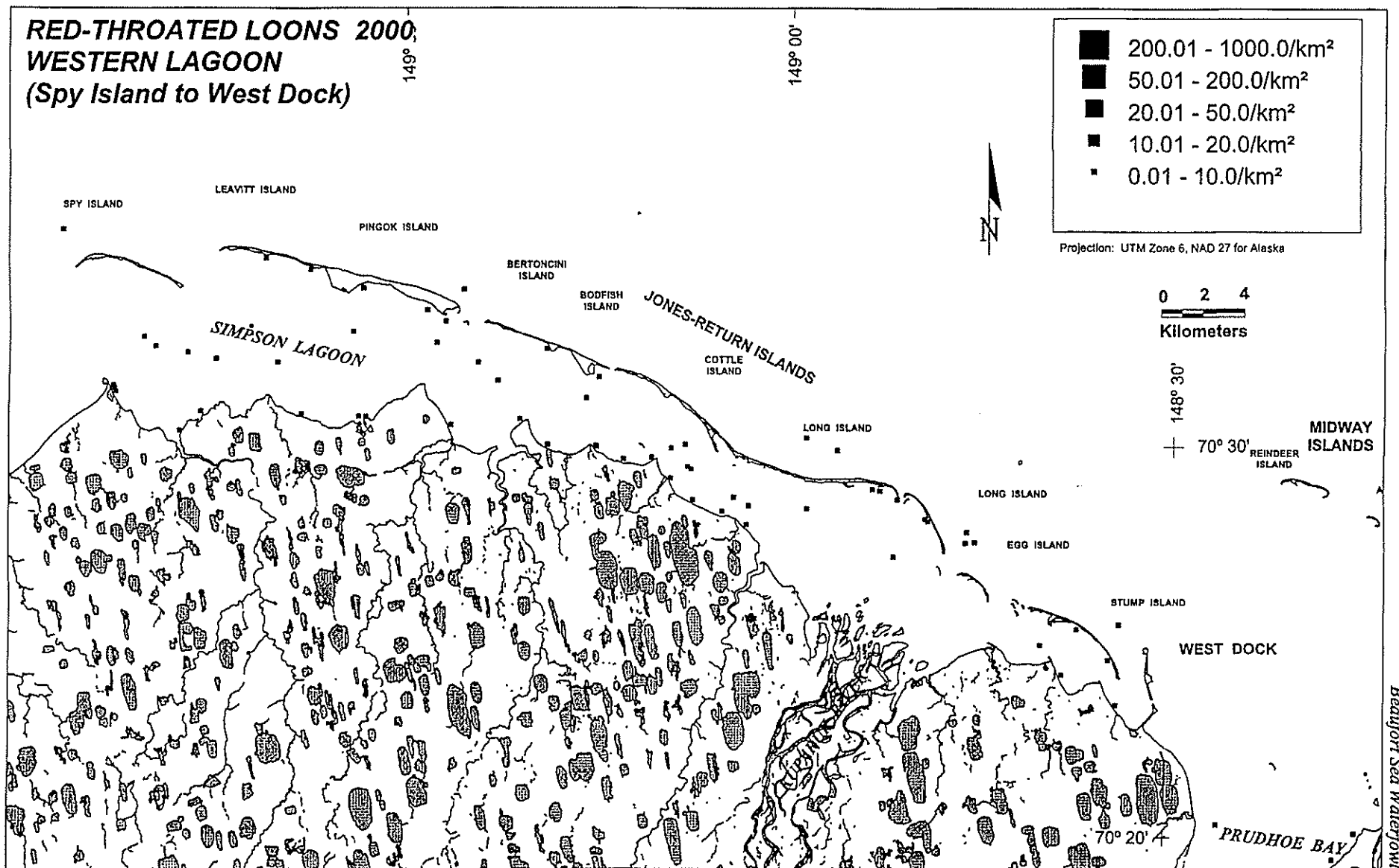


Figure B4. Summary of density for red-throated loons by 30-s time period segments in the barrier island-lagoon system between Spy Island and West Dock, Alaska, 1-24 August 2000.

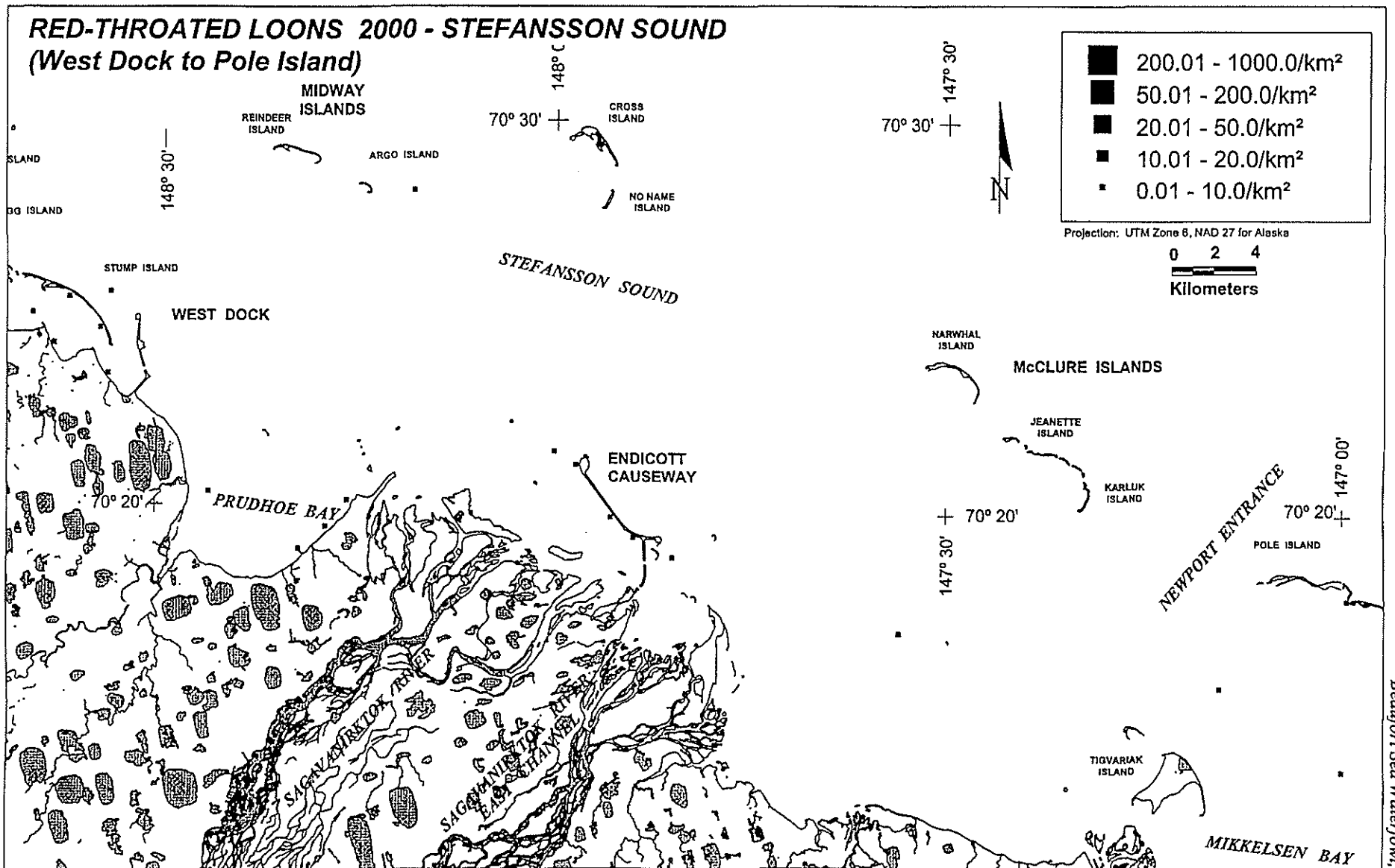


Figure B5. Summary of density for red-throated loons by 30-s time period segments in the barrier island-lagoon system between West Dock and Pole Island, Alaska, 1-24 August 2000.

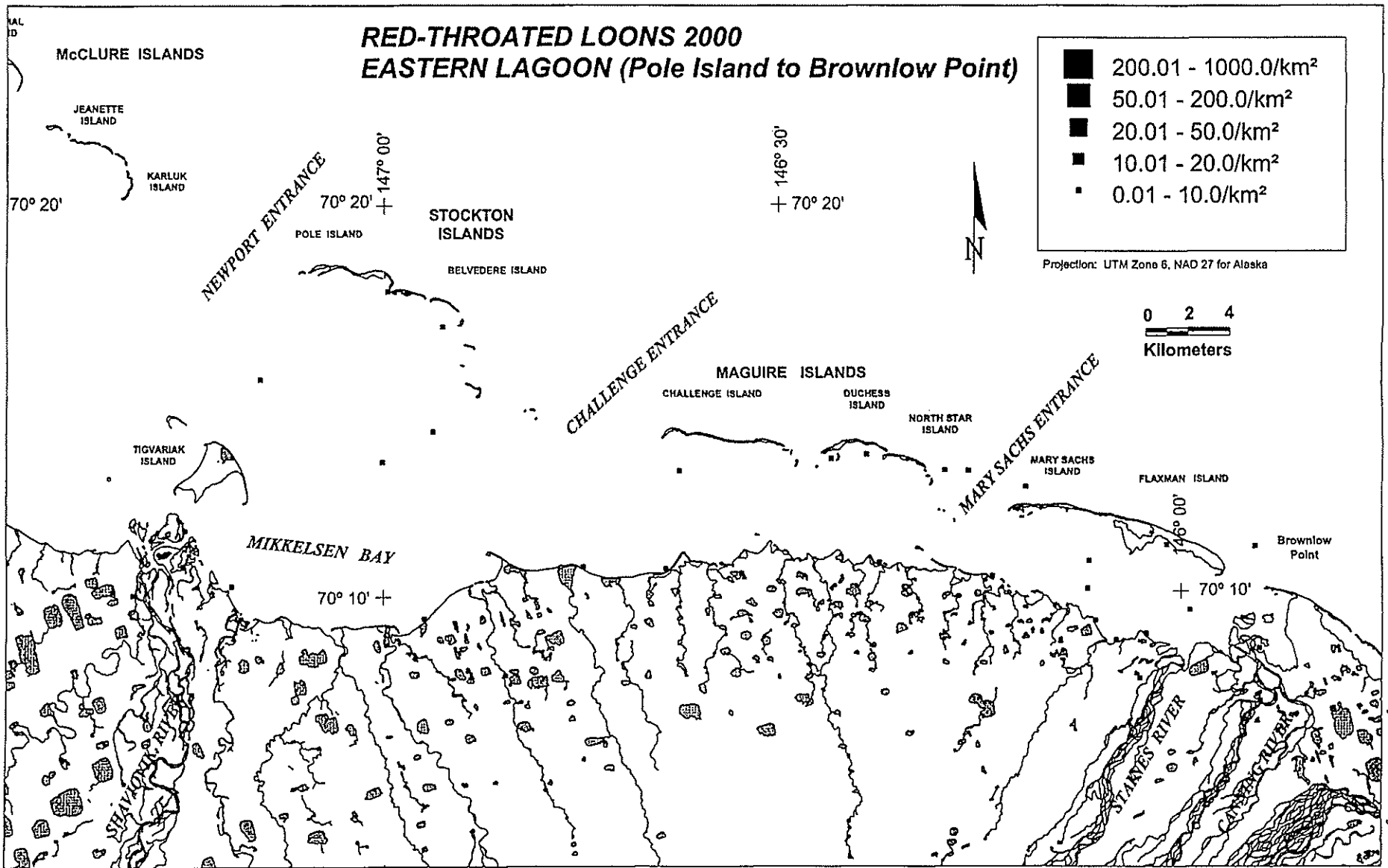


Figure B6. Summary of density for red-throated loons by 30-s time period segments in the barrier island-lagoon system between Pole Island and Brownlow Point, Alaska, 1-24 August 2000.

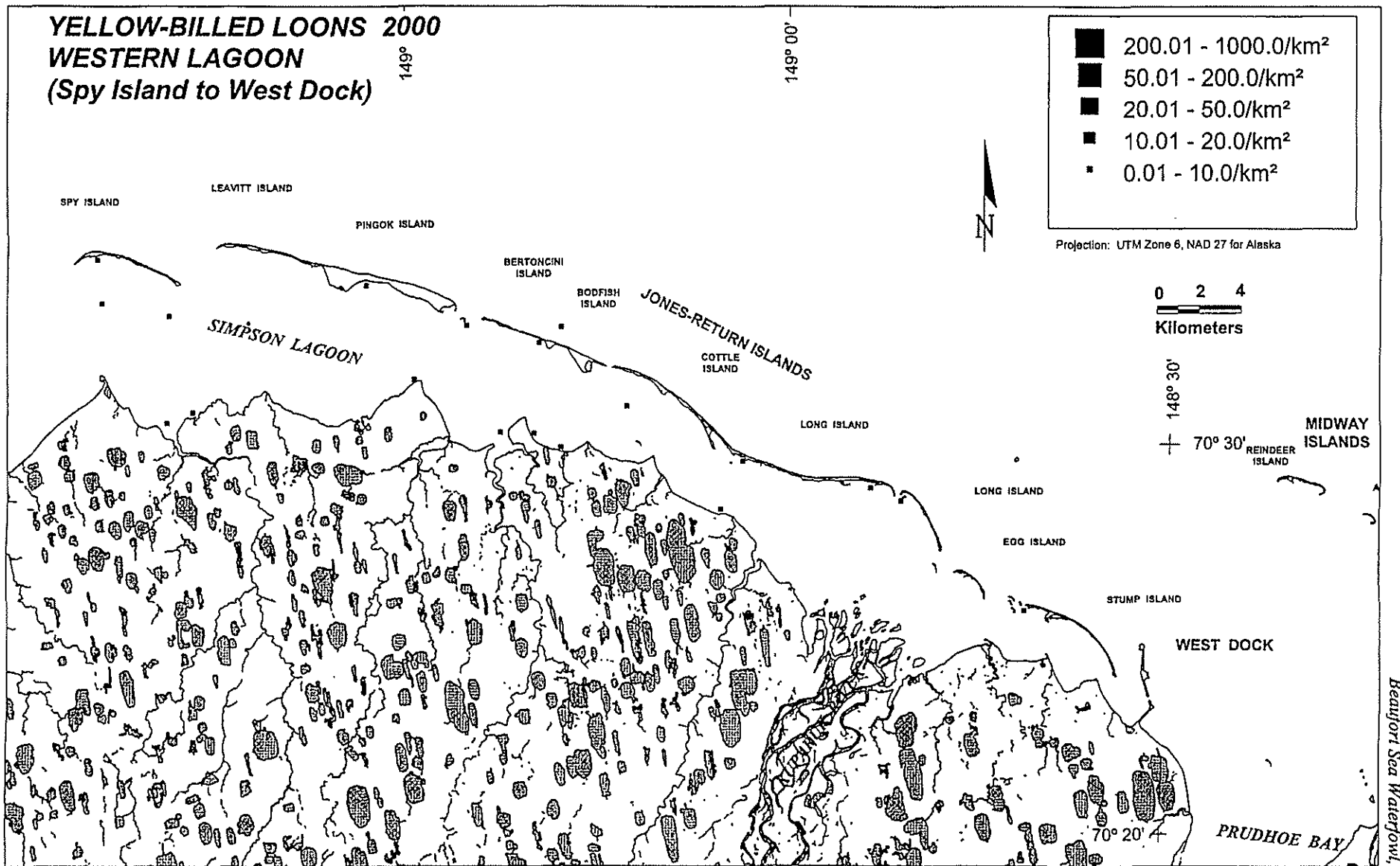


Figure B7. Summary of density for yellow-billed loons by 30-s time period segments in the barrier island-lagoon system between Spy Island and West Dock, Alaska, 1-24 August 2000.

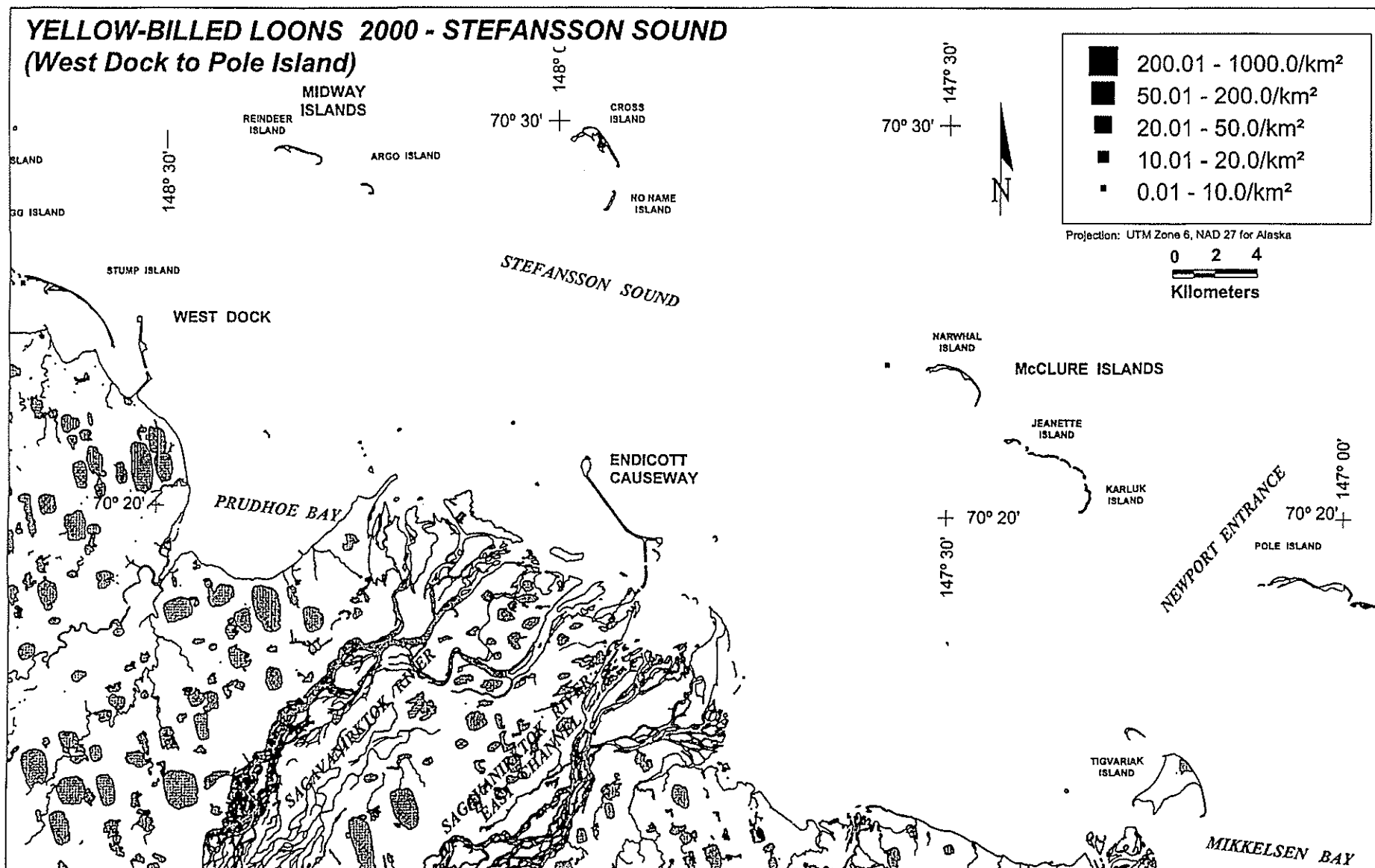


Figure B8. Summary of density for yellow-billed loons by 30-s time period segments in the barrier island-lagoon system between West Dock and Pole Island, Alaska, 1-24 August 2000.

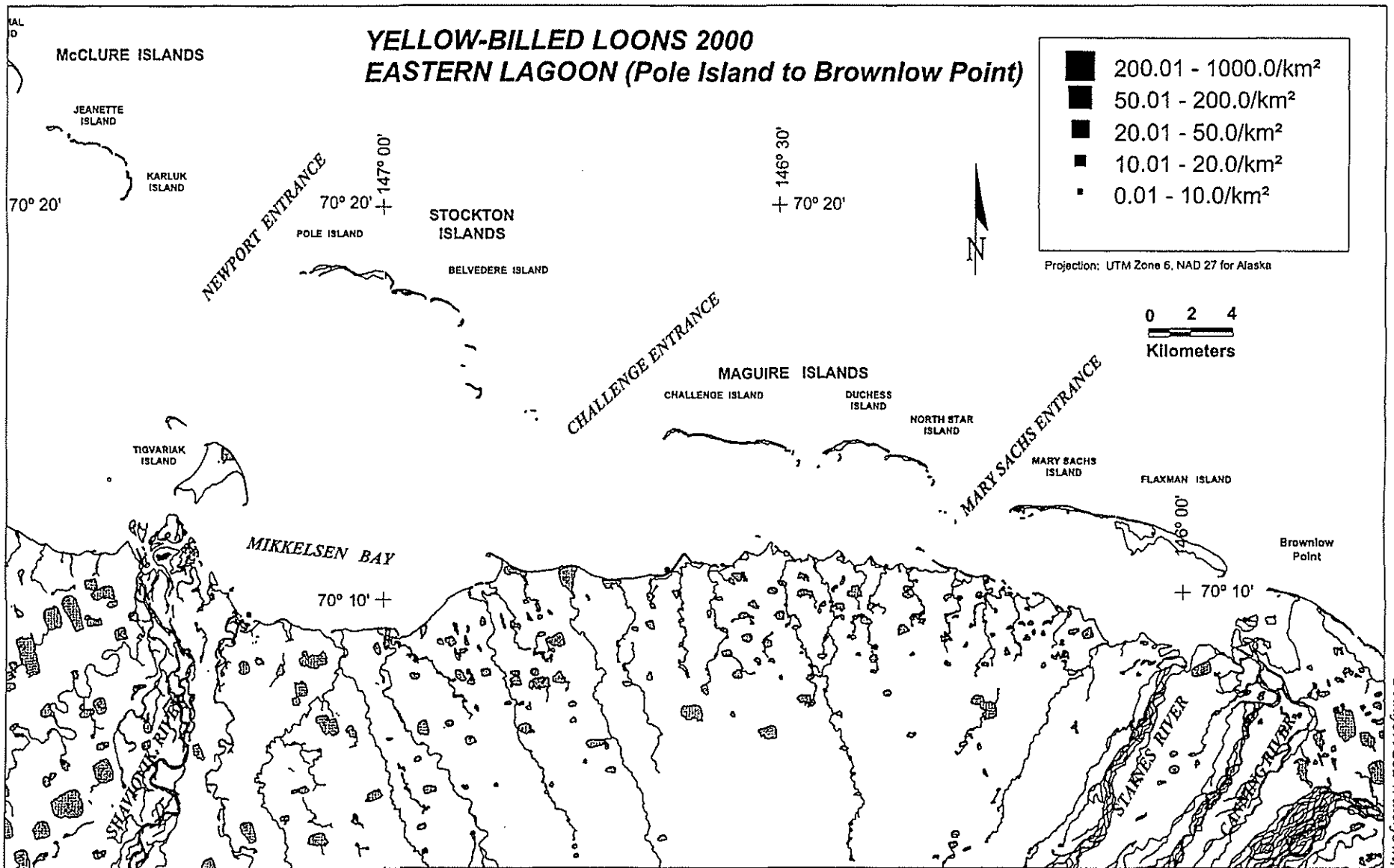


Figure B9. Summary of density for yellow-billed loons by 30-s time period segments in the barrier island-lagoon system between Pole Island and Brownlow Point, Alaska, 1-24 August 2000.

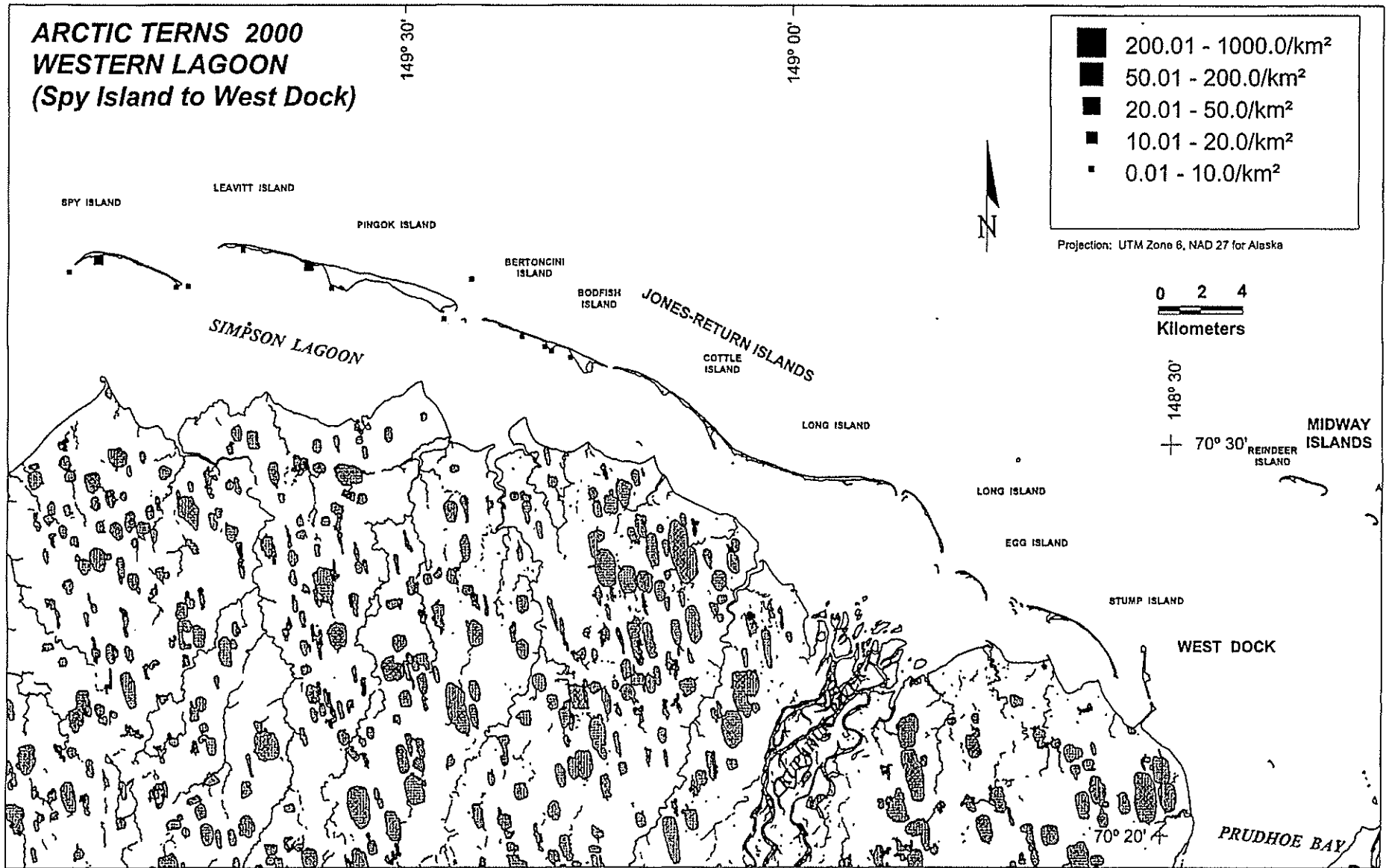


Figure B10. Summary of density for Arctic terns by 30-s time period segments in the barrier island-lagoon system between Spy Island and West Dock, Alaska, 1-24 August 2000.

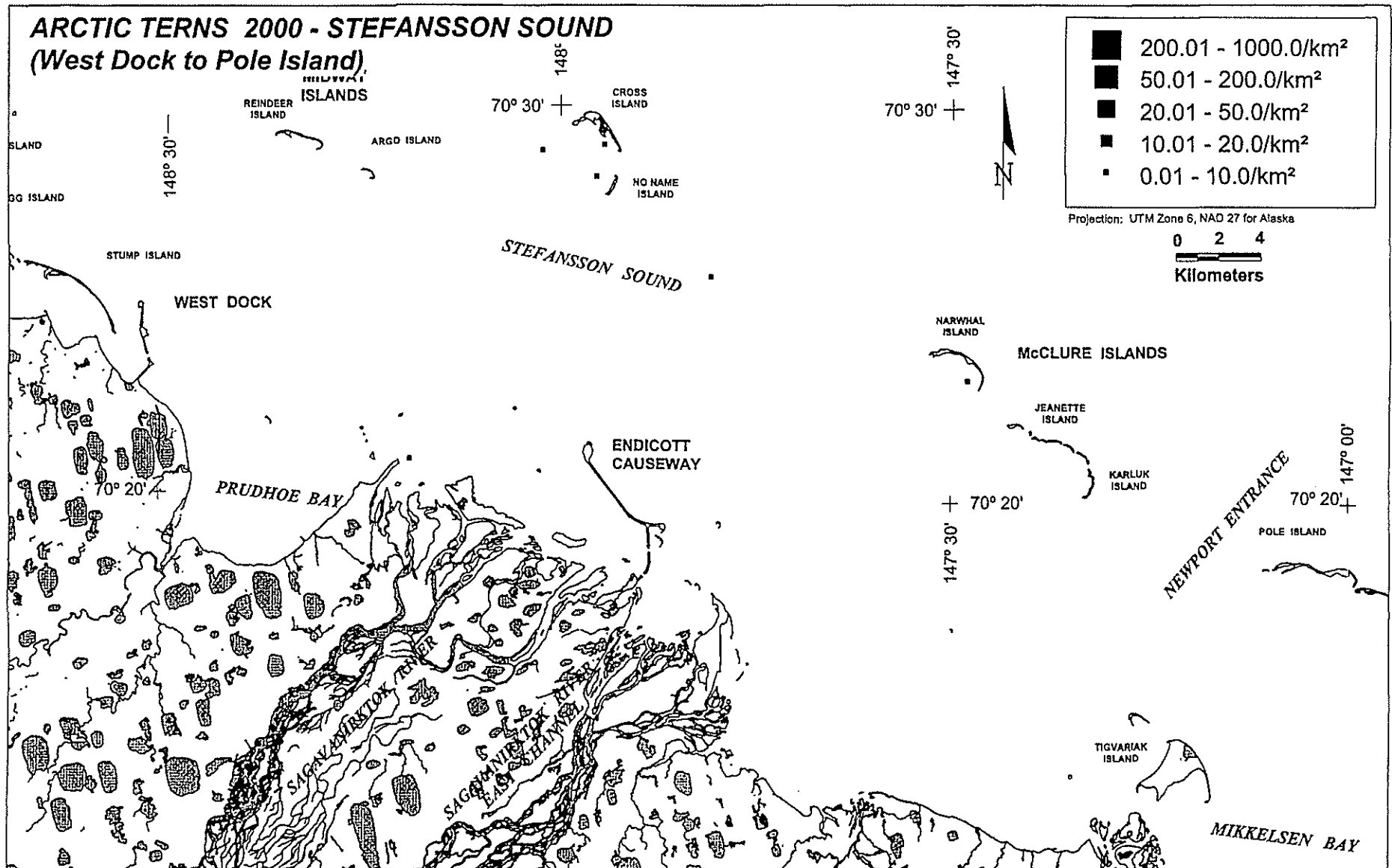


Figure B11. Summary of density for Arctic terns by 30-s time period segments in the barrier island-lagoon system between West Dock and Pole Island, Alaska, 1-24 August 2000.

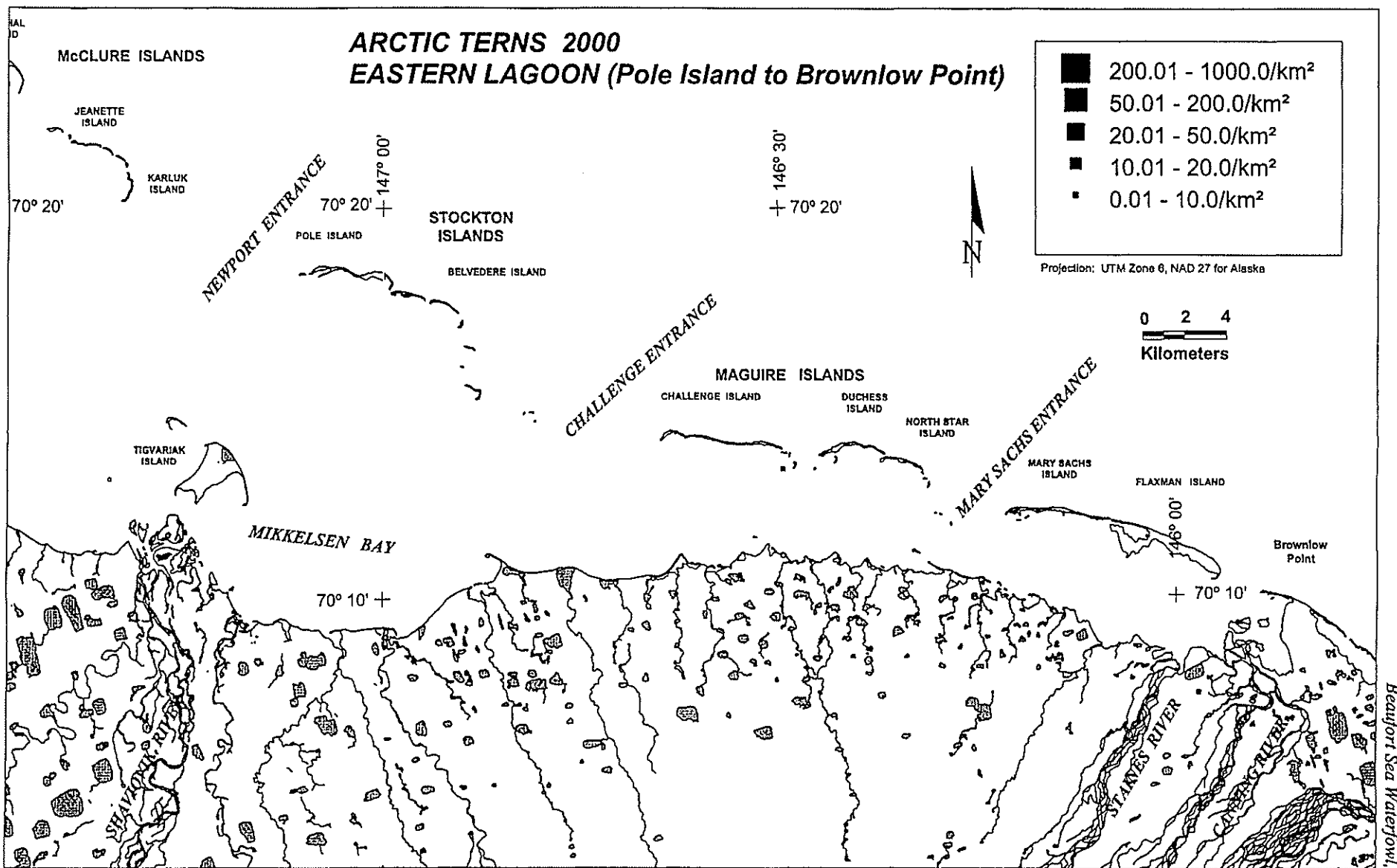


Figure B12. Summary of density for Arctic terns by 30-s time period segments in the barrier island-lagoon system between Pole Island and Brownlow Point, Alaska, 1-24 August 2000.

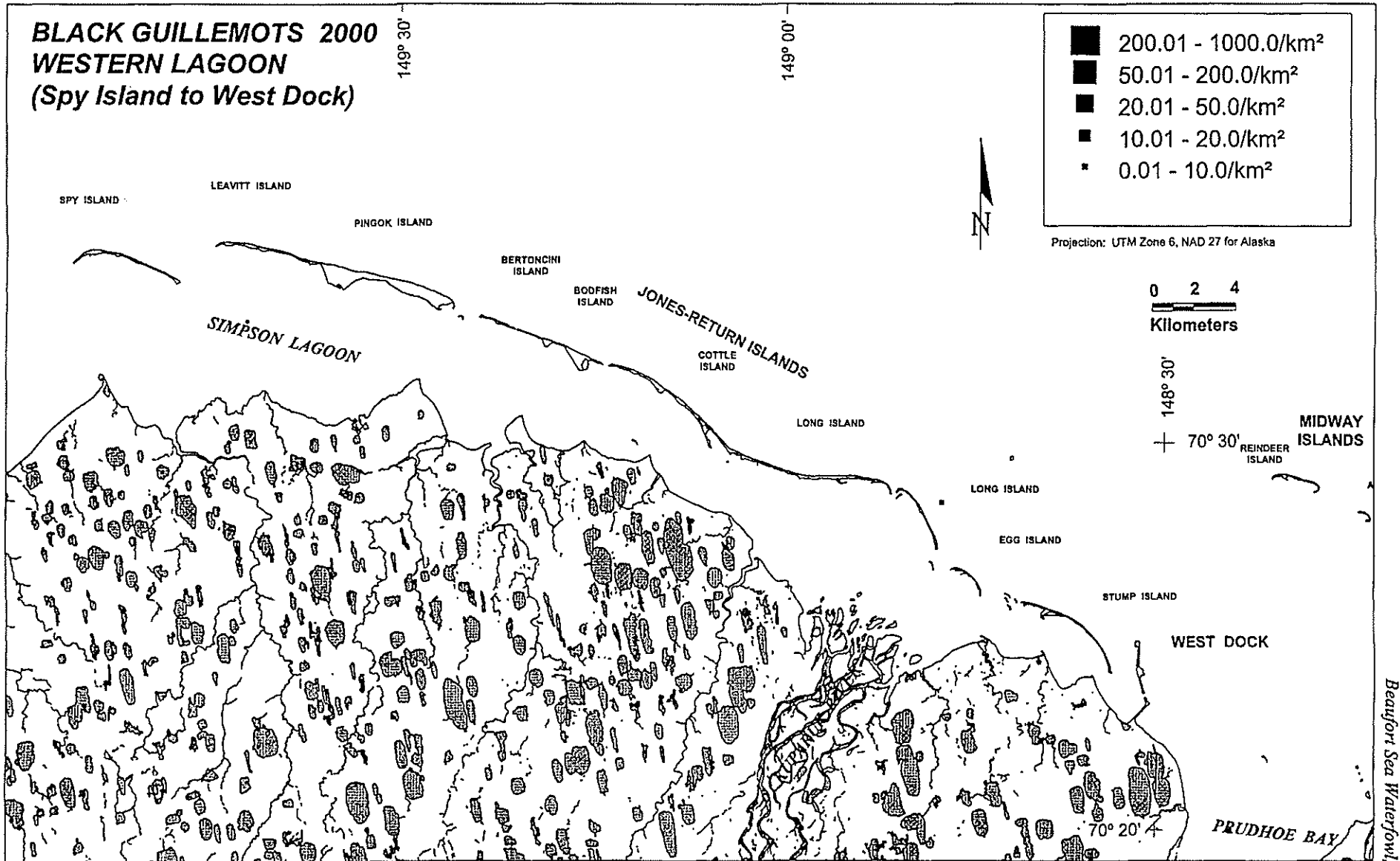


Figure B13. Summary of density for black guillemots by 30-s time period segments in the barrier island-lagoon system between Spy Island and West Dock, Alaska, 1-24 August 2000.

B13

Beaufort Sea Waterfowl, 2000

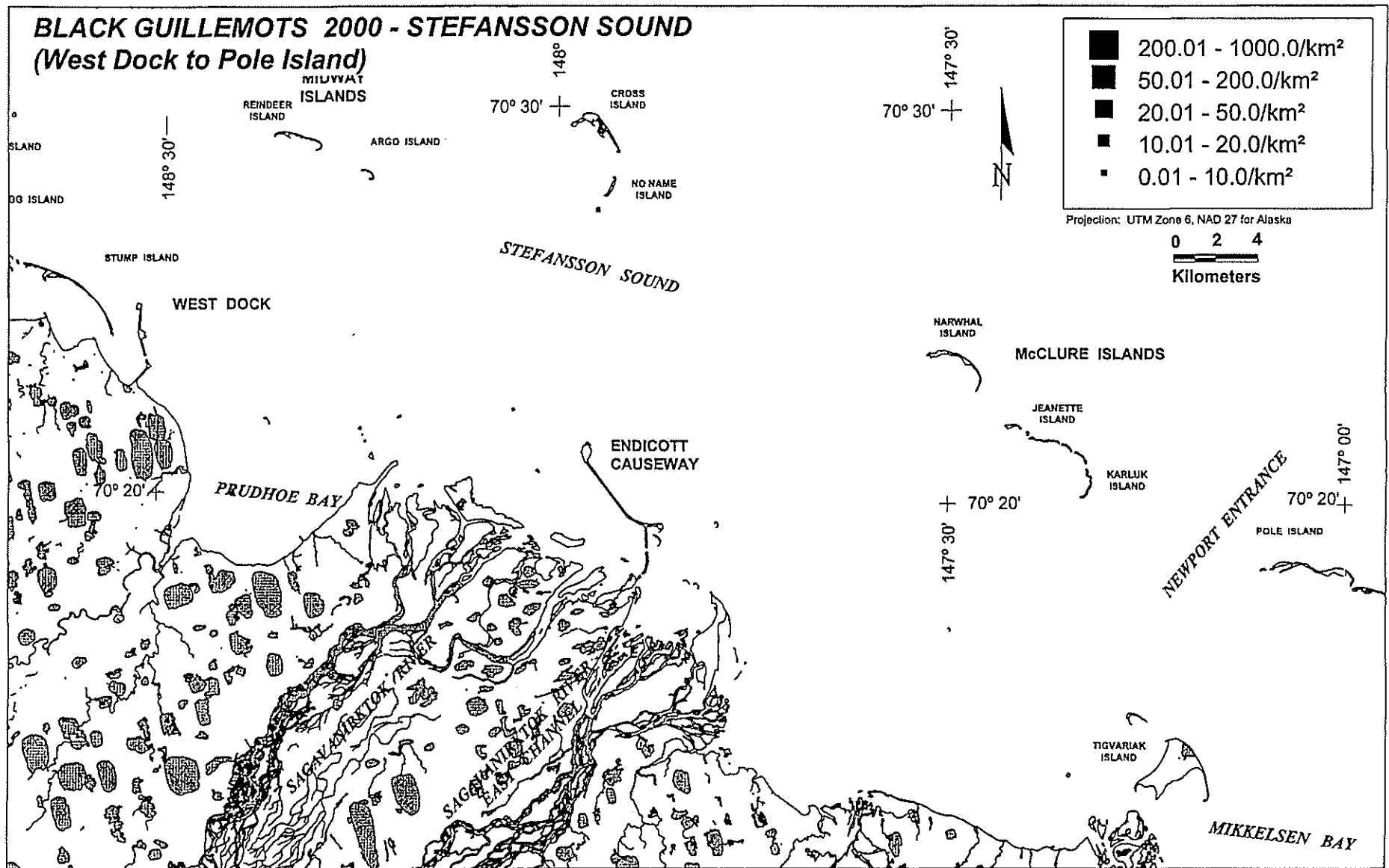


Figure B14. Summary of density for black guillemots by 30-s time period segments in the barrier island-lagoon system between West Dock and Pole Island, Alaska, 1-24 August 2000.

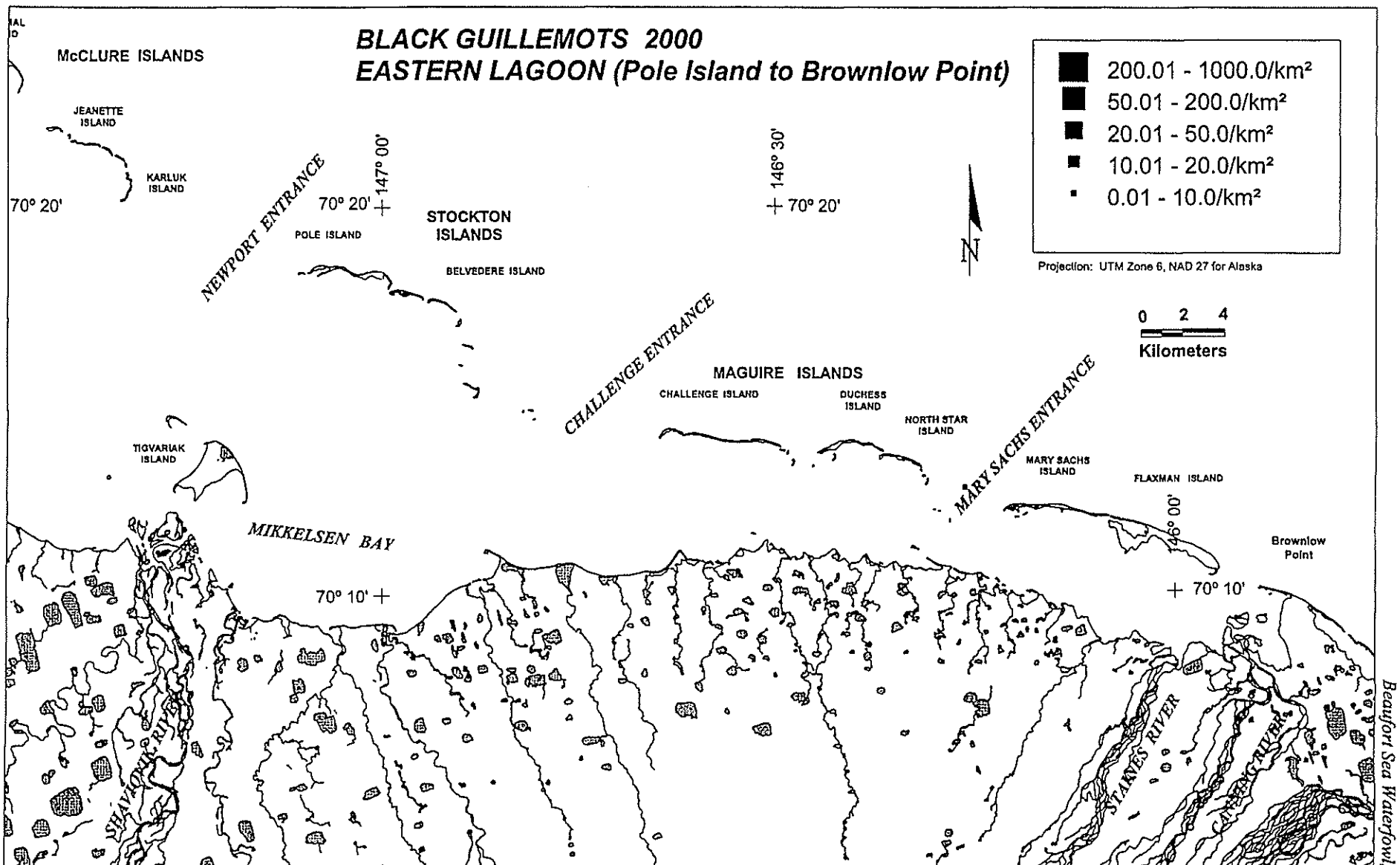


Figure B15. Summary of density for black guillemots by 30-s time period segments in the barrier island-lagoon system between Pole Island and Brownlow Point, Alaska, 1-24 August 2000.

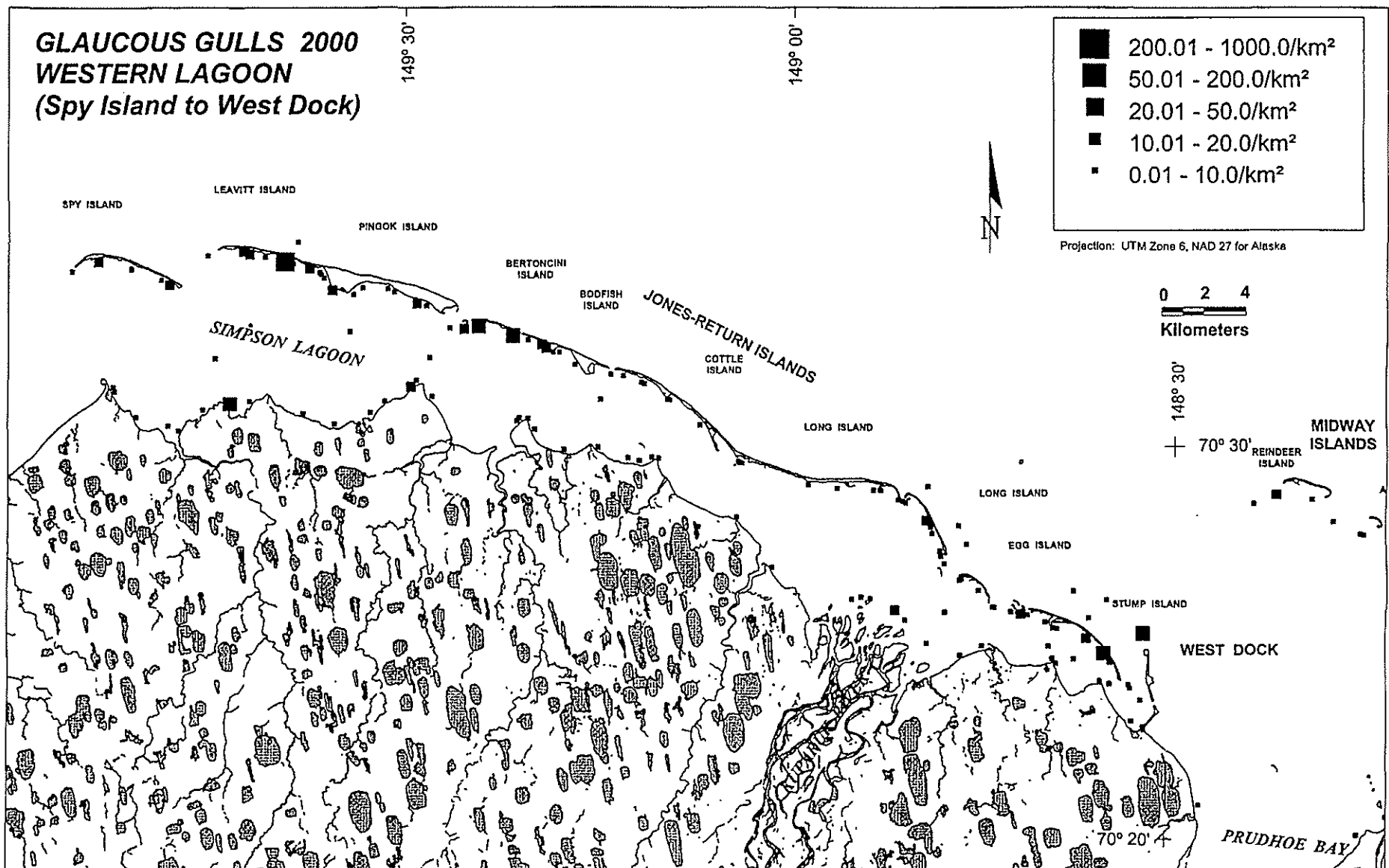


Figure B16. Summary of density for glaucous gulls by 30-s time period segments in the barrier island-lagoon system between Spy Island and West Dock, Alaska, 1-24 August 2000.

GLAUCOUS GULLS 2000 - STEFANSSON SOUND
 (West Dock to Pole Island)

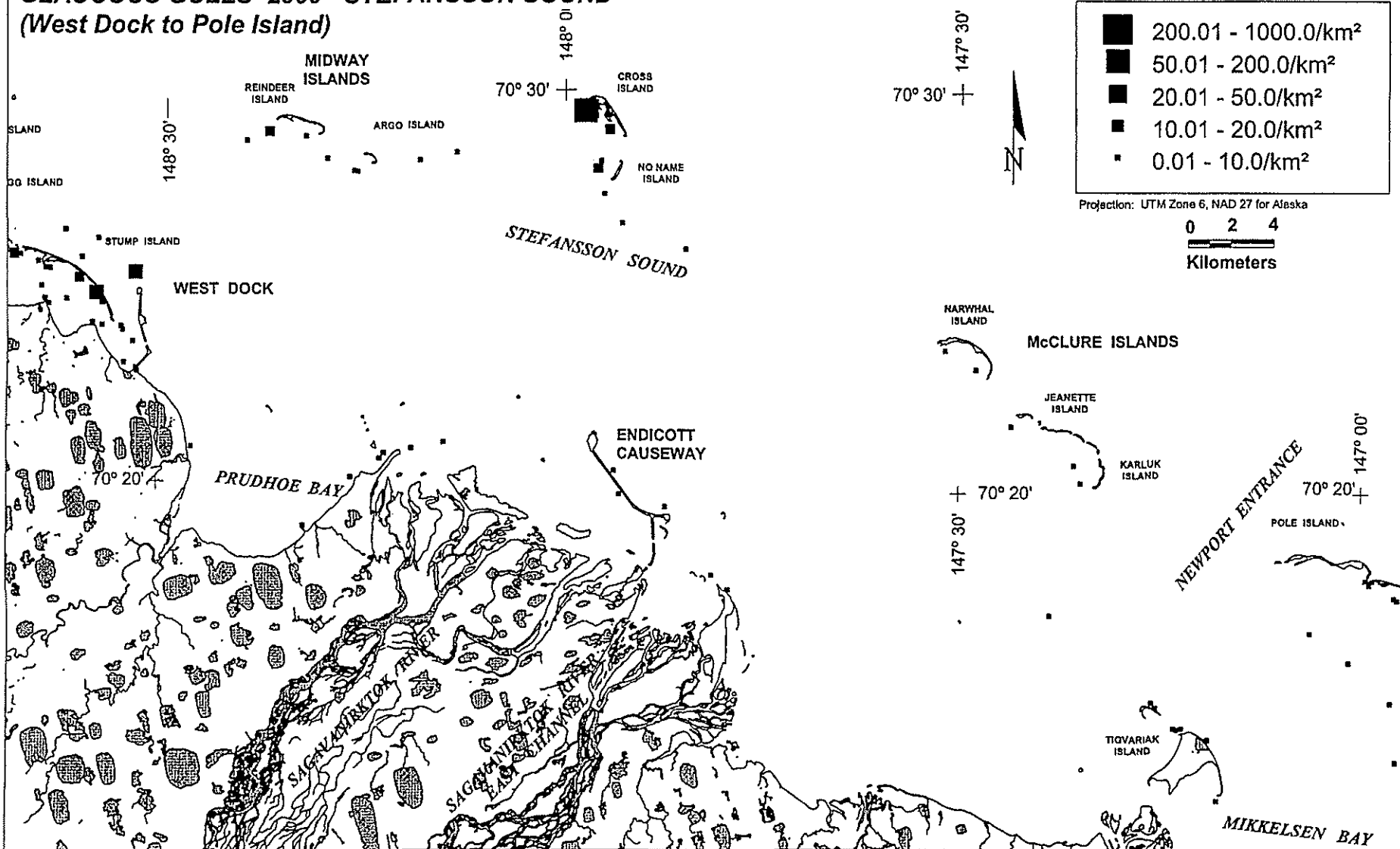


Figure B17. Summary of density for glaucous gulls by 30-s time period segments in the barrier island-lagoon system between West Dock and Pole Island, Alaska, 1-24 August 2000.

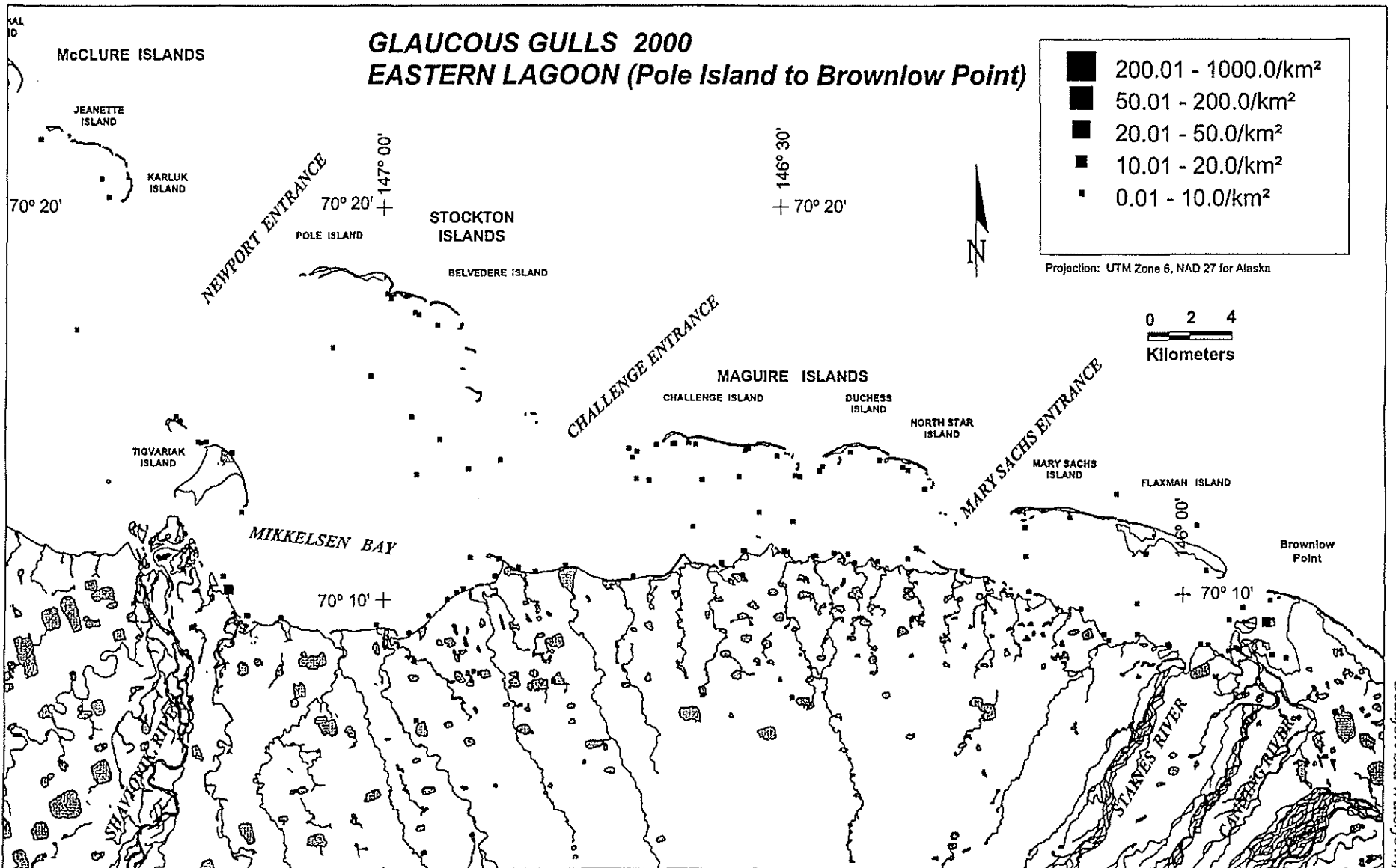
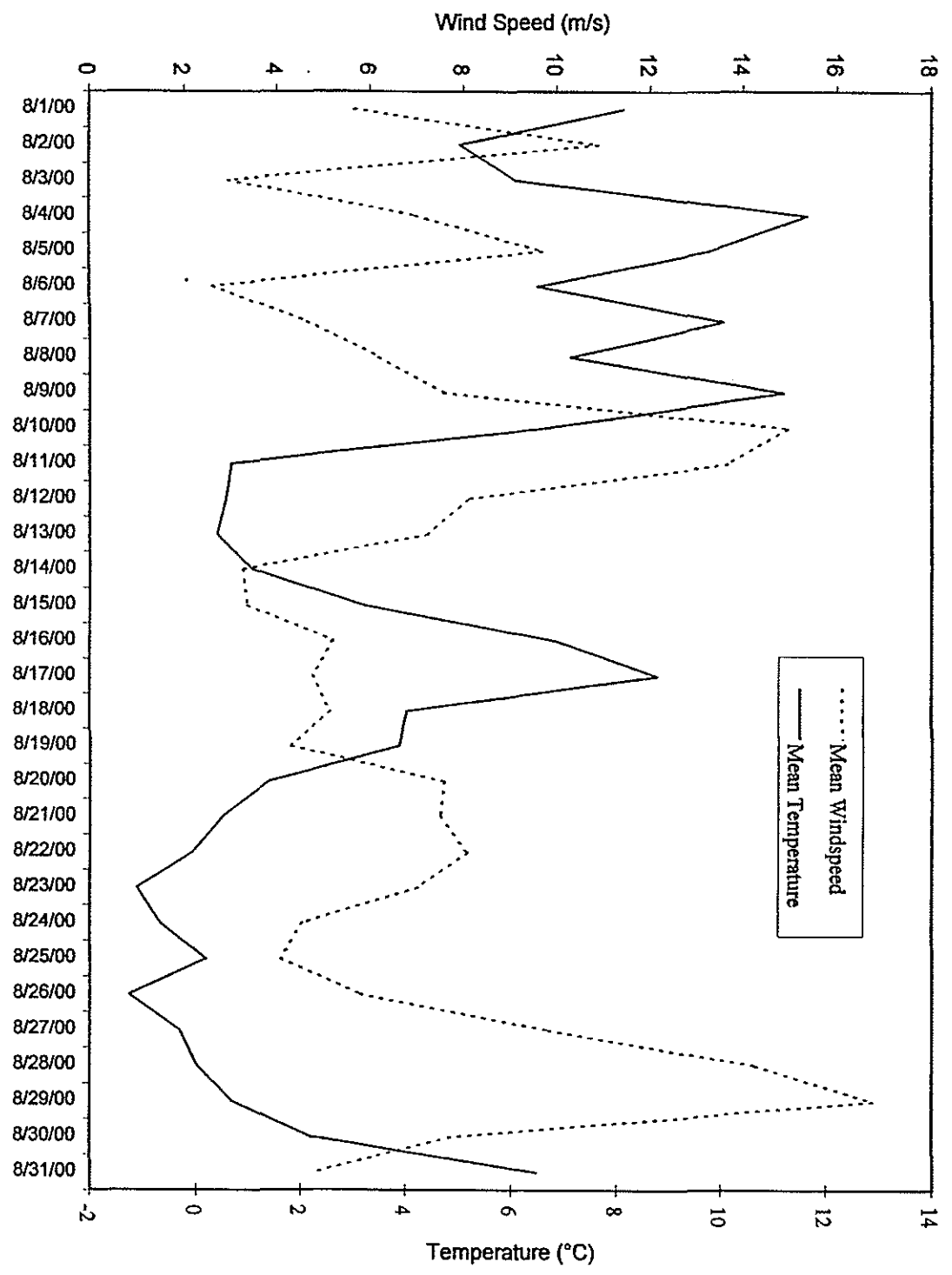


Figure B18. Summary of density for glaucous gulls by 30-s time period segments in the barrier island-lagoon system between Pole Island and Brownlow Point, Alaska, 1-24 August 2000.

APPENDIX C:
August 2000 West Dock NOAA Station Data

Figure C1. Daily mean temperature and wind speed recorded at the Prudhoe Bay NOAA Station at West Dock, Alaska 1-31 August 2000.



NOAA/NDS/CO-OPS
Wind Speed/Dir
9497645 Prudhoe Bay, AK
from 08/01/2000 - 08/31/2000

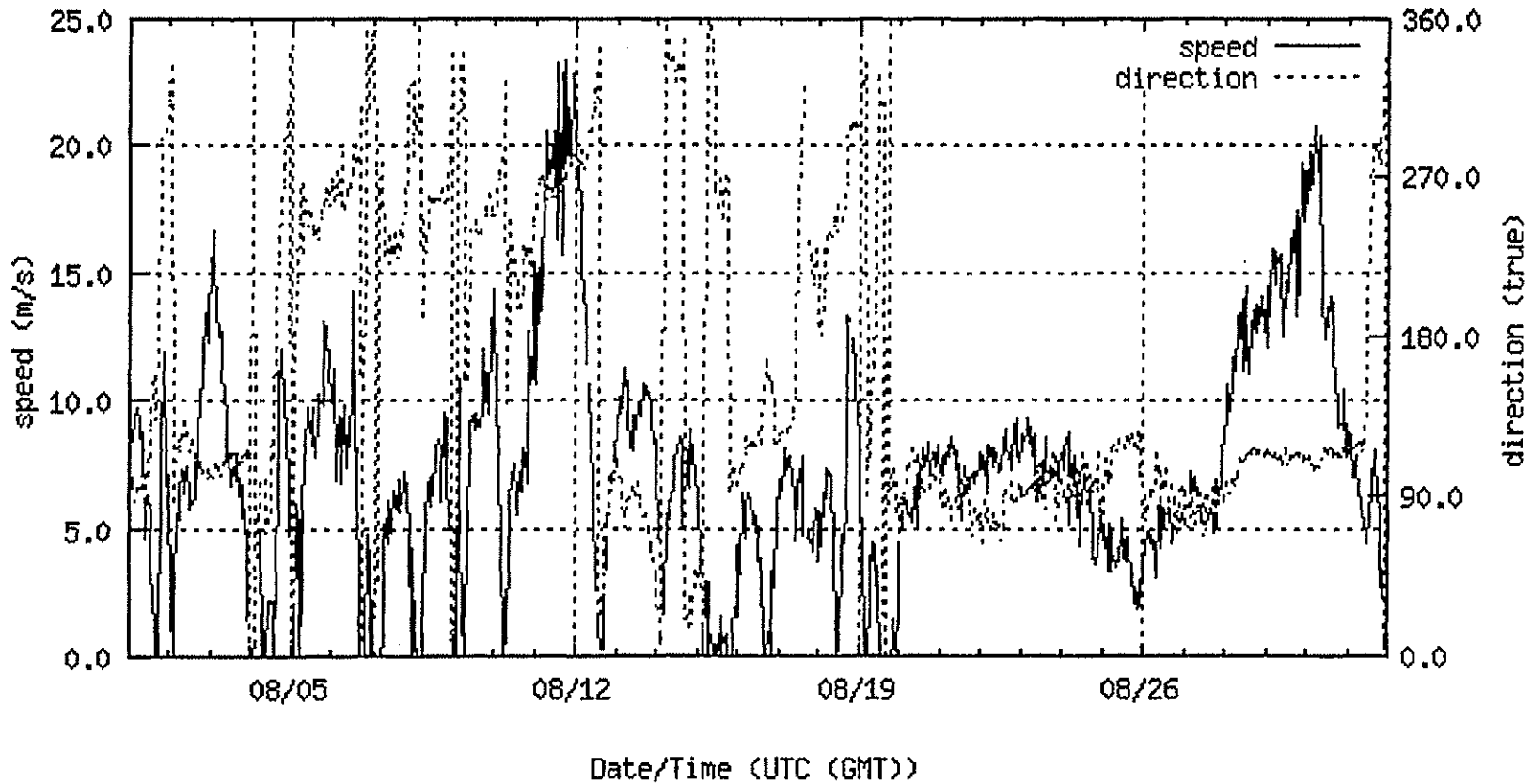


Figure C2. Hourly mean wind speed and direction recorded at the Prudhoe Bay NOAA Station at West Dock, Alaska, 1-31 August 2000.

NOAA/NOS/CO-OPS
Air Temperature Plot
9497645 Prudhoe Bay, AK
from 08/01/2000 - 08/31/2000

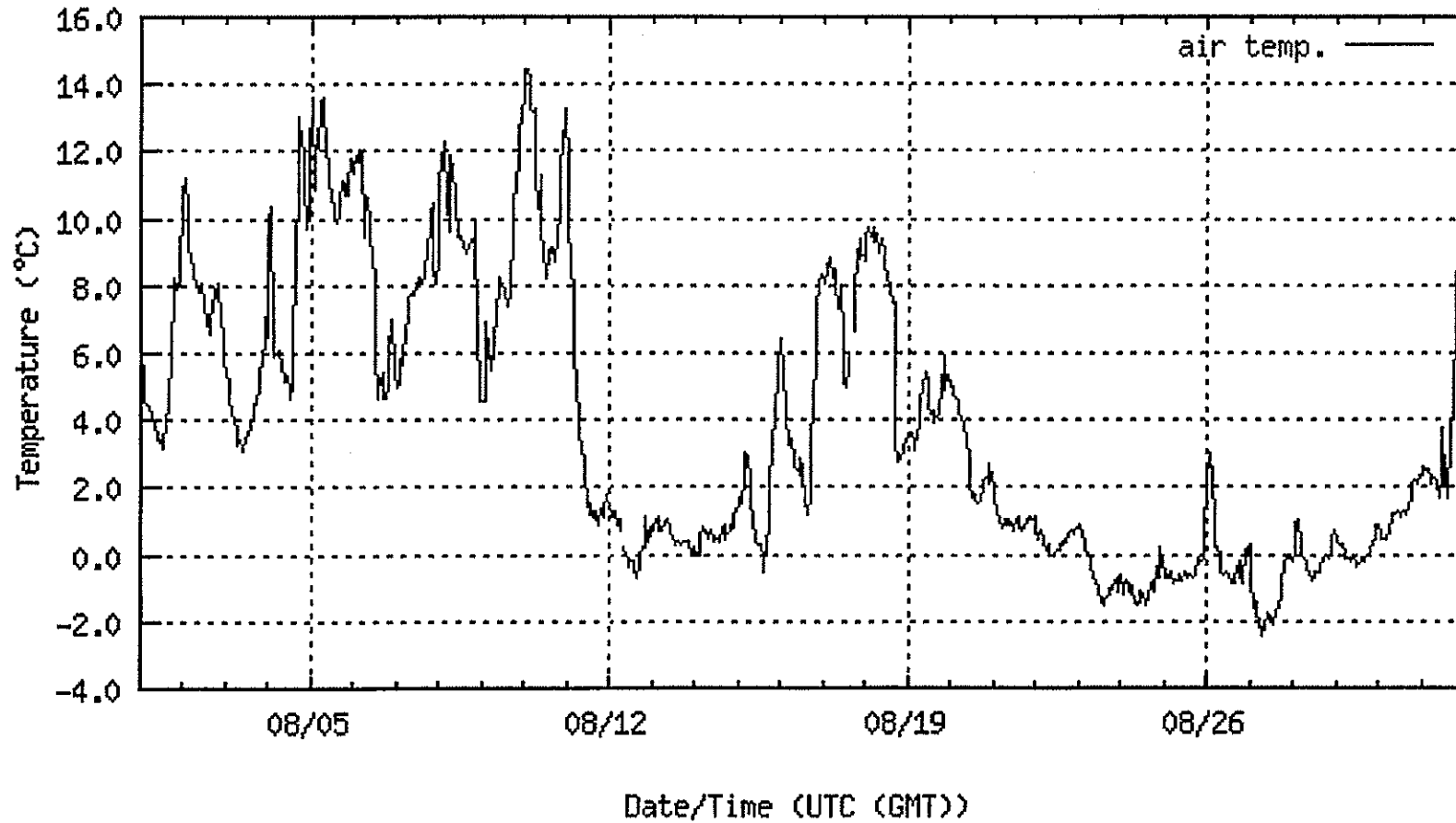


Figure C3. Hourly mean air temperature recorded at the Prudhoe Bay NOAA Station at West Dock, Alaska, 1-31 August 2000.

NOAA/NDS/CO-OPS
Preliminary 6 Minute Water Level (A1) vs Predictions Plot
9497645 Prudhoe Bay, AK
from 08/01/2000 - 08/31/2000

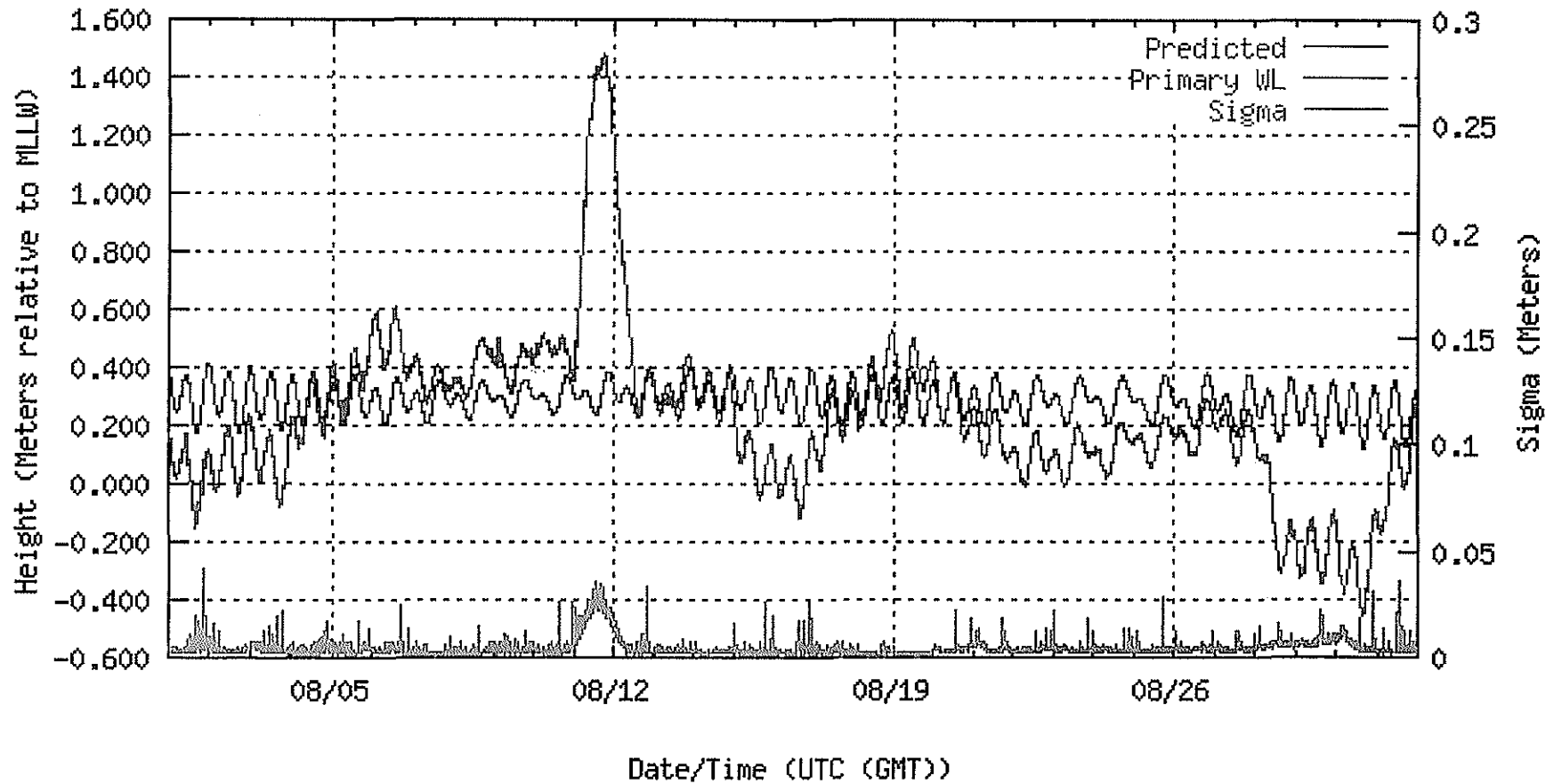


Figure C4. Water level relative to mean low, low water level recorded at 6-min intervals at the Prudhoe Bay NOAA Station at West Dock, Alaska, 1-31 August 2000.

NOAA/NOS/CO-OPS
Barometric Pressure Plot
9497645 Prudhoe Bay, AK
from 08/01/2000 - 08/31/2000

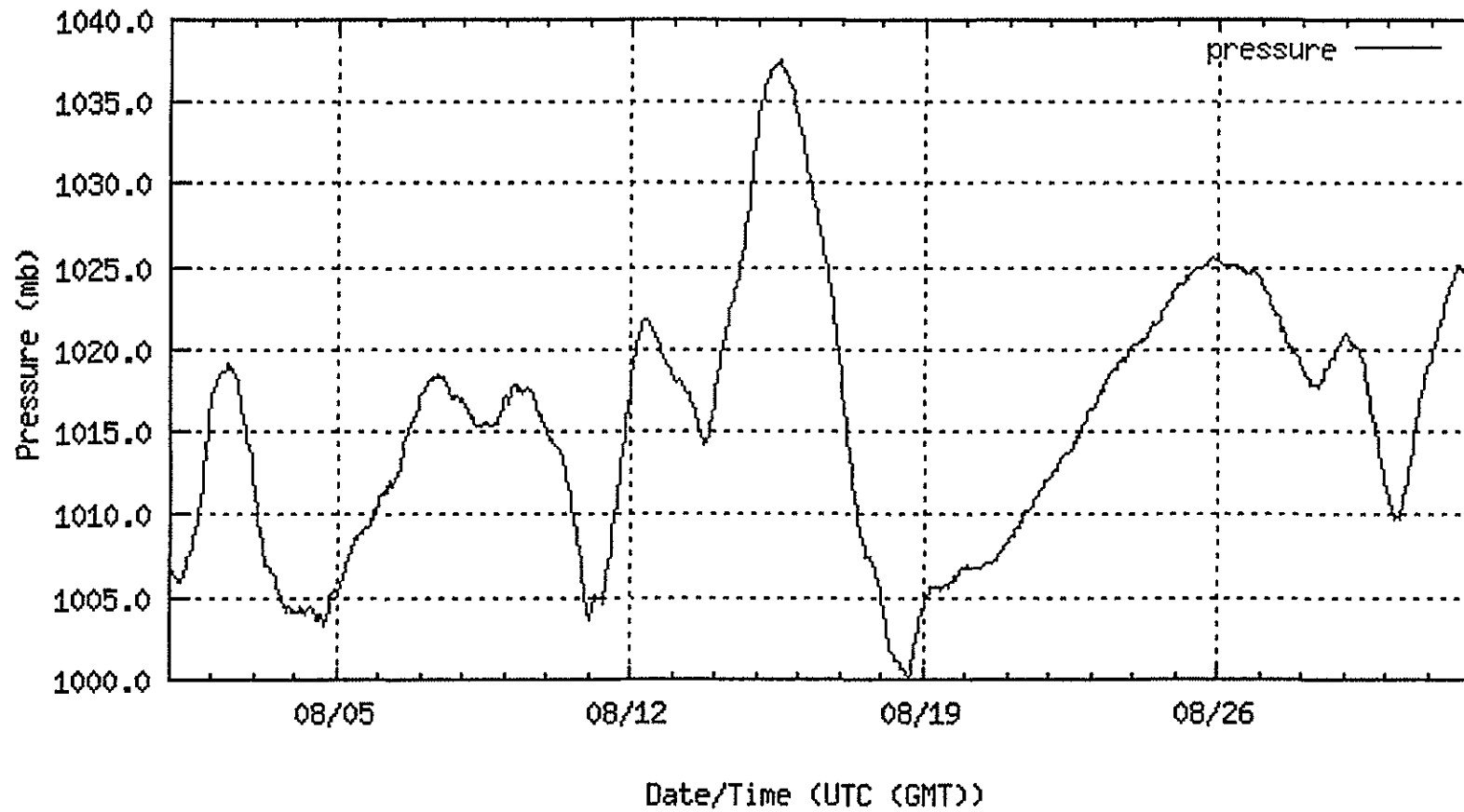


Figure C5. Hourly mean barometric pressure recorded at the Prudhoe Bay NOAA Station at West Dock, Alaska, 1-31 August 2000.