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Developing regional goals for connectivity restoration

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Developing Regional Goals for Connectivity Restoration

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Todd Hogrefe, National Fish & Wildlife Foundation

Mary Khoury, The Nature Conservancy

- Grant funding to restore habitat in the Great Lakes basin
- \$37 million awarded since 2006 (\$8.3 million in 2013)
- Focal issues
 - ✓ **Aquatic connectivity**
 - ✓ Stream and riparian habitat
 - ✓ Wetlands
 - ✓ Coastal habitat



SOGL Aquatic Connectivity Investments

2006–2013

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- Projects funded: **39**
- Project grant \$: **10.3 million**
- % total grant \$: **27.7**
- Barriers eliminated: **158**
- Miles reconnected: **1,044**



Photo: Grand Traverse Cons. District



Photo: Conservation Resource Alliance

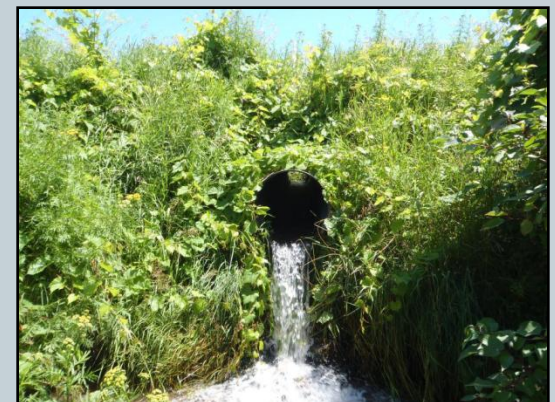


Photo: Ducks Unlimited

Projected SOGL Connectivity Investments 2014–2024

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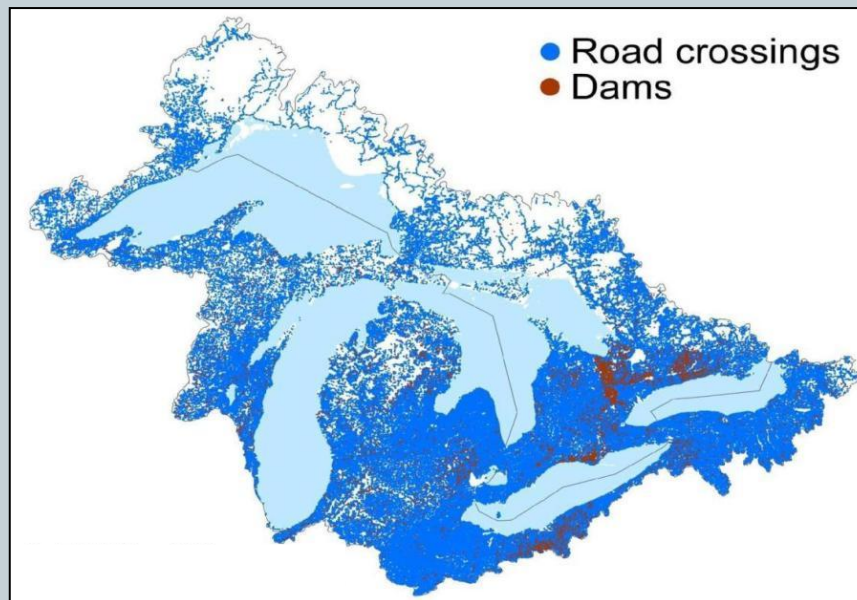
- Barriers per \$1 million: **15**
 - Miles per \$1 million: **100**

 - Projected **\$20 million** connectivity investment over 10 yrs
- 
- Eliminate **300** fish passage barriers
 - Restore upstream fish access to **2,000** stream miles

Scope of Issue, Scale of Impact

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- Potential fish barriers: **275,902**
- Fully/partially impassable barriers: **170,000+**
- Barriers to be removed with SOGL \$: **300 (0.17%)**



Januchowski-Hartley et al. 2013

Monday, June 09, 2014

Importance of Investing Strategically

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- SOGL to address a very small percentage of existing barriers
- But barrier removals can have disproportionately large impact on connectivity if prioritized strategically



Photo: Conservation Resource Alliance

Current SOGL Selection Criteria

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- Priorities
 - ✓ Biodiversity/species assemblages
 - ✓ Water quality
 - ✓ Areas of Concern
- Cost-effectiveness (e.g., miles/\$)
- Grantee experience/past performance
- Social/ecological constraints
- Shovel-readiness



Photo: USFWS

But Without Goals . . .

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- Can't assess contribution of individual projects toward a broader set of objectives
- Hard to determine total investment needed
- No context for tracking progress
(We've helped reconnect 1,044 miles – Is that a lot?)
- Hard to define impact in meaningful terms

Value of Shared Goals

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- Strategic focus
- Resource leverage
- Cumulative benefits
- Tracking of ecologically significant outcomes (beyond miles)
- Assessment of individual and collective impact



Photo: USFWS



A framework for goals

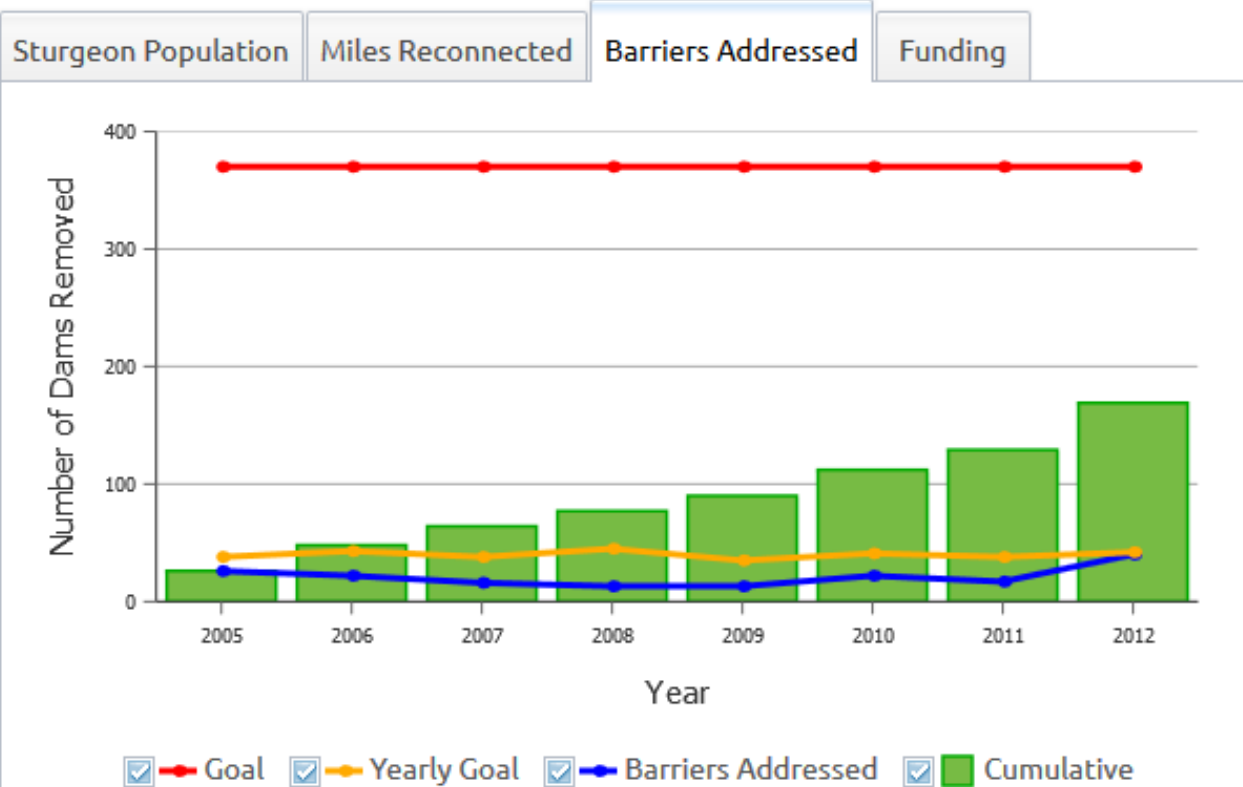
11

Scale	Inputs	Interim Outputs	Interim Outcomes	Ultimate Outcomes
<i>Example</i>	\$\$	<ul style="list-style-type: none"> Stream miles opened Barriers removed 	% increase in fish population	Viable populations in representative river types
Great Lakes Basin				
Individual Great Lake basin				
Sub-basins				

Relate population goal to conservation actions

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Entire Great Lakes



Approach to goal setting in the Great Lakes

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- You're invited: Wednesday, June 11 3:15 – 5:15

Goal-Setting Workshop:

**Establishing Regional
Goals for Connectivity
Restoration in the Great
Lakes Based on Migratory
Fish Populations**

Matt Herbert, Mary Khoury, The Nature Conservancy

Wednesday, June 11, 2014

Monday, June 09, 2014

The Trailer

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Monday, June 09, 2014

In search of the ideal . . .



Ideal population goal

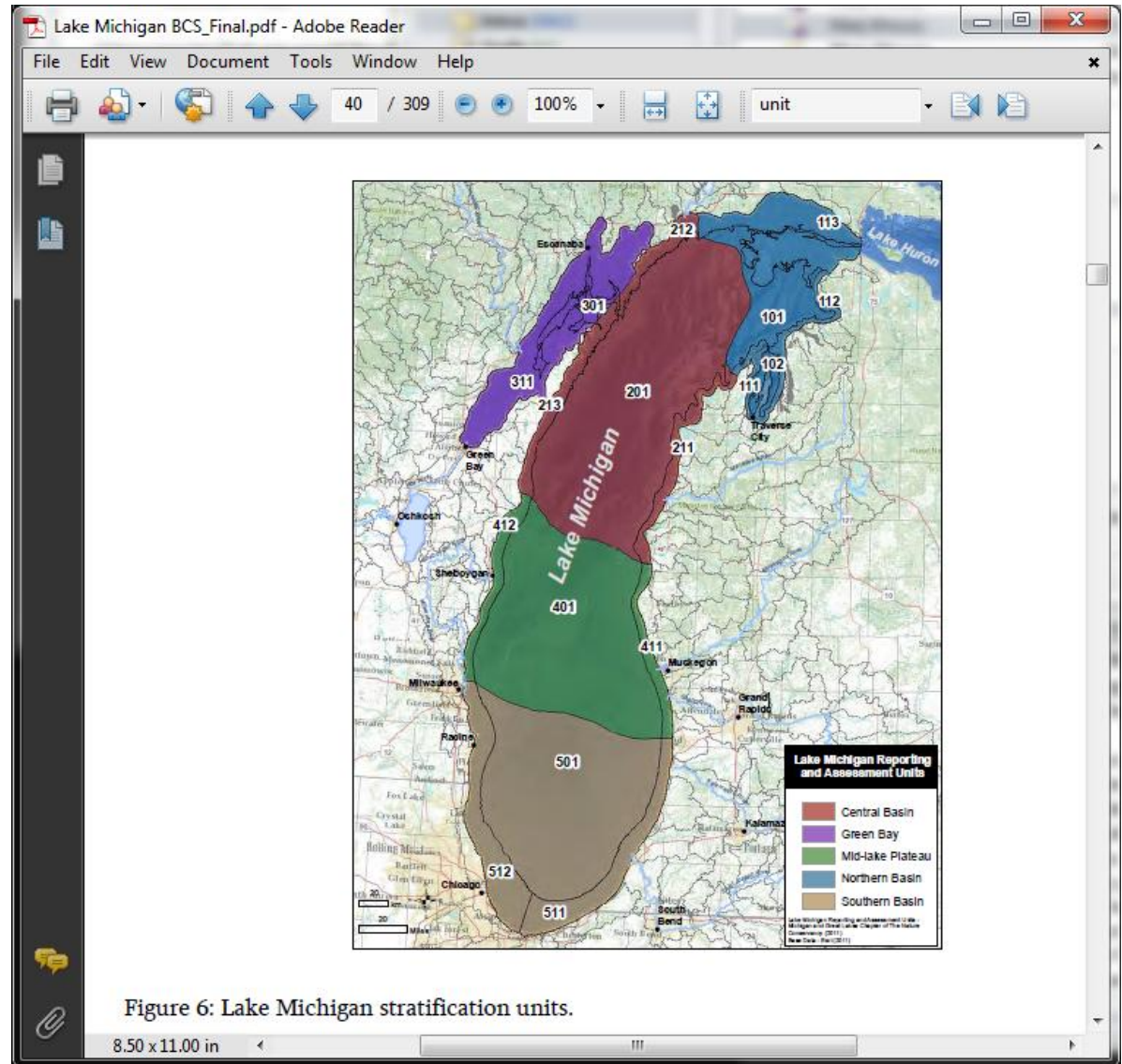
- Tributary population size
- Regional population size
- % population increase (regional or tributary specific)

Explore other approaches

- Extrapolate from open water to tributaries
- Base goal on increased spawning habitat

Coming
attraction . . .

Sub-regional
webinars with
regional
experts to
develop,
review and
refine
proposed goals



The Sequel

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Tributary connectivity goals based on population goals

- Identify specific tributary reaches that could contribute to goals