Informing Habitat Management for Shorebirds in Louisiana

When & Why

Jason Olszak
Past Shorebird Survey Effort in LA

Lowry (1974)- Statewide
LMVJV assessment (~2000)- Volunteers
Wildlife Area Surveys (2001-2008)- LDWF personnel
E-Bird, CBC

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**Lower Mississippi Valley Joint Venture**
**Shorebird Monitoring Program**

**Thank you!**
Please print a copy of this event summary for your records.

**I would like to...**

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Total Count</th>
<th>Banded Count</th>
<th>Band Desc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Killdeer</td>
<td>28</td>
<td>0</td>
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<tr>
<td>Solitary Sandpiper</td>
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<td>0</td>
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</tr>
<tr>
<td>Semi-palmated Sandpiper</td>
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<tr>
<td>Lesser Yellowlegs</td>
<td>11</td>
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<td></td>
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<tr>
<td>Least Sandpiper</td>
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<td>0</td>
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</tr>
<tr>
<td>Spotted Sandpiper</td>
<td>1</td>
<td>0</td>
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</table>

**Make corrections to this report**

This Lower Mississippi Valley Joint Venture Shorebird Monitoring Program is designed to assist in validating the biological model upon which shorebird foraging habitat objectives are derived, as well as provide much needed data in terms of migration chronology and pathways in the Mississippi Alluvial Valley and West Gulf Coastal Plain/3rd Conservation Regions.

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**2007 SHOREBIRD SURVEY**
**SHERBURNE WMA, SOUTH FARM**
August 27, 2007

- Undetermined sandpipers: 100
- Black-necked stilt: 84
- Western Sandpiper: 42
- Semi-palmated Sandpiper: 30
- White ibis: 28
- Yellow-legs sp.: 26
- Dark ibis sp.: 22
- Killdeer: 21
- Peeps: 9
- Great Blue Heron: 7
- Snowy Egret: 6
- Pectoral Sandpiper: 4
- Green Heron: 4
- Black-crowned Night Heron: 3
- Little Blue Heron: 1
Downfalls & Obstacles

1. Survey Timing
   - What is best time/technique to survey?
   - Habitat not Persistent

2. Detection Bias
   - Rapid Veg. Establishment

3. Observer Bias
   - Unfamiliar & Infrequent

4. Economic
   - Time counting few/no birds

5. Habitat Management
   - Waterfowl Priority

- Supplying the necessary mix of water depth and vegetative structure at the appropriate times is the most important management issue in this region (McKnight 2000).

- Migration Phenology
  - Northbound: Gone early May
  - Southward birds arrive late July

- Long Growing Season
  - March → Oct.
Regional Conservation Plans

* LA Wildlife Action Plan
  * **SGCN**
    * Tier I - SNPL, WIPL, AMOY, PIPL, REKN
    * Tier II – UPSA, LBCU, HUGO, MAGO, BBSA, SBDO, AMWO
    * Tier III - DUNL
  * WAP Priority Shorebird Conservation Actions
    * Identify, conserve, and monitor shorebird **stopover and wintering** locations.
    * Partner with LCCs, JVs, USFWS, NRCS, and other interested groups to encourage landowners to manage water levels to provide habitat for shorebirds during migration.
    * Continue to manage moist soil units on WMAs and refuges to provide suitable stopover habitat where appropriate.

* LMV/WGP Regional Shorebird Plan
  * Highly Imperiled – PIPL
  * High Concern – AMGP, RUTU, AMWO, REKN, BBSA, MAGO, WIPH
  * Moderate Concern – KILL, BBPL, LESA, SBDO, SESA, DUNL, STSA, WESA, COSN, GRYE, SOSA, WILL, AMAV
**LMV Habitat Conservation Goals**

<table>
<thead>
<tr>
<th>State</th>
<th>Hectares</th>
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<tbody>
<tr>
<td>Arkansas</td>
<td>520</td>
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<tr>
<td>Illinois</td>
<td>70</td>
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<tr>
<td>Kentucky</td>
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<td>Louisiana</td>
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<td>Mississippi</td>
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<td>Missouri</td>
<td>70</td>
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<tr>
<td>Tennessee</td>
<td>185</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>2000</strong></td>
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Information Needs

1. Shorebird Phenology
2. Species Specific Occurrence, Abundance, & Phenology
3. Importance of Stopover Sites
4. Beneficial Management Techniques
Catahoula Lake

- RAMSAR & IBA
- Planned drawdown each summer
- Well documented use by shorebirds
- Gradual Slope
  - Always some shorebird habitat
  - Shallow water/mudflat/bare ground/low veg.
LMV Important Stopover Sites
Lehnen & Krementz 2005
Objectives

- Shorebird Abundance & Phenology
- Species Abundance & Phenology
  - As related to habitat & moisture regime
- Contribution to Regional Habitat Goals
- Total Shorebird & Species Density
- Shorebird Habitat vs. Waterfowl foraging Capacity
- 3 years (+ 1)
- Point & Transect
  - Cluster counts
  - Distance & Direction
- July-Nov.
- 1.5 day survey
- 10-day interval
Results

* 351,067 birds 3 yrs.
* 117,000 birds/year
* 22-26 Species
* Top 5 Species = 78%

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<thead>
<tr>
<th>Species</th>
<th>Total</th>
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<tbody>
<tr>
<td>SBDO/LBDO</td>
<td>86345</td>
</tr>
<tr>
<td>Peeps</td>
<td>63718</td>
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<tr>
<td>BNST</td>
<td>39181</td>
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<tr>
<td>LEYE</td>
<td>37880</td>
</tr>
<tr>
<td>STSA</td>
<td>33220</td>
</tr>
<tr>
<td>LESA</td>
<td>12917</td>
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<tr>
<td>PESA</td>
<td>5635</td>
</tr>
<tr>
<td>GRYE</td>
<td>3678</td>
</tr>
<tr>
<td>LEYE/GRYE</td>
<td>3582</td>
</tr>
<tr>
<td>DUNL</td>
<td>3216</td>
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<tr>
<td>AMAV</td>
<td>2529</td>
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<tr>
<td>KILL</td>
<td>2195</td>
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<tr>
<td>WISN</td>
<td>1381</td>
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<td>WESA</td>
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<tr>
<td>BBSA</td>
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<td>PIPL</td>
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<td>MAGO</td>
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<td>AMGP</td>
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<tr>
<td>WIPH</td>
<td>10</td>
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<tr>
<td>RUTU</td>
<td>9</td>
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<td>LBDO</td>
<td>5</td>
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<tr>
<td>WHIM</td>
<td>2</td>
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<tr>
<td>SAND</td>
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<tr>
<td>Medium shorebirds</td>
<td>52306</td>
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<tr>
<td>Unk. Shorebird</td>
<td>329</td>
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<td><strong>Total</strong></td>
<td><strong>351067</strong></td>
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### Annual Variation

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<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
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<tbody>
<tr>
<td><strong>No. Surveys</strong></td>
<td>11</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td><strong>Survey Dates</strong></td>
<td>7/27 - 11/13</td>
<td>7/8 - 11/12</td>
<td>7/7 - 11/9</td>
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<tr>
<td><strong>No. Species</strong></td>
<td>26</td>
<td>22</td>
<td>24</td>
</tr>
<tr>
<td><strong>Total No. Birds</strong></td>
<td>120,531</td>
<td>71,998</td>
<td>158,538</td>
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<tr>
<td><strong>No. Birds (pt. count)</strong></td>
<td>80,628</td>
<td>40,590</td>
<td>113,535</td>
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<tr>
<td><strong>No. Birds (transect)</strong></td>
<td>39,903</td>
<td>31,408</td>
<td>45,003</td>
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<tr>
<td><strong>Avg. Water Depth</strong></td>
<td>27.7855</td>
<td>27.7765</td>
<td>27.704</td>
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<tr>
<td><strong>#1 species/group</strong></td>
<td>LBDO/SBDO (31,483)</td>
<td>peeps (14,342)</td>
<td>LBDO/SBDO (43,174)</td>
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<tr>
<td><strong>#2 species/group</strong></td>
<td>med. Shorebird (24,706)</td>
<td>BNST (12,158)</td>
<td>peeps (31,016)</td>
</tr>
</tbody>
</table>
Habitat Preferences
Species Phenology in LMV
Persistent Species
Early Migrants

Early Sept.
Late Migrants
October
Summary

- Arrival in Late July
- Low Species Evenness
- Annual variation in abundance and phenology
- Few species of regional conservation concern
- Habitat Deficit in Oct.-Nov.

- “Management” for waterfowl AND shorebirds
- Stagger units for habitat from Aug.-Nov.

- ? Number of Shorebirds Migrating through LMV?
Impoundment Management for Fall Migrating Shorebirds on Louisiana WMAs

- Drawdown & Flood Up
- Regular disturbance to bare soil for shorebirds.
  - Perennials & Woodys
  - More than mowing
  - 2X Disk usually required.

1. What is initial Condition?
   Open Water or Emergent Veg.

2. Vegetative Response?
   (Un)/Desired Vegetation.
1. **Open Water**

- Drawdown → mudflat → MS veg. → Final Flood
- Drawdown → mudflat → undesirable MS veg. → disk & shallow flood → mudflat → MS veg. → Final Flood
- Drawdown → mudflat → undesirable MS veg. → disk & Final Flood.

- Timing based on shorebird objectives
2. Robust Emergent Veg.

- Drawdown → mow/spray then disk → shallow flood → MS veg. → Final Flood.
- Drawdown → mow/spray then disk → shallow flood → undesirable MS veg. → disk & shallow flood → MS veg. → Final Flood.
- Drawdown → mow/spray then disk → shallow flood → undesirable MS veg. → disk & shallow flood → Undesirable MS veg. → disk & shallow flood → Final Flood.

- Drawdown rate irrelevant if noxious veg.
- Timing based on shorebird objectives
8/22  Red River WMA
- Mid-August: shorebirds
- Mid-Sept: teal
Dense Emergent Vegetation

- Dense Veg.
- Disk & Flood
- Undesirable Veg. (Drawdown & Disk)
- Desirable Veg.
- Final Flood
- Undesirable Veg. (Drawdown & Disk)
- Desirable Veg.
- Final Flood
- Shallow, then Final Flood
Questions

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