

# Digital Aerial Baseline Survey of Marine Wildlife in Support of Offshore Wind Energy

Summer 2016 Target Extraction Summary Report



**NYSERDA**



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## Summer 2016 Target Extraction Summary Report

### Prepared for

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**NYSERDA**

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## Introduction

Target extraction for the first summer survey for the NYSERDA Offshore Planning Area (OPA) and Wind Energy Area (WEA) was started in August 2016. All target extraction and quality control of target extraction was completed by October 26, 2016.

## Overview

Data were collected for the OPA including a 300-m buffer (defined herein as “collection area”) and the WEA including a 4-km buffer (“collection area”). For the OPA, this buffer ensures complete coverage to the boundary of the OPA. Because of the relatively small size of the WEA, the 4-km buffer ensures that biota that may pass through the WEA are more likely to be captured and also provides a smaller scale perspective on distribution than comparing to the OPA as a whole. Out of the 299,980 images collected in the survey area, 295,984 (98.67%) contained no evidence of living organisms. Of the 30,789 (10.4%) blank images that were QC’d, 74 were determined to contain targets (living organisms) that had been missed in the initial target extraction. The overall quality rate of the initial extraction was 99.97%, well within the quality control criteria established for the project. Images found to contain organisms were transmitted to taxonomists for identification.

From the remaining images, 13,557 organisms, 1 fixed structure, and 16 vessels were observed. Rays and birds were the most abundant taxa found in the OPA. Rays, sharks, and bony fishes were the most abundant taxa in the WEA.

## Total Images and Area Surveyed

| Area             | Total Area (km <sup>2</sup> ) | Collection Area         |                               |                  | Survey Area             |                  |
|------------------|-------------------------------|-------------------------|-------------------------------|------------------|-------------------------|------------------|
|                  |                               | Area (km <sup>2</sup> ) | Percent Coverage <sup>b</sup> | Number of Images | Area (km <sup>2</sup> ) | Number of Images |
| WEA <sup>a</sup> | 850.92                        | 107.59                  | 12.64%                        | 11,146           | 103.21                  | 10,587           |
| OPA              | 43,745.20                     | 3,204.02                | 7.32%                         | 289,393          | 3,204.02                | 289,393          |
| <b>Total</b>     | <b>44,596.12</b>              | <b>3,311.61</b>         | <b>7.43%</b>                  | <b>300,539</b>   | <b>3,307.23</b>         | <b>299,980</b>   |

<sup>a</sup> This table only represents the imagery that was processed and analyzed per the scope of work. An additional 10% coverage was collected for the WEA but is being stored if needed for future processing and analysis.

<sup>b</sup> Percent coverage of the entire OPA including the WEA imagery.

## Blank Images Detected

| Area         | Number of Images in Survey Area | Blank Images   |              |               |              |
|--------------|---------------------------------|----------------|--------------|---------------|--------------|
|              |                                 | Number         | Percent      | Number QC'd   | Percent QC'd |
| WEA          | 10,587                          | 10,166         | 96.02        | 1,100         | 10.82        |
| OPA          | 289,393                         | 285,818        | 98.76        | 29,689        | 10.39        |
| <b>Total</b> | <b>299,980</b>                  | <b>295,984</b> | <b>98.67</b> | <b>30,789</b> | <b>10.40</b> |

## Targets Detected\*

| Taxonomic Group  | Total (OPA and WEA) | OPA           | WEA        |
|------------------|---------------------|---------------|------------|
| Avian            | 1,893               | 1,886         | 7          |
| Large Bony Fish  | 858                 | 715           | 143        |
| Fixed Structures | 1                   | 0             | 1          |
| Marine Mammals   | 928                 | 926           | 2          |
| Rays             | 8,385               | 8,155         | 230        |
| Sharks           | 915                 | 751           | 164        |
| Turtles          | 578                 | 565           | 13         |
| Vessels          | 16                  | 15            | 1          |
| <b>TOTAL</b>     | <b>13,574</b>       | <b>13,013</b> | <b>561</b> |

\*Pending final data check

## Quality Control Results (Summer 2016)

| Number of Images for QC | Number of Images QC'd as Blank | Number of Images QC'd Not Blank | % Agreement Reached |
|-------------------------|--------------------------------|---------------------------------|---------------------|
| 30,789                  | 30,715                         | 74                              | 99.76%              |

| Order Found in Image | Number of Individuals | Number of QC'd Images Containing Species Group |
|----------------------|-----------------------|------------------------------------------------|
| Birds                | 10                    | 10                                             |
| Large Bony Fish      | 40                    | 40                                             |
| Marine Mammals       | 3                     | 3                                              |
| Turtles              | 21                    | 21                                             |
| <b>TOTAL</b>         | <b>74</b>             | <b>74</b>                                      |