Threatened and Endangered Species Team (TEST)

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USACE – ERDC
Environmental Laboratory

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Research Wildlife Biologist at the U.S. Army Engineer R&D Center in Vicksburg, MS.

Primary Duties
- Wildlife Team Leader
- Conducting research and providing technical support to USACE Civil Works projects and DoD military installations

Research interests include:
- Riparian Zone Ecology and Management
- Migratory Bird Ecology and Management
- T&E Species
Section 7(a)(1) of the Endangered Species Act—Supporting the Mission through Proactive Conservation Planning and Endangered Species Recovery
## Federal TES Expenditures

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<tr>
<th>Agency/Land Ownership</th>
<th>Expenditure (2011)</th>
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<td>DoD – 42 million acres</td>
<td>$393,000,000</td>
</tr>
<tr>
<td>U.S. Military</td>
<td>$141,000,000</td>
</tr>
<tr>
<td>USACE</td>
<td>$252,000,000</td>
</tr>
</tbody>
</table>
What is the Problem?

USACE TES Expenditures

- USACE TES conservation and compliance spending averages ~$230 million per year

FY14 Top Ten Costliest TES Species

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Total</th>
</tr>
</thead>
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<tr>
<td>1 Salmon, chinook</td>
<td>$65,209,235</td>
</tr>
<tr>
<td>2 Sturgeon, pallid</td>
<td>$62,619,597</td>
</tr>
<tr>
<td>3 Steelhead</td>
<td>$31,828,548</td>
</tr>
<tr>
<td>4 Salmon, sockeye</td>
<td>$10,715,945</td>
</tr>
<tr>
<td>5 Tern, least</td>
<td>$8,431,784</td>
</tr>
<tr>
<td>6 Plover, piping</td>
<td>$8,307,257</td>
</tr>
<tr>
<td>7 Flycatcher, southwestern willow</td>
<td>$3,847,451</td>
</tr>
<tr>
<td>8 Salmon, coho</td>
<td>$3,270,107</td>
</tr>
<tr>
<td>9 Salmon, chum</td>
<td>$2,305,573</td>
</tr>
<tr>
<td>10 Trout, bull</td>
<td>$2,302,528</td>
</tr>
<tr>
<td><strong>Top 10 Total</strong></td>
<td><strong>$198,838,025</strong></td>
</tr>
<tr>
<td><strong>Percent of FY14 Total</strong></td>
<td><strong>87.57%</strong></td>
</tr>
</tbody>
</table>
What is the Problem?

- 85% of USACE expenditures are on fish
- ~10% on birds

### FISH
- **Salmon, chinook (9 Populations)**: $73,851,410
- **Steelhead (11 populations)**: $51,907,342
- **Sturgeon, pallid**: $48,718,484
- **Salmon, sockeye (2 Populations)**: $14,293,621
- **Flycatcher, southwestern willow**: $7,668,176
- **Salmon, chum (2 Populations)**: $6,102,995
- **Minnow, Rio Grande silvery**: $5,787,904
- **Plover, piping (2 Populations)**: $5,339,877
- **Tern, least**: $4,467,906
- **Salmon, coho (4 Populations)**: $3,404,322
- **Sturgeon, Atlantic**: $2,248,191
- **Vireo, least Bell's**: $2,229,661
- **Sturgeon, shortnose**: $1,628,115
- **Sturgeon, North American green**: $1,385,026
- **Woodpecker, red-cockaded**: $1,058,791
- **Trout, bull**: $979,656
- **Smelt, delta**: $586,391
- **Bat, Indiana**: $560,676
- **Sea turtle, loggerhead**: $496,875
- **Manatee, West Indian**: $469,134

### BIRDS

### MAMMALS

### REPTILES/AMPHIBIANS
What is the Problem?

- TES conservation concerns currently exist at over 430 USACE projects, for over 300 different species.
What is the Problem?

An additional 250 species listings or critical habitat designations are expected to occur by 2018.
What is the Problem?

- USACE has no formal and organized strategy to address TES
- Single-species approaches used to date have provided mixed results in terms of meeting the objective of easing operational constraints on the Corps.
### What is the Problem?

**Expenditures on TES by USACE Division**

**USACE TES Costs by Division, Comparison of FY12-14**

<table>
<thead>
<tr>
<th>Division</th>
<th>FY14</th>
<th>%</th>
<th>FY13</th>
<th>%</th>
<th>FY12</th>
<th>%</th>
<th>Prior Yr Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>NWD</td>
<td>$187,183,216</td>
<td>82.4%</td>
<td>$197,636,509</td>
<td>79.4%</td>
<td>$280,786,918</td>
<td>83.5%</td>
<td>($10,453,293)</td>
</tr>
<tr>
<td>SPD</td>
<td>$15,608,569</td>
<td>6.9%</td>
<td>$31,755,211</td>
<td>12.8%</td>
<td>$28,556,186</td>
<td>8.5%</td>
<td>($16,146,642)</td>
</tr>
<tr>
<td>SAD</td>
<td>$9,869,724</td>
<td>4.3%</td>
<td>$9,285,603</td>
<td>3.7%</td>
<td>$12,777,165</td>
<td>3.8%</td>
<td>$584,121</td>
</tr>
<tr>
<td>NAD</td>
<td>$4,196,641</td>
<td>1.8%</td>
<td>$3,008,131</td>
<td>1.2%</td>
<td>$2,116,730</td>
<td>0.6%</td>
<td>$1,188,510</td>
</tr>
<tr>
<td>MVD</td>
<td>$3,524,474</td>
<td>1.6%</td>
<td>$3,052,687</td>
<td>1.2%</td>
<td>$1,923,351</td>
<td>0.6%</td>
<td>$471,787</td>
</tr>
<tr>
<td>LRD</td>
<td>$3,231,315</td>
<td>1.4%</td>
<td>$1,061,633</td>
<td>0.4%</td>
<td>$1,079,457</td>
<td>0.3%</td>
<td>$2,169,682</td>
</tr>
<tr>
<td>SWD</td>
<td>$2,819,784</td>
<td>1.2%</td>
<td>$2,309,651</td>
<td>0.9%</td>
<td>$2,984,665</td>
<td>0.9%</td>
<td>$510,133</td>
</tr>
<tr>
<td>POD</td>
<td>$620,383</td>
<td>0.3%</td>
<td>$844,116</td>
<td>0.3%</td>
<td>$6,239,536</td>
<td>1.9%</td>
<td>($223,733)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$227,054,106</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>$248,953,541</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>$336,464,008</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>($21,899,435)</strong></td>
</tr>
</tbody>
</table>
### What is the Problem?

**FY14 TES Expenditures by USACE South Pacific Division**

<table>
<thead>
<tr>
<th>Species Name</th>
<th>Species Total</th>
<th>SPA</th>
<th>SPK</th>
<th>SPL</th>
<th>SPN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flycatcher, southwestern willow</td>
<td>$3,847,401</td>
<td>$2,739,591</td>
<td>$42,730</td>
<td>$1,063,480</td>
<td>$1,600</td>
</tr>
<tr>
<td>Steelhead</td>
<td>$2,520,643</td>
<td>$793,695</td>
<td>$131,050</td>
<td>$1,595,898</td>
<td></td>
</tr>
<tr>
<td>Minnow, Rio Grande silvery</td>
<td>$1,877,852</td>
<td>$1,877,852</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salmon, Chinook</td>
<td>$1,536,929</td>
<td></td>
<td>$1,458,072</td>
<td></td>
<td>$78,857</td>
</tr>
<tr>
<td>Salmon, coho</td>
<td>$1,436,860</td>
<td></td>
<td></td>
<td>$1,436,860</td>
<td></td>
</tr>
<tr>
<td>Vireo, least Bell's</td>
<td>$1,233,896</td>
<td></td>
<td>$22,766</td>
<td>$1,204,730</td>
<td>$6,400</td>
</tr>
<tr>
<td>sturgeon, green</td>
<td>$481,602</td>
<td></td>
<td>$407,302</td>
<td></td>
<td>$74,300</td>
</tr>
<tr>
<td>Beetle, valley elderberry longhorn</td>
<td>$461,901</td>
<td>$461,901</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smelt, delta</td>
<td>$243,949</td>
<td></td>
<td>$190,749</td>
<td></td>
<td>$53,200</td>
</tr>
<tr>
<td>Sucker, Santa Ana</td>
<td>$243,416</td>
<td></td>
<td></td>
<td>$243,416</td>
<td></td>
</tr>
<tr>
<td>Frog, California red-legged</td>
<td>$195,480</td>
<td></td>
<td>$49,548</td>
<td>$37,132</td>
<td>$108,800</td>
</tr>
<tr>
<td>Mouse, salt marsh harvest</td>
<td>$190,600</td>
<td></td>
<td>$47,686</td>
<td></td>
<td>$190,600</td>
</tr>
<tr>
<td>Salamander, California tiger</td>
<td>$96,486</td>
<td></td>
<td></td>
<td></td>
<td>$48,800</td>
</tr>
</tbody>
</table>
Purpose

Accelerate the development of solutions to priority threatened and endangered species issues that will:

► Improve operational flexibility
► Reduce future costs
► Improve budget planning capabilities
► Reduce adverse impacts to mission execution
► Improve species conservation outcomes
What is the Threatened & Endangered Species Team (TEST)?

Objectives
- Identify and document TES with biggest impacts to USACE mission (monetarily and operationally)
- Prioritize resolvable TES issues with respect to potential ROI
- Investigate system-level approaches with high ROI (e.g., beach nourishment, RSM)
- Identify needed R&D with high impact to TES recovery or decreased mission impact
- Develop a R&D investment plan based on priorities and ROI
- Integrate EWN and ESA 7(a)(1) as proactive tools for conservation and recovery
USACE Threatened & Endangered Species Team - TEST Advancing the USACE Approach

- “T” in TEST
  - HQ - Mr. Joe Wilson, Coordinating Lead; Legal, Business Line Leaders, Others
  - MSC & District Chiefs and T&E Leads
  - ERDC - Dr. Todd Bridges, Senior Scientist; Dr. Richard Fischer, Lead Coordinator; and Subject Matter Experts (SMEs) across labs
  - District Staff – Project Managers, SMEs
  - Additional USACE Resources – IWR, Mr. Jeff Krause (NRM); Military Programs T&E SMEs, others
  - Resource Agencies, Industry, Academia, Other Stakeholders
TEST Workshop Action Items

- Develop comprehensive long-term strategy for addressing TES within USACE
- Establish a prioritized TES list to better inform how we make investments (and subsequent ROI)
- Develop proactive strategy for predicting unlisted species likely to impact future missions
- Explore modeling frameworks having concurrent monitoring, adaptive management and risk assessment
- Design big picture projects that will make a difference (rather than current piecemeal approach)
- Modernize internal and external communication (improved websites; social networking)
Each Federal agency shall ... insure that any action ... is not likely to jeopardize the continued existence of any endangered species or threatened species...or result in destruction...of (critical) habitat...
Section 7(a)(2) consultations

- Occur when actions of a FEDERAL agency (funded, or permitted by) may adversely affect a listed species
- For example, dam operations by the USACE may affect Interior Least Terns & Great Plains Piping Plovers
- Action agency (USACE) writes Biological Assessment
  - If FWS determines that action is “likely to adversely affect…”
- FWS writes Biological Opinion (issues IT statement)
  - Jeopardy analysis (do actions jeopardize continued existence?)
  - If no, reasonable and prudent measures, terms and conditions
  - If yes, reasonable and prudent alternatives (jeopardy only)
History

40+ years of using ESA Formal Consultation through Section 7(a)(2)

- Adversarial
- Confrontational
- Dictatorial
- Costly
- Little Flexibility
- Unpredictable
- Little or no control
- Losing process for the species
PURPOSE OF SECTION 7(a)(1)

To address the conservation (recovery) needs of listed species relative to Federal Program impacts.

- Section 7(a)(1) conservation programs are to improve listed species baselines within the scope of Federal action agency authorities.
“Section 7a1 allows FWS or NMFS to work continuously with a Federal agency to develop a program of species conservation that uses all the agency’s authorities, is at the agency’s disposal at all times, and does not depend on the presence of a particular project for implementation.” (Ruhl 1995)
New Approach

Section 7(a)(1)

- Allows USACE to be proactive in consultation and conservation processes rather than reactionary
- Reduces surprises and conflicts
- We commit to actions we would be predisposed to undertake anyway under 7(a)(2)
- Reduce future 7(a)(2) consultations
- Actions contingent upon availability of funds providing budget predictability
- Improves likelihood of species recovery

Conservation Programs under 7(a)(1) are designed to improve listed species baselines within the scope of Federal action agency authorities.
Conservation Management Agreements

- Explicit plan for specific management actions
- Formal agreement enables long-term management
  - Any combination of agencies and organizations
  - Partners must have legal authority for management
  - Agreement must contain funding mechanisms
  - Agreement must be legally enforceable
- De-listing possible (protections of ESA not needed)
USACE/USFWS 7(a)(1) Coordination
Recovery of the Interior Least Tern

A fresh approach to Species Recovery through ESA Section 7(a)(1)
Delisting the Interior Least Tern

- Complete testing of TernPOP model and provide to USFWS
- Complete 7(a)(1) Plans for SWD, LRD
- Publish monitoring plan in PR literature
- USFWS proposes delisting rule in Federal Register
- USFWS receives comments from federal agencies, species experts, etc.
- Final Rule
MS River Habitat Conservation Plan

- Proactive and innovative
- Creates “buy-in” from multiple agencies and organizations
- Addresses multiple species
- Conserves habitat in perpetuity for listed species
- Provides template for others to follow
- Long-term cost-savings to USACE
- Supports USFWS 5-Year Status Reviews for listed species
Other Opportunities?

Western DPS
Yellow-billed Cuckoo

Least Bell’s Vireo

Southwestern Willow Flycatcher

Rio Grande Silvery Minnow
FY16 TEST Projects
Riparian Restoration and TES birds

PI: Fischer (lead), Vic Medina, Carlos Ruiz

► Field demonstration of riparian habitat restoration for regional TES birds with high USACE expenditures
► Coordination with USACE and other Federal partners
► Pursue 7(a)(1) conservation plans with partners
► FY16 site selection and coordination
► FY17 and FY18 – project construction and monitoring
► Leverage with WOTS funding
► Significant involvement by American Bird Conservancy
Partnering Opportunities Outside of USACE

WRP MISSION
WRP provides a proactive and collaborative framework for senior-policy level Federal, State and Tribal leadership to identify common goals and emerging issues in the states of Arizona, Colorado, California, Nevada, New Mexico and Utah and to develop solutions that support WRP Partners and protect natural resources, while promoting sustainability, homeland security and military readiness.
Working Lands for Wildlife is a partnership between NRCS and the U.S. Fish and Wildlife Service (FWS) to use agency technical expertise combined with $33 million in financial assistance from the Wildlife Habitat Incentive Program to combat the decline of seven specific wildlife species whose decline can be reversed and will benefit other species with similar habitat needs.
Questions/Comments?