

between 9 p.m. and 7 a.m.; and a limitation on construction noise levels for 24 hrs/day in the vicinity of Castro Rocks during the pupping/molting restriction period.

To minimize harassment of marine mammals, previous authorizations (1997–2001) required CALTRANS to comply with the following mitigation measures: (1) A February 15 through July 31 restriction on work in the water south of the Bridge center line and retrofit work on the Bridge substructure, towers, superstructure, piers, and pilings from piers 52 through 57; (2) no watercraft will be deployed by CALTRANS employees or contractors, during the year within the exclusion zone located between piers 52 and 57, except for when construction equipment is required for seismic retrofitting of piers 52 through 57; and (3) minimize vessel traffic to the greatest extent practicable in the exclusion zone when conducting construction activities between piers 52 and 57. From 1997 through September 2002, the boundary of the exclusion zone was rectangular in shape (1700 ft (518 m) by 800 ft (244 m)), completely enclosing Castro Rocks and piers 52 through 57, inclusive. The northern boundary of the exclusion zone was located 300 ft (91 m) from the most northern tip of Castro Rocks, and the southern boundary was located 300 ft (91 m) from the most southern tip of Castro Rocks. The eastern boundary was located 300 ft (91 m) from the most eastern tip of Castro Rocks, and the western boundary was located 300 ft (91 m) from the most western tip of Castro Rocks. The exclusion zone is restricted as a controlled access area and is marked off with buoys and warning signs for the entire year.

In 2002 (see 67 FR 61323, September 30, 2002), NMFS modified the Work/Boat Exclusion Zone (W/BEZ) so that the eastern boundary was shifted from 100 ft (30.5 m) east of Pier 57 to 100 ft (30.5 m) west of Pier 57. This maintains a 400-ft (122-m) “buffer” as opposed to the previous 600-ft (183-m) buffer, between the work at Pier 57 and “A” rock. This modification is reasonable based on observed seal behavior during the construction within the W/BEZ that harbor seals adjusted their location preference on Castro Rocks by moving westerly to rocks further from the construction (see discussion previously in this document). However, CALTRANS notes that there has not been a statistically significant change in the total numbers of animals that utilize the Castro Rocks haulout.

In addition to shifting the W/BEZ, in 2002, NMFS modified the Work Period in the vicinity of Castro Rocks from

February 15th to March 1st. CALTRANS requested this modification due to unforeseen circumstances affecting the ability of the contractor to conduct the seismic retrofit work on Pier 57. This modification allows the contractor to complete the work this coming season and to stay under budget. The previous Work Closure Period (February 15–July 31) was designed to encompass the entire harbor seals pupping and breeding seasons and nearly the entire molting season at Castro Rocks. Thus, the Work Closure Period included the entire pupping season at Castro Rocks and a substantial pre-pupping period when females are moving into pupping areas (see 62 FR 67045, December 23, 1997). Because moving the Work Closure Period from February 15th to March 1st still provides a 2-week window prior to the onset of successful pupping (March 15th), and because NMFS did not find scientific evidence indicating that female harbor seals need a “quiet period” from general noise in order to pup successfully, NMFS determined that shifting the Work Closure Period from February 15th to March 1st would not have a significant impact on harbor seal pupping.

In 2002, NMFS also modified the period in which work is allowed to start in the vicinity of Castro Rocks from August 1st to a new date of July 16th. As mentioned in previous documents, newborn harbor seal pups are able to swim immediately after birth (Zeiner *et al.*, 1990) and pups are weaned by the first week of June. Therefore, terminating the Work Closure Period on July 16th is not expected to affect pup survival. Under authorizations issued prior to the current IHA, the July 31st ending date for the Work Closure Period was established to protect harbor seals during the molting season. However, those documents also noted that NMFS believed that it is likely that harbor seals evolved adaptive mechanisms to deal with exposure to the water during the molt. For example, on some harbor seal haul-outs (such as Castro Rocks) during the molting season seals must enter the water once or even twice a day due to tidal fluctuations limiting access to the haul-out. Also, since harbor seals lose hair in patches during the molt, they are never completely hairless and would not be as vulnerable to heat loss in the water during this period compared to other seals (e.g., elephant seals) that lose their all their hair at one time. Finally, NMFS notes that if the levels of harbor seal disturbance during the molt are relatively high, seals are likely to utilize other local haul-out sites during the molt (DeLong, R., pers. commun. 1997;

Hanan, D., pers. commun. 1997; Harvey, J., pers. commun. 1997). Hanan (1996) found that although harbor seals tagged at an isolated southern California haul-out tended to exhibit site-fidelity during the molt, some seals were observed molting at other nearby haul-outs. Based on these reasons therefore, NMFS determined that terminating the Closure Period on July 16th would not significantly affect harbor seals in general or molting seals at Castro Rocks in particular.

Monitoring

NMFS will require CALTRANS to continue to monitor the impact of seismic retrofit construction activities on harbor seals at Castro Rocks. Monitoring will be conducted by one or more NMFS-approved monitors. CALTRANS is to monitor at least one additional harbor seal haulout within San Francisco Bay to evaluate whether harbor seals use alternative haulout areas as a result of seismic retrofit disturbance at Castro Rocks.

The monitoring protocol will be divided into the Work Period Phase (July 16 through February 28) and the Work Closure Period Phase (March 1 through July 15). During the Work Period Phase and Work Closure Period Phase, the monitor(s) will conduct observations of seal behavior at least 3 days/week for approximately one tidal cycle each day at Castro Rocks. The following data will be recorded: (1) Number of seals and sea lions on site; (2) date; (3) time; (4) tidal height; (5) number of adults, subadults, and pups; (6) number of individuals with red pelage; (7) number of females and males; (8) number of molting seals; and (9) details of any observed disturbances. Concurrently, the monitor(s) will record general construction activity, location, duration, and noise levels. At least 2 nights/week, the monitor will conduct a harbor seal census after midnight at Castro Rocks. In addition, during the Work Period Phase and prior to any construction between piers 52 and 57, inclusive, the monitor(s) will conduct baseline observations of seal behavior at Castro Rocks and at the alternative site(s) once a day for a period of 5 consecutive days immediately before the initiation of construction in the area to establish pre-construction behavioral patterns. During the Work Period and Work Closure Period Phases, the monitor(s) will conduct observations of seal behavior, and collect appropriate data, at the alternative Bay harbor seal haulout at least 3 days/week (Work Period) and 2 days/week (Work Closure Period), during a low tide.