



A.I.S., INC. MARINE MAMMAL MONITORING PLAN

SKANSKA

Protected Species Observers



The intent of this Project Monitoring Plan is to establish a structured process and disciplined approach to the monitoring and mitigation plan associated with activities relative to Protected Species Observers (PSO)

Version 1.2



DOCUMENT CONTROL

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5/10/24	1.1	IHA date update and Introduction revision
5/30/24	1.2	Lead PSO experience clarification and additional PSO resumes/clarification

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1 INTRODUCTION

The purpose of this Marine Mammal Monitoring Plan (Plan) is to provide protocols for marine mammal monitoring activities during in-water construction and demolition activities that have the potential to result in incidental harassment of marine mammals. Such harassment of marine mammals could be expected as a result of project operations therefore the mitigations summarized herein will be implemented to ensure that none occurs.

This project does not assess incidental takes from airborne noise because behavioral harassment of pinnipeds is accounted for in “take” estimates for exposure to underwater sound above the behavioral harassment thresholds. Airborne noise would primarily be an issue for pinnipeds that are swimming or hauled out near the project site within the range of noise levels elevated above acoustic criteria. We recognize that pinnipeds in the water could be exposed to airborne noise that may result in behavioral harassment when their heads are above water and that most likely, airborne sound would cause behavioral responses. However, these animals would likely have previously been considered “taken” because of exposure to underwater sound above behavioral harassment thresholds, the distances of which are generally larger those associated with airborne sound.

1.1 Project description

Relevant in-water construction activities that have the potential to result in incidental harassment of marine mammals include installation and removal of piles via vibratory and impact pile driving methods (referred to collectively as pile driving), down-the-hole (DTH) hammering, and rotary drilling and thus will be monitored by a Protected Species Observer (PSO) Team.

The National Oceanic and Atmospheric Administration (NOAA) is preparing to relocate four research vessels to the Naval Station (NAVSTA) Newport in Newport, RI. This project involves installing a new pier, trestle, small boat floating dock, and bulkhead to be constructed in Coddington Cove at NAVSTA Newport. It has been determined that the in-water construction activities have the potential to create noise that may rise to the level of harassment under the Marine Mammal Protection Act and the Navy applied for an incidental harassment authorization for the project which was issued on December 21, 2022.

1.2 Activity classification

- Ops – Vibratory extraction of 12” steel pipe
- Ops – Vibratory extraction of 12” timber piles
- Ops – Vibratory installation and removal of 16” steel pipe
- Ops – Vibratory & impact hammering of 18” steel pipes
- Ops – Mono-hammer DTH of 18” steel pipes
- Ops – Rotary drilling of 18” steel pipes
- Ops – Vibratory installation of Z26-700 steel sheets
- Ops – Vibratory & impact hammering of 30” steel pipes
- Ops – Rotary drilling of 30” steel pipes
- Ops - Vibratory & impact hammering of 36” steel pipes
- Ops – Mono-hammer DTH of 36” shafts
- Ops – Operational Standby
- Ops – Shutdown
- Mit – Pre Watch Clearance
- Mit – Delay Ramp Up/Soft Start



- Mit – Ramp-Up/Soft Start
- Mit – Shutdown
- Mit – Post Piling Watch
- Mit – Change Course
- Oth – Vessel Transit
- Oth – Weather Standby
- Oth – Other Standby
- Ops = Operations; Mit = Mitigation; Oth = Other

2 MONITORING AND MITIGATION

2.1 Project Specific Zones

The following mitigation measures, as specified in the Incidental Harassment Authorization issued on December 21, 2023 shall be implemented during pile driving/extraction, DTH hammering and rotary drilling activities to minimize marine mammal exposure to Level A injurious noise levels generated and to reduce to the lowest extent practicable exposure to Level B noise levels. In addition to the Shutdown and Level B Behavioral Harassment Zones defined below, the PSO team will also monitor all other visible in water areas around the operational area during active monitoring and construction operations. It is essential that PSOs monitor outside the specified monitoring and mitigation zones to maintain situational awareness and trigger communications with the operations team that a protected species shutdown might be imminent if a marine mammal is observed transiting in the direction of the mitigation zone.

2.1.1 Shutdown Zone Descriptions

The Shutdown Zone is defined as the designated area for marine mammal monitoring for all specified in-water construction and demolition activities which encompasses the Level A acoustic (injury by permanent hearing threshold shift) harassment zone. The Shutdown Zone radial distances are included in Table 1 and will be implemented based on the pile size and type being used and operational activity occurring at a given time.

2.1.2 Level B Behavioral Harassment Zone

The Level B Behavioral Harassment Zone is defined as the designated area for marine mammal monitoring for all specified in-water construction and demolition activities from the Shutdown Zone radial distance to the radial distance determined to be capable of causing behavioral disturbance by species group of marine mammals. The Level B Behavioral Harassment Zone radial distances are included in Table 1 and will be implemented based on the operational activity occurring at a given time.

2.1.3 Shutdown Zone and Level B Harassment Zone Distances

Shutdown and Level B Harassment Zones based on pile type/size and driving method are outlined below in Table 1.

Table 1 Shutdown Zone and Level B Harassment Zone Distances for Marine Mammals

Pile Type/Size	Driving Method	Shutdown Zones (m)		Level B Harassment Zones (m)
		Cetaceans	Pinnipeds	All Marine Mammals
12" Steel Pipe	Vibratory Extraction	10	10	2,600
12" Timber	Vibratory Extraction	15	10	1,359



16" Steel Pipe	Vibratory Install/Extract	20	10	6,400
18" Steel Pipe	Impact Install	200	200	640
	Vibratory Install	30	15	6,400
	Mono-Hammer DTH	200	200	Maximum Harassment Zone ¹
	Rotary Drilling 18" Holes	10	10	1,900
Z26 – 700 Steel Sheets	Vibratory Install	15	10	2,600
30" Steel Pipe	Impact Install	200	200	2,600
	Vibratory Install	55	25	Maximum Harassment Zone ¹
	Rotary Drilling	10	10	1,900
36" Steel Pipe	Impact Install	200	200	3,400
	Vibratory Install	90	40	Maximum Harassment Zone ¹
36" Shafts	Mono-Hammer DTH	200	200	Maximum Harassment Zone ¹

¹ Harassment zone will be truncated due to the presence of intersecting land masses and would encompass a maximum area of 3.31 km².

2.1.4 Incidental Take Authorization

The number of incidental takes authorized for this project via the Incidental Harassment Authorization issued by the National Marine Fisheries Service for the project on December 15, 2022 can be found in Table 2.

Table 2 Number of Incidental Take Authorized

Common Name	Species Name	Stock	Level A Harassment	Level B Harassment
Atlantic white-sided dolphin	<i>Lagenorhynchus acutus</i>	Western North Atlantic	0	16
Short-beaked common dolphins	<i>Delphinus delphis</i>	Western North Atlantic	0	39
Harbor porpoise	<i>Phocoena phocoena</i>	Gulf of Maine/ Bay of Funday	2	40
Harbor seal	<i>Phoca vitulina</i>	Western North Atlantic	56	2,067
Gray seal	<i>Halichoerus grypus</i>	Western North Atlantic	11	437
Harp seal	<i>Pagophilus groenlandicus</i>	Western North Atlantic	4	164
Hooded seal	<i>Cystophora cristata</i>	Western North Atlantic	0	10

Taking of any marine mammals not listed above is prohibited as is taking by serious injury or death of any species listed above.

2.2 Observer Monitoring Locations

In order to effectively observe the Shutdown Zone and the Level B Behavioral Harassment Zones, PSO will be positioned at the best practicable vantage points, taking into consideration operational activity, security, safety, and space limitations. Three (3) PSO will be deployed to monitor concurrently for protected species from three (3) different

monitoring locations located on land. The Lead PSO, who will have previous experience performing the duties of a PSO during construction activity pursuant to a NMFS issued incidental take authorization, will be stationed on or adjacent to the Skanska construction barge(s) while two (2) additional supporting PSO, will be located at two separate shore based locations to monitor the farther extents of the Shutdown and Level B Behavioral Harassment Zones based on the operational activity planned for the day and beyond.

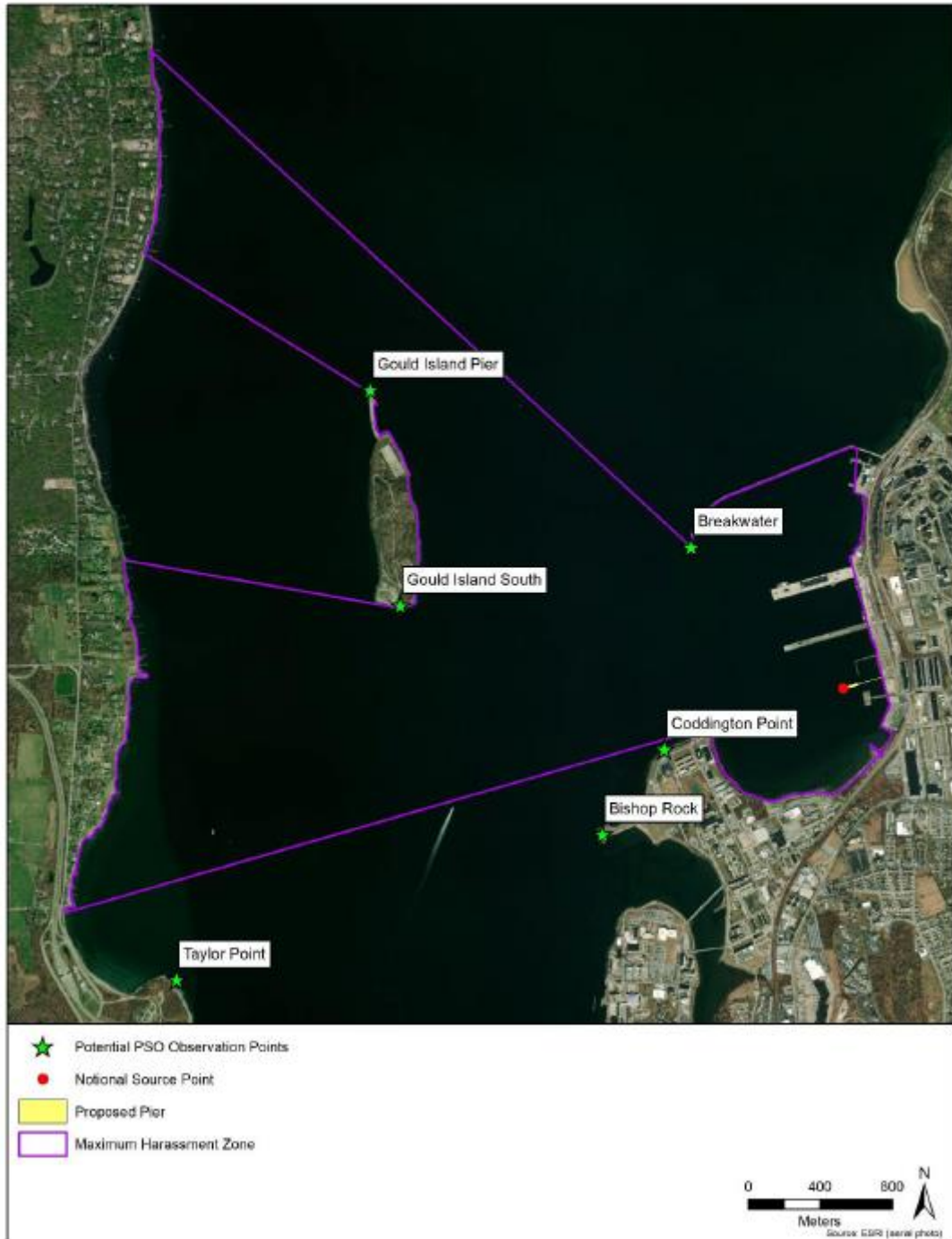


Figure 1 Potential PSO Monitoring Locations



The PSOs will systematically scan the area adjacent to said construction barges with binoculars and the unaided eye to ensure that no protected species are unaccounted for. Figure 1 demonstrates potential locations that the PSO team members may be stationed during operations depending on operational activity planned for the day. Of these locations, the two support PSO will be stationed at the Coddington Point and Taylor Point observation locations when the Level B Behavioral Harassment Zone warrants.

2.3 Mitigation Measures

The following mitigation measures are intended to eliminate the risks of exposing marine mammals to dangerous levels of underwater noise and shall be implemented during all pile driving, DTH hammering, and rotary drilling activities to minimize to the lowest extent practicable marine mammal exposure to injurious noise levels.

2.3.1 Time Restriction

In-water construction and demolition work will occur only during daylight hours.

2.3.2 Establishment of Shutdown and Level B Behavioral Harassment Zones

For all relevant in-water pile driving DTH hammering and rotary drilling activities, a designated Shutdown Zone and Level B Behavioral Harassment zone, with radial distances as identified in Table 1 will be established.

During all in-water construction and demolition activities, a 10-meter (m) (33-foot [ft]) physical injury shutdown zone around each active pile and all construction equipment in motion (including but not limited to moving barges and in water crane operations) will be implemented to protect animals from physical injury.

Pile driving shall only take place when the applicable Shutdown Zone, which includes the 10m physical injury zone, are visible and can be adequately monitored. If conditions (e.g., fog or poor lighting conditions) prevent the visual detection of marine mammals, activities with the potential to result in harassment shall not be initiated. If such conditions arise after the activity has begun, all pile driving DTH hammering and rotary drilling activities must be halted until the PSO team is confident that all marine mammals within the Shutdown Zone can be detected.

2.3.3 Shutdown Measures

If a marine mammal enters or is observed within the Shutdown Zone, all pile driving, DTH hammering or rotary drilling activities will be halted. If a marine mammal for which takes are not authorized or a species for which incidental takes have been authorized but the authorized number of takes has been met is seen within the Shutdown Zone or Level B Behavioral Harassment Zone, pile driving, DTH hammering, and rotary drilling operations will be halted.

Pile driving or removal may commence or resume when either the animal (for which Level B incidental takes has been authorized for and remain) has voluntarily left the Shutdown Zone, and been visually confirmed beyond this zone, or 15 minutes have passed without re-detection of the animal. If there are no authorized takes for the species observed, the animal must have been visually confirmed beyond the Shutdown Zone and Level B Behavioral Harassment Zone, or 15 minutes must have passed without re-detection of the animal.

2.3.4 Soft Start (impact pile driving)

The soft start procedure will consist of an initial set of three strikes from the impact hammer at a reduced energy level separated by a 30-second waiting period, then two subsequent three strike sets. After the soft start is completed, pile driving may commence at full power on the fourth strike.

Soft start is required for any impact pile driving, including at the beginning of the day, and at any time following cessation of impact pile driving of 30 minutes or longer.



Activity	Strike Set	Number of Strike(s)	Power
Impact/vibratory pile driving	1 st Set	3	Reduced Energy
		30 Second Break	
Impact/vibratory pile driving	2 nd Set	3	Reduced Energy
		30 Second Break	
Impact/vibratory pile driving	3 rd Set	3	Reduced Energy
		Full Power	

Table 3 Soft Start Procedure (impact and vibratory pile driving)

2.3.5 Visual Monitoring Methods

The PSOs will collect marine mammal sightings data, including behaviors, for the pre-, during, and post-pile driving, DTH hammering and rotary drilling operational periods. All observations will be logged, regardless of proximity to active operations, to eliminate potential for bias.

2.4 Visual Survey Protocols

2.4.1 Visibility Requirements

If environmental conditions deteriorate to the point that the PSO team is unable to visualize the entire Shutdown Zone (e.g. fog, heavy rain, night), construction activities shall be delayed until the PSO team determines that all marine mammals within the Shutdown Zone could be detected.

2.4.2 Pre-Activity Monitoring

The following survey protocols will be implemented prior to the start of operations including pile driving, DTH hammering, and rotary drilling:

- The Shutdown Zone and Level B Behavioral Harassment Zones will be visually monitored for 30 minutes prior to the initiation of in-water construction activities. If a marine mammal is present within the Shutdown Zone the activity will be delayed. Activity will resume only after the PSO has determined that the animal(s) has moved outside of the Shutdown Zone. If the animal(s) is observed inside the Shutdown Zone but has not been visually tracked leaving said Shutdown Zone, the Shutdown Zone will not be considered cleared until 15 minutes have passed from the last observation of the animal inside the Shutdown Zone.
- If marine mammal(s) are not detected within the Shutdown Zone or the Level B Behavioral Harassment Zone (i.e., the areas are deemed clear of marine mammals), the Lead PSO will inform the construction manager that pile driving can begin via soft start if applicable.

If marine mammals are present within the general area (but not within the Shutdown Zone) pile driving will not need to be delayed, but PSOs will monitor and document, to the extent practical, the behavior of marine mammals that remain in the area. The PSO who sighted the animal will notify all other PSOs of its presence and the Lead PSO will then notify the construction manager that a delay in initiation of operations or shutdown *could* be required if that animal enters the Shutdown Zone, the Level B behavioral harassment zone or the physical injury shutdown zone.

- In the event of a delay or shutdown of activity resulting from marine mammals in the shutdown zone, animals must be allowed to remain in the shutdown zone (i.e., must leave of their own volition) and their behavior must be monitored and documented, or 15 minutes must have passed without redetection of the animal.

2.4.3 During Activity Monitoring

The Level B Behavioral Harassment Zone and the Shutdown Zone will be monitored throughout pile driving, DTH hammering and rotary drilling are outlined in Table 1.

- The Shutdown Zone as defined in Table 1 will be monitored by the Lead PSO during all in water pile driving, DTH hammering and rotary drilling activities as previously described. This distance also applies to in-water heavy machinery work (e.g., standard barges, tugboats, etc.) other than pile driving and these operations will be monitored by the PSO or vessel based PSO team that is closest in proximity to the vessel in question. Vessel movement or any other activity that could result in direct physical contact with a marine mammal would be halted if a marine mammal were to approach within 10m of the activity. Vessel speed must be reduced to the minimum level required to maintain steerage and safe working conditions. This measure allows for a physical buffer zone between protected marine mammals and construction equipment.
- The PSO verify required monitoring distance using a handheld range finder or proven visual estimation methods, have full visibility of the Shutdown Zone regardless of the type of pile driving, DTH hammering or rotary drilling taking place, and will be able to immediately report marine mammal observations and initiate shutdown procedures as needed.
- The Shutdown Zone and Level B Behavioral Harassment Zone shall be monitored during all impact and vibratory pile driving, DTH hammering, and rotary drilling activity.
- Shutdown shall occur when:
 - A marine mammal approaches or is observed within the Shutdown Zone.
 - If a marine mammal of a species for which the project has not been authorized any takes approaches the Level B Behavioral Harassment Zone.
 - If the total allowable number of Level B takes for a given species is being approached.
- The PSO shall report all shutdowns to the appropriate Site Superintendent, QCM or any action foreman immediately.
- If a marine mammal enters the observable area but not the Shutdown Zone or the Level B Behavioral Harassment zone , the pile segment being worked on will be completed without cessation, unless the animal enters or approaches the Shutdown Zone. Regardless of location, the initial behavior and location of the animal(s) will be logged. Behaviors will be continually logged until the animal is either passed off to another PSO or the animal is no longer visible. The PSO who first observed the animal will alert the Lead PSO, stationed adjacent to active operations, to its presence. The Lead PSO will then notify the construction crew of the animal’s current status, but all project-related activities will be allowed to continue.
- If a marine mammal for which incidental take is authorized is observed entering the Level B Behavioral Harassment Zone, the pile segment being worked on will be completed without cessation, unless the animal enters or approaches the Shutdown Zone. Regardless of location within the Level B Behavioral Harassment Zone, the initial behavior and

location of the animal(s) will be logged. Behaviors will be continually logged until the animal is either passed off to another PSO, the animal is no longer visible, or it has left the Level B Behavioral Harassment Zone.

- If the marine mammal enters the Shutdown Zone, pile driving will cease until the animal(s) voluntarily leave the zone. As the animal enters the Shutdown Zone, all pile driving operations will be stopped and the animal(s) will be continually tracked. Once a shutdown has been initiated, pile driving will be delayed until the animal has voluntarily left the shutdown zone and has been visually confirmed beyond the shutdown zone, or 15 minutes have passed without re-detection of the animal (i.e., the zone is deemed clear of marine mammals). The Lead PSO will inform the construction contractor that activities can re-commence.
- Shutdown shall occur immediately if a species, for which authorization for incidental take has not been granted or for which the authorized numbers of takes have been met, approaches, or is observed within the Level B Behavioral Harassment Zone or Shutdown Zone. The PSO shall notify the Navy POC, who will then contact NMFS immediately.
- The number, species, and locations of all observed marine mammals will be documented using the AIS Data Sheet. The results of these monitoring efforts will be used to estimate the average number of individuals occurring per day in the Shutdown Zone and the Level B Behavioral Harassment Zone during pile driving, DTH hammering and rotary drilling operational activities.
- There is a likelihood that throughout the course of this project multiple types of construction and/or demolition activities could occur simultaneously. In this instance the Lead PSO, stationed on the construction barge, will actively monitor operations and actively communicate with barge supervisors and the rest of the PSO team to ensure that the appropriate situational awareness is achieved and maintained by all members of the PSO Team.

2.4.4 Post-Activity Monitoring

Monitoring of all zones will continue for 30 minutes following completion of construction activities including pile driving, DTH hammering, and rotary drilling. These surveys will record all marine mammal observations and will focus on observing and reporting unusual or abnormal behaviors.

3 MONITORING AND SHUTDOWN ZONE MAPPING

Maps showing all Level B Behavioral Harassment and Shutdown Zones for pile size and type and piling method (i.e. pile driving or removal, DTH hammer or rotary drilling) are included in Attachment B.

4 INTERAGENCY NOTIFICATION FOR INJURED OR DEAD MARINE MAMMALS

In the unanticipated event an injured or dead marine mammal is seen during construction activities, the Lead PSO will notify the Construction Manager, who will immediately cease all operations and immediately report the incident to Navy , who will immediately report the incident to:

- NMFS Greater Atlantic Region New England/Mid-Atlantic Regional Stranding Coordinator – 978-282-8478 or 978-281-9291
- NMFS Office of Protected Resources - PR.ITP.MonitoringReports@noaa.gov and ITP.taylor@noaa.gov

The PSO report on the take will include the following information:

- Time, date, and location (latitude/longitude) of the incident
- Description of the incident
- Species identification or descriptions of the animal(s) involved
- Condition of the animal (s)
- Observed behaviors of the animals (s)
- The fate of the animal(s)
- Photographs or video footage of the animal (if equipment is available)

In the event that an injured or dead marine mammal is discovered, and the lead PSO determines that the injury or death is not associated with or related to construction operations the PSO Team will communicate the incident to the above listed contacts and provide a full PSO report.

Activities will not resume until NMFS is able to review the circumstances of the prohibited take. NMFS shall work with the Navy to determine what is necessary to minimize the likelihood of further prohibited takes and ensure MMPA compliance. The Navy will not resume activities until notified by NMFS via letter, email, or telephone.

5 COMMUNICATION

The Client will conduct briefings between construction supervisors, crews and the PSO team prior to the start of all pile driving, DTH hammering, and rotary drilling activities, and when new personnel joins the work. These briefings will explain responsibilities, communication procedures, visual monitoring protocols, and operational procedures.

The Lead PSO stationed adjacent to the Skanska operations will be responsible for collecting and disseminating all operational information to the entire PSO Team. The Lead PSO will attend daily toolbox talks with the Skanska crew and then update the PSO team as to what operations are planned for the day and which Shutdown and Level B Behavioral Harassment Zones are to be monitored based on the anticipated activities. The PSO team will use the information in Table 1 and Attachment A to ensure they are monitoring the applicable zones. Throughout the day if operations change the Lead PSO will communicate any updated operational information to the vessel based PSO Team. Daily toolbox talks will also be conducted for the vessel based PSO team.

6 Attachments

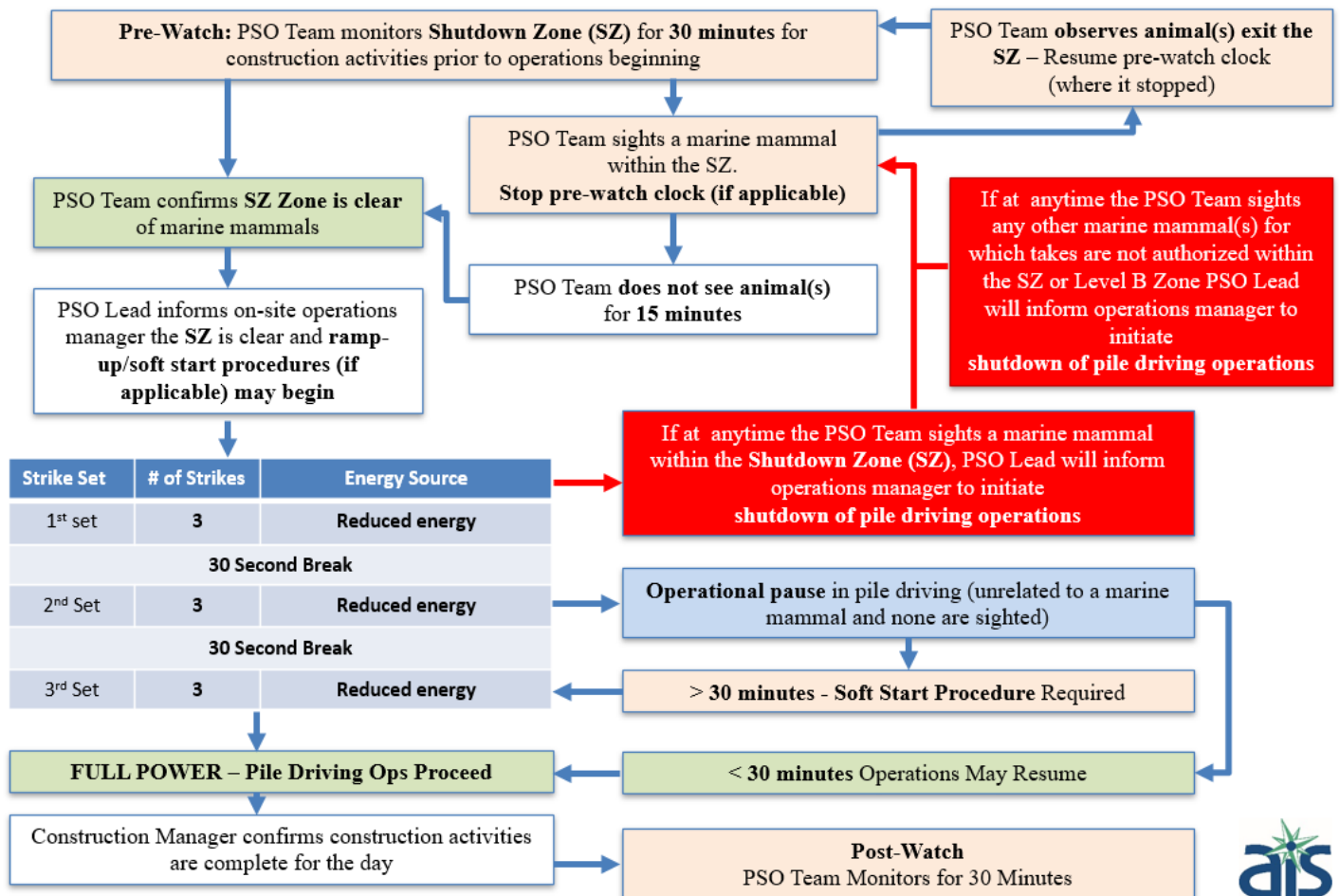
Note: This entire plan will be printed and laminated for quick reference on site

Attachment 1: PSO Quick Reference Mitigation Flow Chart

Skanska Relocate OMAO Project

2024

Protected Species Observer (PSO) Order of Operations



Application for Incidental Harassment Authorization for the Relocation of NOAA Research Vessels at Naval Station Newport, Newport, RI

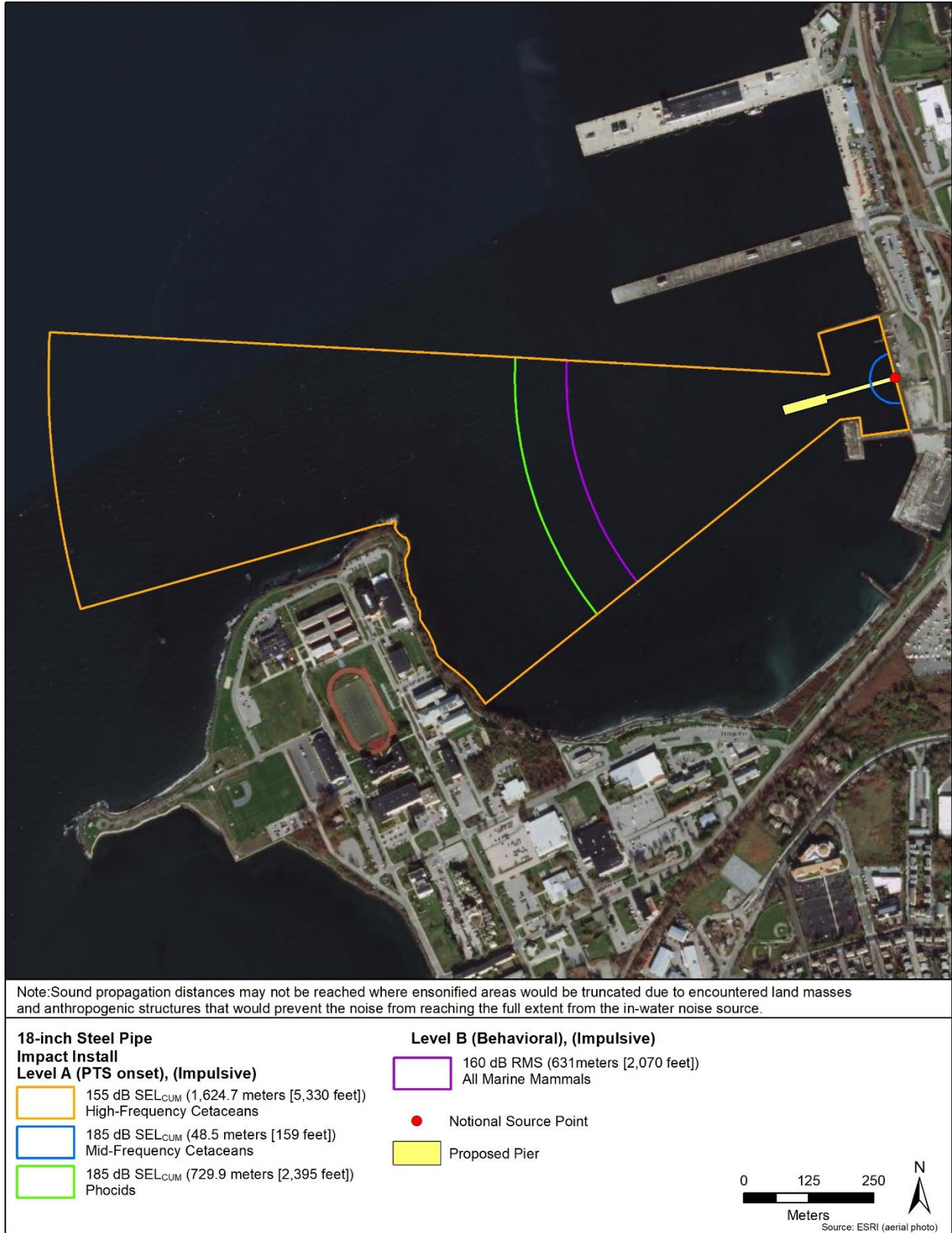


Figure 6-1 Level A (PTS onset) and Level B (Behavioral) Harassment Zones from Impact Pile Driving at the Bulkhead – 18-inch Steel Pipe

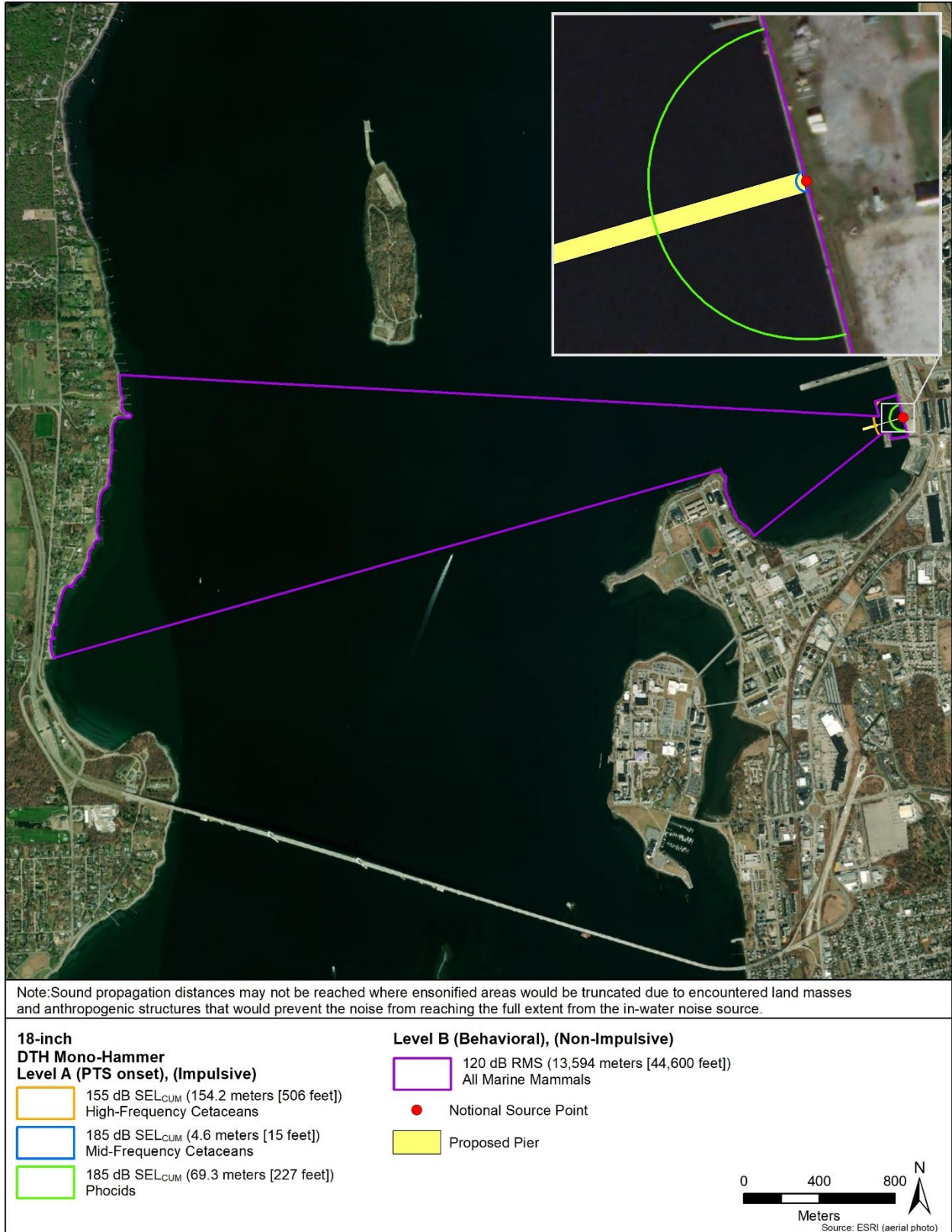


Figure 6-2 Level A (PTS onset) and Level B (Behavioral) Harassment Zones from DTH Mono-hammer Activity at the Bulkhead – 18-inch Steel Pipe

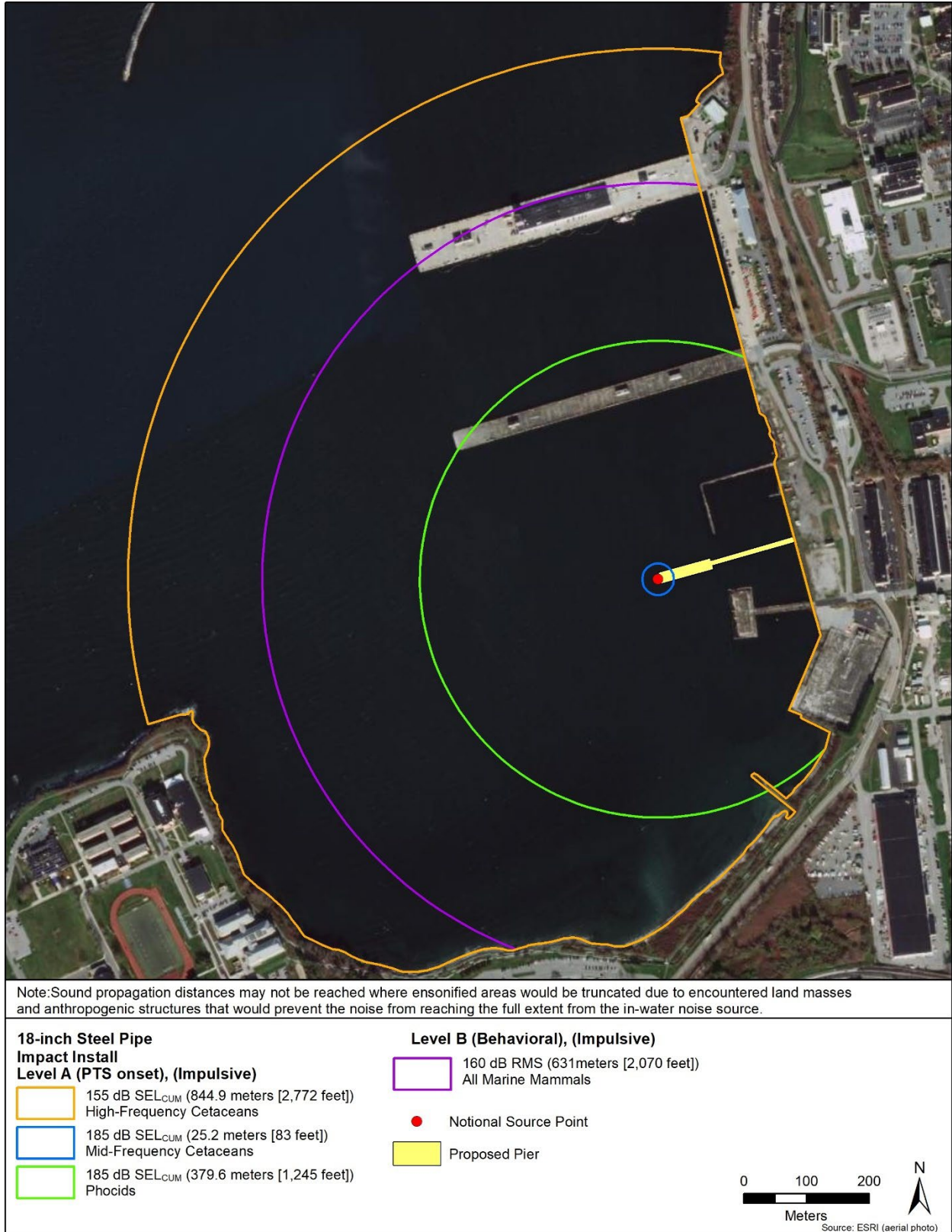


Figure 6-3 Level A (PTS onset) and Level B (Behavioral) Harassment Zones from Impact Pile Driving at the Trestle (Bents 1-18) and the Small Boat Floating Dock – 18-inch Steel Pipe

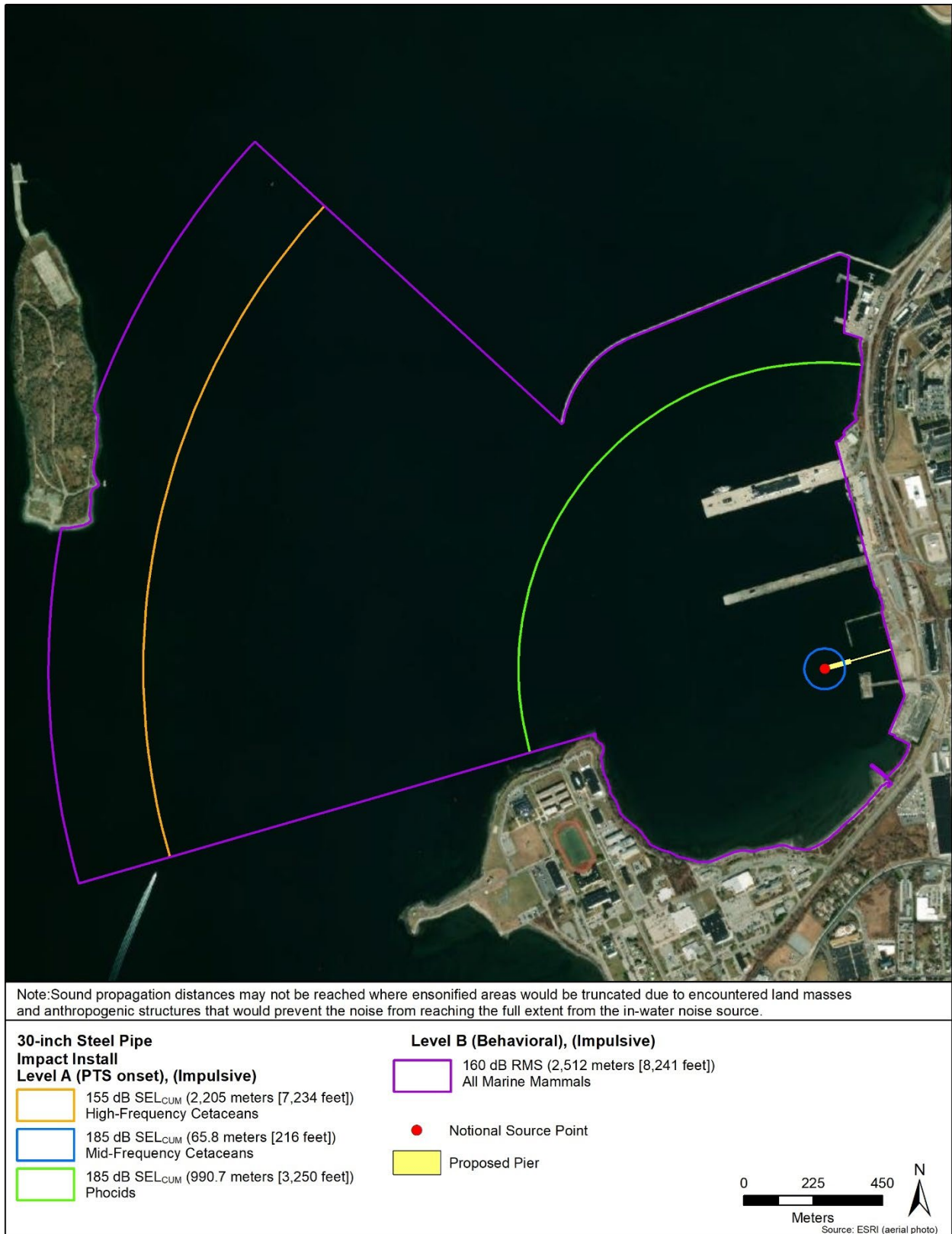


Figure 6-4 Level A (PTS onset) and Level B (Behavioral) Harassment Zones from Impact Pile Driving at Trestle (Bent 19) and Pier – 30-inch Steel Pipe

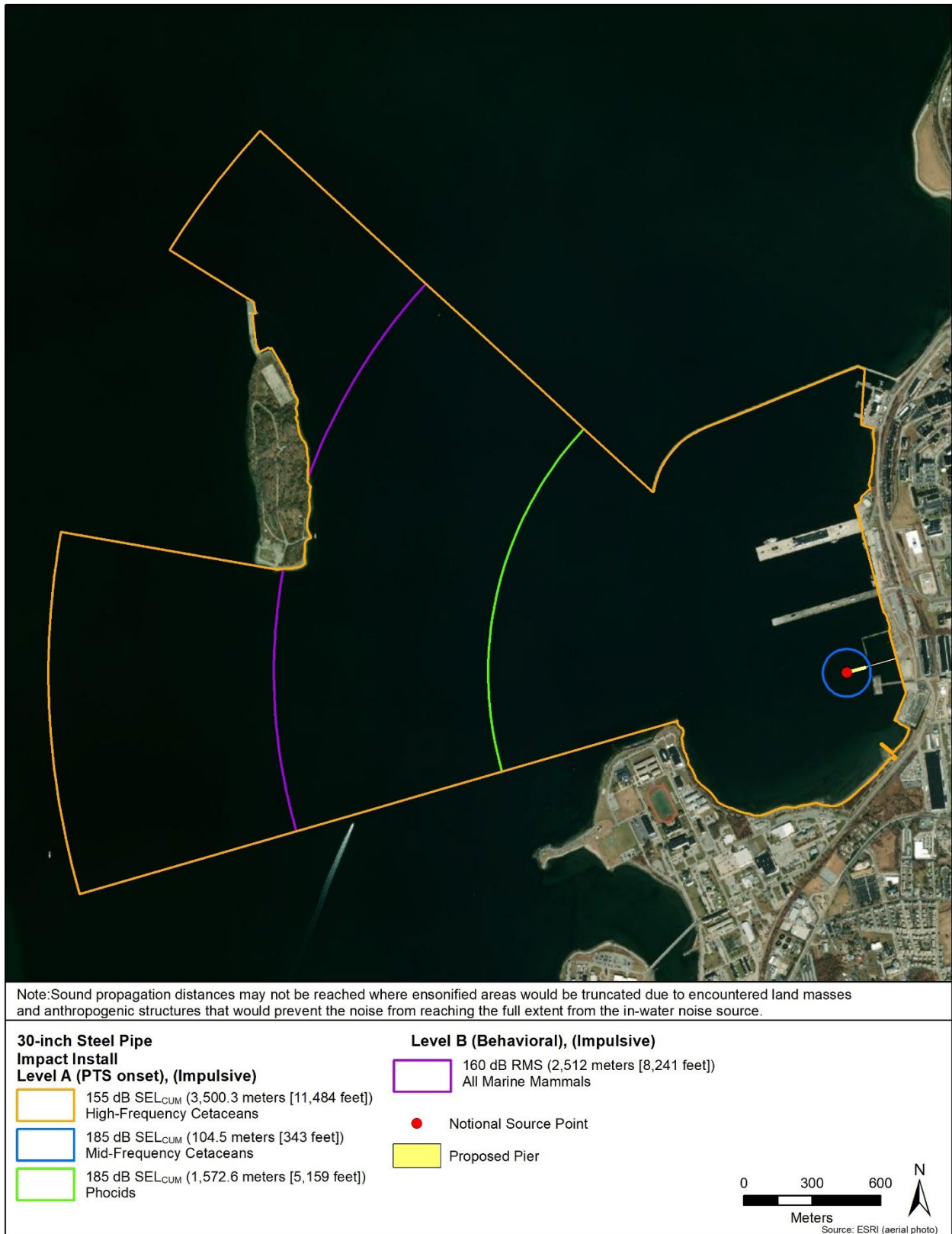


Figure 6-5 Level A (PTS onset) and Level B (Behavioral) Harassment Zones from Impact Pile Driving of Piles at the Pier – 30-inch Steel Pipe

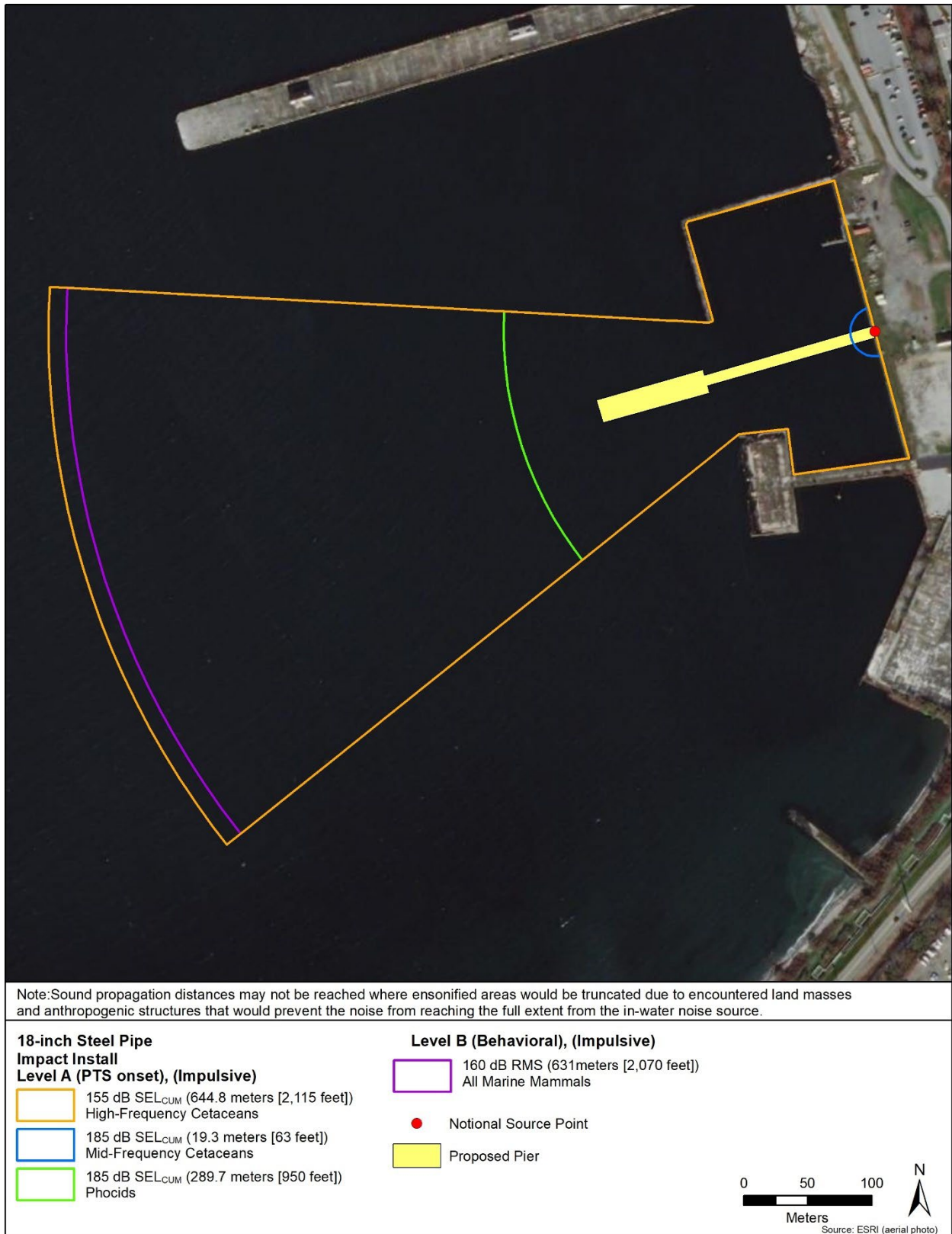


Figure 6-6 Level A (PTS onset) and Level B (Behavioral) Harassment Zones from Impact Pile Driving Gangway Support Piles at the Small Boat Floating Dock – 18-inch Steel Pipe

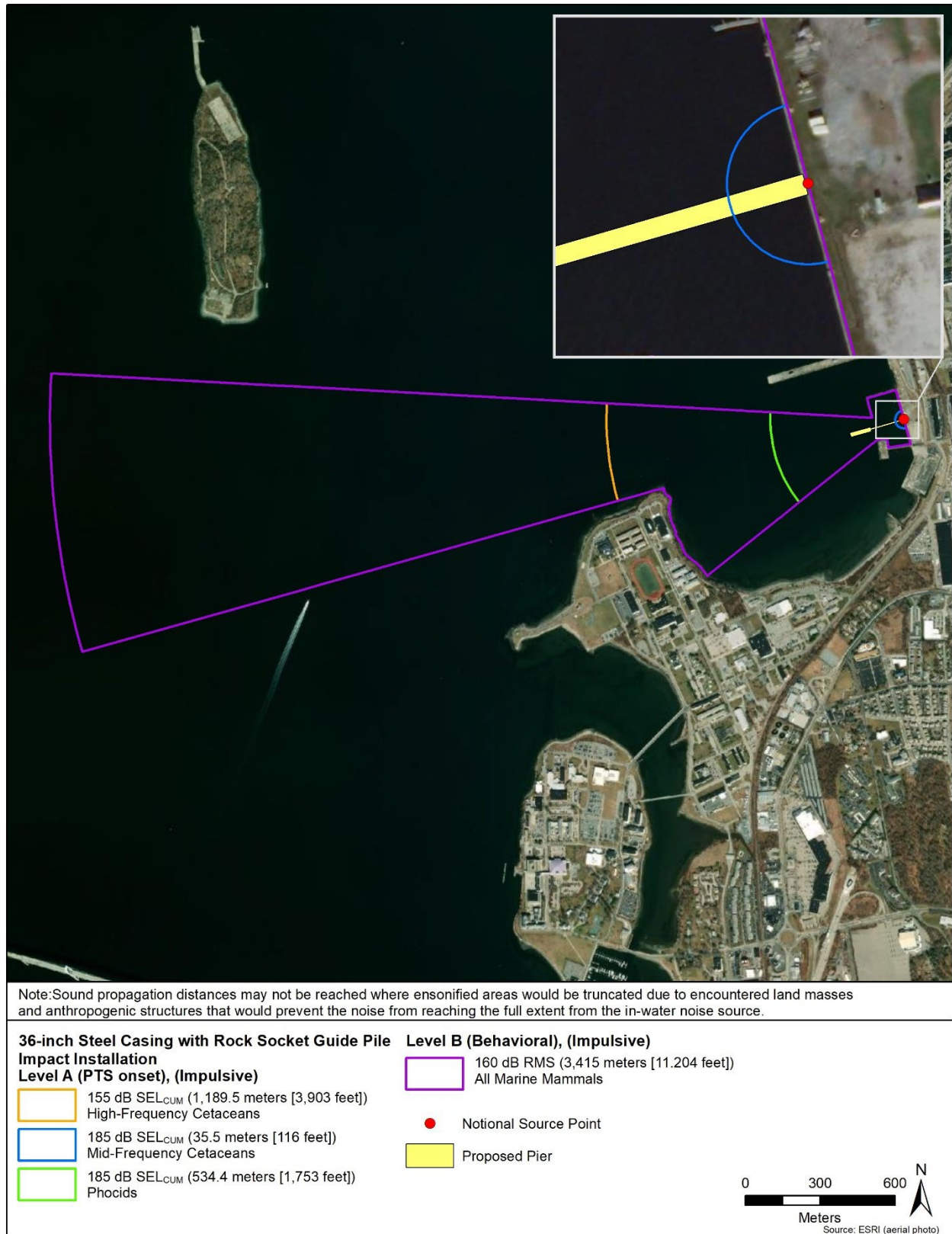


Figure 6-7 Level A (PTS onset) and Level B (Behavioral) Harassment Zones from Impact Pile Driving at the Small Boat Floating Dock – 36-inch Rock Socket Guide Pile

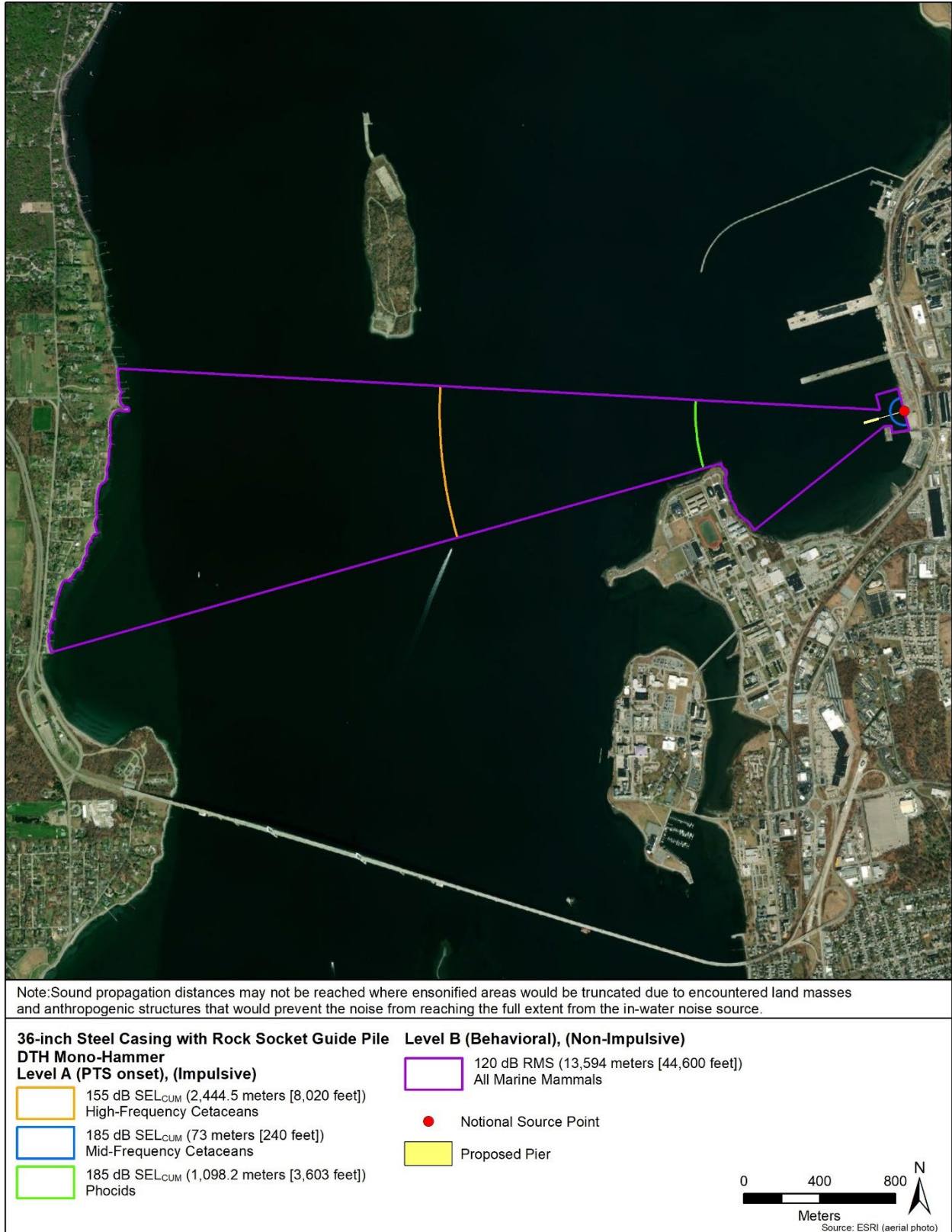


Figure 6-8 Level A (PTS onset) and Level B (Behavioral) Harassment Zones from DTH Mono-Hammer Activity at the Small Boat Floating Dock – for 36-inch Rock Socket Guide Pile

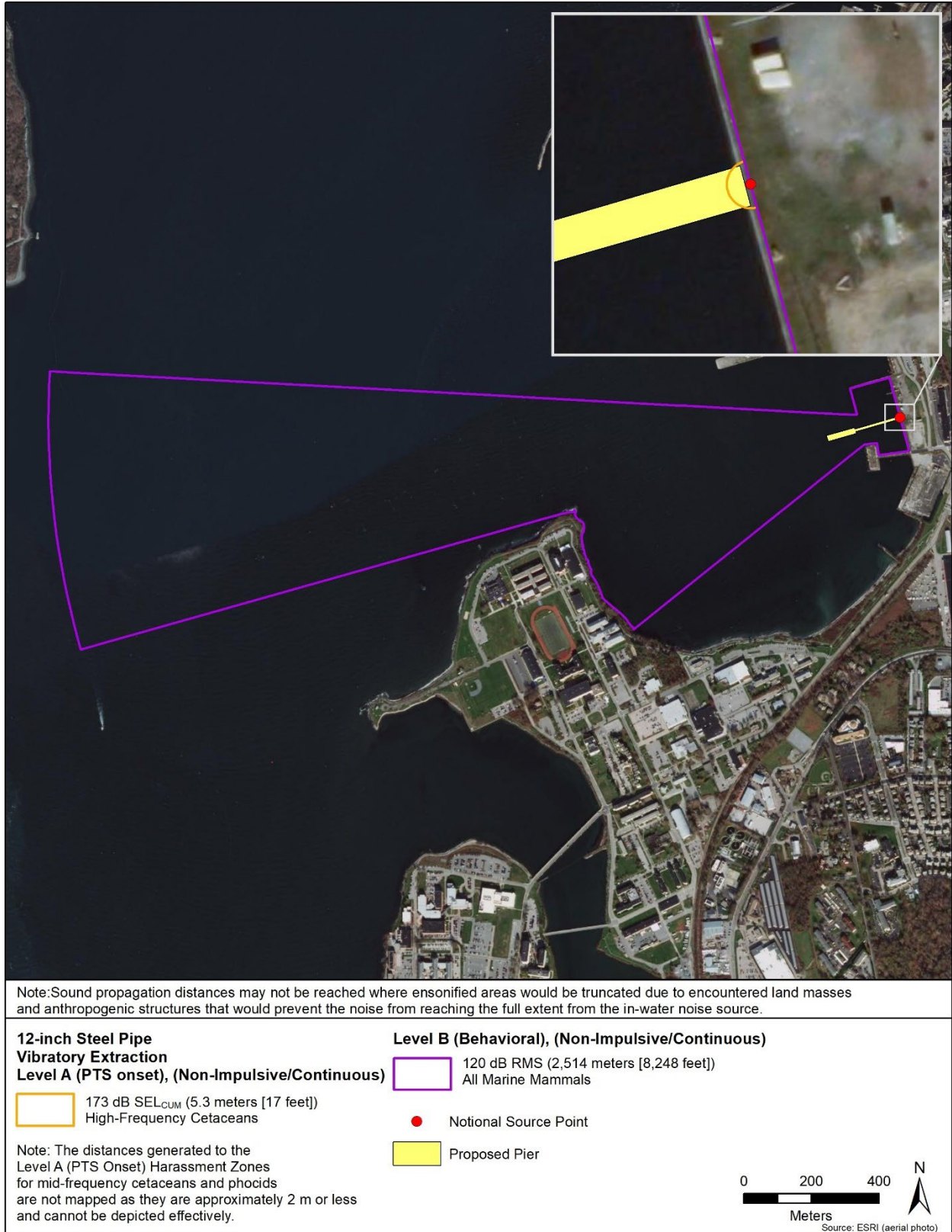


Figure 6-9 Level A (PTS Onset) and Level B (Behavioral) Harassment Zones from Vibratory Extraction Activity at the Existing Bulkhead – 12-inch Steel Pipe



Figure 6-10 Level A (PTS Onset) and Level B (Behavioral) Harassment Zones from Vibratory Extraction Activity for Floating Dock Demolition – 12-inch Timber Guide Piles

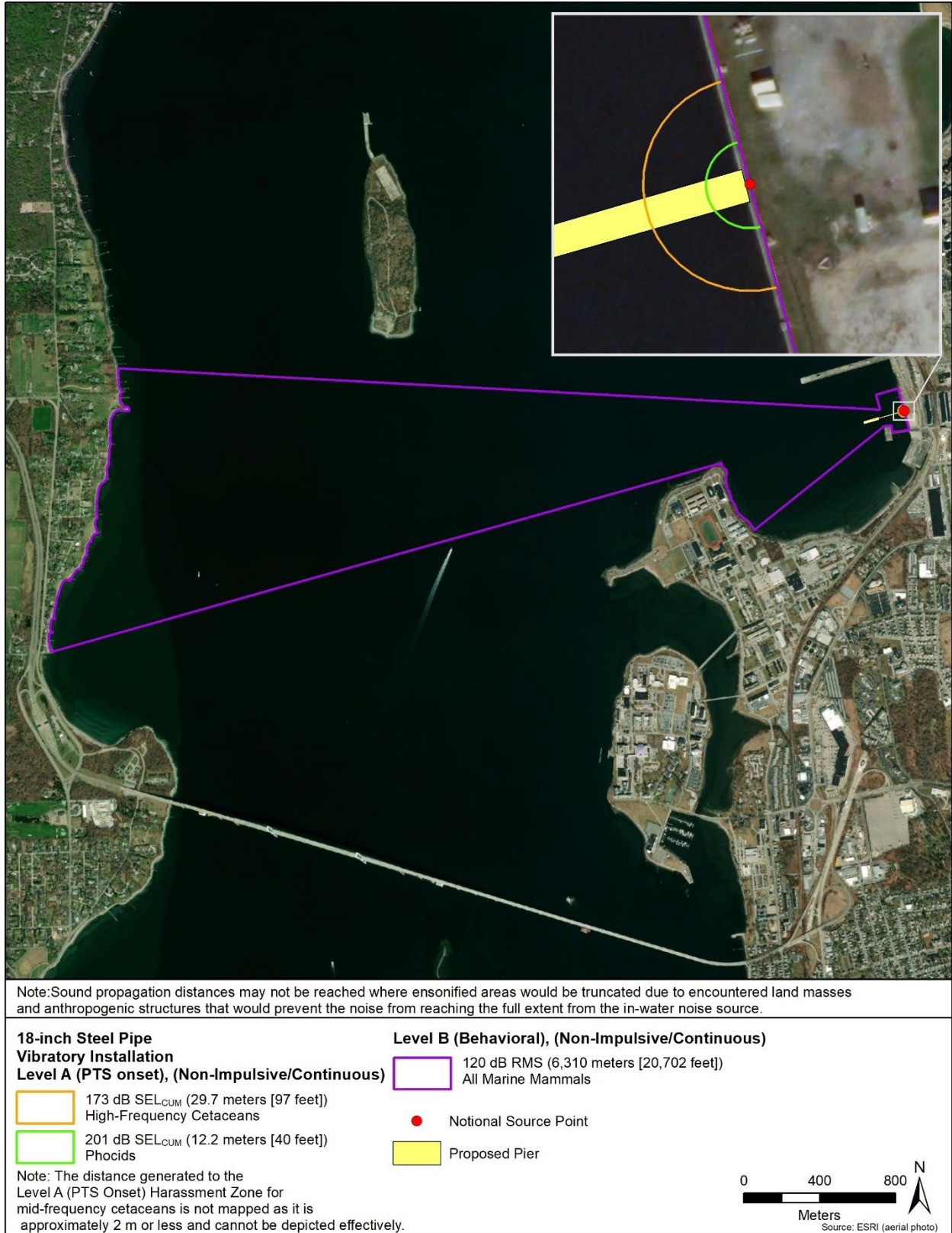


Figure 6-11 Level B (Behavioral) Harassment Zone from Vibratory Installation Activity at the Bulkhead – 18-inch Steel Pipe

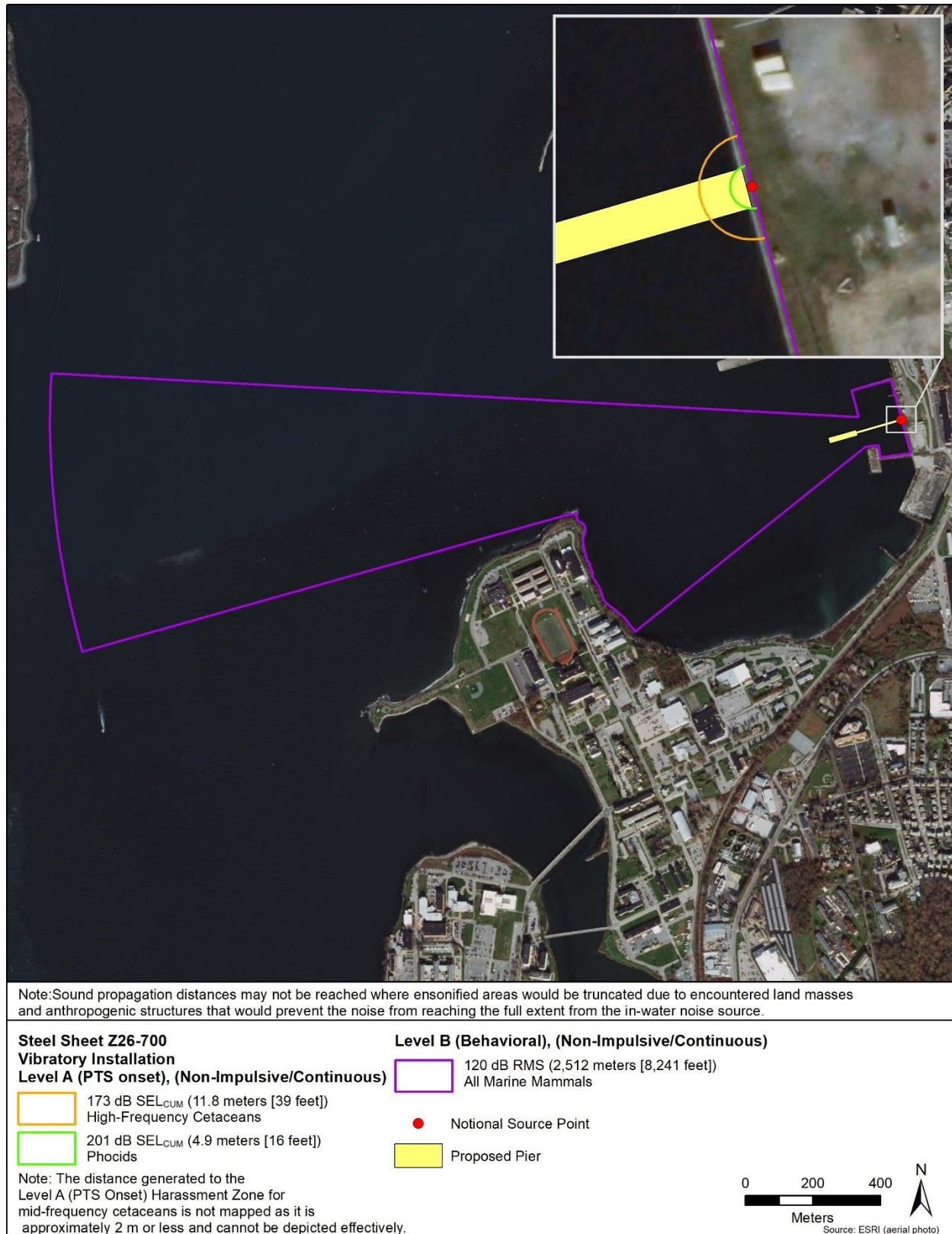


Figure 6-12 Level A (PTS Onset) and Level B (Behavioral) Harassment Zones from Vibratory Installation Activity at the Bulkhead – Z26-700 Steel Sheets

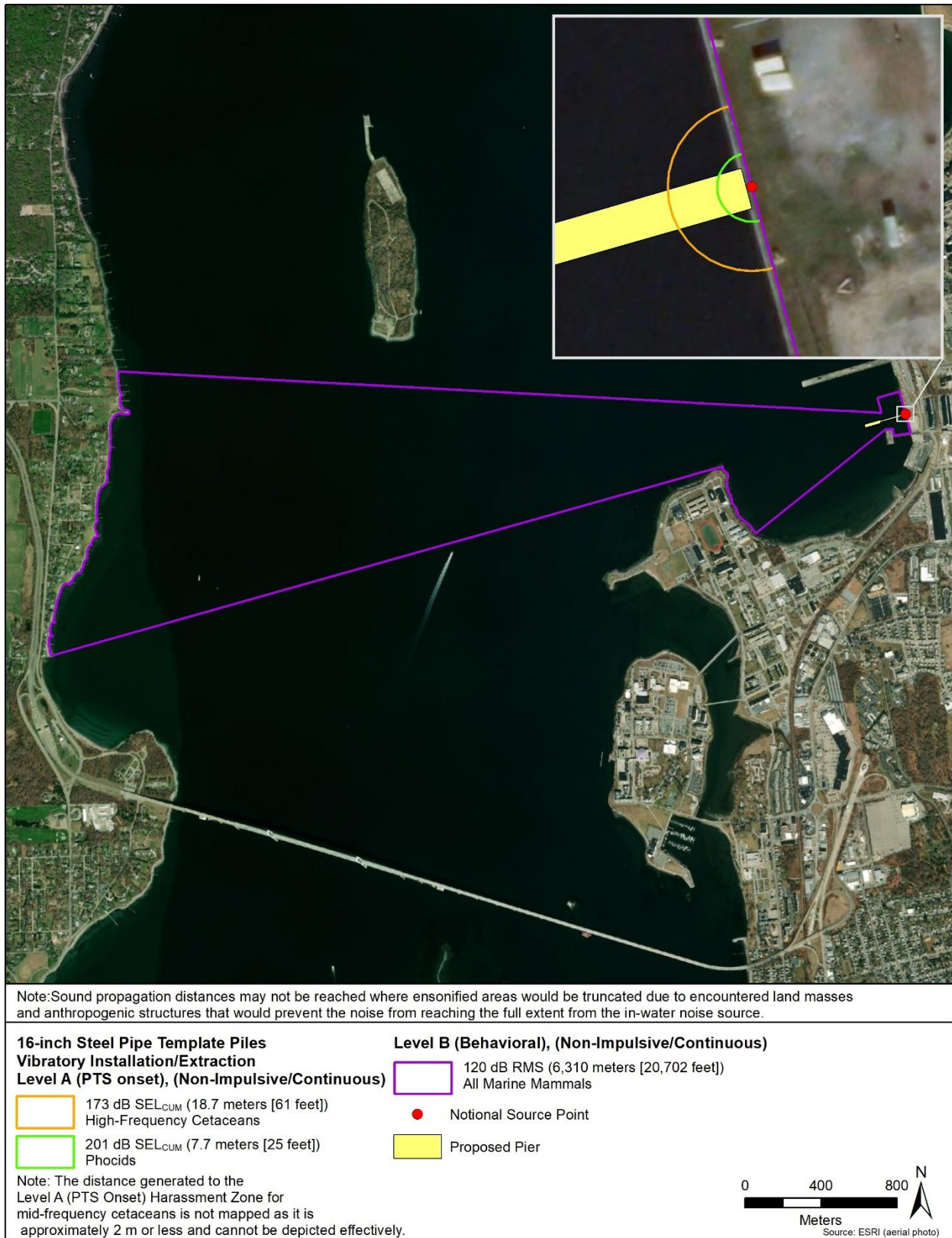


Figure 6-13 Level A (PTS Onset) and Level B (Behavioral) Harassment Zones from Vibratory Installation/Extraction Activity at the Bulkhead – 16-inch Steel Pipe Template Piles

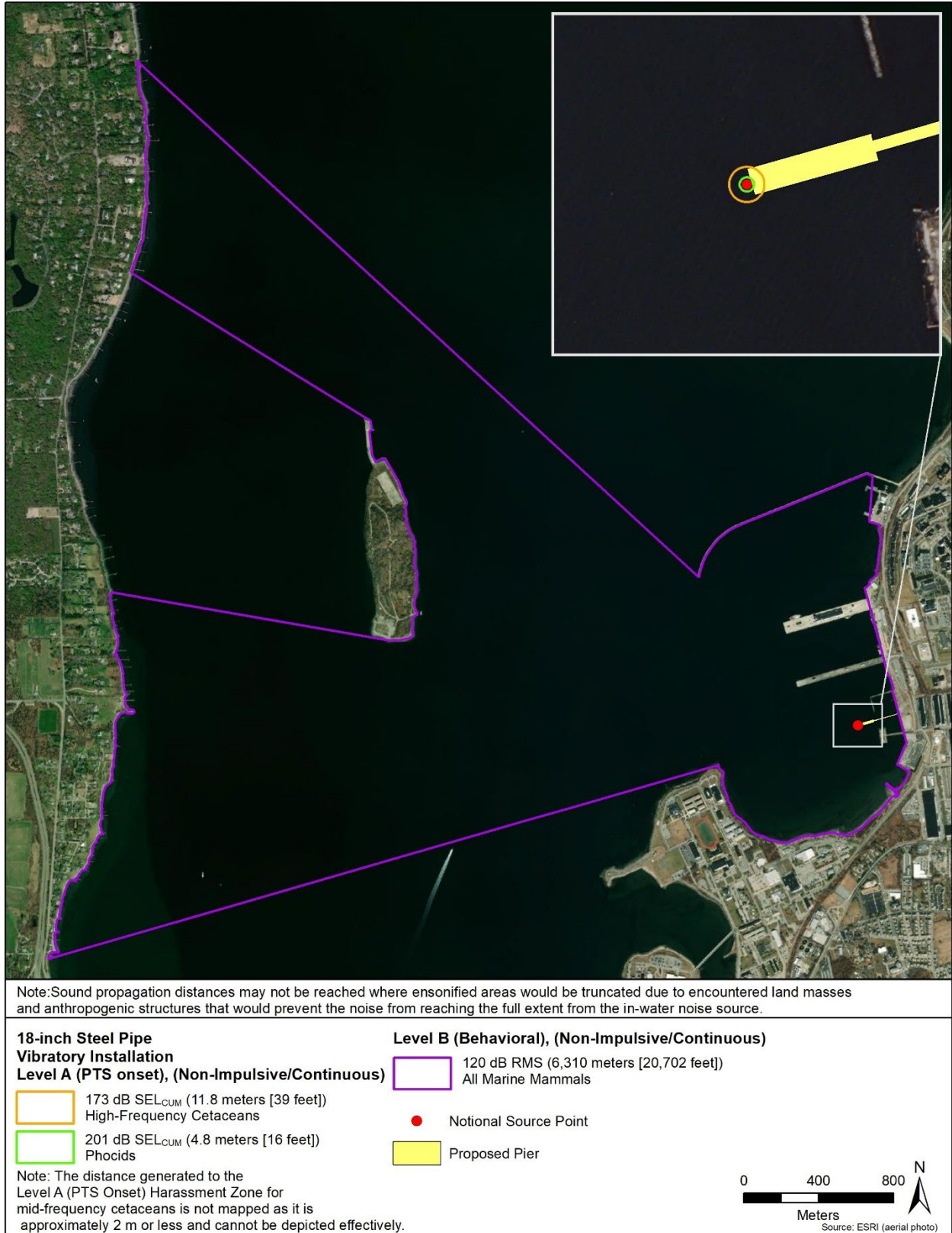


Figure 6-14 Level A (PTS Onset) and Level B (Behavioral) Harassment Zones from Vibratory Installation Activity at the Trestle (Bents 1-18) – 18-inch Steel Pipe



Figure 6-15 Level B (Behavioral) Harassment Zone from Rotary Drilling Activity at the Trestle (Bents 1-18) – Hole for 18-inch Steel Pipe

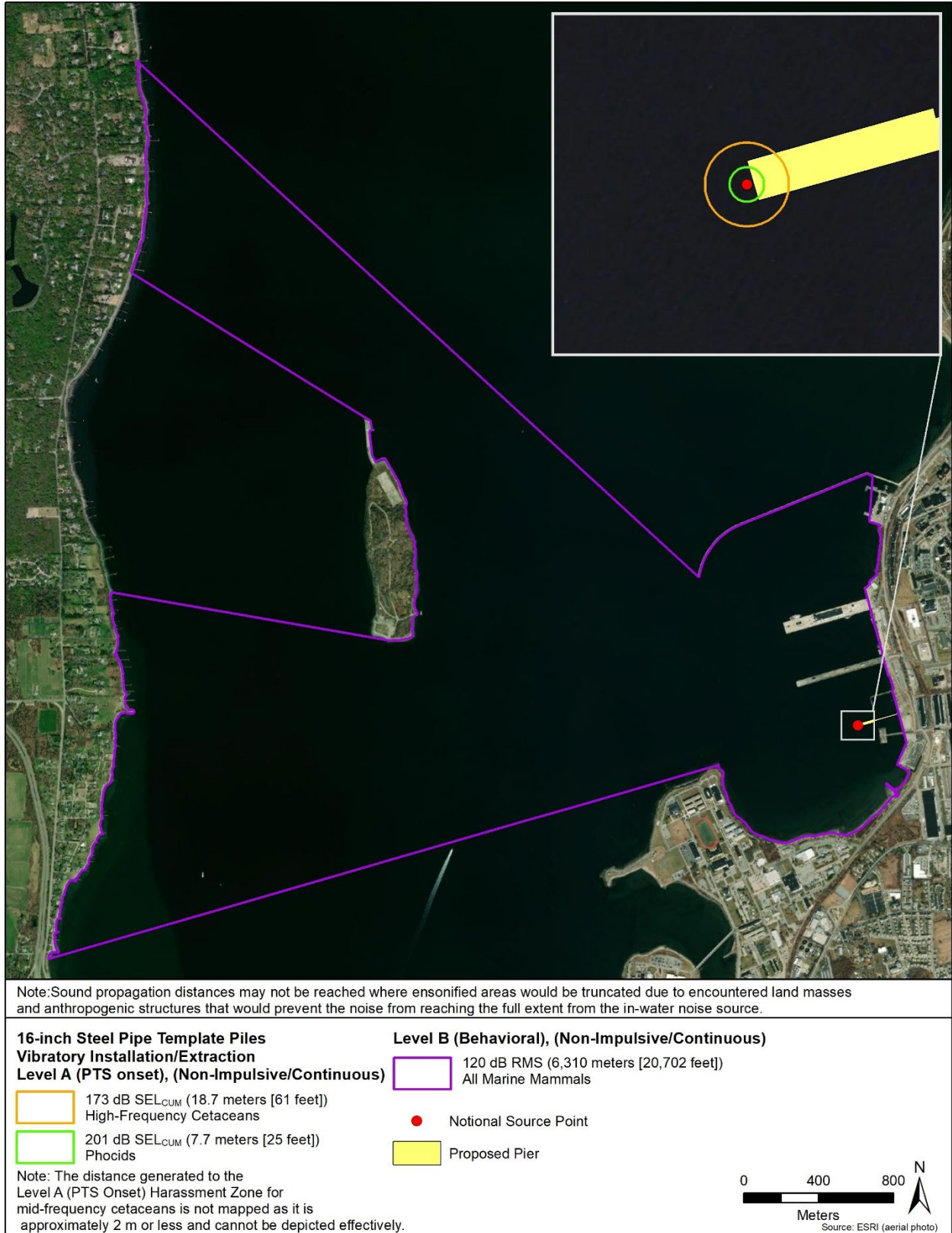


Figure 6-16 Level A (PTS Onset) and Level B (Behavioral) Harassment Zones from Vibratory Installation Activity/Extraction Activity at Trestle (Bent 19) – 16-inch Steel Pipe Template Piles

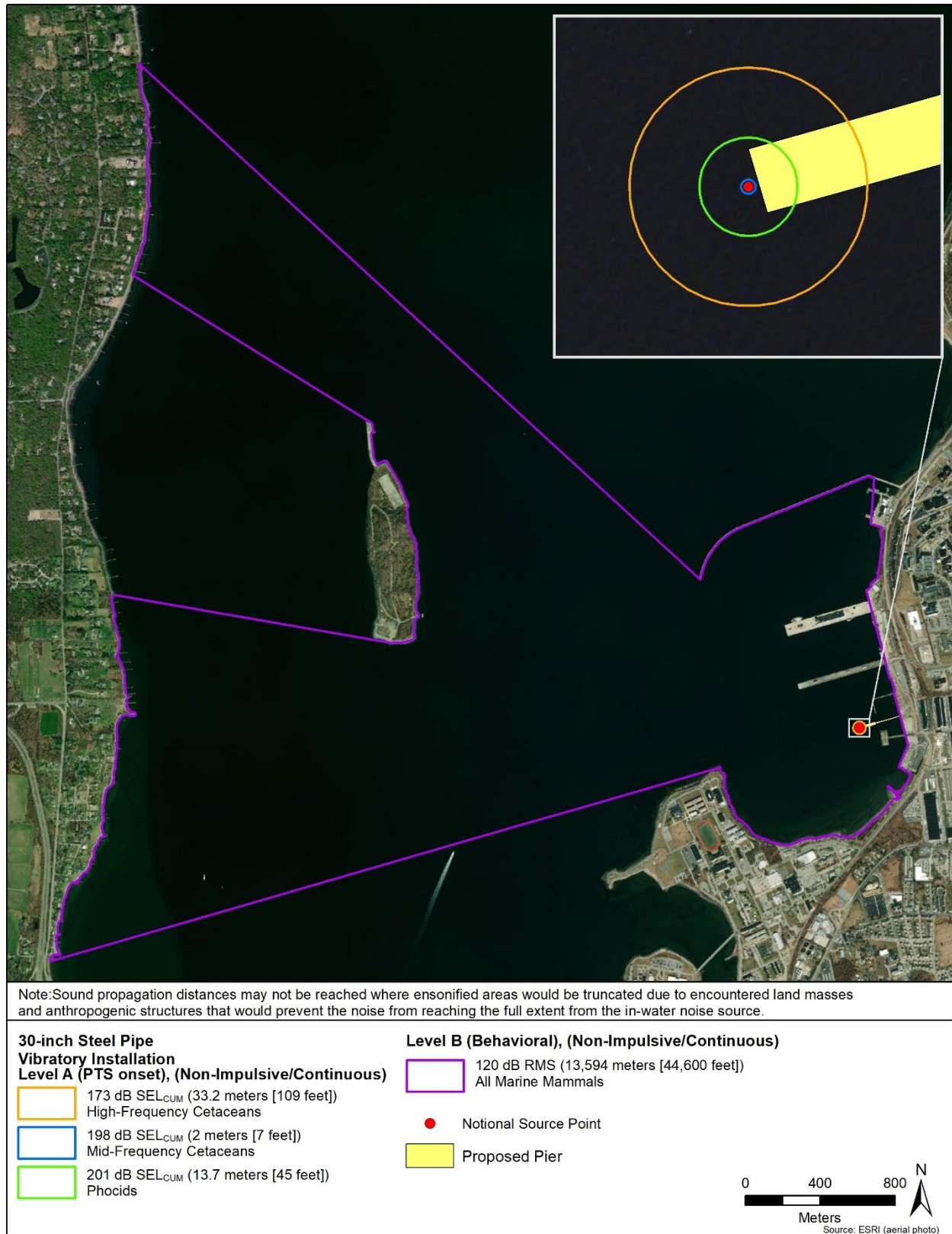


Figure 6-17 Level A (PTS Onset) and Level B (Behavioral) Harassment Zones from Vibratory Installation Activity at Trestle (Bent 19) –30-inch Steel Pipe

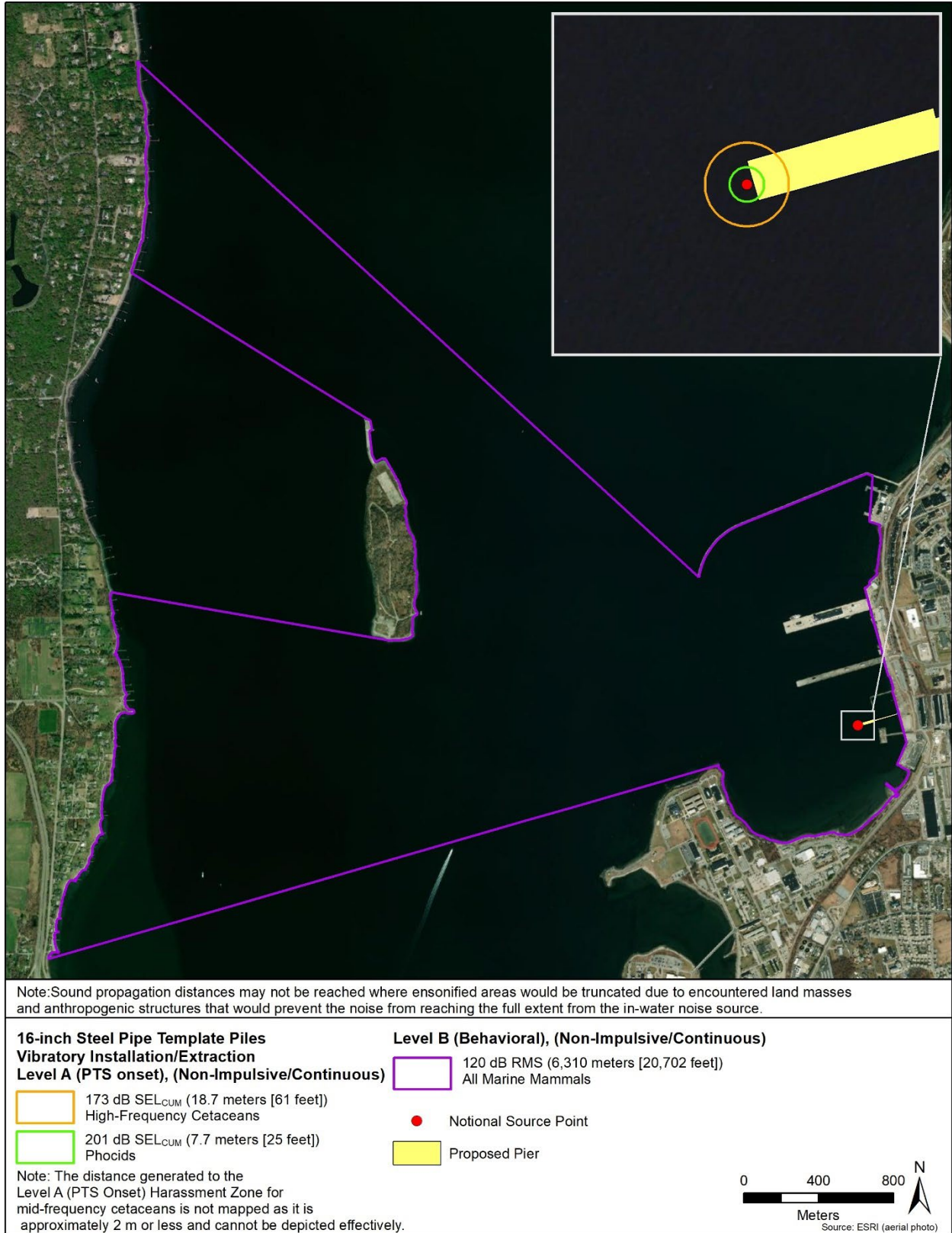


Figure 6-18 Level A (PTS Onset) and Level B (Behavioral) Harassment Zone from Vibratory Installation/Extraction Activity at Trestle (Bent 19) – 16-inch Steel Pipe Template Piles

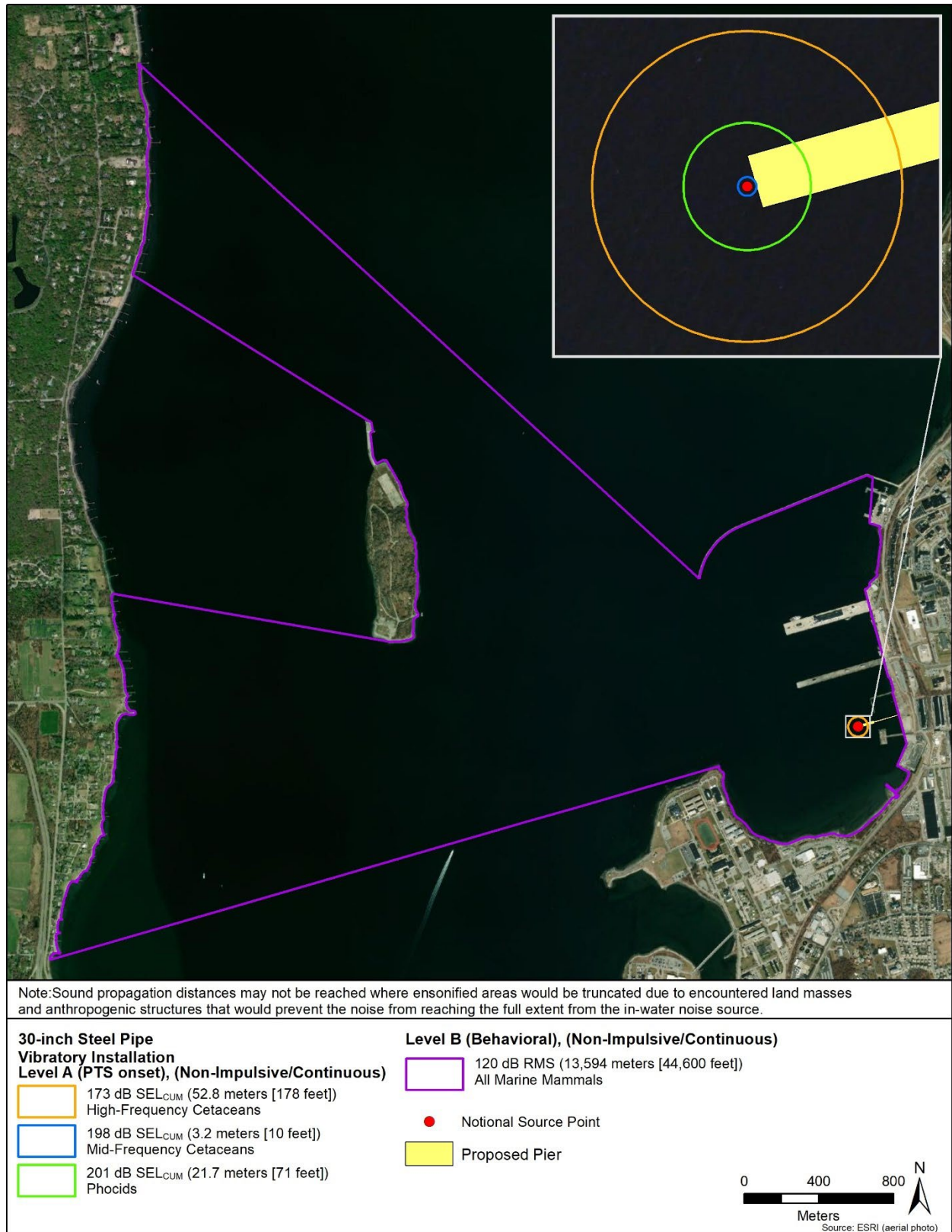


Figure 6-19 Level A (PTS Onset) and Level B (Behavioral) Harassment Zones from Vibratory Installation Activity at the Pier – 30-inch Steel Pipe



Figure 6-20 Level B (Behavioral) Harassment Zone from Rotary Drilling at the Pier – Hole for 30-inch Steel Pipe

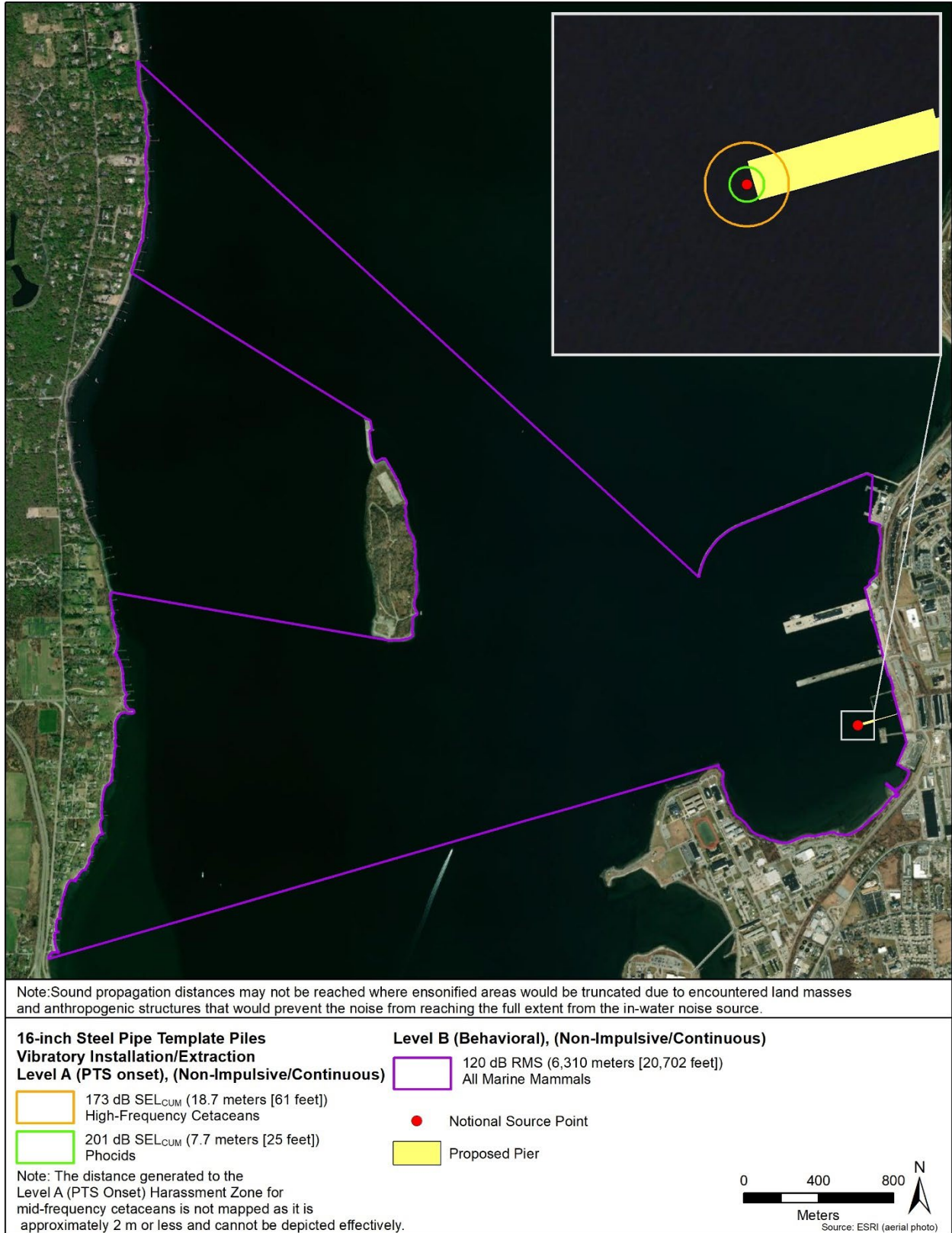


Figure 6-21 Level A (PTS Onset) and Level B (Behavioral) Harassment Zones from Vibratory Installation/Extraction Activity at the Pier – 16-inch Steel Pipe Template Piles

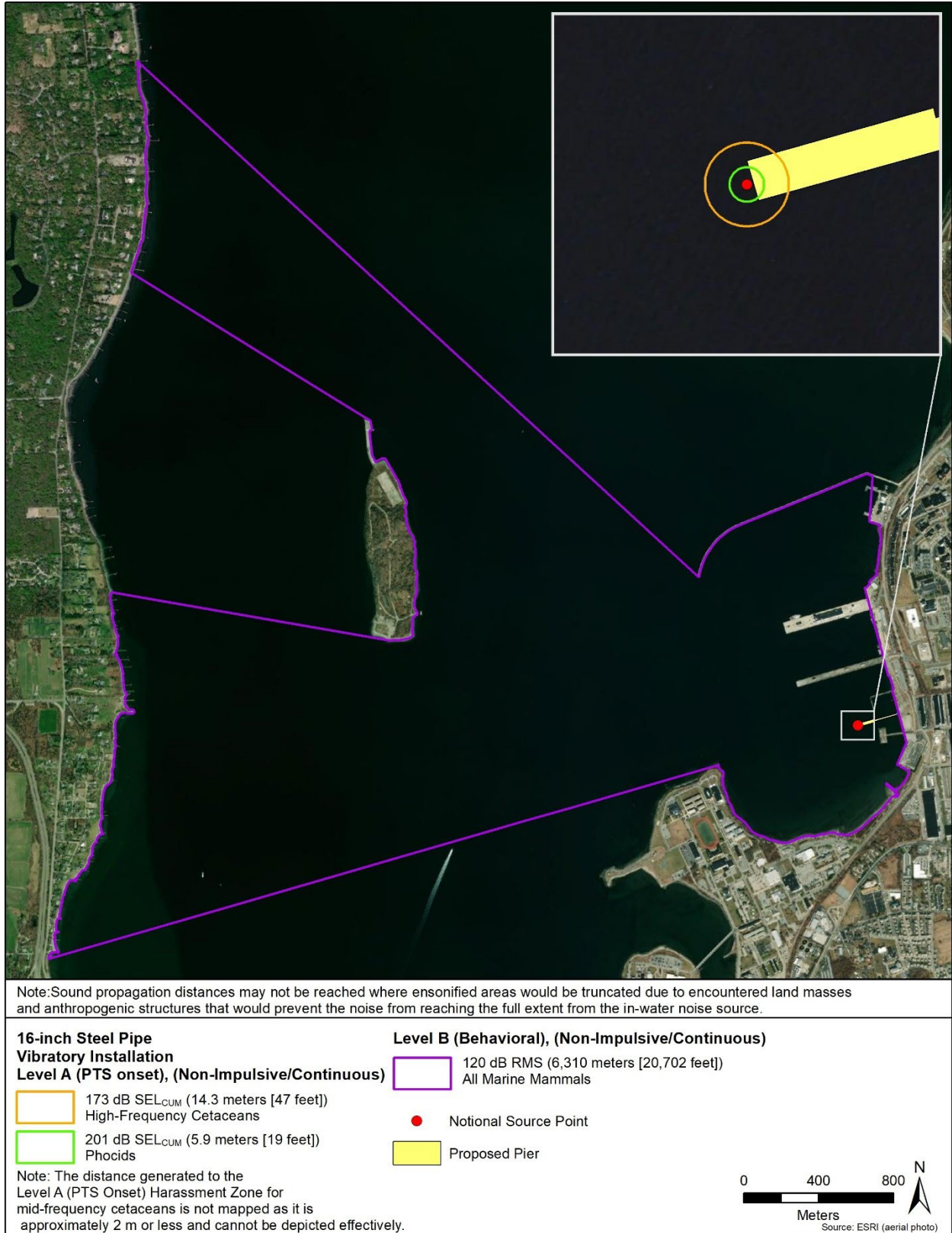


Figure 6-22 Level A (PTS Onset) and Level B (Behavioral) Harassment Zones from Vibratory Installation Activity of Fender Piles – 16-inch Steel Pipe

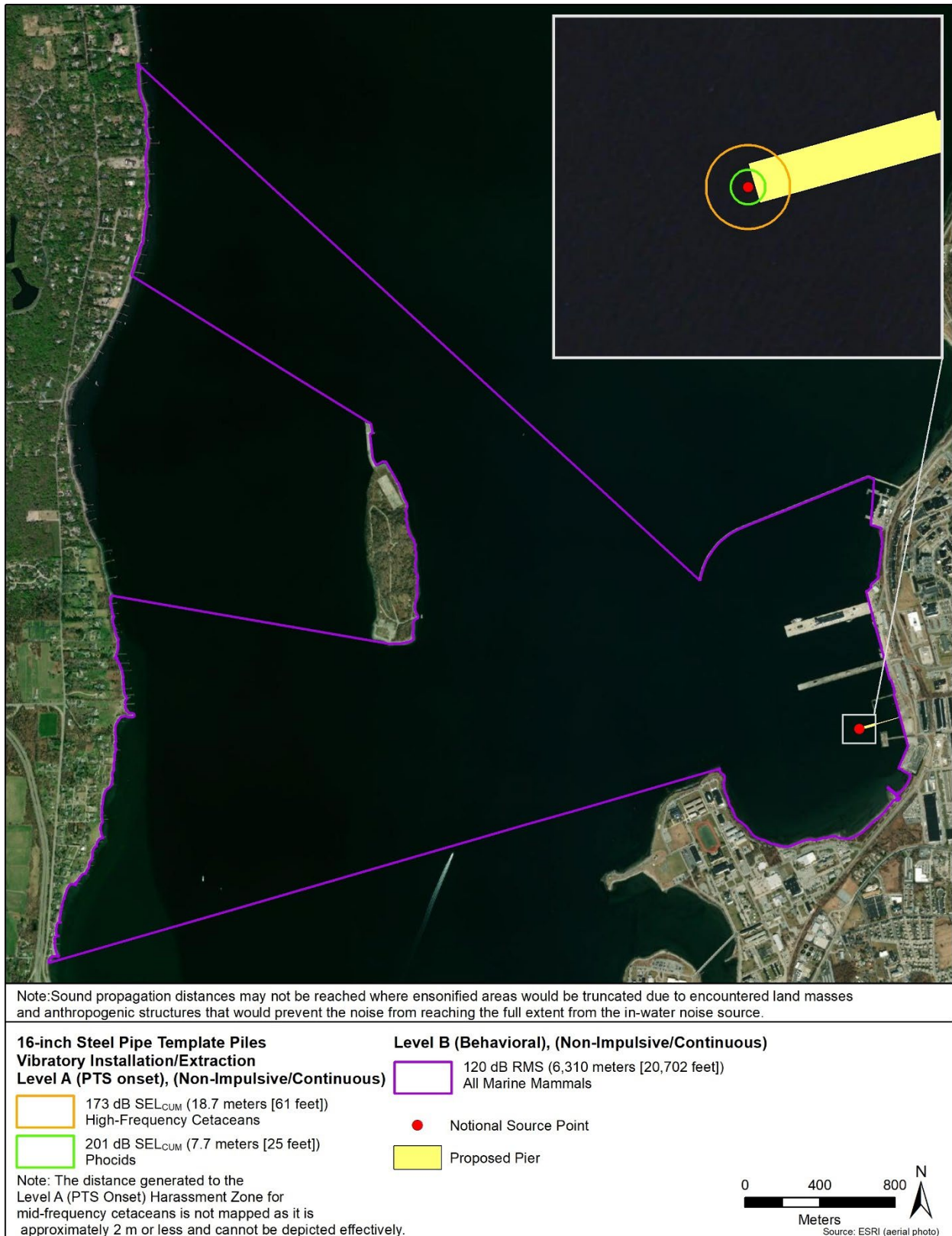


Figure 6-23 Level A (PTS Onset) and Level B (Behavioral) Harassment Zones from Vibratory Installation/Extraction Activity at Fender Pile Location – 16-inch Steel Pipe Template Piles

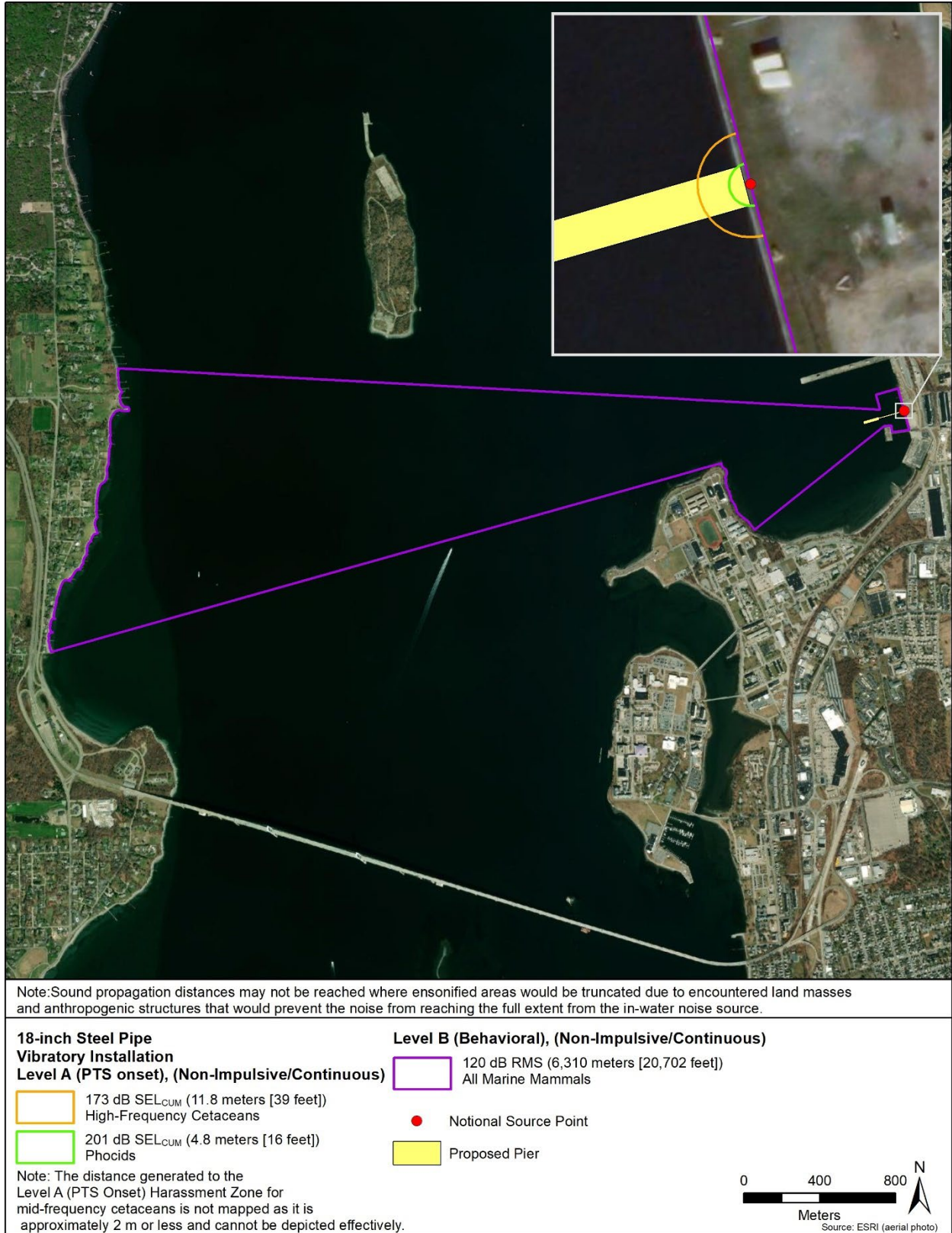


Figure 6-24 Level A (PTS Onset) and Level B (Behavioral) Harassment Zones from Vibratory Installation Activity of Gangway Support Piles at Small Boat Floating Dock– 18-inch Steel Pipe

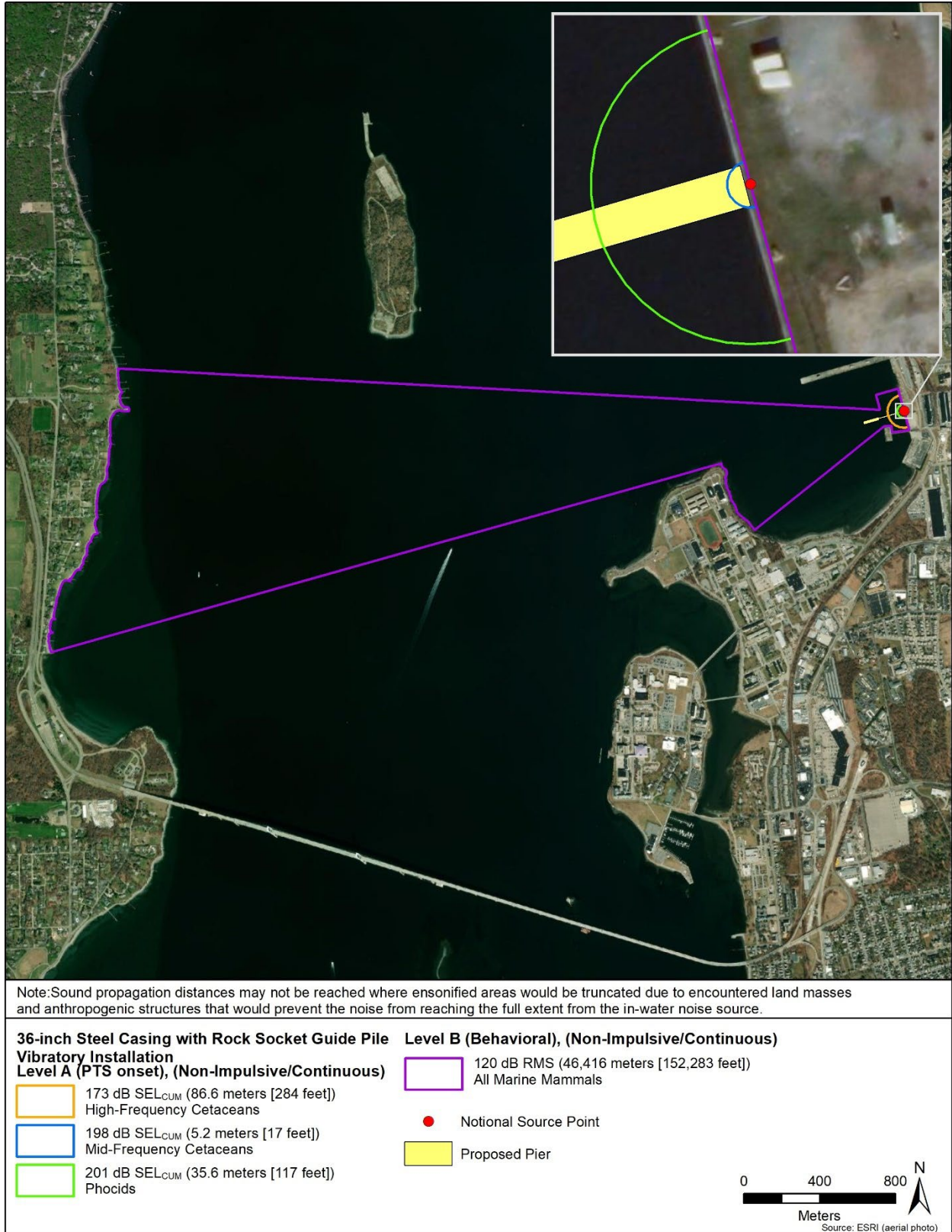


Figure 6-25 Level A (PTS Onset) and Level B (Behavioral) Harassment Zones from Vibratory Installation Activity Small Boat Floating Dock– 36-inch Steel Casing with Rock Socket Guide Pile

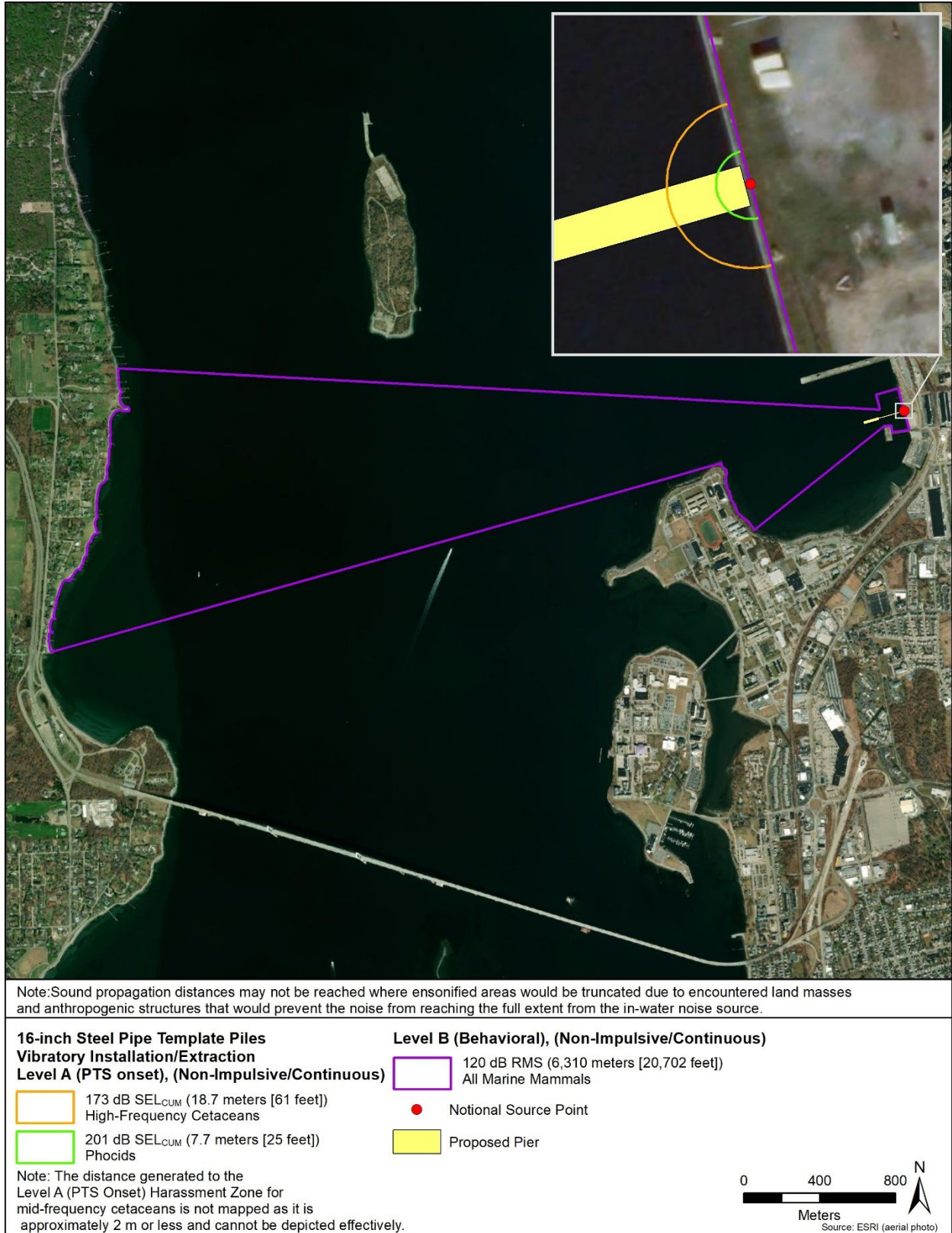


Figure 6-26 Level A (PTS Onset) and Level B (Behavioral) Harassment Zones from Vibratory Installation/Extraction Activity at Small Boat Floating Dock– 16-inch steel Pipe Template Piles

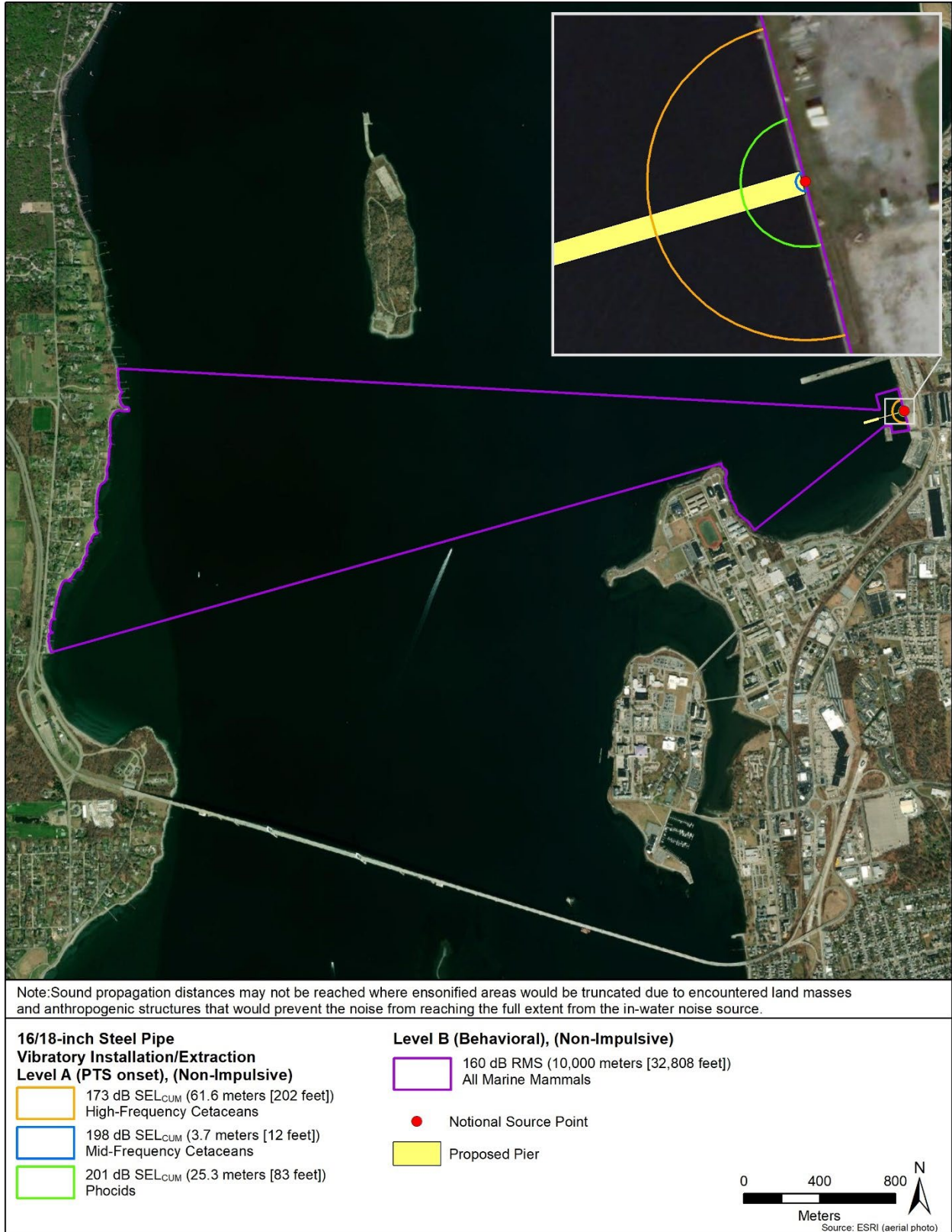


Figure 6-27 Level A (PTS Onset) and Level B (Behavioral) Harassment Zones from Concurrent Vibratory Pile Driving/Extracting of 16-inch Steel Pipe and Vibratory Installation of 16-inch and 18-inch Steel Pipe Piles at the Bulkhead

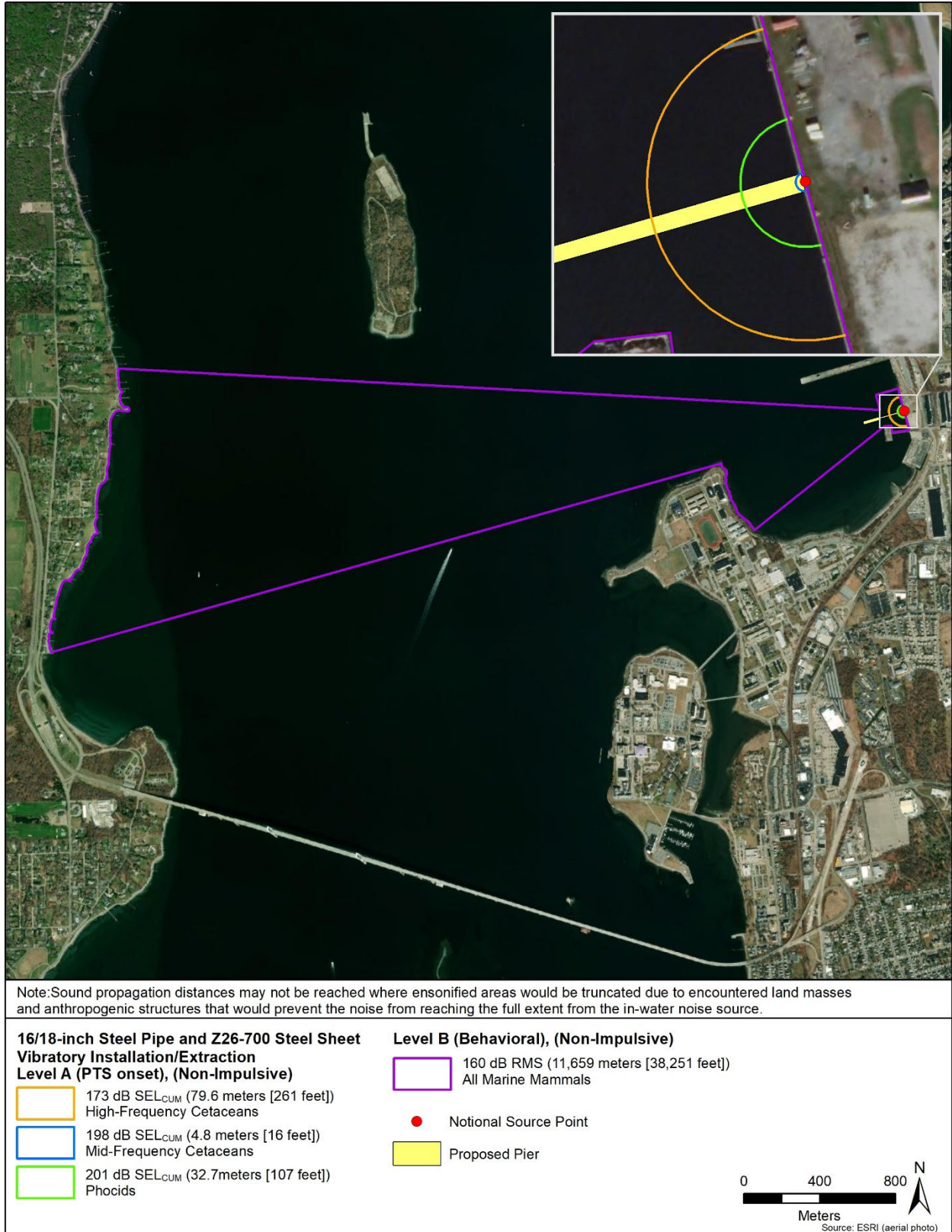


Figure 6-28 Level A (PTS Onset) and Level B (Behavioral) Harassment Zones from Concurrent Vibratory Pile Driving/Extracting of 16-inch Steel Pipe Piles, Vibratory Installation of 16 and 18-inch Steel Pipe Piles, and Vibratory Installation of Steel Sheet Piles at the Bulkhead and Trestle

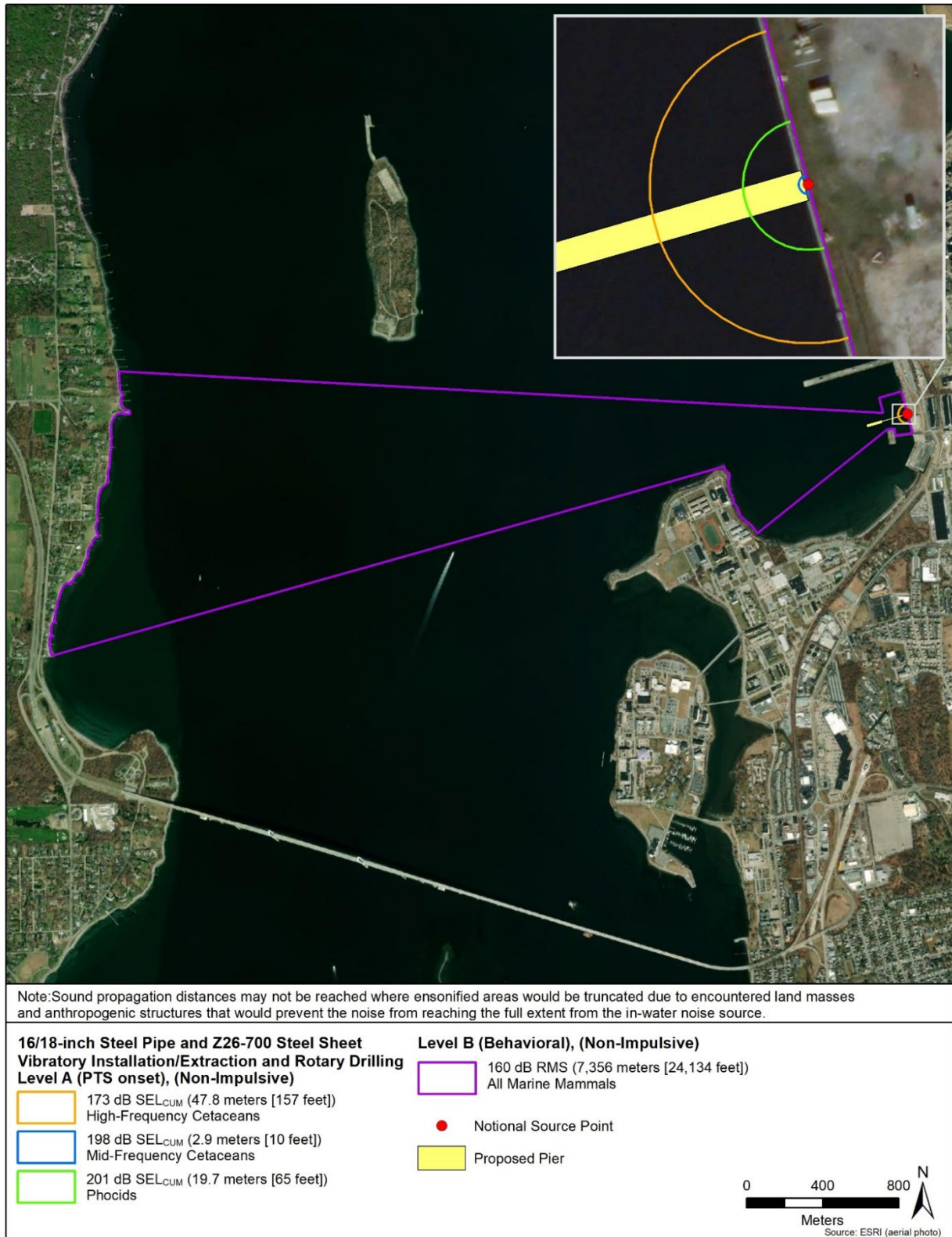


Figure 6-29 Level A (PTS Onset) and Level B (Behavioral) Harassment Zones from Concurrent Vibratory Pile Driving/Extracting of 16-inch Steel Pipe Piles and Vibratory Installation/Rotary Drilling of 18-inch Steel Pipe Piles, and Vibratory Install Steel Sheet Piles at Bulkhead and Trestle

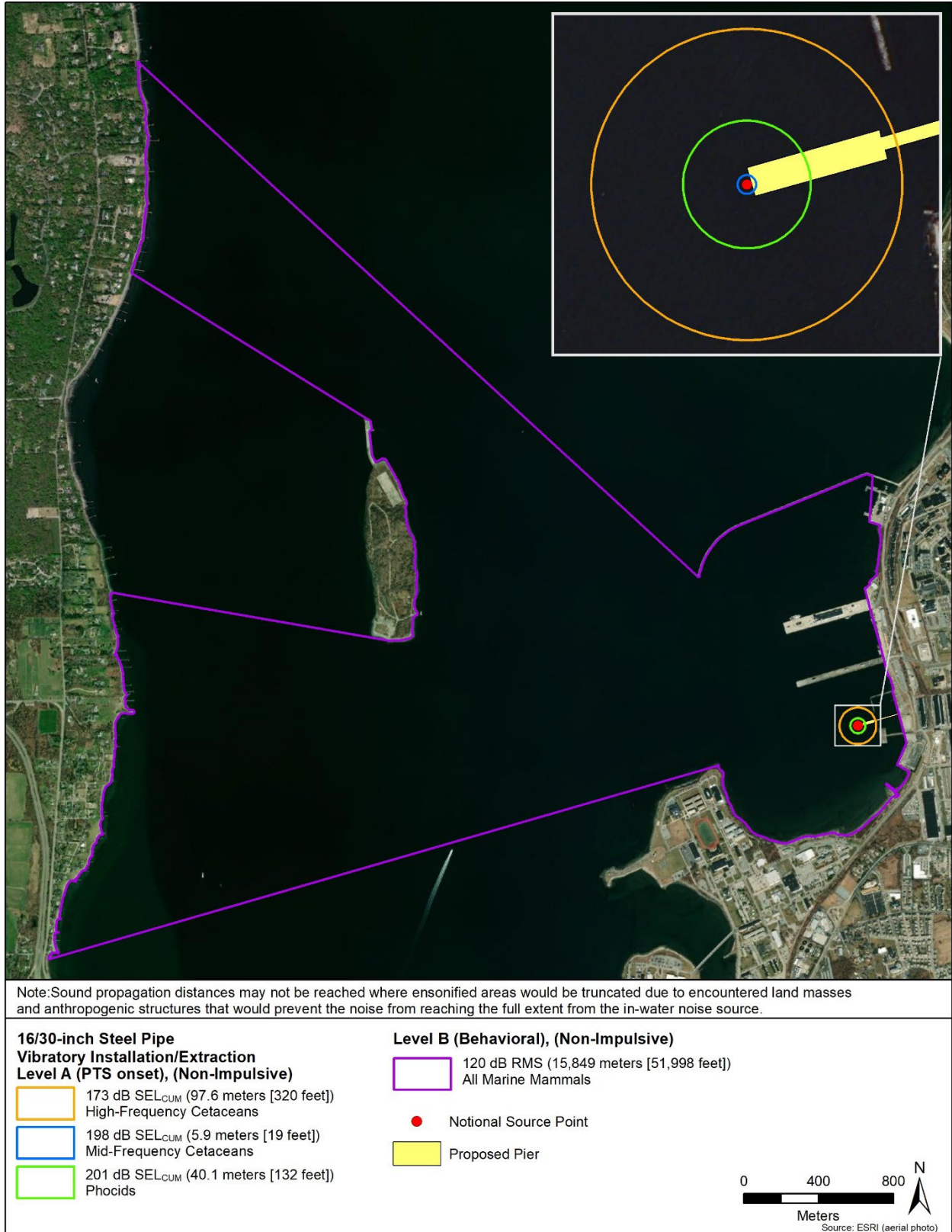


Figure 6-30 Level A (PTS Onset) and Level B (Behavioral) Harassment Zones from Concurrent Vibratory Pile Driving/Extracting of 16-inch Steel Pipe and Vibratory Installation of 30-inch Steel Pipe Piles at the Pier

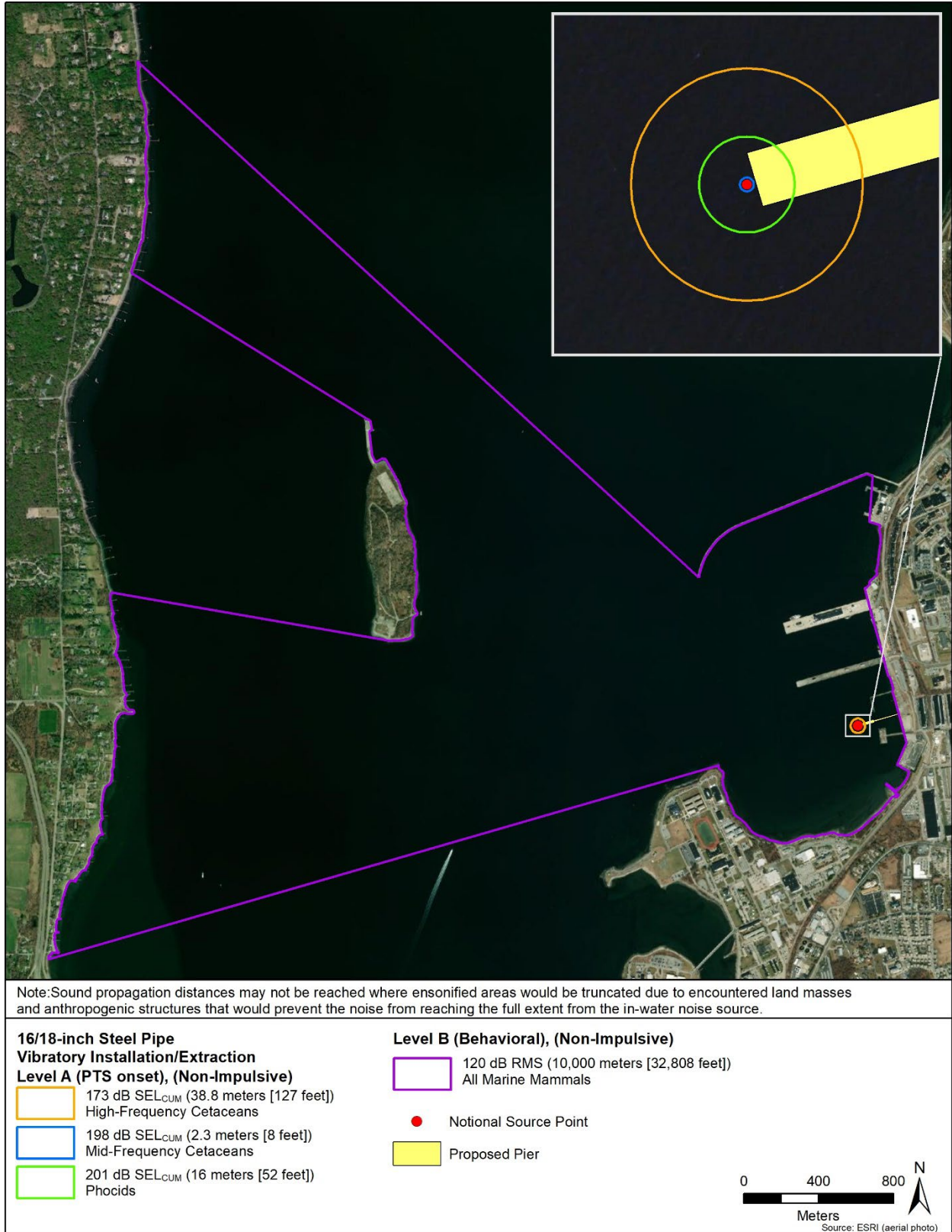


Figure 6-31 Level A (PTS Onset) and Level B (Behavioral) Harassment Zones from Concurrent Vibratory Pile Driving/Extracting of 16-inch Steel Pipe Piles at the Pier Fender Piles and Vibratory Pile Installation of 18-inch Steel Pipe at the Small Boat Floating Dock

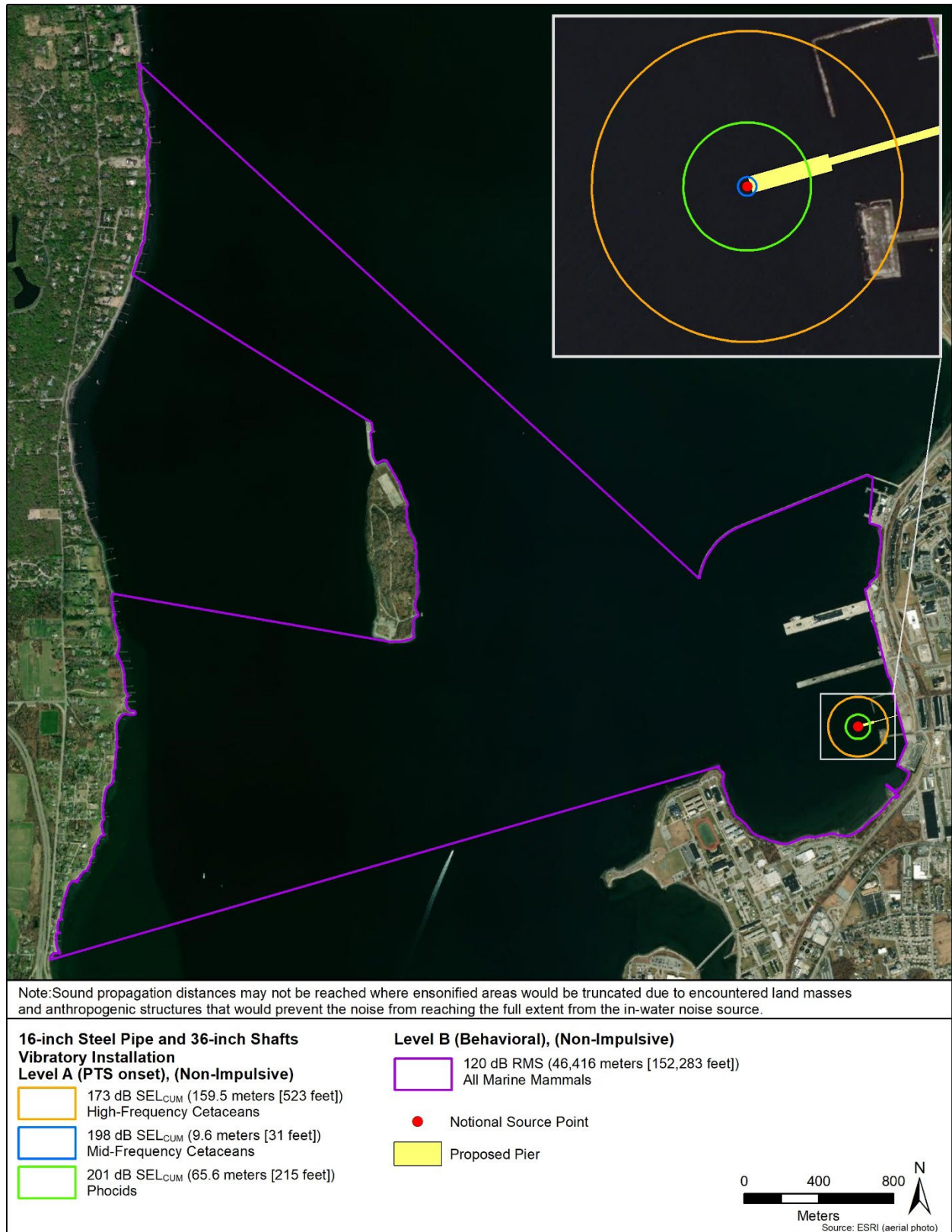


Figure 6-32 Level A (PTS Onset) and Level B (Behavioral) Harassment Zones from Concurrent Vibratory Pile Driving/Extracting of 16-inch Steel Pipe Piles at the Pier Fender Piles and Vibratory Pile Installation of 36-inch Steel Pipe at the Small Boat Floating Dock

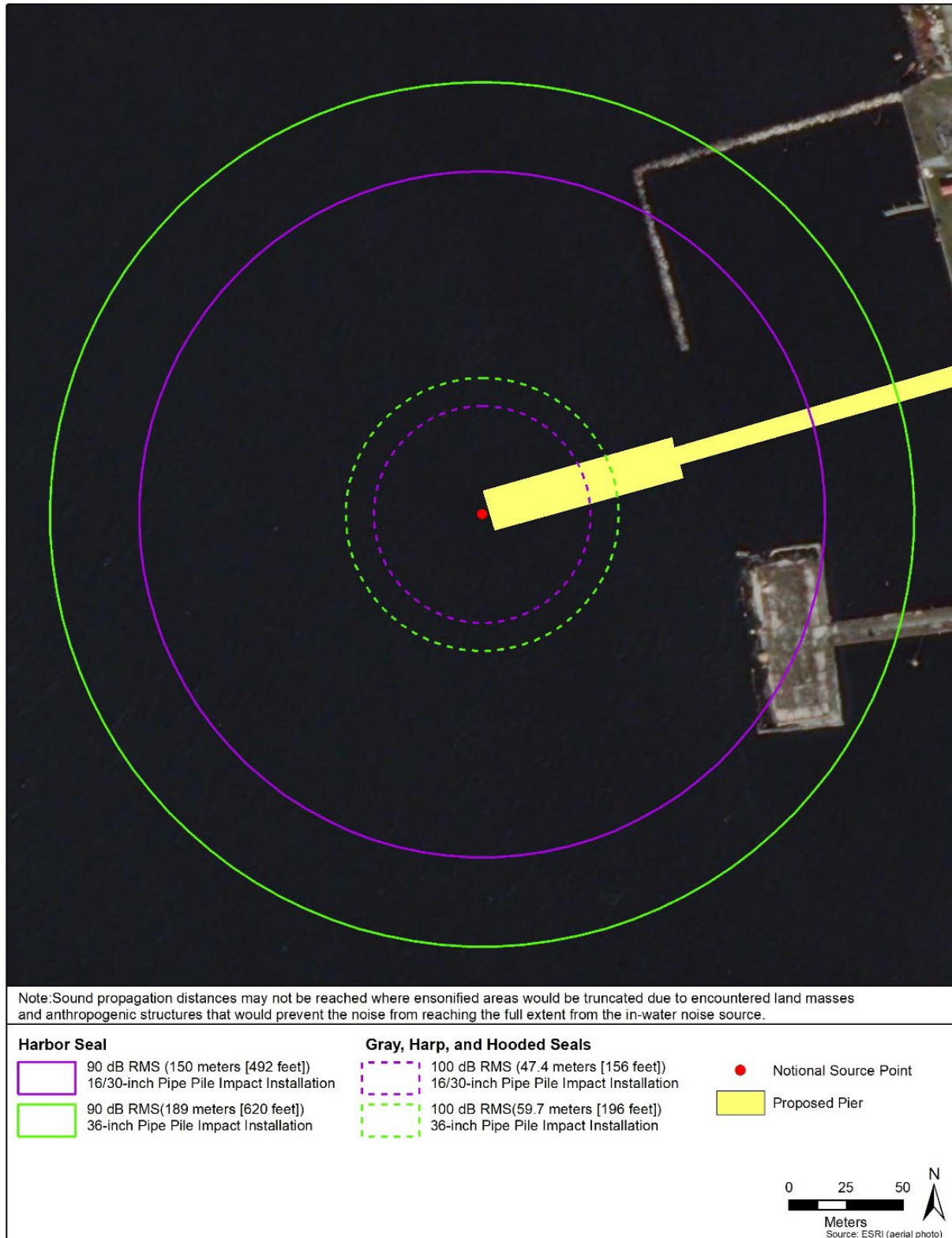


Figure 6-33 Maximum Distances to Airborne Noise Behavioral Harassment Zones from Impulsive Noise



Robert Bland

Summary

Over 2700 days at sea (Fisheries Observer, Protected Species Observer, Fisheries Liaison Observer). BOEM/BSSE certified and approved protected species observer. Proficient in species identification skills with many sightings, distance estimation of species, data recording/reporting in various formats, photography of protected species. Working safely in dangerous conditions, (offshore construction sites with heavy machinery and large cranes, harsh weather/rough sea conditions and at sea transfer). Use of many types of field equipment including binoculars with reticles, laser range finders, military grade night vision, handheld GPS, compass, handheld thermal vision, and deck mounted thermal imaging and HD cameras. Competent in and have performed vessel repairs, and troubleshooting. Able to read and use shipboard navigation equipment and radars.

Education

University of Maine at Machias

B.S. Environmental Studies w/minor in Biology

2004

Employment History

A.I.S. Inc., North Dartmouth, MA

Fisheries Observer

2004-present

2400+ days at sea, NEFOP/ Industry Funded Scallop/ At Sea Monitor/ NAFO

Data collection aboard commercial fishing vessels including fish identification/quantification of catch species, document protected species (marine mammal, sea turtle, bird) interactions/takes/sightings. Biological sampling (fish lengths and age structure removal, protected species necropsy). Gather fishing gear characteristics.

Sturgeon Monitor

The New Tappan Zee Bridge, NY

2013

Monitor for Sturgeon species, during dredging, vibratory hammer operations and sifting of dredge materials for bridge construction. Monitored on dredge barge and at on shore facilities.

Sturgeon Monitor

Berkley-Dighton Bridge, MA

2012 & 2013

Monitor for Sturgeon species, during vibratory hammer operations for bridge demolish and construction. On shore monitoring with inside coffer dam fish collection.

Training and Offshore Certifications

Certificate	Location	Company	Date
First Aid and CPR	Boston, MA	American Heart Association	October 2022
Offshore Safety Training	Falmouth, MA	Fathom Resources	August 2023
NAFO Fisheries Observer	North Dartmouth, MA	AIS Inc.	July 2014
NMFS Approved PSO	New Bedford, MA	National Marine Fisheries Service	October 2009
NEFOP Fisheries Observer	Falmouth, MA	National Marine Fisheries Service	June 2004
Protected Species Observer Certificate	North Dartmouth, MA	AIS Inc.	January 2020

Offshore Experience Summary

Position	Location	Client	Vessel	Survey Type	Dates	Total Days
PSO	Queensboro, NY	Attentive Energy	Josephine K Miller	Geotechnical Survey	January 2024	10
Surveyor	Lake Michigan	NOAA	NS Challenger	Hydrographic Survey	August-September 2023	28
PSO	Narragansett Bay/RI Sound	Cashman	Tug Charles James	Dredging Material Placement	December 2020	7
FLO	Offshore RI/NY	Orsted	F/V Provider	Geophysical Survey, IHA Issued 9/26/19	July 2020	10
PSO	Buzzards Bay/RI Sound	Cashman	Tug Fort Point Tug Gulf Dawn	Dredging Material Placement	June 2020	8
NRA	St. Simons Sound Georgia	RPI	Weeks 526 Skipper T	EPB Net Installation	May-June 2020	17
FLO	Offshore MA/RI	Orsted	Kommandor Iona, Scarlett Isabella	Geophysical Survey, IHA Issued 9/26/2019	October-December 2019	51
FLO/Backup PSO	Offshore MA	Vineyard Wind	Horizon Geobay	Geotechnical Coring Survey	August 2019	15
FLO/Backup PSO	Offshore MA	Vineyard Wind	Neptune	Geophysical Site Survey	July 2019	13
PSO	Offshore MA	Deepwater Wind	Ocean Explorer	Geophysical Survey, IHA Issued 6/13/18	November 2018	4
PSO	Narragansett, RI	Stantec	Hughes 860	HDD Drill Barge	April 2016	1
PSO	Rockaway Beach, NY	Williams	Sorensen Miller, Rosemary Miller	Pile Driving, Vibratory Hammer, Geophysical Site Survey, IHA Issued 5/29/2014	October 2014	10
PSO	Nantucket Sound, MA	Cape Wind	West Cove, Able II, Ocean Explorer	Geophysical Site Survey, IHA Issued 3/21/2014	May-July 2014	31
PSO	Cape Cod Bay	New Bedford Harbor dredging	Tug Lucinda Smith	Dredging Material Placement	2013	8
PSO	Boston Harbor/ Mass. Bay	Unknown	Unknown Tug	Rock Blasting Material Placement	2012	3

*PSO=Protected Species Observer *FLO=Fisheries Liaison Officer *NRA=Natural Resource Advisor

Trevor Horwell

Summary

Over 2000 days at sea: Protected Species Observer, Passive Acoustic Monitor, Client Representative, NRA (Natural Resource Advisor), Fisheries Observer, Fisheries Liaison Officer, Dredge Material Inspector, Fish Monitor using sonar. 180+ days land/river-based sturgeon and shorebird monitoring. Proficient species identification skills (hundreds of sightings and acoustic detections), distance estimation of species, data recording/reporting in various formats including use of Mysticetus software, photography of protected species, working in dangerous conditions (offshore construction sites with heavy machinery and large cranes, pile driving barges/ lift boats, harsh weather/rough seas, at sea transfer, etc.). Use of many types of field equipment: binoculars with reticles, laser range finders, range sticks, military grade night vision, deck mounted thermal imaging and HD cameras with RADES distance estimation software (including equipment setup, on vessel repairs, and troubleshooting), PAM hydrophone array (static and towed) and electronics, GPS units, compass, angle boards, side scan sonar. Lead PSO skills include: managing team of PSO's/PAM's in the field, on the job training and guidance of less experienced PSO's, field techniques, proper data recording/reporting, equipment use, job site safety, communication with management/client rep/survey team, interpret regulations and determine when mitigation is necessary, mitigation enforcement, compile/edit/transmit team data reports. PAM specific skills include: equipment setup (deck equipment/cables, and electronics), static and towed hydrophone array deployment/ recovery, use of PAMGUARD/Raven/Spectrogram 16 software for acoustic detection, localization, and analysis. Client Representative specific duties include: Compile daily progress reports for client; Maintain HSE records and incident reports for client; Serve as onboard liaison between client and field staff; Lead and participate in onboard meetings (safety, toolbox, JSA, etc.). Fisheries Liaison skills/duties include: Scout/lookout for fishing gear/vessels within the survey area; Document, photograph and report all fisheries observations within the offshore wind lease area; Real time communication with fishermen via VHF radio; Assist vessel captains and survey teams in fishing gear/vessel avoidance; Serve as backup PSO (as required by contract); Plot fisheries observations on a map using QGIS (or similar software). Additional relevant onshore work for A.I.S., Inc includes: Post project QA/QC of PSO data from various contracts; Drafting of final project reports for submission to regulators.

Employment History

A.I.S. Inc., Dartmouth, MA

2004-Present

Education

Florida Institute of Technology, Melbourne, FL

B.S. Marine Biology, Cum Laude

2004

Training and Offshore Certifications

Certificate	Location	Company	Date
HUET	New London, CT	Survival Systems USA	July 2023
STCW Basic	Jacksonville, FL	Quality Maritime Training	January 2022
PEC SafeGulf /Safe Land Training	Baltimore, MD		September 2019
Offshore Safety Training	Falmouth, MA	Fathom Resources	April 2018
Passive Acoustic Monitoring	Marion, MA	Seiche	June 2017
Offshore Protected Species Observer	San Francisco, CA	RPS	December 2015
Passive Acoustic Monitoring	San Francisco, CA	Seiche	December 2015
Dredge Material Inspector	New York, NY	U.S. Army Corps of Engineers	2012
NEFOP Fisheries Observer	Falmouth, MA	National Marine Fisheries Service	September 2004
Industry Funded Scallop Observer	Falmouth, MA	National Marine Fisheries Service	September 2004

Offshore Experience Summary

Position	Location	Client	Vessel	Survey Type	Dates	Total Days
Client Representative	Freeport NY / Offshore NY & NJ	Invenergy	Atlantic Pearl	Avian Population Survey	January 23-24 & February 07-08, 2024	4
Lead PSO	Gulf of Mexico / Offshore LA	Genesis Energy, LP	DSV Balder	Deep Sea Pile Driving	November 22 – 29, 2023	8
VSAO	Providence, RI / Offshore RI & NY	Orsted	CLV Livingstone	Cable Laying for Offshore Wind	August 16 – September 14, 2023	30
PSO / Camera Tech	Gloucester, MA	Oceaneering	Towline	Whale Camera Survey	July 31 – August 14, 2023	15

VSAO	Point Pleasant, NJ / Offshore NY & NJ	Inspire Environmental / Bluepoint Wind / Equinor	Atlantic Surveyor	Benthic & Camera Survey	June 01 – June 20, 2023	20
VSAO	Fall River, MA / Offshore NY	DEME / Orsted	Northstar Commander	Equipment Delivery to Cable Laying Vessel	May 10 – May 20, 2023	11
PSO / Camera Tech	Port Fourchon, LA / Offshore LA	Oceaneering	Ocean Intervention II	Whale Camera Survey	February 11 – March 02, 2023	20
PSO	Bridgeport, CT / Offshore Hamptons, NY	Cashman / Orsted	LB Jill	Pile Driving with Impact and Vibratory Hammer, IHA Issued 12/21/2021	November 13 – December 21, 2022	39
Lead PSO	New London Naval Base Groton, CT	Weeks Marine	In Transit II (or on pier)	Pile Driving with Impact and Vibratory Hammer, IHA/LOA Issued 8/30/2018	July 29 – September 13 / September 26-October 04, 2022	56
PSO	Staten Island, NY	Thayer Mahan/ DEME / Orsted	Berto Miller	Geophysical Site Survey, IHA Issued 12/21/2021	April 30 – June 06, 2022	38
PSO	Point Pleasant, NJ	GeoDynamics / Orsted	RV Substantial	Geophysical Survey, IHA Issued 5/10/21	April 09 - April 26, 2022	18
Lead NRA	St Simons Island, GA	RPI	Allie Belle, Saint, Black Gold, Master Tyler	MV Golden Ray Salvage	Sept 16-Oct 10, 2020/ Feb 1 – Apr 29, 2021/ Dec 14, 2021- Feb 6, 2022	169
PSO	Quonset, RI / Offshore RI	Cashman Dredging	Tug Pacific Dawn	Dredge Material Placement	November 16 – November 30, 2021	15
PSO	Gloucester, MA	Oceaneering	MV Towline	Whale Camera Survey	November 4 – November 15, 2021	12
PSO	Gulfport, MS / Rice's Whale Area GOM	NOAA	RV Point Sur	ROV Coral Survey	October 4 – October 9, 2021	6
Fish Monitor	Boston Harbor, MA	Thayer Mahan/Great Lakes Dredge and Dock	Ms Rosetta, Eastern Responder	Rock Blasting	June 13 – July 14, 2021	18
PSO	Wellfleet, MA / Cape Cod Bay	Cashman Dredging	Tug Baltic Dawn	Dredge Material Placement	December 14 – December 31, 2020	18

DMI / PSO	Yonkers, NY / Offshore NY	American Sugar Refining	Tugs Atlantic Salvor, Atlantic Enterprise Megan Ann, Marie Alice	Dredging, Offshore Material Placement	October 2012, October 2013, October 2014, November 2020	43
DMI / PSO	New York, NY/Offshore NY	Don Jon Marine / Con Edison	Tug Mary Alice	Dredge Material Placement	October 14 – November 3, 2020	21
PSO	New Bedford, MA	Cashman Dredging	Tugs Baltic Dawn/Kendall J Hebert	Dredge Material Placement	June 27 – September 5, 2020	39
Lead PSO	Offshore VA	Jan De Nul	Vole Au Vent	Pile Driving (Monopile Turbine Install) IHA Issued 5/15/2020	May 19 – June 5, 2020	18
Fisheries Liaison	Offshore MA	Orsted	Fugro Enterprise	Geophysical Site Survey	November 28 – December 30, 2019	33
PSO	Hingham, MA	Cashman Dredging	Tug Baltic Dawn	Dredge Material Placement	November 4 – November 5, 2019	2
Fisheries Liaison	Offshore MA	Vineyard Wind	Gerry Bordelon	Geophysical Site Survey	September 27 – October 27 2019	31
Lead PSO / PAM	Offshore MD & MA	Deepwater Wind	Fugro Discovery	Geophysical Site Survey	September 27 – December 16, 2018	81
Lead PSO / PAM	Offshore MA	Deepwater Wind	Seacor Supporter	Geotechnical Coring Survey	August 4 – September 6, 2018	34
PAM / PSO	Offshore MA	Vineyard Wind	Dina Polaris	Geotechnical Coring Survey	May 31 – July 12, 2018	43
Lead PSO	Offshore MA	Deepwater Wind	Fugro Enterprise	Geophysical Site Survey	June 16 – November 12, 2017	119
PSO	Portsmouth NH, New London CT	Tetrattech	Seafari, Grumpa	Visual Seal Population Survey	January 2017 - present	13
Lead PSO	Block Island, RI	Deepwater Wind	Big Max	Cable Laying (D.P. Barge)	June – August, 2016	25
PSO	Narragansett, RI	Stantec	Hughes 860	HDD Drill Barge	March – April, 2016	18
PSO	Newport, RI	Normandeau	Unk.	Visual Seal Population Survey	2016	2
Lead PSO	Block Island, RI	Deepwater Wind	L/B Robert, Weeks 533/526	Pile Driving, IHA Issued 6/15/2015	July – October, 2015	29
Lead PSO	Block Island, RI	Deepwater Wind	Josephine K Miller	Acoustic Coring Survey	May – June, 2015	31
Lead PSO	Rockaway Beach, NY	Williams	Sorensen Miller, Rosemary Miller	Pile Driving, Vibratory Hammer, Geophysical Site Survey	May – December, 2014	17

PSO	Nantucket Sound, MA	Cape Wind	Able II	Geophysical Site Survey	May – August, 2014	22
DMI / PSO	Bayonne NJ / Offshore NY	Cashman Dredging	Tugs Katherine Weeks and Meagan Ann	Dredging, Offshore Material Placement	October 2013 – January 2014	43
PSO	Offshore MA	NB Harbor dredging	MV Lucinda Smith	Dredging, Offshore Material Placement	2013	7
PSO / Side Scan Sonar	Boston Harbor / Offshore, MA		Tug (unk.) , Survey vessel (unk.)	Rock Blasting, Offshore Material Placement	2012	10
PSO	Offshore MA	Great Lakes Dredge and Dock	Tug Chesapeake Coast	Dredging, Offshore Material Placement	2012	10

Related Experience Summary

Position	Location	Client	Observation Platform	Survey Type	Dates	Total Days
Shorebird Monitor	Long Branch, NJ	Weeks Marine	Land based	Hydraulic Beach Fill	March 15 – April 14, 2023	31
Shorebird Monitor	Rockaway Beach, NY	Weeks Marine	Land based	Hydraulic Beach Fill	March – April 2019	
Shorebird Monitor	Long Beach Island & Manasquan, NJ	Weeks Marine	Land based	Hydraulic Beach Fill	March – April 2018	
Shorebird Monitor	Rockaway Beach, NY	Weeks Marine	Land based	Hydraulic Beach Fill	2014-2015	
Sturgeon Monitor	Hudson River Tarrytown, NY	Weeks Marine	Various Weeks Barges	River Dredging & Material Processing	2013	
Sturgeon Monitor	Taunton River Berkley-Dighton, MA	Stantec	Land based	Cofferdam Installation Vibratory Hammer	2012-2013	

Hannah Kieler

Class of 2021 graduate with a B.S. in Marine Biology & Fisheries. Currently working as a Protected Species Observer and seeking opportunities in marine science and environmental roles.

505 Carnaby Court
Virginia Beach, VA 23454
(612) 237-5881
hmakieler@gmail.com

EXPERIENCE

Virginia Aquarium and Marine Science Center, Virginia Beach, Virginia—Stranding Response Volunteer

OCTOBER 2022 -CURRENT (Volunteer, 24-30 hrs/month)

- Participated in responding to stranded live or deceased sea turtles and mammals
- Data collection and photography
- Husbandry duties and care experience for in-house patients
- Assisted with necropsies

Protected Species Observer

OCTOBER 2021 - CURRENT (FULL-TIME 40+hrs/week when on assignment)

- Duties consisted of monitoring for protected species & implementing mitigation actions during vessel transit and operations
- Marine mammal and sea turtle identification, knowledge of ESA, MMPA, and BOEM regulations
- Adept at environmental monitoring protocol for protected species on many project types— offshore wind construction, geophysical surveying, and vessel strike avoidance
- Observed animal movement and behavior for data collection & entry in excel or Mysticetus
- Familiarity with working and living on vessels in various weather conditions
- Broad experience working with DSLR cameras, binoculars, GPS, and night vision or thermal imaging equipment
- Mitigated during pile driving operations in Grand Isle, LA under Incident Harassment Authorization issued on 12/1/23 from April-May 2024.

McDonald Garden Center, Virginia Beach, VA — Sales Associate

FEBRUARY 2021 - CURRENT (PART-TIME/SEASONAL, 25-30hrs /week)

- Member of the sales associate team in the Decor & Patio department
- Experience with designing displays, merchandising, customer service, and cashiering
- Proficient with annuals, perennials, and houseplant identification and care
- Assisted with receiving and stocking merchandise

SKILLS

- R and excel
- Photography
- Lab maintenance
- Use and upkeep of field equipment
- Offshore living and safety
- Educating folks of all ages

CERTIFICATIONS

Protected Species Observer Training & Certification, June 2021

OGUK Offshore Medical Certification, September 2021

Basic Offshore Safety Induction and Emergency Training w/ CA-EBS, September 2021

CPR and First Aid Training & Certification, June 2022

**National Park Service, Shenandoah National Park —
Biological Science Technician (GS-05)**

MAY 2022 - SEPTEMBER 2022 (FULL-TIME, 40+hrs/week)

- Worked as part of the fish monitoring crew
- Eastern freshwater fish identification, electrofishing experience
- Data entry and organization
- Collecting habitat and water quality data with various field equipment, including a Hydrolab
- Backcountry hiking and safety experience

University of Washington, Seattle, WA — Lab Assistant

OCTOBER 2019 - JUNE 2021 (PART-TIME, 10hrs/week)

- Assisted with underwater photo analyses, data entry and organization
- Northeast fish and invertebrate identification
- Responsible for size calculation for each “mobile” individual present in quadrant photo

**Friday Harbor Labs, Friday Harbor, WA — Pelagic Ecosystem
Function Apprentice**

SEPTEMBER 2020 - DECEMBER 2020 (FULL-TIME, 40hrs/week)

- Participated and worked on a research project exploring the burial and schooling dynamics of Pacific sand lance
- Extensive work on scientific analyses, writing, and presenting
- Field cruises, animal husbandry, lab maintenance
- Experience with surveying methods via beach seines, and marine mammal and bird monitoring
- Use of CTD sensor, Van veen, and RoTap machine

**Prince William Sound Aquaculture Corporation, Cordova,
AK — Seasonal Fish Technician I**

AUGUST 2020 - SEPTEMBER 2020 (FULL-TIME, 40+hrs/week)

- Assisted with the Pink salmon egg take, spawning, and incubation
- Familiar with hatchery procedures and processes

**Trout Unlimited, Rhinelander, WI — Northern Wisconsin
Aquatic Resource Intern**

JUNE 2020 - AUGUST 2020 (PART-TIME, 24hrs/week)

- Surveyed and collected data on the attributes of stream crossings in Northern Wisconsin
- Habitat surveys and GPS experience
- Backcountry work experience

Seattle Aquarium, Seattle, WA — *Educational Volunteer*

NOVEMBER 2018 - JUNE 2019

- Interacted with aquarium guests at tide pool and octopus exhibits
- Gained hands-on knowledge of the marine environment & organisms living in the Puget Sound

EDUCATION

University of Washington, Seattle, WA — *Bachelor's of Science*

SEPTEMBER 2017 - JUNE 2021

- Double major in Marine Biology and Aquatic & Fishery Sciences
- GPA: 3.6

Keith Pawlowski

Summary

I have been working in the field on a variety of environmental projects since 2006. Most of my work experience has centered around marine and aquatic environments with a strong emphasis on protected species monitoring.

Education

SUNY at Buffalo State College, Buffalo, New York

2015-2017 M.S. Great Lakes Ecosystem Science

SUNY at Buffalo State College, Buffalo, New York

2004-2007 B.A. Aquatic Biology, B.S. Environmental Planning

Employment History

A.I.S. Inc., New Bedford, Massachusetts

2015- Current. Worked as a Protected Species Observer on a variety of marine construction projects, including dredge monitoring for sturgeon and offshore wind geophysical and geotechnical surveys.

New York State Department of Environmental Conservation, Allegany, New York

June 2022 – September 2022. Wildlife technician for Region 9 big game and furbearer division.

Hydenlyne,

May 2020 - December 2021. Various dates. Protected Species Observer for geotechnical and geophysical surveys in the Revolution, New York Bight and South Fork lease areas. Assisted with benthic environmental grab sampling and processing.

Marine Ventures International,

May 2021 - June 2021. Protected Species Observer for geophysical survey in the Beacon Wind lease area.

EPI Group,

October 2019 - February 2020. Protected Species Observer for a geophysical survey in the Ocean Wind lease.

Habitat ID / Ministry of Environment of Cambodia

2015- Present. In conjunction with the MOE of Cambodia and another NGO, I help lead yearly wildlife camera trapping expeditions in protected areas within the country. We help train park rangers in various aspects of eco-tourism and technical training (GPS, remote camera monitoring).

Ecology & Environment, Lancaster, New York

2014-2015. Collected water quality data during marine construction of the Rockaway Lateral Pipeline.

Research Foundation of SUNY at Buffalo State College, Buffalo, New York

2013- 2016. Worked as a laboratory and field technician on the EPA Great Lakes Long-term Monitoring Program. I collected benthic samples aboard the *R/V Lake Guardian*.

Saltwater Inc., Anchorage, Alaska

2012. Marine mammal observer in Southeast Alaska, collecting data on commercial drift gillnet fishing operations.

A.I.S. Inc., Barnegat Light, New Jersey

2009-2010. Fisheries observer for the Northeast Fisheries Observer Program. Gathered data on fishing effort, protected species, and catch information aboard a variety of vessel types.

US Fish and Wildlife., Buffalo, NY

2006-2007. Interned with the US Fish and Wildlife Lower Great Lakes Fisheries Resource Office. Involved in Lake Sturgeon sampling and tagging as well as various biomonitoring projects.

Offshore Experience Summary

Position	Location	Client	Vessel	Survey Type	Dates	Days
Lead PSO	Highlands, NJ	Attentive Energy	North Cove	Geophysical Survey, IHA Issued 6/20/2023	November 2023	10
Lead PSO	NJ, NY	Geodynamics / Ørsted	Substantial	Geophysical Survey, IHA Issued 5/10/2021	March 2022- May 2022	60
PSO	New York, NY	Ørsted	Researcher	Geophysical Survey	December 2021	9
PSO	New York, NY	Ørsted	Observer	Geophysical Survey	October – November 2021	35
PSO	New York, NY	Equinor	R/V Dolphin	Geophysical Survey, IHA Issued 9/20/2020	May 2021 – June 2021	17
PSO	New York, NY	Equinor	Ocean Endeavour	Geophysical & Environmental Survey, IHA Issued 9/20/2020	March 2021 – May 2021	70
PSO	New Bedford, MA	Ørsted	Kommandor Susan	Geotechnical Survey	May 2020 – August 2020	95
PSO	New Jersey	Ørsted	Neptune	Geophysical Survey	October 2019 – January 2020	60
PSO	Delaware	US Wind	Great White	Pile driving Survey	September 2019 – October 2019	15
PSO	New York Bight	Equinor	Dina Polaris	Geotechnical	May 2019- July 2019	75
PSO	New Bedford, MA & Quonset, RI	Deepwater Wind	Fugro Enterprise, Supporter, Megan Miller	Geophysical and Geotechnical, IHA issued 6/13/2018	September 2017-November 2018	150
PSO	Montauk, NY	Deepwater Wind	Harry Miller	Geophysical	June 26, 2017 – August 19, 2017	50
PSO	Bath, ME	Cashman Dredging	Lucinda	Dredge monitoring for sturgeon	March 5, 2017 – March 28, 2017	33

Technician	Lakes Erie, Superior, Michigan, Ontario	Research Foundation/EPA	Lake Guardian	Benthic Survey	Various summer dates of 2013, 2014, 2016	65
PSO	Hudson River, NY	NYS / Tappan Zee	Weeks 506	Dredge monitoring for sturgeon	July, 2015 - September 2015	90
Biologist	Rockaway, NY	Williams Energy	Harry Miller	Water Quality Monitoring	September 20, 2014- November 5, 2014	45
MMO	Wrangell, Alaska	NMFS	Various	Marine Mammal Survey	June 2012- September 2012	67
Fisheries Observer	Various ports	NMFS	Various	Fisheries observer	April 2009 – September 2010	152

Training and Offshore Certifications

Certificate	Location	Company	Date
OGUK	Remote	Bonhard Medical	February 2024
BOSIET	Houston, TX	Allstop	February 2024
PSO BOEM Training	Remote	RPI	March, 2020
Basic Safety Training	Baltimore, MD	Safe Gulf	September, 2019
Security Awareness	Houston, TX	VIRSEC	August 2021
First Aid/CPR/AED	Buffalo, NY	American Red Cross	April, 2019
HAZWOPER	Buffalo, NY	Buffalo State College	June 2016
PSO Training	Tarrytown, NY	AIS	Various Dates

Publications and Presentations

McCann, Gregory & Pawlowski, Keith & Sinovas, Pablo & Thon, Soukhon. (2022). Asiatic black bears and sun bears in Virachey National Park, Northeast Cambodia. *Ursus*. 2022. 10.2192/URSUS-D-21-00022.1.

McCann, G & Pawlowski, K. and T. Soukhoun. (2022) The occurrence of Indochinese Serow *Capricornis sumatraensis* in Virachey National Park, northeastern Cambodia. *Journal of Threatened Taxa* 14(6):21149-21154

McCann, G & Pawlowski, K. and T. Soukhoun. (2020) The Standard Four in Virachey National Park. *IUCN/SSG Cat News* 71: 9-13.

McCann, G & Pawlowski, K. (2018) First record of Strip-backed Weasel in Cambodia. *IUCN/SCSG Small Carnivore Conservation* 56: 18-21.

Pawlowski, K. & McCann, G. (2017) Recent records of Asian Elephant *Elphas maximus* in Virachey National Park, north-eastern Cambodia. *Cambodian Journal of Natural History*, 153-156.

McCann, G & Pawlowski, K. (2017) Small carnivores' records from Virachey National Park, north-east Cambodia. *IUCN/SCSG Small Carnivore Conservation* 55: 26-41.

Rachel Wencek



Accuracy, Integrity, Service

Summary

PSO observer with combined 143 days at sea. Experience aboard research and utility vessels, and barges. Trained in offshore safety survival and first aid. Practical knowledge of suite of PSO gear, including binoculars with reticles, handheld GPS, range finder, thermal imaging.

Employment History

AIS Inc, North Dartmouth, MA

Protected Species Observer

July 2015 - Present

Protected species observer with visual and passive acoustic monitoring experience on geophysical and geotechnical research vessels, chartered boats, and barges. Record information on nearby marine mammals, turtles, and fish and ensure vessel compliance to regulations sanctioned by BOEM/NMFS.

Administrative Assistant

January 2021 – April 2023

Administrative Assistant working for the Environmental Monitoring Department of AIS. Reviewed and approved timecards and expense reports for PSOs. Organized and recorded data and certifications for PSOs. Test and prepare equipment for offshore projects.

Research Technician

March 2013 – December 2022

Conduct recreational angler interviews to provide recreational fisheries data to state and federal agencies, as well as identifying and taking measurements of local fish species.

Longfellow Health Clubs, Wayland, MA

Administrative Coordinator

August 2016 - Present

Perform administrative tasks and other projects to maintain the business. Update and collect insurance information. Submit insurance claims.

Education

Eckerd College, St. Petersburg, Florida
B.S. in Marine Science with a Concentration in Biology

2010

Training and Offshore Certifications

Certificate	Location	Company	Date
PSO Training, BOEM approved	Marion, MA	AIS Observers Inc	January 2020
Onboard Drill Instructor Course (ALMSEA-334)	Gloucester, MA	Alaska Marine Safety Education Association	May 2015
Fisherman Basic Safety Training	Gloucester, MA	Fishing Partnership Support Services	May 2015
STCW Offshore Safety Training	Fairhaven, MA & Windsor Locks, CT	Northeast Maritime Institute	EXP: Sept 14, 2027
TWIC	Boston, MA	Transportation Security Administration	EXP: July 2026

Offshore Experience Summary

Position	Location	Client	Vessel(s)	Survey Type	Dates	Total Days
PSO	New London, CT	Weeks Marine	In Transit II	Pile Driving, LOA Issued 8/30/2018	May 2021, July 2022	7+9=16
PSO	Jeffery's Ledge, offshore Gloucester, MA	Oceaneering	Towline	FLIR Camera Operations, Biological Survey	November 2021	10
PSO	Quonset, Narragansett Bay, & Block Island Sound, RI	Cashman	Kendall J Herbert, Gulf Dawn, Fort Point	Dredging, Biological Survey	October 2020- January 2021	25
PSO	New Bedford, MA	Cashman	Gulf Dawn	Dredging, Biological Survey	June 2020- August 2020	34
Lead MMO	Portsmouth, NH and New London, CT	TetraTech	Seafari and Grumpa	Biological Survey Transects	August 2019-	12

					December 2019	
PSO	Hyannis, MA	Seaforth	Rental Boat: Boston Whaler	Geophysical and Geotechnical Surveying	October 2019- November 2019	8
PSO	Massachusetts Bay, MA	Cashman Dredging	Baltic Dawn	Dredging, Biological Survey	October 2019- November 2019	10
MMO	Portsmouth, NH and New London, CT	TetraTech	Seafari and Grumpa	Biological Survey Transects	July 2018- July 2019	24
PSO	Block Island Sound, RI	Deepwater Wind, Block Island Wind	Hired Charter Boat	Pile Driving, IHA Issued 6/11/2015	September/ October 2016	4

Education

Simmons University, Boston, MA
Bachelor of Science
Major: Environmental Science

Graduated: May 17th, 2019

Professional Experience

Fathom Resources, LLC, Homeported in Point Pleasant, NJ

Scallop Observer

February 14th, 2023 – present

- Estimating all kept catch and bycatch on commercial scallop dredgers
- Communicating clearly with captain and crew about sampling duties and asking critical catch estimation and gear questions
- Gather information on gear types, mesh sizes, gear configuration, and trip costs

At-Sea Monitor

- Collecting actual weights of all bycatch species aboard commercial groundfish vessels, extrapolating from subsamples when necessary
- Meeting biological sampling requirements in each statistical area for commercially significant species
- Clear, repeated communication of sampling duties to fishermen while working around industry members without significantly interrupting fishing operations

A.I.S., Inc., Homeported in New Bedford, MA

Scallop Observer

April 4th, 2022 – August 15th, 2022

At-Sea Monitor

February 27th, 2020 – August 15th, 2022

A.I.S., Inc., Weeks Marine Pier 32 Project at Naval Submarine Base Groton, CT

Protected Species Observer

March 24th, 2021 – August 2nd, 2021

- Monitored for protected species and marine mammals from monitoring vessel to reduce potential for injury during pile driving activities in the Thames River. Worked performed under NMFS Letter of Authorization issued 8/30/2018.
- Visually detected seals from distances of up to 300 meters from monitoring vessel with photo evidence
- Alerted monitoring vessel captain and PSO lead of all seal detections while gathering essential data including photos, animal location, orientation, and behavior
- Verified and documented all detections and effort data with project leads
- Utilized and maintained field equipment including range finder, high resolution camera, radio, and binoculars

A.I.S., Inc., Cashman Dredging Quonset, RI

Protected Species Observer

November 1st 2021-November 14th 2021

- Maintained protected species watch aboard commercial tugboat Charles James during all daylight towing operations
- Notify vessel operator, project manager, and any other PSO's on watch of all marine mammal sightings, delaying dumping of dredging material if any marine mammal is in the exclusion zone
- Gathered effort data every hour and photos of marine mammal sightings when possible, verifying all detections with project manager
- Documented all detections with detailed data on animal location, orientation, and behavior

Certifications and Trainings

Northeast Groundfish At-Sea-Monitor

NOAA Fisheries

Certified August 2020

Protected Species Observer Training

A.I.S. Inc.

Certified September 2020

Northeast Industry-Funded Scallop Observer Training

NOAA Fisheries

Training Completed April 2022

Observer Marine Safety Training

Fathom Resources LLC

Certified April 2023

Protected Species Observer Training

Fathom Resourced LLC

Certified June 2023

Northeast Industry-Funded Scallop Observer

NOAA Fisheries

Certified December 2023



Accuracy, Integrity, Service

Preston White Protected Species Observer

Overview:

680+ total days at sea accomplished across multiple programs as a Protected Species Observer, Vessel Strike Avoidance Observer, and Fisheries Observer. Proven track record of identifying marine mammal, turtle, and fish species encountered in the Atlantic and Gulf of Mexico. Well versed in data collection associated with PSO/VSAO duties. Experience working in and around a variety of potentially hazardous conditions encountered offshore including: inclement weather, rough seas, heavy equipment, welding/cutting, pile driving, and at sea vessel transfers. Familiar with use of reticle binoculars, vessel electronics, night vision, thermal imaging, DSLR cameras, and range finders. Well-adjusted to extended offshore deployments.

Education:

University of South Alabama

- B.S., Biology, Cum Laude, 2015

Training and Offshore Certifications

Certificate	Location	Company	Date
GWO BST	Houston, TX	All Stop! Safety and Survival Training	03/2023
SEFOP Observer	Miami, FL	Southeast Fisheries Science Center	03/2021
Protected Species Observer	Virtual	AIS Inc	06/2020
NEFOP Observer	Falmouth, MA	Fathom Resources	03/2018

Offshore Experience Summary

Position	Location	Client & Contractor	Vessel	Survey Type	Dates	Total Days
PSO	Northwest Atlantic	Invenergy (Client) Fugro (Contractor)	Go Pursuit	Geophysical Survey, IHA Issued 7/19/2023	02/18/2024- 04/02/2024	52
PSO	Northwest Atlantic	Orsted (Client) Geodynamics LLC (Contractor)	Shackelford	Geophysical Survey, IHA Re-issued 5/4/2023	09/09/2023- 10/27/2023	50
PSO	Northwest Atlantic	Oceaneering International Inc (Client/Contractor)	Towline	Field Trial	08/02/2023- 08/14/2023	13
VSAO	Northwest Atlantic	Orsted (Client) DEME Offshore US (Contractor)	Living Stone	Cable Laying	06/09/2023- 06/16/2023	8
VSAO	Northwest Atlantic	Orsted (Client) DEME Offshore US (Contractor)	Living Stone	Cable Laying	04/19/2023- 06/02/2023	45
VSAO	Northwest Atlantic	Orsted (Client) DEME Offshore US (Contractor)	Berto Miller	Operations Survey/Support	03/19/2023- 04/05/2023	18



Accuracy, Integrity, Service

PSO	Brunswick, GA	Sevenson Environmental (Client/Contractor)	Barge	Dredging	03/06/2023-03/15/2023	10
PSO	Gulf of Mexico	Cantium LLC (Client) RWO Oilfield Consultants (Contractor)	Olivia Grace	Pile Driving	02/11/2023-02/18/2023	8
PSO	Gulf of Mexico	Cantium LLC (Client) RWO Oilfield Consultants (Contractor)	DB Hedron	Pile Driving	01/24/2023-02/01/2023	9
VSAO	Gulf of Mexico	Noble Drilling (Client)	HOS Warland	Equipment Recovery	09/24/2021-11/17/2021	54

Additional Work Experience:

AIS Inc 02/2023-Present
Protect Species Observer/Vessel Strike Avoidance Observer Orange Beach, AL
 -Observation of monitoring and exclusion zones around noise producing operations or operations where adverse interactions such as vessel strikes or entanglement are a possibility
 -Implementation of mitigation measures when necessary
 -Routine collection of species, environmental, and operations data
 -Field Identification of marine mammals, turtles, and fish species
 -Frequent travel on short notice throughout the East Coast and Gulf of Mexico
 -267 Sea Days

New England Marine Monitoring 04/2022-11/2022
Video Analyst Remote
 -Full review of commercial groundfish trips in the Northeast Electronic Monitoring Audit and Maximum Retention programs
 -Data collection setup and annotation for several fisheries AI projects

AIS Inc 03/2021-04/2022
Pelagic Longline Observer Orange Beach, AL
 -Deploy on commercial pelagic longline fishing trips ranging from 7-21 days in length
 -Frequent travel on short notice throughout the East Coast and Gulf of Mexico
 -Quantitative sampling of all kept and discarded catch
 -Field Identification of pelagic marine fish, invertebrates, mammals, and birds
 -69 Sea Days

AIS Inc 03/2018-03/2021
Northeast Fisheries Observer Point Judith, RI
 -Quantitative sampling of catch while deployed on a variety of commercial fishing vessels
 -Familiar with Northeast commercial fishing fleets and their associated sampling programs
 -Field Identification of Northeast finfish, invertebrates, mammals, and birds
 -Gear Type Certifications: Longline/Handline, High Volume, Clam Dredge, and Pot/Trap
 -Trip Trainer: train and evaluate newly hired observers first trip on a commercial fishing vessel
 -Participant in optional river herring/shad research sampling programs



Accuracy, Integrity, Service

-348 sea days

Pelican Pete Party Rentals

Crew Member

-Set up and disassembly of equipment at weddings and events

04/2017-02/2018

Elberta, AL

Bon Secour Valley Ingredients

Quality Control Manager

-Integral to the establishment of food safety testing protocols

-Heavily involved in plant start-up

-Responsible for training new employees on proper use and standard operating procedures of plant equipment

-Use and calibration of moisture balances, dehydrators, water activity meters, and luminometers

01/2016-03/2017

Foley, AL



Accuracy, Integrity, Service

Isaac Davidson Protected Species Observer

Overview:

An efficient, effort-driven & detail-oriented individual, with a constant desire to maximize personal and professional growth in every endeavor. Current professional background centers around fisheries management with employment in fisheries observer positions (traditional and electronic monitoring). The Blue MBA Program at University of Rhode Island has bolstered this oceanography background and added business administration skillsets. Moving forward, offshore wind development, fisheries management, and the intersection between these two sectors are areas to be explored professionally.

Education:

University of Rhode Island

- Master of Oceanography, 2022

University of Rhode Island

- Master of Business Administration, 2021

University of San Diego

- Bachelor of Marine Science, 2015

Training and Offshore Certifications

Certificate	Location	Company	Date
Protected Species Observer	Dartmouth, MA	A.I.S., Inc.	08/01/2023
TWIC	N/A	A.I.S., Inc.	10/18/2023

Skills Summary:

Early career positions as a fisheries observer for various companies led to skills in biological sampling as well as data entry to submit reports following each fishing trip. Current position as a project manager has increased skills in many areas: leadership, fisheries management, complex problem-solving (frequently in a collaborative manner), interpersonal communication, time management, and the use of Microsoft Office (particularly, Excel).

Offshore Experience Summary

Position	Location	Client	Vessel	Survey Type	Dates	Total Days
Fisheries Observer	Point Judith, CA	NMFS	Various	Commercial fishing	02/01/2019-08/01/2020	200
Fisheries Observer	Eureka, CA	NMFS	Various	Commercial Fishing	04/01/2016-07/01/2018	325



Accuracy, Integrity, Service

Additional Work Experience:

A.I.S., Inc. 01/2023-Present

Project Manager Dartmouth, MA

Responsible for overseeing the successful completion of projects in the Electronic Monitoring (EM) division and the Environmental Monitoring Division (EMD). EM projects include monitoring commercial fishing vessels across the world for regulatory and compliance purposes. Current and past projects have involved monitoring vessels in New England, Hawaii, Chile, Panama, Kenya, and Ghana. EMD projects include overseeing fisheries liaison officers (FLO) and protected species observers (PSO) as they go offshore on vessels supporting offshore wind construction projects.

New England Marine Monitoring (NEMM) 02/2021-09/2022

Project Manager/Video Reviewer Hybrid remote (New Bedford office)

Starting out as a video reviewer for the company, I annotated electronic monitoring (EM) footage from various New England commercial trawl vessels. These annotations included groundfish species discards, incidental takes, and any MARPOL violations that occurred while the vessel was underway. Eventually, I was transitioned to a project manager position where I was responsible for overseeing a project involving a lobster vessel participating in a research project using experimental ropeless lobster gear.

A.I.S., Inc. 02/2019-08/2020

Fisheries Observer Point Judith, RI

Boarded commercial fishing vessels from Wanchese, NC to Kittery, ME to collect data while underway. This data included fishing effort, catch estimates, discard weights, discard biological samples (fin clips, otoliths, etc.), and any violations that occurred. Additionally, required to biologically sample and document any interaction with or sighting of marine protected species including marine mammals and sea birds while offshore of New England. All data was submitted to organizations such as NMFS and OLE for analysis.

Alaskan Observers, Inc. 04/2016-07/2018

Fisheries Observer Eureka, CA

Boarded commercial fishing vessels from Wanchese, NC to Kittery, ME to collect data while underway. This data included fishing effort, catch estimates, discard weights, discard biological samples (fin clips, otoliths, etc.), and any violations that occurred. Additionally, required to biologically sample and document any interaction with or sighting of marine protected species including marine mammals and sea birds while offshore of the Pacific Northwest. All data was submitted to organizations such as NMFS and OLE for analysis.

Jacob Emmerman

EDUCATION:

University of South Carolina, Columbia SC

May 2022

- Bachelors' Degree of Marine Science - 3.43 GPA

EMPLOYMENT:

AIS, INC

August 2023 - Present

Marine Fisheries Observer

- Collect and record data regarding fishing activities aboard fishing vessels
- Biologically sample catch and by-catch brought onboard by fishermen
- Biologically sample and document any interactions with marine protected species including marine mammals, sea birds, and sea turtles in Northwest Atlantic
- 22 days at sea experience

Riverbanks Zoo and Garden

February 2022 - August 2022

Attractions Attendant

- Ensured safety while around animals
- Answered any questions guests had about the animals kept at the zoo
- Observed and noted animal health and reported to keepers, if necessary
- Communicated issues within the zoo to supervisors

VOLUNTEER WORK:

Transitions Homeless Shelter Volunteer Staff

- Provided regular meals to hundreds of transient individuals in the Columbia, SC area
- Prepared, served, and cleaned up after regular meals
- Provided welcome environment to patrons

LEADERSHIP:

- Baritone section leader, the Carolina Band (2020-2022)

RELEVANT SKILLS:

- Experience using box traps for data collection
- Familiarity with dichotomous keys
- Ability to perform water quality analysis
- Operation of small crafts/boats (2017-present)
- Proficient in Microsoft Office system

CERTIFICATIONS:

- Industry Funded Scallop (IFS) Observer
- Protected Species Observer (PSO) - October 2023
- First Aid/CPR

CURRICULUM VITAE

Name Thomas Andrew Fetchko

Educational Background

B.S. Marine Science and Biology East Stroudsburg University (PA) 2009

Professional Experience

Area Coordinator 09/14- current

National Marine Fisheries Service/ AIS Inc. (New Bedford, MA)

Duties:

- Networked with the commercial fishing industry in the Trawl, Gillnet, Pot Trap (Lobster, Deep-Sea Red Crab, Whelk species, and Fish), Longline, Handline, and Clam Dredge fisheries throughout the Northeast United States to achieve recommended Fisheries Observer coverage with diplomacy and tact
- Led a team of ten to fifteen Fisheries Observers that accomplished over 1,000 days at sea from 2016-2019 in the state of New Jersey (Highest achieved sea days per state in the Northeast Fisheries Observer Program) and over 1,200 days at sea from 2020 – 2022 in the Southern New England area (Southern Massachusetts, Rhode Island, and Connecticut).
- Excellent Fisheries Observer Retention with an average two years per Fisheries Observer in the Northeast Fisheries Observer Program
- Experience working with the Magnuson-Stevens Fishery Conservation and Management Act, Endangered Species Act, Marine Mammal Protection Act, and Migratory Bird Treaty Act
- Performed outreach in person to the commercial fishing industry and stakeholders about recommended Fisheries Observer coverage on a quarterly basis from 2014 – 2021
- Monitored, selected, made contact with the fishing industry, and assigned trips to Fisheries Observers from the Pre-Trip Notification System in the industry-funded scallop, herring, and groundfish fisheries

- Performed outreach to new members of the commercial fishing industry and stakeholders to obtain the correct safety equipment and pass an United States Coast Guard Inspection as per the regulations and standards of the United States Coast Guard and National Marine Fisheries Service
- Wrote, reviewed, and published outreach letters and technical reports to the commercial fishing industry and National Marine Fisheries Service about feedback and improvements on recommended Fisheries Observer coverage
- Coordinated with Area and Assistant Area Leads from National Marine Fisheries Service on development and made recommendations on Fisheries Observer program protocols
- Assisted with data requests from third parties, such as commercial fishing industry
- Organized, represented, participated, and submitted technical reports from outreach events to expand the Fisheries Observer program, such as career days at local universities and local events like fishing shows
- Represented, attended, and presented outreach materials at scientific and educational conferences, such as American Fisheries Society in Atlantic City, New Jersey
- Coordinated, participated, and submitted technical reports from outreach events with the federal and state agencies, universities, political parties, commercial fishing industry and stakeholders about observer coverage
- Organized, participated, and developed improvements based on suggestions from the National Marine Fisheries Service and my team from phone, electronic, and in person meetings on a monthly and quarterly basis from 2014- 2020
- Reviewed, identified, addressed, and made improvements on third parties' research studies
- Acted as a Liaison in between the Principal Investigator, Commercial Fishing Industry, and Observer on research projects, such as Atlantic Sturgeon and Sand Shark Gillnet Studies to provide additional data on protected species
- Excellent Interpersonal Management, Written, and Communication Skills
- Excellent Customer Service and Organizational Skills
- Coordinated travel information for Fisheries Observer, such as rental cars, plane tickets, ferry tickets, and hotel stays
- Reported and conducted Observer evaluations biannually and captain interviews on 10% of Fisheries Observer deployments to provide feedback
- Database Management for Observer deployments, availability, gear, and previous commercial fishing activities
- Created tables, graphs, and documents for data analysis with the database
- GIS for tracking vessels, past activities, and created reports

- Inventory, repaired, and performed maintenance of Fisheries Observer gear, such as scales (hanging and electronic), safety equipment, length boards (electronic and wooden/metal), and other at sea going gear
- Provided technical support to Fisheries Observer for any gear issues at sea and on land
- Proficient working with telecommunications and online meeting platforms, such as Zoom, Skype, Microsoft Teams, and Google Hangouts
- Grant and government contract proposal writing
- Prepared, researched, and submitted budget proposals
- Drove and maintained a government truck
- Recruited and conducted Fisheries Observer candidate interviews
- Completed payroll on a weekly and biweekly period (ADP)

Fisheries Observer

12/10 – current

National Marine Fisheries Service (New Bedford, MA)

Duties:

- Collected all pertinent data from the fishing vessel, such as vessel information (permit and hull numbers), gear information (gear type, net type, and mesh size), and haul information (location (LORAN and latitude/longitude coordinates), time, and date
- Work independently on commercial fishing vessels as the only Scientist on board
- Proficient working with different sampling techniques, such as actual weights, tally counts, volume to volume, catch composition, and random sampling (spatial and temporal methods) according to NMFS standards
- Proficient pre-deployment planning for one day to three months at sea with Fisheries Observer gear
- Proficient identifying fish, invertebrates, marine birds, sea turtles, and marine mammals from the Northwest Atlantic and North Pacific
- Proficient collecting biological samples, such as otoliths, scales, vertebrates, illicium, stomachs, and genetic samples
- Transported and assisted with necropsies of marine mammal, sea turtles, and sea birds
- Proficient at tagging fish, sharks, sea turtles, and marine mammals, such as pit, satellite, and anchor tags
- Proficient working with data entry (paper and database)
- Excellent conflict resolution skills
- Coordinated with National Marine Fisheries Service training staff that developed, recommended, and created new Fisheries Observer training curriculum for new fisheries, such as New England Pot Trap, Mid-Atlantic Pot Trap, and Blue Crab Dredge fisheries
- Coordinated with National Marine Fisheries Service Biologists on development, participation, and made recommendations on Fisheries Observer data collection protocols (pot trap fisheries)

Fetchko Vitae

- Participated in several research studies: North Pacific Octopus (National Marine Fisheries Service), Pacific Pollock (National Marine Fisheries Service), Spiny Dogfish (National Marine Fisheries Service), Atlantic Sturgeon Gillnet (Delaware State University), Sand Bar Shark (National Marine Fisheries Service), Illex Squid (National Marine Fisheries Service), and River Herring (Massachusetts Division of Marine Fisheries and Duke University)
- Assisted, reviewed, and edited first observer trips as part of the Trip Trainer Program
- Certified in Northeast, North Pacific Observer Programs and Northeast specialized gear types, such as High Volume, Longline, Pot and Trap Fisheries, At Sea Monitor Program, and Trip Trainer

Aquatic Specialist III

10/09 – 10/10

National Institutes of Health (Bethesda, MD)

Duties:

- Husbandry of Zebrafish (*Danio rerio*) and African clawed frogs (*Xenopus laevis* and *X. tropicalis*) including breeding and spawning.
- Created, prepared, and maintained feeding schedules for Zebrafish and African Clawed Frogs throughout the life cycles
- Created and maintained cultures for feeding schedules
- Performed health checks and treated sick Zebrafish and African Clawed Frogs on a daily basis
- Built, maintained, cleaned, and performed maintenance on a recirculating water filtration system (particulate filters, carbon filters, biofilters, RO, and UVs)
- Proficient with basic plumbing knowledge
- Monitored water chemistry levels (temperature, nitrate, nitrite, and ammonia)
- Transported Zebrafish and African Clawed Frogs to different facilities by government truck
- Diagnosed and fixed problems with the recirculating water filtration system
- Maintained, monitored, and calibrated YSI water monitoring probes (dissolved oxygen, pH, and conductivity)
- Developed, maintained, and made recommendations on Standard Operating Procedures from monthly meetings with the Principal Scientists and collaborators for water chemistry and animal welfare

Cephalopod Studies Intern

6/09 – 9/09

Marine Biological Laboratory (Woods Hole, MA)

Duties:

- Husbandry of Cephalopods, mainly Cuttlefish (*Sepia officinalis*) and Squid (*Doryteuthis pealeii*), and a variety of fish (Dogfish, Skates, and bony fishes)

- Created, prepared, maintained feed schedules for all of the cephalopods and variety of fish
- Basic plumbing knowledge with building of experimental systems
- Performed health checks and treated sick Cephalopods and fish on a daily basis
- Assisted in research with Cephalopods (behavior studies)
- Proficient using a variety of cameras (photograph and video)
- Proficient using image processing software for data analysis
- Created and maintained images and video database for data analysis
- Proficient creating tables, graphs, and summary reports on data analysis
- Communicated with internal and external collaborators with methods and data analyses
- Performed literature reviews for manuscript writing
- Built, maintained, cleaned, and performed maintenance an open water filtration system (aerators, ozone, and UVs)
- Monitored water chemistry levels (temperature, dissolved oxygen, salinity, pH, nitrate, nitrite, and ammonia)
- Proficient working with MATLAB, R, ImageJ, and Microsoft Office (Microsoft Word, Excel, PowerPoint, and Access)

Peer – Reviewed Publications

1. Allen, J., Mathger, L., Buresch, K., **Fetchko, T.**, Gardner, M., and Hanlon, R. 2010. Night Vision by Cuttlefish Enables Changeable Camouflage. *Journal of Experimental Biology*. **213**, 3953-3960.

Oral Presentations

1. **Fetchko, T.**, Allen, J., Mathger, L., and Hanlon, R. 2009. Adaptable Night Camouflage of the Cuttlefish, *Sepia officinalis*: A Laboratory Study. Young Scientist Symposium at the Marine Biological Laboratory. August 2009. Woods Hole, MA
2. **Fetchko, T.**, Jewett-Smith, J., and Smith J., 2009. A Growth Study of *Zostera marina* in Response of Nutrient Addition in Culture. Atlantic Estuarine Research Society (AERS). March 2009. Ocean City, MD., Commonwealth of Pennsylvania University Biologists (CPUB). April 2009. Lock Haven, PA., and Sigma Xi – East Stroudsburg University Chapter. East Stroudsburg, PA. April 2009.

Awards

Observer of the Month (National Marine Fisheries Service)

January 2013

Professional Affiliations

American Association of Laboratory Animal Science (ALAT)	2010- current
Sigma Xi (Associate Member)	2009- current

Professional Certifications

NMFS/BOEM Protected Species Observer	2020-current
Offshore Marine Safety (Safety I, II, and III certifications)	2011-current
First Aid, CPR, and AED (American Red Cross)	2011-current
HAZWOPER (24 hour)	2010-current
SCUBA (Open Water, Night Diving, and Digital Photography) – SSI	2008-current

Sarah Fortuna



Accuracy, Integrity, Service

Employment History

A.I.S. Inc.

Project Manager

Dartmouth, Massachusetts

December 2020 – present

- research potential opportunities to provide marine construction, dredging and other projects requiring protected species monitoring services; understand all contract deliverables and requirements work with the Program Manager to consult on Incidental Harassment Authorizations (IHA)'s and Letters of Authorization (LOA)'s and monitor the permitting process for all projects in the United States; comply with NMFS directives and implement protocol changes as necessary
- recruit, hire, train and supervise qualified staff to conduct field work ensuring that a stable pool of qualified Protected Species Observers (PSOs), Passive Acoustic Monitoring (PAM) Operators, Fisheries Liaison Officers (FLOs) and Dredge Material Inspectors (DMIs) are available to meet project demands
- manage projects and communicate with clients in all stages of development including technical and cost proposals, bid development, drafting of required reports, and completion of project closeout summaries
- develop and administer project-specific worker training programs for Environmental Monitoring Division projects/programs
- maintain equipment inventory for each project
- complete project specific data management, QA/QC data and images collected during each project via various platforms including Microsoft Suite, Mysticetus and Survey 123
- develop Job Specific Risk Assessment and Job Safety Analysis documents

A.I.S. Inc.

Lead Natural Resource Advisor

Brunswick, Georgia

September- November 2020

- observe recovery/removal operations associated with the M/V Golden Ray Salvage Operation and monitor for protected species
 - monitoring equipment: binoculars with reticles, laser range finders, GPS units, and Survey 123
- ensure Best Management Practices (BMPs) are followed during vessel/debris recovery/removal operations
- provide guidance during the implementation of recovery/removal operations
- coordinate with local specialists to identify potential impacts and resource issues that may occur as a result of recovery/removal operations
- perform the daily Toolbox safety meeting (TSM)
- manage field team of NRA's and perform on the job training and guidance for less experienced NRA's including: field techniques, proper data recording/reporting, equipment use, and job site safety
- interpret regulations, determine when mitigation is necessary and enforce as needed
- review team data reports

A.I.S. Inc.

Programs Assistant

Marion, Massachusetts

January 2019 – December 2020

- Assisted in creation and instruction of the A.I.S. Bureau of Ocean and Energy Management (BOEM) compliant Protected Species Observer (PSO) Training Course
- Tracking and approving observer timesheets and expense forms

- Supporting offshore PSO Teams and shore based Endangered Species Observers
- Perform gear tracking, maintenance and procurement of scientific PSO gear
- Logistical support for observers and AIS staff
- Assist Protected Species Program Manager, NEFOP Program Manager, and East Coast Operations Manager

A.I.S. Inc.

NEFOP & ASM Fisheries Observer

Marion, Massachusetts
April 2017 – December 2020

- Assisted with a seal necropsy at Woods Hole Oceanographic Institute under Fred Wenzel
 - Reviewed identification characteristics, general health and wellness of the animal and cutting methodology, collected samples for further analysis
- Expanded marine mammal identification skills
 - Protected Species sightings (during dedicated marine mammal watches and chance encounters) as well as Incidental Takes on commercial fishing vessels
- Accurately documented
 - Marine Mammal Incidental Sightings and Takes; catch and discard quantities; species composition; fishing activities at sea
- Worked at sea on commercial trawl, gillnet, dredge, pot/trap and longline fishing vessels from Maine to North Carolina collecting fisheries dependent and independent data for the National Marine Fisheries Service (NMFS)
- Gained comprehensive understanding of at sea biological and marine mammal sampling protocols
- Worked efficiently with captains and crews on vessel and setting up future trips and gained experience maintaining professionalism, and interpersonal relations in a challenging environment
- Further developed planning and organizational skills

West Virginia Department of Environmental Protection

Water Quality Testing Division Intern

Charleston, WV
May-Sept 2011, May-July 2012, May-Sept 2013, June-Nov 2014

- Knowledge of water quality testing equipment (YSI, etc.)
- Benthic Macro Invertebrate Metrics and Fish IBI Metrics; comprehensive understanding of West Virginia Stream Condition Index; general water quality testing procedure knowledge
- Developed skills in benthic invertebrate capture and preservation of organisms
- Documented general stream and riparian zone condition

Somers Public Schools

Substitute Teacher

Somers, CT
January 2017 – March 2017

- Assume the role of a classroom teacher, manage the classroom according to plans provided and deliver required lessons throughout the day
- be adaptable the fluid public school environment
- Encourage students and assist them in achieving a greater understanding of materials

Self Employed

Private English Tutor

Viareggio, Italy
January 2015 – November 2017

- Developed and delivered curriculum based on students English level
- Students aged 4 to adult
- Private and group lessons provided
- Logistics and scheduling of students and classes throughout the week

Education

University of North Carolina Wilmington

Wilmington, North Carolina

- Bachelor of Science in Marine Biology; Minor in Chemistry
- Honors Scholars Program
- Phi Eta Sigma Honors Fraternity
- Study Abroad: James Cook University, Townsville, Australia Fall 2012

Certifications

Protected Species Observer Training

CPR/First Aid Certified

Offshore Safety and Survival Training

Safe Land / Safe Gulf

OLIVIA J. FRYKMAN

EDUCATION

Colby College, Waterville, ME Bachelor of Arts, May 2023
Major: Environmental Science, concentration in Aquatic Ecosystems GPA: 3.55
Semester abroad, University of Cape Town, South Africa Spring Semester 2022

PROFESSIONAL EXPERIENCE

- AIS Observers, Protected Species Observer Certification September 2023
- Completed certification for seismic surveys in the Gulf of Mexico and US Atlantic to stand protected species watch
 - Authorized to enact mitigation and monitor operations in the presence of marine protected species
- AIS Observers, Northeast Fisheries Observer—NOAA Affiliate June 2023-Present
- Collect qualitative and quantitative data on catch, gear, and economic effort on commercial fishing vessels
 - Biologically sample and document any interactions and takes of marine protected species including marine mammals, sea birds, and sea turtles in the Northwest Atlantic
 - Completed 20 trips, totaling 42 sea days offshore
- Roots & Routes, Ecuador Envisioning Team February 2023-May 2023
- Organizing implementation of on-the-ground operations in Ecuador for Indigenous community outreach
 - Collaborating with seventeen other team members and three Indigenous community leaders in Ecuador to incorporate stakeholder ownership in design of project
- Roots & Routes, Pluriversity Team Manager September 2022-December 2022
- Promoted to team leader/manager after two months on team of four people
 - Managed team meetings, established goals, employee experience, and oversaw development of a decolonized education platform
 - Led assembly of a template for an online education platform, will eventually serve thousands of people
 - Interviewed four Indigenous leaders per month to broadcast and integrate community voices into environmental science
- Environmental Science Department, Colby College, Research Assistant—Dr. Bruesewitz October 2022-January 2023
- Curated citations using Zotero software for Dr. Denise Bruesewitz on paper examining primary production in aquatic systems before submission to *Limnology and Oceanography* journal
 - Reviewed 10+ journal articles weekly on lake metabolism and primary production to study catchment and external nutrient loading in aquatic systems
- Bigelow Laboratory for Oceanic Sciences, Research Assistant, Boothbay Harbor, ME January 2021-February 2021
- Collected and analyzed data with Dr. Debra Lomas and Dr. Michael Lomas for the Bermuda Atlantic Time Series
 - Processed 200+ total dissolved and particulate phosphorous water samples per week using a spectrophotometer
 - Enhanced further curation of water quality data of coastal Bermuda changes over time to understand impacts of anthropogenic climate change on coastal water in Bermuda since 1980s
- Cedar Coast Field Station, Intern, Vargas Island, British Columbia May 2019-June 2019
- Led five micro-plastic surveys on two beaches with groups of 20+ students aged 12-16 to assess the level of microplastic pollution and educate young kids on environmental pollution
 - Discovered frog species and assembled an herbarium of all plant species to promote biodiversity record on Vargas Island
 - Prepared and planted vegetable fields to grow organic food for 50+ island inhabitants

LEADERSHIP ACTIVITIES

- Research on Namibia Wildlife Conservation Policy, Namibia January 2023
- Partnered with Dr. Philip Nyhus & Dr. Jeff Muntifering to examine efficacy of Namibia's national conservation policy
 - Interviewed 3+ government officials, NGO leaders, and locals per day to gather information on stakeholder opinion
- Cyanobacteria Blooms in China Lake, Research, China ME September 2022-December 2022
- Conducted funded research on potential drivers of harmful cyanobacterial blooms during a fall-mixing event
 - Designed research plan, collected field samples, processed data, wrote conclusive research paper
- Abalone Research, Cape Town, South Africa March 2022
- Assessed scale of poaching of abalone in False Bay by measuring population size amongst 30+ species
 - Measured and identified 100+ individual organisms by diving 4+ hours per day (over 3-day period)

TECHNICAL/LAB SKILLS

- Solution preparation, sampling, fluid filtering, basic microscopy, basic cell/tissue culture, pipetting, topographic map reading

Alex Grahe

EDUCATION

York College of Pennsylvania, GPA 3.9

B.S. Biology Major; Chemistry and Fine Arts Minor.

York, PA

Graduated May 2021

CERTIFICATIONS

NEFOP Observer Training, NOAA Fisheries Service, *completed: February 9, 2023*

18-Hour Safety I: Initial Observer Marine Safety Training, *completed: January 23-24, 2023*

Protected Species Observer, *completed: September 28, 2023*

Wilderness First Responder, issued by: NOLS Wilderness Medicine, *exp: May 25, 2025*

Adult, Child, Infant CPR, AED, and Airway Management, issued by: NOLS Wilderness Medicine, *exp: May 25, 2025*

Epinephrine AutoInjector, issued by: NOLS Wilderness Medicine, *exp May 25, 2025*

WORK EXPERIENCE

Fisheries Observer at AIS Inc – *Jan 2023-present*

Point Judith, RI

- 93 Offshore Sea Days; Documented 43 Incidental Takes and 6 Protected Species Sightings.
- Conduct a pre-trip safety check; communicate with captain to collect economic information and information on fishing gear; communicate with crew about observer duties and data collection.
- Collect information for each tow such as depth, water temperature, weather conditions, and time and coordinates for haul start and end.
- Record information about all kept and discarded catch on observed hauls, including length frequencies and biologically sampling certain species.
- Biologically sample and document any interactions with marine protected species including marine mammals, sea birds, and sea turtles in Northwest Atlantic.

Scientist I at Eurofins Lancaster Laboratories – *Aug 2021-Dec 2022*

Lancaster, PA

Wilderness Ranger Fellow at SBFC Foundation – *May 2021-Aug 2021*

Missoula, MT

Building Supervisor at Grumbacher Sport and Fitness Center – *Aug 2020-May 2021*

York, PA

Rock Wall Monitor at Grumbacher Sport and Fitness Center – *Aug 2019-May 2021*

York, PA

Seasonal Driver Helper at United Postal Service – *Dec 2020-Jan 2021*

York, PA

Resident Assistant on West Campus of YCP – *Aug 2018-May 2020*

York, PA

Resident Assistant for the Johns Hopkins Center for Talented Youth – *Jun 2019-Aug 2019*

Seattle, WA

Taste of the Town Catering – *Jul 2015-Jul 2017*

Tacoma, WA

RESEARCH EXPERIENCE

Research Assistant for Dr. Singleton – *Aug 2020-May 2021*

York, PA

Senior Thesis Research on Effect of Organic Food on Longevity of *Drosophila*

York, PA

Summer Research Intern at University of Washington – *Jun 2018-Aug 2018*

Seattle, WA

VOLUNTEER EXPERIENCE

Project Learning Tree Green Mentorship Program – *Jan 2023-Jul 2023*

Providence, RI

The Nature Conservancy – *Apr 2023*

Providence, RI

Rhode Island Native Plant Society – *Mar 2023*

Providence, RI

Lancaster Science Factory – *Mar 2022-Dec 2022*

Lancaster, PA

The Common Wheel – *Oct 2021-Dec 2022*

Lancaster, PA

Alliance for the Chesapeake Bay Tree Planting and Stream Clean-up – *Mar 2021*

Lancaster, PA

GALLERY EXHIBITIONS

STEAM Gallery at the North Museum – *Mar 2022-Jul 2022*

Lancaster, PA

Engendered at York College Galleries in MarketView Arts – *Mar 2022-Jun 2022*

York, PA

2021 Annual Juried Show at York College of PA. – *Mar 2021-May 2021*

York, PA

AWARDS: Carolyn F. Mathur Scholarship (*Spring 2020*), Dean's List (*Fall 2017- Spring 2021*), Alpha Chi National Honor Society Member (*Spring 2019*), Student Senate Service Scholarship (*Spring 2018*).

Madyson Gray

Education

Arcadia University
Bachelor of Biology
Graduated May 2023

Old Bridge High School

High School Diploma
Graduated June 2019

Employment History

Iron Hill Brewery

North Wales, PA
September 2022-July 2023

- Maintained a flow of people in a busy work environment
- Assisted customers with problems around the workplace
- Assisted customers with take-out orders
- Sold merchandise, food, and beverages

A.I.S., Inc.- IFS Observer

July 2023 – Present

- Completed training sessions in marine fish identification, marine mammal identification, and sea turtle identification and resuscitation training through FMRD
- Completed Protected Species Observation training 9/28/2023
- Completed training in documentation of incidental takes and protected species sightings through FMRD
- 17 sea days completed

Research Skills

Arcadia University

Professional Skills

Teaching: Competent

CPR Certified: Intermediate

CPR First Aid: Intermediate

Microsoft Applications: Intermediate

Protected Species Observer Certification September 2023

CALVIN HAMMOND

WORK HISTORY

A.I.S. Inc. | Marine Biologist/At-Sea Monitor

October 2022 – Present

- Collected data on the environmental impact of New England fisheries
- Accurately identified and characterized the fish species within the northeast.
- Gathered the accurate weight and length of individual fish species in each haul. Using electronic, spring, volume to volume, and count to count methods.
- Cultivated a working relationship with several captains and crew who often had adversarial views and motivations to the ASM program.
- Spent up to multiple weeks on a ship with little ability for outside contact.
- Sailed and worked in high winds, rough seas and heavy rains and snow
- Performed safety checks on all vessels confirming compliance with safety regulations
- Lifted 80+ pound containers regularly to record weights.

ACTBLUE | Donor Support Associate

MARCH 2020 – JUN 2020

- Communicated daily with several clients over email to resolve conflicts with demands for returns of past donation and support with proper refunds due to incorrect donations
- Supported donors in their efforts to provide funds to their preferred campaign
- Researched political groups to prepare for any questions from donors

BLACKBAUD | Customer Support Analyst

DECEMBER 2017 – JULY 2019

- Communicated daily with clients over phone, email, and instant message to develop and improve client-to-company relationships
- Researched and developed intimate knowledge of company products to discover and resolve reported defects in the system
- Regularly met and exceeded client issue resolution quota, time expectation, and customer satisfaction within the 80-90th percentile of peers consistently
- Used mathematics expertise to troubleshoot programs that handled GPA calculations, grade calculations, scheduling, tuition, auditing, and remittance

MARKETSOURCE | Wireless Team Lead

July 2016 – MAY 2017

- Worked with upper management to change scheduling and procedure to meet expectations
- Managed a team of four employees, including their schedules, training, and relationship with upper management
- Trained several rotating team members the skills required to sell and work with phones
- Worked closely with Target members and management to best support their relationship with MarketSource at that specific location

Certifications

- ASM - At Sea Monitor
- PSO – Protected Species Observer
- First Aid

SKILLS

TECHNICAL

- Hardware, Marel Scale, spring scales, caliper, depth stick
- Proprietary software, Oasis, ArcGIS, Microsoft Office, Salesforce, and Adobe Suite
- CSS and web development
- Hardware troubleshooting and configuration

PERSONAL

- Confident communication with clients
- Working with clients of many skill levels and backgrounds
- Research and learning support for new products
- Self-directed work with minimal oversight
- Quick to learn new software and techniques.

EDUCATION

Bunker Hill Community college: Environmental Science

September 8th 2020 – July 16th 2022

SOUTHERN HIGH SCHOOL

Amherst NH, 2014

References available upon request.

Amanda R. Krog

Skills

- Leadership
- Detail Oriented
- Proficient in Excel
- Results Driven
- Critical Thinking
- Communication
- Organization
- Basic skills in R/RStudio

Certifications

- Scuba Open Water Certified
- Adult First Aid/ CPR Certified
- PSO Certified 02/23/2024
- NEFOP Certified 06/29/2023

Professional Experience

Fisheries Observer Point Judith, RI

June 2023-Present
Varies per week

Observer on fishery boats. I collect data on what species are being caught, how much of each species, and characteristics of the gear that was used to catch the fish. I collect lengths and biological samples, specifically otoliths, from the fish. Along with biologically sampling and documenting any interactions with marine protected species including marine mammals, sea birds, and sea turtles in the Northwest Atlantic. I record the location, depth, time, and water temperature for each haul. I am trained to work in the Northeast Fisheries Observer Program and the At Sea Monitor Program. I am trained to work with the following specialized gears: Pot Trap, Clam Dredge, Longline, and in the High Volume Fishery. I am a certified Protected Species Observer. I have a total of 41 sea days offshore.

Library Student Assistant Honolulu, HI

August 2021- May 2023
16 hours per week

Student employee working in Hawai'i Pacific University's library. I help patrons find and check out reference materials and books. I answer the phone and create and respond to emails. I assist in printing and directional issues. I organize and help keep the library clean. I reshelve books and pull books that are requested by a patron or class for placement on hold.

Client Services Honolulu, HI

October 2020-May 2021
17 hours per week

Worked as a student employee in Hawai'i Pacific University's information technology services. I assisted patrons in person, over the phone, or through email with their technical issues. When needed, I would go to the class or office location to help. Helped

in routine maintenance checks of classroom technological equipment at the beginning and end of the semester.

**Camp Counselor
Lincolnton, GA**

**June 2017-July 2017
70 hours per week**

Worked as a camp counselor at Robert E. Knox Scout Reservation. My primary job was to teach aquatic Boy Scout merit badges to the campers. I also served as the waterfront lifeguard where I helped supervise and monitor freetime in the lake. Additional duties included helping organize and participating in beginning and closing camp ceremonies that consisted of campfire songs and skits.

**Camp Counselor in Training
Lincolnton, GA**

**June 2016-July 2016
40 hours per week**

Worked as a counselor in training at Robert E. Knox Scout Reservation. I assisted camp counselors in teaching Boy Scout merit badges to the campers. I helped cook meals and clean dishes in the kitchen and worked in the camp store selling merchandise. I also helped organize and participated in beginning and closing camp ceremonies that included campfire songs and skits.

Volunteer Activity

**Venturing Crew 851
Ellicott City, MD**

August 2017-December 2021

Hosted fundraisers and cooked a community meal near Thanksgiving and Ash Wednesday. Yearly helped Antietam National Battlefield with setting up and lighting the memorial luminaries. I held the position of vice president of administration. Did a service project during a 10 day backpacking trip at Philmont Scout Ranch.

**Venturing Crew 108
Grovetown, GA**

June 2015-July 2017

Participated in community service projects, like collecting trash from a main road in the city and helping a state park trailblaze and clean up previous trails. We also helped staff training events at Robert E. Knox Scout Reservation, like Wood Badge. I held the position of crew treasurer and crew guide.

Education

- Bachelor of Science, Marine Biology, Hawai'i Pacific University, Honolulu, HI
 - Graduation May 6, 2023
 - Current GPA 3.59
- High School Diploma, Reservoir High School, Fulton, MD
 - GPA 3.95

- National Honors Society
- Honor Roll
- 4-H
- Beta Club



Accuracy, Integrity, Service

Leland Macey Fisheries Observer

Overview:

Current A.I.S., Inc employee stationed in Pt. Judith, RI. Fisheries Observer with NMFS federal training. Experience supporting interdisciplinary teams for a wide array of environmental projects.

Education:

University Of Rhode Island

- Bachelors of Science in Marine Biology
- Graduated May 2023

Training and Offshore Certifications

Certificate	Location	Company	Date
Northeast Fisheries Observer Program Training	Falmouth, MA	NMFS	10/04/2023
At Sea Monitor Training	Falmouth, MA	Coonamessett Farm Foundation	03/12/2024
Protected Species Observer Certification	Dartmouth, MA	A.I.S., Inc.	02/23/2024
Offshore Safety & Survival Training	Falmouth, MA	Coonamessett Farm Foundation	03/12/2024

Offshore Experience Summary

Position	Location	Client & Contractor	Vessel	Survey Type	Dates	Total Days
Fisheries Observer	Pt. Judith, RI	A.I.S., Inc.	Various	NEFOP & ASM Observing	September 2023 - present	36

Additional Work Experience:

A.I.S., Inc.

September 2023 - Present
Point Judith, RI

Fisheries Observer

- Observer commercial fisheries and collect data to support science, regulations, conservation and management of US fisheries in the Northeast.
- Working alongside NOAA and NMFS and the commercial fishing industry to ensure compliance with Magnuson–Stevens Fishery Conservation and Management Act, Marine Mammal Protection Act, and Endangered Species Act
- Identified and sampled marine species to include pelagic, marine mammals, sea turtles, and sea birds for species composition aboard commercial fishing vessels.
- Record information on the types and numbers of species that are discarded and interactions with marine mammals, turtles or endangered species.
- Made estimates of total catch size



Accuracy, Integrity, Service

- Sampling dead marine organisms including fin clip, photos and measurements and sexing.
- Collected age structures and biological data from target species.
- Working onboard commercial fishing vessels in all weather and sea conditions



Accuracy, Integrity, Service

Jacqueline Muto Fisheries Observer

Overview:

I have been working as a Fisheries Observer for AIS since May 2021. I currently have the NEFOP and ASM certifications, and the PSO certification.

Education:

Kutztown University of Pennsylvania

- Bachelor of Science in Marine Biology

May 2020

Training and Offshore Certifications

Certificate	Location	Company	Date
NEFOP Observer Training	NMFS, Falmouth, MA	NOAA, A.I.S., Inc.	August 2021
Safety I Initial Observer Training	NMFS, Falmouth MA	Fathom Resources	August 2021
ASM Observer Training	Falmouth, Ma	NOAA, A.I.S., Inc	March 2022
Fishing Vessel Safety I	Falmouth, MA	McMillan Offshore Survival Training	March 2022
Safety II Observer Training	NMFS, Falmouth MA	NOAA, A.I.S., Inc.	December 2023
Protective Species Observer Training	Remote	A.I.S., Inc.	March 2024

Skills Summary:

Team player
 Problem-Solving
 Species Identification
 Marine Mammal Sampling

Computer/Technical Literacy
 Willing to Learn
 Lifeguard
 Sea Turtle Sampling

Multicultural Sensitivity/Awareness
 Adaptability
 Water Safety Instructor

Offshore Experience Summary

Position	Location	Client & Contractor	Vessel	Survey Type	Dates	Total Days
Type of Position	Work Location	Client & Contractor	Vessel	Type of Survey/Operation	MM/DD/YYYY-MM/DD/YYYY-	##
Fisheries Observer	Various	NOAA & AIS	Various	NEFOP & ASM	08/01/2021-Present	246

Additional Work Experience:

A.I.S., Inc.

May 20, 2021-Present

Fisheries Observer

Point Judith, RI

- Data collection of Kept and Discarded catch
- IAL data collection
- Intake data collection for marine mammals and sea turtles
- Gear data collection



Accuracy, Integrity, Service

Michael Santoy Fisheries Observer

Overview:

4+ Years of Fisheries Observing Experience in New England, and 31 Days of At Sea PSO Deployments spread between New England and The Gulf of Mexico.

Education:

University of Texas Rio Grande Valley

- Bachelor of Science in Biology, August 2018

Training and Offshore Certifications

Certificate	Location	Company	Date
IFS	East Falmouth, MA	A.I.S., Inc.	August 2019
ASM	East Falmouth, MA	A.I.S., Inc.	April 2023
NEFOP Recertification	East Falmouth, MA	A.I.S., Inc.	December 2023
Clam Dredge	East Falmouth, MA	A.I.S., Inc.	February 2022
Safety II Recertification	East Falmouth, MA	A.I.S., Inc.	January 2023
BOSIET	Houston, TX	All Stop!	May 2022
PSO	NorthDartmouth, MA	A.I.S., Inc.	July 2021
First Aid CPR AED	East Hartford, CT	Code One Training Solutions	August 2022

Skills Summary:

Offshore Experience Summary

Position	Location	Client & Contractor	Vessel	Survey Type	Dates	Total Days
Protected Species Observer	Gulf of Mexico	Cantium LLC (Client) & RWO Oilfield Consultants (Contractor)	C Performer	Pile Driving	3/27/22 – 3/31/22	5
Vessel Strike Avoidance Observer	Northwest Atlantic	Orsted (Client) & INSPIRE Environmental (Contractor)	Northstar Challenger	Benthic Survey	5/22/22 – 5/24/22	3
Protected Species Observer	Gulf of Mexico	Texas General Land Office & U.S. Fish and Wildlife Service (Client) & Ocean	Thunderforc e	Geotechnical Survey	6/2/22 – 6/3/22	2



Accuracy, Integrity, Service

		Surveys Inc (Contractor)				
Vessel Strike Avoidance Observer	Northwest Atlantic	Orsted (Client) & DEME Offshore US (Contractor)	Berto L. Miller	Pre-Lay Grapnel Run	2/24/23 – 2/28/23	5
Vessel Strike Avoidance Observer	Northwest Atlantic	Orsted (Client) & INSPIRE Environmental (Contractor)	Catapult	Hard Bottom Survey	8/29/23 – 9/13/23	16
Fisheries Observer	Northwest Atlantic	NMFS (Client) & AIS Inc. (Contractor)	Fishing Vessels		08/2019 - 01/2024	

Additional Work Experience:

A.I.S., Inc.

August, 2019

Fisheries Observer

New England, USA

- I have been a Fisheries Observer for AIS since July, 2019. Certified in IFS (Industry Funded Scallop), ASM (At-Sea-Monitor), NEFOP, and PSO (Protected Species Observer)
- General Experience on Fishing vessels on various sea states (Flat Calm - 25ft Seas), Data collection, consolidation onto paper-logs and transfer to digital medium upload, as well as reporting to NMFS, along with skills required to communicate with company Coordinators and NMFS Debriefers.

SUSAN M. SILVIA

EDUCATION: BSc Wildlife & Conservation Biology University of Rhode Island 2011

EXPERIENCE:

- 09/21 –Present Substitute Teacher, Teacher Assistant, Narragansett School Department, RI
- 09/21–Present Substitute Teacher, Teacher Assistant and Clerical Worker, South Kingstown, RI
Employed also in this capacity from 04/18- 03/20
- 03/20- 07/21 Teaching Assistant, South Kingstown School Department, South Kingstown, RI
- 2005- Present Hospitality industry professional with 18 years' experience working full time while enrolled in seasonal/ contract wildlife/positions. Roles have included management, events and entertainment coordinator, social media management, promotional flyer design, interviewing, hiring, training, scheduling, inventory/ordering, banking, point of sale update and management, beverage menu creation and that of a bartender/server
- 2019 Protected Species Observer, AIS, Inc. Short-term contract position
- 04-08/2017 Shorebird Preserve Assistant, The Nature Conservancy, Rhode Island
Seasonal temporary position 35 hours/week
- 10/14- 04/15 State of Rhode Island, D.E.M., Division Fish & Wildlife 35 hours/week
Grant-funded seasonal position
- 10/13-3/14 State of Rhode Island, D.E.M., Division Fish & Wildlife 35 hours/week
Grant-funded seasonal position
- 04-08/2012 Biological Internship U.S. Fish & Wildlife Service, Rhode Island Refuge Complex
Grant-funded seasonal position
- 06-08/2011 Piping Plover Monitor Internship, 40 hours/week, USFWS RI
Grant-funded seasonal position
- 2005 Executive Assistant/Hand Surgery Fellowship Coordinator 40+hours/week
University Orthopedics, Inc. Providence, RI

CERTIFICATION: RIDE Paraprofessional Teacher Assistant Certification

SKILLS: Microsoft Office /Excel, Photography, Radiotelemetry

Gregory St.Aubin

RELEVANT EXPERIENCE

NOAA North Pacific Groundfish Observer, AIS. Inc., Alaska 2014-2016

- Collected fisheries data and compliance aboard 23 Alaskan fishing vessels, 40-100ft trawlers, longliners, and pot boats.

Native Village of Eyak- Dept. of Natural Resources and Prince William Sound Science Center, Cordova, AK - *Field Biologist* 2019 - 2021

- Senior technician on remote Copper River Chinook and Sockeye Salmon population study. Research fish- wheels, small vessel operation in swift rivers. PIT-tagging, acoustic telemetry, specimen collection, data entry, & QC. Fully off-grid living for 3 month durations. Provisioning and helicopter sling-loading.
- Field Biologist on Pink salmon hatchery/wild project for Dr. Peter Rand
- Field Biologist on Sockeye Salmon migration study for Dr. Peter Rand
- Remote stream sampling, otolith collection, live-aboard on RV "Auklet"

USGS Brown Treesnake Biologist, Guam. - *6 month project in 2015*

- Nighttime snake surveys in jungle and caves, necropsies, PIT-tagging, and acoustic telemetry. Prey studies on skinks, rats, and the endangered cave swiftlet for Dr. Bjorn Lardner.. Nightvision, thermal imaging, trapping.

Sailing Crew - 2019 - 2021

- Transatlantic delivery of "Madrigal V"- 45' Catamaran, Bahamas-Spain 2020
- Offshore delivery of "Auk"-58' ketch, Rhode Island- Bahamas 2021
- Student crew on "Corwith Cramer" -135' tall ship. St. Croix - Woods Hole 2013
- Student crew on "Robert C. Seamans" 135' tall ship. Hawaii - Kiribati 2012

Nantucket Marine Mammal Alliance - 2016-2017

- Rapid response volunteer team in cooperation with NOAA Fisheries, assisting entangled pinnipeds and stranded cetaceans.

Massachusetts Audubon Osprey Monitoring Program - 2018-Present

- Volunteer assisting Dr. Alan Poole in the building, installation & maintenance of osprey nesting stands on the Westport River.

EDUCATION AND TRAINING

- Protected Species Observer Training, AIS Inc. Sept.2022
- STCW Basic Training- Northeast Maritime Institute, Sept.2022
- B.S. Earth & Ocean Science, The University of British Columbia, 2013.
- SOLO Wilderness First Responder- MA 2014, AK 2019.
- Sea Education Association, Undergraduate oceanographic research, nautical science & tall ship sailing. Woods Hole MA, 2012, 2013.

Emma Tetreault

Education	The University of Tampa Tampa, FL <i>Marine Science-Biology major and Environmental Science minor</i> <ul style="list-style-type: none">• Graduated May 6, 2023• Cumulative GPA of 3.78• University of Tampa presidential merit scholarship, August 2019 – May 2023• Dean’s list, 3.75 GPA requirement: Spring 2020, 2021, 2022, 2023 and Fall 2022• Monteverde Institute affiliated Tropical Conservation and Biology travel course to Costa Rica in Spring, 2022
Work History	A.I.S. Inc. , Dartmouth, MA <i>Marine Biologist, Scallop Fisheries Observer</i> , July 18, 2023 - present <ul style="list-style-type: none">• Currently 18 sea days completed• Account for the weight of all catch using catch estimation methods• Monitor for protected species and keep a detailed record of all sightings• Identification of fish, protected species, and all other catch• Biologically sample sea scallops and finfish• Training for the possibility of a protected species incidental take• Communicate observer duties and requirements to the captain and crew• Send completed paperwork logs and data upload in a timely manner to NMFS
Certifications	Protected Species Observer , September 26-28, 2023 <ul style="list-style-type: none">• Use key characteristics to ID protected species in the water• Know the distances from the project different types of protected species must be before shut down or mitigation is required• Know how to mitigate a situation if a protected species is sighted within the management zone Safety I: Observer Marine Safety Training , July 20-21, 2023 <ul style="list-style-type: none">• 18-hour training in compliance with USCG 46 CFR 28.270 instruction, safety orientation, and National Observer Program Safety Standards• Immersion suit water training• Firefighting and safe flare handling• Training on how to correctly deploy and board a life raft
Relevant Experience	The Florida Aquarium Center for Conservation Apollo Beach, FL <i>Juvenile Coral Cleaning Volunteer</i> , January 2022 – May 2023 <ul style="list-style-type: none">• Cleaning juvenile corals under a dissecting microscope• Performing water changes and plumbing maintenance on the coral systems• Gravel vacuuming the coral tanks• Separating juvenile corals onto individual plugs

Relevant Experiences

The University of Tampa Tampa, FL

Head Vertebrate Zoology Lab Mentor, January 2021 – May 2023

- Aid in the curation and care of the vertebrate zoology specimen collection
- Organize meetings and open lab times with the other lab mentors
- Aid the professor in lab set up, clean up, and field excursions
- Offer open lab time and resources to students and assist in their study of the material
- Proficient knowledge on the labs cartilaginous and bony fishes, amphibians, reptiles, turtles, birds, and mammals

The University of Tampa Tampa, FL

Parasitology Lab mentor, January 2023 – May 2023

- Organize lab materials and set up microscope labs
- Care for and aid in curation of the parasite specimen collection
- Aid in the writing and planning of labs
- Assist students in microscope work, finding specimens, and independent projects

ECHO Leahy Center for Lake Champlain Burlington, VT

Animal Care Intern, May - August 2022

- Independent project of making vivarium for retired poison dart frogs was completed within the internship time frame
- Prepared diets and fed exhibit and back of house animals
- Handled reptiles, turtles, and fish
- Aided in medical treatments including administering treatments on injured turtles and mixing salt baths of varying salinities
- Cleaned and maintained animal habitats on and off exhibit, cleaned water filtration systems, performed water changes, and gravel vacuums of tank bottoms

ECHO Leahy Center for Lake Champlain Burlington, VT

Animal Care Volunteer June 2021 - August 2021 & December 2021 - January 2022

- Preparing diets and feeding animals both on and off exhibit
- Handling of reptiles, turtles, and fish
- Aiding in medical treatments including administering treatments on injured turtles and making salt baths
- Cleaning and maintaining animal habitats on and off exhibit, cleaning water filtration systems, performing water changes, and gravel vacuums of tank bottoms

The University of Tampa Tampa, FL

Specimen collection research student assistant, Fall 2020, Spring 2021, and 2022 semesters

- Led a group of students in a catch and release collection of pipefish in seagrass beds for a graduate student's project
- Utilized seine nets to aid in pipefish specimen collection in Tampa Bay
- Collected ghost crabs from their sand burrows for a research project
- Deployed trawl nets attached to a research vessel with a boom and winch

**Leadership
Activities**

Spartan Climbers President

University of Tampa club president, August 2021 – May 2023

- Organize club executive board meetings
- Attend president's meetings and student organization meetings
- Tabling and interacting with prospective club members at campus events
- Present budget proposals and handle club expenses and funds
- Responsible for running climbing events including, teaching belay and knot tying classes, slacklining, and rock climbing at an indoor gym

Science Day Speaker

Marine Science-Biology and Environmental Science representative, October 2021

- Faculty-chosen speaker for prospective and committed science students at the University of Tampa

Week of Welcome Orientation for New Students

University of Tampa Week of Welcome Leader, Spring 2021 semester

- Assisted in new student move in on campus
- Communicated with and provided information to students and parents during orientation and move in week
- Facilitated and hosted campus events aimed at involving new students

**Honors and
Awards**

CNHS Undergraduate Research Symposia class poster presentation winner, May 2022; Top 10% of graduating class at Bellows Free Academy, 2019

**Relevant
Skills**

PADI rescue diver, advanced, and open water certification; nitrox diving certification; CPR and first aid certification; Microsoft Office; R coding language; ESRI GIS; BRUV deployment and collection; compound and dissection microscope proficiency; coral point count; sampling along a transect; seine netting and collection.

**Relevant
Coursework**

Upper-level courses taken at the University of Tampa

- *Biological Oceanography with Lab*
- *Ichthyology with Lab*
- *Marine Ecology with Lab*
- *Marine Invertebrate Zoology with Lab*
- *Vertebrate Zoology with Lab*
- *Physics with Calculus I & II with Lab*
- *Parasitology with Lab*
- *Marine Botany with Lab*
- *Experimental Design and Biostatistics*
- *Tropical Biology and Conservation*
- *Genetics with Lab*
- *Organic Chemistry I & II with Lab*

**Additional
Work History**

TDH Surveying and Design St. Albans, VT

Field Technician December 2020 - January 2021 & June 2021 - August 2021

Mill River Brewing BBQ and Smokehouse St. Albans, VT

Hostess June 2020 - August 2020

Lauren Wahl

Email: laurenw@aisobservers.com
Phone: (508) 742-5510



Nationality: USA

Employment History

- | | |
|--|--|
| A.I.S. Inc.
<i>Program Manager, Environmental Monitoring Division</i> | Dartmouth, Massachusetts
June 2021 - present |
| <ul style="list-style-type: none">• Research potential opportunities to provide marine construction, dredging and other projects requiring protected species monitoring services• Lead business development for the Environmental Monitoring Division of AIS• Work with Project Manager to recruit, hire, and train qualified staff to conduct fieldwork ensuring that a stable pool of qualified PSOs, PAM Operators, and DMIs are available to meet project demands• Complete quarterly projections of expected labor and revenue and track success rate for the projections• Develop and Administer project-specific worker training programs for protected species projects/programs | |
| A.I.S. Inc.
<i>NEFOP Project Manager</i> | Dartmouth, Massachusetts
September 2016 – June 2021 |
| <ul style="list-style-type: none">• Responsible for maintaining a quality corps of approximately 80 field staff and ensuring data collection protocols are followed and work closely with team of 13 management staff to ensure successful deployment of fisheries observers from Maine to North Carolina• Train new hires in company operations methods and procedures including timecard entry, expense submission, and general company policies.• Ensure contract deliverables are met and manage and monitor contract budget to ensure contract ceiling is not exceeded.• Generates monthly list of billable items under contract including sea days, expenses, and hours and conducts quality control checks on monthly invoice.• Responsible for ensuring Quality Assurance Plan and Retention Plan are implemented and updated to confirm best practices are being followed | |
| A.I.S. Inc.
<i>Lead Protected Species Observer</i> | Dartmouth, Massachusetts
January 2016 – December 2019 |
| <ul style="list-style-type: none">• Serve as Lead Observer on marine mammal abundance surveys in waters surrounding Naval Submarine Base New London and Portsmouth Naval Shipyard.• Training new observers on project in equipment usage, data collection and safety protocols. | |
| A.I.S. Inc.
<i>Other Marine Projects Manager</i> | Dartmouth, Massachusetts
April 2013 – September 2016 |
| <ul style="list-style-type: none">• Participate in project proposal writing to pursue additional project contracts | |

- Oversee roughly 5-20 field staff working under contracts with government and private sector clients.
- Train new hires in company operations methods and procedures including timecard entry, expense submission, and general company policies.

A.I.S. Inc.

Marion, Massachusetts

Protected Species Projects Manager

April 2015 – February 2017

- Oversee 12 Protected Species Observers as part of contract with Deepwater Wind during construction of Block Island Wind Farm turbines and installation of inter-array and export cable.
- Work with Deepwater Wind VP of Permitting and Environmental Affairs to put together permit and response plans and ensure that environmental permits from USACE and NOAA are adhered to.
- Develop and follow Permit and Environmental Compliance plan and logs to document all protected species sightings during construction phase.
- Develop and implement training for Protected Species Observers and project managers including protected species identification, data collection requirements, and required project specific mitigation measures and implementation procedures in accordance with issued permits.
- Manage, coordinate, and support Protected Species Observers monitoring for marine mammals and sea turtles during pile driving and cable installation activities

A.I.S. Inc.

New Bedford, Massachusetts

Sector Program Manager

April 2010 – March 2015

- Oversee AIS At Sea Monitor Program and ensure all contractual obligations with NMFS are met.
- Responsible for recruiting and retaining a quality corps of approximately 80 Observers and ensure data collection protocols are followed.
- Generates monthly list of billable items under contract including sea days, expenses, and hours and conducts quality control checks on monthly invoice.
- Responsible for ensuring Quality Assurance Plan and Recruitment and Retention Plan are implemented and updated to confirm best practices are being followed
- Communicate with internal government and industry stakeholders to foster importance of program.

A.I.S. Inc.

Falmouth, Massachusetts

Assistant Program Manager/Observer Support Liaison

January 2009 – March 2010

- Assumes duties of Program Manager when needed.
- Assist with hiring and training of new and qualified observers including conducting screenings, interviews, and reference checks and training in company policies and procedures.
- Available to observers visiting training facility in Falmouth, MA to assist them with problems and concerns.
- Chair Observer Support Committee geared towards improving retention rates, observer social contact, and camaraderie.

A.I.S. Inc.

Dartmouth, Massachusetts

NEFOP Fisheries Observer/At Sea Monitor

April 2007 – September 2015

- Collect biological, ecological and economical fishery dependent data onboard commercial fishing vessels for the National Marine Fisheries Service.
- Identify over 150 species of North Atlantic invertebrates, fish, marine mammals, sea turtles, and sea birds.
- Record weights and collect biological samples of both kept and discarded species for development of fisheries management rules and regulations.
- Identify marine mammals and record sightings observed during commercial fishing trips.
- Follow protocols to document incidental bycatch of marine mammals, birds, and sea turtles including obtaining measurements and biological samples.
- Earned recognition as Observer of the Month for excellent data quality in December 2007.
- Certified as a training trip trainer to accompany new observers on their first trip aboard a commercial fishing vessel and provide guidance throughout trip. Confirm ability to identify species correctly and follow proper sampling protocols for both catch composition and incidental bycatch of marine mammals, sea turtles, or sea birds.

Allied Whale

Bar Harbor, Maine

**Research Assistant
2006**

June 2006 – October

- Photographed fin and humpback whales aboard Bar Harbor Whale Watch Company cruises to update North Atlantic Humpback and Fin Whale Catalogs.
- Participated in mark recapture studies of humpback and fin whales to study reproduction, migration, social interaction, and population dynamics.
- Transported stranded marine mammals to rehabilitation centers and collect deceased animals for necropsy.
- Conducted marine mammal necropsies to determine population health.

Education**University of Maine**

Orono, Maine

- B.S. Marine Science with concentration in Marine Biology
- Graduated *summa cum laude* with high honors
- University of Maine Honor's College

Certifications

Endangered Species Observer

Protected Species Observer Training, Dec 2015

Passive Acoustic Monitoring Level 1 Training, Dec 2015

CPR/First Aid Certified, Exp Feb 2023

Offshore Safety and Survival Training, Sept 2019

USCG Operator of Uninspected Passenger Vessels Captain's License