"The Great Red Snapper Count"

Estimating the absolute abundance of Red Snapper in the U.S. Gulf of Mexico.
What is the problem?
- Lack of absolute abundance data hinders management

What is the goal of project and who’s involved?
- $12M - Independent estimate the abundance of Red Snapper
- 21 Leading Scientists from 12 Institutions

How is Red Snapper abundance being estimated?
Suite of methods:
- Habitat Classification
- Direct Visual Counts
- Acoustic Surveys
- Depletion Surveys
- Gulf-Wide Tagging Studies
Five Milestones

1. Data Mining & Habitat Mapping
2. Calibration & Validation
3. Sampling
4. Analysis
5. Final Estimation
1. Data Mining

(Above) All sampling gears used as presence-only or presence-absence points in modeling probability of presence
(Above) The predicted probability of presence of Red Snapper from a Random Forest model. Probability of presence is the probability of at least one Red Snapper being located in the cell.
Stratified Random Sampling Locations
3. Sampling: *In Progress*

- The most intensive phase, to continue for remainder of project

<table>
<thead>
<tr>
<th>Region</th>
<th>Completed Research Cruises</th>
<th>Completed Offshore Trips</th>
<th>Days at Sea</th>
</tr>
</thead>
<tbody>
<tr>
<td>FL/AL</td>
<td>4</td>
<td>7</td>
<td>52</td>
</tr>
<tr>
<td>AL/MS</td>
<td>1</td>
<td>21</td>
<td>21</td>
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<tr>
<td>LA</td>
<td>2</td>
<td>0</td>
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</tr>
<tr>
<td>TX</td>
<td>4</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>34</td>
<td>103</td>
</tr>
</tbody>
</table>
3. Sampling: Direct Visual Counts
3. Sampling: Artificial Reefs and Habitat features
Florida Shelf Sampling through 10-1-18
3. Sampling: C-BASS

- Murawski (USF) - 65 hours of video along 500 km of bottom types
- Uncharacterized and natural bottom and pipelines
- Video, multibeam mapping, EK60 bioacoustics
3. Sampling: “Uncharacterized” Bottom
3. Sampling: Pipelines
3. Sampling: Bioacoustics
3. Sampling: Depletion

- Powers, Hoenig, Carleton (VIMS)

- Depletion can provide overall abundance estimate (# fish/m²)

- Successful depletion trials off AL.
3. Sampling: Mark-Recapture Tagging

• Catalano (AU)

• Thousands of fish to be tagged across Gulf

• Archive genetic samples of tagged fish

• Angler engagement
Stakeholder Engagement

- Drymon (MSU)

www.snappercount.org
Video 3: Direct Visual Counts
How to Participate

Contact us: snappercount@harteresearchinstitute.org

Visit: www.snappercount.org