

Philopatry and Dispersion in Steller Sea Lion

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Philopatry and dispersion are two natural phenomena that play an important role in occupation of new areas and species survival. Studying these phenomena in Steller sea lions (SSL) is difficult due their nomadic marine life style and our limited ability to identify individual SSLs. There are 10 major breeding sites of SSL located in Russian Far East. Permanent marking of new born pups has been conducted on nine of them since 1989. As of 2006, 6,312 pups have been marked there with hot brands. Visual observations were conducted on 8 rookeries in 2007 during the breeding season (May-August). Average length of field observation on each rookery was 51 days (range 32 - 88). Observers resighted 1,027 branded Steller sea lions (16.3% of total branded), of which 92 animals were repeatedly sighted on several different rookeries during the season. All marked SSLs resighted on other rookeries than they were born were classified as “non-resident”. We analyzed 988 sightings of 905 marked animals resighted on 7 breeding sights located a distance of 45 to 2,000 km apart. Non-resident SSL appeared on 6 of 7 analyzed rookeries. On average 21% (0 – 33%) of the marked population on rookeries were non-resident animals (all ages and sexes). Among mature females (age 4+) non-residents were 24% (0-44%), while among females that gave birth, only 9% (0-19%) were non-residents. More non-resident individuals of all ages and sexes were recorded on rookeries located less than 100 km apart (Lovushki and Raykoke Islands) or located at specific geographic areas close to natural migrating borders (Antsiferov and Tuleny Islands, and Kozlova Cape). Minimum distance between natal and breeding rookery among non-resident marked females given birth was 45 km and maximum over 1,400 km. A high level of isolation was recorded for Medny Island (Commander Islands) where no non-resident SSL were seen in 2007. Our data show a relatively higher level of mixing of SSL among rookeries than previously believed. In SSL, the degree of philopatry and dispersion highly depends on the location of natal rookery and distance to other rookeries, as seen in other Otariidae species such as northern fur seals.