Point and Shoot: Enhancing Coastal Lighting Evaluations with the Use of Laser Sighted GPS

Joseph Scarola, Jensen Beach, FL
Joe@ecological-associates.com
The lighting surveys shall follow standard techniques:

• include number and type of visible lights
• location of lights
• photo documentation

FDEP Permit Conditions and the Programmatic Biological Opinion for Beach Nourishment Projects

Figure 1. Beach Lighting Schematic
Disorientations
Challenges

• Identifying the exact location of a light source without entering private property
Pole Mounted Trimble RTK GPS
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Laser-Sighted GPS Systems Enhance Lighting Evaluations

Trimble Geo 7X

Nighttime Lighting Evaluation
Challenges

• Identifying the exact location of a light source without entering private property

• Providing property owners/managers with accurate information about their lighting violation
### Panama City Beach
#### Panama City Beaches Nourishment Project

**Site Lighting Evaluation Form**

<table>
<thead>
<tr>
<th>Property/Facility</th>
<th>Streetlight</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Address:</strong></td>
<td>-</td>
</tr>
<tr>
<td><strong>Observer:</strong></td>
<td>L. Sneed</td>
</tr>
<tr>
<td><strong>Date of Observation:</strong></td>
<td>6/2/2016</td>
</tr>
<tr>
<td><strong>Type of Observation:</strong></td>
<td>Initial Nighttime</td>
</tr>
<tr>
<td><strong>Lights Visible From The Beaches:</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>General Comments:</strong></td>
<td>-</td>
</tr>
</tbody>
</table>

**Type of Light:**
- STL: Streetlights on roadways and driveways.

**Current Problem Code:**
- 2: Light intensity appears high from beach. The lamp or reflective surface is visible over a small area of beach and causes diminution of sea turtle nesting areas on beach.

**Location of Light:**
- 2 lights along Cran[e Rd near 15658 Front Beach Rd

**Recommended Modifications:**
- STL - Detach 180° degree shield from fixture to light source in an elevated area.

**Additional Modifications:**
- STL - Detach 180° degree shield to fixture to light source in an elevated area.

**Violates Ordinance:**
- No

**Additional Comments:**

- Photo of Light:
  - Photo Latitude: 30.0011° N
  - Photo Longitude: -85.84766° W

- Aerial Photo:
  - Photo Latitude: 30.0011° N
  - Photo Longitude: -85.84766° W

**Survey Conducted by Environmental Associates, Inc.**
Interactive Maps Using Google Earth
Challenges

• Identifying the exact location of a light source without entering private property
• Providing property owners/managers with accurate information about their lighting violation
• Resolving lighting violations in a timely manner
Conclusions

These new methods for lighting evaluations have:

• Streamlined the process

• Provided more detailed and accurate reports

• Resolved lighting issues in a timely matter
Ultimate Goal

- minimize impacts to sea turtles from artificial lighting
- reduce disorientations on our beaches
Thank You!