



November 29, 2022

Benjamin Laws  
United States Department of Commerce  
National Oceanic and Atmospheric Administration  
National Marine Fisheries Service  
Office of Protected Resources  
1315 East-West Highway  
Silver Spring, Maryland 20910  
Via email: [benjamin.laws@noaa.gov](mailto:benjamin.laws@noaa.gov)

**Subject: Port of Long Beach Cruise Terminal Improvement Project Incidental, Harassment Authorization (IHA) Renewal Request, Long Beach, California 90802**  
**Dear Mr. Benjamin Laws:**

This letter serves as Carnival Corporation & PLC (Carnival's) formal request to renew the Incidental Harassment Authorization (IHA) issued for the Port of Long Beach Cruise Terminal Improvement Project (Project) on December 10, 2021 and valid through December 9, 2022 (Attachment A). Carnival and its consultants are submitting this renewal request consistent with prior informal consultations with National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS) Office of Protected Resources (OPR), Mr. Benjamin Laws, conducted on October 28, 2022, and again on November 19, 2022.

Project activities conducted under this requested renewal includes only minor changes to in-water pile driving activities that do not affect the previous IHA analysis, mitigation and monitoring requirements, or take estimates. Carnival intends to integrate the vibratory driving and removal of 30, temporary, 24-inch steel pipe piles (temporary piles) to provide templates in order to properly place and drive the Project's approved placement of permanent, 36-inch steel pipe piles (permanent piles). The additional temporary piles will be placed in the same vicinity as the previously approved permanent piles using the same vibratory means, methods and equipment as described and analyzed in the Project's approved IHA. The temporary piles will be shorter in length, be driven to shallower depths, produce lower sound pressure levels (SPL), and require shorter pile driving durations than the Project's permanent piles.

The temporary piles will be subject to the same sound propagation boundary conditions as the permanent piles limiting exposure of protected species to areas primarily within Port of Long Beach's inner harbor and shallow nearshore areas beyond the inner break walls to the southeast, nearly 4 miles distance from the Project and pile driving sound sources (Figure 1). The vibratory driving of 24-inch steel piles have been documented to produce reduced average SPL's, root mean square (RMS), compared to the 36-inch steel piles of approximately 5 dB RMS at source (10 meters) and 5 to 7 dB RMS at distance (1000 – 2000 meters), based on results from Naval Base Kitsap, Bangor Washington (CalTrans 2015). Additionally, data collected at Naval Base Kitsap for vibratory driving of 24-inch steel piles recorded RMS SPLs at 2000 meters approaching the continuous sound source protected species Level B behavioral disturbance level of 120 dB RMS. Based on analysis of the vibratory pile driving and removal of the Project's additional temporary piles including, sound source level and SPL propagation, no additional mitigation and monitoring requirements or take will be needed to complete the Project. The Projects authorized take numbers by species/stocks allows for nearly 942 behavioral takes for both Shore-beaked (*Delphinus delphis*) and Long-beaked common dolphin (*Delphinus capensis*) as well as 122 Common bottlenose dolphin (*Tursiops truncatus*), generally considered more sensitive to non-impulse (vibratory) acoustic energy than pinniped species. Additionally, protected species monitoring occurring at the nearby Naval Weapons Station Seal Beach have reported less than 10 Level B takes and less than 100 protected species observations over the last two years of impact pile driving activity within similar habitat.

The Project's initial IHA analysis and application approved in November 2019 incorporated a conservative approach to protected species take and integrated a robust monitoring approach that incorporated significant buffers to accommodate the potential for increased in-water sound producing activity and duration. The Project's added temporary piles do not present any additional protected species Level-A (injury) concern and does not require additional Level- B (behavioral) take, beyond that already allowed in the Project's approved IHA (December 2021). Protected species take approved in the Project's IHA is limited to regionally common pinniped and cetacean species that have well documented populations and activity parameters within the Southern California Bight and the Port Complex (Port of Long Beach and Port of Los Angeles), based on recurring biological surveys conducted in the Port Complex since the late 1990s. Changes to the Project's proposed activities do not represent any additional exposure or threat to any additional protected species not already included in the Project's IHA. The Port Complex is a highly industrialized and urbanized area that supports the highest cargo and vessel traffic of any Port in North America exposing and conditioning resident and regionally common protected species to behavioral effects on a recurring basis. The Project's location is well within the Port of Long Beach inner harbor with no known or documented protected species haul out or breeding locations inside or near the Port Complex.

The Project's approved monitoring plan incorporates NOAA NMFS OPR approved protected species observers and a comprehensive land and vessel based monitoring approach that adequately encompasses both the Project's exclusion and monitoring zones sufficient to ensure compliance with the Project's protected species take allowances and constraints. All provision of the monitoring plan will be maintained without change including the implementation of contractor education, reduced vessel speed, visibility, and soft start provisions

Carnival requests that NOAA NMFS OPR issue a one-year renewal of nearly identical Project activities as described in the Specific Activities section of existing approved IHA (Attachment A). The IHA renewal is requested because the Project would not be completed by the time the IHA expires, and renewal would allow for completion of the activities beyond those described in the Dates and Duration section of the notice. The Project has not yet started any of the approved activities due to delays caused by the pandemic and logistical constraints. Carnival and its consultants have been actively engaged with NOAA NMFS OPR to collaboratively address delays and remain in compliance with the Project's IHA and other regulatory permits. Please contact the undersigned immediately in your office have any questions or require any additional information or justification.

Sincerely,



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## **Attachments**

A: Port of Long Beach Cruise Terminal Improvement Project December 2021 IHA

B: Figure 1 -Vibratory Pile Driving Protected Species Monitoring Area

## **References**

California Department of Transportation. November 2015. Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish, prepared by Illingworth & Rodkin, Appendix I Compendium of Pile Driving Sound Data, I-93 – I-96 pg. 24-,36, and 48-inch Steel Shell Piles – Naval Base Kitsap Explosive Handling Wharf-2, Bangor, WA

# Attachment A

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Port of Long Beach Cruise Terminal Improvement Project December 2021 IHA



## INCIDENTAL HARASSMENT AUTHORIZATION

Carnival Corporation & PLC (Carnival) is hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (MMPA; 16 U.S.C. 1371(a)(5)(D)) to harass marine mammals incidental to the Port of Long Beach Cruise Terminal Improvement Project in Port of Long Beach, California, when adhering to the following terms and conditions.

1. This Incidental Harassment Authorization (IHA) is valid from December 10, 2021 through December 9, 2022.
2. This IHA is valid only for in-water construction activities associated with the Port of Long Beach Cruise Terminal Improvement Project in Port of Long Beach, California.
3. General Conditions
  - (a) A copy of this IHA must be in the possession of Carnival, its designees, work crew personnel, and Protected Species Observers (PSOs) operating under the authority of this IHA.
  - (b) The species authorized for taking are short-beaked common dolphins (*Delphinus delphis*), long-beaked common dolphins (*Delphinus capensis*), common bottlenose dolphin (*Tursiops truncatus*), California sea lions (*Zalophus californianus*), and harbor seals (*Phoca vitulina*).
  - (c) The taking, by Level A harassment and Level B harassment, is limited to the species listed in condition 3(b). Table 1 provides the authorized number of takes per species and stock.
  - (d) The taking by serious injury or death of any of the species listed in condition 3(b) or any taking of any other species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this IHA. Any taking exceeding the authorized amounts listed in Table 1 is prohibited and may result in the modification, suspension, or revocation of this IHA.

### 4. Mitigation Measures

The holder of this IHA is required to implement the following mitigation measures:

- (a) For in-water construction heavy machinery activities other than pile driving (e.g., use of barge-mounted excavators, or dredging), if a marine mammal comes within



10 m, Carnival must cease operations and reduce vessel speed to the minimum level required to maintain steerage and safe working conditions.

- (b) Carnival is required to conduct briefings for construction supervisors and crews, the monitoring team, and Carnival staff prior to the start of all pile driving activity, and when new personnel join the work, in order to explain responsibilities, communication procedures, the marine mammal monitoring protocol, and operational procedures.
- (c) Carnival is required to employ PSOs per the Marine Mammal Monitoring Plan, dated September, 2019, and Monitoring Measures described in section 5 of this IHA. At least 4 PSOs are required during impact pile driving and at least 7 PSOs are required during vibratory pile driving as shown in Figure 1.
- (d) Carnival is required to establish and implement shutdown zones. See Table 2 for minimum distances required for shutdown zones.
- (e) Carnival is required to establish and implement monitoring zones (as shown in Table 2). Carnival is required to establish and implement a Level A harassment monitoring zone during impact pile driving for harbor seals extending to 120 m.
- (f) Carnival may only conduct pile driving activities during daylight hours. Pile driving activities may not be conducted in conditions with limited visibility (heavy fog, heavy rain, and Beaufort sea states above 4).
- (g) Should environmental conditions deteriorate such that marine mammals within the entire shutdown zone would not be visible (e.g., fog, heavy rain), pile driving and removal must be delayed until the PSO is confident marine mammals within the shutdown zone could be detected.
- (h) Marine mammal monitoring must take place from 30 minutes prior to initiation of pile driving activity through 30 minutes post-completion of pile driving activity. Pile driving may commence when observers have declared the shutdown zone clear of marine mammals. In the event of a delay or shutdown of activity resulting from marine mammals in the shutdown zone (Table 2), their behavior must be monitored and documented until they leave of their own volition, at which point the activity may begin.
- (i) If a marine mammal enters or is observed within an established shutdown zone (Table 2), pile driving must be halted or delayed. Pile driving may not commence or resume until either the animal has voluntarily left and been visually confirmed beyond the shutdown zone or 15 minutes have passed without subsequent detections of the animal.
- (j) Carnival must use soft start techniques when impact pile driving. Soft start requires contractors to provide an initial set of strikes at reduced energy, followed

by a thirty-second waiting period, then two subsequent reduced energy strike sets. A soft start must 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 thirty minutes or longer.

- (k) Carnival is required to employ a marine pile-driving energy attenuator (*i.e.*, air bubble curtain system) during impact and vibratory pile driving of all steel pipe piles. Bubble curtains must meet the following requirements:
  - i. The bubble curtain must distribute air bubbles around 100 percent of the piling perimeter for the full depth of the water column.
  - ii. The lowest bubble ring shall be in contact with the mudline for the full circumference of the ring, and the weights attached to the bottom ring shall ensure 100 percent mudline contact. No parts of the ring or other objects shall prevent full mudline contact.
  - iii. The bubble curtain shall be operated such that there is proper (equal) balancing of air flow to all bubblers.
- (l) If a species for which authorization has not been granted, or a species for which authorization has been granted but the authorized takes are met, is observed entering or within the monitoring zone (Table 2), pile driving activities must shut down immediately using delay and shutdown procedures. Activities must not resume until the animal has been confirmed to have left the area or the 15 minute observation time period has elapsed.

## 5. Monitoring Measures

The holder of this IHA is required to abide by the following marine mammal monitoring measures:

- (a) Marine mammal monitoring must be conducted in accordance with the Marine Mammal Monitoring Plan, dated September, 2019. At least 4 PSOs are required during impact pile driving and at least 7 PSOs are required during vibratory pile driving as shown in Figure 1.
- (b) Marine mammal monitoring during pile driving and removal must be conducted by NMFS-approved PSOs in a manner consistent with the following:
  - i. Independent PSOs (*i.e.*, not construction personnel) who have no other assigned tasks during monitoring periods must be used.
  - ii. Other PSOs may substitute education (degree in biological science or related field) or training for experience.

- iii. Where a team of three or more PSOs are required, a lead observer or monitoring coordinator must be designated. The lead observer must have prior experience working as a marine mammal observer during construction.
- iv. Carnival must submit PSO CVs for approval by NMFS prior to the onset of pile driving.

## 6. Reporting

The holder of this IHA is required to:

- (a) Submit a draft report on all monitoring conducted under the IHA within ninety calendar days of the completion of marine mammal monitoring or sixty days prior to the issuance of any subsequent IHA for this project, whichever comes first. A final report shall be prepared and submitted within thirty days following resolution of comments on the draft report from NMFS. This report must contain the informational elements described in the Marine Mammal Monitoring Plan, dated September, 2019, including, but not limited to:
  - i. Dates and times (begin and end) of all marine mammal monitoring.
  - ii. Construction activities occurring during each daily observation period, including how many and what type of piles were driven or removed and by what method (*i.e.*, impact or vibratory).
  - iii. Weather parameters and water conditions during each monitoring period (*e.g.*, wind speed, percent cover, visibility, sea state).
  - iv. The number of marine mammals observed, by species, relative to the pile location and if pile driving or removal was occurring at time of sighting.
  - v. Age and sex class, if possible, of all marine mammals observed.
  - vi. PSO locations during marine mammal monitoring.
  - vii. Distances and bearings of each marine mammal observed to the pile being driven or removed for each sighting (if pile driving or removal was occurring at time of sighting).
  - viii. Description of any marine mammal behavior patterns during observation, including direction of travel.
  - ix. Number of individuals of each species (differentiated by month as appropriate) detected within the monitoring zone, and estimates of number of marine mammals taken, by species (a correction factor may be applied to total take numbers, as appropriate).



- x. Detailed information about any implementation of any mitigation triggered (e.g., shutdowns and delays), a description of specific actions that ensued, and resulting behavior of the animal, if any.
  - xi. Description of attempts to distinguish between the number of individual animals taken and the number of incidences of take, such as ability to track groups or individuals.
  - xii. An extrapolation of the estimated takes by Level B harassment based on the number of observed exposures within the Level B harassment zone and the percentage of the Level B harassment zone that was not visible.
- (b) Submit all PSO datasheets and/or raw sighting data (in a separate file from the Final Report referenced immediately above).
- (c) Report injured or dead marine mammals:
- i. In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by this IHA, such as serious injury, or mortality, Carnival must immediately cease the specified activities and report the incident to the NMFS Office of Protected Resources (301-427-8401) and West Coast Region Stranding Coordinator (562-980-3230). The report must include the following information:
    - 1. Time and date of the incident;
    - 2. Description of the incident;
    - 3. Environmental conditions (e.g., wind speed and direction, Beaufort sea state, cloud cover, and visibility);
    - 4. Description of all marine mammal observations and active sound source use in the 24 hours preceding the incident;
    - 5. Species identification or description of the animal(s) involved;
    - 6. Fate of the animal(s); and
    - 7. Photographs or video footage of the animal(s).

Activities must not resume until NMFS is able to review the circumstances of the prohibited take. NMFS will work with Carnival to determine what measures are necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. Carnival may not resume their activities until notified by NMFS.

- ii. In the event Carnival discovers an injured or dead marine mammal, and the lead observer determines that the cause of the injury or death is unknown and the death is relatively recent (*e.g.*, in less than a moderate state of decomposition), Carnival must immediately report the incident to the Office of Protected Resources, NMFS, and the West Coast Region Stranding Coordinator, NMFS. The report must include the same information identified in 6(b)(i) of this IHA. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work with Carnival to determine whether additional mitigation measures or modifications to the activities are appropriate.
  - iii. In the event that Carnival discovers an injured or dead marine mammal, and the lead observer determines that the injury or death is not associated with or related to the specified activities (*e.g.*, previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), Carnival must report the incident to the Office of Protected Resources, NMFS, and the West Coast Region Stranding Coordinator, NMFS, within 24 hours of the discovery.
- 7. This Authorization may be modified, suspended or withdrawn if the holder fails to abide by the conditions prescribed herein, or if NMFS determines the authorized taking is having more than a negligible impact on the species or stock of affected marine mammals.
- 8. Renewals - On a case-by-case basis, NMFS may issue a one-year IHA renewal with an additional 15 days for public comments when (1) another year of identical or nearly identical activities as described in the Specified Activities section of this notice is planned or (2) the activities as described in the Specified Activities section of this notice would not be completed by the time the IHA expires and a second IHA would allow for completion of the activities beyond that described in the Dates and Duration section of this notice, provided all of the following conditions are met:
  - (a) A request for renewal is received no later than 60 days prior to expiration of the current IHA.
  - (b) The request for renewal must include the following:
    - i. An explanation that the activities to be conducted under the requested Renewal are identical to the activities analyzed under the initial IHA, are a subset of the activities, or include changes so minor (*e.g.*, reduction in pile size) that the changes do not affect the previous analyses, mitigation and monitoring requirements, or take estimates (with the exception of reducing the type or amount of take because only a subset of the initially analyzed activities remain to be completed under the Renewal).

- ii. A preliminary monitoring report showing the results of the required monitoring to date and an explanation showing that the monitoring results do not indicate impacts of a scale or nature not previously analyzed or authorized.
- (c) Upon review of the request for Renewal, the status of the affected species or stocks, and any other pertinent information, NMFS determines that there are no more than minor changes in the activities, the mitigation and monitoring measures will remain the same and appropriate, and the findings in the initial IHA remain valid.

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Kimberly Damon-Randall,  
Director, Office of Protected Resources  
National Marine Fisheries Service

**Table 1. Authorized take numbers by species/stocks.**

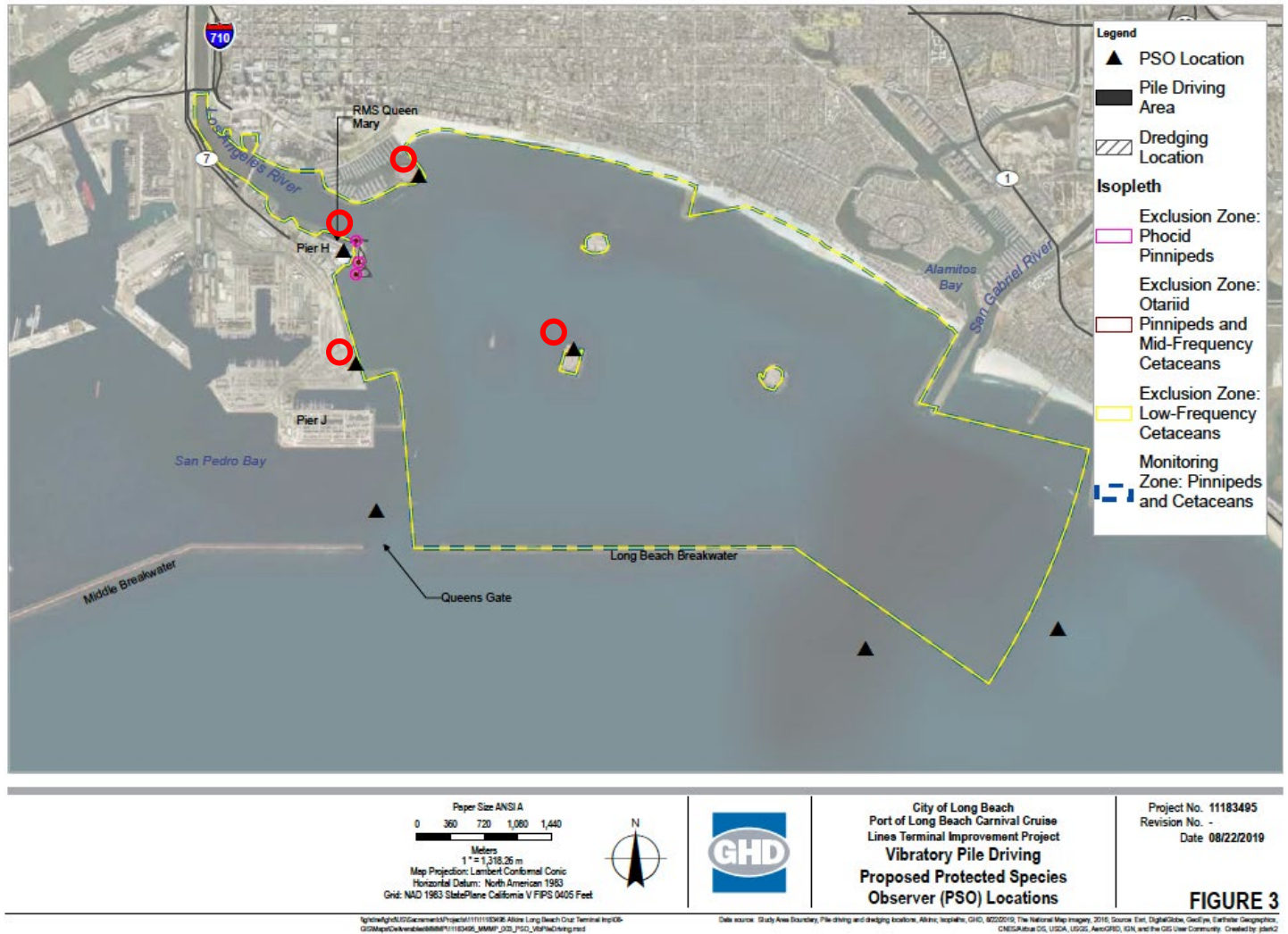
<b>Common Name</b>	<b>Stock</b>	<b>Level A</b>	<b>Level B</b>
Short-beaked common dolphin	CA/OR/ WA	0	942
Long-beaked common dolphin	California	0	942
Common bottlenose dolphin	Coastal California	0	122
California sea lion	U.S.	0	2,232
Harbor seal	California	5	979

**Table 2. Monitoring and shutdown zones for each project activity.**

<b>Source</b>	<b>Monitoring Zone (m)</b>	<b>Shutdown Zone (m)</b>
Impact Pile Driving	300 <sup>1</sup>	Low-frequency cetaceans: 300 Phocid pinnipeds: 50 Mid-frequency cetaceans and otariid pinnipeds: 10
Vibratory Pile Driving	8,100	Low-frequency cetaceans: 8,100 Phocid pinnipeds: 50 Mid-frequency cetaceans and otariid pinnipeds: 10

<sup>1</sup> Carnival is also required to establish and implement a Level A harassment monitoring zone during impact pile driving for harbor seals extending to 120 m.

**Figure 1.** Location of PSOs during project activities. All PSO Locations (triangles) are required during vibratory pile driving. PSOs must be located at the 4 PSO locations closest to the project site (triangles next to red circles) during impact pile driving. (Figure 3 from the Marine Mammal Monitoring Plan, dated September, 2019).



## Attachment B

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Figure 1 -Vibratory Pile Driving Protected Species Monitoring Area



