confidential business information, or otherwise sensitive or protected information submitted voluntarily by the sender will be publicly accessible. NMFS will accept anonymous submissions (enter ''N/A'' in the required fields if you wish to remain anonymous).

FOR FURTHER INFORMATION CONTACT: Heather Austin at (301) 427–8422 or *Heather.Austin@noaa.gov.*

SUPPLEMENTARY INFORMATION: This notice announces our review of the Taiwanese humpback dolphin (*Sousa chinensis taiwanensis*) listed as endangered under the ESA. Section 4(c)(2)(A) of the ESA requires that we conduct a review of listed species at least once every 5 years. This will be the first review of this species since it was listed in 2018 under the ESA. The regulations in 50 CFR 424.21 require that we publish a notice in the **Federal Register** announcing species currently under active review. On the basis of such reviews under section 4(c)(2)(B), we determine whether any species should be removed from the list (*i.e.,* delisted) or reclassified from endangered to threatened or from threatened to endangered (16 U.S.C. 1533(c)(2)(B)). As described by the regulations in 50 CFR 424.11(e), the Secretary shall delist a species if the Secretary finds that, after conducting a status review based on the best scientific and commercial data available: (1) the species is extinct; (2) the species does not meet the definition of an endangered species or a threatened species; and/or (3) the listed entity does not meet the statutory definition of a species. Any change in Federal classification would require a separate rulemaking process.

Background information on the species is available on the NMFS website at: *https://www.fisheries.noaa.gov/species/taiwanese-humpback-dolphin.*

Public Solicitation of New Information

To ensure that the review is complete and based on the best available scientific and commercial information, we are soliciting new information from the public, governmental agencies, Tribes, the scientific community, industry, environmental entities, and any other interested parties concerning the status of *Sousa chinensis taiwanensis.* Categories of requested information include: (1) species biology including, but not limited to, population trends, distribution, abundance, demographics, and genetics; (2) habitat conditions including, but not limited to, amount, distribution, and important features for conservation; (3) status and trends of threats to the species and its habitats; (4) conservation measures that have been implemented that benefit the species, including monitoring data demonstrating effectiveness of such measures; and (5) other new information, data, or corrections including, but not limited to, taxonomic or nomenclatural changes and improved analytical methods for evaluating extinction risk.

If you wish to provide information for the review, you may submit your information and materials electronically (see **ADDRESSES** section). We request that all information be accompanied by supporting documentation such as maps, bibliographic references, or reprints of pertinent publications.

Authority: 16 U.S.C. 1531 *et seq.*

Dated: April 27, 2023.

Angela Somma,

Chief, Endangered Species Conservation Division, Office of Protected Resources, National Marine Fisheries Service.

[FR Doc. 2023–09241 Filed 5–1–23; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648–XC897]

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Construction Activities Associated With the Murray St. Bridge Seismic Retrofit Project in Santa Cruz, California

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice; issuance of incidental harassment authorizations.

SUMMARY: In accordance with the regulations implementing the Marine Mammal Protection Act (MMPA) as amended, notification is hereby given that NMFS has issued two consecutive incidental harassment authorizations (IHAs) to the City of Santa Cruz to incidentally harass marine mammals during construction activities associated with the seismic retrofit of the Murray St. Bridge in Santa Cruz, California.

DATES: These authorizations are effective from May 1, 2023 through April 30, 2024 and May 1, 2024 through April 30, 2025.

FOR FURTHER INFORMATION CONTACT: Jessica Taylor, Office of Protected Resources, NMFS, (301) 427–8401. Electronic copies of the application and supporting documents, as well as a list of the references cited in this document, may be obtained online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-construction-activities.* In case of problems accessing these documents, please call the contact listed above.

SUPPLEMENTARY INFORMATION:

Background

The MMPA prohibits the ''take'' of marine mammals, with certain exceptions. Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce (as delegated to NMFS) to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are proposed or, if the taking is limited to harassment, a notice of a proposed IHA is provided to the public for review.

Authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for taking for subsistence uses (where relevant). Further, NMFS must prescribe the permissible methods of taking and other ''means of effecting the least practicable adverse impact'' on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stocks for taking for certain subsistence uses (referred to in shorthand as ''mitigation''); and requirements pertaining to the mitigation, monitoring and reporting of the takings are set forth. The definitions of all applicable MMPA statutory terms cited above are included in the relevant sections below.

Summary of Request

On April 19, 2022, NMFS received a request from the City of Santa Cruz (the City) for two consecutive 1-year IHAs to take marine mammals incidental to construction activities associated with the Murray St. Bridge seismic retrofit project in Santa Cruz, CA. Following NMFS' review of the application, the City submitted revised versions on August 25, 2022, October 25, 2022, and December 13, 2022, and a final revised version on January 12, 2023. The application was deemed adequate and complete on January 24, 2023. The

City's request is for take of small numbers of California sea lions (*Zalophus californianus*) and harbor seals (*Phoca vitulina richardii*) by Level B harassment and take of small numbers of harbor seals by Level A harassment. Neither the City nor NMFS expect serious injury or mortality to result from this activity and, therefore, IHAs are appropriate. There are no changes from the proposed IHA to the final IHA.

Description of Activity

Overview

The City plans to conduct a seismic retrofit on the Murray St. Bridge, which spans the Santa Cruz Small Craft Harbor. As part of the project, the City will use vibratory pile extraction to temporarily remove docks and associated piles to accommodate construction access to the bridge. Impact pile driving will be used to install additional bridge support piles. In order to facilitate installation of bridge piles, vibratory extraction may be used to construct a temporary trestle. As an alternative to the trestle, a temporary barge may be constructed instead. The purpose of the project is to provide the bridge with additional vertical support and resistance to lateral seismic forces by installing additional pilings and structural support elements.

The City's activity includes impact and vibratory pile driving and vibratory pile removal, which may result in the incidental take of marine mammals by Level A and Level B harassment. The Murray St. Bridge project area includes waters within the Santa Cruz Small Craft Harbor and adjacent lands managed by the Santa Cruz Port District. Construction activities will span the course of 2 years, with the first year beginning on July 1, 2023 and lasting through July 31, 2023. The second year of construction activities will begin on July 1, 2024 and last through September 15, 2024. The City has requested an IHA for each of the 2 project years. However, given the City has applied for authorization for both project years concurrently and projects use similar activities, NMFS is issuing this single **Federal Register** notice announce the issuance of the two similar, but separate, IHAs.

A detailed description of the planned construction project is provided in the **Federal Register** notice for the proposed IHAs (88 FR 12316, February 27, 2023). Since that time, no changes have been made to the planned construction activities. Therefore, a detailed description is not provided here. Please refer to the **Federal Register** notice for the description of the specific activity. Mitigation, monitoring, and reporting measures are described in detail later in this document (please see Mitigation and Monitoring and Reporting).

Comments and Responses

A notice of NMFS' proposal to issue two consecutive IHAs to the City was published in the **Federal Register** on February 27, 2023 (88 FR 12316). That notice described, in detail, the City's activities, the marine mammal species that may be affected by the activities, and the anticipated effects on marine mammals. In that notice, we requested public input on the request for authorization described therein, our analyses, the proposed authorizations, and any other aspect of the notice of proposed IHAs, and requested that interested persons submit relevant information, suggestions, and comments. This proposed notice was available for a 30-day public comment period. During the 30-day public comment period, NMFS received no public comments.

Description of Marine Mammals in the Area of Specified Activities

Sections 3 and 4 of the application summarize available information regarding status and trends, distribution and habitat preferences, and behavior and life history of the potentially affected species. NMFS fully considered all of this information, and we refer the reader to these descriptions, incorporated here by reference, instead of reprinting the information. Additional information regarding population trends and threats may be found in NMFS' Stock Assessment Reports (SARs; *www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments*), and more general information about these species (*e.g.,* physical and behavioral descriptions) may be found on NMFS' website (*https://www.fisheries.noaa.gov/find-species*).

Table 1 lists all species or stocks for which take is authorized for this activity, and summarizes information related to the population or stock, including regulatory status under the MMPA and Endangered Species Act (ESA) and potential biological removal (PBR), where known. PBR is defined by the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population (as described in NMFS' SARs). While no serious injury or mortality is expected to occur, PBR and annual serious injury and mortality from anthropogenic sources are included here as gross indicators of the status of the species or stocks and other threats.

Marine mammal abundance estimates presented in this document represent the total number of individuals that make up a given stock or the total number estimated within a particular study or survey area. NMFS' stock abundance estimates for most species represent the total estimate of individuals within the geographic area, if known, that comprises that stock. For some species, this geographic area may extend beyond U.S. waters. All stocks managed under the MMPA in this region are assessed in NMFS' U.S. Pacific SARs. All values presented in Table 1 are the most recent available at the time of publication, including from the draft 2022 SARs, and are available online at: *www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments.*

TABLE 1—MARINE MAMMAL SPECIES [4] LIKELY IMPACTED BY THE SPECIFIED ACTIVITIES

Common name	Scientific name	Stock	ESA/MMPA status; Strategic (Y/N) [1]	Stock abundance (CV, Nmin, most recent abundance survey) [2]	PBR	Annual M/SI [3]
Order Carnivora—Pinnipedia						
Family Otariidae (eared seals and sea lions):						
California sea lion	*Zalophus californianus*	U.S.	-, -, N	257,606 (N/A,233,515, 2014).	14,011	>320
Family Phocidae (earless seals)						

TABLE 1—MARINE MAMMAL SPECIES [4] LIKELY IMPACTED BY THE SPECIFIED ACTIVITIES—Continued

Common name	Scientific name	Stock	ESA/ MMPA status; Strategic (Y/N) [1]	Stock abundance (CV, Nmin, most recent abundance survey) [2]	PBR	Annual M/SI [3]
Harbor seal	*Phoca vitulina*	California	-, -, N	30,968 (N/A, 27,348, 2012).	1,641	43

[1] Endangered Species Act (ESA) status: Endangered (E), Threatened (T)/MMPA status: Depleted (D). A dash (-) indicates that the species is not listed under the ESA or designated as depleted under the MMPA. Under the MMPA, a strategic stock is one for which the level of direct human-caused mortality exceeds PBR or which is determined to be declining and likely to be listed under the ESA within the foreseeable future. Any species or stock listed under the ESA is automatically designated under the MMPA as depleted and as a strategic stock.

[2] NMFS marine mammal stock assessment reports online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments.* CV is coefficient of variation; Nmin is the minimum estimate of stock abundance.

[3] These values, found in NMFS's SARs, represent annual levels of human-caused mortality plus serious injury from all sources combined (*e.g.,* commercial fisheries, ship strike). Annual M/SI often cannot be determined precisely and is in some cases presented as a minimum value or range. A CV associated with estimated mortality due to commercial fisheries is presented in some cases.

[4] Information on the classification of marine mammal species can be found on the web page for The Society for Marine Mammalogy's Committee on Taxonomy (*https://marinemammalscience.org/science-and-publications/list-marine-mammal-species-subspecies/*; Committee on Taxonomy (2022)).

As indicated above, the two species (with two managed stocks) in Table 1 temporally and spatially co-occur with the activity to the degree that take is reasonably likely to occur. While bottlenose dolphins (*Tursiops truncatus*) and harbor porpoises (*Phocoena phocoena*) have been reported in the area, the temporal and/or spatial occurrence of these species is such that take is not expected to occur, and they are not discussed further beyond the explanation provided here. Bottlenose dolphins and harbor porpoises may transit nearshore areas just outside the mouth of the Harbor (Carretta *et al.,* 2022). However, these species were not detected during any surveys of the Harbor area and are expected to remain outside the Harbor and beyond the project area.

In addition, the southern sea otter (*Enhydra lutris nereis*) may be found in the Harbor. However, sea otters are managed by the U.S. Fish and Wildlife Service and are not considered further in this document.

A detailed description of the species likely to be affected by the construction project, including brief introductions to the species and relevant stocks as well as available information regarding population trends and threats, and information regarding local occurrence, were provided in the **Federal Register** notice of the proposed IHAs (88 FR 12316, February 27, 2023); since that time, we are not aware of any changes in the status of these species and stocks; therefore, detailed descriptions are not provided here. Please refer to that **Federal Register** notice for these descriptions. Please also refer to NMFS' website (*https://www.fisheries.noaa.gov/find-species*) for generalized species accounts.

Marine Mammal Hearing

Hearing is the most important sensory modality for marine mammals underwater, and exposure to anthropogenic sound can have deleterious effects. To appropriately assess the potential effects of exposure to sound, it is necessary to understand the frequency ranges marine mammals are able to hear. Not all marine mammal species have equal hearing capabilities (*e.g.,* Richardson *et al.,* 1995; Wartzok and Ketten, 1999; Au and Hastings, 2008). To reflect this, Southall *et al.* (2007, 2019) recommended that marine mammals be divided into hearing groups based on directly measured (behavioral or auditory evoked potential techniques) or estimated hearing ranges (behavioral response data, anatomical modeling, *etc.*). Note that no direct measurements of hearing ability have been successfully completed for mysticetes (*i.e.,* low-frequency cetaceans). Subsequently, NMFS (2018) described generalized hearing ranges for these marine mammal hearing groups. Generalized hearing ranges were chosen based on the approximately 65 decibel (dB) threshold from the normalized composite audiograms, with the exception for lower limits for low-frequency cetaceans where the lower bound was deemed to be biologically implausible and the lower bound from Southall *et al.* (2007) retained. Marine mammal hearing groups and their associated hearing ranges are provided in Table 2.

TABLE 2—MARINE MAMMAL HEARING GROUPS

[NMFS, 2018]

Hearing group	Generalized hearing range *
Low-frequency (LF) cetaceans (baleen whales)	7 Hz to 35 kHz.
Mid-frequency (MF) cetaceans (dolphins, toothed whales, beaked whales, bottlenose whales)	150 Hz to 160 kHz.
High-frequency (HF) cetaceans (true porpoises, *Kogia,* river dolphins, Cephalorhynchid, *Lagenorhynchus cruciger* & *L. australis*).	275 Hz to 160 kHz.
Phocid pinnipeds (PW) (underwater) (true seals)	50 Hz to 86 kHz.
Otariid pinnipeds (OW) (underwater) (sea lions and fur seals)	60 Hz to 39 kHz.

* Represents the generalized hearing range for the entire group as a composite (*i.e.,* all species within the group), where individual species' hearing ranges are typically not as broad. Generalized hearing range chosen based on ~65 dB threshold from normalized composite audiogram, with the exception for lower limits for LF cetaceans (Southall *et al.,* 2007) and PW pinniped (approximation).

The pinniped functional hearing group was modified from Southall *et al.* (2007) on the basis of data indicating that phocid species have consistently demonstrated an extended frequency range of hearing compared to otariids, especially in the higher frequency range (Hemilä *et al.,* 2006; Kastelein *et al.,* 2009; Reichmuth and Holt, 2013).

For more detail concerning these groups and associated frequency ranges,

please see NMFS (2018) for a review of available information.

Potential Effects of Specified Activities on Marine Mammals and Their Habitat

The effects of underwater noise from the City's construction activities have the potential to result in behavioral harassment of marine mammals in the vicinity of the project area. The notice of the proposed IHAs (88 FR 12316, February 27, 2023) included a discussion of the effects of anthropogenic noise on marine mammals and the potential effects of underwater noise from the City's construction activities on marine mammals and their habitat. That information and analysis is incorporated by reference into this final IHA determination and is not repeated here; please refer to the notice of the proposed IHAs (88 FR 12316, February 27, 2023).

Estimated Take

This section provides an estimate of the number of incidental takes authorized through these IHAs, which will inform both NMFS' consideration of ''small numbers,'' and the negligible impact determinations.

Harassment is the only type of take expected to result from these activities. Except with respect to certain activities not pertinent here, section 3(18) of the MMPA defines ''harassment'' as any act of pursuit, torment, or annoyance, which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

Authorized takes will primarily be by Level B harassment, as use of the acoustic source (*i.e.,* impact pile driving) has the potential to result in disruption of behavioral patterns for individual marine mammals. There is also some potential for auditory injury (Level A harassment) to result, primarily for phocids because predicted auditory injury zones are larger than for otariids. Auditory injury is unlikely to occur for otariids. The mitigation and monitoring measures are expected to minimize the severity of the taking to the extent practicable.

As described previously, no serious injury or mortality is anticipated or authorized for this activity. Below we describe how the authorized take numbers are estimated.

For acoustic impacts, generally speaking, we estimate take by considering: (1) acoustic thresholds above which NMFS believes the best available science indicates marine mammals will be behaviorally harassed or incur some degree of permanent hearing impairment; (2) the area or volume of water that will be ensonified above these levels in a day; (3) the density or occurrence of marine mammals within these ensonified areas; and, (4) the number of days of activities. We note that while these factors can contribute to a basic calculation to provide an initial prediction of potential takes, additional information that can qualitatively inform take estimates is also sometimes available (*e.g.,* previous monitoring results or average group size). Below, we describe the factors considered here in more detail and present the authorized take estimates.

Acoustic Thresholds

NMFS recommends the use of acoustic thresholds that identify the received level of underwater sound above which exposed marine mammals would be reasonably expected to be behaviorally harassed (equated to Level B harassment) or to incur permanent threshold shift (PTS) of some degree (equated to Level A harassment).

Level B Harassment—Though significantly driven by received level, the onset of behavioral disturbance from anthropogenic noise exposure is also informed to varying degrees by other factors related to the source or exposure context (*e.g.,* frequency, predictability, duty cycle, duration of the exposure, signal-to-noise ratio, distance to the source), the environment (*e.g.,* bathymetry, other noises in the area, predators in the area), and the receiving animals (hearing, motivation, experience, demography, life stage, depth) and can be difficult to predict (*e.g.,* Southall *et al.,* 2007, 2021; Ellison *et al.,* 2012). Based on what the available science indicates and the practical need to use a threshold based on a metric that is both predictable and measurable for most activities, NMFS typically uses a generalized acoustic threshold based on received level to estimate the onset of behavioral harassment. NMFS generally predicts that marine mammals are likely to be behaviorally harassed in a manner considered to be Level B harassment when exposed to underwater anthropogenic noise above root-mean-squared pressure received levels (RMS SPL) of 120 dB (referenced to 1 micropascal (re 1 μPa)) for continuous (*e.g.,* vibratory pile-driving, drilling) and above RMS SPL 160 dB re 1 μPa for non-explosive impulsive (*e.g.,* seismic airguns) or intermittent (*e.g.,* scientific sonar) sources. Generally speaking, Level B harassment take estimates based on these behavioral harassment thresholds are expected to include any likely takes by temporary threshold shift (TTS) as, in most cases, the likelihood of TTS occurs at distances from the source less than those at which behavioral harassment is likely. TTS of a sufficient degree can manifest as behavioral harassment, as reduced hearing sensitivity and the potential reduced opportunities to detect important signals (conspecific communication, predators, prey) may result in changes in behavior patterns that would not otherwise occur.

The City's planned construction activity includes the use of continuous (vibratory pile driving and removal) and impulsive (impact pile driving) sources, and therefore the RMS SPL thresholds of 120 and 160 dB re 1 μPa are applicable.

Level A harassment—NMFS' Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0) (Technical Guidance, 2018) identifies dual criteria to assess auditory injury (Level A harassment) to five different marine mammal groups (based on hearing sensitivity) as a result of exposure to noise from two different types of sources (impulsive or non-impulsive). The City's planned activity includes the use of impulsive (impact hammer) and non-impulsive (vibratory hammer) sources.

These thresholds are provided in the table below. The references, analysis, and methodology used in the development of the thresholds are described in NMFS' 2018 Technical Guidance, which may be accessed at: *www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance.*

TABLE 3—THRESHOLDS IDENTIFYING THE ONSET OF PERMANENT THRESHOLD SHIFT

Hearing group	PTS onset thresholds * (received level)	
	Impulsive	Non-impulsive
Low-Frequency (LF) Cetaceans	*Cell 1:* $L_{p,0\text{-pk,flat}}$: 219 dB; $L_{E,p,\ LF,24h}$: 183 dB	*Cell 2:* $L_{E,p,\ LF,24h}$: 199 dB.
Mid-Frequency (MF) Cetaceans	*Cell 3:* $L_{p,0\text{-pk,flat}}$: 230 dB; $L_{E,p,\ MF,24h}$: 185 dB	*Cell 4:* $L_{E,p,\ MF,24h}$: 198 dB.
High-Frequency (HF) Cetaceans	*Cell 5:* $L_{p,0\text{-pk,flat}}$: 202 dB; $L_{E,p,HF,24h}$: 155 dB	*Cell 6:* $L_{E,p,\ HF,24h}$: 173 dB.
Phocid Pinnipeds (PW) (Underwater)	*Cell 7:* $L_{p,0\text{-pk,flat}}$: 218 dB; $L_{E,p,PW,24h}$: 185 dB	*Cell 8:* $L_{E,p,PW,24h}$: 201 dB.
Otariid Pinnipeds (OW) (Underwater)	*Cell 9:* $L_{p,0\text{-pk,flat}}$: 232 dB; $L_{E,p,OW,24h}$: 203 dB	*Cell 10:* $L_{E,p,OW,24h}$: 219 dB.

* Dual metric thresholds for impulsive sounds: Use whichever results in the largest isopleth for calculating PTS onset. If a non-impulsive sound has the potential of exceeding the peak sound pressure level thresholds associated with impulsive sounds, these thresholds are recommended for consideration.

Note: Peak sound pressure level ($L_{p,0\text{-pk}}$) has a reference value of 1 µPa, and weighted cumulative sound exposure level ($L_{E,p}$) has a reference value of 1µPa^{2}s. In this Table, thresholds are abbreviated to be more reflective of International Organization for Standardization standards (ISO, 2017). The subscript ''flat'' is being included to indicate peak sound pressure are flat weighted or unweighted within the generalized hearing range of marine mammals (*i.e.,* 7 Hz to 160 kHz). The subscript associated with cumulative sound exposure level thresholds indicates the designated marine mammal auditory weighting function (LF, MF, and HF cetaceans, and PW and OW pinnipeds) and that the recommended accumulation period is 24 hours. The weighted cumulative sound exposure level thresholds could be exceeded in a multitude of ways (*i.e.,* varying exposure levels and durations, duty cycle). When possible, it is valuable for action proponents to indicate the conditions under which these thresholds will be exceeded.

Ensonified Area

Here, we describe operational and environmental parameters of the activity that are used in estimating the area ensonified above the acoustic thresholds, including source levels and transmission loss coefficient.

The sound field in the project area is the existing background noise plus additional construction noise from the project. Marine mammals are expected to be affected by sound generated by the primary components of the project (*i.e.,* impact and vibratory pile driving).

In order to calculate distances to the Level A harassment and Level B harassment thresholds for the methods and piles being used in this project, the City used acoustic monitoring data from various similar locations to develop source levels for the different pile types, sizes, and methods planned for use (Table 4).

TABLE 4—SOURCE LEVELS FOR PLANNED REMOVAL AND INSTALLATION ACTIVITIES

Activity	Location	Pile size/type	Method	Peak sound pressure (dB re 1 µPa)	Mean maximum RMS SPL (dB re 1 µPa)	SEL [1] (dB re 1 µPa2 sec)	Source
Removal of existing bridge piles. Removal of dock FF&T piles.	Bridge Bent 6. Dock FF & BY	14″ P/C concrete	Vibratory	171	163	155	NAVFAC SW, 2022.
Install new permanent bridge piles.	Bridge Bents 4 through 8	30″ steel in CISS	Impact	210	190	177	Caltrans, 2015.
Install new permanent bridge piles.	Bridge Bents 4 through 8	30″ steel in CISS	Vibratory	196	159	175	Caltrans, 2020.
Install new permanent bridge piles.	Dock FF&T piles	14″ P/C concrete	Impact	185	170	160	Caltrans, 2020.
Install new permanent bridge piles.	Dock FF&T piles	14″ P/C concrete	Vibratory	171	163	155	NAVFAC SW, 2022.
Install temporary trestle piles	Adjacent to bridge	20″ steel [2]	Vibratory	194	154	NA	Caltrans, 2015.

[1] Sound exposure level (SEL).
[2] 24″ steel pipe used as a proxy for 20″ steel pile for vibratory pile driving.

Level B Harassment Zones

Transmission loss (TL) is the decrease in acoustic intensity as an acoustic pressure wave propagates out from a source. TL parameters vary with frequency, temperature, sea conditions, current, source and receiver depth, water depth, water chemistry, and bottom composition and topography. The general formula for underwater TL is:

$TL = B * Log_{10} (R_1/R_2)$

Where:

TL = transmission loss in dB
B = transmission loss coefficient; for practical spreading equals 15
R_1 = the distance of the modeled SPL from the driven pile, and
R_2 = the distance from the driven pile of the initial measurement

The recommended TL coefficient for most nearshore environments is the practical spreading value of 15. This value results in an expected propagation environment that would lie between spherical and cylindrical spreading loss conditions, which is the most appropriate assumption for the City's activities. The City assumed an open water attenuation rate of 4.5 dB per doubling of distance. The Level B harassment zones and ensonified area for the City's activities are shown in Table 5.

TABLE 5—DISTANCES TO LEVEL B HARASSMENT THRESHOLDS

Pile type/size	Method	Projected radial distance to Level B harassment threshold (m)
Year 1		
14″ P/C concrete	Vibratory	7,356
Year 2		
30″ steel pipe pile in CISS	Impact	1,000
	Vibratory	3,981
14″ p/c concrete	Impact	46
	Vibratory	7,356
20″ steel pipe piles	Vibratory	1,848

Level A Harassment Zones

The ensonified area associated with Level A harassment is more technically challenging to predict due to the need to account for a duration component. Therefore, NMFS developed an optional User Spreadsheet tool to accompany the Technical Guidance that can be used to relatively simply predict an isopleth distance for use in conjunction with marine mammal density or occurrence to help predict potential takes. We note that because of some of the assumptions included in the methods underlying this optional tool, we anticipate that the resulting isopleth estimates are typically going to be overestimates of some degree, which may result in an overestimate of potential take by Level A harassment. However, this optional tool offers the best way to estimate isopleth distances when more sophisticated modeling methods are not available or practical. For stationary sources, such as pile installation or removal, the optional User Spreadsheet tool predicts the distance at which, if a marine mammal remained at that distance for the duration of the activity, it would be expected to incur PTS. The isopleths generated by the User Spreadsheet used the same TL coefficient as the Level B harassment zone calculations (*i.e.,* the practical spreading value of 15). Inputs in the User Spreadsheet tool (*i.e.,* number of piles per day, duration, and/or strikes per pile) are presented in Table 1 of the **Federal Register** notice announcing the proposed IHAs (88 FR 12316, February 27, 2023). The maximum RMS SPL/SEL SPL for each pile type are presented in Table 4. Resulting Level A harassment isopleths are reported below in Table 6.

TABLE 6—DISTANCES TO LEVEL A HARASSMENT THRESHOLDS

Pile type/size	Method	Projected distances to Level A harassment threshold (m)	
		Phocids	Otariids
Year 1			
14″ P/C concrete	Vibratory	22.6	1.6
Year 2			
30″ steel pipe pile in CISS	Impact	300	22
	Vibratory	12.3	1
14″ p/c concrete	Impact	13	1
	Vibratory	22.6	1.6
20″ steel pipe piles	Vibratory	5.7	0.4

Marine Mammal Occurrence

In this section, we provide information about the occurrence of marine mammals, including density or other relevant information that will inform the take calculations. Unless otherwise specified, the term ''pile driving'' in this section, and all following sections, may refer to either pile installation or removal. NMFS has carefully reviewed the City's analysis and concludes that it represents an appropriate and accurate method for estimating incidental take that may be caused by the City's activities.

Daily occurrence estimates of marine mammals in the project area are based upon marine mammal surveys conducted in the vicinity of the Murray St. Bridge by EcoSystems West Consulting Group. Survey sessions were conducted in December 2006, September 2009 through October 2009. Of these monitoring years, the maximum counts of California sea lions and harbor seals were observed in 2009 (Table 7). As the 2009 surveys occurred during the fall season and the project will occur during the summer and fall seasons, the 2009 data are likely representative of maximum occurrences that could be expected in the project area.

TABLE 7—MAXIMUM COUNTS OF SPECIES LIKELY IMPACTED BY PLANNED ACTIVITIES

Species	2006 Monitoring	2009 Monitoring
California sea lion	1	15
Harbor seal	6	11

Take Estimation

Here, we describe how the information provided above is synthesized to produce a quantitative estimate of the take that is reasonably likely to occur and authorized.

Maximum occurrence estimates (reported in Table 7) were multiplied by the number of days of pile removal and installation (14 days in Year 1; 98 days in Year 2) to calculate estimated take by Level B harassment of California sea lions and harbor seals (Table 8). The City assumed a maximum of two harbor seals will be present in the project area that may be impacted during the 37 days of impact pile driving. The expected occurrence of two harbor seals was multiplied by the number of impact pile driving days (37) to estimate take by Level A harassment of harbor seals. Given the very small Level A harassment isopleths for California sea lions and mitigation measures, Level A harassment of California sea lions is not expected nor authorized. By using the sighting-based approach, take values are not affected by the estimated harassment distances from Tables 6 and 7. NMFS has carefully reviewed these methods and agrees with this approach.

TABLE 8—ESTIMATED TAKE BY LEVEL A AND LEVEL B HARASSMENT AND PERCENT OF STOCK AUTHORIZED FOR TAKE

Species	Maximum number of animals expected to occur/day	Maximum total days of in-water work [1]	Authorized take by Level A harassment	Authorized take by Level B harassment	Total authorized take	Percent of stock authorized for take
Year 1						
Harbor Seal	11	14	0	154	154	0.49
California Sea Lion	15	14	0	210	210	0.082
Year 2						
Harbor Seal	11	98	[2] 74	1,078	1,152	3.72
California Sea Lion	15	98	0	1,470	1,470	0.57

[1] Includes potential temporary trestle installation/removal.
[2] Assumes a maximum of 2 harbor seals sighted per day that may be impacted and 37 days of impact pile driving.

Mitigation

In order to issue an IHA under section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to the activity, and other means of effecting the least practicable impact on the species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stock for taking for certain subsistence uses (latter not applicable for this action). NMFS regulations require applicants for incidental take authorizations to include information about the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting the activity or other means of effecting the least practicable adverse impact upon the affected species or stocks, and their habitat (50 CFR 216.104(a)(11)).

In evaluating how mitigation may or may not be appropriate to ensure the least practicable adverse impact on species or stocks and their habitat, as well as subsistence uses where applicable, NMFS considers two primary factors:

(1) The manner in which, and the degree to which, the successful implementation of the measure(s) is expected to reduce impacts to marine mammals, marine mammal species or stocks, and their habitat. This considers the nature of the potential adverse impact being mitigated (likelihood, scope, range). It further considers the likelihood that the measure will be effective if implemented (probability of accomplishing the mitigating result if implemented as planned), the likelihood of effective implementation (probability implemented as planned); and

(2) The practicability of the measures for applicant implementation, which may consider such things as cost and impact on operations.

Shutdown Zones

Prior to commencement of in-water construction activities, the City will establish shutdown zones for all activities. The purpose of a shutdown zone is to define an area within which shutdown of the activity will occur upon sighting of a marine mammal (or in anticipation of an animal entering the defined area). During all in-water construction activities, the City will implement a standard minimum 10 m (32.8 ft) shutdown zone. If a marine mammal enters the shutdown zone, in-water activities must be stopped until visual confirmation that the animal has left the zone of the animal is not sighted for 15 minutes.

All marine mammals will be monitored in the Level B harassment zones and throughout the area as far as visual monitoring can take place. If a marine mammal enters the Level B harassment zone, in-water activities will continue and the animal's presence within the estimated harassment zone must be documented. Pile driving activity must be halted upon observation of either a species for which incidental take is not authorized or a species for which incidental take has been authorized but the authorized number of takes has been met, entering or within the harassment zone.

TABLE 9—SHUTDOWN ZONES AND LEVEL B HARASSMENT ZONES

Pile size, type, and method	Minimum shutdown zone (m)		Level B harassment zone (m)
	Phocid	Otariid	
Year 1			
14″ p/c concrete vibratory removal	10	10	7,356
Year 2			
14″ p/c concrete vibratory install/removal	10	10	7,356
14″ p/c concrete impact install			46
30″ steel pile in CISS impact install			1,000
30″ steel pile in CISS vibratory install			3,981
20″ steel pile vibratory install			1,848

Protected Species Observers

The placement of protected species observers (PSOs) during all pile driving activities (described in the Monitoring and Reporting section) will ensure that the entire shutdown zone is visible. Should environmental conditions deteriorate such that the entire shutdown zone would not be visible (*i.e.,* fog, heavy rain), pile driving will be delayed until the PSO is confident marine mammals within the shutdown zone could be detected.

Pre-Activity Monitoring

Prior to the start of daily in-water construction activity, or whenever a break in pile driving of 30 minutes or longer occurs, PSOs will observe the shutdown zone and monitoring zones for a period of 30 minutes. The shutdown zone will be considered cleared when a marine mammal has not been observed within the zone for that 30-minute period. If a marine mammal is observed within the shutdown zones listed in Table 9, pile driving activity will be delayed or halted. If work ceases for more than 30 minutes, the pre-activity monitoring of the shutdown zones will commence. A determination that the shutdown zone is clear must be made during a period of good visibility (*i.e.,* the entire shutdown zone and surrounding waters must be visible to the naked eye).

Pre-construction monitoring will also take place over the course of at least 5 days before commencing in-water construction activities. The purpose of this monitoring effort will be to update occurrence information on marine mammals in the project area. Specifically, this monitoring will cover a period of at least 1 week for 4 hours each day.

Soft-Start Procedures

Soft-start procedures provide additional protection to marine mammals by providing warning and/or giving marine mammals a chance to leave the area prior to the hammer operating at full capacity. For impact pile driving, contractors will be required to provide an initial set of three strikes from the hammer at reduced energy, followed by a 30-second waiting period, then two subsequent reduced-energy strike sets. Soft-start will be implemented at the start of each day's impact pile driving and at any time following cessation of impact pile driving for a period of 30 minutes or longer.

Based on our evaluation of the City's mitigation measures, NMFS has determined that these mitigation measures provide the means of effecting the least practicable impact on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

Monitoring and Reporting

In order to issue an IHA for an activity, section 101(a)(5)(D) of the MMPA states that NMFS must set forth requirements pertaining to the monitoring and reporting of such taking. The MMPA implementing regulations at 50 CFR 216.104(a)(13) indicate that requests for authorizations must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present while conducting the activities. Effective reporting is critical to compliance as well as ensuring that the most value is obtained from the required monitoring.

Monitoring and reporting requirements prescribed by NMFS should contribute to improved understanding of one or more of the following:

- Occurrence of marine mammal species or stocks in the area in which take is anticipated (*e.g.,* presence, abundance, distribution, density);
- Nature, scope, or context of likely marine mammal exposure to potential stressors/impacts (individual or cumulative, acute or chronic), through better understanding of: (1) action or environment (*e.g.,* source characterization, propagation, ambient noise); (2) affected species (*e.g.,* life history, dive patterns); (3) co-occurrence of marine mammal species with the activity; or (4) biological or behavioral context of exposure (*e.g.,* age, calving or feeding areas);
- Individual marine mammal responses (behavioral or physiological) to acoustic stressors (acute, chronic, or cumulative), other stressors, or cumulative impacts from multiple stressors;
- How anticipated responses to stressors impact either: (1) long-term fitness and survival of individual marine mammals; or (2) populations, species, or stocks;
- Effects on marine mammal habitat (*e.g.,* marine mammal prey species, acoustic habitat, or other important physical components of marine mammal habitat); and
- Mitigation and monitoring effectiveness.

Visual Monitoring

Marine mammal monitoring during pile driving activities will be conducted by PSOs meeting the following NMFS requirements:

- Independent PSOs (*i.e.,* not construction personnel) who have no other assigned tasks during monitoring periods will be used;
- At least one PSO will have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization;

• Other PSOs may substitute education (degree in biological science or related field) or training for experience; and

• Where a team of three or more PSOs is required, a lead observer or monitoring coordinator will be designated. The lead observer will be required to have prior experience working as a marine mammal observer during construction.

PSOs will have the following additional qualifications:

• Ability to conduct field observations and collect data according to assigned protocols;

• Experience or training in the field identification of marine mammals, including the identification of behaviors;

• Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations;

• Writing skills sufficient to prepare a report of observations including but not limited to the number and species of marine mammals observed; dates and times when in-water construction activities were conducted; dates, times, and reason for implementation of mitigation (or why mitigation was not implemented when required); and marine mammal behavior; and

• Ability to communicate orally, by radio or in person, with project personnel to provide real-time information on marine mammals observed in the area as necessary.

The City will have at least one PSO stationed at the best possible vantage points in the project area to monitor during all pile driving activities. If a PSO sights a marine mammal in the shutdown zone, the PSO should notify the equipment operator to shut down. The PSO will let the contractor know when activities can re-commence. Additional PSOs may be employed during periods of low or obstructed visibility to ensure the entirety of the shutdown zones are monitored. A marine mammal monitoring plan will be developed and submitted to NMFS for approval prior to commencing in-water construction activities.

Reporting

A draft marine mammal monitoring report will be submitted to NMFS within 90 days after the completion of pile driving activities for each IHA, or 60 days prior to a requested date of issuance of any future IHAs for the project, or other projects at the same location, whichever comes first. The marine mammal monitoring report will include an overall description of work completed, a narrative regarding marine mammal sightings, and associated PSO datasheets. Specifically, the report will include:

• Dates and times (begin and end) of all marine mammal monitoring;

• Construction activities occurring during each daily observation period, including: (a) How many and what type of piles were driven or removed and the method (*i.e.,* impact or vibratory); and (b) the total duration of time for each pile (vibratory driving) or number of strikes for each pile (impact driving);

• PSO locations during marine mammal monitoring; and

• Environmental conditions during monitoring periods (at beginning and end of PSO shift and whenever conditions change significantly), including Beaufort sea state and any other relevant weather conditions including cloud cover, fog, sun glare, and overall visibility to the horizon, and estimated observable distance.

PSOs will record all incidents of marine mammal occurrence, regardless of distance from activity, and will document any behavioral reactions in concert with distance from piles being driven or removed. Specifically, PSOs will record the following:

• Name of PSO who sighted the animal(s) and PSO location and activity at time of sighting;

• Time of sighting;

• Identification of the animal(s) (*e.g.,* genus/species, lowest possible taxonomic level, or unidentified), PSO confidence in identification, and the composition of the group if there is a mix of species;

• Distance and location of each observed marine mammal relative to the pile being driven or hole being drilled for each sighting;

• Estimated number of animals (min/max/best estimate);

• Estimated number of animals by cohort (adults, juveniles, neonates, group composition, *etc.*);

• Description of any marine mammal behavioral observations (*e.g.,* observed behaviors such as feeding or traveling), including an assessment of behavioral responses thought to have resulted from the activity (*e.g.,* no response or changes in behavioral state such as ceasing feeding, changing direction, or flushing);

• Number of marine mammals detected within the harassment zones, by species; and

• Detailed information about implementation of any mitigation (*e.g.,* shutdowns and delays), a description of specified actions that ensued, and resulting changes in behavior of the animal(s), if any.

If no comments are received from NMFS within 30 days, the draft report will constitute the final report. If comments are received, a final report addressing NMFS' comments will be required to be submitted within 30 days after receipt of comments. All PSO datasheets and/or raw sighting data will be submitted with the draft marine mammal report.

In the event that personnel involved in the construction activities discover an injured or dead marine mammal, the City will report the incident to the Office of Protected Resources (OPR), NMFS (*PR.ITP.MonitoringReports@noaa.gov*) and to the West Coast regional stranding network (866–767–6114) as soon as feasible. If the death or injury was clearly caused by the specified activity, the City must immediately cease the activities until NMFS OPR is able to review the circumstances of the incident and determine what, if any, additional measures are appropriate to ensure compliance with the terms of the IHAs. The City will not resume their activities until notified by NMFS.

The report will include the following information:

• Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);

• Species identification (if known) or description of the animal(s) involved;

• Condition of the animal(s) (including carcass condition if the animal is dead);

• Observed behaviors of the animal(s), if alive;

• If available, photographs or video footage of the animal(s); and

• General circumstances under which the animal was discovered.

Negligible Impact Analysis and Determination

NMFS has defined negligible impact as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival (50 CFR 216.103). A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (*i.e.,* population-level effects). An estimate of the number of takes alone is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be ''taken'' through harassment, NMFS considers other factors, such as the likely nature of any impacts or responses (*e.g.,* intensity, duration), the context of any

impacts or responses (*e.g.,* critical reproductive time or location, foraging impacts affecting energetics), as well as effects on habitat, and the likely effectiveness of the mitigation. We also assess the number, intensity, and context of estimated takes by evaluating this information relative to population status. Consistent with the 1989 preamble for NMFS' implementing regulations (54 FR 40338, September 29, 1989), the impacts from other past and ongoing anthropogenic activities are incorporated into this analysis via their impacts on the baseline (*e.g.,* as reflected in the regulatory status of the species, population size and growth rate where known, ongoing sources of human-caused mortality, or ambient noise levels).

To avoid repetition, the discussion of our analysis applies to California sea lions and harbor seals, given that the anticipated effects of this activity on these different marine mammal stocks are expected to be similar. Where there are meaningful differences between these species, in anticipated individual responses to activities, impact of expected take on the population due to differences in population status, or impacts on habitat, they are described independently in the analysis below.

Pile installation and removal activities have the potential to disturb or displace marine mammals. Specifically, the project activities may result in take, in the form of Level B harassment and, for harbor seals, Level A harassment, from underwater sounds generated from impact pile installation and vibratory pile installation and removal activities. Potential takes could occur if individuals move into the ensonified zones when these activities are underway.

No serious injury or mortality will be expected, even in the absence of required mitigation measures, given the nature of the activities. Further, no take by Level A harassment is anticipated for California sea lions due to the application of planned mitigation measures, such as shutdown zones that encompass the Level A harassment zones for this species. The potential for harassment will be minimized through the construction method and the implementation of the planned mitigation measures (see Mitigation section).

Take by Level A harassment is authorized for harbor seals during Year 2 as the Level A harassment zone for impact pile driving exceeds the size of the shutdown zone for this activity. Therefore, there is the possibility that an animal could enter a Level A harassment zone without being detected, and remain within that zone for a duration long enough to incur PTS. Any take by Level A harassment is expected to arise from, at most, a small degree of PTS (*i.e.,* minor degradation of hearing capabilities within regions of hearing that align most completely with the energy produced by impact pile driving, such as the low-frequency region below 2 kHz), not severe hearing impairment or impairment within the ranges of greatest hearing sensitivity. Animals would need to be exposed to higher levels and/or longer duration than are expected to occur here in order to incur any more than a small degree of PTS.

Further, the amount of take by Level A harassment authorized for these species is very low. For California sea lions, NMFS anticipates and has authorized no Level A harassment take over the duration of the City's planned activities; for harbor seals, NMFS has authorized no take by Level A harassment in Year 1 and no more than 74 takes by Level A harassment in Year 2. If hearing impairment occurs, it is most likely that the affected animal would lose only a few decibels in its hearing sensitivity. Due to the small degree anticipated, any PTS potential incurred would not be expected to affect the reproductive success or survival of any individuals, much less result in adverse impacts on the species or stock.

The takes from Level B harassment will be due to potential behavioral disturbance. On the basis of reports in the literature as well as monitoring from other similar activities, effects will likely be limited to reactions such as avoidance, increased swimming speeds, increased surfacing time, or decreased foraging (if such activity were occurring) (*e.g.,* Thorson and Reyff, 2006; NAVFAC SW, 2018). Most likely, individuals will simply move away from the sound source and temporarily avoid the area where pile driving is occurring. If sound produced by project activities is sufficiently disturbing, animals are likely to simply avoid the area while the activities are occurring. Marine mammals could also experience TTS if they move into the Level B monitoring zone. TTS is a temporary loss of hearing sensitivity when exposed to loud sound, and the hearing threshold is expected to recover completely within minutes to hours. Thus, it is not considered an injury. While TTS could occur, it is not considered a likely outcome of this activity. We expect that any avoidance of the project areas by marine mammals will be temporary in nature and that any marine mammals that avoid the project areas during construction will not be permanently displaced. Short-term avoidance of the project areas and energetic impacts of interrupted foraging or other important behaviors is unlikely to affect the reproduction or survival of individual marine mammals, and the effects of behavioral disturbance on individuals is not likely to accrue in a manner that will affect the rates of recruitment or survival of any affected stock. The potential for harassment is minimized through construction methods and the implementation of planned mitigation strategies (see Mitigation section).

Anticipated and authorized takes are expected to be limited to short-term Level A (potential PTS) and Level B harassment (behavioral disturbance) as construction activities will occur over the course of 14 days in Year 1 and 98 days in Year 2. Take will also occur within a limited, confined area of each stock's range. Level A and Level B harassment will be reduced to the level of least practicable adverse impact through use of mitigation measures described herein. Further, the amount of take authorized is extremely small when compared to stock abundance.

No marine mammal stocks for which incidental take is authorized are listed as threatened or endangered under the ESA or determined to be strategic or depleted under the MMPA. The relatively low marine mammal occurrences in the area, small shutdown zones, and monitoring make injury takes of marine mammals unlikely. The shutdown zones will be thoroughly monitored before the pile installation or removal begins, and construction activities will be postponed if a marine mammal is sighted within the shutdown zone. There is a high likelihood that marine mammals will be detected by trained observers under environmental conditions described for the project. Therefore, the mitigation and monitoring measures are expected to reduce the amount and intensity for Level A and Level B behavioral harassment. Furthermore, the pile installation and removal activities analyzed here are similar to, or less impactful than, numerous construction activities conducted in other similar locations, which have occurred with no reported injuries or mortality to marine mammals, and no known long-term adverse consequences from behavioral harassment.

The project is not expected to have significant adverse effects on marine mammal habitat. There are no Biologically Important Areas or ESA-designated critical habitat within the project area, and activities will not permanently modify existing marine mammal habitat. The activities may

cause fish to leave the area temporarily. This could impact marine mammals' foraging opportunities in a limited portion of the foraging range, however, due to the short duration of activities and the relatively small area of affected habitat, the impacts to marine mammal habitat are not expected to cause significant or long-term negative consequences.

In combination, we believe that these factors, as well as the available body of evidence from other similar activities, demonstrate that the potential effects of the specified activities will have only minor, short-term effects on individuals. The specified activities are not expected to impact reproduction or survival of any individual marine mammals, much less affect rates of recruitment or survival and will therefore not result in population-level impacts.

In summary and as described above, the following factors primarily support our determination that the impacts resulting from this activity are not expected to adversely affect any of the species or stocks through effects on annual rates of recruitment or survival:

- No serious injury or mortality is anticipated or authorized;
- No Level A harassment of California sea lions is authorized;
- The small Level A harassment takes of harbor seals authorized are expected to be of a small degree;
- The intensity of anticipated takes by Level B harassment is relatively low for all stocks. Level B harassment will primarily be in the form of behavioral disturbance, resulting in avoidance of the project areas around where pile driving or removal activities are occurring;
- Biologically important areas or critical habitat have not been identified within the project area;
- The lack of anticipated significant or long-term effects to marine mammal habitat;
- Effects on marine mammal prey species are expected to be short-term and, therefore, any associated impacts on marine mammal feeding are not expected to result in significant or long-term consequences for individuals, or to accrue to adverse impacts on their populations; and
- The efficacy of the mitigation measures in reducing the effects of the specified activities on all species and stocks.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the monitoring and mitigation measures, NMFS finds that the total marine mammal take from the activity will have a negligible impact on all affected marine mammal species or stocks.

Small Numbers

As noted previously, only small numbers of incidental take may be authorized under sections 101(a)(5)(A) and (D) of the MMPA for specified activities other than military readiness activities. The MMPA does not define small numbers and so, in practice, where estimated numbers are available, NMFS compares the number of individuals taken to the most appropriate estimation of abundance of the relevant species or stock in our determination of whether an authorization is limited to small numbers of marine mammals. When the predicted number of individuals to be taken is fewer than one-third of the species or stock abundance, the take is considered to be of small numbers. Additionally, other qualitative factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

The instances of take NMFS has authorized is below one-third of the estimated stock abundance for all impacted stocks (Table 8). (In fact, take of individuals is less than 4 percent of the abundance for all affected stocks.) The number of takes authorized are small relative to the relevant stocks or populations, even if each estimated take occurred to a new individual. Furthermore, these takes are likely to only occur within a small portion of the each stock's range and the likelihood that each take will occur to a new individual is low.

Based on the analysis contained herein of the activity (including the mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS finds that small numbers of marine mammals will be taken relative to the population size of the affected species or stocks.

Unmitigable Adverse Impact Analysis and Determination

There are no relevant subsistence uses of the affected marine mammal stocks or species implicated by this action. Therefore, NMFS has determined that the total taking of affected species or stocks will not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes.

National Environmental Policy Act

To comply with the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 *et seq.*) and NOAA Administrative Order (NAO) 216–6A, NMFS must review our proposed action (*i.e.,* the issuance of an IHA) with respect to potential impacts on the human environment.

This action is consistent with categories of activities identified in Categorical Exclusion B4 (IHAs with no anticipated serious injury or mortality) of the Companion Manual for NOAA Administrative Order 216–6A, which do not individually or cumulatively have the potential for significant impacts on the quality of the human environment and for which we have not identified any extraordinary circumstances that would preclude this categorical exclusion. Accordingly, NMFS has determined that the issuance of the IHA qualifies to be categorically excluded from further NEPA review.

Endangered Species Act

Section 7(a)(2) of the Endangered Species Act of 1973 (ESA; 16 U.S.C. 1531 *et seq.*) requires that each Federal agency insure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. To ensure ESA compliance for the issuance of IHAs, NMFS consults internally whenever we propose to authorize take for endangered or threatened species.

No incidental take of ESA-listed species is authorized or expected to result from this activity. Therefore, NMFS has determined that formal consultation under section 7 of the ESA is not required for this action.

Authorization

NMFS has issued two consecutive IHAs to the City for the potential harassment of small numbers of harbor seals and California sea lions incidental to the seismic retrofit of the Murray St. Bridge project in Santa Cruz, California, provided the previously mentioned mitigation, monitoring, and reporting requirements are followed.

Dated: April 26, 2023.

Kimberly Damon-Randall

Director, Office of Protected Resources, National Marine Fisheries Service.

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