

Public Service Company of New Hampshire Seacoast Reliability Project

Madbury, Durham, Newington and Portsmouth, NH

Northern Long-eared Bat Acoustic Survey

Presented To: Public Service Company of New Hampshire d/b/a Eversource Energy 780 North Commercial Street Hooksett, NH 03106

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Summary

Ultrasonic acoustic surveys were conducted to inventory the federally threatened and state endangered northern long-eared bat (NLEB; Myotis septentrionalis) within the proposed limits of work for the Seacoast Reliability Project (SRP/Project Area), located in the Towns of Madbury, Durham, and Newington, and the City of Portsmouth, NH. The survey was conducted from July 17 through July 22, 2017 according to US Fish and Wildlife Service (USFW) 2017 Guidelines. As is typical for acoustic surveys, multiple species of bats were recorded at all detector locations. Automated analysis of the calls by the Kaleidoscope Pro (KPro) software package indicated that NLEB were present at Segments 16 and 19. Other species identified by KPro consist of big brown bat (*Eptesicus fuscus*), eastern red bat (*Lasiurus borealis*), hoary bat (*Lasiurus*) cinereus) silver-haired bat (Lasionycteris noctivagans), little brown bat (Myotis lucificugus), and eastern small-footed bat (Myotis leibii). Note that the little brown bat, eastern small-footed bat, and tri-colored bat are listed as endangered by the State of New Hampshire due to recent population declines caused by White-nose Syndrome, although the latter two species have always been less common. Per standard protocols, the NLEB calls identified by KPro were subsequently reviewed by an analyst and the manual review of these calls could not rule out the KPro findings. Segments where KPro identified the state-listed species were also manually reviewed to evaluate those findings. During this review, two additional segments, 14 and 18, were determined to potentially have NLEB calls.

USFWS' time-of-year (TOY) cutting restrictions do not apply to the project because there are no known maternity roosts or hibernacula within 0.25 miles of the SRP right-of-way. Within the segments where NLEB calls were identified, the proposed clearing width ranges from 0 (Segment 14) to 40 feet (Segment 19). Because the tree clearing is minimal, the effects of the clearing on NLEB is expected to be minimal as well. Where possible, Eversource will perform the tree clearing outside of the maternity season (June-July) to minimize risks to non-flying pups.

1.0 Project Overview

Public Service Company of New Hampshire d/b/a Eversource Energy (PSNH) contracted Normandeau Associates, Inc. (Normandeau) to conduct ultrasonic acoustic surveys for the federally threatened northern long-eared bat (*Myotis septentrionalis;* NLEB) for the Seacoast Reliability Project. Surveys were designed to detect the presence of the NLEB in the Project Area where potential habitat for this species was observed.

As proposed, the SRP is a new 115 kilovolt (kV) transmission line located in the Towns of Madbury, Durham and Newington as well as the City of Portsmouth, in Strafford and Rockingham Counties, New Hampshire. The transmission line will be approximately 12.9 miles long, including a 0.9 mile crossing under Little Bay. The proposed route parallels Pan Am Railroad tracks for approximately four miles in Madbury and Durham. The majority of the line will be constructed within existing electric corridors, with minor adjustments to corridor widths

in several locations. The Project Area ranges from 40 to 130 feet wide, but on average is 100 feet wide. For most of the length of the SRP, a mowed area approximately 60-100 feet in width has been maintained by PSNH in support of the existing electric distribution line. The edges of the existing corridor are unmaintained, with the exception of periodic trimming and hazard tree removal. The edges frequently support tree canopy (typically 0- 20 feet on either side) which will need to be cleared for the SRP.

The SRP is within the range of the NLEB. This tree-roosting bat primarily uses forested habitats, and occasionally roosts in man-made structures with cracks and/or crevices. The Project has the potential to affect this species, especially non-flying pups, through tree clearing while bats are roosting. Because suitable habitat for NLEBs is abundant, small and moderate amounts of tree clearing in the NLEB's range are likely to have only limited impacts on the availability of roosting habitat. However, tree clearing can cause direct mortality if an occupied roost tree is felled. If NLEBs are determined to be present at a particular forested location, impacts can be minimized by clearing outside of the maternity season in June and July.

2.0 Methods

Normandeau identified the portion(s) of the Project Area that required a presence/absence survey based on habitat characteristics, and then conducted acoustic surveys in these locations as described below. All habitat assessments and presence/absence surveys conducted were consistent with the US Fish and Wildlife Service's (USFWS) <u>2017 Range-wide Indiana Bat</u> <u>Summer Survey Guidelines</u>¹ (*Guidelines*). The protocol for NLEB summer surveys are described in the *Guidelines*, which explicitly include the NLEB and provide NLEB-specific guidance. Results of the surveys are summarized below, and these results include all the elements requested in Appendix C of the *Guidelines*. The Seacoast Reliability Project does not occur within the known range of the Indiana bat (*Myotis sodalis*), the only other federally listed (endangered) species in the northeast region.

The field survey and the data analyses were conducted by personnel trained and qualified to conduct their respective tasks. Staff resumes are attached at the end of this document (Appendix F).

Habitat Assessment

The general suitability of the habitat on this site was assessed by examining recent aerial photography (Google Earth[™]) prior to deploying the detectors. In the field, habitat characteristics were examined to confirm suitability in all locations where acoustic detectors were placed. The desktop assessment and on-site observations of the vegetation within the Project Area were conducted by Jamie O'Brien, Biologist. Characteristics of the overall habitat within the Project Area are presented in Section 3.1.

¹https://www.fws.gov/midwest/Endangered/mammals/inba/surveys/pdf/2017INBASummerSurveyGuidelines9May2017.pdf

Detector Deployment

Normandeau conducted surveys using equipment from Binary Acoustic Technology, LLC. This included 1) IFR-V Field Recorders, full-spectrum ultrasonic acoustic detectors; and 2) AR125-EXT Ultrasonic receivers, microphones designed specifically for ultrasonic monitoring and analysis. The microphones were attached to the inside of a 45 degree PVC elbow in order to protect it from precipitation.

As defined by the *Guidelines*, this project was categorized as a linear project, and required two detector nights (one detector deployed for two nights) of survey effort per kilometer of project length. The 19.3 km (11.9 mile) land-based portion of the SRP was surveyed using twenty detector locations, all placed in suitable roosting habitat along the length of the proposed route. All acoustic detectors were left in place to collect data on two consecutive nights with suitable weather conditions described in the *Guidelines*, yielding 40 detector nights of data for the project.

The general placement of the detector and detector set-up adhered to specifications detailed in the 2017 *Guidelines*. Specifically, the sampling location within each kilometer-long section was selected based on a combination of factors including access, minimal opportunity for human disturbance, an open cone of detection for the microphones to sample, and apparent bat habitat quality (e.g., mature trees, snags, hollows and crevices, and wetland habitat). Survey sites were initially selected by desktop analysis using Google Earth imagery to identify areas that fit the aforementioned criteria. A roughly a 250 foot radius was used to assess habitat quality, which corresponds to the maximum sampling distance of the microphones. Once in the field, detector placement was confirmed or modified from the chosen desktop locations. To describe the survey site, habitat parameters (such as tree species and DBH) were recorded within roughly 100 feet of the detector. To ensure an open cone of detection, which reduces background noise and ensures proper flight paths for bats, the detector was placed in a location free from debris/clutter (tree limbs, buildings or structures, etc.) within 33 feet on any side.

To ensure that the detectors were functioning correctly during every survey period, settings were checked when each detector was deployed and retrieved: 1) the microphones were checked for proper recording of sounds and archival of data onto the internal drive/USB; and 2) the program recording times, detector limits, and acoustic range were verified.

Call Analysis

The entire call analysis process was managed via Normandeau's ReBAT® data management system, which tracks each acoustic recording file after upload throughout the call analysis process and stores all results in a MySQL database. Each acoustic file was processed as required by the 2017 *Guidelines* using Kaleidoscope Pro (KPro) 4.0.0, which is one of the USFWS-approved automated bat call classification software packages. The software analyzes bat calls and determines the probability (or "likelihood of presence p (probability) value") that they were made by a certain bat species. Any probability less than 0.05 is statistically interpreted to mean that the call belongs to that species. Because several bat call files were identified by KPro as belonging or potentially belonging to the NLEB, they were manually

examined by Normandeau biologist Stephen Lindsay, a trained bat acoustic expert and call analyst, for final determination. Mr. Lindsay's resume is attached at the end of this document (Appendix F). Mr. Lindsay viewed all calls from any night with positive NLEB results, and used specific call characteristics to make a determination regarding species identification. Specifically, for myotids:

- Little brown bats were identified using a characteristic frequency (Fc) of 38-42 KHz, a longer duration and curved look (slope (Sc) 60-110). Max frequency usually below 80 kHz. Must show Myotis tail;
- Eastern small-footed bat calls were identified using a Fc of 40-45kHz. The calls were short in duration and near vertical in slope. Calls have a max frequency of 95 kHz and a slightly different look near Fc than other Myotis. Must show Myotis tail;
- NLEB were identified using a Fc of 38-42 kHz (though MYSE sometimes average slightly higher Fc than MYLU and MYSO). Shortest in duration and most vertical pulse, slight or no slope to pulse (Sc 210+). Max frequency was above 105 kHz. Must show Myotis tail. Usually quieter than other Myotis.

3.0 Results

3.1 Overall Habitat Assessment

An overview of the Project Area is depicted in Figure 1. The area is mostly wooded adjacent to the proposed limits of work. Residential and commercial development borders the project corridor to the east and the University of New Hampshire Durham campus and residential development borders the project corridor at the western end. The on-site trees consisted primarily of eastern white pine (*Pinus strobus*, northern red oak (*Quercus rubra*), red maple (*Acer rubrum*), white ash (*Fraxinus americana*), eastern hemlock (*Tsuga canadensis*), and sugar maple (*Acer saccharum*. Average diameter at breast height (DBH) was approximately 6-14 inches with larger trees scattered throughout. Multiple snags and potential roost trees (PRTs) were identified along the project corridor. Details of the habitat at the detector locations are described in Section 3.2.

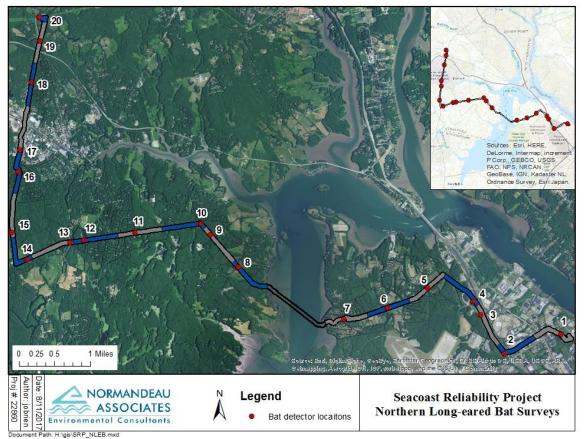


Figure 1. Overview of the Project Area showing 1-km survey segments

3.2 Deployment Details

The survey was conducted from July 17 – July 22, 2017 and the detectors were programed to run from 19:32 UTC until 6:01 UTC the following morning. The detectors were placed in twenty different locations along the project corridor (Figures A-1 through A-20, Appendix A, and Table 1). The detectors were placed at least 200 m apart, as per USFWS guidelines. Details of the survey for each of the recording nights are summarized in Table 1 and specifications of the detectors and microphones used are summarized in Table 2.

The hourly weather conditions from Pease Airforce Base/Portsmouth (KPSM) and Rochester – Skyhaven Airport (KDAW), the NOAA weather reporting station nearest to Portsmouth, Newington and Durham, and Madbury, respectively, are presented in Appendix B for each of the survey nights.

Table 1.Deployment Details

Detector	Detector Night	Lat	Long	Begin Time	End Time	Sunset	Hi Temp (°F)*	Low Temp (°F)*	Max Wind (mph)*	Weather
Segment 1	7/17/2017	43.095272	-70.789406	19:32	6:01	20:20	71	67	SE 9	Cloudy
Segment 1	7/18/2017	43.095272	-70.789406	19:32	6:01	20:19	72	67	SE 7	Cloudy
Seement 2	7/17/2017	43.091469	-70.804916	19:32	6:01	20:20	71	67	SE 9	Cloudy
Segment 2	7/18/2017	43.091469	-70.804916	19:32	6:01	20:19	72	67	SE 7	Cloudy
Second 2	7/19/2017	43.099350	-70.811264	19:32	6:01	20:18	82	75	W 6	Cloudy
Segment 3	7/20/2017	43.099350	-70.811264	19:32	6:01	20:18	74	68	SE 5	Cloudy
Second 4	7/19/2017	43.102100	-70.813438	19:32	6:01	20:18	82	75	W 6	Cloudy
Segment 4	7/20/2017	43.102100	- 70.813438	19:32	6:01	20:18	74	68	SE 5	Cloudy
6	7/17/2017	43.104870	-70.825935	19:32	6:01	20:20	71	67	SE 9	Cloudy
Segment 5	7/18/2017	43.104870	-70.825935	19:32	6:01	20:19	72	67	SE 7	Cloudy
6 16	7/17/2017	43.100899	-70.837082	19:32	6:01	20:20	71	67	SE 9	Cloudy
Segment 6	7/18/2017	43.100899	-70.837082	19:32	6:01	20:19	72	67	SE 7	Cloudy
C	7/17/2017	43.098751	-70.849075	19:32	6:01	20:20	71	67	SE 9	Cloudy
Segment 7	7/18/2017	43.098751	-70.849075	19:32	6:01	20:19	72	67	SE 7	Cloudy
C (9	7/19/2017	43.109482	-70.878105	19:32	6:01	20:19	82	75	W 6	Cloudy
Segment 8	7/20/2017	43.109482	-70.878105	19:32	6:01	20:18	74	68	SE 5	Cloudy
S	7/19/2017	43.116035	-70.885574	19:32	6:01	20:19	82	75	W 6	Cloudy
Segment 9	7/20/2017	43.116035	-70.885574	19:32	6:01	20:18	74	68	SE 5	Cloudy
Seemant 10	7/19/2017	43.118389	-70.888206	19:32	6:01	20:19	82	75	W 6	Cloudy
Segment 10	7/20/2017	43.118389	-70.888206	19:32	6:01	20:18	74	68	SE 5	Cloudy
Segment 11	7/19/2017	43.116657	-70.906433	19:32	6:01	20:19	82	75	W 6	Cloudy
Segment 11	7/20/2017	43.116657	-70.906433	19:32	6:01	20:18	74	68	SE 5	Cloudy
Sammer (12	7/20/2017	43.115269	-70.920456	19:32	6:01	20:18	74	68	SE 5	Cloudy
Segment 12	7/21/2017	43.115269	-70.920456	19:32	6:01	20:18	82	76	W 7	Cloudy
6	7/20/2017	43.114765	-70.924316	19:32	6:01	20:18	74	68	SE 5	Cloudy
Segment 13	7/21/2017	43.114765	-70.924316	19:32	6:01	20:18	82	76	W 7	Cloudy
Segment 14	7/18/2017	43.111660	-70.936157	19:32	6:01	20:20	72	67	SE 7	Cloudy
Segment 14	7/19/2017	43.111660	-70.936157	19:32	6:01	20:19	82	75	W 6	Cloudy
Seemant 15	7/18/2017	43.116936	-70.940422	19:32	6:01	20:20	72	67	SE 7	Cloudy
Segment 15	7/19/2017	43.116936	-70.940422	19:32	6:01	20:19	82	75	W 6	Cloudy
Segment 16	7/17/2017	43.129162	-70.938515	19:32	6:01	20:21	71	67	SE 9	Cloudy
Segment 10	7/18/2017	43.129162	-70.938515	19:32	6:01	20:20	72	67	SE 7	Cloudy
C	7/17/2017	43.133644	-70.937981	19:32	6:01	20:21	71	67	SE 9	Cloudy
Segment 17	7/18/2017	43.133644	-70.937981	19:32	6:01	20:20	72	67	SE 7	Cloudy
6	7/18/2017	43.147209	-70.934586	19:32	6:01	20:20	72	67	SE 7	Cloudy
Segment 18	7/19/2017	43.147209	-70.934586	19:32	6:01	20:19	82	75	W 6	Cloudy

Detector	Detector Night	Lat	Long	Begin Time	End Time	Sunset	Hi Temp (°F)*	Low Temp (°F)*	Max Wind (mph)*	Weather
Essent 10	7/18/2017	43.155506	-70.932144	19:32	6:01	20:20	72	67	SE 7	Cloudy
Segment 19	7/19/2017	43.155506	-70.932144	19:32	6:01	20:19	82	75	W 6	Cloudy
6	7/19/2017	43.160240	-70.932083	19:32	6:01	20:19	81	73	NW 7	Fair
Segment 20	7/20/2017	43.160240	-70.932083	19:32	6:01	20:18	74	71	S 3	Fair

*High temp, low temp, and max wind within the first five hours of survey.

White segments are located within Portsmouth, Newington, or Durham and use Pease Airforce Base NOAA station. Blue segment is located within Madbury and used Rochester-Skyhaven Airport NOAA station.

Detector Setting	Specification	Microphone Setting	Specification
Threshold	21	Frequency range	1 to 125 KHz
TE	1	Dynamic range	> 90 dB (Full BW); > 96 dB (Audio BW)
Dur	1.7	Range limits	(SPL +/- 3 dB); Max: 90 dB
Idle	1.7	Min	0 dB (Full) / -6 dB (audio) Interface: USB 2.0
Delay	0	Output format	16-bit offset binary, 250Ksps
Low F	15		
High F	125		
PopFilt	On		
PwrSave	On		

Table 2. Acoustic Monitoring Equipment Settings

Individual descriptions of the habitat in the locations where each detector was placed follow below, and photos of the detector set-ups and habitat are presented in Appendix C.

- Segment 1 The detector was deployed along a woodland edge in the powerline rightof-way (ROW) near the Portsmouth Transmission Station. The surrounding habitat consisted of open, mowed ROW on most sides, and predominantly shrubs and saplings to the west, with larger trees within one-quarter mile. Although the area was mostly dominated by shrubs, tree species in the surrounding area included ash, sugar maple, box elder, and quaking aspen. Ash was the dominant tree species with a maximum DBH of six inches. Surrounding shrub, sapling and tree DBH ranged on average from 1-3 inches, and the tree canopy was open.
- Segment 2 The detector was deployed adjacent to a woodland edge near Route 4, facing north in the powerline ROW. A freshwater emergent and scrub/shrub wetland was present at the site. The surrounding habitat consisted of deciduous and coniferous trees such as red maple, eastern hemlock, ash, and eastern white pine. Red maple was the dominant tree species with a maximum DBH of approximately 12 inches, followed by eastern hemlock with an average DBH of 5 to 10 inches, eastern white pine with an average DBH of roughly 8-24 inches and ash. The canopy cover at this location was open.
- Segment 3 The detector was deployed near Route 4, facing south, adjacent to the woodland edge in the powerline ROW. The surrounding habitat consisted of mostly hardwood tree species such as red maple, white ash, and cherry. Red maple and white ash were the dominant species, and with a maximum DBH of approximately 16 inches. On average, red maples ranged from 4-12 inch DBH, white ash ranged from 3-16 inch DBH, and a lone cherry was approximately 12 inches DBH. Snags were present at this detector location. The canopy at this location was approximately 10 percent closed.
- Segment 4 The detector was deployed near Route 4, facing west in a gas pipeline ROW, adjacent to the woodland edge and near a small, freshwater emergent wetland. The surrounding habitat consisted of deciduous and coniferous trees such as northern red oak, red maple, white ash, and eastern white pine. Eastern white pine and white ash were the dominant tree species with a maximum DBH of approximately 20 inches, and an average of 6-20 and 4-12 inch DBH, respectively, followed by red maple averaging 14 inch DBH, and northern red oak at 4 inch DBH. The canopy was approximately 20 percent closed (placed close to the woodland edge to avoid the underground gas pipeline).
- Segment 5 The detector was deployed in the existing powerline ROW facing northeast toward an open field in a moderately saturated area. The surrounding habitat consisted of deciduous and coniferous trees such as white ash, northern red oak, red maple, eastern white pine, and American beech, for an average DBH of 6-14 inches. Northern red oak and red maple were the most dominant species, with an average DBH of 6-12

and 10-18 inches, respectively. The canopy was approximately 10 percent closed at this location.

- Segment 6 The detector was deployed at the edge of a hay field facing west to a wooded powerline transmission corridor. Between the detector and the forest opening was a large, freshwater emergent and scrub/shrub wetland dominated by speckled alder and broad-leafed cattail. The surrounding habitat consisted of deciduous and coniferous trees such as northern red oak, eastern white pine, and quaking aspen. Northern red oak was the dominant tree species with a maximum DBH of approximately 24 inches. The canopy was open at this location.
- Segment 7 The detector was deployed in a small canopy opening (approximately 20 feet by 15 feet) east of the intersection of Little Bay Road and Gundalow Landing, facing south-southwest over a small, freshwater pond. A small wooden shed was present to the southeast of the detector, and several snags and cavities were in the surrounding area. The adjacent habitat consisted of deciduous and coniferous trees such as eastern white pine, northern red oak, and red maple. Eastern white pine was the dominant tree species with a maximum DBH of approximately 28 inches and average DBH of 12-24 inches, followed by northern red oak with an average DBH of 1-8 inches, and red maple with an average DBH of 3-14 inches.
- Segment 8 The detector was deployed in the powerline ROW facing south. Wetlands were present to the north (cattails and speckled alders) and east (cattails) with shrubs and larger DBH trees to the south. The dominant tree of the area was eastern white pine, with speckled alder, northern red oak, quaking aspen, white ash, and red maple also present. The average DBH for all trees at this location was 4-16 inches. The DBH for white pine ranged on average from 6-18 inches, 4-8 inches for northern red oak, 6-10 inches for quaking aspen, 3 inches for red maple, and 4-8 inches for white ash. Snags were present to the east.
- Segment 9 The detector was deployed in the powerline ROW facing north, adjacent to the woodland edge. The surrounding habitat consisted of deciduous and coniferous trees such as eastern white pine, northern red cedar, quaking aspen, northern red oak, and white ash. Eastern white pine, northern red oak, and northern red cedar were most dominant at this location, with an average DBH for all trees in the area at approximately 6-12 inches. Average DBH for eastern white pine was 5-20 inches, 3-16 inches for northern red oak, 3-7 inches for northern red cedars, 6 inches for quaking aspen, and 8 inches for white ash. The canopy was open at this location.
- Segment 10 The detector was deployed in the powerline ROW facing south over a large, freshwater emergent and scrub/shrub wetland, adjacent to the woodland edge. The surrounding habitat consisted of deciduous and coniferous trees such as northern red oak, sugar maple, eastern white pine and speckled alder. The average DBH for trees in the area was 4-12 inches. Sugar maple and eastern white pine were the dominant tree species with an average DBH of approximately 3-8 inches and 3-18 inches, respectively,

followed by northern red oak with an average DBH of 8-12 inches and speckled alder with an average DBH of 1 inch. Snags were present southwest of the detector and the canopy was open.

- Segment 11 The detector was deployed along a woodland edge in the powerline ROW facing east. The surrounding habitat consisted of deciduous and coniferous trees with an average DBH of 8-10 inches. Dominant trees included eastern hemlock, northern red oak, and eastern white pine. Black birch was also present. The average DBH for eastern hemlock was 6-18 inches, 8-10 inches for northern red oak, and 7-18 inches for eastern white pine. The canopy was open at this location.
- Segment 12 The detector was deployed along a woodland edge in the powerline ROW facing northwest, adjacent to a residential neighborhood. The surrounding habitat consisted of deciduous and coniferous trees such as red maple, eastern white pine, white ash, and northern red oak. Red maple, eastern white pine and northern red oak were the dominant tree species. Trees in the surrounding area had an average DBH of approximately 6-22 inches, with a maximum DBH of about 24 inches (eastern white pine). The canopy was open at this location.
- Segment 13 The detector was deployed near Route 108, facing east in the powerline ROW adjacent to the woodland edge. A small emergent wetland was west of the detector location, and a large, ponded wetland was to the east. The surrounding habitat consisted of hardwood and softwood tree species such as red maple, ash, hickory, sugar maple and eastern white pine. Eastern white pine was the dominant species, with an average DBH of approximately 12-24 inches. Average DBH for all trees in the surrounding area was roughly 6-12 inches. Snags and cavities were present adjacent to the detector. The canopy was open at this location.
- Segment 14 The detector was deployed in the powerline ROW, adjacent to the woodland edge facing east over a freshwater emergent, scrub/shrub wetland. The surrounding habitat consisted of deciduous and coniferous trees such as northern red oak, red maple, eastern white pine, spruce, hickory, and eastern hemlock. Eastern white pine was the dominant tree species with an average DBH of approximately 8-28 inches. The canopy was open at this location.
- Segment 15 The detector was deployed in the powerline ROW facing south. The adjacent ROW was dominated by glossy buckthorn saplings roughly ten feet tall or less. The forest to the west of the detector consisted of deciduous and coniferous trees such as northern red oak, red maple, eastern white pine, and quaking aspen. The average DBH for these trees was about 8-14 inches, and the most dominant species were eastern white pine and northern red oak. A train track ran parallel to the ROW to the west. The canopy was open at this location.
- Segment 16 The detector was deployed along the forest edge at Durham substation in the powerline ROW. Train tracks ran parallel to the ROW, and several large DBH northern red oak trees surrounded the cleared substation area. The average DBH for

trees at this location was approximately 6-18 inches and consisted almost exclusively of northern red oak and sugar maple. Northern red oak was the dominant tree species with a maximum DBH of approximately 24 inches. The canopy was open at this location.

- Segment 17 The detector was deployed in the powerline ROW parallel to train tracks and adjacent to the woodland edge. The surrounding habitat consisted of deciduous and coniferous trees such as eastern white pine, northern red oak, red maple, black locust, and cherry. Eastern white pine was the dominant tree species with a maximum DBH of approximately 24 inches and average DBH of 18-20 inches. The canopy was open at this location.
- Segment 18 The detector was deployed in the powerline ROW in a small emergent wetland, parallel to train tracks. The adjacent ROW was overgrown with glossy buckthorn saplings approximately ten feet tall or less. Trees were a mix of hardwoods and conifers including eastern white pine, northern red oak, red maple, and eastern hemlock. The average DBH for all trees at this location was 8-10 inches. Eastern white pine and red maple were the dominant tree species, with average DBHs of 6-22 inches and 4-8 inches respectively. A snag with cavities was present at this location
- Segment 19 The detector was deployed in the powerline ROW facing south, adjacent to Route 4 and along the woodland edge. A metal bridge was southeast of the detector and an emergent and scrub/shrub wetland was to the south. The surrounding forest consisted of deciduous and coniferous trees such as eastern hemlock, quaking aspen, northern red oak, red maple, shagbark hickory, eastern white pine, American beech, white oak, and ash. Eastern hemlock was most dominant and had an average DBH of 4-28 inches. The canopy was open at this location.
- Segment 20 The detector was deployed in the powerline ROW at the Madbury substation facing southwest, adjacent to the forest edge. The surrounding habitat consisted of deciduous and coniferous trees such as northern red oak, red maple, eastern white pine, white ash, and shagbark hickory. The average DBH for trees in the area was 10-16 inches. Eastern white pine was the most dominant tree species followed by red maple and northern red oak. Snags with cavities were present at this location and the canopy was open.

3.3 Survey Results

The number of calls recorded by species and location are presented in Table 3. Blue cells are those with likelihood of presence values <0.05 and correspond to species considered by KPro to be present. If KPro identifies NLEB presence at any location, that segment must be reviewed manually per USFWS Guidelines. If the call analyst cannot definitively rule out NLEB based on definitive call markers, species presence is assumed. Alternatively, based on definitive call markers, the call analyst can confirm the KPro finding or identify additional calls as NLEB that KPro identified as a different species. Bat calls were recorded at all twenty survey sites. Calls

from seven species, consisting of big brown bat, eastern red bat, hoary bat, silver-haired bat, eastern small-footed bat, little brown bat, and northern long-eared bat, were recorded with p-values of less than 0.05. Number of calls is not necessarily indicative of number of bats present, as one bat could produce 50 calls flying within range of the acoustic detector multiple times over, or alternatively, 10 or more bats can pass once in front of the detector calling five times each.

Location	Detector Night	EPFU (Big brown)	LABO (Eastern red)	LACI (Hoary)	LANO (Silver- haired)	MYLE (Eastern small- footed)	MYLU (Little brown)	MYSE (NLEB)	PESU (Tri- colored)
Number of C	Calls Reco	rded:							
Segment 1	7/17/2017	7			5				
Segment 1	7/18/2017	18	1	2	15		1		
Segment 2	7/17/2017	23	12	3	16	1	1	1	
Segment 2	7/18/2017	55	5	3	35				
Segment 3	7/19/2017	284	53	9	167		1		2
Segment 5	7/20/2017	217	47	11	93		8		
Segment 4	7/19/2017	662	125	8	557		3		
Segment 4	7/20/2017	575	75	10	280				
Second F	7/17/2017	388	36	10	94		1		1
Segment 5	7/18/2017	291	17	3	65		2		
Segment 6	7/17/2017	39	5	2	25	1	4		
Segment o	7/18/2017	23	5	2	7		1		
Segment 7	7/17/2017	89	2	9	52		2		
Segment 7	7/18/2017	95	3	11	35		11		
Segment 8	7/19/2017	302	7	20	117		3	1	
Segment o	7/20/2017	204	9	6	106		4		
Segment 9	7/19/2017	418	10	26	199		9	1	
Segment 9	7/20/2017	429	34	9	230		6		
Segment 10	7/19/2017	271	9	34	182		10		
Segment 10	7/20/2017	175	4	35	151	1	19		
Segment 11	7/19/2017	493	9	132	449	1	11	1	
Jegment 11	7/20/2017	636	15	110	584	3	6	1	
Segment 12	7/20/2017	266	16	68	230		6		
Jegment 12	7/21/2017	230	7	40	242		2		

Table 3.	Acoustic Survey Results by Date, Site and Species. Cells highlighted in blue meet the
	threshold values for a positive identification by KPro software. ²

² P-values for all calls in Table 3 are provided in Appendix D.

Location	Detector Night	EPFU (Big brown)	LABO (Eastern red)	LACI (Hoary)	LANO (Silver- haired)	MYLE (Eastern small- footed)	MYLU (Little brown)	MYSE (NLEB)	PESU (Tri- colored)
C	7/20/2017	102	4	26	45	2	4		
Segment 13	7/21/2017	127	13	10	28	1	8		
6 114	7/18/2017	209	6	4	131		8	2	
Segment 14	7/19/2017	224	12	14	373		7		1
6 (15	7/18/2017	57	5	3	14		2		
Segment 15	7/19/2017	181	19	8	53				
6 11	7/17/2017	206	7	10	118			1	
Segment 16	7/18/2017	237	3	12	91		4	1	
S	7/17/2017	12	2	42	11				
Segment 17	7/18/2017	23	2	85	32				
Common t 19	7/18/2017	224	137	45	277	2	4		4
Segment 18	7/19/2017	368	159	115	382		5		3
Second and 10	7/18/2017	279	12	21	83		10		1
Segment 19	7/19/2017	328	4	15	156		1	1	
Segment 20	7/19/2017	194	18	12	64		5		
Segment 20	7/20/2017	138	43	5	37		10	1	

EPFU= Eptesicus fuscus, LABO= Lasiurus borealis, LACI= Lasiurus cinereus, LANO= Lasionycteris noctivagans, MYLE= Myotis leibii, MYLU= Myotis lucifiugus, MYSE= Myotis septentrionalis, PESU= Perimyotis subflavus.

3.3.1 Northern Long-eared Bat

KPro software identified NLEB calls at Segments 16 and 19, and the manual review of these calls could not rule out this finding (Table 4). During manual review of other segments for state listed species, NLEB calls were identified at two additional segments, 14 and 18. A summary of the call analyst's findings for segments 14, 16, 18 and 19 is presented in Appendix E.

Segment		(LE n small- ted)		(LU brown)		(SE .EB)		SU lored)
	Крго	NAI analyst	Крго	NAI analyst	Крго	NAI analyst	Kpro	NAI analyst
1								
2	1							
3								
4								
5								
6	1		4	4				
7			11	14				
8								
9			9	9				
10	1	1	29	28				
11	4	1	11	8				
12			6	9				
13	3		12	14				
14			15	13		1**	1	
15								
16			4	3	1	1**		
17								
18	2	1		1		1**	4	
19			10	6	1	1**	1	
20			10	2				

Table 4. Number of Calls of State Listed Species Identified by KPro Software and Manual Analysis*

MYLE= Myotis leibii, MYLU= Myotis lucifiugus, MYSE= Myotis septentrionalis, PESU= Perimyotis subflavus.

*For the State listed species, if KPro identified potential calls of those species, the analyst considered all calls with a minimum frequency of 35 kH (minimum frequency for Myotis species), so it was possible for the analyst to identify either more, or fewer, calls than Kpro.

**Counts denoted with an asterisk were identified as potential MYSE, meaning that the call met ID parameters for MYSE but overlapped with other species markers and thus other similar species could not be ruled out.

4.0 Management Implications

- Under the 4(d) rule issued by the USFWS as part of the listing documentation for the NLEB, the USFWS does not consider removing forested habitat a threat to this species because suitable habitat is abundant.
- Cutting trees poses some direct risk to NLEB if they are trapped in a tree that is felled. This risk is greatest to pups which cannot fly to escape a felled tree.

- Under the 4(d) rule, time-of-year (TOY) cutting restrictions are required within 150 feet of known maternity roosts or 0.25 miles of a known hibernaculum, to minimize the potential for trees to be felled when bats are present.
- There are no known maternity roosts or hibernacula within 0.25 miles of ROW, therefore, the TOY cutting restrictions do not apply to the project.
- Although TOY cutting restrictions do not apply to the Project area, avoiding tree clearing during the maternity season (June 1 to July 30) greatly reduces the potential for direct impacts to NLEB.
- Within the segments where NLEB calls were identified, the proposed clearing width ranges from none (Segment 14) to 40 feet (Segment 19).
- Because the tree clearing is relatively minimal, the effects of the clearing on NLEB is expected to be minimal as well. Where possible, Eversource will perform the tree clearing outside of the maternity season.

Appendix A Figures

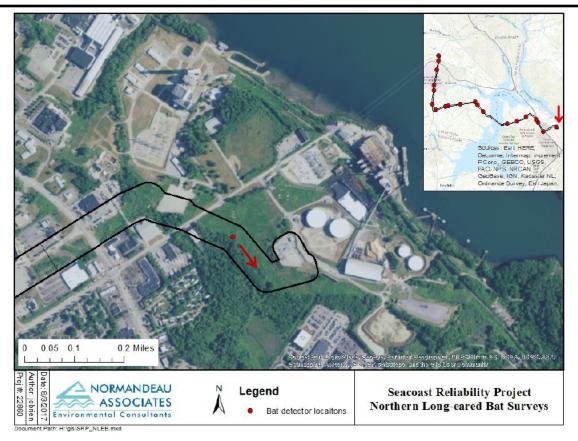
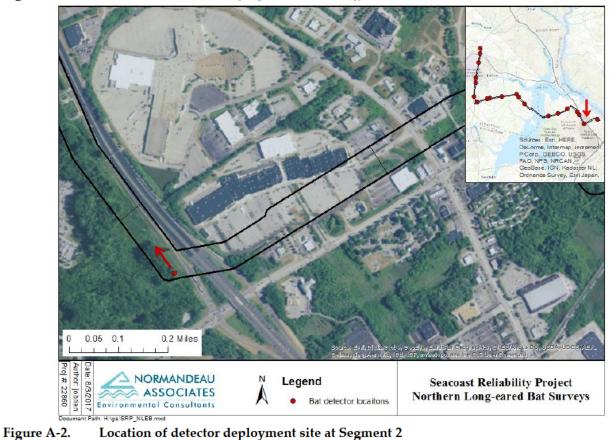


Figure A-1. Location of detector deployment site at Segment 1



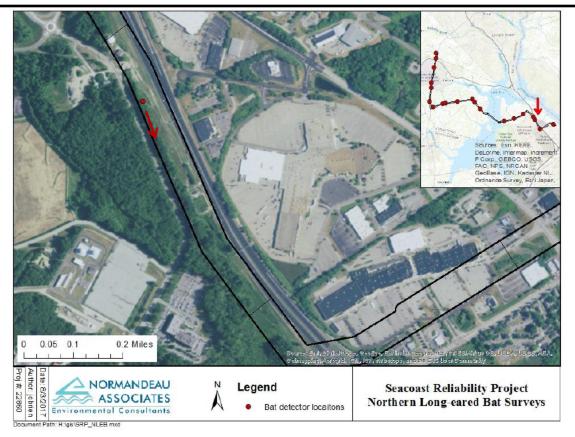


Figure A-3. Location of detector deployment sites at Segment 3

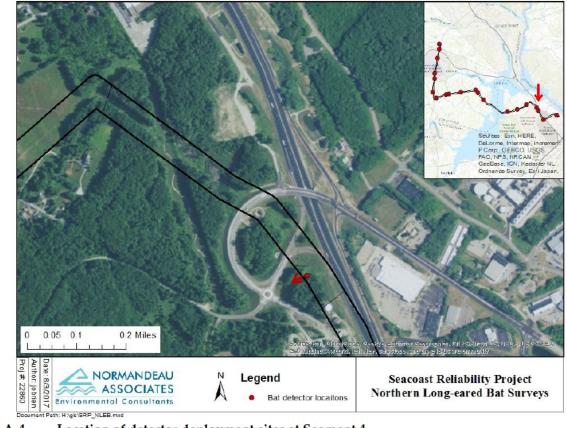


Figure A-4. Location of detector deployment sites at Segment 4

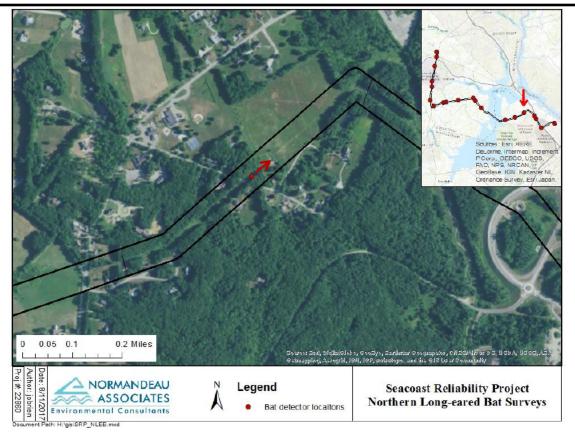
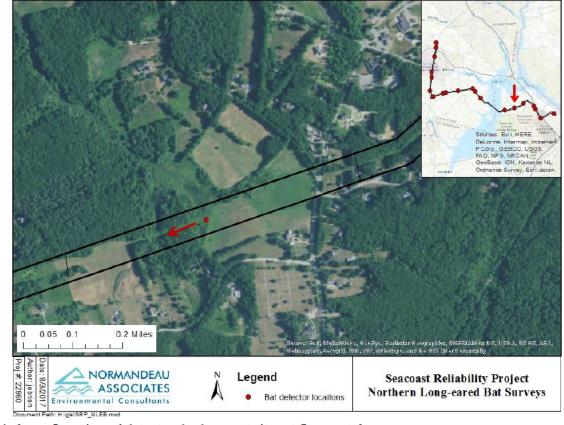


Figure A-5. Location of detector deployment sites at Segment 5





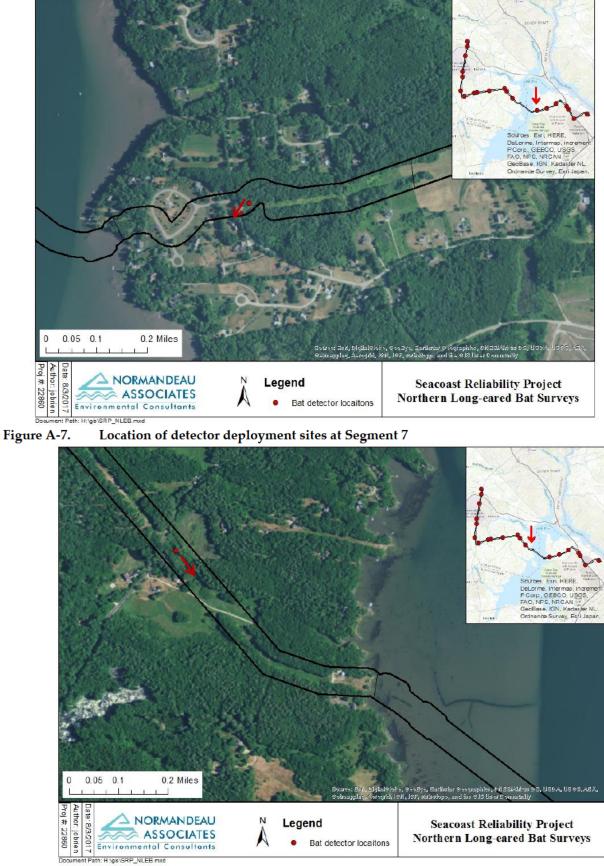


Figure A-8. Location of detector deployment site at Segment 8

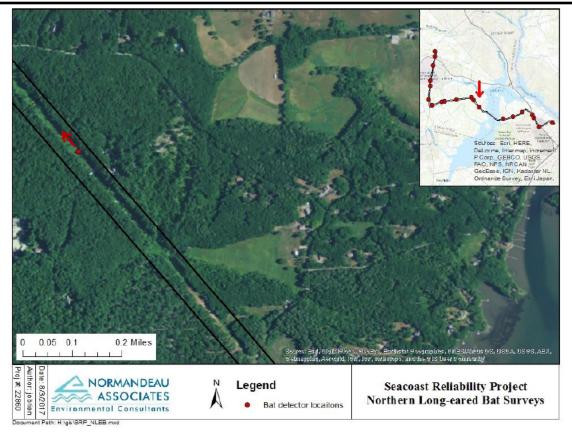


Figure A-9. Location of detector deployment sites at Segment 9

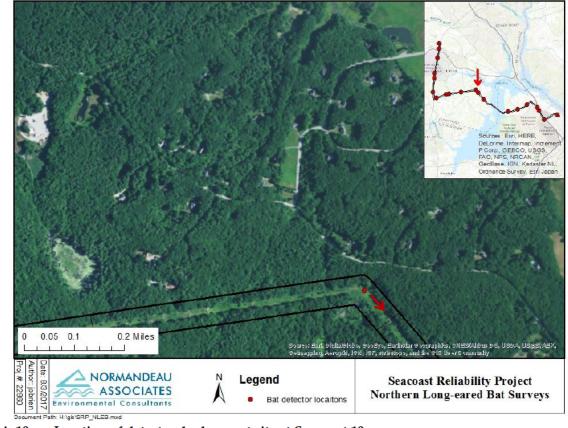


Figure A-10. Location of detector deployment site at Segment 10

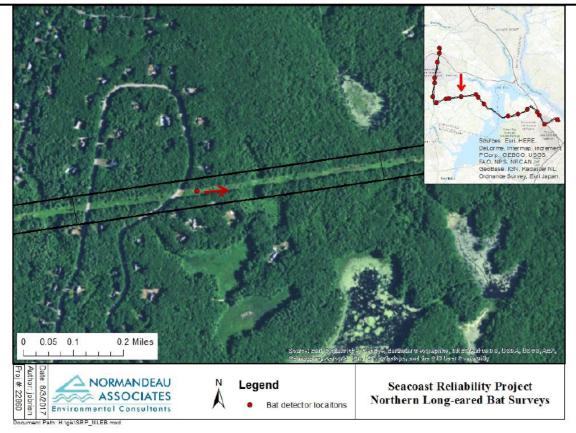


Figure A-11. Location of detector deployment site at Segment 11

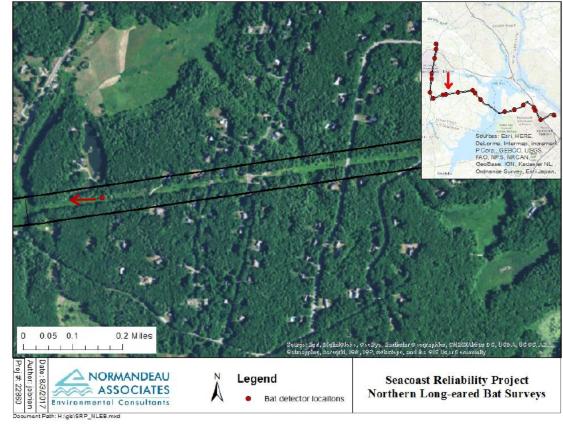


Figure A-12. Location of detector deployment site at Segment 12

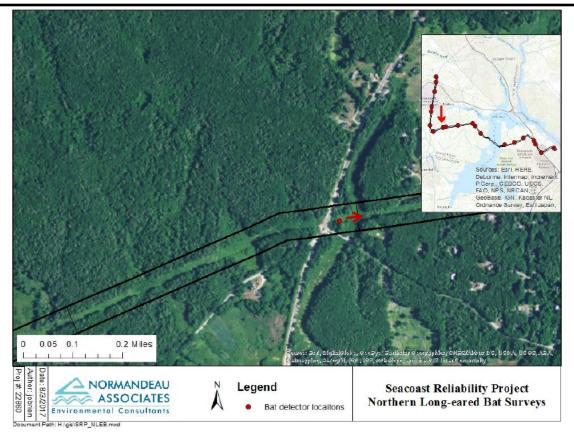


Figure A-13. Location of detector deployment site at Segment 13

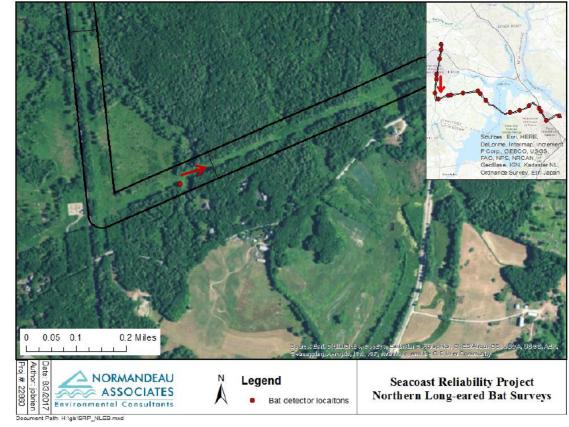


Figure A-14. Location of detector deployment site at Segment 14

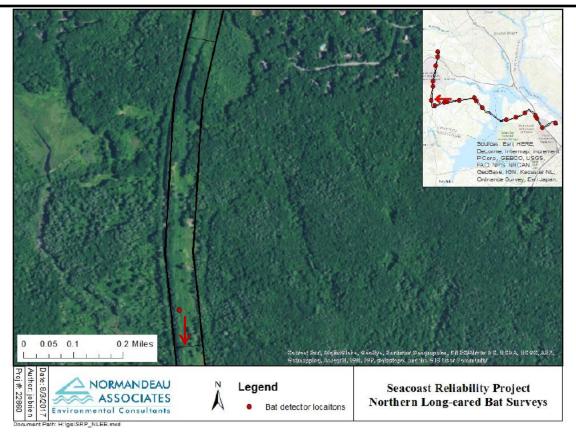


Figure A-15. Location of detector deployment site at Segment 15

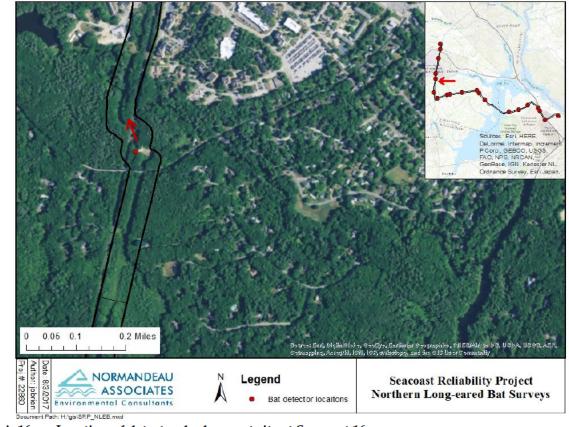


Figure A-16. Location of detector deployment site at Segment 16

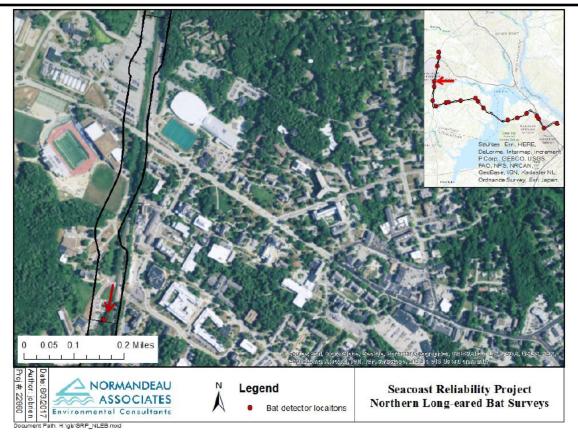


Figure A-17. Location of detector deployment site at Segment 17

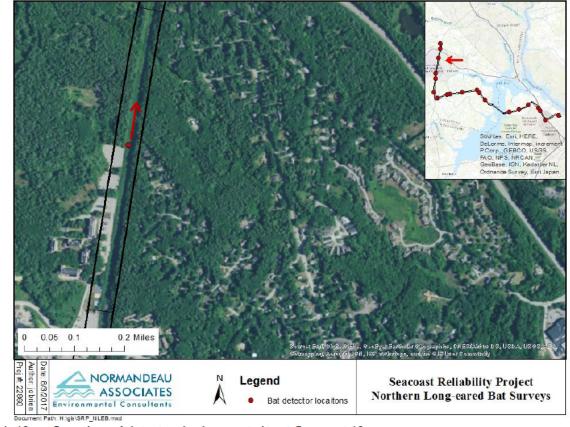


Figure A-18. Location of detector deployment site at Segment 18

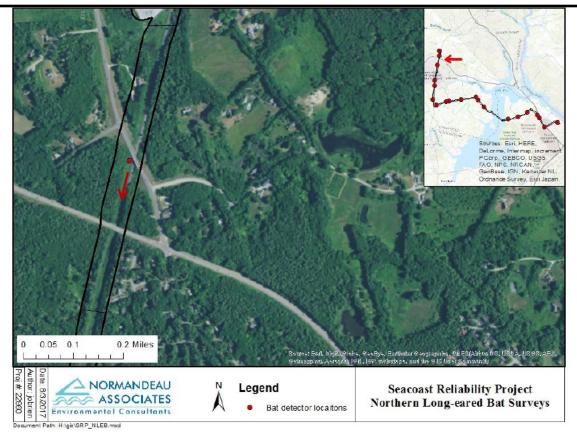


Figure A-19. Location of detector deployment site at Segment 19

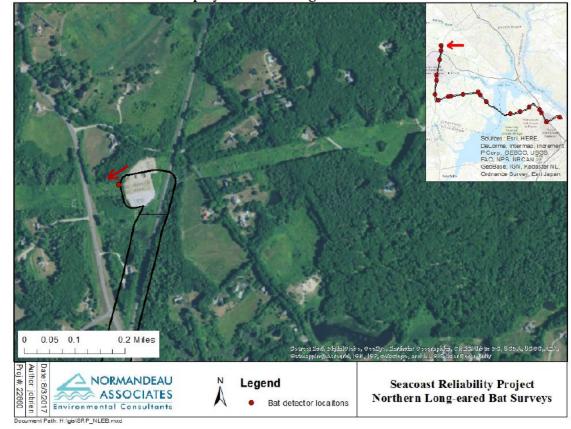


Figure A-20. Location of detector deployment site at Segment 20

Appendix B Weather Data

 Table B-1. Hourly weather conditions during the survey period in Portsmouth, Newington, and Durham, as reported by the NOAA weather station at Pease Airforce Base/Portsmouth (KPSM).

Date	Time	Wind	Vis.	W. d	Sky		Tempera	ature (ºF)	Relative	Wind Chill	Heat Index	Pres	sure	Pre	cipitat (in.)	ion
Date	(edt)	(mph)	(mi.)	Weather	Cond.	Air	Dent	6 h	our	Humidity	(°F)	Index (°F)	altimeter	sea level	1	3	6
						Air	Dwpt	Max	Min		(-)	(-)	(in)	(mb)	hr	hr	hr
18	6:58	Calm	7	Overcast	OVC005	67	65			93%	NA	NA	30.09	1019.2			
18	5:58	Calm	7	Mostly Cloudy	BKN008 BKN080	65	64			97%	NA	NA	30.09	1019.2			
18	4:58	Calm	7	Partly Cloudy	SCT026	65	64			96%	NA	NA	30.08	1018.9			
18	3:58	Calm	7	Overcast	OVC024	66	65			96%	NA	NA	30.07	1018.6			
18	2:58	SE 6	10	Mostly Cloudy	BKN023	66	<mark>6</mark> 5			96%	NA	NA	30.07	1018.6			
18	1:58	E 6	10	Mostly Cloudy	FEW055 BKN250	65	63	71	65	94%	NA	NA	30.08	1018.9			
18	0:58	NE 7	10	Mostly Cloudy	SCT055 BKN250	66	63			90%	NA	NA	30.09	1019.2			
17	23:58	N 3	10	Mostly Cloudy	FEW100 BKN250	67	63			87%	NA	NA	30.1	1019.6			
17	22:58	SE 6	10	Mostly Cloudy	FEW100 BKN250	68	63			84%	NA	NA	30.09	1019.2			
17	21:58	SE 8	10	Mostly Cloudy	FEW100 BKN250	69	63			82%	NA	NA	30.07	1018.6			
17	20:58	SE 9	10	Mostly Cloudy	FEW150 BKN250	69	64			82%	NA	NA	30.05	1017.9			
17	19:58	SE 9	10	Mostly Cloudy	FEW150 BKN250	71	<mark>6</mark> 5	82	71	80%	NA	NA	30.05	1017.9			
17	18:58	SE 13	10	Mostly Cloudy	FEW050 SCT150 BKN250	73	66			79%	NA	NA	30.05	1017.9			
17 July																	
19	6:58	Calm	0.06	Fog	VV001	67	67			100%	NA	NA	30.02	1016.8			
19	5:58	Calm	0.06	Fog	VV001	66	66			99%	NA	NA	30.02	1016.7			
19	4:58	Calm	0.06	Fog	VV001	67	66			98%	NA	NA	30.02	1016.7			

Dí	Time	Wind	Vis.	W. d	Sky		Temper	ature (ºH	²)	Relative	Wind Chill	Heat	Pres	sure	Pre	cipitat (in.)	ion
Date	(edt)	(mph)	(mi.)	Weather	Cond.			6 h	our	Humidity	(°F)	Index (°F)	altimeter	sea level	1	3	6
						Air	Dwpt	Max	Min		(1)	(1)	(in)	(mb)	hr	hr	hr
19	3:58	Calm	0.25	Fog	VV001	67	66			97%	NA	NA	30.01	1016.5			
19	2:58	Calm	3	Fog/Mist	OVC003	66	66			98%	NA	NA	30.01	1016.5			
19	1:58	Calm	7	Partly Cloudy	SCT003	66	6 5	72	66	96%	NA	NA	30.01	1016.5			
19	0:58	Calm	10	Fair	CLR	66	65			96%	NA	NA	30.02	1016.9			
18	23:58	Calm	10	Fair	CLR	67	65			95%	NA	NA	30.03	1017.2			
18	22:58	Calm	10	Fair	CLR	68	66			93%	NA	NA	30.03	1017.2			
18	21:58	E 3	10	A Few Clouds	FEW200	69	<mark>6</mark> 6			92%	NA	NA	30.04	1017.5			
18	20:58	SE 5	10	A Few Clouds	FEW045 FEW200	71	68			88%	NA	NA	30.03	1017.2			
18	19:58	SE 7	10	Partly Cloudy	SCT046 SCT200	72	68	81	72	86%	NA	NA	30.02	1016.9			0.0 1
18	18:58	S 5	10	A Few Clouds	FEW030 FEW200	77	69			78%	NA	79	30.02	1016.9			
18 July																	
20	6:58	W 6	10	A Few Clouds	FEW100 FEW250	73	65			76%	NA	NA	29.93	1013.7			
20	5:58	Calm	10	Partly Cloudy	FEW080 FEW110 SCT200	69	65			87%	NA	NA	29.92	1013.4			
20	4:58	Calm	10	A Few Clouds	FEW080 FEW250	67	65			93%	NA	NA	29.92	1013.3			
20	3:58	Calm	10	A Few Clouds	FEW080 FEW250	67	65			91%	NA	NA	29.91	1013			
20	2:58	Calm	10	Partly Cloudy	SCT080 SCT250	70	66			86%	NA	NA	29.91	1013			
20	1:58	Calm	10	Partly Cloudy	FEW150 SCT250	71	6 5	82	70	82%	NA	NA	29.92	1013.3			
20	0:58	Calm	10	Partly Cloudy	FEW150 SCT250	70	65			85%	NA	NA	29.93	1013.7			

Date	Time	Wind	Vis.	Weather	Sky		Temper	ature (ºF	²)	Relative	Wind Chill	Heat Index	Pres	sure	Pre	cipitat (in.)	ion
Date	(edt)	(mph)	(mi.)	weather	Cond.	Air	Dwpt	6 h	our	Humidity	(°F)	(°F)	altimeter	sea level	1	3	6
						Air	Dwpt	Max	Min		<- <i>/</i>	x = y	(in)	(mb)	hr	hr	hr
19	23:58	Calm	10	Mostly Cloudy	FEW150 BKN180 BKN250	75	65			71%	NA	NA	29.93	1013.7			
19	22:58	Calm	10	Mostly Cloudy	FEW150 BKN200	75	65			70%	NA	NA	29.93	1013.7			
19	21:58	W 6	10	Mostly Cloudy	SCT150 BKN210	78	65			64%	NA	80	29.93	1013.7			
19	20:58	W 6	10	Mostly Cloudy	FEW060 SCT150 BKN250	78	66			66%	NA	80	29.92	1013.4			
19	19:58	W 3	10	Partly Cloudy	FEW060 FEW150 SCT250	82	67	87	80	61%	NA	85	29.9	1012.7			
19	18:58	W 6	10	A Few Clouds	FEW060	87	68			54%	NA	91	29.89	1012.3			
19 July																	
21	6:58	W 3	10	Fair	CLR	69	62			79%	NA	NA	29.83	1010.3			
21	<mark>5:58</mark>	W 7	10	A Few Clouds	FEW250	65	61			88%	NA	NA	29.82	1010			
21	4:58	NW 3	7	A Few Clouds	FEW250	66	62			88%	NA	NA	29.81	1009.6			
21	3:58	W 5	7	Fair	CLR	67	63			87%	NA	NA	29.8	1009.3			
21	2:58	W 5	7	Fair	CLR	67	64			91%	NA	NA	29.79	1008.9			
21	1:58	W 5	10	Fair	CLR	68	64	74	68	86%	NA	NA	29.79	1008.9			
21	0:58	W 6	10	A Few Clouds	FEW250	69	65			87%	NA	NA	29.8	1009.3			
20	23:58	SW 3	8	A Few Clouds	FEW120 FEW250	68	67			96%	NA	NA	29.8	1009.3			
20	22:58	SW 6	10	Partly Cloudy	FEW120 SCT250	70	67			91%	NA	NA	29.81	1009.6			
20	21:58	Calm	10	Partly	FEW140	71	66			84%	NA	NA	29.81	1009.7			

Date	Time	Wind	Vis.	Weather	Sky		Tempera	ature (ºH	²)	Relative	Wind Chill	Heat Index	Pres	sure	Pre	cipitat (in.)	ion
Date	(edt)	(mph)	(mi.)	Weather	Cond.	Air	Dwpt	6 h	our	Humidity	(°F)	Index (°F)	altimeter	sea level	1	3	6
						AIr	Dwpt	Max	Min		× - /	x - y	(in)	(mb)	hr	hr	hr
				Cloudy	SCT250												
20	20:58	Calm	10	Mostly Cloudy	FEW060 BKN150 BKN250	73	66			81%	NA	NA	29.82	1010.1			
20	19:58	SE 5	10	Mostly Cloudy	FEW060 BKN140 BKN200	74	67	89	74	78%	NA	NA	29.82	1010.1			
20	18:58	SE 7	10	Mostly Cloudy	FEW060 SCT110 BKN200	76	66			73%	NA	77	29.81	1009.7			
20 July																	
22	<mark>6:</mark> 58	NW 6	10	Mostly Cloudy	FEW180 BKN250	71	62			74%	NA	NA	29.84	1010.6			
22	5:58	NW 5	10	Partly Cloudy	SCT150 SCT250	70	61			74%	NA	NA	29.82	1009.9			
22	4:58	W 3	10	Mostly Cloudy	FEW150 SCT200 BKN250	71	61			72%	NA	NA	29.81	1009.6			
22	3:58	W 5	10	Mostly Cloudy	BKN250	72	60			67%	NA	NA	29.8	1009.3			
22	2:58	W 7	10	Mostly Cloudy	BKN250	73	60			65%	NA	NA	29.8	1009.3			
22	1:58	W 7	10	Mostly Cloudy	BKN250	74	61	82	74	64%	NA	NA	29.79	1008.9			
22	0:58	W 10	10	Mostly Cloudy	BKN250	75	62			65%	NA	NA	29.8	1009.3			
21	23:58	W 9	10	Mostly Cloudy	BKN250	76	63			65%	NA	78	29.78	1008.6			
21	22:58	SW 3	10	Mostly Cloudy	BKN250	76	64			66%	NA	78	29.78	1008.6			
21	21:58	SW 3	10	Mostly Cloudy	BKN250	77	64			63%	NA	79	29.78	1008.6			

Date	Time (edt)	Wind (mph)	Vis. (mi.)	Weather	Sky	Temperature (°F)				Kelative	Wind		Pressure		Precipitation (in.)		
					Cond.	Air	Dwpt	6 h Max	our Min	Humidity	Chill (°F)	(°F)	altimeter (in)	sea level (mb)	1 hr	3 hr	6 hr
21	20:58	S 3	10	Mostly Cloudy	BKN250	78	61	Max	WIII	56%	NA	80	29.78	1008.6			
21	19:58	W 7	10	Mostly Cloudy	FEW070 BKN250	82	58	<mark>8</mark> 9	82	44%	NA	82	29.76	1007.9			
21	18:58	W 9	10	Partly Cloudy	FEW070 SCT250	<mark>8</mark> 6	61			43%	NA	86	29.75	1007.6			
21 July																	

 Table B-2. Hourly weather conditions during the survey period in Madbury, as reported by the NOAA weather station at Rochester –

 Skyhaven Airport (KDAW).

Date	Time (edt)	Wind (mph)	Vis. (mi.)	Weather	Sky Cond.	Temperature (°F)				Relative Wind Chill	Heat Index	Pressure		Precipitation (in.)			
Date						Air	Dwpt	6 h Max	our Min	Humidity	(°F)	(°F)	altimeter (in)	sea level (mb)	1 hr	3 hr	6 hr
20	6:51	Calm	10	Fair	CLR	72	64			76%	NA	NA	29.94	1013.3			
20	5:51	NW 3	10	Fair	CLR	66	61			84%	NA	NA	29.93	1013.1			
20	4:51	SW 3	10	Fair	CLR	68	62			81%	NA	NA	29.93	1012.9			
20	3:51	Calm	10	Mostly Cloudy	BKN110	66	61			84%	NA	NA	29.92	1012.6			
20	2:51	Calm	10	Fair	CLR	70	60			71%	NA	NA	29.92	1012.7			
20	1:51	NW 6	10	A Few Clouds	FEW080	70	62	81	68	76%	NA	NA	29.94	1013.4			
20	0:51	Calm	10	Fair	CLR	70	63			79%	NA	NA	29.94	1013.3			
19	23:51	NW 3	10	Fair	CLR	73	62			69%	NA	NA	29.95	1013.5			
19	22:51	NW 3	10	Fair	CLR	74	63			69%	NA	NA	29.94	1013.4			
19	21:51	NW 7	10	Fair	CLR	77	63			62%	NA	79	29.95	1013.6			
19	20:51	W 5	10	Fair	CLR	78	65			64%	NA	80	29.94	1013.2			
19	19:51	W 3	10	Fair	CLR	81	65	88	81	58%	NA	83	29.91	1012.6			
19	18:51	NW 6	10	A Few Clouds	FEW060	85	66			53%	NA	87	29.91	1012.2			
19 July																	
21	6:51	NW 6	10	Fair	CLR	65	61			87%	NA	NA	29.84	1010			
21	5:51	NW 3	10	Fair	CLR	63	59			87%	NA	NA	29.84	1010			
21	4:51	W 6	9	Fair	CLR	65	61			87%	NA	NA	29.82	1009.5			
21	3:51	Calm	10	Fair	CLR	65	61			87%	NA	NA	29.81	1008.9			
21	2:51	Calm	10	Fair	CLR	65	61			87%	NA	NA	29.81	1008.9			
21	1:51	Calm	10	Fair	CLR	68	63	74	66	84%	NA	NA	29.8	1008.7			
21	0:51	Calm	8	Fair	CLR	67	64			91%	NA	NA	29.82	1009.1			

Date	Time (edt)	Wind (mph)	Vis.	Weather	Sky Cond.	Temperature (°F)				Relative	elative Wind	Heat	Pressure		Precipitation (in.)		
			(mi.)			Air	Dwpt	6 hour		Humidity	Chill (°F)	Index (°F)	altimeter	sea level	1	3	6
								Max	Min				(in)	(mb)	hr	hr	hr
20	23:51	W 3	10	Fair	CLR	71	66			84%	NA	NA	29.82	1009.2			
20	22:51	Vrbl 5	10	Fair	CLR	72	68			87%	NA	NA	29.83	1009.5			
20	21:51	Calm	10	Fair	CLR	70	67			90%	NA	NA	29.83	1009.7			
20	20:51	S 3	10	Fair	CLR	72	68			87%	NA	NA	29.83	1009.6			
20	19:51	Calm	10	Partly Cloudy	FEW048 SCT065	74	68	90	73	82%	NA	NA	29.84	1009.9			0.0 4
20	18:51	SE 6	10	Partly Cloudy	FEW046 FEW070 SCT085	75	68			79%	NA	NA	29.83	1009.6			
20 July																	

Appendix C Photos of Detector Set-up & Habitat



Figure C-1. Segment 1 – overview of set-up.



Figure C-3. Segment 1 – facing north.



Figure C-2. Segment 1 – cone of detection.



Figure C-4. Segment 1 – facing east.



Figure C-5. Segment 1 – facing south.



Figure C-6. Segment 1 – facing west.



Figure C-7. Segment 2 – overview of set-up.



Figure C-8. Segment 2 – cone of detection.



Figure C-9. Segment 2 – facing north.



Figure C-11. Segment 2 – facing south.



Figure C-10. Segment 2 – facing east.



Figure C-12. Segment 2 – facing west.



Figure C-13. Segment 3 – overview of set-up.



Figure C-15. Segment 3 – facing north.



Figure C-14. Segment 3 – cone of detection.



Figure C-16. Segment 3 – facing east.



Figure C-17. Segment 3 – facing south.



Figure C-19. Segment 4 – overview of set-up.



Figure C-18. Segment 3 – facing west.



Figure C-20. Segment 4 – cone of detection.



Figure C-21. Segment 4 – facing north.



Figure C-23. Segment 4 – facing south.



Figure C-22. Segment 4 – facing east.



Figure C-24. Segment 4 – facing west.



Figure C-25. Segment 5 – overview of set-up.



Figure C-27. Segment 5 – facing north.



Figure C-26. Segment 5 – cone of detection.



Figure C-28. Segment 5 – facing east.



Figure C-29. Segment 5 – facing south.



Figure C-30. Segment 5 – facing west.



Figure C-31. Segment 6 – overview of set-up.



Figure C-32. Segment 6 – cone of detection.



Figure C-33. Segment 6 – facing north.



Figure C-34. Segment 6 – facing east.



Figure C-35. Segment 6 – facing south.



Figure C-36. Segment 6 – facing west.



Figure C-37. Segment 7 – overview of set-up.



Figure C-39. Segment 7 – facing north.



Figure C-38. Segment 7 – cone of detection.



Figure C-40. Segment 7 – facing east.



Figure C-41. Segment 7 – facing south.



Figure C-43. Segment 8 – overview of set-up.



Figure C-42. Segment 7 – facing west.



Figure C-44. Segment 8 – cone of detection.



Figure C-45. Segment 8 – facing north.



Figure C-47. Segment 8 – facing south.



Figure C-46. Segment 8 – facing east.



Figure C-48. Segment 8 – facing west.



Figure C-49. Segment 9 – overview of set-up.



Figure C-51. Segment 9 – facing north.



Figure C-50. Segment 9 – cone of detection.



Figure C-52. Segment 9 – facing east.



Figure C-53. Segment 9 – facing south.

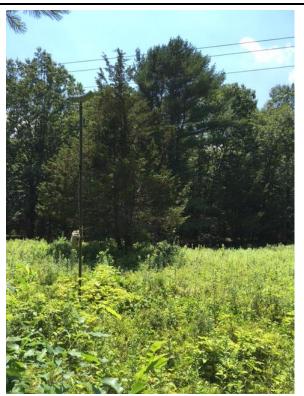


Figure C-54. Segment 9 – facing west.



Figure C-55. Segment 10 – overview of set-up.



Figure C-56. Segment 10 – cone of detection.



Figure C-57. Segment 10 – facing north.



Figure C-58. Segment 10 – facing east.



Figure C-59. Segment 10 – facing south.



Figure C-60. Segment 10 – facing west.



Figure C-61. Segment 11 – overview of set-up.



Figure C-63. Segment 11 – facing north.



Figure C-62. Segment 11 – cone of detection.



Figure C-64. Segment 11 – facing east.



Figure C-65. Segment 11 – facing south.



Figure C-66. Segment 11 – facing west.



Figure C-67. Segment 12 – overview of set-up.



Figure C-68. Segment 12 – cone of detection.



Figure C-69. Segment 12 – facing north.



Figure C-70. Segment 12 – facing east.



Figure C-71. Segment 12 – facing south.



Figure C-72. Segment 12 – facing west.



Figure C-73. Segment 13 – overview of set-up.



Figure C-74. Segment 13 – cone of detection.



Figure C-75. Segment 13 – facing north.



Figure C-76. Segment 13 – facing east.



Figure C-77. Segment 13 – facing south.



Figure C-78. Segment 13 – facing west.



Figure C-79. Segment 14 – overview of set-up.



Figure C-80. Segment 14 – cone of detection.



Figure C-81. Segment 14 – facing north.



Figure C-83. Segment 14 – facing south.



Figure C-82. Segment 14 – facing east.



Figure C-84. Segment 14 – facing west.



Figure C-85. Segment 15 – overview of set-up.



Figure C-86. Segment 15 – cone of detection.



Figure C-87. Segment 15 – facing north.



Figure C-88. Segment 15 – facing east.



Figure C-89. Segment 15 – facing south.



Figure C-91. Segment 16 – overview of set-up.



Figure C-90. Segment 15 – facing west.



Figure C-92. Segment 16 – cone of detection.



Figure C-93. Segment 16 – facing north.



Figure C-95. Segment 16 – facing south.



Figure C-94. Segment 16 – facing east.



Figure C-96. Segment 16 – facing west.



Figure C-97. Segment 17 – overview of set-up.



Figure C-99. Segment 17 – facing north.



Figure C-98. Segment 17 – cone of detection.



Figure C-100. Segment 17 – facing east.



Figure C-101. Segment 17 – facing south.



Figure C-103. Segment 18 – overview of set-up.



Figure C-102. Segment 17 – facing west.



Figure C-104. Segment 18 – cone of detection.



Figure C-105. Segment 18 – facing north.



Figure C-106. Segment 18 – facing east.



Figure C-107. Segment 18 – facing south.



Figure C-108. Segment 18 – facing west.



Figure C-109. Segment 19 – overview of set-up.



Figure C-110. Segment 19 – cone of detection.



Figure C-111. Segment 19 – facing north.



Figure C-112. Segment 19 – facing east.



Figure C-113. Segment 19 – facing south.



Figure C-115. Segment 20 – overview of set-up.



Figure C-114. Segment 19 – facing west.



Figure C-116. Segment 20 – cone of detection.



Figure C-117. Segment 20 – facing north.



Figure C-119. Segment 20 – facing south.



Figure C-118. Segment 20 – facing east.



Figure C-120. Segment 20 – facing west.

Appendix D Corresponding P-values for Table 3

Table D-1. Corresponding P-values from Table 3. Values highlighted in blue are those with values lessthan 0.05, the threshold necessary for KPro to make a positive identification.

Location	Detector Night	EPFU	LABO	LACI	LANO	MYLE	MYLU	MYSE	PESU
Presence P-	Values:								
Segment 1	7/17/2017	0.001625	1	1	0.1300579	1	1	1	1
	7/18/2017	0.000003	0.3801965	0.1423292	0.0015817	1	0.2779128	1	1
Segment 2	7/17/2017	0	0	0.0328366	0.0046084	0	1	0.0816021	1
	7/18/2017	0	0.0000484	0.2218876	0.0000098	1	1	1	1
Segment 3	7/19/2017	0	0	0.184796	0	1	1	1	0.8883938
	7/20/2017	0	0	0.0035288	0.0000004	1	0.2079916	1	1
Segment 4	7/19/2017	0	0	1	0	1	1	1	1
	7/20/2017	0	0	0.9139036	0	1	1	1	1
Segment 5	7/17/2017	0	0	0.1740918	0.3859333	1	1	1	1
	7/18/2017	0	0	1	0.7874879	1	0.9231838	1	1
6	7/17/2017	0	0.0011887	0.4037777	0.0002351	0	0.0148837	1	1
Segment 6	7/18/2017	0	0.0000309	0.1437573	0.7618765	1	0.7598116	1	1
Segment 7	7/17/2017	0	0.2496934	0.0001357	0.000001	1	0.0845091	1	1
	7/18/2017	0	0.3072583	0.0000022	0.0609324	1	0	1	1
	7/19/2017	0	0.0006045	0.0000004	0.0000018	1	0.1549906	0.3025115	1
Segment 8	7/20/2017	0	0.0000113	0.3602249	0	1	0.0538364	1	1
	7/19/2017	0	0.0001857	0	0	1	0.000008	0.9799269	1
Segment 9	7/20/2017	0	0	0.6896573	0	1	0.2948183	1	1
0	7/19/2017	0	0.0007731	0	0	1	0.0000017	1	1
Segment 10	7/20/2017	0	0.5711503	0	0	0	0	1	1
Segment 11	7/19/2017	0	0.0297337	0	0	0	0.0000001	0.5994024	1
	7/20/2017	0	0.0000274	0	0	0	0.0636965	0.3339198	1
Segment 12	7/18/2017								
	7/19/2017								
	7/20/2017	0	0	0	0	1	0.0208885	1	1
	7/21/2017	0	0.0031432	0	0	1	0.3841187	1	1
Segment 13	7/18/2017								
	7/19/2017								
	7/20/2017	0	0.0162146	0	0.0143149	0	0.0149338	1	1
	7/21/2017	0	0	0.0000912	0.9990214	0	0.0006264	1	1
Segment 14	7/18/2017	0	0.0170377	0.9470884	0	1	0.0000132	0.0781208	1
	7/19/2017	0	0.0000799	0.0084355	0	1	0.000579	1	0.8936437
Segment 15	7/18/2017	0	0.0002151	0.159163	0.8899816	1	0.260696	1	1
	7/19/2017	0	0	0.0226787	0.1177634	1	1	1	1

Location	Detector Night	EPFU	LABO	LACI	LANO	MYLE	MYLU	MYSE	PESU
Segment 16	7/17/2017	0	0.0000926	0.0115396	0	1	1	0.021795	1
	7/18/2017	0	0.2278402	0.0015244	0.0000294	1	0.0053335	0.3313835	1
Segment 17	7/17/2017	0.0003683	0.0088916	0	1	1	1	1	1
	7/18/2017	0.000021	0.0163798	0	0.4331083	1	1	1	1
Segment 18	7/18/2017	0	0	0	0	0	1	1	1
	7/19/2017	0	0	0	0	1	1	1	1
Segment 19	7/18/2017	0	0.0000013	0	0.05581	1	0.0000202	1	0.7732829
	7/19/2017	0	0.0721293	0.0013612	0	1	0.8091133	0.0374067	1
Segment 20	7/19/2017	0	0	0.0002278	0.0152964	1	0.1069159	1	1
	7/20/2017	0	0	0.1797525	0.3996258	1	0.0241858	0.5180971	1

Appendix E Summary of Call Analyst's Findings

 Table E-1. Summary of the call analyst's findings for Segment 14. Flagged MYSE calls are highlighted in orange.

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 20:47		EPFU	
7/18/2017 20:48		EPFU	
7/18/2017 20:50		EPFU	
7/18/2017 20:50		EPFU	
7/18/2017 20:51		EPFU	
7/18/2017 20:52		EPFU	
7/18/2017 20:52		EPFU	
7/18/2017 20:53		EPFU	
7/18/2017 20:54		EPFU	
7/18/2017 20:54		EPFU	
7/18/2017 21:00		EPFU	
7/18/2017 21:04		EPFU	
7/18/2017 21:04		EPFU	
7/18/2017 21:05		EPFU	
7/18/2017 21:05		EPFU	
7/18/2017 21:10		EPFU	
7/18/2017 21:15		EPFU	
7/18/2017 21:20		EPFU	
7/18/2017 21:20		EPFU	
7/18/2017 21:21	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 21:21		EPFU	
7/18/2017 21:21		EPFU	
7/18/2017 21:22		EPFU	
7/18/2017 21:23	EPFU	EPFU	
7/18/2017 21:26		EPFU	
7/18/2017 21:27		EPFU	
7/18/2017 21:28		EPFU	
7/18/2017 21:29		EPFU	
7/18/2017 21:31	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 21:32		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 21:33		EPFU	
7/18/2017 21:33		EPFU	
7/18/2017 21:35		EPFU	
7/18/2017 21:40		EPFU	
7/18/2017 21:40		EPFU	
7/18/2017 21:41	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 21:41		EPFU	
7/18/2017 21:41		EPFU	
7/18/2017 21:41		EPFU	
7/18/2017 21:42		EPFU	
7/18/2017 21:42		EPFU	
7/18/2017 21:43		EPFU	
7/18/2017 21:43		EPFU	
7/18/2017 21:44		EPFU	
7/18/2017 21:44		EPFU	
7/18/2017 21:45		EPFU	
7/18/2017 21:47		EPFU	
7/18/2017 21:48		EPFU	
7/18/2017 21:49	EPFU	EPFU	
7/18/2017 21:52	EPFU	EPFU	
7/18/2017 21:52		EPFU	
7/18/2017 21:54		EPFU	
7/18/2017 21:55		EPFU	
7/18/2017 21:55	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 21:55		EPFU	
7/18/2017 21:55	EPFU	EPFU	
7/18/2017 21:55		EPFU	
7/18/2017 21:55		EPFU	
7/18/2017 21:56		EPFU	
7/18/2017 21:57	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 22:01		EPFU	
7/18/2017 22:02		EPFU	
7/18/2017 22:03		EPFU	
7/18/2017 22:04		EPFU	
7/18/2017 22:05		EPFU	
7/18/2017 22:07		EPFU	
7/18/2017 22:07		EPFU	
7/18/2017 22:11		EPFU	
7/18/2017 22:11		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 22:12		EPFU	
7/18/2017 22:12		EPFU	
7/18/2017 22:12		EPFU	
7/18/2017 22:17		EPFU	
7/18/2017 22:18	EPFU	EPFU	
7/18/2017 22:18		EPFU	
7/18/2017 22:21		EPFU	
7/18/2017 22:25		EPFU	
7/18/2017 22:25		EPFU	
7/18/2017 22:27		EPFU	
7/18/2017 22:27		EPFU	
7/18/2017 22:32		EPFU	
7/18/2017 22:32		EPFU	
7/18/2017 22:33		EPFU	
7/18/2017 22:34		EPFU	
7/18/2017 22:35		EPFU	
7/18/2017 22:35		EPFU	
7/18/2017 22:35		EPFU	
7/18/2017 22:36		EPFU	
7/18/2017 22:36		EPFU	
7/18/2017 22:38		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 22:38		EPFU	
7/18/2017 22:38		EPFU	
7/18/2017 22:40		EPFU	
7/18/2017 22:44		EPFU	
7/18/2017 22:44		EPFU	
7/18/2017 22:46		EPFU	
7/18/2017 22:46		EPFU	
7/18/2017 22:48		EPFU	
7/18/2017 22:53		EPFU	
7/18/2017 22:54		EPFU	
7/18/2017 22:56		EPFU	
7/18/2017 22:58		EPFU	
7/18/2017 22:58		EPFU	
7/18/2017 23:00		EPFU	
7/18/2017 23:04		EPFU	
7/18/2017 23:06		EPFU	
7/18/2017 23:06		EPFU	
7/18/2017 23:06		EPFU	
7/18/2017 23:07		EPFU	
7/18/2017 23:07		EPFU	
7/18/2017 23:07		EPFU	
7/18/2017 23:09		EPFU	
7/18/2017 23:10		EPFU	
7/18/2017 23:13		EPFU	
7/18/2017 23:17		EPFU	
7/18/2017 23:17		EPFU	
7/18/2017 23:20		EPFU	
7/18/2017 23:24		EPFU	
7/18/2017 23:53		EPFU	
7/18/2017 23:54		EPFU	
7/18/2017 23:56		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 23:56		EPFU	
7/19/2017 0:14		EPFU	
7/19/2017 0:24		EPFU	
7/19/2017 0:31		EPFU	
7/19/2017 0:48		EPFU	
7/19/2017 0:48		EPFU	
7/19/2017 0:48		EPFU	
7/19/2017 0:57		EPFU	
7/19/2017 0:57		EPFU	
7/19/2017 0:57		EPFU	
7/19/2017 1:01	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 1:01		EPFU	
7/19/2017 1:01	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 1:01		EPFU	
7/19/2017 1:01		EPFU	
7/19/2017 1:02	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 1:02		EPFU	
7/19/2017 1:02		EPFU	
7/19/2017 1:02	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 1:02	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 1:02		EPFU	
7/19/2017 1:03	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 1:03		EPFU	
7/19/2017 2:03		EPFU	
7/19/2017 2:03		EPFU	
7/19/2017 2:18		EPFU	
7/19/2017 2:18		EPFU	
7/19/2017 2:37		EPFU	
7/19/2017 2:59		EPFU	
7/19/2017 2:59		EPFU	
7/19/2017 3:44		EPFU	
7/19/2017 3:44		EPFU	
7/19/2017 3:51		EPFU	
7/19/2017 4:08		EPFU	
7/19/2017 4:29		EPFU	
7/19/2017 4:29		EPFU	
7/19/2017 4:29		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 4:31		EPFU	
7/19/2017 20:38		EPFU	
7/19/2017 20:41		EPFU	
7/19/2017 20:41		EPFU	
7/19/2017 20:41		EPFU	
7/19/2017 20:44		EPFU	
7/19/2017 20:45		EPFU	
7/19/2017 20:47		EPFU	
7/19/2017 20:48	EPFU	EPFU	
7/19/2017 20:48		EPFU	
7/19/2017 20:48		EPFU	
7/19/2017 20:48		EPFU	
7/19/2017 20:48	EPFU	EPFU	
7/19/2017 20:48		EPFU	
7/19/2017 20:49		EPFU	
7/19/2017 20:49		EPFU	
7/19/2017 20:49		EPFU	
7/19/2017 20:50		EPFU	
7/19/2017 20:51		EPFU	
7/19/2017 20:52		EPFU	
7/19/2017 20:52		EPFU	
7/19/2017 20:53		EPFU	
7/19/2017 20:53	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 20:54		EPFU	
7/19/2017 20:55		EPFU	
7/19/2017 20:56		EPFU	
7/19/2017 20:56		EPFU	
7/19/2017 20:56		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 20:56		EPFU	
7/19/2017 20:57		EPFU	
7/19/2017 20:58	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 20:58		EPFU	
7/19/2017 21:02		EPFU	
7/19/2017 21:04		EPFU	
7/19/2017 21:04		EPFU	
7/19/2017 21:04		EPFU	
7/19/2017 21:07		EPFU	
7/19/2017 21:08		EPFU	
7/19/2017 21:11		EPFU	
7/19/2017 21:13		EPFU	
7/19/2017 21:14		EPFU	
7/19/2017 21:18		EPFU	
7/19/2017 21:18		EPFU	
7/19/2017 21:19		EPFU	
7/19/2017 21:20		EPFU	
7/19/2017 21:20		EPFU	
7/19/2017 21:21		EPFU	
7/19/2017 21:23		EPFU	
7/19/2017 21:23		EPFU	
7/19/2017 21:23		EPFU	
7/19/2017 21:26		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 21:26		EPFU	
7/19/2017 21:33		EPFU	
7/19/2017 21:33		EPFU	
7/19/2017 21:34	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:34		EPFU	
7/19/2017 21:34		EPFU	
7/19/2017 21:36		EPFU	
7/19/2017 21:38		EPFU	
7/19/2017 21:38		EPFU	
7/19/2017 21:42		EPFU	
7/19/2017 21:44		EPFU	
7/19/2017 21:44		EPFU	
7/19/2017 21:45		EPFU	
7/19/2017 21:45		EPFU	
7/19/2017 21:46		EPFU	
7/19/2017 21:46		EPFU	
7/19/2017 21:48		EPFU	
7/19/2017 21:48		EPFU	
7/19/2017 21:50		EPFU	
7/19/2017 21:50		EPFU	
7/19/2017 21:54		EPFU	
7/19/2017 22:22		EPFU	
7/19/2017 22:27		EPFU	
7/19/2017 22:27		EPFU	
7/19/2017 22:30		EPFU	
7/19/2017 22:36		EPFU	
7/19/2017 22:36		EPFU	
7/19/2017 22:36		EPFU	
7/19/2017 22:37		EPFU	
7/19/2017 22:41		EPFU	
7/19/2017 22:41		EPFU	
7/19/2017 22:41		EPFU	
7/19/2017 22:51		EPFU	
7/19/2017 22:51		EPFU	
7/19/2017 22:54		EPFU	
7/19/2017 22:54		EPFU	
7/19/2017 22:54		EPFU	
7/19/2017 22:57		EPFU	
7/19/2017 22:57		EPFU	
7/19/2017 22:59		EPFU	
7/19/2017 23:04		EPFU	
7/19/2017 23:07		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 23:07		EPFU	
7/19/2017 23:17		EPFU	
7/19/2017 23:20		EPFU	
7/19/2017 23:21		EPFU	
7/19/2017 23:23	EPFU	EPFU	
7/19/2017 23:24		EPFU	
7/19/2017 23:25		EPFU	
7/19/2017 23:25		EPFU	
7/19/2017 23:25		EPFU	
7/19/2017 23:27		EPFU	
7/19/2017 23:27		EPFU	
7/19/2017 23:27		EPFU	
7/19/2017 23:28		EPFU	
7/19/2017 23:28		EPFU	
7/19/2017 23:30		EPFU	
7/19/2017 23:31		EPFU	
7/19/2017 23:32		EPFU	
7/19/2017 23:32		EPFU	
7/19/2017 23:32		EPFU	
7/19/2017 23:33		EPFU	
7/19/2017 23:33		EPFU	
7/19/2017 23:33		EPFU	
7/19/2017 23:39		EPFU	
7/19/2017 23:40		EPFU	
7/19/2017 23:40		EPFU	
7/19/2017 23:43		EPFU	
7/19/2017 23:44		EPFU	
7/19/2017 23:45		EPFU	
7/19/2017 23:46		EPFU	
7/19/2017 23:48		EPFU	
7/19/2017 23:49		EPFU	
7/19/2017 23:49		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 23:49		EPFU	
7/19/2017 23:50		EPFU	
7/19/2017 23:50		EPFU	
7/19/2017 23:50	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:53		EPFU	
7/19/2017 23:53		EPFU	
7/19/2017 23:55		EPFU	
7/19/2017 23:56		EPFU	
7/19/2017 23:56	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:56		EPFU	
7/19/2017 23:57		EPFU	
7/19/2017 23:57		EPFU	
7/20/2017 0:06		EPFU	
7/20/2017 0:15		EPFU	
7/20/2017 0:15		EPFU	
7/20/2017 0:17		EPFU	
7/20/2017 0:17		EPFU	
7/20/2017 0:18		EPFU	
7/20/2017 0:18	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:18	_	EPFU	
7/20/2017 0:23	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:24	_	EPFU	
7/20/2017 0:24		EPFU	
7/20/2017 0:24		EPFU	
7/20/2017 0:27		EPFU	
7/20/2017 0:27		EPFU	
7/20/2017 0:30		EPFU	
7/20/2017 0:31		EPFU	
7/20/2017 0:35		EPFU	
7/20/2017 0:35		EPFU	
7/20/2017 0:37		EPFU	
7/20/2017 0:43		EPFU	
7/20/2017 0:43		EPFU	
7/20/2017 0:43		EPFU	
7/20/2017 0:50		EPFU	
7/20/2017 0:50		EPFU	
7/20/2017 0:50		EPFU	
7/20/2017 0:52		EPFU	
7/20/2017 0:52		EPFU	
7/20/2017 0:55		EPFU	
7/20/2017 1:07	EPFU	EPFU	
7/20/2017 1:07		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/20/2017 1:08		EPFU	
7/20/2017 1:08		EPFU	
7/20/2017 1:35		EPFU	
7/20/2017 1:35		EPFU	
7/20/2017 1:48		EPFU	
7/20/2017 1:48		EPFU	
7/20/2017 1:50		EPFU	
7/20/2017 1:56		EPFU	
7/20/2017 2:00		EPFU	
7/20/2017 2:07		EPFU	
7/20/2017 2:07		EPFU	
7/20/2017 2:11		EPFU	
7/20/2017 2:11		EPFU	
7/20/2017 4:33	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:33		EPFU	
7/18/2017 21:40		LABO	
7/18/2017 21:43		LABO	
7/18/2017 22:18		LABO	
7/18/2017 23:13		LABO	
7/18/2017 23:22	LABO	LABO	
7/18/2017 23:46	LABO	LABO	
7/19/2017 20:59		LABO	
7/19/2017 22:02		LABO	
7/19/2017 22:55	LABO	LABO	
7/19/2017 22:55	LABO	LABO	
7/19/2017 22:58	LABO	LABO	
7/19/2017 22:58	LABO	LABO	
7/19/2017 22:58	LABO	LABO	
7/19/2017 22:59	LABO	LABO	
7/19/2017 23:24	LABO	LABO	
7/20/2017 0:20	LABO	LABO	
7/20/2017 1:31	MYLU	LABO	call characteristics indicate a different species
7/20/2017 2:55	LABO	LABO	
7/18/2017 21:55		LACI	
7/18/2017 22:07		LACI	
7/18/2017 22:07		LACI	
7/18/2017 22:07		LACI	
7/19/2017 20:58		LACI	
7/19/2017 21:11		LACI	
7/19/2017 21:44		LACI	
7/19/2017 21:44		LACI	
7/19/2017 21:44		LACI	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 22:21		LACI	
7/19/2017 22:30		LACI	
7/19/2017 22:30		LACI	
7/19/2017 22:30		LACI	
7/19/2017 22:37		LACI	
7/20/2017 0:05		LACI	
7/20/2017 0:21		LACI	
7/20/2017 4:29		LACI	
7/20/2017 4:29		LACI	
7/18/2017 20:41		LANO	
7/18/2017 20:47		LANO	
7/18/2017 20:47	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 20:48		LANO	
7/18/2017 20:48		LANO	
7/18/2017 20:48		LANO	
7/18/2017 20:49		LANO	
7/18/2017 20:51		LANO	
7/18/2017 20:51		LANO	
7/18/2017 20:54		LANO	
7/18/2017 21:00		LANO	
7/18/2017 21:00		LANO	
7/18/2017 21:00		LANO	
7/18/2017 21:04		LANO	
7/18/2017 21:10		LANO	
7/18/2017 21:14	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 21:15		LANO	
7/18/2017 21:23	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 21:24		LANO	
7/18/2017 21:24		LANO	
7/18/2017 21:25		LANO	
7/18/2017 21:25		LANO	
7/18/2017 21:26		LANO	
7/18/2017 21:28		LANO	
7/18/2017 21:28		LANO	
7/18/2017 21:29		LANO	
7/18/2017 21:29		LANO	
7/18/2017 21:30		LANO	
7/18/2017 21:31		LANO	
7/18/2017 21:31		LANO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 21:31		LANO	
7/18/2017 21:33		LANO	
7/18/2017 21:37		LANO	
7/18/2017 21:41		LANO	
7/18/2017 21:42		LANO	
7/18/2017 21:42		LANO	
7/18/2017 21:44		LANO	
7/18/2017 21:46		LANO	
7/18/2017 21:47		LANO	
7/18/2017 21:47		LANO	
7/18/2017 21:49		LANO	
7/18/2017 21:49		LANO	
7/18/2017 21:55		LANO	
7/18/2017 21:55		LANO	
7/18/2017 21:57		LANO	
7/18/2017 22:01	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 22:04		LANO	
7/18/2017 22:04		LANO	
7/18/2017 22:05		LANO	
7/18/2017 22:05		LANO	
7/18/2017 22:08		LANO	
7/18/2017 22:11		LANO	
7/18/2017 22:12		LANO	
7/18/2017 22:25		LANO	
7/18/2017 22:26		LANO	
7/18/2017 22:26	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 22:27		LANO	
7/18/2017 22:27		LANO	
7/18/2017 22:27		LANO	
7/18/2017 22:32		LANO	
7/18/2017 22:33		LANO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 22:34		LANO	
7/18/2017 22:35		LANO	
7/18/2017 22:36		LANO	
7/18/2017 22:36		LANO	
7/18/2017 22:36		LANO	
7/18/2017 22:39		LANO	
7/18/2017 22:39		LANO	
7/18/2017 22:39		LANO	
7/18/2017 22:44		LANO	
7/18/2017 22:46		LANO	
7/18/2017 22:48		LANO	
7/18/2017 22:48		LANO	
7/18/2017 22:53		LANO	
7/18/2017 22:56		LANO	
7/18/2017 22:57		LANO	
7/18/2017 22:58		LANO	
7/18/2017 22:58		LANO	
7/18/2017 23:06		LANO	
7/18/2017 23:06		LANO	
7/18/2017 23:07		LANO	
7/18/2017 23:07		LANO	
7/18/2017 23:08		LANO	
7/18/2017 23:09		LANO	
7/18/2017 23:24		LANO	
7/18/2017 23:26		LANO	
7/18/2017 23:27		LANO	
7/18/2017 23:35		LANO	
7/18/2017 23:42		LANO	
7/18/2017 23:42		LANO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 23:46		LANO	
7/18/2017 23:54		LANO	
7/18/2017 23:56		LANO	
7/18/2017 23:56		LANO	
7/18/2017 23:58		LANO	
7/18/2017 23:58	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 0:07		LANO	
7/19/2017 0:19		LANO	
7/19/2017 0:25		LANO	
7/19/2017 0:46		LANO	
7/19/2017 0:53		LANO	
7/19/2017 1:01		LANO	
7/19/2017 2:59		LANO	
7/19/2017 4:31		LANO	
7/19/2017 20:38		LANO	
7/19/2017 20:38		LANO	
7/19/2017 20:39		LANO	
7/19/2017 20:39		LANO	
7/19/2017 20:39	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 20:39		LANO	
7/19/2017 20:40		LANO	
7/19/2017 20:40		LANO	
7/19/2017 20:40		LANO	
7/19/2017 20:41		LANO	
7/19/2017 20:42		LANO	
7/19/2017 20:43		LANO	
7/19/2017 20:43		LANO	
7/19/2017 20:44		LANO	
7/19/2017 20:45		LANO	
7/19/2017 20:46		LANO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 20:47		LANO	
7/19/2017 20:48		LANO	
7/19/2017 20:49		LANO	
7/19/2017 20:50		LANO	
7/19/2017 20:50	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 20:50		LANO	
7/19/2017 20:51		LANO	
7/19/2017 20:52		LANO	
7/19/2017 20:53		LANO	
7/19/2017 20:53		LANO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 20:53		LANO	
7/19/2017 20:54		LANO	
7/19/2017 20:55		LANO	
7/19/2017 20:56		LANO	
7/19/2017 20:57		LANO	
7/19/2017 20:58		LANO	
7/19/2017 20:58		LANO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 20:58		LANO	
7/19/2017 20:58		LANO	
7/19/2017 20:59		LANO	
7/19/2017 20:59		LANO	
7/19/2017 21:01		LANO	
7/19/2017 21:04		LANO	
7/19/2017 21:07		LANO	
7/19/2017 21:11		LANO	
7/19/2017 21:11		LANO	
7/19/2017 21:11		LANO	
7/19/2017 21:13		LANO	
7/19/2017 21:21		LANO	
7/19/2017 21:21		LANO	
7/19/2017 21:23		LANO	
7/19/2017 21:27		LANO	
7/19/2017 21:34		LANO	
7/19/2017 21:36		LANO	
7/19/2017 21:36		LANO	
7/19/2017 21:37		LANO	
7/19/2017 21:40		LANO	
7/19/2017 21:40		LANO	
7/19/2017 21:40		LANO	
7/19/2017 21:42		LANO	
7/19/2017 21:44		LANO	
7/19/2017 21:46		LANO	
7/19/2017 21:46		LANO	
7/19/2017 21:50		LANO	
7/19/2017 21:51		LANO	
7/19/2017 21:51		LANO	
7/19/2017 22:12		LANO	
7/19/2017 22:12		LANO	
7/19/2017 22:13		LANO	
7/19/2017 22:22		LANO	
7/19/2017 22:22		LANO	
7/19/2017 22:36		LANO	
7/19/2017 22:36		LANO	
7/19/2017 22:37		LANO	
7/19/2017 22:51		LANO	
7/19/2017 22:59		LANO	
7/19/2017 23:12		LANO	
7/19/2017 23:12		LANO	
7/19/2017 23:12		LANO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 23:18		LANO	
7/19/2017 23:18		LANO	
7/19/2017 23:18		LANO	
7/19/2017 23:20		LANO	
7/19/2017 23:25		LANO	
7/19/2017 23:26		LANO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 23:26		LANO	
7/19/2017 23:27		LANO	
7/19/2017 23:28		LANO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 23:28		LANO	
7/19/2017 23:29		LANO	
7/19/2017 23:30		LANO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 23:31		LANO	
7/19/2017 23:32		LANO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 23:32		LANO	
7/19/2017 23:33		LANO	
7/19/2017 23:33		LANO	
7/19/2017 23:33		LANO	
7/19/2017 23:44		LANO	
7/19/2017 23:50		LANO	
7/19/2017 23:50		LANO	
7/19/2017 23:55		LANO	
7/19/2017 23:56		LANO	
7/19/2017 23:56		LANO	
7/19/2017 23:57		LANO	
7/20/2017 0:02		LANO	
7/20/2017 0:06		LANO	
7/20/2017 0:16		LANO	
7/20/2017 0:16		LANO	
7/20/2017 0:19		LANO	
7/20/2017 0:23	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:23		LANO	
7/20/2017 0:25		LANO	
7/20/2017 0:25		LANO	
7/20/2017 0:27		LANO	
7/20/2017 0:30		LANO	
7/20/2017 0:33		LANO	
7/20/2017 0:38		LANO	
7/20/2017 0:39		LANO	
7/20/2017 0:42		LANO	
7/20/2017 0:56		LANO	
7/20/2017 1:35		LANO	
7/20/2017 1:35		LANO	
7/20/2017 1:35		LANO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/20/2017 2:23		LANO	
7/20/2017 2:48		LANO	
7/20/2017 3:09		LANO	
7/20/2017 3:35		LANO	
7/20/2017 3:43		LANO	
7/20/2017 3:47		LANO	
7/20/2017 4:22		LANO	
7/20/2017 4:30		LANO	
7/18/2017 22:25		MYLU	
7/18/2017 22:26	MYSP40k_E	MYLU	Poor quality - but recognizable Myotis
7/18/2017 22:26	MYLU	MYLU	
7/18/2017 23:21	MYLU	MYLU	
7/18/2017 23:30	MYLU	MYLU	
7/18/2017 23:30	MYLU	MYLU	
7/18/2017 23:30	UNKN_hifreq	MYLU	Poor quality - unable to ID
7/19/2017 2:17		MYLU	
7/19/2017 21:33	MYSP40k_E	MYLU	Poor quality - but recognizable Myotis
7/19/2017 21:34	MYLU	MYLU	
7/19/2017 22:58	LABO	MYLU	call characteristics indicate a different species
7/19/2017 22:58	LABO	MYLU	call characteristics indicate a different species
7/19/2017 22:58	LABO	MYLU	call characteristics indicate a different species
7/20/2017 2:09	MYLU	MYLU	
7/20/2017 2:21	MYLU	MYLU	
7/18/2017 21:27	EPFU	MYSE	call characteristics indicate a different species
7/19/2017 3:33	Potential_MYSE	MYSE	Ambiguous call characteristics (multiple species possible)
7/20/2017 2:30	LABO	PESU	call characteristics indicate a different species
7/18/2017 20:41			
7/18/2017 20:45			
7/18/2017 20:46			
7/18/2017 20:48			
7/18/2017 20:48			
7/18/2017 20:48			
7/18/2017 20:50			
7/18/2017 20:51			
7/18/2017 20:52			
7/18/2017 20:52			
7/18/2017 21:00			
7/18/2017 21:01			
7/18/2017 21:05			
7/18/2017 21:08			
7/18/2017 21:11			
7/18/2017 21:14			

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 21:15			
7/18/2017 21:18	EPFU_LANO		
7/18/2017 21:20			
7/18/2017 21:20			
7/18/2017 21:22			
7/18/2017 21:23			
7/18/2017 21:23			
7/18/2017 21:24			
7/18/2017 21:25			
7/18/2017 21:29			
7/18/2017 21:29			
7/18/2017 21:31			
7/18/2017 21:32			
7/18/2017 21:34			
7/18/2017 21:40			
7/18/2017 21:42			
7/18/2017 21:42			
7/18/2017 21:43			
7/18/2017 21:44			
7/18/2017 21:46			
7/18/2017 21:49			
7/18/2017 21:52			
7/18/2017 21:52			
7/18/2017 21:52			
7/18/2017 21:52			
7/18/2017 21:52			
7/18/2017 21:55	EPFU		
7/18/2017 21:55	UNKN_Lowfreq		
7/18/2017 21:57			
7/18/2017 21:59			
7/18/2017 21:59			
7/18/2017 22:00			
7/18/2017 22:01			
7/18/2017 22:01			
7/18/2017 22:03			
7/18/2017 22:03			
7/18/2017 22:04			
7/18/2017 22:04			
7/18/2017 22:04			
7/18/2017 22:04			
7/18/2017 22:04			
7/18/2017 22:04			

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 22:04			
7/18/2017 22:04			
7/18/2017 22:04			
7/18/2017 22:04			
7/18/2017 22:04			
7/18/2017 22:04			
7/18/2017 22:07			
7/18/2017 22:07			
7/18/2017 22:10			
7/18/2017 22:12			
7/18/2017 22:12			
7/18/2017 22:12			
7/18/2017 22:12	EPFU_LANO		
7/18/2017 22:15			
7/18/2017 22:15			
7/18/2017 22:17			
7/18/2017 22:18			
7/18/2017 22:18	UNKN_Lowfreq		
7/18/2017 22:18			
7/18/2017 22:19			
7/18/2017 22:19	EPFU		
7/18/2017 22:20			
7/18/2017 22:21			
7/18/2017 22:24			
7/18/2017 22:25			
7/18/2017 22:25			
7/18/2017 22:25			
7/18/2017 22:26			
7/18/2017 22:26			
7/18/2017 22:26			
7/18/2017 22:26			
7/18/2017 22:26			
7/18/2017 22:26			
7/18/2017 22:26			
7/18/2017 22:26			
7/18/2017 22:26			
7/18/2017 22:26			
7/18/2017 22:26	UNKN_hifreq		
7/18/2017 22:26			
7/18/2017 22:28			
7/18/2017 22:33			
7/18/2017 22:33			

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 22:33			
7/18/2017 22:34			
7/18/2017 22:35			
7/18/2017 22:35			
7/18/2017 22:36			
7/18/2017 22:48			
7/18/2017 22:57			
7/18/2017 22:58			
7/18/2017 23:03			
7/18/2017 23:04			
7/18/2017 23:04			
7/18/2017 23:06			
7/18/2017 23:07			
7/18/2017 23:08			
7/18/2017 23:08			
7/18/2017 23:13			
7/18/2017 23:14			
7/18/2017 23:17			
7/18/2017 23:17			
7/18/2017 23:21	MYLU		
7/18/2017 23:22	EPFU_LANO		
7/18/2017 23:30	UNKN_hifreq		
7/18/2017 23:31			
7/18/2017 23:34			
7/18/2017 23:46			
7/18/2017 23:46			
7/18/2017 23:50			
7/18/2017 23:53			
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7/18/2017 23:54			
7/18/2017 23:54	EPFU		
7/18/2017 23:54			
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7/19/2017 0:03			
7/19/2017 0:03			
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7/19/2017 0:12			
7/19/2017 0:13			

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 0:14			
7/19/2017 0:15			
7/19/2017 0:18			
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7/19/2017 0:20			
7/19/2017 0:44			
7/19/2017 0:57			
7/19/2017 0:58	UNKN_hifreq		
7/19/2017 0:59			
7/19/2017 1:00			
7/19/2017 1:00			
7/19/2017 1:00			
7/19/2017 1:00			
7/19/2017 1:01			
7/19/2017 1:01			
7/19/2017 1:42			
7/19/2017 1:46	EPFU_LANO		
7/19/2017 1:54	LABO		

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 2:17	EPFU		
7/19/2017 2:37			
7/19/2017 3:33	MYLU		
7/19/2017 3:33	MYLU		
7/19/2017 20:34			
7/19/2017 20:40			
7/19/2017 20:41			
7/19/2017 20:42			
7/19/2017 20:42			
7/19/2017 20:43			
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7/19/2017 20:50			
7/19/2017 20:50			
7/19/2017 20:50			
7/19/2017 20:50			
7/19/2017 20:50	EPFU_LANO		
7/19/2017 20:50			
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Date, Time	Analyst ID	KPro ID	Analyst Notes
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Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 20:57			
7/19/2017 20:57			
7/19/2017 20:57			
7/19/2017 20:57	EPFU_LANO		
7/19/2017 20:57			
7/19/2017 20:58			
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7/19/2017 20:59			
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7/19/2017 21:01			
7/19/2017 21:13			
7/19/2017 21:22			
7/19/2017 21:26			
7/19/2017 21:26			
7/19/2017 21:26			
7/19/2017 21:33	MYLU		
7/19/2017 21:34			
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7/19/2017 21:38			
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7/19/2017 21:38			
7/19/2017 21:40			
7/19/2017 21:40	EPFU_LANO		
7/19/2017 21:40	UNKN_hifreq		
7/19/2017 21:41			
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Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 23:31			
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7/19/2017 23:36			
7/19/2017 23:41			
7/19/2017 23:41			
7/19/2017 23:43			
7/19/2017 23:48			
7/19/2017 23:49	UNKN_Lowfreq		
7/19/2017 23:49			
7/19/2017 23:50			
7/19/2017 23:50			
7/19/2017 23:50	EPFU		
7/19/2017 23:50			
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7/19/2017 23:57	EPFU_LANO		
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Date, Time	Analyst ID	KPro ID	Analyst Notes
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7/19/2017 23:59			
7/20/2017 0:02			
7/20/2017 0:05			
7/20/2017 0:06			
7/20/2017 0:15			
7/20/2017 0:17			
7/20/2017 0:17			
7/20/2017 0:24			
7/20/2017 0:27			
7/20/2017 0:29	UNKN_hifreq		
7/20/2017 0:36	LABO		
7/20/2017 0:50			
7/20/2017 1:02			
7/20/2017 1:03			
7/20/2017 1:06			
7/20/2017 1:11			
7/20/2017 1:11	UNKN_Lowfreq		
7/20/2017 1:11			
7/20/2017 1:11			
7/20/2017 1:34	UNKN_hifreq		
7/20/2017 1:35			
7/20/2017 1:48			

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/20/2017 1:49	EPFU		
7/20/2017 1:49			
7/20/2017 2:05			
7/20/2017 2:10	MYSP40k_E		
7/20/2017 2:10			
7/20/2017 2:10			
7/20/2017 2:23			
7/20/2017 2:27			
7/20/2017 2:32	LABO		
7/20/2017 2:37	MYLU		
7/20/2017 2:53			
7/20/2017 3:15	LABO		
7/20/2017 3:43			
7/20/2017 3:57	UNKN_hifreq		
7/20/2017 4:22			

Table E-2. Summary of the call analyst's findings for Segment 16. Flagged MYSE calls are highlighted in orange.

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/17/2017 20:54	EPFU	EPFU	
7/17/2017 20:54	EPFU	EPFU	
7/17/2017 20:58	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:00	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:04	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:04	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:14	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:19	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:19	EPFU	EPFU	
7/17/2017 21:19	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:21	UNKN_Lowfreq	EPFU	Poor quality
7/17/2017 21:21	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:27	EPFU	EPFU	
7/17/2017 21:28	EPFU	EPFU	
7/17/2017 21:28	EPFU	EPFU	
7/17/2017 21:29	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:29	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:31	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:32	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:32	EPFU	EPFU	
7/17/2017 21:37	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:37	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:38	EPFU	EPFU	
7/17/2017 21:38	EPFU	EPFU	
7/17/2017 21:39	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:39	EPFU	EPFU	
7/17/2017 21:41	EPFU	EPFU	
7/17/2017 21:41	EPFU	EPFU	
7/17/2017 21:42	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:42	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:42	EPFU	EPFU	
7/17/2017 21:44	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:45	EPFU	EPFU	
7/17/2017 21:45	EPFU	EPFU	
7/17/2017 21:46	EPFU	EPFU	
7/17/2017 21:47	UNKN_Lowfreq	EPFU	Poor quality - unable to ID
7/17/2017 21:47	EPFU	EPFU	
7/17/2017 21:47	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:03	EPFU	EPFU	
7/17/2017 22:04	EPFU_LANO	EPFU	<2 calls

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/17/2017 22:04	EPFU	EPFU	
7/17/2017 22:10	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:14	EPFU	EPFU	
7/17/2017 22:14	EPFU_LACI_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:14	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:14	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:15	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:15	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:15	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:15	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:15	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:15	EPFU	EPFU	
7/17/2017 22:15	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:16	EPFU	EPFU	
7/17/2017 22:17	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:18	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:18	EPFU	EPFU	
7/17/2017 22:25	EPFU	EPFU	
7/17/2017 22:26	EPFU	EPFU	
7/17/2017 22:26	EPFU	EPFU	
7/17/2017 22:26	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:36	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:37	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:37	EPFU	EPFU	
7/17/2017 22:40	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:40	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:44	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:49	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:51	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:51	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:51	EPFU	EPFU	
7/17/2017 22:51	EPFU	EPFU	
7/17/2017 22:51	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:52	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:52	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:53	EPFU	EPFU	
7/17/2017 22:53	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:53	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:57	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:58	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:59	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:59	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/17/2017 23:01	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:01	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:02	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:02	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:05	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:07	EPFU	EPFU	
7/17/2017 23:07	EPFU	EPFU	
7/17/2017 23:12	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:18	EPFU	EPFU	
7/17/2017 23:21	EPFU	EPFU	
7/17/2017 23:21	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:21	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:22	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:22	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:25	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:26	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:26	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:26	EPFU	EPFU	
7/17/2017 23:27	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:27	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:27	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:30	EPFU	EPFU	
7/17/2017 23:30	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:30	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:30	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:31	EPFU	EPFU	
7/17/2017 23:31	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:34	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:34	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:35	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:38	EPFU	EPFU	
7/17/2017 23:38	EPFU	EPFU	
7/17/2017 23:39	EPFU	EPFU	
7/17/2017 23:39	EPFU	EPFU	
7/17/2017 23:45	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:49	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:56	EPFU	EPFU	
7/17/2017 23:57	EPFU	EPFU	
7/17/2017 23:57	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:57	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:57	EPFU	EPFU	
7/18/2017 0:08	EPFU	EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 0:09	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:09	EPFU	EPFU	
7/18/2017 0:10	EPFU	EPFU	
7/18/2017 0:10	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:14	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:16	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:18	EPFU	EPFU	
7/18/2017 0:18	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:21	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:21	EPFU	EPFU	
7/18/2017 0:40	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:42	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:43	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:47	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:48	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:48	LANO	EPFU	call characteristics indicate a different species
7/18/2017 0:49	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:49	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:49	EPFU	EPFU	
7/18/2017 0:50	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:50	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:50	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:51	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:51	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:52	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:55	EPFU	EPFU	
7/18/2017 0:59	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:59	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:59	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:59	EPFU	EPFU	
7/18/2017 0:59	EPFU	EPFU	
7/18/2017 0:59	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 1:01	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 1:12	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 1:19	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 1:21	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 1:21	EPFU	EPFU	
7/18/2017 1:25	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 1:32	EPFU	EPFU	
7/18/2017 1:32	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 1:32	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 1:32	EPFU	EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 1:32	EPFU	EPFU	
7/18/2017 1:33	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 1:33	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 1:34	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 1:34	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 1:43	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 1:46	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 1:57	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 2:20	EPFU	EPFU	
7/18/2017 2:21	EPFU	EPFU	
7/18/2017 2:32	EPFU	EPFU	
7/18/2017 3:16	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 3:16	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 3:53	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:12	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:25	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:25	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:25	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:25	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:26	EPFU	EPFU	
7/18/2017 4:31	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:33	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:33	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:35	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:36	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:37	EPFU	EPFU	
7/18/2017 4:38	EPFU	EPFU	
7/18/2017 4:38	EPFU	EPFU	
7/18/2017 4:38	EPFU	EPFU	
7/18/2017 4:41	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:41	EPFU	EPFU	
7/18/2017 4:41	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:42	EPFU	EPFU	
7/18/2017 4:42	UNKN_Lowfreq	EPFU	Poor quality - unable to ID
7/18/2017 4:43	EPFU	EPFU	
7/18/2017 4:43	EPFU	EPFU	
7/18/2017 4:43	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:45	EPFU	EPFU	
7/18/2017 4:45	EPFU	EPFU	
7/18/2017 4:54	EPFU	EPFU	
7/18/2017 20:47		EPFU	
7/18/2017 20:47		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 20:47		EPFU	
7/18/2017 20:55		EPFU	
7/18/2017 20:56		EPFU	
7/18/2017 21:00		EPFU	
7/18/2017 21:02		EPFU	
7/18/2017 21:06		EPFU	
7/18/2017 21:15		EPFU	
7/18/2017 21:16		EPFU	
7/18/2017 21:16		EPFU	
7/18/2017 21:18		EPFU	
7/18/2017 21:25		EPFU	
7/18/2017 21:26		EPFU	
7/18/2017 21:30		EPFU	
7/18/2017 21:30		EPFU	
7/18/2017 21:31	UNKN_Lowfreq	EPFU	Poor quality - unable to ID
7/18/2017 21:31		EPFU	
7/18/2017 21:31	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 21:36		EPFU	
7/18/2017 21:36		EPFU	
7/18/2017 21:37		EPFU	
7/18/2017 21:37		EPFU	
7/18/2017 21:38		EPFU	
7/18/2017 21:39		EPFU	
7/18/2017 21:40		EPFU	
7/18/2017 21:41		EPFU	
7/18/2017 21:41		EPFU	
7/18/2017 21:41		EPFU	
7/18/2017 21:43		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 21:43		EPFU	
7/18/2017 21:43		EPFU	
7/18/2017 21:43		EPFU	
7/18/2017 21:44		EPFU	
7/18/2017 21:46		EPFU	
7/18/2017 21:47		EPFU	
7/18/2017 21:49		EPFU	
7/18/2017 21:51		EPFU	
7/18/2017 21:52		EPFU	
7/18/2017 21:53		EPFU	
7/18/2017 21:53		EPFU	
7/18/2017 21:53		EPFU	
7/18/2017 21:54		EPFU	
7/18/2017 21:54		EPFU	
7/18/2017 22:00		EPFU	
7/18/2017 22:00		EPFU	
7/18/2017 22:00		EPFU	
7/18/2017 22:01		EPFU	
7/18/2017 22:01		EPFU	
7/18/2017 22:02		EPFU	
7/18/2017 22:02		EPFU	
7/18/2017 22:02		EPFU	
7/18/2017 22:03		EPFU	
7/18/2017 22:05		EPFU	
7/18/2017 22:05		EPFU	
7/18/2017 22:05		EPFU	
7/18/2017 22:06		EPFU	
7/18/2017 22:06		EPFU	
7/18/2017 22:11		EPFU	
7/18/2017 22:11		EPFU	
7/18/2017 22:11		EPFU	
7/18/2017 22:13		EPFU	
7/18/2017 22:13		EPFU	
7/18/2017 22:16		EPFU	
7/18/2017 22:16		EPFU	
7/18/2017 22:17		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 22:18		EPFU	
7/18/2017 22:18		EPFU	
7/18/2017 22:19		EPFU	
7/18/2017 22:19		EPFU	
7/18/2017 22:21		EPFU	
7/18/2017 22:22		EPFU	
7/18/2017 22:24		EPFU	
7/18/2017 22:24		EPFU	
7/18/2017 22:26		EPFU	
7/18/2017 22:27		EPFU	
7/18/2017 22:30		EPFU	
7/18/2017 22:31		EPFU	
7/18/2017 22:33		EPFU	
7/18/2017 22:34		EPFU	
7/18/2017 22:44		EPFU	
7/18/2017 22:45		EPFU	
7/18/2017 22:46		EPFU	
7/18/2017 22:46		EPFU	
7/18/2017 22:47		EPFU	
7/18/2017 22:48		EPFU	
7/18/2017 22:49		EPFU	
7/18/2017 22:50		EPFU	
7/18/2017 22:50		EPFU	
7/18/2017 22:52		EPFU	
7/18/2017 22:52		EPFU	
7/18/2017 22:52		EPFU	
7/18/2017 22:55		EPFU	
7/18/2017 22:57		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 22:57		EPFU	
7/18/2017 22:58		EPFU	
7/18/2017 23:01		EPFU	
7/18/2017 23:02		EPFU	
7/18/2017 23:06		EPFU	
7/18/2017 23:06		EPFU	
7/18/2017 23:06		EPFU	
7/18/2017 23:17		EPFU	
7/18/2017 23:17		EPFU	
7/18/2017 23:19		EPFU	
7/18/2017 23:22		EPFU	
7/18/2017 23:28		EPFU	
7/18/2017 23:29		EPFU	
7/18/2017 23:29		EPFU	
7/18/2017 23:32		EPFU	
7/18/2017 23:35		EPFU	
7/18/2017 23:36		EPFU	
7/18/2017 23:40		EPFU	
7/18/2017 23:41		EPFU	
7/18/2017 23:41		EPFU	
7/18/2017 23:41		EPFU	
7/18/2017 23:42		EPFU	
7/18/2017 23:46		EPFU	
7/18/2017 23:48		EPFU	
7/18/2017 23:48		EPFU	
7/18/2017 23:49		EPFU	
7/18/2017 23:52		EPFU	
7/18/2017 23:52		EPFU	
7/18/2017 23:56		EPFU	
7/18/2017 23:57		EPFU	
7/18/2017 23:59		EPFU	
7/19/2017 0:00		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 0:00		EPFU	
7/19/2017 0:04		EPFU	
7/19/2017 0:04		EPFU	
7/19/2017 0:06		EPFU	
7/19/2017 0:07		EPFU	
7/19/2017 0:07		EPFU	
7/19/2017 0:09		EPFU	
7/19/2017 0:09		EPFU	
7/19/2017 0:12		EPFU	
7/19/2017 0:14		EPFU	
7/19/2017 0:15		EPFU	
7/19/2017 0:15		EPFU	
7/19/2017 0:22		EPFU	
7/19/2017 0:23		EPFU	
7/19/2017 0:24		EPFU	
7/19/2017 0:26		EPFU	
7/19/2017 0:29		EPFU	
7/19/2017 0:29		EPFU	
7/19/2017 0:31		EPFU	
7/19/2017 0:42		EPFU	
7/19/2017 0:42		EPFU	
7/19/2017 0:44		EPFU	
7/19/2017 0:56		EPFU	
7/19/2017 1:01		EPFU	
7/19/2017 1:04		EPFU	
7/19/2017 1:04		EPFU	
7/19/2017 1:05		EPFU	
7/19/2017 1:05		EPFU	
7/19/2017 1:08		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 1:08		EPFU	
7/19/2017 1:08		EPFU	
7/19/2017 1:18		EPFU	
7/19/2017 1:30		EPFU	
7/19/2017 1:49		EPFU	
7/19/2017 1:58		EPFU	
7/19/2017 2:05		EPFU	
7/19/2017 2:13		EPFU	
7/19/2017 2:34		EPFU	
7/19/2017 2:40		EPFU	
7/19/2017 2:44		EPFU	
7/19/2017 2:44		EPFU	
7/19/2017 3:02		EPFU	
7/19/2017 3:11		EPFU	
7/19/2017 3:11		EPFU	
7/19/2017 3:19		EPFU	
7/19/2017 3:19		EPFU	
7/19/2017 3:29		EPFU	
7/19/2017 3:29		EPFU	
7/19/2017 3:40		EPFU	
7/19/2017 3:40		EPFU	
7/19/2017 3:54	EPFU	EPFU	
7/19/2017 3:55		EPFU	
7/19/2017 4:15		EPFU	
7/19/2017 4:41		EPFU	
7/17/2017 22:22	LABO	LABO	
7/18/2017 1:52	LABO	LABO	
7/18/2017 2:26	LABO	LABO	
7/18/2017 2:57	LABO	LABO	
7/18/2017 3:17	LABO	LABO	
7/18/2017 4:32	LABO	LABO	
7/18/2017 4:53	LABO	LABO	
7/18/2017 20:47	LABO	LABO	
7/18/2017 20:47	LABO	LABO	
7/18/2017 22:09	LABO	LABO	
7/17/2017 20:39	EPFU_LANO	LACI	call characteristics indicate a different species
7/17/2017 21:19	LACI	LACI	
7/17/2017 21:19	LACI	LACI	
7/17/2017 21:19	LACI	LACI	
7/17/2017 22:17	LACI	LACI	
7/17/2017 22:26	LACI	LACI	
7/17/2017 22:57	EPFU_LANO	LACI	Ambiguous call characteristics (multiple species possible)

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/17/2017 23:49	EPFU_LACI_LANO	LACI	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:26	LACI	LACI	
7/18/2017 0:26	LACI	LACI	
7/18/2017 21:33		LACI	
7/18/2017 21:33		LACI	
7/18/2017 21:33		LACI	
7/18/2017 21:56		LACI	
7/18/2017 21:57		LACI	
7/18/2017 22:08		LACI	
7/18/2017 23:02		LACI	
7/18/2017 23:05		LACI	
7/19/2017 0:07		LACI	
7/19/2017 0:22		LACI	
7/19/2017 0:22		LACI	
7/19/2017 0:22		LACI	
7/17/2017 20:58	LANO	LANO	
7/17/2017 20:58	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:00	LANO	LANO	
7/17/2017 21:00	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:20	LANO	LANO	
7/17/2017 21:20	LANO	LANO	
7/17/2017 21:21	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:23	LANO	LANO	
7/17/2017 21:31	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:32	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:32	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:33	LANO	LANO	
7/17/2017 21:33	LANO	LANO	
7/17/2017 21:34	LANO	LANO	
7/17/2017 21:34	LANO	LANO	
7/17/2017 21:34	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:34	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:34	LANO	LANO	
7/17/2017 21:36	UNKN_Lowfreq	LANO	<2 calls
7/17/2017 21:36	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:36	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:36	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:37	UNKN_Lowfreq	LANO	Poor quality - unable to ID
7/17/2017 21:38	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:40	UNKN_Lowfreq	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:41	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:42	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/17/2017 21:42	UNKN_Lowfreq	LANO	Poor quality - unable to ID
7/17/2017 21:43	LANO	LANO	
7/17/2017 21:44	LANO	LANO	
7/17/2017 21:44	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:44	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:45	LANO	LANO	
7/17/2017 21:45	LANO	LANO	
7/17/2017 21:46	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:46	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:46	LANO	LANO	
7/17/2017 21:46	LANO	LANO	
7/17/2017 21:46	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:46	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 21:50	LANO	LANO	
7/17/2017 22:04	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:04	LANO	LANO	
7/17/2017 22:07	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:14	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:14	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:15	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:15	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:16	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:18	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:24	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:25	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:26	UNKN_Lowfreq	LANO	Poor quality - unable to ID
7/17/2017 22:26	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:26	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:26	EPFU	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:36	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:40	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 22:49	LANO	LANO	
7/17/2017 23:02	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:05	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:12	LANO	LANO	
7/17/2017 23:22	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:22	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:26	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:26	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:31	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:35	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:50	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/17/2017 23:50	LANO	LANO	
7/17/2017 23:50	LANO	LANO	
7/17/2017 23:50	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:57	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/17/2017 23:57	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:06	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:09	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:10	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:13	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:13	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:40	EPFU	LANO	call characteristics indicate a different species
7/18/2017 0:44	LANO	LANO	
7/18/2017 0:44	LANO	LANO	
7/18/2017 0:44	LANO	LANO	
7/18/2017 0:46	LANO	LANO	
7/18/2017 0:46	LANO	LANO	
7/18/2017 0:48	LANO	LANO	
7/18/2017 0:48	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:49	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:49	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:51	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:52	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:53	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:55	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 0:55	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 1:01	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 1:01	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 1:07	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 1:21	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 1:26	LANO	LANO	
7/18/2017 1:32	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 1:32	UNKN_Lowfreq	LANO	Poor quality - unable to ID
7/18/2017 1:33	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 1:57	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 2:20	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 2:30	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 2:30	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:25	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:26	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:33	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:33	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:36	EPFU	LANO	call characteristics indicate a different species

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 4:37	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:38	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:40	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:41	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:41	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 4:43	EPFU	LANO	call characteristics indicate a different species
7/18/2017 4:54	EPFU	LANO	call characteristics indicate a different species
7/18/2017 20:54		LANO	
7/18/2017 21:02		LANO	
7/18/2017 21:06		LANO	
7/18/2017 21:15		LANO	
7/18/2017 21:15		LANO	
7/18/2017 21:15		LANO	
7/18/2017 21:21		LANO	
7/18/2017 21:21		LANO	
7/18/2017 21:22		LANO	
7/18/2017 21:25		LANO	
7/18/2017 21:28		LANO	
7/18/2017 21:28		LANO	
7/18/2017 21:31		LANO	
7/18/2017 21:31		LANO	
7/18/2017 21:38		LANO	
7/18/2017 21:40		LANO	
7/18/2017 21:49		LANO	
7/18/2017 22:00		LANO	
7/18/2017 22:02		LANO	
7/18/2017 22:05		LANO	
7/18/2017 22:05		LANO	
7/18/2017 22:06		LANO	
7/18/2017 22:11		LANO	
7/18/2017 22:16		LANO	
7/18/2017 22:22		LANO	
7/18/2017 22:22		LANO	
7/18/2017 22:24		LANO	
7/18/2017 22:27		LANO	
7/18/2017 22:27		LANO	
7/18/2017 22:27		LANO	
7/18/2017 22:30		LANO	
7/18/2017 22:31		LANO	
7/18/2017 22:31		LANO	
7/18/2017 22:33		LANO	
7/18/2017 22:34		LANO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 22:46		LANO	
7/18/2017 22:47		LANO	
7/18/2017 22:52		LANO	
7/18/2017 22:54		LANO	
7/18/2017 22:55		LANO	
7/18/2017 22:59		LANO	
7/18/2017 23:04		LANO	
7/18/2017 23:04	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 23:09		LANO	
7/18/2017 23:09		LANO	
7/18/2017 23:09		LANO	
7/18/2017 23:17		LANO	
7/18/2017 23:32		LANO	
7/18/2017 23:39		LANO	
7/18/2017 23:39		LANO	
7/18/2017 23:39		LANO	
7/18/2017 23:41		LANO	
7/18/2017 23:48		LANO	
7/18/2017 23:48		LANO	
7/18/2017 23:48		LANO	
7/18/2017 23:49		LANO	
7/18/2017 23:49		LANO	
7/18/2017 23:56		LANO	
7/18/2017 23:59		LANO	
7/18/2017 23:59		LANO	
7/19/2017 0:03		LANO	
7/19/2017 0:04		LANO	
7/19/2017 0:07		LANO	
7/19/2017 0:07		LANO	
7/19/2017 0:22		LANO	
7/19/2017 0:23		LANO	
7/19/2017 0:23		LANO	
7/19/2017 0:24		LANO	
7/19/2017 0:26		LANO	
7/19/2017 0:31		LANO	
7/19/2017 0:42		LANO	
7/19/2017 1:27		LANO	
7/19/2017 1:30		LANO	
7/19/2017 1:41		LANO	
7/19/2017 1:58		LANO	
7/19/2017 1:58		LANO	
7/19/2017 2:02		LANO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 2:13		LANO	
7/19/2017 2:13		LANO	
7/19/2017 2:27		LANO	
7/19/2017 2:27		LANO	
7/19/2017 2:27		LANO	
7/19/2017 2:47		LANO	
7/19/2017 2:59		LANO	
7/19/2017 3:02		LANO	
7/19/2017 3:11		LANO	
7/19/2017 3:40		LANO	
7/19/2017 3:45		LANO	
7/19/2017 3:45		LANO	
7/19/2017 4:15		LANO	
7/19/2017 4:41		LANO	
7/18/2017 22:08	MYLU	MYLU	
7/18/2017 22:38	MYLU	MYLU	
7/18/2017 23:04	MYLU	MYLU	
7/19/2017 3:39	LABO	MYLU	call characteristics indicate a different species
7/18/2017 0:12	UNKN_hifreq	MYSE	Not search-phase - unable to ID
7/19/2017 1:38	UNKN_hifreq	MYSE	Not search-phase - unable to ID
7/17/2017 21:14	EPFU_LANO		
7/17/2017 21:19	LACI		
7/17/2017 21:30	EPFU_LACI_LANO		
7/17/2017 21:31	UNKN_Lowfreq		
7/17/2017 21:34	UNKN_Lowfreq		
7/17/2017 21:34	UNKN_Lowfreq		
7/17/2017 21:36	UNKN_Lowfreq		
7/17/2017 21:40	UNKN		
7/17/2017 21:41	EPFU_LANO		
7/17/2017 21:42	UNKN_Lowfreq		
7/17/2017 21:43	UNKN_Lowfreq		
7/17/2017 21:44	EPFU_LANO		
7/17/2017 21:47	UNKN_Lowfreq		
7/17/2017 21:47	UNKN_Lowfreq		
7/17/2017 21:50	EPFU_LANO		
7/17/2017 21:50	EPFU_LANO		
7/17/2017 22:00	EPFU_LANO		
7/17/2017 22:04	EPFU_LANO		
7/17/2017 22:09	EPFU_LANO		
7/17/2017 22:15	EPFU_LANO		
7/17/2017 22:15	UNKN_Lowfreq		
7/17/2017 22:16	EPFU_LANO		

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/17/2017 22:17	LACI		
7/17/2017 22:22	LACI		
7/17/2017 22:25	EPFU_LANO		
7/17/2017 22:25	UNKN_Lowfreq		
7/17/2017 22:26	EPFU_LANO		
7/17/2017 22:36	UNKN_Lowfreq		
7/17/2017 22:36	UNKN_Lowfreq		
7/17/2017 22:37	UNKN_Lowfreq		
7/17/2017 22:53	UNKN_Lowfreq		
7/17/2017 23:27	UNKN_Lowfreq		
7/17/2017 23:30	UNKN_Lowfreq		
7/17/2017 23:38	UNKN_Lowfreq		
7/17/2017 23:51	UNKN_Lowfreq		
7/18/2017 0:13	UNKN_hifreq		
7/18/2017 0:43	UNKN_hifreq		
7/18/2017 1:19	EPFU_LANO		
7/18/2017 1:32	EPFU_LANO		
7/18/2017 2:29	UNKN_hifreq		
7/18/2017 2:30	EPFU_LANO		
7/18/2017 2:32	UNKN_Lowfreq		
7/18/2017 4:25	EPFU		
7/18/2017 4:37	UNKN		
7/18/2017 4:40	UNKN_Lowfreq		
7/18/2017 4:41	UNKN_Lowfreq		
7/18/2017 4:43	UNKN_Lowfreq		
7/18/2017 4:44	UNKN_Lowfreq		
7/18/2017 20:52			
7/18/2017 20:54			
7/18/2017 20:55			
7/18/2017 21:50			
7/18/2017 22:02			
7/18/2017 22:07			
7/18/2017 22:13			
7/18/2017 22:16			
7/18/2017 22:27			
7/18/2017 22:45			
7/18/2017 22:49			
7/18/2017 22:58			
7/18/2017 23:03			
7/18/2017 23:06			
7/18/2017 23:08			
7/18/2017 23:36			

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 23:37			
7/19/2017 0:07			
7/19/2017 0:17	EPFU		
7/19/2017 0:26			
7/19/2017 0:51	UNKN_Lowfreq		
7/19/2017 1:02			
7/19/2017 1:02			
7/19/2017 1:05			
7/19/2017 1:27			
7/19/2017 1:49			
7/19/2017 2:13			
7/19/2017 2:14			
7/19/2017 2:58			
7/19/2017 3:18	LABO		
7/19/2017 4:02			
7/19/2017 4:36	EPFU		
7/19/2017 4:42			

Table E-3. Summary of the call analyst's findings for Segment 18. Flagged MYSE calls are highlighted in orange.

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 20:44		EPFU	
7/18/2017 20:47		EPFU	
7/18/2017 20:49		EPFU	
7/18/2017 20:49		EPFU	
7/18/2017 20:50		EPFU	
7/18/2017 20:50		EPFU	
7/18/2017 20:50		EPFU	
7/18/2017 20:55		EPFU	
7/18/2017 20:55		EPFU	
7/18/2017 20:59		EPFU	
7/18/2017 21:00		EPFU	
7/18/2017 21:00		EPFU	
7/18/2017 21:02		EPFU	
7/18/2017 21:02		EPFU	
7/18/2017 21:03		EPFU	
7/18/2017 21:04		EPFU	
7/18/2017 21:08		EPFU	
7/18/2017 21:08		EPFU	
7/18/2017 21:18		EPFU	
7/18/2017 21:19		EPFU	
7/18/2017 21:22		EPFU	
7/18/2017 21:23		EPFU	
7/18/2017 21:28		EPFU	
7/18/2017 21:28		EPFU	
7/18/2017 21:29		EPFU	
7/18/2017 21:29	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 21:29		EPFU	
7/18/2017 21:29		EPFU	
7/18/2017 21:30		EPFU	
7/18/2017 21:30		EPFU	
7/18/2017 21:32		EPFU	
7/18/2017 21:32		EPFU	
7/18/2017 21:32		EPFU	
7/18/2017 21:36		EPFU	
7/18/2017 21:37		EPFU	
7/18/2017 21:37		EPFU	
7/18/2017 21:37		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 21:37		EPFU	
7/18/2017 21:37		EPFU	
7/18/2017 21:38		EPFU	
7/18/2017 21:49		EPFU	
7/18/2017 21:49		EPFU	
7/18/2017 21:49		EPFU	
7/18/2017 21:50		EPFU	
7/18/2017 21:55		EPFU	
7/18/2017 21:55		EPFU	
7/18/2017 21:56		EPFU	
7/18/2017 21:56		EPFU	
7/18/2017 21:58		EPFU	
7/18/2017 21:58		EPFU	
7/18/2017 22:02		EPFU	
7/18/2017 22:02		EPFU	
7/18/2017 22:02		EPFU	
7/18/2017 22:05		EPFU	
7/18/2017 22:06		EPFU	
7/18/2017 22:13		EPFU	
7/18/2017 22:16		EPFU	
7/18/2017 22:17		EPFU	
7/18/2017 22:25		EPFU	
7/18/2017 22:25		EPFU	
7/18/2017 22:26		EPFU	
7/18/2017 22:27		EPFU	
7/18/2017 22:29		EPFU	
7/18/2017 22:29		EPFU	
7/18/2017 22:29		EPFU	
7/18/2017 22:33		EPFU	
7/18/2017 22:33		EPFU	
7/18/2017 22:33		EPFU	
7/18/2017 22:34		EPFU	
7/18/2017 22:35		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 22:36		EPFU	
7/18/2017 22:38		EPFU	
7/18/2017 22:40		EPFU	
7/18/2017 22:41	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 22:41	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 22:41		EPFU	
7/18/2017 22:47		EPFU	
7/18/2017 22:48		EPFU	
7/18/2017 22:51		EPFU	
7/18/2017 22:53		EPFU	
7/18/2017 22:55		EPFU	
7/18/2017 22:56		EPFU	
7/18/2017 22:56		EPFU	
7/18/2017 22:57		EPFU	
7/18/2017 22:57		EPFU	
7/18/2017 23:00		EPFU	
7/18/2017 23:00		EPFU	
7/18/2017 23:00		EPFU	
7/18/2017 23:07		EPFU	
7/18/2017 23:07		EPFU	
7/18/2017 23:07		EPFU	
7/18/2017 23:10		EPFU	
7/18/2017 23:10		EPFU	
7/18/2017 23:17		EPFU	
7/18/2017 23:17		EPFU	
7/18/2017 23:25		EPFU	
7/18/2017 23:25		EPFU	
7/18/2017 23:26		EPFU	
7/18/2017 23:26		EPFU	
7/18/2017 23:26		EPFU	
7/18/2017 23:28		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 23:34		EPFU	
7/18/2017 23:36		EPFU	
7/18/2017 23:36		EPFU	
7/18/2017 23:36		EPFU	
7/18/2017 23:47		EPFU	
7/18/2017 23:50		EPFU	
7/18/2017 23:50		EPFU	
7/18/2017 23:51		EPFU	
7/18/2017 23:51		EPFU	
7/18/2017 23:53		EPFU	
7/19/2017 0:04	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 0:04		EPFU	
7/19/2017 0:04	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 0:04	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 0:04		EPFU	
7/19/2017 0:05		EPFU	
7/19/2017 0:14		EPFU	
7/19/2017 0:23		EPFU	
7/19/2017 0:23		EPFU	
7/19/2017 0:24		EPFU	
7/19/2017 0:26		EPFU	
7/19/2017 0:29		EPFU	
7/19/2017 0:33		EPFU	
7/19/2017 0:35		EPFU	
7/19/2017 0:38		EPFU	
7/19/2017 0:38		EPFU	
7/19/2017 0:39		EPFU	
7/19/2017 0:39	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 0:39		EPFU	
7/19/2017 0:41		EPFU	
7/19/2017 0:42		EPFU	
7/19/2017 0:42		EPFU	
7/19/2017 0:44		EPFU	
7/19/2017 0:48		EPFU	
7/19/2017 0:48		EPFU	
7/19/2017 0:48		EPFU	
7/19/2017 0:50		EPFU	
7/19/2017 0:50		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 1:03	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 1:03		EPFU	
7/19/2017 1:10	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 1:10		EPFU	
7/19/2017 1:16		EPFU	
7/19/2017 1:16		EPFU	
7/19/2017 1:17		EPFU	
7/19/2017 1:30		EPFU	
7/19/2017 1:32		EPFU	
7/19/2017 1:33		EPFU	
7/19/2017 1:43		EPFU	
7/19/2017 1:44		EPFU	
7/19/2017 1:52		EPFU	
7/19/2017 1:52		EPFU	
7/19/2017 1:52	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 1:57		EPFU	
7/19/2017 2:03		EPFU	
7/19/2017 2:06		EPFU	
7/19/2017 2:06		EPFU	
7/19/2017 2:11	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 2:11		EPFU	
7/19/2017 2:26		EPFU	
7/19/2017 2:32		EPFU	
7/19/2017 2:32		EPFU	
7/19/2017 2:33		EPFU	
7/19/2017 2:40		EPFU	
7/19/2017 2:40		EPFU	
7/19/2017 2:47	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 2:49	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 2:49		EPFU	
7/19/2017 3:02		EPFU	
7/19/2017 3:05		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 3:10		EPFU	
7/19/2017 3:10		EPFU	
7/19/2017 3:17		EPFU	
7/19/2017 3:19		EPFU	
7/19/2017 3:19		EPFU	
7/19/2017 3:28		EPFU	
7/19/2017 3:28		EPFU	
7/19/2017 3:37		EPFU	
7/19/2017 4:15		EPFU	
7/19/2017 4:15		EPFU	
7/19/2017 4:22		EPFU	
7/19/2017 4:23		EPFU	
7/19/2017 4:25		EPFU	
7/19/2017 4:26		EPFU	
7/19/2017 4:28		EPFU	
7/19/2017 4:35		EPFU	
7/18/2017 21:28		LABO	
7/18/2017 21:31	LABO	LABO	
7/18/2017 21:31	LABO	LABO	
7/18/2017 21:51	LABO	LABO	
7/18/2017 21:51		LABO	
7/18/2017 21:56	LABO	LABO	
7/18/2017 22:06	LABO	LABO	
7/18/2017 22:06	LABO	LABO	
7/18/2017 22:17		LABO	
7/18/2017 22:23		LABO	
7/18/2017 22:29	LABO	LABO	
7/18/2017 22:32	UNKN_hifreq	LABO	Not search-phase - unable to ID
7/18/2017 22:36	LABO	LABO	
7/18/2017 22:36	LABO	LABO	
7/18/2017 22:37	LABO	LABO	
7/18/2017 22:37	LABO	LABO	
7/18/2017 22:39	LABO	LABO	
7/18/2017 22:45	LABO	LABO	
7/18/2017 22:47	LABO	LABO	
7/18/2017 22:47	LABO	LABO	
7/18/2017 22:47	LABO	LABO	
7/18/2017 22:52	LABO	LABO	
7/18/2017 23:00	LABO	LABO	
7/18/2017 23:00	LABO	LABO	
7/18/2017 23:02	LABO	LABO	
7/18/2017 23:02	LABO	LABO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 23:04	LABO	LABO	
7/18/2017 23:04	LABO	LABO	
7/18/2017 23:05		LABO	
7/18/2017 23:05		LABO	
7/18/2017 23:05	LABO	LABO	
7/18/2017 23:05		LABO	
7/18/2017 23:05	LABO	LABO	
7/18/2017 23:05	LABO	LABO	
7/18/2017 23:06		LABO	
7/18/2017 23:06		LABO	
7/18/2017 23:08	LABO	LABO	
7/18/2017 23:11	LABO	LABO	
7/18/2017 23:16	LABO	LABO	
7/18/2017 23:18	LABO	LABO	
7/18/2017 23:23	LABO	LABO	
7/18/2017 23:25	LABO	LABO	
7/18/2017 23:27	LABO	LABO	
7/18/2017 23:27		LABO	
7/18/2017 23:30		LABO	
7/18/2017 23:38	LABO	LABO	
7/18/2017 23:38	LABO	LABO	
7/18/2017 23:38		LABO	
7/18/2017 23:51	LABO	LABO	
7/18/2017 23:53	LABO	LABO	
7/18/2017 23:59	LABO	LABO	
7/19/2017 0:03	LABO	LABO	
7/19/2017 0:16	LABO	LABO	
7/19/2017 0:16	LABO	LABO	
7/19/2017 0:17	LABO	LABO	
7/19/2017 0:17	LABO	LABO	
7/19/2017 0:40	LABO	LABO	
7/19/2017 0:52	LABO	LABO	
7/19/2017 0:56	LABO	LABO	
7/19/2017 0:59	LABO	LABO	
7/19/2017 0:59	LABO	LABO	
7/19/2017 1:01	LABO	LABO	
7/19/2017 1:02	LABO	LABO	
7/19/2017 1:02	LABO	LABO	
7/19/2017 1:02	LABO	LABO	
7/19/2017 1:02	LABO	LABO	
7/19/2017 1:02	LABO	LABO	
7/19/2017 1:04	LABO	LABO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 1:07	LABO	LABO	
7/19/2017 1:07	LABO	LABO	
7/19/2017 1:07	LABO	LABO	
7/19/2017 1:08	LABO	LABO	
7/19/2017 1:08	LABO	LABO	
7/19/2017 1:08	LABO	LABO	
7/19/2017 1:09	LABO	LABO	
7/19/2017 1:09	LABO	LABO	
7/19/2017 1:09	LABO	LABO	
7/19/2017 1:13	LABO	LABO	
7/19/2017 1:13	LABO	LABO	
7/19/2017 1:14	LABO	LABO	
7/19/2017 1:14	LABO	LABO	
7/19/2017 1:20	LABO	LABO	
7/19/2017 1:22	LABO	LABO	
7/19/2017 1:23	LABO	LABO	
7/19/2017 1:24	LABO	LABO	
7/19/2017 1:46		LABO	
7/19/2017 1:48	LABO	LABO	
7/19/2017 2:00	LABO	LABO	
7/19/2017 2:00	LABO	LABO	
7/19/2017 2:01	LABO	LABO	
7/19/2017 2:02		LABO	
7/19/2017 2:02	LABO	LABO	
7/19/2017 2:03		LABO	
7/19/2017 2:10	LABO	LABO	
7/19/2017 2:11	LABO	LABO	
7/19/2017 2:14	LABO	LABO	
7/19/2017 2:15	LABO	LABO	
7/19/2017 2:18	LABO	LABO	
7/19/2017 2:32	LABO	LABO	
7/19/2017 2:34	LABO	LABO	
7/19/2017 2:34	LABO	LABO	
7/19/2017 2:39		LABO	
7/19/2017 2:40	LABO	LABO	
7/19/2017 2:43	LABO	LABO	
7/19/2017 2:43	LABO	LABO	
7/19/2017 2:43	LABO	LABO	
7/19/2017 2:45	LABO	LABO	
7/19/2017 2:48	LABO	LABO	
7/19/2017 2:58		LABO	
7/19/2017 3:04	LABO	LABO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 3:04	LABO	LABO	
7/19/2017 3:06	LABO	LABO	
7/19/2017 3:06	LABO	LABO	
7/19/2017 3:07	LABO	LABO	
7/19/2017 3:07	LABO	LABO	
7/19/2017 3:09	LABO	LABO	
7/19/2017 3:09	LABO	LABO	
7/19/2017 3:09	LABO	LABO	
7/19/2017 3:12	LABO	LABO	
7/19/2017 3:12	LABO	LABO	
7/19/2017 3:18	LABO	LABO	
7/19/2017 3:18	LABO	LABO	
7/19/2017 3:23	LABO	LABO	
7/19/2017 3:24	LABO	LABO	
7/19/2017 3:24	LABO	LABO	
7/19/2017 3:26	LABO	LABO	
7/19/2017 3:27	LABO	LABO	
7/19/2017 3:27	LABO	LABO	
7/19/2017 3:28	LABO	LABO	
7/19/2017 3:30	LABO	LABO	
7/19/2017 3:30	LABO	LABO	
7/19/2017 3:31	LABO	LABO	
7/19/2017 3:32	LABO	LABO	
7/19/2017 3:32	LABO	LABO	
7/19/2017 3:37	LABO	LABO	
7/19/2017 3:38	LABO	LABO	
7/19/2017 4:19	LABO	LABO	
7/18/2017 21:03		LACI	
7/18/2017 21:39		LACI	
7/18/2017 21:45		LACI	
7/18/2017 21:45		LACI	
7/18/2017 22:29		LACI	
7/18/2017 22:32		LACI	
7/18/2017 22:37		LACI	
7/18/2017 22:42		LACI	
7/18/2017 22:42		LACI	
7/18/2017 22:44		LACI	
7/18/2017 22:51		LACI	
7/18/2017 22:51	LABO	LACI	call characteristics indicate a different species

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 23:08		LACI	
7/18/2017 23:08		LACI	
7/18/2017 23:24		LACI	
7/18/2017 23:38		LACI	
7/18/2017 23:38		LACI	
7/18/2017 23:47		LACI	
7/18/2017 23:58		LACI	
7/18/2017 23:58		LACI	
7/19/2017 0:01		LACI	
7/19/2017 0:05		LACI	
7/19/2017 0:05		LACI	
7/19/2017 0:13		LACI	
7/19/2017 0:22		LACI	
7/19/2017 0:22		LACI	
7/19/2017 0:23		LACI	
7/19/2017 0:26		LACI	
7/19/2017 0:26		LACI	
7/19/2017 1:02		LACI	
7/19/2017 1:39		LACI	
7/19/2017 1:42		LACI	
7/19/2017 1:46		LACI	
7/19/2017 1:47		LACI	
7/19/2017 1:47		LACI	
7/19/2017 1:59		LACI	
7/19/2017 2:10		LACI	
7/19/2017 2:10		LACI	
7/19/2017 2:22		LACI	
7/19/2017 2:25		LACI	
7/19/2017 2:53		LACI	
7/19/2017 2:53		LACI	
7/18/2017 20:44		LANO	
7/18/2017 20:44		LANO	
7/18/2017 20:47		LANO	
7/18/2017 20:48		LANO	
7/18/2017 20:50		LANO	
7/18/2017 20:55		LANO	
7/18/2017 21:04		LANO	
7/18/2017 21:05		LANO	
7/18/2017 21:08		LANO	
7/18/2017 21:08		LANO	
7/18/2017 21:08	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 21:15		LANO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 21:19		LANO	
7/18/2017 21:20		LANO	
7/18/2017 21:21		LANO	
7/18/2017 21:21		LANO	
7/18/2017 21:22		LANO	
7/18/2017 21:22		LANO	
7/18/2017 21:22		LANO	
7/18/2017 21:23		LANO	
7/18/2017 21:23		LANO	
7/18/2017 21:27		LANO	
7/18/2017 21:28		LANO	
7/18/2017 21:29		LANO	
7/18/2017 21:29		LANO	
7/18/2017 21:29		LANO	
7/18/2017 21:30		LANO	
7/18/2017 21:32		LANO	
7/18/2017 21:32		LANO	
7/18/2017 21:33		LANO	
7/18/2017 21:37		LANO	
7/18/2017 21:38		LANO	
7/18/2017 21:38		LANO	
7/18/2017 21:44		LANO	
7/18/2017 21:48		LANO	
7/18/2017 21:48		LANO	
7/18/2017 21:50		LANO	
7/18/2017 21:50		LANO	
7/18/2017 21:51		LANO	
7/18/2017 21:51		LANO	
7/18/2017 21:51		LANO	
7/18/2017 21:54		LANO	
7/18/2017 21:55		LANO	
7/18/2017 21:55		LANO	
7/18/2017 21:56		LANO	
7/18/2017 21:57		LANO	
7/18/2017 21:57		LANO	
7/18/2017 22:02		LANO	
7/18/2017 22:02		LANO	
7/18/2017 22:02		LANO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 22:02		LANO	
7/18/2017 22:05		LANO	
7/18/2017 22:06		LANO	
7/18/2017 22:07		LANO	
7/18/2017 22:09	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 22:10		LANO	
7/18/2017 22:10	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 22:10		LANO	
7/18/2017 22:16		LANO	
7/18/2017 22:16		LANO	
7/18/2017 22:17		LANO	
7/18/2017 22:20		LANO	
7/18/2017 22:20		LANO	
7/18/2017 22:25		LANO	
7/18/2017 22:25		LANO	
7/18/2017 22:26		LANO	
7/18/2017 22:29		LANO	
7/18/2017 22:31		LANO	
7/18/2017 22:33		LANO	
7/18/2017 22:33		LANO	
7/18/2017 22:33		LANO	
7/18/2017 22:34		LANO	
7/18/2017 22:35		LANO	
7/18/2017 22:35		LANO	
7/18/2017 22:35		LANO	
7/18/2017 22:36		LANO	
7/18/2017 22:36		LANO	
7/18/2017 22:37		LANO	
7/18/2017 22:38		LANO	
7/18/2017 22:40		LANO	
7/18/2017 22:44		LANO	
7/18/2017 22:44		LANO	
7/18/2017 22:46		LANO	
7/18/2017 22:46		LANO	
7/18/2017 22:47		LANO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 22:47		LANO	
7/18/2017 22:47		LANO	
7/18/2017 22:47		LANO	
7/18/2017 22:50		LANO	
7/18/2017 22:51		LANO	
7/18/2017 22:51		LANO	
7/18/2017 22:56		LANO	
7/18/2017 22:57		LANO	
7/18/2017 22:58		LANO	
7/18/2017 22:58		LANO	
7/18/2017 23:05		LANO	
7/18/2017 23:06		LANO	
7/18/2017 23:07		LANO	
7/18/2017 23:09		LANO	
7/18/2017 23:09		LANO	
7/18/2017 23:10		LANO	
7/18/2017 23:16		LANO	
7/18/2017 23:16		LANO	
7/18/2017 23:17		LANO	
7/18/2017 23:18		LANO	
7/18/2017 23:19		LANO	
7/18/2017 23:23		LANO	
7/18/2017 23:26		LANO	
7/18/2017 23:26		LANO	
7/18/2017 23:27	LABO	LANO	call characteristics indicate a different species
7/18/2017 23:28		LANO	
7/18/2017 23:28		LANO	
7/18/2017 23:28		LANO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 23:31		LANO	
7/18/2017 23:34		LANO	
7/18/2017 23:36		LANO	
7/18/2017 23:40		LANO	
7/18/2017 23:41		LANO	
7/18/2017 23:42		LANO	
7/18/2017 23:43		LANO	
7/18/2017 23:45		LANO	
7/18/2017 23:45		LANO	
7/18/2017 23:51		LANO	
7/18/2017 23:51		LANO	
7/18/2017 23:52		LANO	
7/18/2017 23:52		LANO	
7/18/2017 23:52		LANO	
7/18/2017 23:53		LANO	
7/19/2017 0:01		LANO	
7/19/2017 0:03		LANO	
7/19/2017 0:04		LANO	
7/19/2017 0:08		LANO	
7/19/2017 0:08		LANO	
7/19/2017 0:09		LANO	
7/19/2017 0:13		LANO	
7/19/2017 0:13		LANO	
7/19/2017 0:13		LANO	
7/19/2017 0:14		LANO	
7/19/2017 0:18		LANO	
7/19/2017 0:20		LANO	
7/19/2017 0:20		LANO	
7/19/2017 0:22		LANO	
7/19/2017 0:25		LANO	
7/19/2017 0:29		LANO	
7/19/2017 0:29		LANO	
7/19/2017 0:32		LANO	
7/19/2017 0:32		LANO	
7/19/2017 0:32		LANO	
7/19/2017 0:33		LANO	
7/19/2017 0:33		LANO	
7/19/2017 0:33		LANO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 0:33		LANO	
7/19/2017 0:34		LANO	
7/19/2017 0:36		LANO	
7/19/2017 0:37		LANO	
7/19/2017 0:37		LANO	
7/19/2017 0:37		LANO	
7/19/2017 0:38		LANO	
7/19/2017 0:38		LANO	
7/19/2017 0:41		LANO	
7/19/2017 0:44		LANO	
7/19/2017 0:44		LANO	
7/19/2017 0:48		LANO	
7/19/2017 0:49		LANO	
7/19/2017 0:50		LANO	
7/19/2017 0:50		LANO	
7/19/2017 0:50		LANO	
7/19/2017 0:51		LANO	
7/19/2017 1:02		LANO	
7/19/2017 1:10		LANO	
7/19/2017 1:11		LANO	
7/19/2017 1:17		LANO	
7/19/2017 1:17		LANO	
7/19/2017 1:19		LANO	
7/19/2017 1:28		LANO	
7/19/2017 1:32		LANO	
7/19/2017 1:42		LANO	
7/19/2017 1:43		LANO	
7/19/2017 1:44		LANO	
7/19/2017 1:44		LANO	
7/19/2017 1:55		LANO	
7/19/2017 1:55		LANO	
7/19/2017 2:00		LANO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 2:02		LANO	
7/19/2017 2:02	LANO	LANO	
7/19/2017 2:06		LANO	
7/19/2017 2:06		LANO	
7/19/2017 2:09		LANO	
7/19/2017 2:09		LANO	
7/19/2017 2:14	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 2:22		LANO	
7/19/2017 2:26		LANO	
7/19/2017 2:26		LANO	
7/19/2017 2:32		LANO	
7/19/2017 2:32		LANO	
7/19/2017 2:38		LANO	
7/19/2017 2:40	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 2:40		LANO	
7/19/2017 2:45		LANO	
7/19/2017 2:45	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 2:47		LANO	
7/19/2017 2:47		LANO	
7/19/2017 2:48		LANO	
7/19/2017 2:48		LANO	
7/19/2017 2:49		LANO	
7/19/2017 2:53		LANO	
7/19/2017 2:54		LANO	
7/19/2017 2:55		LANO	
7/19/2017 2:55		LANO	
7/19/2017 3:01		LANO	
7/19/2017 3:05		LANO	
7/19/2017 3:10		LANO	
7/19/2017 3:17		LANO	
7/19/2017 3:19		LANO	
7/19/2017 3:22	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 3:22		LANO	
7/19/2017 3:23		LANO	
7/19/2017 3:23		LANO	
7/19/2017 3:37		LANO	
7/19/2017 3:43		LANO	
7/19/2017 3:43		LANO	
7/19/2017 3:59		LANO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 4:21		LANO	
7/19/2017 4:22		LANO	
7/19/2017 4:25		LANO	
7/19/2017 4:25		LANO	
7/19/2017 4:26		LANO	
7/19/2017 4:28		LANO	
7/19/2017 4:30		LANO	
7/19/2017 4:33		LANO	
7/19/2017 4:33		LANO	
7/19/2017 4:40		LANO	
7/19/2017 4:41		LANO	
7/19/2017 4:52		LANO	
7/19/2017 4:52		LANO	
7/18/2017 22:26	MYSP40k_E	MYLE	Ambiguous call characteristics (multiple species possible)
7/18/2017 22:38	MYLE	MYLE	
7/19/2017 0:40	LABO	MYLU	call characteristics indicate a different species
7/19/2017 0:41	Potential_MYSE	MYLU	Ambiguous call characteristics (multiple species possible)
7/19/2017 1:34	MYLU	MYLU	
7/19/2017 3:28	LABO	MYLU	call characteristics indicate a different species
7/18/2017 23:00	LABO	PESU	call characteristics indicate a different species
7/19/2017 2:14	LABO	PESU	call characteristics indicate a different species
7/19/2017 3:24	UNKN_hifreq	PESU	Poor quality - unable to ID
7/19/2017 3:37	UNKN_hifreq	PESU	Poor quality - unable to ID
7/18/2017 20:54			
7/18/2017 20:55			
7/18/2017 21:19			
7/18/2017 21:20			
7/18/2017 21:22			
7/18/2017 21:28			
7/18/2017 21:30			
7/18/2017 21:32			
7/18/2017 21:33			
7/18/2017 21:37			
7/18/2017 21:38			
7/18/2017 21:48			
7/18/2017 21:55			
7/18/2017 22:05			
7/18/2017 22:24			
7/18/2017 22:29			
7/18/2017 22:31			
7/18/2017 22:33			
7/18/2017 22:38			

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 22:39	LABO		
7/18/2017 22:40			
7/18/2017 22:41			
7/18/2017 22:51			
7/18/2017 22:55			
7/18/2017 22:55	LABO		
7/18/2017 22:56			
7/18/2017 23:00	LABO		
7/18/2017 23:05			
7/18/2017 23:06			
7/18/2017 23:06			
7/18/2017 23:10			
7/18/2017 23:19			
7/18/2017 23:25	LABO		
7/18/2017 23:25			
7/18/2017 23:31	UNKN_hifreq		
7/18/2017 23:34			
7/18/2017 23:36			
7/18/2017 23:38			
7/18/2017 23:43			
7/18/2017 23:47			
7/18/2017 23:53			
7/18/2017 23:53			
7/18/2017 23:54	LABO		
7/18/2017 23:58			
7/18/2017 23:59			
7/19/2017 0:03	LABO		
7/19/2017 0:03			
7/19/2017 0:11			
7/19/2017 0:20			
7/19/2017 0:22			
7/19/2017 0:29			
7/19/2017 0:29	EPFU_LANO		
7/19/2017 0:34			
7/19/2017 0:34			
7/19/2017 0:37			
7/19/2017 0:38			
7/19/2017 0:39			
7/19/2017 0:39			
7/19/2017 0:44			
7/19/2017 0:50			
7/19/2017 0:50			

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 1:07	LABO		
7/19/2017 1:10			
7/19/2017 1:16			
7/19/2017 1:17			
7/19/2017 1:22	UNKN_hifreq		
7/19/2017 1:28			
7/19/2017 1:33			
7/19/2017 1:44			
7/19/2017 1:44			
7/19/2017 1:49			
7/19/2017 1:52			
7/19/2017 1:58	LABO		
7/19/2017 1:59			
7/19/2017 2:01			
7/19/2017 2:03			
7/19/2017 2:04	LABO		
7/19/2017 2:37	LABO		
7/19/2017 2:39	LABO		
7/19/2017 2:40	LABO		
7/19/2017 2:41	UNKN_hifreq		
7/19/2017 2:43	LABO		
7/19/2017 2:46	LABO		
7/19/2017 2:47			
7/19/2017 2:48	LABO		
7/19/2017 2:49			
7/19/2017 2:53			
7/19/2017 2:59	LABO		
7/19/2017 3:01			
7/19/2017 3:02			
7/19/2017 3:05			
7/19/2017 3:09			
7/19/2017 3:17			
7/19/2017 3:23	LABO		
7/19/2017 3:23	LABO		
7/19/2017 3:31	LABO		
7/19/2017 3:43			
7/19/2017 3:59			
7/19/2017 4:04	LABO		
7/19/2017 4:32	LABO		
7/19/2017 4:41			

 Table E-4. Summary of the call analyst's findings for Segment 19. Flagged MYSE calls are highlighted in orange.

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 20:55		EPFU	
7/18/2017 20:55		EPFU	
7/18/2017 20:55		EPFU	
7/18/2017 20:56		EPFU	
7/18/2017 21:12		EPFU	
7/18/2017 21:14		EPFU	
7/18/2017 21:15	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 21:19		EPFU	
7/18/2017 21:23		EPFU	
7/18/2017 21:23		EPFU	
7/18/2017 21:23		EPFU	
7/18/2017 21:26		EPFU	
7/18/2017 21:27		EPFU	
7/18/2017 21:31		EPFU	
7/18/2017 21:36		EPFU	
7/18/2017 21:37	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 21:37		EPFU	
7/18/2017 21:39		EPFU	
7/18/2017 21:40		EPFU	
7/18/2017 21:42		EPFU	
7/18/2017 21:42		EPFU	
7/18/2017 21:42		EPFU	
7/18/2017 21:47		EPFU	
7/18/2017 21:47		EPFU	
7/18/2017 21:50		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 21:52		EPFU	
7/18/2017 21:52	EPFU	EPFU	
7/18/2017 21:52	EPFU	EPFU	
7/18/2017 21:53		EPFU	
7/18/2017 21:55		EPFU	
7/18/2017 21:56		EPFU	
7/18/2017 21:56		EPFU	
7/18/2017 21:56	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 21:56		EPFU	
7/18/2017 21:56	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 21:57		EPFU	
7/18/2017 21:57		EPFU	
7/18/2017 21:57		EPFU	
7/18/2017 21:58	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 21:58		EPFU	
7/18/2017 21:58	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 21:58		EPFU	
7/18/2017 22:00		EPFU	
7/18/2017 22:00	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 22:00		EPFU	
7/18/2017 22:01		EPFU	
7/18/2017 22:01		EPFU	
7/18/2017 22:01		EPFU	
7/18/2017 22:10		EPFU	
7/18/2017 22:11		EPFU	
7/18/2017 22:11		EPFU	
7/18/2017 22:11		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 22:12		EPFU	
7/18/2017 22:12		EPFU	
7/18/2017 22:13	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 22:13		EPFU	
7/18/2017 22:16		EPFU	
7/18/2017 22:17	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 22:17		EPFU	
7/18/2017 22:20		EPFU	
7/18/2017 22:20		EPFU	
7/18/2017 22:24		EPFU	
7/18/2017 22:25		EPFU	
7/18/2017 22:27		EPFU	
7/18/2017 22:27		EPFU	
7/18/2017 22:29		EPFU	
7/18/2017 22:32		EPFU	
7/18/2017 22:32		EPFU	
7/18/2017 22:37		EPFU	
7/18/2017 22:37		EPFU	
7/18/2017 22:37		EPFU	
7/18/2017 22:38		EPFU	
7/18/2017 22:38		EPFU	
7/18/2017 22:38		EPFU	
7/18/2017 22:39		EPFU	
7/18/2017 22:39		EPFU	
7/18/2017 22:44		EPFU	
7/18/2017 22:45		EPFU	
7/18/2017 22:45		EPFU	
7/18/2017 22:52		EPFU	
7/18/2017 22:52	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 22:52		EPFU	
7/18/2017 22:55		EPFU	
7/18/2017 22:55		EPFU	
7/18/2017 22:55		EPFU	
7/18/2017 22:57		EPFU	
7/18/2017 22:57		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 23:02		EPFU	
7/18/2017 23:03		EPFU	
7/18/2017 23:04		EPFU	
7/18/2017 23:08		EPFU	
7/18/2017 23:08		EPFU	
7/18/2017 23:09		EPFU	
7/18/2017 23:10		EPFU	
7/18/2017 23:11	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 23:12		EPFU	
7/18/2017 23:12		EPFU	
7/18/2017 23:16		EPFU	
7/18/2017 23:21		EPFU	
7/18/2017 23:21		EPFU	
7/18/2017 23:22		EPFU	
7/18/2017 23:22		EPFU	
7/18/2017 23:23		EPFU	
7/18/2017 23:23		EPFU	
7/18/2017 23:24		EPFU	
7/18/2017 23:25		EPFU	
7/18/2017 23:35		EPFU	
7/18/2017 23:35		EPFU	
7/18/2017 23:37		EPFU	
7/18/2017 23:38		EPFU	
7/18/2017 23:38		EPFU	
7/18/2017 23:38		EPFU	
7/18/2017 23:43		EPFU	
7/18/2017 23:43		EPFU	
7/18/2017 23:45		EPFU	
7/18/2017 23:45	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 23:46		EPFU	
7/18/2017 23:46		EPFU	
7/18/2017 23:46	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 23:46		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 23:46		EPFU	
7/18/2017 23:47	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 23:47	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 23:47		EPFU	
7/18/2017 23:47		EPFU	
7/18/2017 23:47		EPFU	
7/18/2017 23:48		EPFU	
7/18/2017 23:48		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 23:49		EPFU	
7/18/2017 23:51		EPFU	
7/18/2017 23:51		EPFU	
7/18/2017 23:53		EPFU	
7/18/2017 23:53		EPFU	
7/18/2017 23:55		EPFU	
7/18/2017 23:55		EPFU	
7/19/2017 0:05		EPFU	
7/19/2017 0:05		EPFU	
7/19/2017 0:11		EPFU	
7/19/2017 0:12		EPFU	
7/19/2017 0:12		EPFU	
7/19/2017 0:22		EPFU	
7/19/2017 0:23		EPFU	
7/19/2017 0:24		EPFU	
7/19/2017 0:24		EPFU	
7/19/2017 0:29	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 0:29		EPFU	
7/19/2017 0:31		EPFU	
7/19/2017 0:32		EPFU	
7/19/2017 0:32		EPFU	
7/19/2017 0:35		EPFU	
7/19/2017 0:36		EPFU	
7/19/2017 0:40		EPFU	
7/19/2017 0:40		EPFU	
7/19/2017 0:40		EPFU	
7/19/2017 0:45		EPFU	
7/19/2017 0:45	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 0:47		EPFU	
7/19/2017 0:47		EPFU	
7/19/2017 0:51		EPFU	
7/19/2017 0:53		EPFU	
7/19/2017 0:55	EPFU	EPFU	
7/19/2017 0:55		EPFU	
7/19/2017 0:55		EPFU	
7/19/2017 1:15		EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 1:22		EPFU	
7/19/2017 1:24		EPFU	
7/19/2017 1:26		EPFU	
7/19/2017 1:38		EPFU	
7/19/2017 1:46	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 1:46		EPFU	
7/19/2017 1:56		EPFU	
7/19/2017 2:04		EPFU	
7/19/2017 2:07		EPFU	
7/19/2017 2:07		EPFU	
7/19/2017 2:26	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 2:26		EPFU	
7/19/2017 2:34		EPFU	
7/19/2017 2:48		EPFU	
7/19/2017 2:48		EPFU	
7/19/2017 3:03		EPFU	
7/19/2017 3:03		EPFU	
7/19/2017 3:20		EPFU	
7/19/2017 4:23		EPFU	
7/19/2017 4:29		EPFU	
7/19/2017 4:34		EPFU	
7/19/2017 4:34		EPFU	
7/19/2017 4:35		EPFU	
7/19/2017 4:35		EPFU	
7/19/2017 4:36		EPFU	
7/19/2017 4:37		EPFU	
7/19/2017 4:37		EPFU	
7/19/2017 4:37		EPFU	
7/19/2017 4:38		EPFU	
7/19/2017 20:56	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 20:56	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 20:58	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 20:58	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 20:58	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 20:58	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:01	EPFU	EPFU	
7/19/2017 21:03	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:03	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:04	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:04	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:04	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:04	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 21:05	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:05	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:05	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:05	EPFU	EPFU	
7/19/2017 21:05	EPFU	EPFU	
7/19/2017 21:10	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:10	EPFU	EPFU	
7/19/2017 21:12	EPFU	EPFU	
7/19/2017 21:15	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:15	EPFU	EPFU	
7/19/2017 21:21	EPFU	EPFU	
7/19/2017 21:23	EPFU	EPFU	
7/19/2017 21:24	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:25	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:29	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:30	EPFU	EPFU	
7/19/2017 21:30	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:34	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:34	EPFU	EPFU	
7/19/2017 21:34	EPFU	EPFU	
7/19/2017 21:38	EPFU	EPFU	
7/19/2017 21:38	EPFU	EPFU	
7/19/2017 21:40	EPFU	EPFU	
7/19/2017 21:40	EPFU	EPFU	
7/19/2017 21:41	EPFU	EPFU	
7/19/2017 21:41	EPFU	EPFU	
7/19/2017 21:41	EPFU	EPFU	
7/19/2017 21:43	EPFU	EPFU	
7/19/2017 21:43	EPFU	EPFU	
7/19/2017 21:45	EPFU	EPFU	
7/19/2017 21:45	EPFU	EPFU	
7/19/2017 21:45	EPFU	EPFU	
7/19/2017 21:45	EPFU	EPFU	
7/19/2017 21:49	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:49	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:50	EPFU	EPFU	
7/19/2017 21:50	EPFU	EPFU	
7/19/2017 21:53	EPFU	EPFU	
7/19/2017 21:58	EPFU	EPFU	
7/19/2017 22:00	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:01	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:01	EPFU	EPFU	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 22:03	EPFU	EPFU	
7/19/2017 22:07	EPFU	EPFU	
7/19/2017 22:07	EPFU	EPFU	
7/19/2017 22:08	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:08	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:09	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:11	EPFU	EPFU	
7/19/2017 22:11	UNKN_Lowfreq	EPFU	Not search-phase - unable to ID
7/19/2017 22:11	UNKN_Lowfreq	EPFU	Not search-phase - unable to ID
7/19/2017 22:11	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:11	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:12	EPFU	EPFU	
7/19/2017 22:12	EPFU	EPFU	
7/19/2017 22:12	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:14	EPFU	EPFU	
7/19/2017 22:15	EPFU	EPFU	
7/19/2017 22:15	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:17	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:18	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:18	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:23	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:23	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:26	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:27	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:27	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:27	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:27	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:28	EPFU	EPFU	
7/19/2017 22:28	EPFU	EPFU	
7/19/2017 22:29	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:29	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:29	EPFU	EPFU	
7/19/2017 22:29	EPFU	EPFU	
7/19/2017 22:30	EPFU	EPFU	
7/19/2017 22:30	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:31	EPFU	EPFU	
7/19/2017 22:32	EPFU	EPFU	
7/19/2017 22:32	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:32	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:33	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:33	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:33	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 22:33	EPFU	EPFU	
7/19/2017 22:34	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:34	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:37	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:37	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:38	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:38	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:38	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:39	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:40	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:41	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:41	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:42	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:42	EPFU	EPFU	
7/19/2017 22:42	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:43	EPFU	EPFU	
7/19/2017 22:43	EPFU	EPFU	
7/19/2017 22:43	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:43	EPFU	EPFU	
7/19/2017 22:43	EPFU	EPFU	
7/19/2017 22:44	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:44	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:44	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:44	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:44	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:45	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:45	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:45	EPFU	EPFU	
7/19/2017 22:47	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:48	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:48	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:48	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:48	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:49	EPFU	EPFU	
7/19/2017 22:49	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:51	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:51	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:53	EPFU	EPFU	
7/19/2017 22:53	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:55	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:56	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:56	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 23:00	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:00	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:00	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:02	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:02	EPFU	EPFU	
7/19/2017 23:02	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:03	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:10	LANO	EPFU	call characteristics indicate a different species
7/19/2017 23:11	LANO	EPFU	call characteristics indicate a different species
7/19/2017 23:11	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:11	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:16	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:16	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:16	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:16	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:16	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:17	EPFU	EPFU	
7/19/2017 23:19	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:26	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:27	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:27	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:29	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:30	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:32	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:32	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:35	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:35	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:36	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:36	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:36	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:38	UNKN_Lowfreq	EPFU	Poor quality - unable to ID
7/19/2017 23:38	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:38	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:38	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:38	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:38	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:38	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:38	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:39	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:39	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:39	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:39	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 23:39	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:39	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:40	UNKN_Lowfreq	EPFU	Poor quality - unable to ID
7/19/2017 23:40	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:40	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:40	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:40	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:40	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:40	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:43	UNKN_Lowfreq	EPFU	Poor quality - unable to ID
7/19/2017 23:44	EPFU	EPFU	
7/19/2017 23:44	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:44	EPFU	EPFU	
7/19/2017 23:51	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:51	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:54	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:54	EPFU	EPFU	
7/19/2017 23:56	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:56	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:57	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:58	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:59	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:01	EPFU	EPFU	
7/20/2017 0:02	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:04	EPFU	EPFU	
7/20/2017 0:05	EPFU	EPFU	
7/20/2017 0:06	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:06	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:09	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:10	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:12	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:12	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:13	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:13	 UNKN_Lowfreq	EPFU	Poor quality - unable to ID
7/20/2017 0:13	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:13	LACI	EPFU	multiple species
7/20/2017 0:16	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:18	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:18	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:19	 EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:23	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:23	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/20/2017 0:25	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:27	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:27	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:28	EPFU	EPFU	
7/20/2017 0:28	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:32	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:32	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:34	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:34	UNKN_Lowfreq	EPFU	Poor quality - unable to ID
7/20/2017 0:34	UNKN_Lowfreq	EPFU	Poor quality - unable to ID
7/20/2017 0:34	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:34	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:35	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:35	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:39	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:42	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:44	EPFU	EPFU	
7/20/2017 0:44	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:44	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:44	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:44	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:52	UNKN_Lowfreq	EPFU	Poor quality - unable to ID
7/20/2017 0:52	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:52	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:52	UNKN_Lowfreq	EPFU	Poor quality - unable to ID
7/20/2017 0:52	EPFU_LANO	EPFU	Poor quality - unable to ID
7/20/2017 0:52	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:52	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:52	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:52	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:52	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:52	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:52	UNKN_Lowfreq	EPFU	Poor quality - unable to ID
7/20/2017 0:52	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:53	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:53	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:53	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:53	EPFU	EPFU	
7/20/2017 0:53	EPFU	EPFU	
7/20/2017 0:59	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:00	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:00	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/20/2017 1:01	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:01	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:04	UNKN_Lowfreq	EPFU	Poor quality - unable to ID
7/20/2017 1:06	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:06	EPFU	EPFU	
7/20/2017 1:09	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:09	EPFU	EPFU	
7/20/2017 1:11	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:16	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:20	UNKN_Lowfreq	EPFU	Poor quality - unable to ID
7/20/2017 1:21	EPFU	EPFU	
7/20/2017 1:21	EPFU	EPFU	
7/20/2017 1:22	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:22	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:24	EPFU	EPFU	
7/20/2017 1:24	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:33	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:36	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:43	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:47	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:47	EPFU	EPFU	
7/20/2017 1:49	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:49	UNKN_Lowfreq	EPFU	Poor quality - unable to ID
7/20/2017 1:51	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:51	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:54	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:54	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:54	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:54	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 2:16	EPFU	EPFU	
7/20/2017 2:21	EPFU	EPFU	
7/20/2017 2:21	EPFU	EPFU	
7/20/2017 2:36	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 2:38	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 2:38	EPFU	EPFU	
7/20/2017 2:48	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 2:48	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 3:10	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:02	UNKN_Lowfreq	EPFU	Poor quality - unable to ID
7/20/2017 4:06	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:06	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:14	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/20/2017 4:14	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:14	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:17	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:17	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:22	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:23	EPFU	EPFU	
7/20/2017 4:23	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:23	EPFU	EPFU	
7/20/2017 4:27	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:27	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:31	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:31	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:32	EPFU	EPFU	
7/20/2017 4:33	EPFU	EPFU	
7/20/2017 4:33	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:33	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:34	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:37	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:40	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:52	EPFU	EPFU	
7/20/2017 4:52	EPFU_LANO	EPFU	Ambiguous call characteristics (multiple species possible)
7/18/2017 21:04	LABO	LABO	
7/18/2017 22:49	LABO	LABO	
7/18/2017 22:49	LABO	LABO	
7/18/2017 23:30	LABO	LABO	
7/18/2017 23:47		LABO	
7/19/2017 0:13	LABO	LABO	
7/19/2017 0:54		LABO	
7/19/2017 2:20	LABO	LABO	
7/19/2017 2:21	LABO	LABO	
7/19/2017 2:32	LABO	LABO	
7/19/2017 2:35	LABO	LABO	
7/19/2017 3:44		LABO	
7/19/2017 23:31	LABO	LABO	
7/20/2017 0:22	UNKN_Lowfreq	LABO	Poor quality - unable to ID
7/20/2017 3:38	UNKN_hifreq	LABO	Poor quality - unable to ID
7/20/2017 4:34	LABO	LABO	
7/18/2017 20:56		LACI	
7/18/2017 21:48		LACI	
7/18/2017 21:48		LACI	
7/18/2017 21:51		LACI	
7/18/2017 21:54		LACI	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 21:59		LACI	
7/18/2017 22:11		LACI	
7/18/2017 22:51		LACI	
7/18/2017 23:37		LACI	
7/18/2017 23:37		LACI	
7/18/2017 23:37		LACI	
7/18/2017 23:42		LACI	
7/18/2017 23:42		LACI	
7/19/2017 0:57		LACI	
7/19/2017 2:55		LACI	
7/19/2017 2:55		LACI	
7/19/2017 3:14		LACI	
7/19/2017 3:14		LACI	
7/19/2017 21:43	LACI	LACI	
7/19/2017 22:07	LACI	LACI	
7/19/2017 22:43	LACI	LACI	
7/19/2017 22:43	LACI	LACI	
7/19/2017 23:23	LACI	LACI	
7/19/2017 23:23	LACI	LACI	
7/19/2017 23:38	EPFU_LANO	LACI	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:40	LACI	LACI	
7/19/2017 23:57	EPFU_LANO	LACI	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:58	EPFU_LANO	LACI	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:42	EPFU_LANO	LACI	call characteristics indicate a different species
7/20/2017 1:43	EPFU_LANO	LACI	call characteristics indicate a different species
7/20/2017 2:40	LACI	LACI	
7/20/2017 2:40	LACI	LACI	
7/20/2017 4:30	EPFU_LANO	LACI	Ambiguous call characteristics (multiple species possible)
7/18/2017 20:56		LANO	
7/18/2017 20:56		LANO	
7/18/2017 20:57		LANO	
7/18/2017 21:04		LANO	
7/18/2017 21:14		LANO	
7/18/2017 21:19		LANO	
7/18/2017 21:22		LANO	
7/18/2017 21:22		LANO	
7/18/2017 21:23		LANO	
7/18/2017 21:36		LANO	
7/18/2017 21:37		LANO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 21:45		LANO	
7/18/2017 21:50		LANO	
7/18/2017 21:50		LANO	
7/18/2017 21:51		LANO	
7/18/2017 21:52		LANO	
7/18/2017 21:52		LANO	
7/18/2017 21:54		LANO	
7/18/2017 21:55		LANO	
7/18/2017 21:58		LANO	
7/18/2017 21:58		LANO	
7/18/2017 22:12		LANO	
7/18/2017 22:14		LANO	
7/18/2017 22:15		LANO	
7/18/2017 22:15		LANO	
7/18/2017 22:16		LANO	
7/18/2017 22:16		LANO	
7/18/2017 22:20		LANO	
7/18/2017 22:21		LANO	
7/18/2017 22:25		LANO	
7/18/2017 22:29		LANO	
7/18/2017 22:29		LANO	
7/18/2017 22:32		LANO	
7/18/2017 22:32		LANO	
7/18/2017 22:32		LANO	
7/18/2017 22:37		LANO	
7/18/2017 22:38		LANO	
7/18/2017 22:44		LANO	
7/18/2017 22:47		LANO	
7/18/2017 22:52		LANO	
7/18/2017 22:57		LANO	
7/18/2017 22:57		LANO	
7/18/2017 23:09		LANO	
7/18/2017 23:09		LANO	
7/18/2017 23:09		LANO	
7/18/2017 23:25		LANO	
7/18/2017 23:32		LANO	
7/18/2017 23:37		LANO	
7/18/2017 23:37		LANO	
7/18/2017 23:40		LANO	

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 23:47		LANO	
7/18/2017 23:49		LANO	
7/18/2017 23:55		LANO	
7/18/2017 23:55		LANO	
7/19/2017 0:22		LANO	
7/19/2017 0:23		LANO	
7/19/2017 0:24		LANO	
7/19/2017 0:24		LANO	
7/19/2017 0:29		LANO	
7/19/2017 0:31		LANO	
7/19/2017 0:32		LANO	
7/19/2017 0:35		LANO	
7/19/2017 0:41		LANO	
7/19/2017 0:44		LANO	
7/19/2017 0:47		LANO	
7/19/2017 0:51		LANO	
7/19/2017 1:10		LANO	
7/19/2017 1:48		LANO	
7/19/2017 2:04		LANO	
7/19/2017 2:34		LANO	
7/19/2017 3:19		LANO	
7/19/2017 3:19		LANO	
7/19/2017 3:19		LANO	
7/19/2017 3:20		LANO	
7/19/2017 3:20		LANO	
7/19/2017 4:23		LANO	
7/19/2017 4:29		LANO	
7/19/2017 4:29		LANO	
7/19/2017 4:36		LANO	
7/19/2017 4:36		LANO	
7/19/2017 20:41	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:01	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:04	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:21	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:21	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:23	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:25	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:28	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:31	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:38	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:43	EPFU	LANO	call characteristics indicate a different species
7/19/2017 21:44	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 21:49	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:53	EPFU	LANO	call characteristics indicate a different species
7/19/2017 21:54	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 21:58	EPFU	LANO	call characteristics indicate a different species
7/19/2017 22:00	EPFU	LANO	call characteristics indicate a different species
7/19/2017 22:09	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:09	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:11	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:11	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:11	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:12	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:12	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:12	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:12	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:14	EPFU	LANO	call characteristics indicate a different species
7/19/2017 22:15	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:23	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:24	LANO	LANO	
7/19/2017 22:24	LANO	LANO	
7/19/2017 22:26	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:30	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:31	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:32	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:38	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:38	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:38	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:38	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:42	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:43	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:47	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:48	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:49	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:49	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:51	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:54	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:54	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 22:55	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:03	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:12	UNKN_Lowfreq	LANO	Poor quality - unable to ID
7/19/2017 23:13	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:16	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:17	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 23:17	LANO	LANO	
7/19/2017 23:19	LANO	LANO	
7/19/2017 23:19	LANO	LANO	
7/19/2017 23:26	LANO	LANO	
7/19/2017 23:26	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:28	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:29	LANO	LANO	
7/19/2017 23:29	LANO	LANO	
7/19/2017 23:32	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:32	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:35	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:36	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:37	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:38	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:38	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:38	UNKN_Lowfreq	LANO	Poor quality - unable to ID
7/19/2017 23:39	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:39	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:39	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:39	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:39	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:39	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:39	EPFU_LANO	LANO	<2 calls
7/19/2017 23:39	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:39	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:39	UNKN_Lowfreq	LANO	Poor quality - unable to ID
7/19/2017 23:39	UNKN_Lowfreq	LANO	Poor quality - unable to ID
7/19/2017 23:39	UNKN_Lowfreq	LANO	Poor quality - unable to ID
7/19/2017 23:39	UNKN_Lowfreq	LANO	Poor quality - unable to ID
7/19/2017 23:39	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:40	UNKN_Lowfreq	LANO	Poor quality - unable to ID
7/19/2017 23:42	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:44	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:51	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:51	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:51	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:51	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:51	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:51	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:52	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:52	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:52	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 23:52	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:52	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:52	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:52	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:54	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:58	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/19/2017 23:59	EPFU	LANO	call characteristics indicate a different species
7/20/2017 0:01	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:01	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:04	EPFU	LANO	call characteristics indicate a different species
7/20/2017 0:05	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:05	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:10	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:10	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:10	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:10	UNKN_Lowfreq	LANO	Poor quality - unable to ID
7/20/2017 0:23	LANO	LANO	
7/20/2017 0:23	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:23	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:25	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:25	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:27	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:33	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:34	UNKN_Lowfreq	LANO	Poor quality - unable to ID
7/20/2017 0:44	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:44	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:52	LANO	LANO	
7/20/2017 0:52	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 0:52	UNKN_Lowfreq	LANO	Poor quality - unable to ID
7/20/2017 0:52	UNKN_Lowfreq	LANO	Poor quality - unable to ID
7/20/2017 0:54	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:07	LANO	LANO	
7/20/2017 1:09	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:10	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:24	EPFU	LANO	Poor quality - unable to ID
7/20/2017 1:42	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:47	UNKN_Lowfreq	LANO	Poor quality - unable to ID
7/20/2017 1:50	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 1:51	 UNKN_Lowfreq	LANO	Poor quality - unable to ID
7/20/2017 2:28	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 3:10	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 3:20	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/20/2017 3:27	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 3:27	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 3:41	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 3:55	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 3:55	UNKN_Lowfreq	LANO	Poor quality - unable to ID
7/20/2017 4:17	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:20	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:22	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:23	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:24	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:27	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:28	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:28	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:30	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:31	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:37	LANO	LANO	
7/20/2017 4:37	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/20/2017 4:42	EPFU_LANO	LANO	Ambiguous call characteristics (multiple species possible)
7/18/2017 21:54	MYLU	MYLU	
7/18/2017 21:54	MYLU	MYLU	
7/18/2017 21:58		MYLU	
7/18/2017 22:25	UNKN_hifreq	MYLU	Poor quality - unable to ID
7/18/2017 22:33	MYLU	MYLU	
7/18/2017 22:33	MYLU	MYLU	
7/18/2017 22:49	LABO	MYLU	call characteristics indicate a different species
7/19/2017 1:51	UNKN_hifreq	MYLU	Not search-phase - unable to ID
7/19/2017 2:18	LABO	MYLU	call characteristics indicate a different species
7/19/2017 3:41	LABO	MYLU	call characteristics indicate a different species
7/20/2017 4:14	LABO	MYLU	call characteristics indicate a different species
7/20/2017 2:14	UNKN_hifreq	MYSE	Poor quality - unable to ID
7/19/2017 2:36	LABO	PESU	call characteristics indicate a different species
7/18/2017 20:56			
7/18/2017 20:57			
7/18/2017 21:12			
7/18/2017 21:15			
7/18/2017 21:22			
7/18/2017 21:22			
7/18/2017 21:23			
7/18/2017 21:36	EPFU_LANO		
7/18/2017 21:42	EPFU_LANO		
7/18/2017 21:45			
7/18/2017 21:52			

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/18/2017 21:53			
7/18/2017 21:58			
7/18/2017 21:59			
7/18/2017 22:11			
7/18/2017 22:11			
7/18/2017 22:16			
7/18/2017 22:16			
7/18/2017 22:25			
7/18/2017 22:30	MYLU		
7/18/2017 22:32			
7/18/2017 22:55			
7/18/2017 23:03			
7/18/2017 23:10			
7/18/2017 23:16			
7/18/2017 23:19			
7/18/2017 23:43			
7/18/2017 23:47			
7/18/2017 23:48			
7/19/2017 0:13	LABO		
7/19/2017 0:15			
7/19/2017 0:15			
7/19/2017 0:18			
7/19/2017 0:19			
7/19/2017 0:21	EPFU_LANO		
7/19/2017 0:41			
7/19/2017 0:43			
7/19/2017 0:44			
7/19/2017 0:45			
7/19/2017 1:24			
7/19/2017 1:26	EPFU		
7/19/2017 1:38	MYLU		
7/19/2017 1:50	UNKN_hifreq		
7/19/2017 1:50	UNKN_hifreq		
7/19/2017 1:51			
7/19/2017 2:03			
7/19/2017 2:03			
7/19/2017 2:18	LABO		
7/19/2017 2:32	LABO		
7/19/2017 2:33	LABO		
7/19/2017 2:35	LABO		
7/19/2017 2:45	LABO		
7/19/2017 3:02	LABO		

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/19/2017 3:18	UNKN_hifreq		
7/19/2017 4:39			
7/19/2017 20:56	UNKN_Lowfreq		
7/19/2017 21:05	UNKN_Lowfreq		
7/19/2017 21:05	UNKN_hifreq		
7/19/2017 21:11	UNKN_Lowfreq		
7/19/2017 21:12	UNKN_Lowfreq		
7/19/2017 21:12	UNKN_Lowfreq		
7/19/2017 21:17	EPFU_LANO		
7/19/2017 21:22	EPFU_LANO		
7/19/2017 21:23	UNKN_Lowfreq		
7/19/2017 21:27	EPFU_LANO		
7/19/2017 21:33	UNKN_Lowfreq		
7/19/2017 21:43	LACI		
7/19/2017 21:54	EPFU		
7/19/2017 22:00	EPFU_LANO		
7/19/2017 22:07	EPFU		
7/19/2017 22:12	UNKN_Lowfreq		
7/19/2017 22:12	EPFU_LANO		
7/19/2017 22:12	UNKN_Lowfreq		
7/19/2017 22:14	EPFU_LANO		
7/19/2017 22:16	EPFU_LANO		
7/19/2017 22:18	UNKN		
7/19/2017 22:19	UNKN_Lowfreq		
7/19/2017 22:23	UNKN_Lowfreq		
7/19/2017 22:27	UNKN_Lowfreq		
7/19/2017 22:30	EPFU		
7/19/2017 22:34	UNKN_Lowfreq		
7/19/2017 22:36	UNKN_Lowfreq		
7/19/2017 23:28	UNKN_Lowfreq		
7/19/2017 23:37	UNKN_Lowfreq		
7/19/2017 23:38	EPFU_LANO		
7/19/2017 23:39	EPFU_LANO		
7/19/2017 23:39	EPFU_LANO		
7/19/2017 23:39	EPFU_LANO		
7/19/2017 23:40	UNKN_Lowfreq		
7/19/2017 23:40	UNKN_Lowfreq		
7/19/2017 23:51	UNKN_Lowfreq		
7/19/2017 23:52	EPFU_LANO		
7/19/2017 23:52	UNKN_Lowfreq		
7/19/2017 23:59	UNKN_Lowfreq		
7/20/2017 0:00	UNKN_Lowfreq		

Date, Time	Analyst ID	KPro ID	Analyst Notes
7/20/2017 0:05	UNKN_Lowfreq		
7/20/2017 0:05	UNKN_Lowfreq		
7/20/2017 0:07	UNKN_Lowfreq		
7/20/2017 0:13	EPFU_LANO		
7/20/2017 0:15	LABO		
7/20/2017 0:16	UNKN_Lowfreq		
7/20/2017 0:16	LACI		
7/20/2017 0:19	EPFU_LANO		
7/20/2017 0:20	UNKN_Lowfreq		
7/20/2017 0:20	UNKN_Lowfreq		
7/20/2017 0:22	UNKN_Lowfreq		
7/20/2017 0:23	UNKN_Lowfreq		
7/20/2017 0:23	EPFU_LANO		
7/20/2017 0:25	UNKN_Lowfreq		
7/20/2017 0:27	UNKN_Lowfreq		
7/20/2017 0:27	UNKN_Lowfreq		
7/20/2017 0:27	EPFU_LANO		
7/20/2017 0:28	EPFU_LANO		
7/20/2017 0:34	UNKN_Lowfreq		
7/20/2017 0:38	UNKN_Lowfreq		
7/20/2017 0:39	UNKN_Lowfreq		
7/20/2017 0:46	EPFU_LANO		
7/20/2017 0:47	LACI		
7/20/2017 0:50	UNKN_Lowfreq		
7/20/2017 0:52	UNKN_Lowfreq		
7/20/2017 1:00	EPFU_LANO		
7/20/2017 1:01	UNKN_Lowfreq		
7/20/2017 1:11	UNKN_Lowfreq		
7/20/2017 1:28	EPFU_LANO		
7/20/2017 1:28	UNKN_Lowfreq		
7/20/2017 1:42	UNKN_Lowfreq		
7/20/2017 1:45	UNKN_Lowfreq		
7/20/2017 2:04	UNKN_Lowfreq		
7/20/2017 2:04	UNKN_Lowfreq		
7/20/2017 2:16	UNKN_Lowfreq		
7/20/2017 2:17	UNKN_hifreq		
7/20/2017 3:03	UNKN_Lowfreq		
7/20/2017 3:13	UNKN_hifreq		
7/20/2017 4:36	UNKN_Lowfreq		
7/20/2017 4:42	UNKN_Lowfreq		

Appendix F Resumes

SARAH A. BARNUM, CWB[®] Senior Wildlife Ecologist

Dr. Barnum is a Senior Wildlife Ecologist at Normandeau with over 20 years of professional experience. Her background includes providing expertise to the transportation and energy sectors, as well as a variety of general development projects. She has hands-on experience with a wide range of species including forest birds, waterfowl, raptors, small mammals, large mammals, amphibians, and reptiles. Dr. Barnum's projects have emphasized examining habitat relationships, impact assessment for threatened and endangered species, mitigation planning, and Federal Endangered Species Act (ESA) compliance. Dr. Barnum also has extensive experience in project planning, project management, experimental design, and data analysis.

REPRESENTATIVE PROJECT EXPERIENCE

Confidential Project, Confidential Client, PA, NY, MA, CT, NH (2015-2016). Planning and coordination of surveys and reporting for state and federally listed wildlife to support state and federal permitting for installation of a new, 400-mile long natural gas pipeline. Focal species include New England cottontail, songbirds, marsh birds, raptors, turtles, snakes, and lepidopterans. All tasks conducted to meet the Federal Energy Regulatory Commission (FERC) permitting requirements. Wildlife Task Manager.

Northern Pass Transmission Project, Eversource Energy, Canadian Border to Deerfield, New Hampshire (2010-Present). Conducting wildlife assessments, impact analysis, and mitigation planning in support of state and federal permitting for installation of a new, 200-mile long HVDC line in New Hampshire. Tasks include consultation with state and federal agencies (ESA, NEPA), desktop analysis, design and coordination of field surveys, writing the wildlife section of the SEC Natural Resources Report, and providing expert testimony. Focal species include Canada lynx, American marten, bats, raptors, song birds, turtles, snakes, and Karner blue butterfly. Wildlife Task Manager.

EDUCATION

Ph.D., Conservation Planning, University		
of Colorado		
M.S., Wildlife Biology, Utah State		
University		
B.S., (cum laude) Wildlife Biology,		
University of Vermont		
-		

PROFESSIONAL EXPERIENCE

2007-Present	Normandeau
	Associates
2005-2007	New Hampshire
	Audubon
2004-2005	Baystate
	Environmental
	Consultants
2001-2003	Environmental
	Planning and Policy
	Unit, Colorado DOT
1998-2000	Office of
	Environmental
	Services, Colorado
	DOT
1996-1998	Dames & Moore1993-
	1994 Bio-Resources,
	Inc.

PROFESSIONAL CERTIFICATIONS

- Certified Wildlife Biologist
- AAE's Airport Wildlife Manager's Course and Wildlife Management Techniques Course
- Cyber Tracker Level III Tracking Certification

PROFESSIONAL AFFILIATIONS

- The Wildlife Society
- New Hampshire Association of Natural Resource Scientists
- Epsom, NH Conservation Commission
- Bear-Paw Regional Greenways Land Conservation Committee

The Balsams Grand Resort, Dixville LLC, New Hampshire (2014 - Present). Planned and coordinated surveys and reporting for general wildlife issues and northern long-eared bat acoustic surveys. Wildlife Task Manager.

Boston Convention and Events Center Gull Dissuasion Study, Massachusetts Convention Center Authority, Boston, Massachusetts (2014-2016). Designed and oversaw field surveys of gull activities on the BCEC roof, and assisted in identification and evaluation of dissuasion strategies. Project Manager and Avian Biologist.

Post-Construction Mortality Monitoring, Pheasant Run Wind LLC, Huron County, Michigan (2014-2015). Conducted bird and bat post-construction fatality monitoring, coordinated data analysis and report writing. Project Manager.

Loon Pond Dam Reconstruction, Town of Lincoln, Lincoln, New Hampshire (2015-2016). Conducted habitat suitability assessment for Canada lynx and forest roosting bats for project located on Forest Service Land; coordinated rare plant surveys and wrote the Biological Evaluation. Project Manager and Wildlife Biologist.

Acoustic Northern Long-eared Bat Surveys, MassDOT, Massachusetts (2015). Planned and coordinated USFWS-compliant surveys and reporting for 20 separate MassDOT projects across MA. Project Manager.

Habitat Assessment and Acoustic Northern Long-eared Bat Surveys, Various, New Hampshire (2015). Planned and coordinated USFWS compliant surveys and reporting for four separate development projects in southern NH. Project Manager.

Northern Long-eared Bat Habitat Assessment, Horizons Engineering, Loudon, New Hampshire (2015). Conducted USFWS compliant habitat assessment and reporting for the proposed Liberty Pipeline. Project Manager and Bat Biologist

Fowler's Toad Study for Hydro Dam Relicensing, TransCanada, Connecticut River, New Hampshire and Vermont (2013-2014). Designed and conducted habitat suitability evaluation and toad survey; reporting. All tasks conducted to meet the FERC permitting requirements. Task Manager and Amphibian Biologist.

Loon Mountain Ski Area Expansion Biological Evaluation, US Forest Service, White Mountain National Forest, New Hampshire (2013-2014). Conducted habitat suitability assessment for Canada lynx, forest roosting bats, and black bear and wrote the Biological Evaluation. Wildlife Task Manager and Mammal Biologist.

New England Cottontail Permitting, Tidewater Landing, LLC, Wells, Maine (2013). Wrote the New England cottontail related permitting documents for the Tidewater Landing subdivision. Assessed habitat suitability and negotiated with MDIFW. Wrote the Habitat Management Plan and Incidental Take Plan required for the project permit. Project Manager and NEC Biologist.

Waterville Valley Ski Area Expansion Biological Evaluation, US Forest Service, White Mountain National Forest, New Hampshire (2012-2013). Conducted habitat suitability assessment for Canada lynx, forest roosting bats, and black bear, and wrote the Biological Evaluation. Wildlife Task Manager and Mammal Biologist.

Rare Species Surveys, Tennessee Gas Pipeline Co., various locations in Massachusetts and Connecticut (2012 - 2013). Rare species surveys in support of pipeline repair activities. Various

surveys for rare turtles and rare plants prior to pipeline repair projects. Project Manager and Turtle Biologist.

Winthrop Beach Piping Plover Management Plan, MA Department of Conservation and Recreation, Winthrop, Massachusetts (2012). Designed and wrote the piping plover management plan required as part of the permitting effort for the Winthrop Beach renourishment project. Project Manager and Avian Biologist.

Roseate Tern Expert Testimony, Entergy Nuclear Generation Company, Plymouth, Massachusetts (2012). Provided expert testimony summarizing potential impacts of relicensing of Pilgrim Nuclear Power Station in Plymouth, MA on roseate terns. Avian Biologist.

The Effect of Roadside Mowing Practices on Deer-Vehicle Collision Rates, Federal Highway Administration (2009-2012) Nationwide. Conducted literature review and interviews with State DOT personnel to summarize any known effects of roadside mowing regimes on DVC rates, followed by a quantitative analysis of DVC rates as a function of mowing regime. Project responsibilities include acquiring data from State DOTs, data management and analysis, and report writing. Data Analysis Task Manager.

Madaket Wind Permitting Assessment, Town of Nantucket, Nantucket, Massachusetts (2010-2011). Assessed avian and T&E resources in the proposed project area to determine potential impacts and permitting requirements for 1-3 utility scale wind turbines on Nantucket DPW lands. Focal species included long-tailed duck, northern harrier, and night migrants (birds and bats). Work includes both desktop and field assessment. Project Manager, Wildlife Biologist.

Post-Construction Mortality Monitoring, First Wind, Stetson Wind Power Facility, Washington County, Maine (2010-2011). Managed personnel to search turbines for bird and bat fatalities, spring through fall and estimate fatality rates. Coordinated searcher efficiency trials and scavenger trials to estimate true number of fatalities; supervised and quality-checked fatality estimation and report writing. Project Manager.

Analysis of Methods to Identify Deer-Vehicle Collision Hotspot, Federal Highway Administration (2009-2011) Nationwide. Compared qualitative and quantitative methods to identify DVC hotspots, based on data needs, ease of implementation, expertise required, and relevancy to solving safety and ecological issues. Project responsibilities included review of methods through literature review and interviews with DOT staff, creating and implementing comparison protocols, staff management and report writing. Principle Investigator and Project Manager.

Brimfield Wind Avian and Bat Surveys, First Wind, Brimfield, Massachusetts (2009-2010). Avian and acoustic bat surveys to support environmental permitting for a proposed 20 MW project in southwestern MA. Avian surveys include raptor surveys and breeding bird surveys. Project Manager and Avian Biologist.

Avian Impact Assessment, Town of Saugus, Saugus, Massachusetts (2009-2010). Desktop analysis of biological and permitting issues associated with a proposed municipal, utility-scale wind development on the abandoned I-95 road bed Saugus, MA. Species of interest include neotropical migrants, wintering ducks, terns, and other shore birds. Project Manager and Avian Biologist.

Mitigation Wetland Functional Assessment, Federal Highway Administration, various nationwide locations (2008-2010). Wetlands constructed to mitigate for highway project-related impacts and reference wetlands were surveyed, and levels of invasive cover and wildlife functions compared. Project responsibilities included interviewing state DOT staff to identify and select study sites, conducting surveys, semi-quantitative analysis, report writing, and managing staff. Project Manager.

Seabrook Nuclear Facility Relicensing, Florida Power and Light, Seabrook, New Hampshire (2008-2010). Reviewed and summarized all terrestrial ecology issues associates with facility construction and operations with a focus on threatened and endangered species, and impact assessment; results presented in a NRC compliant Environmental Report format to support relicensing. Task Manager.

Nine Mile Point Nuclear Facility Expansion, Constellation Energy, Scriba, New York (2007-2010). Wildlife studies to support expansion of an energy facility in Oswego NY. Tasks included field review of the site, evaluation of the habitat's ability to support potential threatened and endangered species, and impact assessment; results presented in a NRC compliant Environmental Report format to support licensing. Wildlife Task Manager.

Mount Snow Resort Snow Making Upgrade Biological Evaluation, US Forest Service, Green Mountain National Forest, Vermont (2008). Review all threatened and endangered species issues associated with a snow making upgrade; analyzed impacts and summarize results in a Forest Service Biological Assessment and a NEPA Environmental Assessment. Senior Wildlife Ecologist.

Casco Bay Fuel Line Removal, U.S. Navy, in Brunswick and Harpswell, Maine (2008). Wildlife studies to support Corps 404 and Maine NRPA permitting. Conducted habitat survey of project area, mapped wildlife habitat, and assessed impacts, with a focus suitable habitat for and presence of species listed by the State of Maine and /or USFWS. Compiled results in a report to support all local and federal permitting efforts. Senior Wildlife Ecologist.

Canada Lynx and American Marten Habitat Assessment, Mount Washington Resort, Bretton Woods, New Hampshire (2007-2008). Provided expert opinion regarding the suitability of the resort's property for Canada lynx and American marten. Tasks included field assessment of the property, review of current literature, producing a written report detailing analysis approach and findings, and ongoing consultation with regulating agencies. Senior Wildlife Ecologist.

NH Route 2 Wildlife Crossing Investigation, New Hampshire Audubon, Jefferson and Randolph, New Hampshire (2005-2007). Designed, implement and managed a tracking study to identify the locations where wildlife crossed the highway, and to determine the characteristics of preferred crossing locations. Tasks included extensive quantitative and qualitative analysis of GIS based data sets. Principle Investigator and Project Manager. **Runway Expansion Feasibility Study, Town of Montague Airport Commission, Montague, Massachusetts (2004-2005).** Analyses of potential impacts to birds, sensitive habitats, and special status species including grasshopper sparrows, box turtles, rare plants, and pine-barrens associated insects present in the project area Tasks included field surveys, literature reviews, report writing and general project management. Project Manager.

Runway Expansion Feasibility Study, Martha's Vineyard Airport Commission, West Tisbury, Massachusetts (2004-2005). Conducted analyses and mitigation planning for potential impacts to birds, sensitive habitats, and special status species, including grasshopper sparrows, rare plants, and pine-barrens associated insects. Tasks included consultations with the MA Natural heritage and Endangered Species Program, field surveys, impact assessments, mitigation planning, literature reviews, report writing and general project management. Project Manager.

Programmatic Section 7 Consultation Regarding Impacts to Canada Lynx, Colorado Department of Transportation (2001-2002). Researched and wrote the document that served as the basis for a programmatic agreement between the USFWS and CDOT. Tasks included analysis of habitat and highway conflicts, analysis of likely impacts to lynx resulting from highway projects, development of a formalized impact assessment procedure, and literature review. Environmental Planner.

US 40 Rabbit Ears Pass Upgrade, Colorado Department of Transportation, Grand and Jackson Counties, Colorado (2001). Assessed project area for wildlife corridors and use by Canada lynx and large ungulates. Worked with project engineers and USFS to develop design recommendations, including locations for potential under passes, to improve motorist safety, reduce wildlife mortality and provides habitat connectivity. Environmental Planner.

US 9 Upgrade, Colorado Department of Transportation, Silverthorne, Colorado (1999-2000). Assessed project area for wildlife corridors and use by Canada lynx and large ungulates. Developed recommendation to improve motorist safety, reduce wildlife mortality and provides habitat connectivity. Worked with project engineers and designers to design and locate two wildlife underpasses. Endangered Species Specialist.

US 40 Berthoud Pass Upgrade, Colorado Department of Transportation, Clear Creek and Grand Counties, Colorado (1997-1998). Habitat assessment at the local and landscape scale to determine the best locations for wildlife underpasses to benefit mule deer, elk, Canada lynx and other species. Coordinated with project planners and designers to design underpasses that were appropriate for the target species and that provided engineering feasibility. Endangered Species Specialist.

REPRESENTATIVE PRESENTATIONS

Barnum, S. A., Alt, G. 2013. The effect of reduced mowing on rate of deer-vehicle collisions. 2013 Transportation Research Board Annual Meeting. Washington, D.C.

Barnum, S. A., Gray, M. 2011. A comparison of methods to identify deer-vehicle crash hotspots. 2011 Transportation Research Board Annual Meeting. Washington, D.C.

Barnum, S. A. 2008. Habitat, highway features, and animal-vehicle collision locations as indicators of wildlife crossing hotspots *in* Proceedings of the 2007 International Conference on Ecology and Transportation. Center for Transportation and the Environment, North Carolina State University.

Barnum, S. A. 2007. Habitat, highway features, and animal-vehicle collision locations as indicators of wildlife crossing hotspots. 2007 International Conference on Ecology and Transportation. Little Rock, AR.

Barnum, S. A. 2003. Identifying the best locations to provide safe highway crossing opportunities for wildlife. Society for Conservation Biology 17th Annual Meeting. Duluth, MN.

Barnum, S. A. 2001. Preliminary analysis of locations where wildlife crosses highways in the Southern Rocky Mountains 2001 International Conference on Ecology and Transportation. Keystone, CO.

Barnum, S. A. 2001. Preliminary analysis of locations where wildlife crosses highways in the Southern Rocky Mountains *in* Proceedings of the 2001 International Conference on Ecology and Transportation. Center for Transportation and the Environment, North Carolina State University.

Barnum, S. A. 1999. A programmatic approach to minimize highway project impacts on Canada Lynx (Lynx canadensis) in Colorado. Third International Conference on Wildlife Ecology and Transportation. Missoula, MT.

PEER-REVIEWED ARTICLES AND PUBLICATIONS

Barnum, S. A. 2003. Identifying the best locations along highways for wildlife under- and overpasses: a handbook for highway planners and designers. Colorado Department of Transportation Research Report 2003-9.

Barnum, S. A., C. J. Mannville, J. R. Tester, and W. J. Carmen. 1992. Path selection by *Peromyscus leucopus novaboracensis* in the presence and absence of vegetative cover. J. Mammal. 74:797-801.

JAMIE L. O'BRIEN

Biologist/Data Analyst

Ms. O'Brien is a biologist with seven years of professional experience in wildlife research, conservation, and natural resource management throughout New England. Her projects have emphasized protecting and managing threatened and endangered species, assessing environmental impacts, regulating and managing natural resources and wildlife, and ensuring Federal Endangered Species Act compliance. Her diverse wildlife background includes experience with forest, wetlands, and marsh birds, shorebirds, waterfowl, songbirds, raptors, amphibians, and small mammals. Ms. O'Brien is adept at using visual and auditory clues to identify species. Furthermore, she has performed numerous vegetation surveys as part of visual assessments, plot based surveys, and wetland delineations. In addition to her field skills, Ms. O'Brien possesses a strong foundation in project planning and implementation, project management and organization, and data analysis and quality control.

Additionally, Ms. O'Brien is a SAS programmer and is competent in working with and running analysis on large datasets. She is adept at quality control procedures that involve the integrity and quality of data and generation of final data deliverables.

REPRESENTATIVE PROJECT EXPERIENCE

Essential Fish Habitat, Waters River Bridge Replacement, Danvers, MA (2017-Present). Ms. O'Brien authored an Essential Fish Habitat Assessment report for a bridge replacement project. Biologist.

Biodiversity Assessments. Veolia Energy North America Holdings, Inc. Eastern Massachusetts and Southeastern US (2016-Present). Normandeau is designing biodiversity assessments for five Veolia operating sites in eastern Massachusetts and seven in the southeastern US. Ms. O'Brien is conducting desktop analysis of ten of the twelve facilities, writing and copy editing report sections, and recommending opportunities for increasing biodiversity. Biologist.

M127, W157, D121, G192, 380, ROW Reclamation, NH, Eversource Energy, NH (2016-Present). Normandeau was retained to delineate wetland boundaries and waterbodies for the reclamation of the 380, M127, W157, D121, and G192 Lines. Ms. O'Brien assisted wetland delineators by GPSing wetland boundaries and completing field data forms. Biologist.

Bald Eagle Habitat Assessment/Eagle Monitoring, Northeast Utilities. Concord-Manchester, NH (2016-Present). Northeast Utilities is required to monitor Bald Eagle activity as

EDUCATION

M.S.E.S., Applied Ecology, Indiana
University, Bloomington
M.P.A., Environmental Policy and
Natural Resource Management,
Indiana University,
Bloomington
B.A., (cum laude) Biology, Saint Anselm

PROFESSIONAL EXPERIENCE

College

2013-Present	Normandeau Associates
2011-2013	U.S. Fish & Wildlife
	Service, Umbagog
	National Wildlife Refuge
2012	Ducks Unlimited, Inc.
	U.S. Great Lakes Region
2009-2011	Office of Sustainability,
	Indiana University,
	Bloomington
2008	Dickinson College
	Biodiesel Shop

PROFESSIONAL AFFILIATIONS

- New Hampshire Audubon
- New Hampshire Association of Natural Resource Scientists
- The Wildlife Society
- Maine DIFW Credentialed Vernal Pool Observer

part of its FERC license for operation of the Amoskeag Dam hydroelectric facility on the Merrimack River. Ms. O'Brien is monitoring for roosting, perching, and feeding activity from observation stations along the river corridor, extending from Sewalls Falls to the Amoskeag Dam. Biologist.

MassDOT Statewide Northern Long-eared Bat Surveys, Parsons Brinkerhoff, Massachusetts (2016-Present). In support of over 40 MassDOT projects, Normandeau conducted acoustic surveys in 2015 and 2016 for the state and federally listed northern longeared bat. Ms. O'Brien assisted with Northern long-eared bat survey efforts, which involved deployment and retrieval of acoustic detectors. Biologist.

Balsams Ski Resort Expansion, Dixville LLC, Dixville, NH (2015-Present). Normandeau was retained to undertake natural resources surveys and provide permitting support for the revival and expansion of the Balsams Grand Resort and Wilderness Ski Area. Ms. O'Brien played a large role in the 2015 Northern long-eared bat surveys, where, in addition to deployment and retrieval of detectors, she coordinated site access and field crew schedules, and was responsible for data reporting, and habitat assessments. Biologist.

Wilder, Bellows Falls and Vernon Projects, TransCanada Hydro Northeast, Connecticut River, NH and VT (2015-Present). Normandeau Associates, Inc. is conducting studies for the FERC relicensing process of three TransCanada operated hydroelectric dams on the Connecticut River. Ms. O'Brien is involved with turbine tag studies evaluating spillway survival and turbine passage survival of American Eels, where she assisted by tagging and prepping eels for passage as well as using radio telemetry and operating motor boats to recover fish after passage. Biologist/Data Analyst.

Northern Pass HVDC New Hampshire Transmission Line Expansion Project, Northern Pass, LLC, Multiple Locations, NH (2014-Present). Northeast Utilities is proposing the Northern Pass Transmission Line, a 180-mile HVDC and AC Transmission project to bring hydropower from Quebec into New Hampshire and the New England region. Ms. O'Brien performed wetland mitigation research, prepared NHDES Shorelands, Wetlands, and Alteration of Terrain Permits, provided GPS support for delineated wetland boundaries, and participated in natural resource surveys including rare plants, vernal pools, and bats. Additionally, Ms. O'Brien oversaw geotechnical borings at the Deerfield Substation and installation of a work pad in Pittsfield to ensure compliance of wetland regulations and rare, threatened, and endangered (RTE) species avoidance. Biologist.

Seabrook Nuclear Generating Station Environmental Monitoring Program, NextEra Energy LLC, Seabrook, NH (2014-Present). An investigation into the potential impacts of a nuclear power plant on the physical and biological components of the coastal marine environment through use of a BACI model, Ms. O'Brien is editing and running error checking and analysis programs in support of this 316(b) monitoring program. Ms. O'Brien is also responsible for updating and creating data sheets used in field and lab surveys and for copy editing and/or authoring final report sections. Biologist.

Harbor and Outfall Monitoring Benthic, Fish and Shellfish Monitoring, Massachusetts Water Resources Authority, Massachusetts Bay, MA (2014-Present). A multiyear contract for

monitoring the effects to benthic communities and to the health of select fish and shellfish species from the relocation of the municipal wastewater discharge from Boston Harbor to Massachusetts Bay, Ms. O'Brien is providing technical data processing support by revising and running error checking and analysis programs, which aid in data analysis and report production. Data Analyst.

Mercury Initiative, Massachusetts Department of Environmental Protection (2016-2017). Normandeau is conducting long-term monitoring of mercury levels in Yellow Perch and Largemouth Bass in selected lakes and ponds throughout Massachusetts. Ms. O'Brien is participating in field and lab work for this project, consisting of netting, identifying, obtaining length, weight, sex, sexual condition, gonad weight and scale and tissue samples for each fish, as well as collecting water quality parameters. Biologist.

I-93 Exit 4A FEIS Northern Long-eared Bat Surveys, CDL Consulting Engineers, Londonderry/Derry, NH (2016). Normandeau is preparing a Final Environmental Impact Statement for a proposed new exit between Exits 4 and 5 on I-93 in southern NH. Ms. O'Brien conducted the northern long-eared bat surveys, which involved deployment and retrieval of acoustic detectors and habitat analysis of detector sites. Biologist.

Blackstone River Northern Long-eared Bat Surveys, New England Hydropower Company, LLC, Lincoln/Cumberland, RI (2016). Normandeau is conducting Northern long-eared bat survey work for proposed bridge repairs and upgrades along the Blackstone River. Ms. O'Brien conducted the Northern long-eared bat surveys, which involved deployment and retrieval of acoustic detectors and habitat analysis of detector sites. Biologist.

Philips Exeter Academy Northern Long-eared Bat Surveys, Altus Engineering, Inc., Exeter, NH (2016). Normandeau is conducting Northern long-eared bat survey work for a proposed drain outfall replacement project at Philips Exeter Academy. Ms. O'Brien conducted the Northern long-eared bat surveys, which involved deployment and retrieval of acoustic detectors and habitat analysis of detector sites. Biologist.

Garvins Eel Surveys, Eversource Energy, Manchester, NH (2016). Normandeau is providing PSNH with services related to upstream eel passage at their Garvins Falls project on the Merrimack River, NH. This includes the installation and maintenance of upstream eel ways on the eastern and western sides of the project. Ms. O'Brien checked on the upstream eel catch basins to count and measure specimens using the eel ways. Biologist.

Odiorne Point Banding Station, Odiorne Point State Park, Rye, NH (2015-2016). The New Hampshire Audubon Seacoast Chapter bands birds at Odiorne Point State Park from late April through June and August to October. Information gathered is used to uncover migration patterns specific to the area to help inform conservation efforts throughout the region. Ms. O'Brien is assisting lead banders with setup/breakdown of equipment, extraction of birds from mist nets, and recording pertinent information. Volunteer.

Water Street Promenade, Plymouth, MA (2015-2016). Normandeau Associates and BETA Group are assisting the town of Plymouth, MA in obtaining the proper permitting required under the Massachusetts Environmental Policy Act needed for pedestrian and vehicular

improvements to Water Street. Ms. O'Brien assisted the Senior Permitting Specialist with relevant permitting documents, including an Environmental Notification Form, to support the construction of seawalls and pier-supported structures along the waterfront of the Town Plymouth's Historic District. Biologist.

Somerset Wind, SunEdison, West Forks, ME (2015). Normandeau Associates is conducting natural resource surveys on approximately 1,150 acres for a proposed wind project in northern Maine. Surveys include wetland delineations, vernal pools, and rare plants. Ms. O'Brien is providing GPS support for delineated wetland boundaries as well as participating in vernal pool and rare plant surveys. Biologist.

Pike Industries Northern Long-eared Bat Surveys, Hooksett, New Hampshire (2015). Normandeau is conducting Northern long-eared bat survey work for a proposed quarry expansion. Ms. O'Brien conducted the Northern long-eared bat surveys, which involved deployment and retrieval of acoustic detectors and habitat analysis of detector sites. Biologist.

Socha Companies at Hidden Oak, Hooksett, New Hampshire (2015). Normandeau is providing delineation and natural resource survey work for a proposed apartment complex. Ms. O'Brien participated in Northern long-eared bat surveys, which involved the deployment and retrieval of acoustic detectors. Biologist.

NHF&G Public Access-Sunapee, Newbury, NH (2015). Normandeau Associates and Fay, Spofford & Thorndike have a multi-year contract to assist NH Fish and Game with permitting for a proposed public boat access facility at the Wild Goose Property on Lake Sunapee. Ms. O'Brien updated and gathered information for a State of New Hampshire Department of Environmental Services (NHDES) Shoreland permit. The permit was approved in September, 2015. Biologist.

Impingement and Entrainment Studies at Ravenswood Generating Station, New York City, NY (2014-2015). Impingement and entrainment samples at a fossil fuel powered generating station in New York City were collected from the East River over a two year period. Sampling satisfies the New York State Pollution Discharge Elimination System (SPDES) operating permit requirements. Ms. O'Brien wrote all of the SAS code necessary to map, error check, analyze, and process the data into deliverables for the final report. Data Analyst.

Neptune LNG Ichthyoplankton Survey, Neptune LNG LLC, MA (2014-2015). Day and night ichthyoplankton samples are collected in Massachusetts Bay twice per month for five years as part of NPDES permit requirements in order to analyze the potential impacts of an offshore LNG terminal. Ms. O'Brien provided technical data processing support by revising and running error checking programs as well as copy editing final report sections. Data Analyst.

PSNH 2014 Merrimack Station Survey for Asiatic Clam (*Corbicula fluminea***), Merrimack River, Bow, NH (2014-2015).** In support of the preparation of a 316(a) demonstration report evaluating the presence and distribution of the invasive Asiatic clam in the Merrimack River, Ms. O'Brien was involved with collecting ponar grab samples and writing programming code to process all field data (ponar grabs and diver transect samples), including mapping, error checking, analysis, and deliverable production for the final report. Biologist.

Confidential Project, Confidential Client, PA, NY, MA, CT, NH (2014-2016). This natural gas pipeline project runs from the Marcellus Shale fields across Pennsylvania, New York, Massachusetts and New Hampshire. Ms. O'Brien is involved with various aspects of this project, including wetlands and mitigation in a fatal flaw analysis, map revisions in ArcGIS, wetland compensatory mitigation research and ARM fund numbers. Ms. O'Brien is also providing GPS support for delineated wetland boundaries, and participating in natural resource surveys including vernal pools, turtles, snakes, Northern Harriers, and bat hibernacula. Biologist.

Ichthyoplankton and Fall Juvenile Surveys, Entergy Nuclear Operations Inc., Hudson River, NY (2013-2014). Permit conditions for nuclear power generation at the Hudson River facility in NY require monitoring for evidence of the federally endangered Shortnose Sturgeon and overall changes in fish abundance and diversity. Ms. O'Brien was monitoring activities by sorting through ichthyoplankton samples collected throughout the river. In addition to sorting, proper species identification and aging was practiced as a regular part of operations. Laboratory Technician/Taxonomist.

Vernal Pool Surveys, U.S. Fish & Wildlife Service, Umbagog National Wildlife Refuge, NH/ME (2013). Ms. O'Brien conducted assessments of vernal pools and amphibian breeding areas on the 40,000-acre parcel surrounding Lake Umbagog. Fieldwork consisted of documenting the condition and quantity of egg masses present, as well as adults and larvae of amphibian species. A GIS shapefile was created to document pool locations, as was a report to record procedures and findings for use in future field seasons. Biological Technician.

American Woodcock Surveys, U.S. Fish &Wildlife Service, Umbagog National Wildlife Refuge, NH/ME (2013). Ms. O'Brien was one of two observers to conduct American Woodcock surveys on designated transects within the Refuge boundary. Transects were placed in areas of recent or historical timber management activities in order to assess the success rate of such activities. Biological Technician.

Timber Harvest, U.S. Fish & Wildlife Service, Umbagog National Wildlife Refuge, NH/ME (2013). Ms. O'Brien was part of a team of biologists and foresters who marked, tallied, and selected trees for preservation due to wildlife habitat potential during a commercial timber harvest layout within the Refuge boundary. Timber management activities were necessary to provide suitable habitat for the American woodcock. Biological Technician.

Avian Inventories, U.S. Fish & Wildlife Service, Umbagog National Wildlife Refuge, NH/ME (2012-2013). Ms. O'Brien performed avian inventories following standard point count survey techniques, acting as a second observer. Guilds inventoried included mixed-forest areas with and without a history of logging pressure. Biological Technician.

Invasive Plant Inventory and Management, Umbagog National Wildlife Refuge, NH (2012-2013). Ms. O'Brien inventoried and mapped invasive plants on and adjacent to refuge boundary. Target species included Japanese knotweed, Oriental Bittersweet, and Purple Loosestrife. Project tasks incorporated assisting licensed biologist with chemical and manual control methods, providing oversight of Youth Conservation Corp members assisting with removal, and managing GIS data for summarizing survey results. Biological Technician. Integrated Waterbird Management and Monitoring Program, Ducks Unlimited, NY (2012-2013). Ms. O'Brien evaluated protected waterbird areas by conducting waterbird and vegetation surveys on over 30 wetland impoundment units in the Montezuma Wetlands Complex. Waterbird surveys involved coordination with federal, state and private stakeholders, and identification of all migrant and resident waterfowl, shorebird, wading bird, and secretive marsh birds. Waterbird surveys included driving or walking perimeter surveys as well as periodic flush count surveys on select management units. Vegetation surveys involved both rapid, visual assessment surveys and intensive, plot-based surveys. Biological Contractor.

Winter Raptor Surveys, U.S. Fish & Wildlife Service, Montezuma National Wildlife Refuge, NY (2012). In an ongoing effort to identify population characteristics and winter habitat use, Ms. O'Brien participated in weekly surveys for raptors at select locations within refuge property. Volunteer.

FrogWatch USA, U.S. Fish & Wildlife Service, Montezuma National Wildlife Refuge, NY (2012). A new volunteer effort at Montezuma National Wildlife Refuge, Ms. O'Brien participated in auditory surveys for frogs and toads by acting as a main observer at site locations and by helping other volunteers with auditory identification techniques. Volunteer.

Common Loon Breeding Productivity Assessments, U.S. Fish & Wildlife Service, Umbagog National Wildlife Refuge, NH/ME (2011-2013). Ms. O'Brien evaluated the breeding productivity of Common Loons on Lake Umbagog. Training included a week long review course at the Loon Preservation Committee. Fieldwork consisted of: taking GPS readings of nest locations; nest vegetation surveys; documenting observations of breeding behavior; searching for nests or evidence of pre-nesting activity; nest protection from predation and disturbance including nest raft deployment and buoy/closure sign deployment; monitoring nests, chicks, and fledglings; and updating metadata in GIS files. Biological Technician.

Bald Eagle Nest Monitoring, U.S. Fish & Wildlife Service, Umbagog National Wildlife Refuge, NH/ME (2011-2013). Ms. O'Brien evaluated nesting Bald Eagles on Lake Umbagog. Monitoring activities included taking GPS readings of nest locations, observing eagle behavior, ensuring Federal Endangered Species Act compliance for all project activities, completing required documentation following each survey, maintaining and preserving accurate Federal records, and updating metadata in GIS records. Biological Technician.

Osprey Nest Monitoring, U.S. Fish & Wildlife Service, Umbagog National Wildlife Refuge, NH/ME (2011-2013). Ms. O'Brien evaluated nesting Ospreys on Lake Umbagog. Monitoring activities included taking GPS readings of nest locations, observing Osprey behavior, completing required documentation following each survey, maintaining and preserving accurate records, and updating metadata in GIS records. Biological Technician.

Bat Monitoring, U.S. Fish & Wildlife Service, Umbagog National Wildlife Refuge, NH/ME (2011- 2013). Ms. O'Brien evaluated resident bat populations adjacent to Lake Umbagog. Monitoring activities included conducting maternity roost emergence surveys and acoustic driving transect surveys. Coordinating volunteer efforts, completing required documentation following each survey, maintaining and preserving accurate records, and updating database records was also practiced. Biological Technician. **Deer Check Station, U.S. Fish & Wildlife Service, Big Oaks National Wildlife Refuge, Madison, IN (2011).** Ms. O'Brien systematically checked in hunters at a refuge-based deer check station and aged and weighed year-and a-half bucks to gather information on habitat quality and population productivity, used to assess management efforts in a generally overpopulated area. Biological Technician.

Waterfowl Brood Assessments, U.S. Fish & Wildlife Service, Umbagog National Wildlife Refuge, NH (2011). Ms. O'Brien evaluated habitat use and reproductive success of waterfowl within selected management areas. Assessments comprised of documenting the number and age of birds present, observing bird behavior, and coordinating with other field biologists to eliminate the possibility of double counting. Survey data was used to inform future management of productive brooding areas. Biological Technician.

Rusty Blackbird Nest Monitoring, New Hampshire Audubon, Umbagog National Wildlife Refuge, NH (2011). Ms. O'Brien evaluated nesting Rusty Blackbirds adjacent to Lake Umbagog. Monitoring activities included tracking blackbirds with yagi and car antennae, resighting banded birds, observing blackbird behavior, completing required documentation following each survey, and maintaining and preserving accurate records. Biological Technician.

Northern Saw-whet Owl Banding, Indiana University Bloomington, Nashville, IN (2010-2011). In an effort to track migratory patterns of Northern Saw-whet Owls and gather information on population demographics and seasonality patterns, Ms. O'Brien instructed new volunteers on proper mist net set-up and storage and assisted lead banders with owl extraction from nets, weight measurements, and aging. Volunteer.

REPRESENTATIVE PRESENTATIONS

Loons on Lake Umbagog. Umbagog Lake State Park. Errol, NH. 2011

STARS Reporting, Campus Metrics, and Sustainability Dashboard. IOUS Academic Year Sustainability Symposium. Bloomington, IN. 2011

Glycerol options: Soap, Compost, and Anaerobic Digestion. Biodiesel Collective Conference. Golden, CO. 2011

Pilot Study of Dimorphic Interaction Behaviors in Plethodon cinereus. Saint Anselm College Science Symposium. Manchester, NH. 2009

SPECIAL TRAINING

Motor Boat Operator Certification (Department of the Interior), valid through 06/2016 Defensive Driving (Department of the Interior), valid through 06/2016 CPR/AED (American Red Cross), valid through 02/2019 SAS System programming ArcGIS 9.2-10.4 Normandeau's in-house acoustic bat survey training (40 hours)

STEPHEN R. LINDSAY Wildlife Biologist, Bat Specialist

Stephen Lindsay is a Wildlife Biologist who has expertise working with and studying bats in the United States. He has experience in most areas of bat research including mist netting, harp trapping, affixing transmitters and pit tags, banding and handling, performing hibernacula surveys, and using acoustic monitoring devises and analyzing the results. Stephen also has worked with many other endangered species throughout the northeast and has experience in radio telemetry and GIS.

Stephen has gained experience and knowledge of northeastern bat species by working with and learning from experts within the bat community while working for the New York State Department of Environmental Conservation. He has handled hundreds of bats that he identified to

EDUCATION

B.S.	2011,	2011, Wildlife Management, Paul		
	Smith's College			
A.S	2007,	2007, Individual studies		
PROFESSIONAL EXPERIENCE				
2015–Present		Wildlife Biologist		
		Normandeau Associates		
2013-2015		Wildlife Technician		
		New York State		
		Department of		
		Environmental		
		Conservation		
Summe	er 2014	Bat Technician		
		Vesper Environmental		
Summe	er 2012	Grassland Bird Technician		
		New Jersey Audubon		
Summer 2011		Grassland Bird Technician		
		Penn State University		

species, sexed, aged, assessed reproductive status, banded, and attached pit tags. Stephen has also used full-spectrum acoustic monitoring devices to monitor for Indiana and Northern Longeared bats and has experience both deploying the equipment and identifying the full range of bat species.

SELECTED PROJECT EXPERIENCE

Reassessing Summer Range of Indiana bats (Myotis sodalis) in the Hudson Valley, NY, NYSDEC (2013-2015).-Assess previous summer range use of Indiana bats using previously collected data. Use GIS and areal mapping to determine detector location and gain access to private and public location for detector deployment. Deploy acoustic detectors at sites throughout the Hudson Valley in order to detect MYSO. Collect, sort, and filter collected data. Run collected data through call analysis software and verify species determinations are correct for Myotis species. Set and monitor triple high mist nets at high priority sites. Determine species, sex, and age of captured bats and attach radio transmitters to captured MYSO. Perform exit counts at discovered maternity colonies.

Monitor Cave Ecosystems and White-Nose fungus Presence in Bat Hibernacula, NY, NYSDEC (2013-2015).-Access known hibernacula of Indiana bats and determine number present. Use caving gear, including caving suits and ropes/harnesses, to enter natural cave formations and abandoned mining sites. Take swabs from the ceiling of the cave at various locations using climbing and ladders. Take soil samples from the floor at various locations. Retrieve temperature and humidity monitoring buttons and collect data from them. Replace and report missing detectors.

Bi-yearly Winter Survey of Indiana bat (Myotis sodalis) Hibernacula, NY, NYSDEC (2013-2015).-Access known hibernacula of Indiana bats and determine number present. Use caving gear, including caving suits and ropes/harnesses, to enter natural cave formations and abandoned mining sites. Navigate through complex tunnel systems and use caving maps. Photograph and count visually number of Indiana bats and other species present.

Determining Range of Winter Raptors throughout the Hudson Valley, NY, NYSDEC, (2013-2015)-Performing winter raptor surveys in known and suspected areas of the Hudson valley to determine roost location and sites used by winter raptors. Use bi-weekly surveys to determine presence of winter raptors with special interest in Short-eared owl (Asio flammeus) and Northern harriers (Circus cyaneus). Use bow nets and live bait to lure and capture both species near found roost locations. Handle, band, collect biological data, and affix tail-mount radio transmitters to captures birds. Perform radio telemetry on birds to determine roost locations and foraging data.

Aeolas Cave Winter Mortality Survey, Vermont, Vesper Environmental (Summer 2014)-Work as a technician to help determine the survival rate of hibernating bats at Aeolas cave using pit tags and mark and capture. Deploy harp traps at cave mouth and nearby. Assess species, age, sex, and reproductive status of captured bats. Affix with pit tags and wing bands.

Assessment of Grassland Bird Nesting Success and Survival at PAX Naval Air Station, Maryland, New Jersey Audubon (Summer 2012). Work as a field technician to find and monitor grassland birds, with emphasis on eastern meadowlarks and grasshopper sparrows, on grassland plots on air bases to determine effects of mowing on productivity and survival. Nest searching using roping and sticking, nest monitoring, band resighting, nestling banding, and vegetation surveys were used. A professional working relationship was maintained with Patuxent Air Naval Station base officials.

Assessment of Grassland Bird Community response to Habitat Manipulation at reclaimed Strip Mine Mountains, Pennsylvania, Penn. State University (Summer 2011).-Assisting with PhD research on grassland bird community response to habitat manipulation on reclaimed surface mine grasslands in west-central PA. Assessing changes in survival, apparent return rates, and population sizes for these areas following vegetation removal. Assisting with capturing (via playback) and banding adult and nestling Grasshopper, Henslows, Savannah, and Vesper Sparrows. Also nest-searching and monitoring, and re-sighting color-banded birds to estimate population sizes.

SPECIAL TRAINING

Safe Capture International, Chemical Immobilization Trained

Bat Conservation and Management Advanced Acoustics Analysis Training