



**United States Department of Commerce
National Oceanic and Atmospheric Administration**

ALASKA FISHERIES SCIENCE CENTER
NATIONAL MARINE MAMMAL LABORATORY
7600 Sand Point Way NE, Bin C15700
Seattle, Washington 98115-0070

TEL: (206) 526-4039

FAX: (206) 526-6615

E-MAIL:

anne.york@noaa.gov

MEMORANDUM FOR: The Record

FROM: Anne York

SUBJECT: Northern fur seal, *Callorhinus ursinus*, pup production Pribilof Islands, 2002

Numbers of northern fur seal, *Callorhinus ursinus*, pups were estimated by shear-sampling, a mark-recapture method, on the Pribilof Islands in August 2002. We estimate 145,701 (SE = 1,629) pups were born on St. Paul Island and 8,262 (SE = 191) born on Sea Lion Rock, a small island approximately 500 m from St. Paul Island. We also estimate 17,593 (SE = 526.6) pups were born on St. George Island. During 1998-2002, pup production declined on St. Paul Island at 5.14% per year (SE = 0.26%, P = 0.03) and at 5.35% per year (SE = 0.67%, P = 0.08) on St. George Island. For the Pribilof Islands, as a whole (excluding Sea Lion Rock), pup production declined at 5.20% per year (SE = 0.19%, P = 0.02). Estimated pup production is now below the 1921 level on St. Paul Island and below the 1916 level on St. George Island; during those years, the northern fur seal population was increasing at about 8% per year as it was recovering from a pelagic harvest that took place in the late 19th and early 20th centuries. On Sea Lion Rock, pup production is slightly greater than the 8,061 pups counted in 1922.



Table 1: Numbers of northern fur seal, *Callorhinus ursinus*, pups born on St. Paul Island, AK in 2002. Estimates are shown of numbers alive at the time of shearing (live), counts of dead pups (dead), estimates of pups born, counts of breeding males (HB), estimates of pup mortality rate (%), and the ratio of pups to breeding males (P:HB).

Rookery	Live	Dead	Born	SE	Mortality	HB	P:HB
Lukanin	3,212	145	3,357	91.5	4.3	110	30.5
Kitovi	5,314	150	5,464	204.5	2.7	162	33.7
Reef	15,868	544	16,412	1,427.5	3.3	476	34.5
Gorbatch	11,308	476	11,784	158.0	4.0	291	40.5
Ardiguen	1,440	57	1,497	74.0	3.8	53	28.2
Morjovi	10,473	241	10,714	97.0	2.2	269	39.8
Vostochni	23,778	696	24,474	277.5	2.8	782	31.3
Polovina	2,773	100	2,873	121.0	3.5	52	55.2
Polovina Cliffs	13,439	277	13,716	367.0	2.0	321	42.7
Tolstoi	16,958	709	17,667	458.5	4.0	354	49.9
Zapadni Reef	5,384	203	5,587	172.0	3.6	139	40.2
Little Zapadni	12,276	440	12,716	208.5	3.5	217	58.6
Zapadni	18,628	737	19,365	127.5	3.8	441	43.9
Little Polovina	73	2	75	4.2	2.7	2	37.5
Total excluding SLR	140,924	4,777	145,701	1,629.0	3.3	3,669	39.7
Sea Lion Rock	8,098	164	8,262	191.0	1.9	NA	NA
Total including SLR	149,022	4,941	153,963	1,640.2	3.2	NA	NA

Figure 1: Northern fur seal *Callorhinus ursinus* pups born on Pribilof Islands, 1975-2002. Error bars are approximate 95% confidence intervals

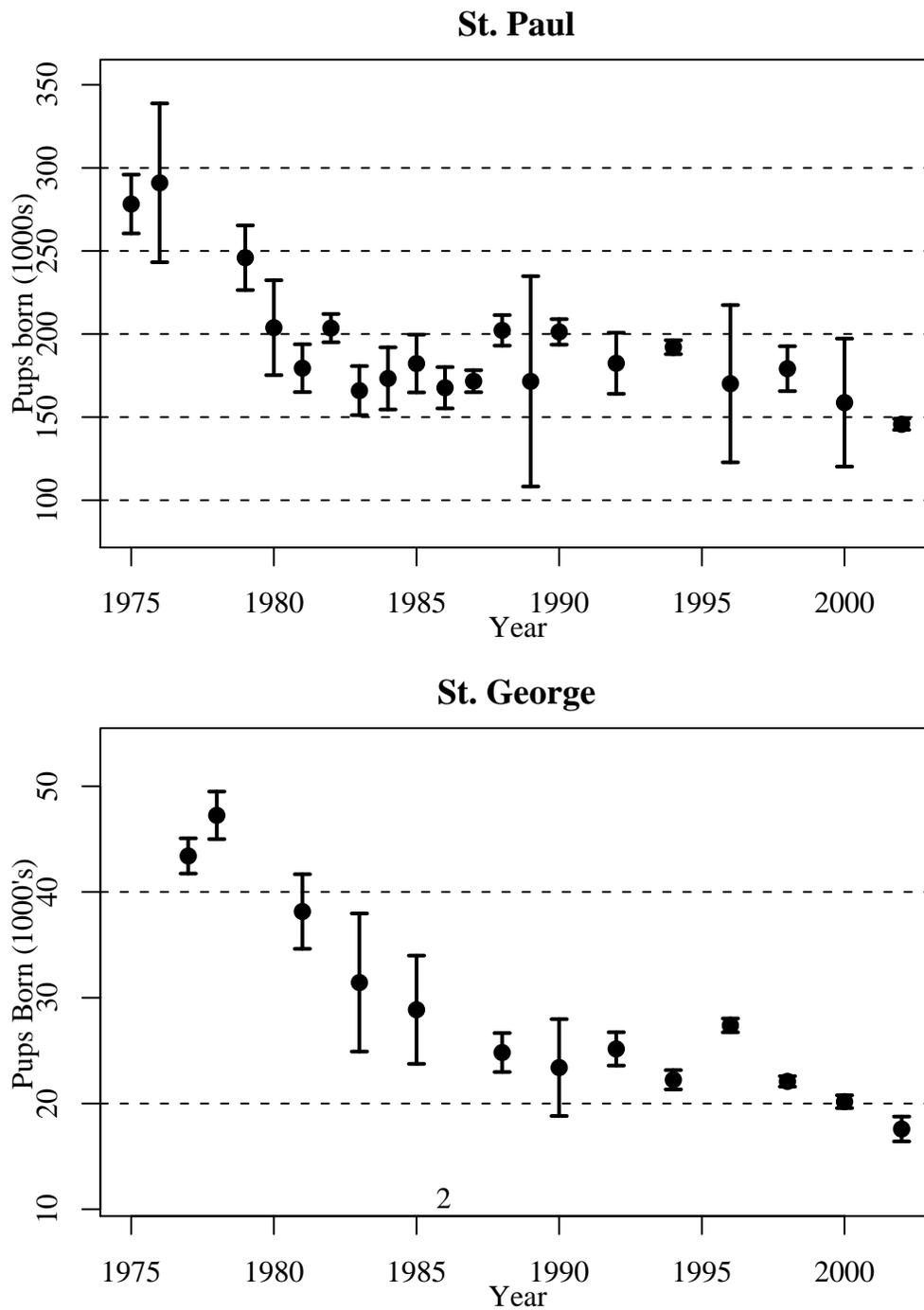


Table 2: Numbers of northern fur seal, *Callorhinus ursinus*, pups born on St. George Island, AK in 2002. Estimates are shown of numbers alive at the time of shearing (live), counts of dead pups (dead), estimates of pups born, counts of breeding males (HB), estimates of pup mortality rate (%), and the ratio of pups to breeding males (P:HB).

Rookery	Live	Dead	Pups.Born	SE	Mortality	HB	P:HB
South	3,518	173	3,691	51.5	4.7	212	17.4
North	6,181	167	6,348	18.0	2.6	306	20.7
East Reef	794	11	805	18.5	1.4	66	12.2
East Cliffs	3,124	82	3,206	42.5	2.6	182	17.6
Staraya Artil	1,161	19	1,180	79.0	1.6	43	27.4
Zapadni	2,282	81	2,363	244.5	3.4	90	26.3
Total	17,060	533	17,593	526.6	3.0	899	19.6