



APPENDIX - R

MARINE MAMMAL IMPACT

ASSESSMENT, REV 1

I-64 Hampton Roads Bridge-Tunnel Expansion Project

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R. MARINE MAMMAL IMPACT ASSESSMENT

R.1 MARINE MAMMALS IN THE PROJECT AREA

The National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) regulations governing the issuance of Incidental Harassment Applications (IHA) and Letter of Authorizations (LOA) permitting the incidental take of small numbers of marine mammals under certain circumstances are codified in 50 CFR Part 216, Subpart I (Sections 216.101–216.108). The Marine Mammal Protection Act (MMPA) defines “take” to mean “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal” (16 United States Code [USC] Chapter 31, Section 1362 (13)). The NMFS application for IHAs and LOAs requires applicants to determine the number and species of marine mammals that are expected to be incidentally harassed by an action and the nature of the harassment (Level A or Level B).

Although 40 species of marine mammals under NMFS jurisdiction have been documented to occur within the waters of the mid-Atlantic region of the western North Atlantic Ocean, only 8 of those species (six cetacean and two pinniped) occur on a regular (species that occurs as a regular or normal part of the fauna of the area, regardless of how abundant or common it is) or rare (species that only occurs in the area sporadically, not common) basis in the Chesapeake Bay (Department of the Navy [DoN] 2008). The remaining marine mammal species are considered extralimital (a species that does not normally occur in the area) to the Project area. The number of species occurring regularly near the Project area, in the Hampton Roads area of the Chesapeake Bay, is limited.

Based on an up-to-date literature review and the Project Final Supplemental Environmental Impact Statement and Environmental Assessment Re-Evaluation (VDOT and Federal Highway Administration ((FHWA) 2017, 2018), the following marine mammal species may occur or are expected or likely to occur near the Project area:

- Fin whale (*Balaenoptera physalus*),
- Humpback whale (*Megaptera novaeangliae*),
- Common minke whale (*Balaenoptera acutorostrata acutorostrata*),
- North Atlantic right whale (*Eubalaena glacialis*),
- Common bottlenose dolphin (*Tursiops truncatus*),
- Harbor porpoise (*Phocoena phocoena*),
- Harbor seal (*Phoca vitulina*), and
- Gray seal (*Halichoerus grypus atlantica*)

Only five of the eight species may occur regularly and be incidentally taken during pile installation and removal: humpback whale, bottlenose dolphin, harbor porpoise, harbor seal, and gray seal.

R.2 POTENTIAL EFFECTS ON MARINE MAMMALS

Of the planned construction activities, noise from pile installation and removal of temporary piles has the potential to impact (harass) marine mammals that may occur near the construction activity and require consideration under the MMPA. Under Section 101(a)(5)(D) of the MMPA, HRCP has requested an IHA for the non-lethal “take” by harassment of small numbers of marine mammals, incidental to in-water pile installation associated with early work that represents critical path (i.e., activities that directly affect the overall project schedule) and can begin during Spring-Summer 2020. HRCP has requested that the IHA issued be effective from April 2020 to March 2021, one calendar year from the start of pile installation.

Additional marine construction activities would be covered under a rulemaking and request for LOA as construction will occur over multiple years. Under Section 101(a)(5)(D) of the MMPA, HRCP has requested a LOA for the non-lethal “take” by harassment of small numbers of marine mammals, incidental to in-water pile installation and removal, associated with the Project. These construction activities are scheduled to begin in September 2020 and will continue over a five-year period through August 2025. This approach provides additional time to refine the details of the planned pile driving activities, without delaying the critical path work associated with tunnel construction. Effects of additional in-water and in-air construction activities are also assessed for potential impacts on marine mammals. These stressors include noise, habitat loss or alteration, prey availability and habitat, and sedimentation. The Project is not expected to lead to any increases in marine vessel traffic in the region; therefore, ship strikes were not evaluated.

Consideration of negligible impact is required for NMFS to authorize the incidental take of marine mammals. In 50 CFR § 216.103, NMFS defines negligible impact to be “an impact resulting from a specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stocks [of marine mammals] through effects on annual rates of recruitment or survival.” Based upon best available data regarding the marine mammal species (including density, status, and distribution) likely to occur in the Project area, incidental take is expected to result in only short-term changes in behavior, such as avoidance of the Project area, changes in swimming speed or direction, and changes in foraging behavior. Such impacts are unlikely to have any effect on recruitment or survival and; therefore, would have a negligible impact on the affected stocks of humpback whales, bottlenose dolphins, harbor porpoises, harbor seals, and gray seals. Implementation of mitigation measures, such as ramp-up procedures and marine mammal observers monitoring the harassment zones, is likely to minimize most potential adverse underwater impacts to individual marine mammals or stocks and their habitat from pile installation. Impacts to individual humpback whales, bottlenose dolphins, harbor porpoises, harbor seals, and gray seals are expected to be small and of short duration. Nevertheless, some level of disturbance impact is unavoidable.

R.3 SPECIES NOT EXPECTED OR HAVE THE POTENTIAL TO BE INCIDENTALLY TAKEN

R.3.1 SPECIES NOT EXPECTED TO BE INCIDENTALLY TAKEN

The species not expected to be incidentally taken during the Project include the fin whale, minke whale, and North Atlantic right whale. These species are either not likely to occur in the Project area or are only known in the Project area from strandings. Given the preference of whales in deeper waters than what is found in the Project area, and the Project area not within normal whale feeding or migration areas, their presence in the Project area is unlikely; therefore, fin whales, minke whales, and North Atlantic right whales are not expected to be incidentally taken during the Project.

R.3.2 SPECIES WITH THE POTENTIAL TO BE INCIDENTALLY TAKEN

Species expected to be incidentally taken in the Project area include the humpback whale, bottlenose dolphin, harbor porpoise, harbor seal, and gray seal. These animals have known occurrences in the Project area and are expected to be incidentally taken although in small number; however, no significant or adverse direct, indirect, or cumulative impacts are expected to occur upon any marine mammal species.

Whales, dolphins, porpoises, and seals are mobile species and are capable of avoiding the disturbance and pile installation and removal associated with Project. Humpback whales, bottlenose dolphins, harbor porpoises, harbor seals, and gray seals may be found in the Project area and could potentially be displaced within the Level A and Level B harassment zones and be incidentally taken during the Project.

Analyses provide estimates of the numbers of animals by species that could be exposed to received noise levels causing Level A and Level B harassment incidentally to the proposed Project. Due to the variable spatial distribution and limited abundance of some of the marine mammal species identified, and the implementation of the mitigation measures, there is a negligible chance that pile installation and removal could result in serious injury or death of marine mammals. The exposure estimates do not account for the potential for marine mammals to avoid the Project area due to increased noise levels, and therefore are likely overestimates of the numbers of potential exposures to Level A and B harassment. Furthermore, since the Project area is limited to the mouth of the James River, and sound is not expected to cross the entire James River, from shore to shore; access to and from the Chesapeake Bay and James River is not expected to be blocked or impacted. In addition, the exposure estimates are based on a conservative area of ensonification and a conservative estimation of marine mammal abundance, and therefore, are likely a significant overestimate of the actual potential for take by acoustic harassment. It is also assumed that an animal will be taken once over a 24-hour period; however, the same individual may be taken multiple times over the duration of the Project. Therefore, both the number of takes and the affected population percentages represent the maximum potential take numbers. The LOA and IHA applications provide further information.

R.4 REFERENCES

Department of the Navy (DoN). 2008. Marine Resources Assessment Update for the Virginia Capes Operating Area. Department of the Navy, U.S. Fleet Forces Command, Norfolk, Virginia. Contract #N62470-02-D-9997, CTO 0056. Prepared by Geo-Marine, Inc., Hampton, Virginia.