

replacement, as well as, any unnecessary burden on the crew.

### Project Description

The project is located at 100 Lighthouse Avenue in the city and county of Monterey, California. The fixed pier extends east into Monterey Bay. The floating dock will be located on the south side near the end of the fixed wharf. The installation of the new floating dock will consist of installing a new 10 ft x 100 ft (3.05 x 30.5 m) pier, including the driving of five new piles.

The pile driving work will be completed from a welded steel barge equipped with a pedestal mounted revolving crane that has a 105-foot (32-meter) boom with a 30-ton (27,216-kg) capacity and 25-ft (7.62-m) radius. The barge will be mobilized, moved, and tended by a barge tender/work boat. The pile driving will be completed using a "DELMAG D19-32 Pile Hammer," which is a single piston internal combustion type hammer powered by diesel fuel. The pile hammer motor has a single piston, which is attached to a 2,000 lb (907 kg) weight. The weight is used to drive the piles. The pile design was completed with the existing conditions (5 ft (1.5 m) of mud over approximately 5 to 10 ft (1.5 to 3.05 m) of 500 lbs. (227 kgs) rock over decomposed granite) in mind. The new pile will consist of a 12-in (0.3-m) I-beam driven to refusal. It is anticipated that the I-beam will penetrate the mud through the rock and a firm toe will be established in the decomposed granite. This I-beam will be covered with a 24-in (0.6-m) round pile that will be driven to refusal creating a seal with the ocean floor. This second pile will be attached to the existing pier with metal braces and drained of seawater. After the pile is drained and stabilized, the 24-in (0.6 m) pile will be filled with concrete using a pump truck.

The manufacturer of the pile hammer has stated that the maximum in-air noise level under extreme driving conditions and at maximum refusal will be between 90 and 100 decibels (dB)(re 20 microPascal-m) at the source; however during this project, extreme conditions will not be encountered, and anticipated in-air noise levels should be between 60 and 85 dB. The manufacturer was not able to estimate the underwater noise level. However, acoustic monitoring of pile driving operations on the Noyo River (Fort Bragg, CA) using a similar size hammer under similar conditions (2 m (6.6 ft) water, mud bottom) and a 12-in (0.3 m) I-beam pile measured noise levels of 169 dB (dB re 1 microPascal-meter) at 100 m. The closest measurement to the

hammer was 30 m, with an underwater noise level of approximately 170 dB.

The pile driving and in water work for this project is expected to last 10 days, while the entire project should be completed within 30 days. Because the site is adjacent to a haul-out for California sea lions and near a small colony of Pacific harbor seals, the potential exists that these marine mammals may be harassed by the action; therefore, an IHA is warranted.

### Description of Habitat and Marine Mammals Affected by the Activity

A description of the Monterey Harbor and its associated marine mammals can be found in the USCG application (USCG, 2002) which is available upon request (see ADDRESSES).

#### Marine Mammals

The marine mammals under NMFS' jurisdiction likely to be found in the project area are limited to the California sea lion and the Pacific harbor seal. General information on harbor seals and California sea lions found in Central California waters can be found in Caretta et al. (2001).

#### California sea lions

The California sea lion primarily uses 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.

California sea lions are regularly observed in the Monterey Harbor area in the autumn, winter, and into the early spring. They regularly haul out on the Coast Guard Jetty. Based on ground surveys conducted from June 1997 through October 1999, an average of between 143.3 (standard deviation (SD) = 51.5) and 425 (SD=130.5) sea lions hauled out on the jetty during the autumn. Mean number of sea lions observed during the winter season (1997-98) was 628 (SD=238.5) animals (Weise 2000). During ground counts from 1997 to 1999, Weise (2000) estimated that approximately 74 percent (SD=18.1 percent) of the sea lions observed were juveniles, 14.9 percent were adults (SD=15.3 percent), and 10.5 percent (SD=6.7 percent) were sub-adult males or females. No pupping occurs in the project area.

#### Harbor seals

A small number of harbor seals are also expected to be found in the project area. Harbor seals are distributed throughout the west coast of California. In general, they do not migrate, preferring instead to forage within several miles of their haul-out sites. In Monterey Harbor, harbor seals haul out on a rocky outcropping located approximately 300 m (984 ft) inshore of the proposed project site and approximately 100 m (328 ft) from a small beach and the Monterey Fisherman's Wharf. Based on surveys conducted in the Monterey Harbor, less than 20 harbor seals are expected to be found on this site within the harbor. The presence of all size classes of animals are possible. Harbor seals do not pup on this haulout, although several pupping sites are located around the Monterey Peninsula within 3 to 20 km (1.9 to 12.4 mi) of the project site.

#### Potential Effects on Marine Mammals

It is possible that California sea lions and harbor seals swimming in the vicinity of the project during pile driving may be subject to elevated sound pressure levels that could produce a temporary shift in the animal's hearing threshold. Construction and human activity around the site could also potentially result in behavioral changes in nearby pinnipeds. California sea lions and harbor seals may temporarily cease normal activities, such as feeding, or pop their heads up above water in response to the noise. They may also be curious and choose to investigate the project site. However, existing evidence shows that most marine mammals tend to avoid loud noises and will likely move away from the project site (Richardson et al., 1995). Disturbance from these activities is expected to have a short-term negligible impact to a number of sea lions and harbor seals. These disturbances will be reduced to the lowest level practicable by implementation of the proposed work restrictions and mitigation measures (see Mitigation).

During the installation of the floating dock, the incidental harassment of California sea lions is expected to occur on a daily basis upon initiation of the pile driving. Sea lions are also likely to be initially harassed by the barge tender moving the barge into place. If the animals no longer perceive construction noise and activity as being threatening, they are likely to resume their regular hauling out behavior. The number of sea lions disturbed will vary daily, but animals in the water near the project