

injury or death to hauled animals is very low.

One exception to the low risk of marine mammal injury or mortality associated with abalone research would be if disturbances occur during breeding season, as it is possible that mothers and dependent pups may become separated. If separated pairs don't reunite fairly quickly, risks of mortality to pups may increase. Also, adult northern elephant seals may trample elephant seal pups if disturbed. Trampling increases the risk of injury or death to the pups.

However, because of mitigation measures proposed, the applicant expects that only Level B incidental harassment may occur associated with the proposed continuation of black abalone research at SNI and that this research will result in no detectable impact on these marine mammal species or stocks or on their habitats. There is no anticipated impact of the research activity on the availability of the species or stocks for subsistence uses because there is no subsistence harvest of marine mammals in California.

Based on past observations made by the applicant at SNI in 2001 and 2002, the maximum number of California sea lions likely to be present in immediate proximity to all nine abalone survey study areas combined during periods of visitation by researchers may total up to 7,515 animals. For Pacific harbor seals the total maximum likely number that could be found at all research sites combined could be 120, and for northern elephant seals the number could be as many as 305. The distribution of pinnipeds hauled out on beaches is not even. The number of marine mammals disturbed will vary by month and location, and, compared to animals hauled out on the beach farther away from survey activity, only those animals hauled out closest to the actual survey transect plots contained within each research site are likely to be disturbed by the presence of researchers and alter their behavior or attempt to move out of the way.

Mitigation

Several mitigation measures to reduce the potential for harassment from population assessment research surveys will be implemented as part of the SNI abalone research activities. Primarily, mitigation of the risk of disturbance to pinnipeds simply requires that researchers are judicious in the route of approach to abalone study sites, avoiding close contact with pinnipeds hauled out on shore. In no case will marine mammals be deliberately approached by abalone researchers, and in all cases every possible measure will

be taken to select a pathway of approach to study sites that minimizes the number of marine mammals harassed. Each visit to a given study site will last for a maximum of 4 hours, after which the site is vacated and can be reoccupied by any hauled marine mammals that were disturbed by the presence of abalone researchers.

Both increased risk of injury or mortality possibilities will be mitigated with measures required under the proposed authorization. Disturbances to females with dependent pups (in the cases of California sea lions and Pacific harbor seals) can be mitigated to the greatest extent practicable by avoiding visits to those black abalone study sites with resident pinnipeds during periods of breeding and lactation from February through October. Thus, the months of November, December, and January are preferable for abalone survey work in order to minimize the risk of incidental harassment. During these periods of time, abalone research activities can be confined to black abalone sites where pinniped breeding and post-partum nursing does not occur. This mitigation measure will reduce the possibility of incidental harassment takes and eliminate the potential for serious injury or mortality of dependent California sea lion pups and Pacific harbor seal pups.

Northern elephant seal pups are present at five study sites during winter months, but all age and sex categories of this species can be avoided without harassment. Risks of trampling of elephant seal pups by adults are limited to the period from January through March when pups are born, nursed, and weaned, ending about 30 days post-weaning when pups depart land for foraging areas at sea. However, elephant seals have a much higher tolerance of nearby human activity than sea lions or harbor seals. Possible takes of northern elephant seal pups will be minimized by avoiding the immediate proximity of hauled seals and any seal pups during approach to the study sites, and during collection of abalone population data while at the study site.

One individual Guadalupe fur seal has been seen at study site 8 on two separate occasions during the summer months in the mid-1980's. No animals of this threatened species have been seen during abalone research work since then. Thus, limitation of research visits to site 8 to the period November through January eliminates the potential for taking of Guadalupe fur seals by harassment. Guadalupe fur seals are distinctive in appearance and behavior, and can be readily identified at a distance without any disturbance. Although no Guadalupe fur seals are

expected to be onshore, possible harassment of Guadalupe fur seals will be avoided by the suspension of research activities as well as the avoidance of any study area in which Guadalupe fur seals are seen and sites occupied by Guadalupe fur seals will be vacated immediately. Therefore, an authorization for the taking of Guadalupe fur seals by harassment is neither required nor requested.

Monitoring

Currently, all biological research activities at SNI are subject to approval and regulation by the Environmental Planning and Management Department (EPMD), US Navy. The US Navy owns SNI and closely regulates all civilian access to and activity on the island, including biological research. Therefore, monitoring activities will be closely coordinated with Navy marine mammal biologists located on SNI.

In addition, status and trends of pinniped aggregations at SNI are monitored by the NMFS Southwest Fisheries Science Center. Also, ongoing long-term studies of pinniped population dynamics, migratory and foraging behavior, and foraging ecology at SNI are conducted by staff at Hubbs-Sea World Research Institute (HSWRI).

In general, monitoring requirements in relation to Dr. VanBlaricom's abalone research surveys will include observations made by the applicant and his associates. Observations of unusual behaviors, numbers, or distributions of pinnipeds on SNI will be reported to EPMD, NMFS, and HSWRI so that any potential follow-up observations can be conducted by the appropriate personnel. In addition, observations of tag-bearing pinniped carcasses as well as any rare or unusual species of marine mammals will be reported to EPMD, allowing transmittal of this information to appropriate agencies and personnel.

Reporting

A draft final report must be submitted to NMFS within 60 days after the conclusion of the year-long field season. A final report must be submitted to the Regional Administrator within 30 days after receiving comments from NMFS on the draft final report. If no comments are received from NMFS, the draft final report will be considered to be the final report.

Endangered Species Act

Although Dr. VanBlaricom has not requested the incidental take of any listed marine mammal species and, preliminarily, NMFS does not expect any listed species to be affected by his research activities, NMFS will continue