

THE BENEFITS AND HURDLES OF INTERANTIONAL MIGRATORY BIRD RESTORATION

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OUTLINE

Use of funds recovered by U.S. NRDAR to restore migratory birds elsewhere

Rationale for international restoration efforts

Restoration approaches
(OPA versus CERCLA)

Consideration of Pros
and Cons



THE DOI RESTORATION PROGRAM HAS:

Marbled murrelet, USFWS



- ◆ Resolved Hundreds of cases;
- ◆ Collected hundreds of millions of dollars for natural resource compensation;
- ◆ Protected hundreds of thousands of acres of wildlife habitat;
- ◆ Undertaken restoration projects from
 - ◆ Alaska to Argentina
 - ◆ Florida to New Zealand

WHAT IS APPROPRIATE RESTORATION, AND WHO DECIDES?



Trustee council makes restoration decisions (with public input)

Nexus of restoration to the injury

Preference for in-kind, in-place

Species' life-history traits are vitally-relevant foci for restoration efforts



Examples of Restoration Types

DOI/USFWS

1. Purchase and protect habitat to insure productivity and protect future populations.
2. Increase populations by decreasing other causes of mortality.
3. Actively return injured habitats to pre-release conditions.
4. Enhance or restore quality of other existing habitat.
5. Increase populations through reintroduction or restocking.

OPA Migratory Bird Projects Interstate and International



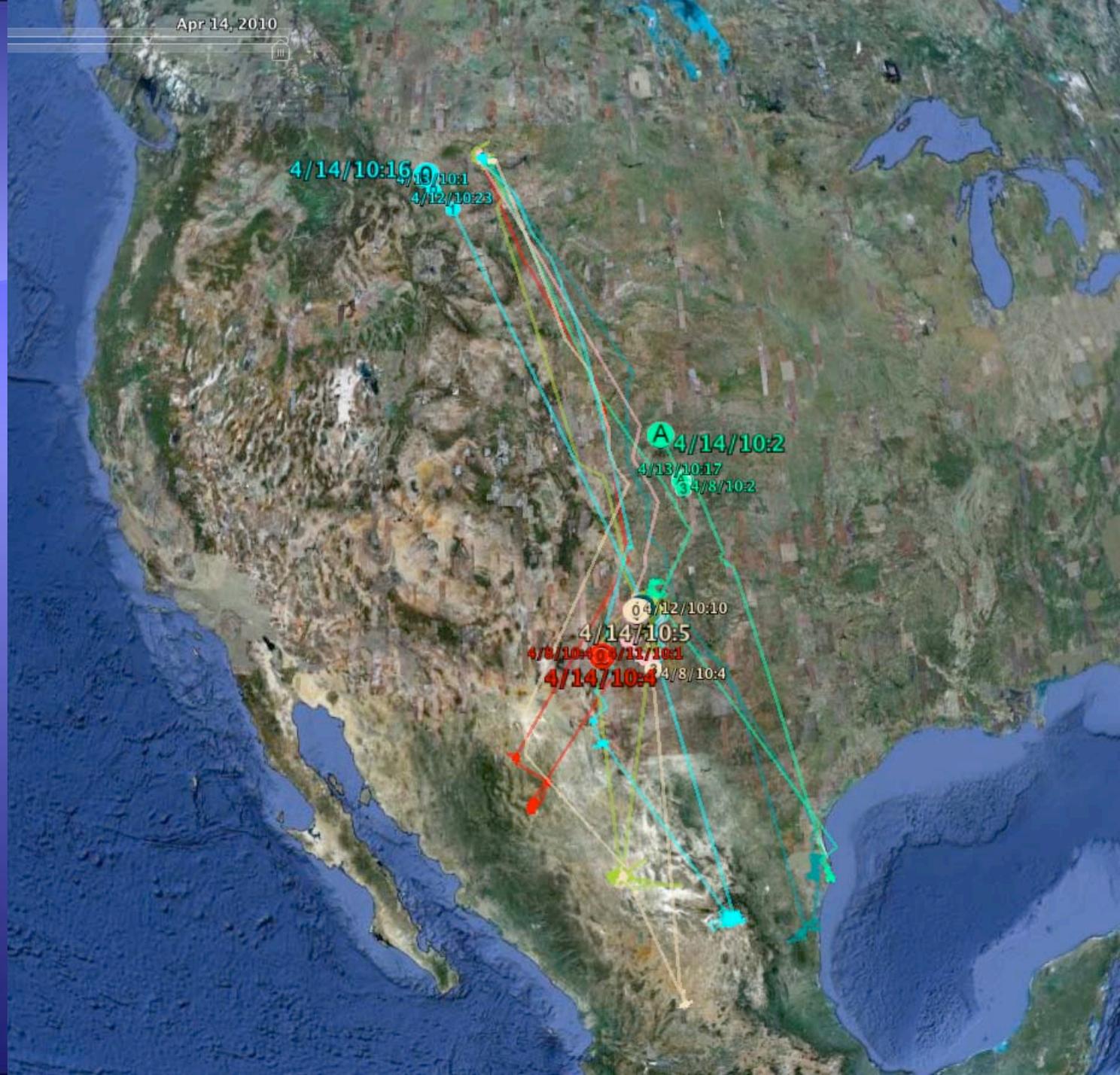
USFWS

Species	Location	Type	Location
Sooty Shearwaters	New Zealand	predator ctl	2 CA oil spills
Ruddy Ducks	prairie potholes	habitat	MD oil spill
Common loons	Maine lakes	habitat	MA oil spill
Red Knots	Argentina/Chile	management	NJ oil spill
Razorbills	Gulf of Maine	predator ctl	VA oil spill
Brown Pelicans	Baja	habitat	CA oil spill
Ancient Murrelets	Canada	habitat	CA oil spill

Recent advances in telemetry are facilitating novel restoration projects

Long-Billed Curlew data
April 14, 2010

Credit:
Bob Gill
USGS Alaska
Shorebird Project



2009-2010 Whimbrel Migration Telemetry

Credit:
Bob Gill
USGS Alaska
Shorebird Project





Bristle-Thighed Curlew and Bar-Tailed Godwit migration telemetry

Credit:
Bob Gill
USGS Alaska
Shorebird Project

CERLCA-Related Migratory Bird Projects

Neotropical migrants are:

injured at many CERCLA/hazardous substance sites

not nest site-limited at CERCLA Sites

not necessarily fully restored by on-site projects



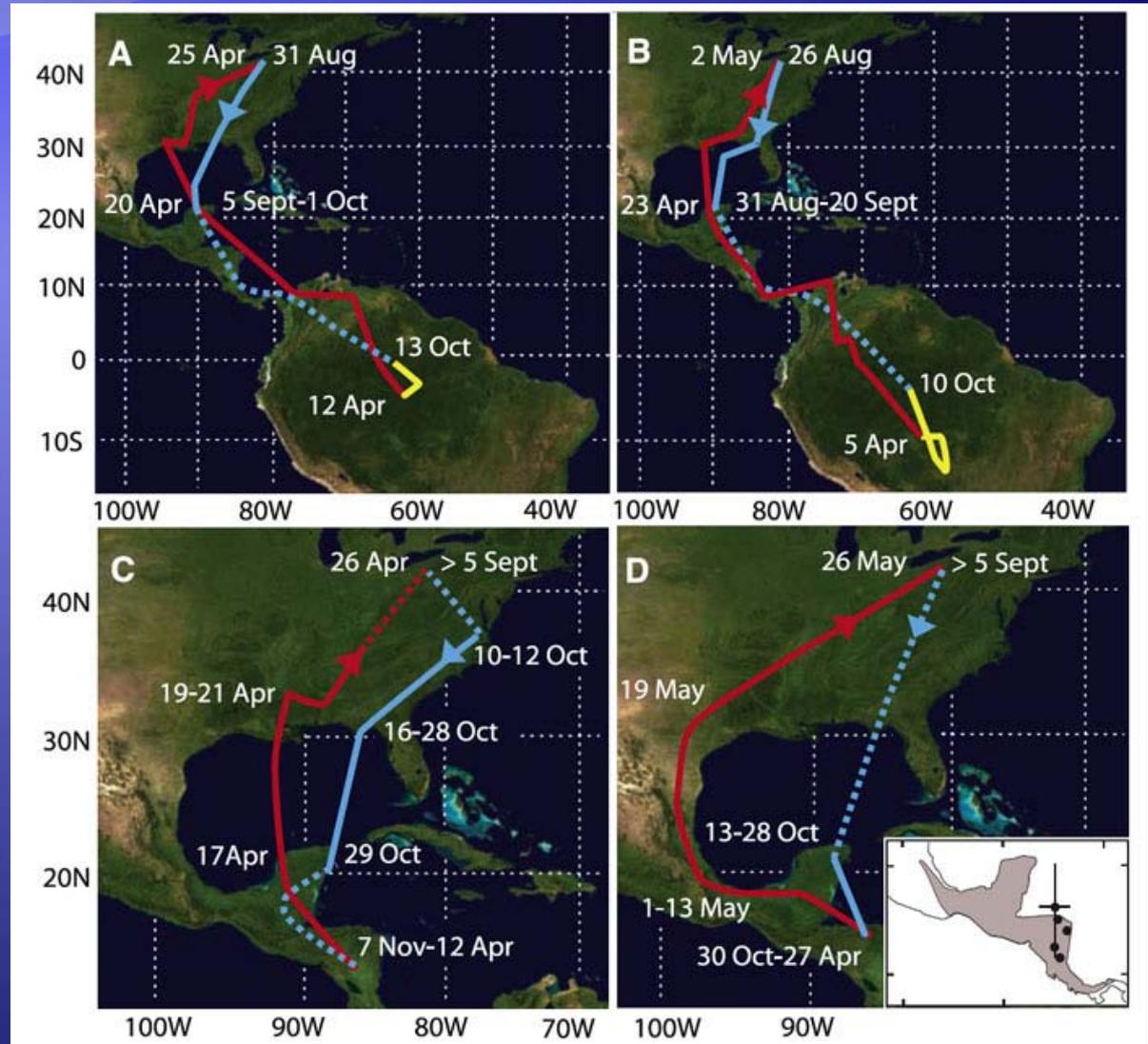
Yellow-breasted chat
USFWS

Actual movements of Purple Martin (top 2 panels) and Wood Thrush (bottom 2 panels) by Stutchbury's team.

Said Stutchbury

"This region [Central America] is clearly important for the overall conservation of Wood Thrushes, a species that has declined by 30 percent since 1966" and

"Songbird populations have been declining around the world for 30 or 40 years, so there is a lot of concern about them."



Purple Martin

Fall Migration = 45 days



Stuchbury et al. 2009



Migration Routes: Trans-Gulf

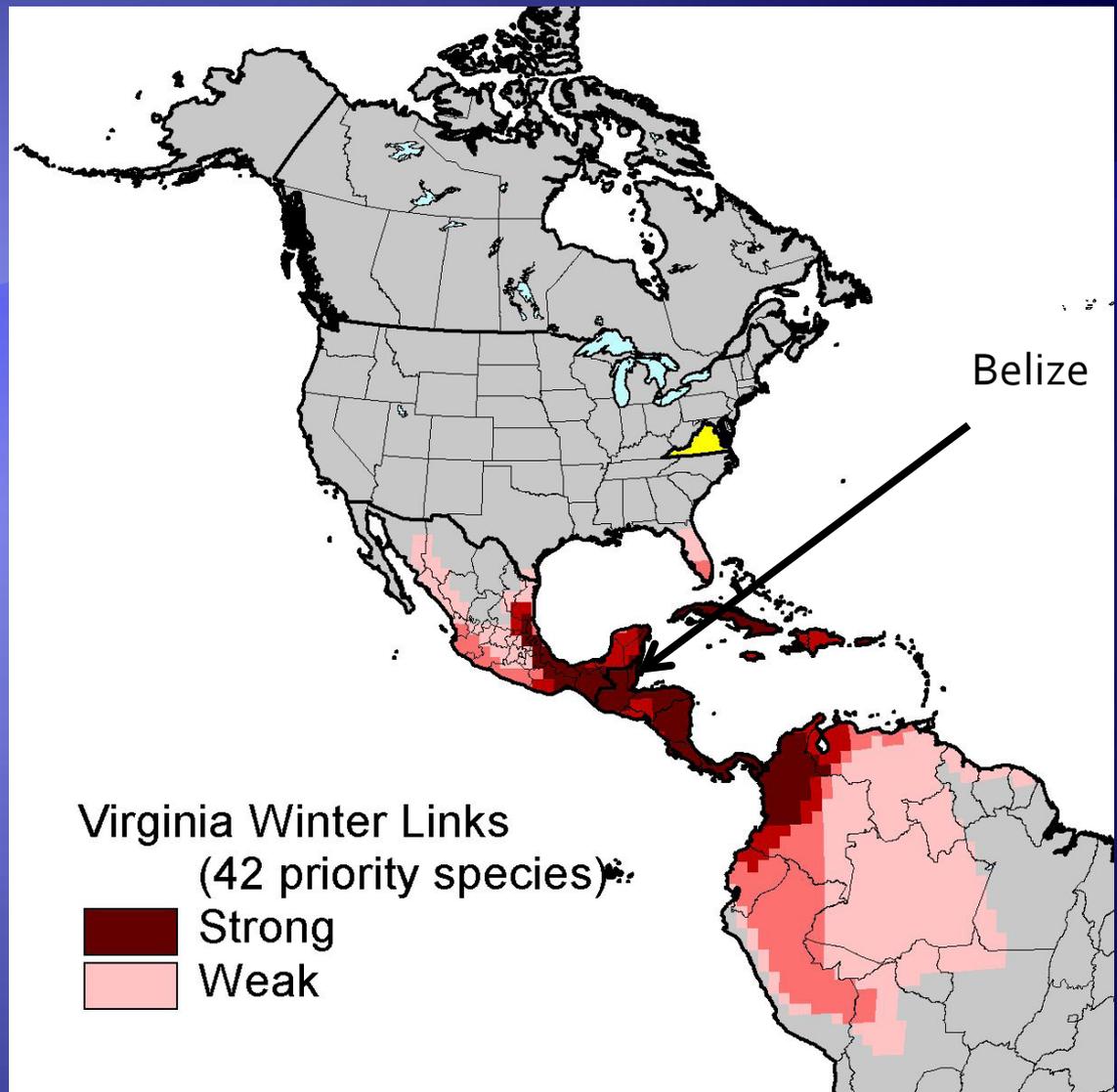
Wood Thrush
Spring Migration
= 12 days



Why is it important to consider doing migratory bird restoration in Mesoamerica?

- ◆ Neotropical migrant birds depend on both breeding and wintering habitats
 - ◆ Spend more time on their wintering vs. breeding areas
 - ◆ Site fidelity is high for both breeding and wintering areas
 - ◆ Declines in songbird numbers continue
- ◆ Bird health leaving wintering ground significant to survival and reproductive success
- ◆ General North American – Central/South American linkages are well known
- ◆ Site-specific linkages are now possible
 - ◆ Bridget J. M. Stutchbury et al. 2009. Tracking Long-Distance Songbird Migration by Using Geolocators. *Science* 323:896

Neotropical
migrant link is
strong between
Virginia and
Belize



Why use Belize as a case study?

- ◆ Belize is a politically stable country, with English as its primary language
- ◆ Belize is a country with a strong environmental ethic, yet has the usual pressures from development and economic growth
- ◆ Large private properties of land with conservation concern are available for protection
- ◆ Multiple environmental non-profits are present and are strong conservation stakeholders
- ◆ North American neotropical migrants are widely distributed and overwinter in high densities

Potential Criteria for Project Prioritization



- (1) High proportion and abundance of both
 - (a) neotropical migrants and
 - (b) highly ranked species of conservation concern (per Partners in Flight);
- (2) Overall high conservation value of property;
- (3) High connectivity with other protected properties;
- (4) Solid ability of land steward to protect and maintain the property;
- (5) Risk of development pressure and/or habitat degradation;
- (6) Cost reasonableness

Belize Example - Habitat Enhancement

Primary forest area adjacent to NGO-controlled preserve area has been converted to agricultural land

- ◆ Farmers' local practice is to grow pineapple and/or bananas
 - ◆ Poor return for farmers, high pesticide use, habitat resulting is of minimal bird value
- ◆ Proposal- support transitioning land to shade grown agricultural use - coffee, vanilla bean, etc.
- ◆ Avian monitoring a critical component

Related Conservation Efforts

Mesoamerican Society of Biology and Conservation NRDAR Symposium

- ♦ Special NRDAR/Neotrop session Belize 10/2009
- ♦ Proposed session Costa Rica 11/2010

Neotropical Migrant Bird Conservation Act Grant

- ♦ Proposal to evaluate U.S.-generated restoration in tropical America
- ♦ Evaluate site criteria and metrics for prioritization
- ♦ Identify appropriate partner organizations

William and Mary Mercury Expo

- ♦ <http://mercury.wm.edu>

Summary

International Restoration: Hurdles

Trustee council consensus must:

- ◆ Establish biological basis and need for the project(s)
- ◆ Establish governmental and local support
- ◆ Coordinate with other Federal programs
- ◆ Consider funding mechanisms (BiNGOs vs. SiNGOs)
- ◆ Develop the project to guarantee performance
 - ◆ On site oversight
 - ◆ Legal protections
- ◆ Design a project that enables evaluation of success
 - ◆ Monitor, monitor, monitor
- ◆ Conduct site visits when practicable
 - ◆ potentially controversial, vitally important

Summary

International Restoration: Benefits

International projects can be an important “part” of a larger restoration strategy

Significant potential exists for leveraging funds and projects

International projects can take advantage of existing monitoring programs (e.g., MoSI, MAPPS)

International restoration projects can be extremely cost-effective by providing high bird/year:dollar yield

QUESTIONS?

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