

marine mammals include, but are not limited to, immediate physical and physiological impacts such as abrupt changes in behavior, flight response, diving, evading, flushing, cessation of feeding, and physical impairment or mortality.

MBNMS staff have recovered uncharred casing remnants on ocean waters immediately after marine displays, including cardboard cylinders, disks, paper, plastic pieces, aluminum foil, cotton string, and even whole unexploded shells (duds or misfires). The debris and chemical residue fallout area is determined by wind conditions, weather, and other local variations. MBNMS does not expect this debris to impact marine mammals, because permit conditions and mitigation measures proposed by the Sanctuary will ensure that the debris resulting from fireworks displays will not alter ocean areas or haul-out sites used by California sea lions and harbor seals.

The applicant requests an authorization for incidental takes by Level B harassment only of California sea lions and harbor seals, which are the only two marine mammal species under NMFS' jurisdiction likely to be impacted by fireworks displays within the Sanctuary. The remaining species of marine mammals, though they may be present in the acute impact area, are not likely to be taken by harassment or any other type of take.

California sea lions primarily use the Central California area to feed during the non-breeding season. Following the breeding season on the Channel Islands, most adult and sub-adult males migrate northward to central and northern California and to the Pacific Northwest, while most females and young animals either remain on or near the breeding grounds throughout the year or move southward or northward, as far as Monterey Bay. A minimum of 12,000 sea lions are probably present at any given time within the entire MBNMS region. Number of sea lions peak in the Monterey Bay area in fall and winter and are at their lowest in spring and early summer.

Harbor seals are distributed throughout the west coast of California, and are residents in the MBNMS throughout the year, occurring mainly near the coast. In general, they do not migrate, preferring instead to forage within several miles of their haul-out sites. Within the Sanctuary, harbor seals often move substantial distances to foraging areas each night. Pupping within MBNMS occurs primarily during March and April followed by a molt during May and June.

Past monitoring efforts by the MBNMS staff have identified only a short-term harassment of animals by fireworks displays, with the primary causes of disturbance being light flashes and sound effects from exploding fireworks. Typical decibel levels for displays containing no "salute" effects range from 70 to 78 dB. Studies conducted at Vandenberg Air Force Base (VAFB) to determine responses by California pinnipeds to the effects of periodic rocket launches (which have light and sound effects similar to that of pyrotechnic displays but with much greater intensity) have demonstrated the temporary flushing of animals from haul out sites, their eventual return, and no detectable changes in the seals' hearing sensitivity as a result. Incidental takes of marine mammals are limited to Level B harassment of California sea lions and harbor seals due to the temporary evacuation of usual and accustomed haul-out sites. Sea lions have been observed evacuating haul-out areas upon initial detonation of fireworks and returning to the haul-out sites within 4 to 15 hours following the end of the fireworks display. Harbor seals have been seen to remain in the water after initial fireworks detonation around the haul-out site. Sea lions in general are more tolerant to noise and visual disturbances compared to harbor seals - adult sea lions have likely habituated to many sources of disturbance and are, therefore, tolerant of nearby human activities. For both pinniped species, pups and juveniles are more likely to be harassed when exposed to disturbance compared to older animals. Please refer to MBNMS Fireworks Assessment Report (2001) and Fireworks Guidelines (2002) for information on quantitative survey results, related research studies, and observations made by MBNMS staff as well as details on how exploding fireworks impact marine mammals and how animals respond (see **ADDRESSES**).

However, because of mitigation measures proposed, the MBNMS expects that only Level B incidental harassment may occur incidental to coastal fireworks displays and that these events would result in no detectable impact on marine mammal species or stocks or on their habitats. There is no anticipated impact on the MBNMS or on the availability of the species or stocks for subsistence uses because there is no subsistence harvest of marine mammals in California.

Number of animals taken by Level B harassment during fireworks displays is expected to vary due to factors such as tidal stage, seasonal shifting prey stocks, climatic phenomenon (such as El Nino events), and the number, timing, and

location of future displays. At all four designated display sites combined, twenty fireworks events per year could harass an average annual total of 2,630 California sea lions (6,170 maximum) and an average annual total of 302 harbor seals (1,065 maximum) within the MBNMS. Please refer to the MBNMS Fireworks Assessment Report (2001) for further information regarding estimated incidental take numbers by display area and fireworks events (see **ADDRESSES**).

Mitigation

The MBNMS has worked with the United States Fish and Wildlife Service (USFWS) and NMFS Southwest Region to craft a set of permitting guidelines designed to minimize fireworks impacts in order to protect MBNMS resources, as well as outline the locations, frequency, and conditions under which the MBNMS will authorize marine fireworks displays. The MBNMS plans to retain these permitting requirements and assess displays on a case-by-case basis, implementing general and special restrictions unique to each fireworks event as necessary.

The fireworks guidelines are designed to prevent an incremental proliferation of fireworks displays and disturbance throughout the MBNMS and minimize area of impact by confining displays to primary traditional use areas. Traditional display areas are located adjacent to urban centers where wildlife has often acclimated to human disturbances, such as low-flying aircraft, emergency vehicles, unleashed pets, beach combing, recreational and commercial fishing, surfing, swimming, boating, and personal watercraft operations. Future permitted fireworks displays will be confined to four prescribed areas within the MBNMS and prohibited from the remaining 95% of coastal areas. The conditional display areas are located at Half Moon Bay, the Santa Cruz/Soquel area, the northeastern Monterey Peninsula, and Cambria (Santa Rosa Creek). An equal number of private and public displays will be considered for authorization within each display area. Remote areas and locations where professional fireworks have not traditionally been conducted will not be considered for fireworks approval. In general, fireworks displays will not exceed 20 minutes in duration and will occur with an average frequency of less than or equal to one display every two months within each of four prescribed display areas. Please refer to the MBNMS Fireworks Assessment Report (2001) and Fireworks Guidelines (2002) for general information on frequency and duration of typical fireworks displays within the