

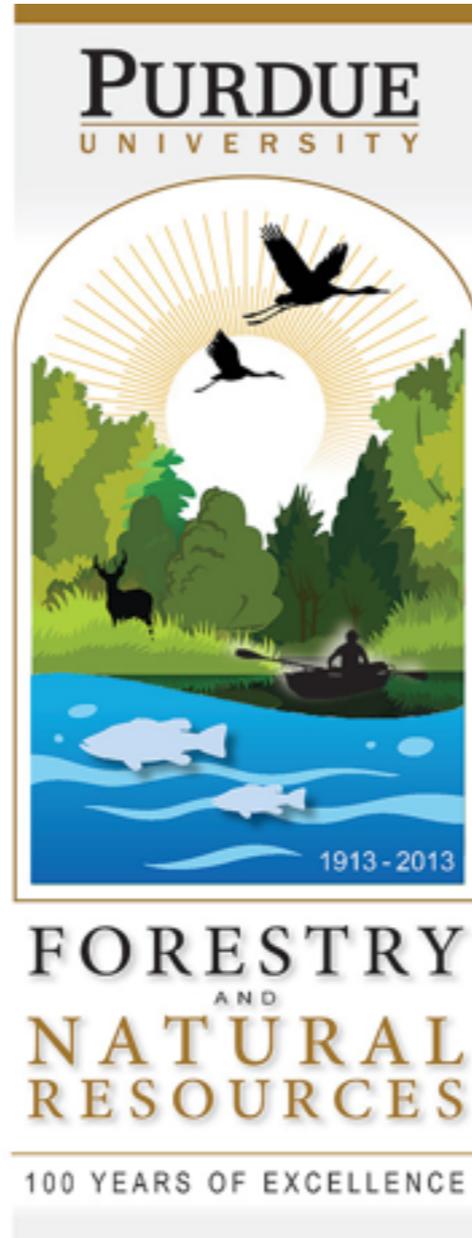


Helping the Hellbender

Lessons learned from a community-based social marketing campaign to conserve a non-charismatic endangered salamander

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DNR

Indiana Department
of Natural Resources





This is a hellbender

Cryptobranchus alleganiensis alleganiensis



This is a mud devil



This is a snot otter



This is a lasagna lizard



Photo: National Geographic

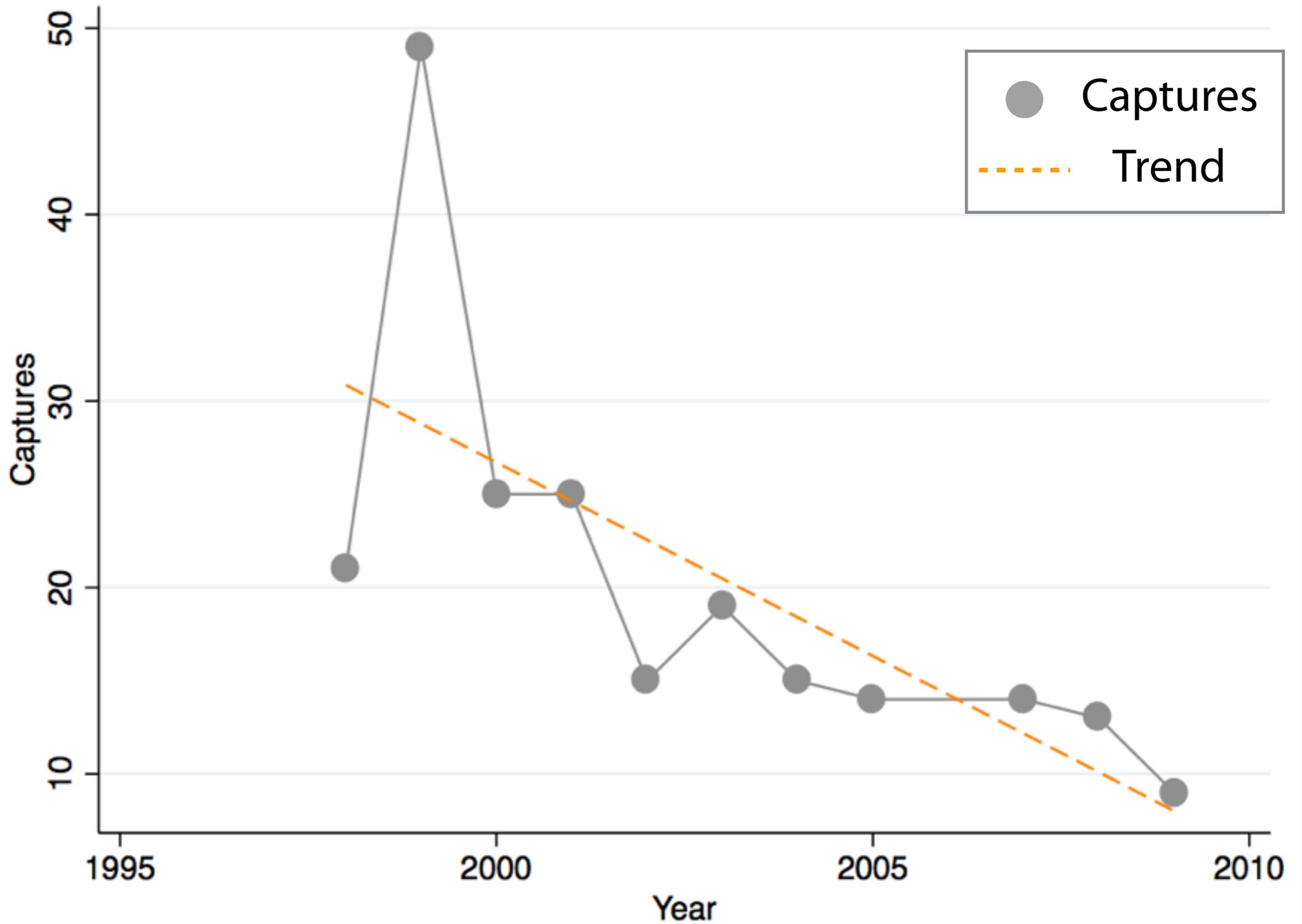


■ Range of hellbender salamander
(*Cryptobranchus alleganiensis*)

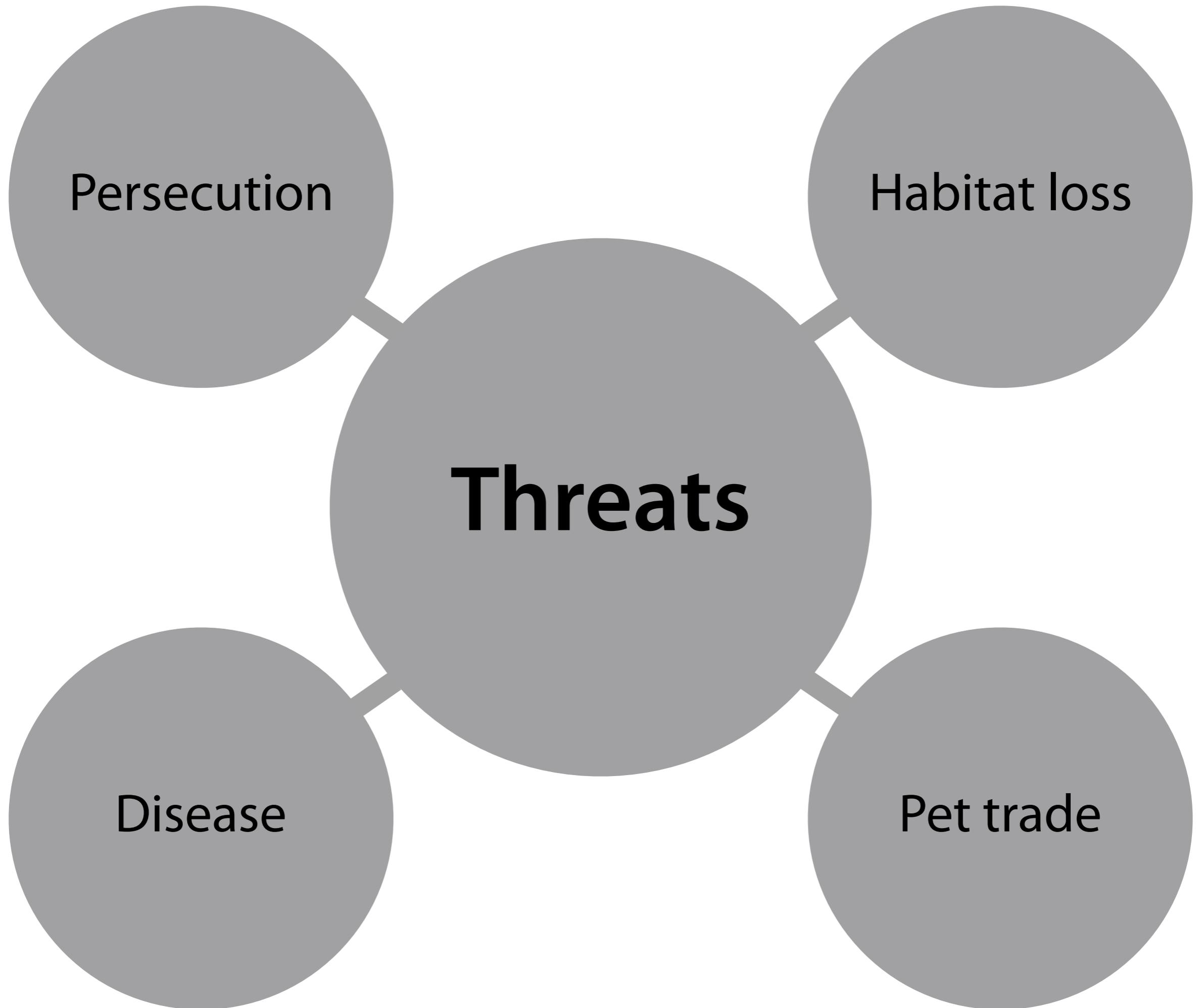




State-endangered



Hellbender population decline, 11-site survey
(Burgmeier et al. 2011)





Persecution



Habitat loss



Threats



Disease



Pet trade



A multifaceted outreach campaign targeting landowners, anglers, and the general public based on the principals of **community-based social marketing**.



Community-based social marketing is an outreach/education program designed to change people's behaviors with a variety of tools including prompts, incentives, commitments, social norms, and other communication.



Goals: Raise awareness
Change attitudes
Change behavior

Help the hellbender in 3 steps or less



Pre-survey (2011)



Outreach campaign (2012–13)



Post-survey (2013)



Pre-survey

541 residents & landowners

Measured awareness,
perceptions, and behavioral
intentions





Pre-survey

5% of respondents reported killing/collecting hellbenders.

Very few thought hellbenders eat sport fish.

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Conserving the Eastern Hellbender Salamander

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*Through a mail survey of 541 residents and riparian landowners in the area surrounding the Blue River watershed of southern Indiana, we examined perceptions and intended behaviors toward the eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), an aquatic salamander experiencing drastic population declines due to anthropogenic causes. While anecdotal reports attribute hellbender mortality and removal to anglers and pet collectors, only 5% of respondents reported these negative behaviors. Misconceptions among anglers and the general public about the eastern hellbender were less prevalent than anticipated. Anglers, recreational boaters, riparian landowners, and respondents who were previously familiar with the hellbender displayed more positive attitudes toward the animal than other groupings of individuals. Data collected in this article shaped a detailed education and outreach campaign based on the principles of community-based social marketing.*

Keywords nongame wildlife, education, behavior change, threatened species, public support

Introduction

Conservation efforts targeting small, unattractive, or otherwise “uncharismatic” fauna are constrained by a relative lack of research and funding compared to large mammals, birds, and other more charismatic animals (Gratwicke, Lovejoy, & Wildt, 2012; Trimble & Van Aarde, 2010). These imbalances are especially concerning when human–wildlife interactions pose a threat to uncharismatic conservation targets, a common situation that weakens

Mullendore et al. 2014

**Lesson learned 1:
know your audience
and question your
assumptions.**

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know your audience
and question your
assumptions.**

(And pay social scientists to do research)



Outreach campaign

Audiences: general public, anglers, and landowners

Targeted behaviors: (1) cut the line if you catch a hellbender, (2) report sightings to a conservation professional



Angler outreach

- Hellbenders can be 2 feet long-- that's the length of this sticker!
- It is illegal to keep or kill a hellbender; please release if caught
- Cutting the line is better for the animal than pulling out the hook
- Report your sighting or capture at: www.HelpTheHellbender.org





Homeowner outreach





General outreach

PURDUE UNIVERSITY PURDUE EXTENSION

THE HELLBENDER

M. Bugniet • S. Unger • C. Sutton • K. Williams

PROTECT INDIANA'S LIVING RELIC

HELLBENDERS prefer cool, rocky, swiftly flowing streams. Their presence indicates good water quality.

HELLBENDERS feed mainly on crayfish, not fish.

HELLBENDERS can bite when provoked. But, they are *not* venomous and their slime is *not* poisonous.

If you find a **HELLBENDER**, take a photo and contact the Indiana Department of Natural Resources 812-334-1137.

HELLBENDERS are giant aquatic salamanders (up to 2½ ft) found in the tributaries of the Wabash and Ohio Rivers in southern Indiana.

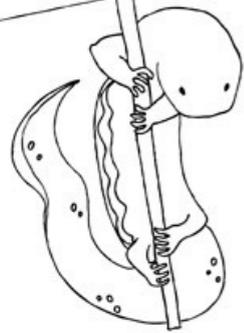
HELLBENDERS are occasionally caught on hooks and lines. They are endangered in Indiana and should be released unharmed.





General outreach

Don't miss the feast—buy your tickets today!



Feast...

Like a hellbender!

Mark your calendars for our *all-you-can eat* Cajun cuisine dinner in support of hellbender conservation in the Blue River! There will be door prizes, games for kids, educational materials for teachers, giveaways for anglers, and more!!

When

April 20th 4:00-6:00pm

Cost

\$8 for adults; \$4 for children 12 & under

Buy tickets at: HelpTheHellbender.org

Where

Harrison County Extension Office

247 Atwood Street

Corydon, IN 47112

Menu Items

Shrimp Creole

Shrimp Étouffée

Crawfish Creole

Boiled Crawfish

Jambalaya

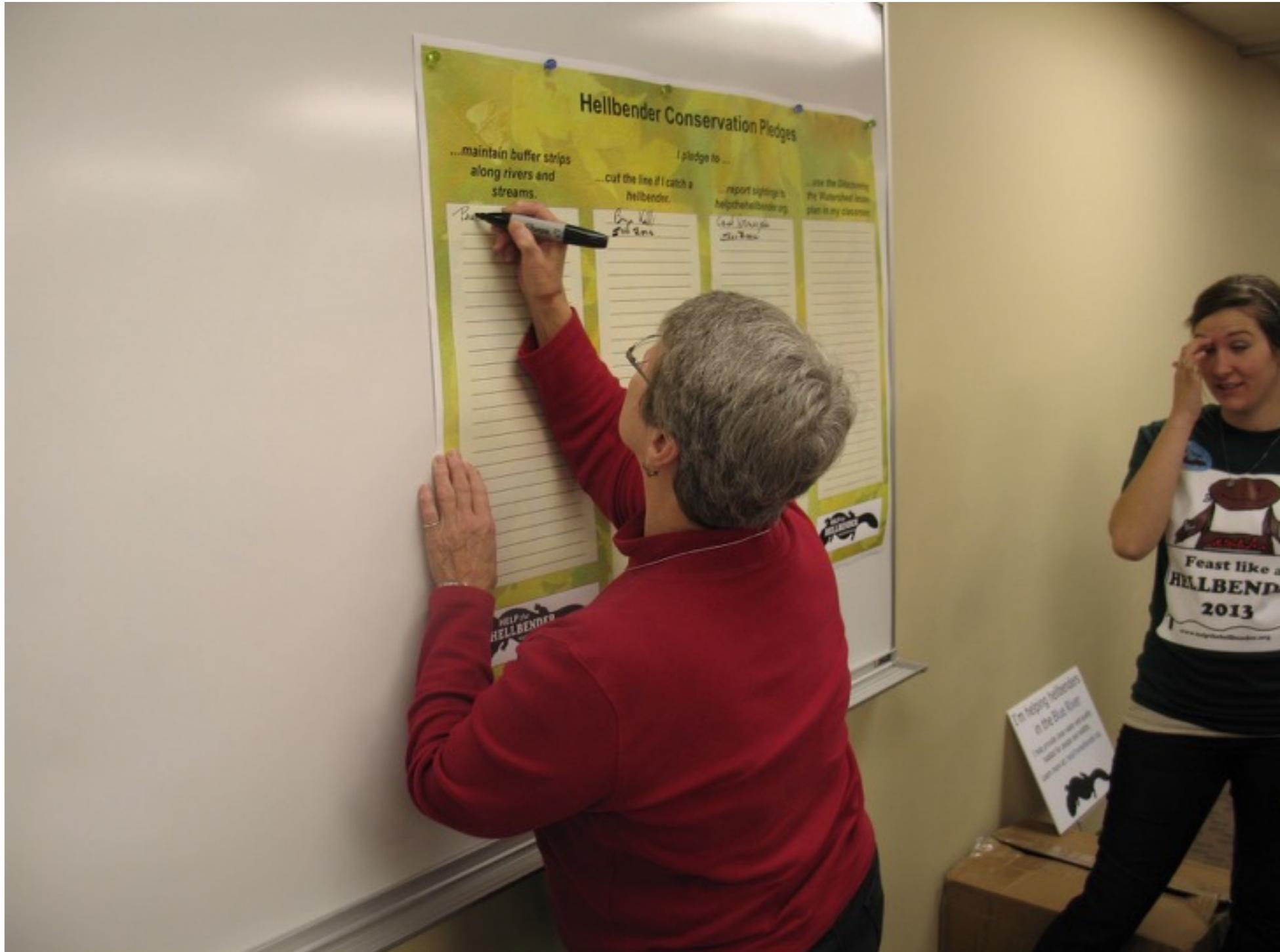
Sponsored by:

PURDUE
UNIVERSITY





General outreach





General outreach





General outreach





General outreach





General outreach





Evaluation



Evaluation: overview

Post-survey: Mail survey, following Dillman (of course)

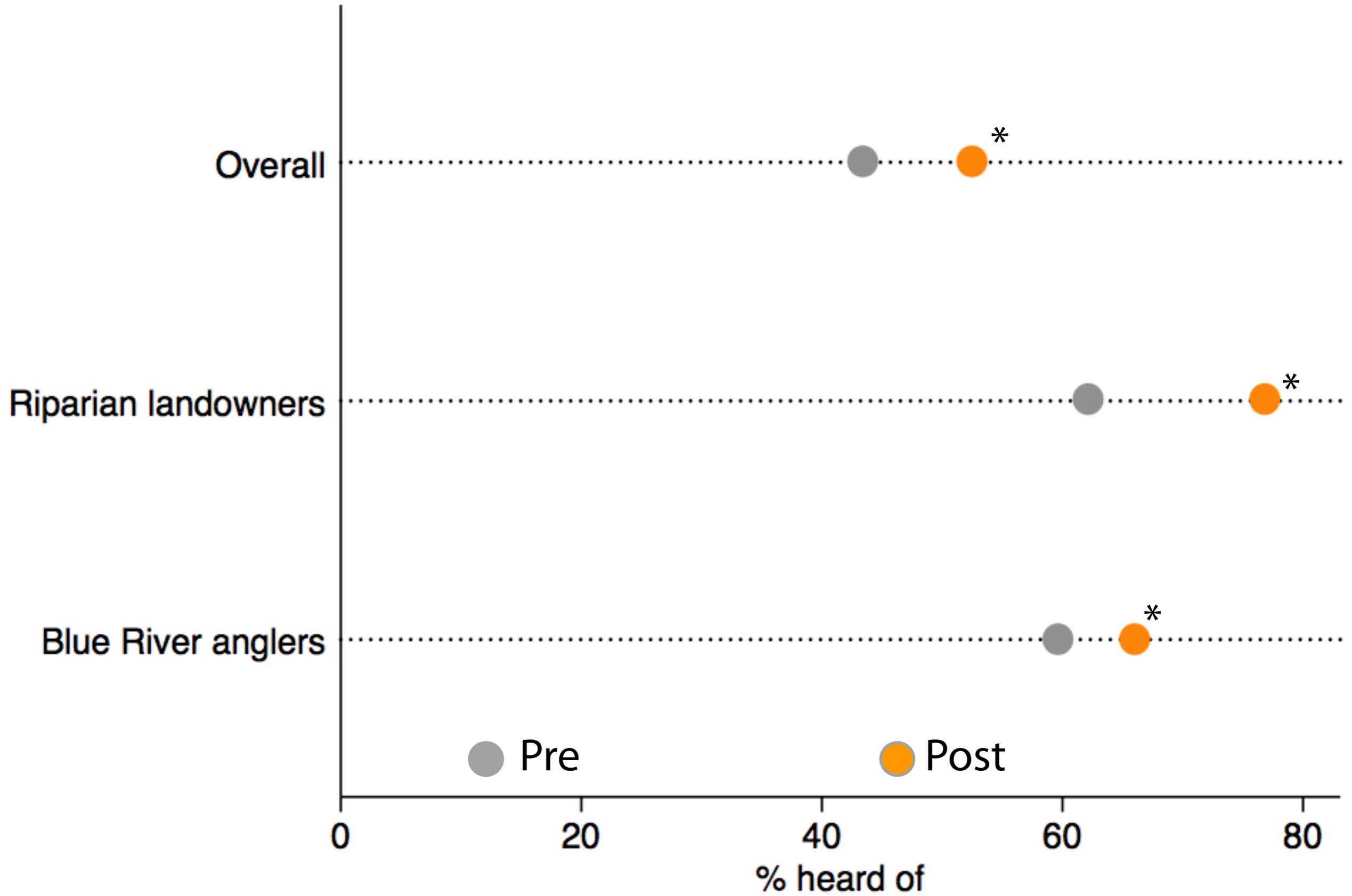
494 responses, 34% response rate. ~140 anglers & landowners

Similar demographics to the pre-survey

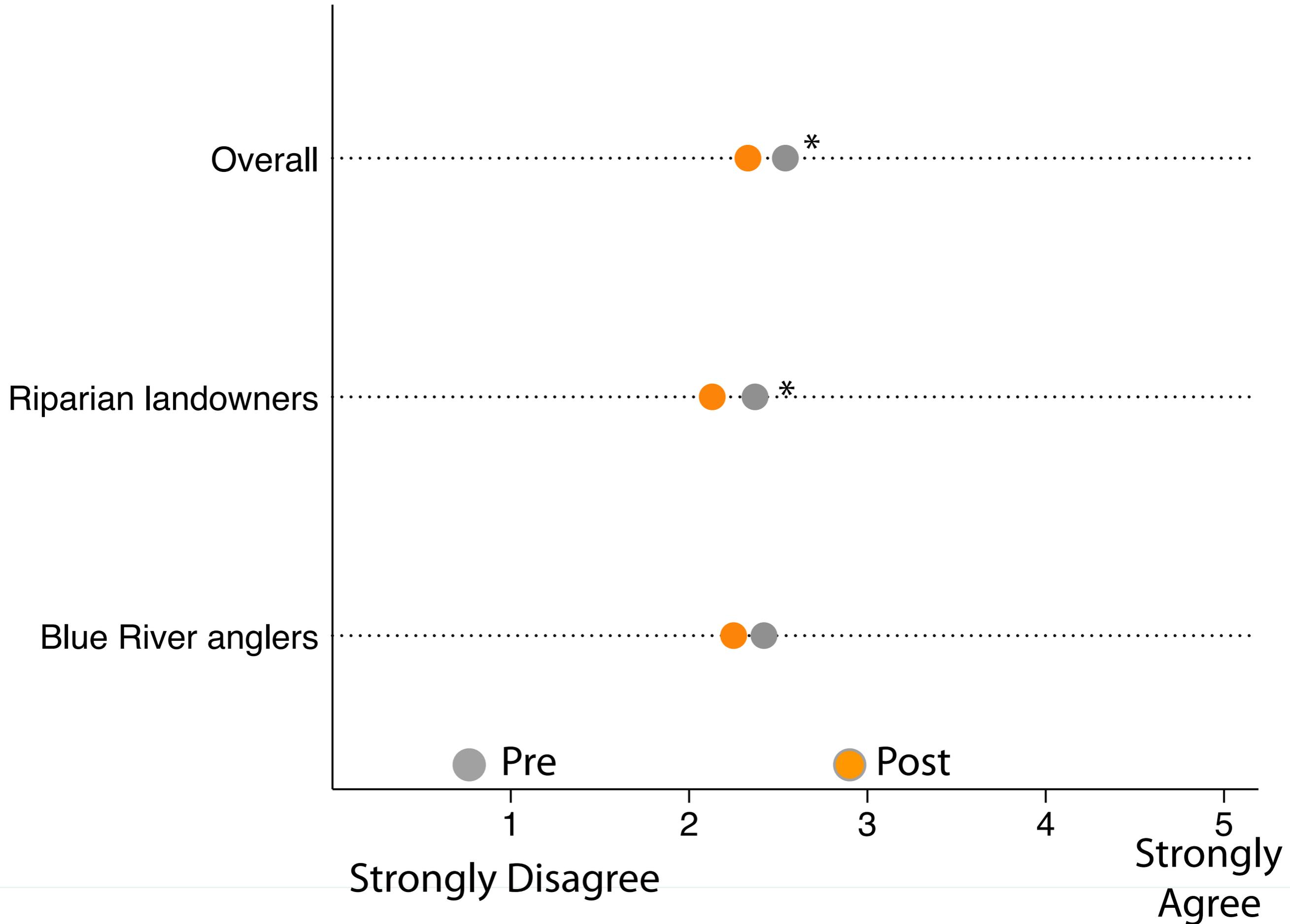


Evaluation: awareness

% heard of hellbenders



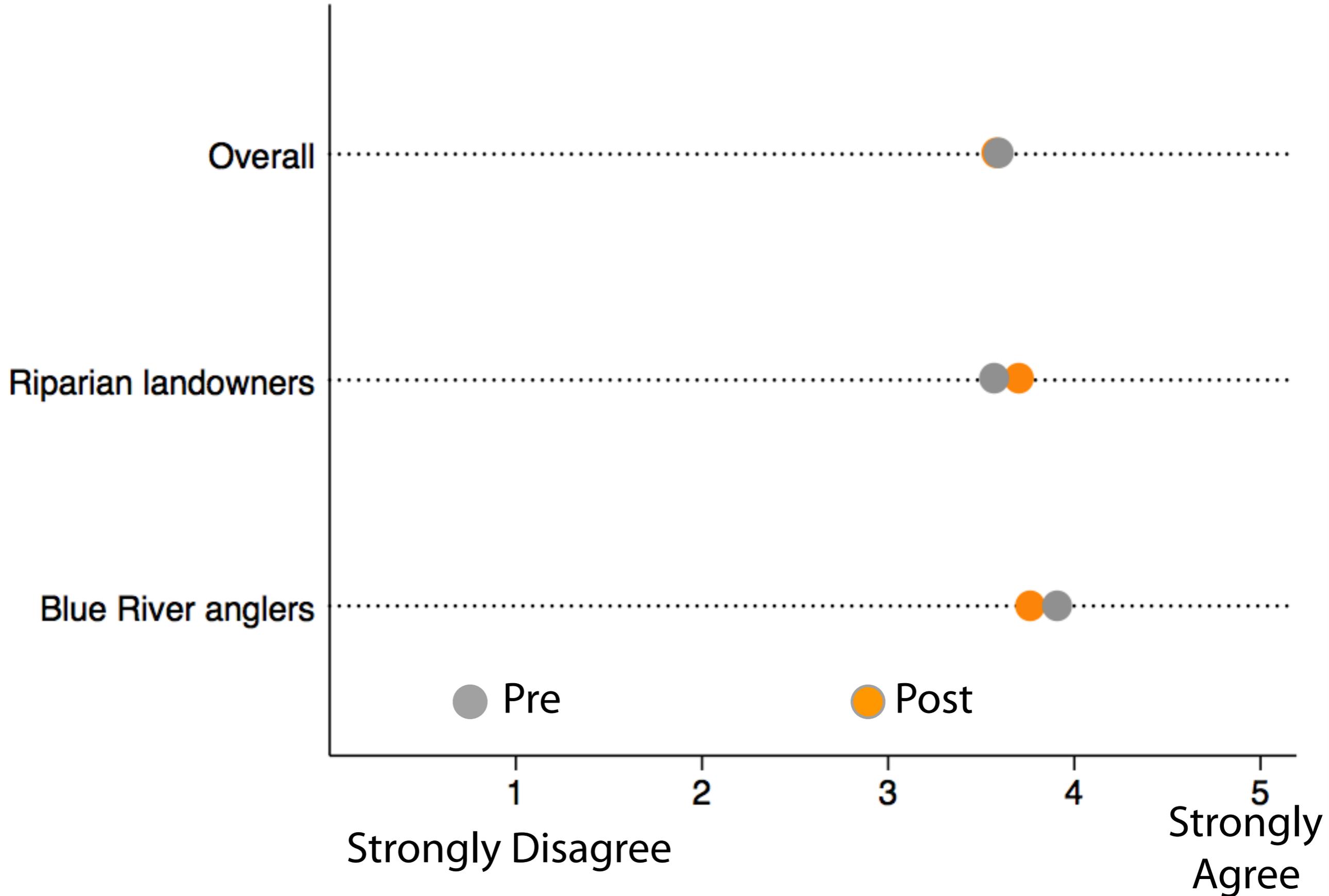
I think this animal eats sport fish



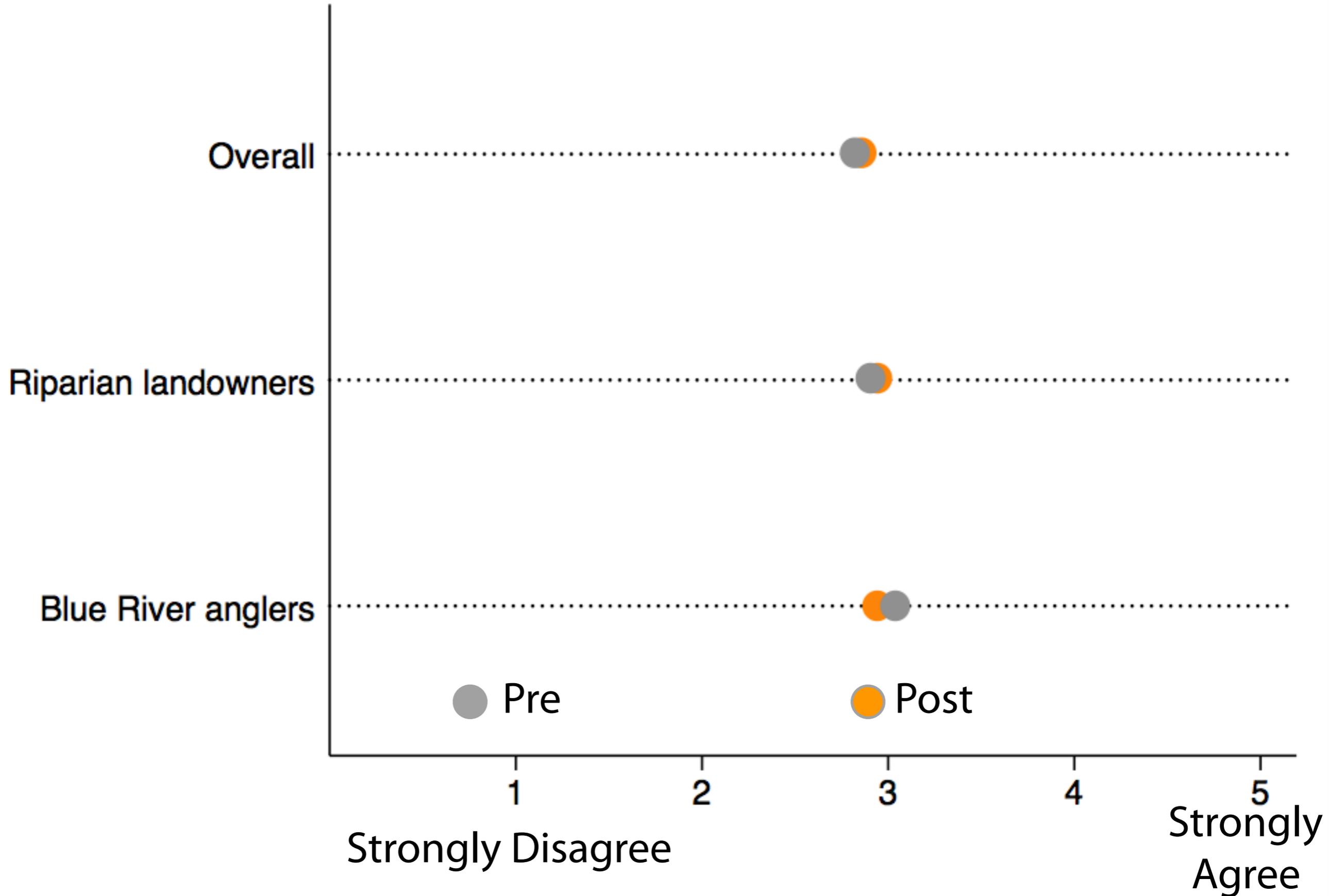


Evaluation: attitudes

Hellbenders are important to the Blue River ecosystem



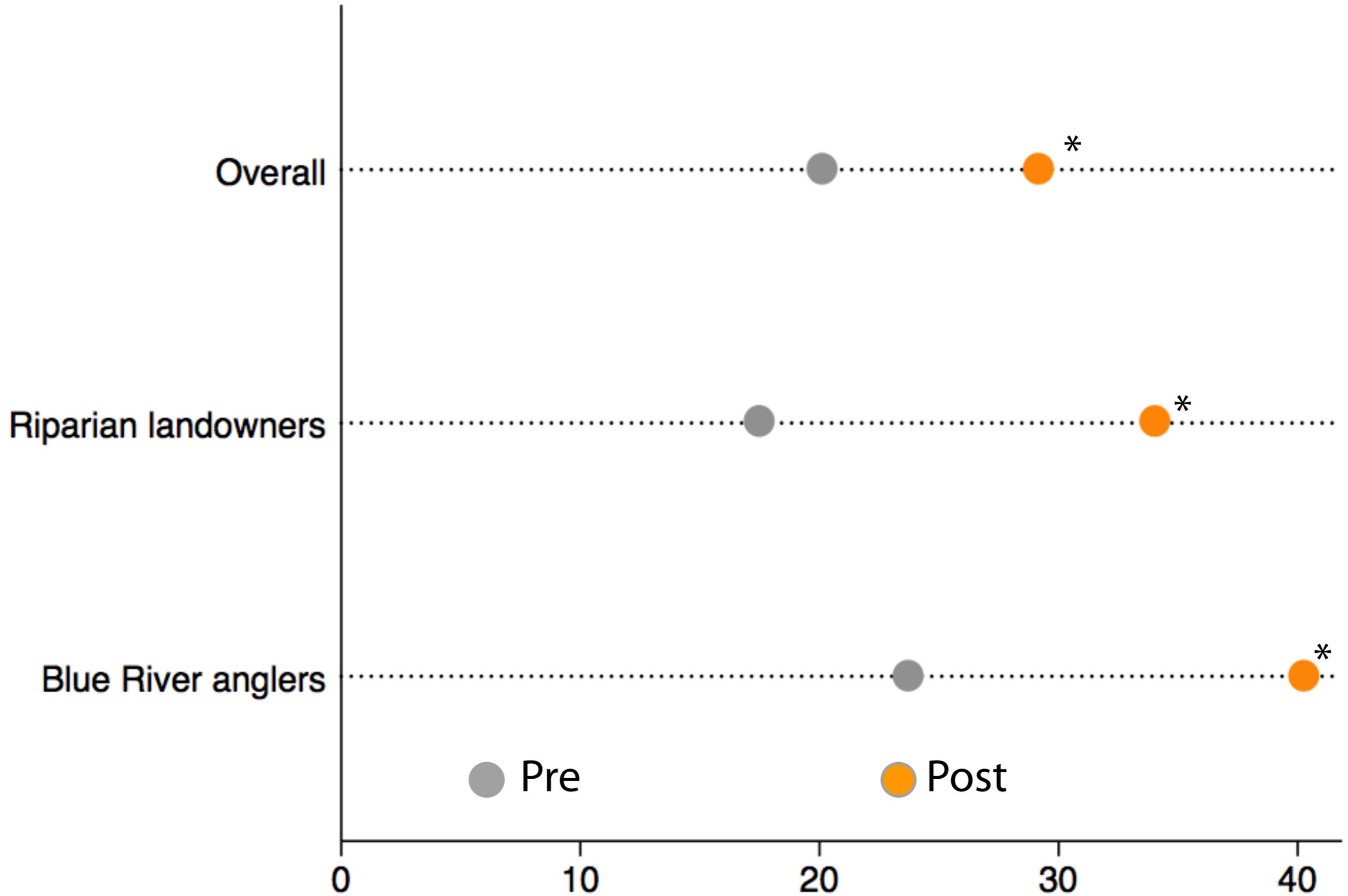
Government money should be spent to protect the hellbender



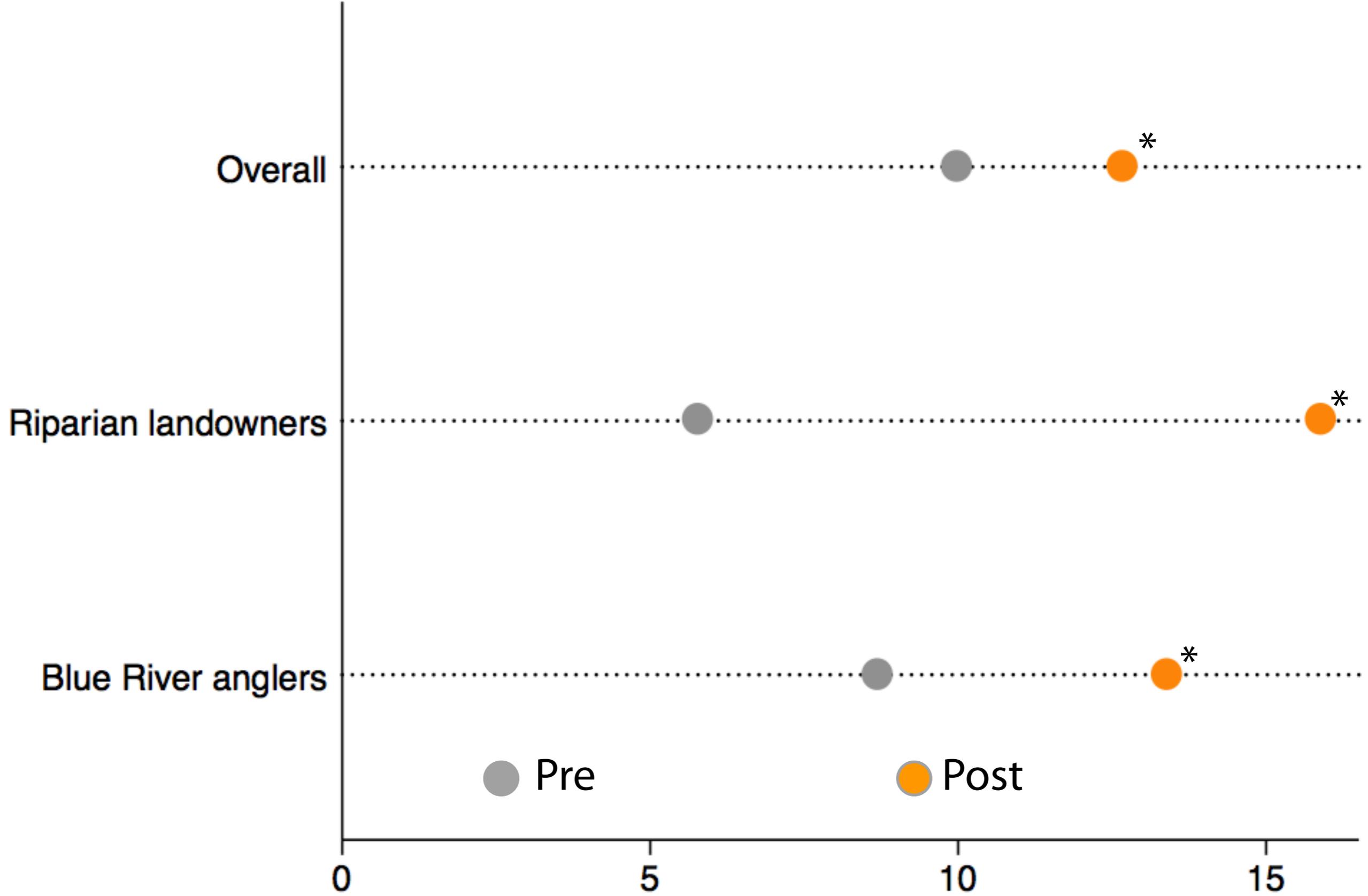


Evaluation: behaviors

% Who would cut the line



% respondents who would report a sighting



Lesson learned 2: Be realistic about what you can change and what takes time.

Lesson learned 2: Be realistic about what you can change and what takes time.

Awareness & actions are easier to change than attitudes



Drivers of attitudes & intentions



Behavioral intention

Logistic regression, dependent variable: behavioral intention

Controls include age, gender, wildlife value orientations

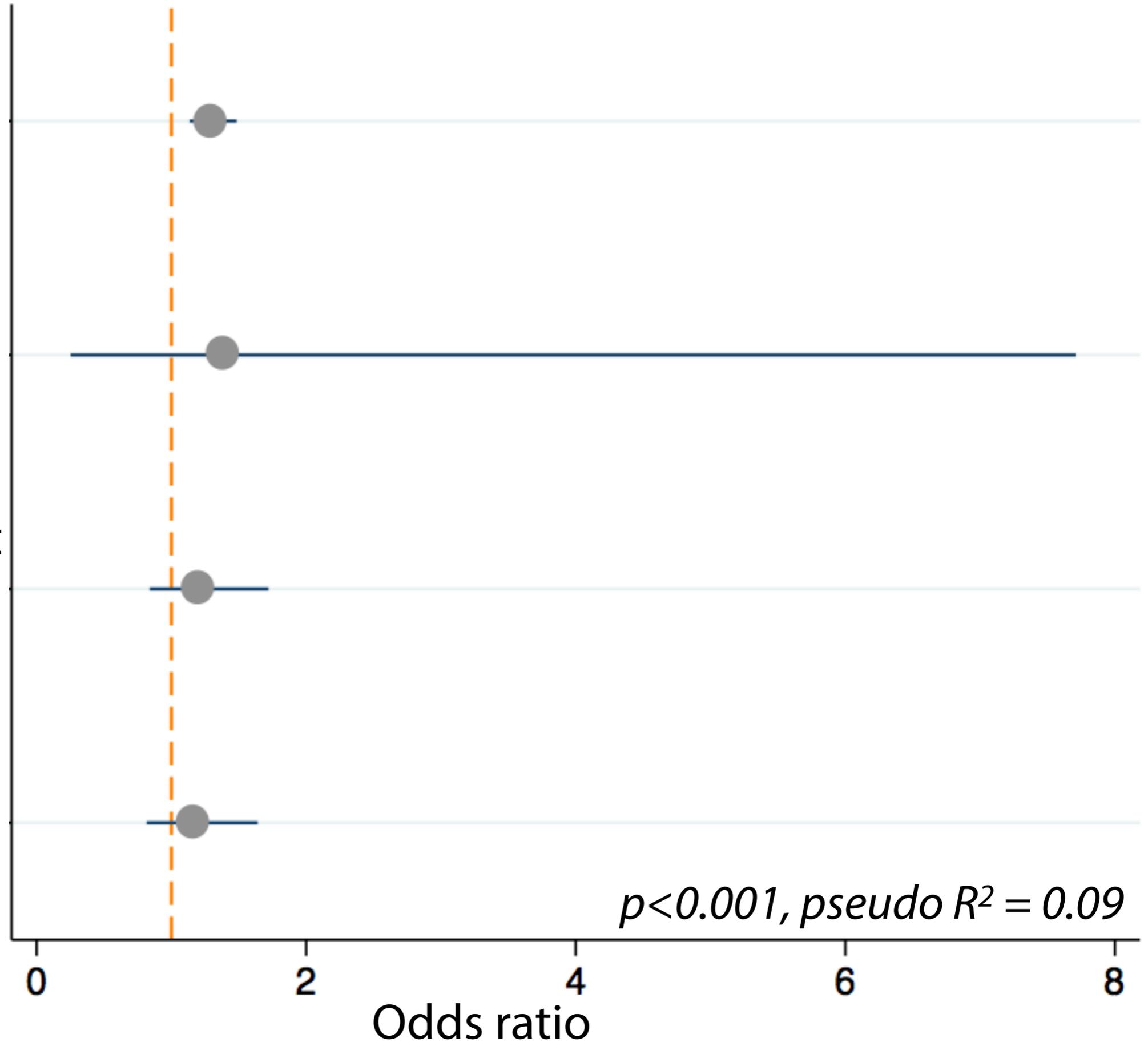
Did respondents report they would cut the line?

Total outreach seen

Special events attended

Knowledge that the hellbender is native

The hellbender is important to the ecosystem



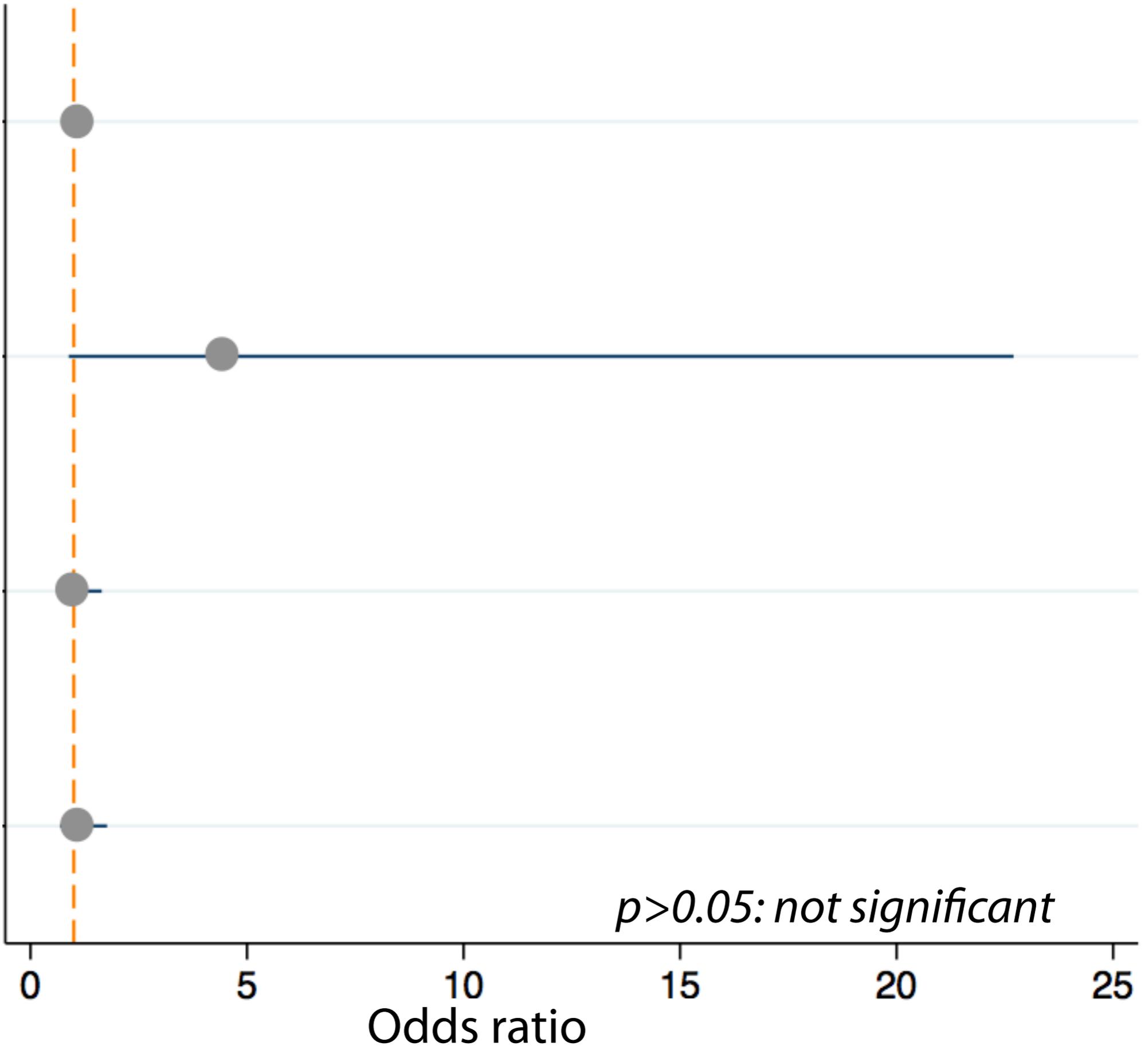
Did respondents say they would report a sighting?

Total outreach seen

Special events attended

Knowledge that the hellbender is native

The hellbender is important to the ecosystem



**Lesson learned 3:
Outreach matters, at
least in some
situations.**

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Outreach matters, at
least in some
situations.**

*More effective for behaviors than attitudes, at
least in the short run.*

**Lesson learned 4:
There is value in
efficiency.**

**Lesson learned 4:
There is value in
efficiency.**

*Piggybacking seems like a much better strategy
than expensive specialized events.*



Let's recap.



1. Know your audience and question your assumptions.
2. Be realistic about what you can change and what takes time.
3. Outreach matters, at least in some situations.
4. Be efficient.

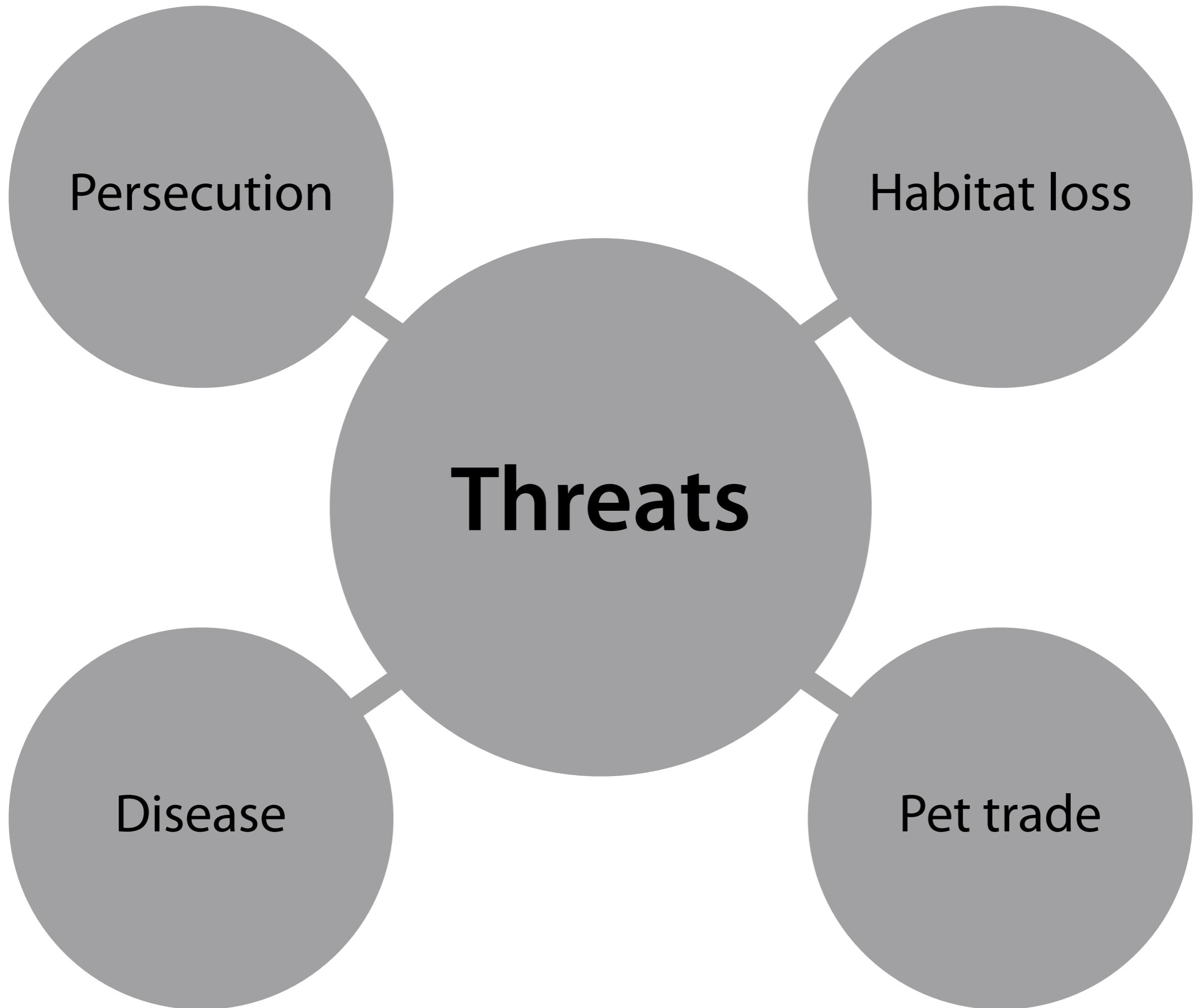


But wait there's more!

**Lesson learned 5:
This is a long-term
commitment.**

**Lesson learned 5:
This is a long-term
commitment.**

*Be adaptive, reactive, and keep paying social
scientists.*



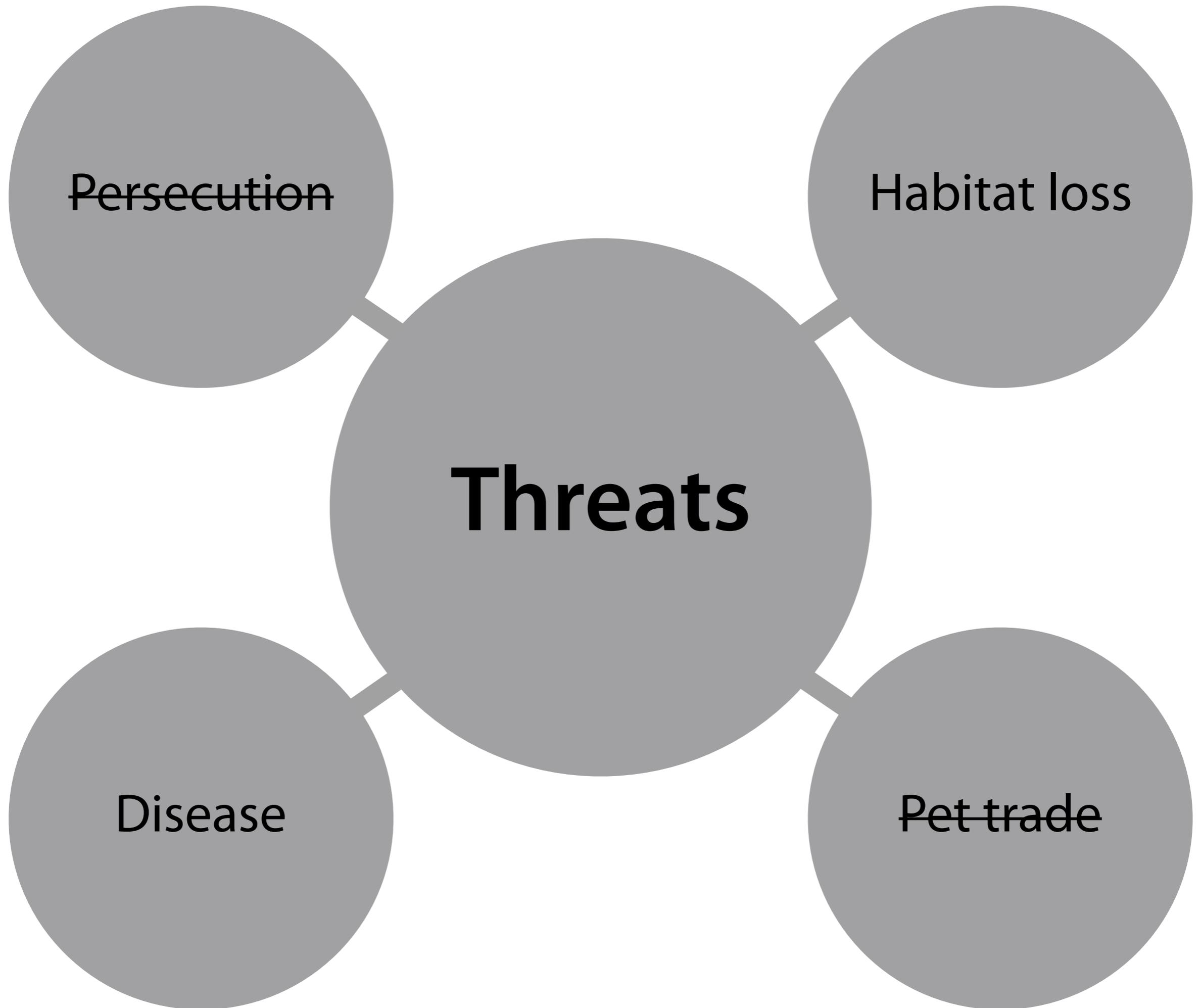
Persecution

Habitat loss

Threats

Disease

Pet trade



~~Persecution~~

Habitat loss

Threats

Disease

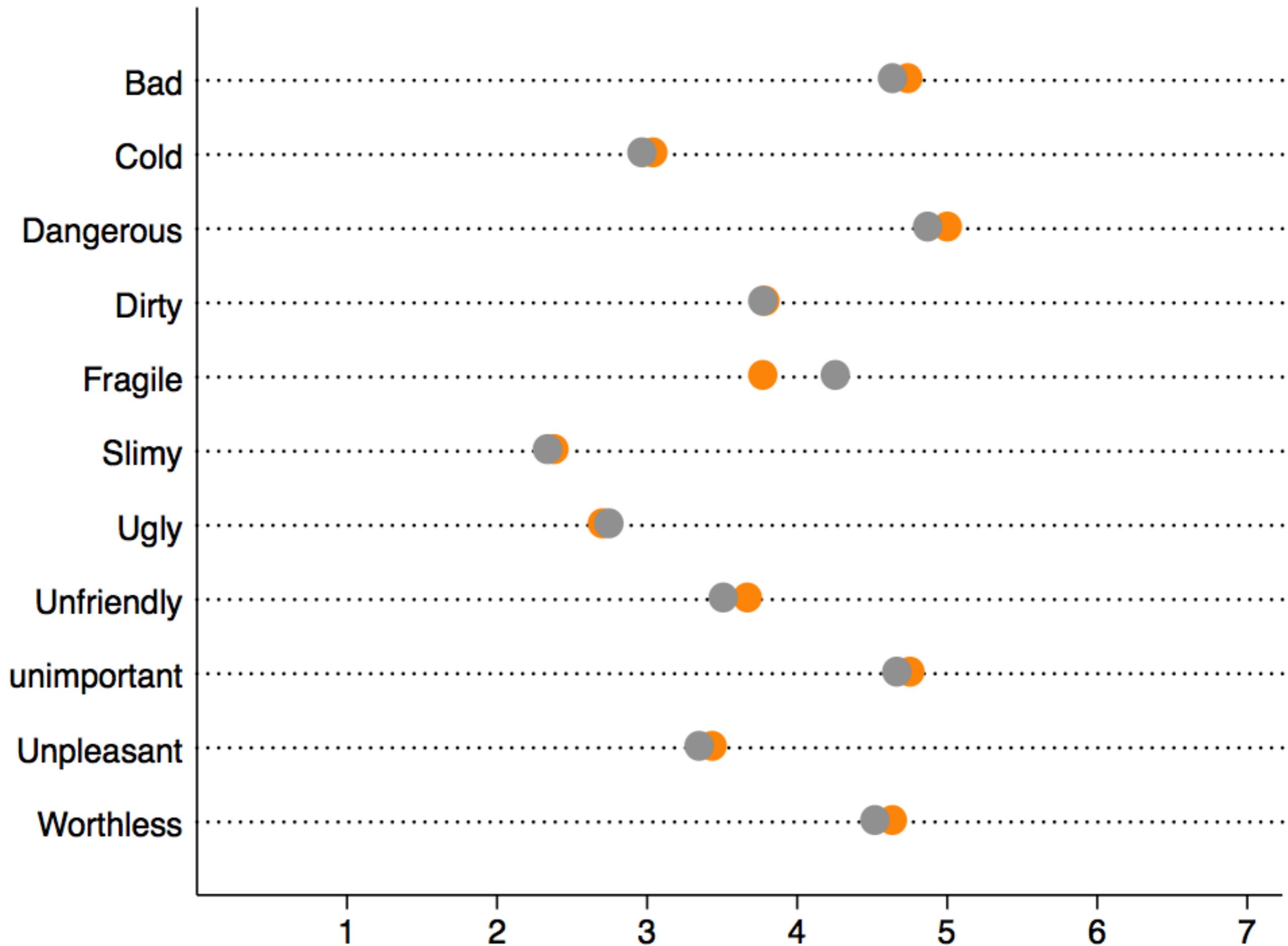
~~Pet trade~~



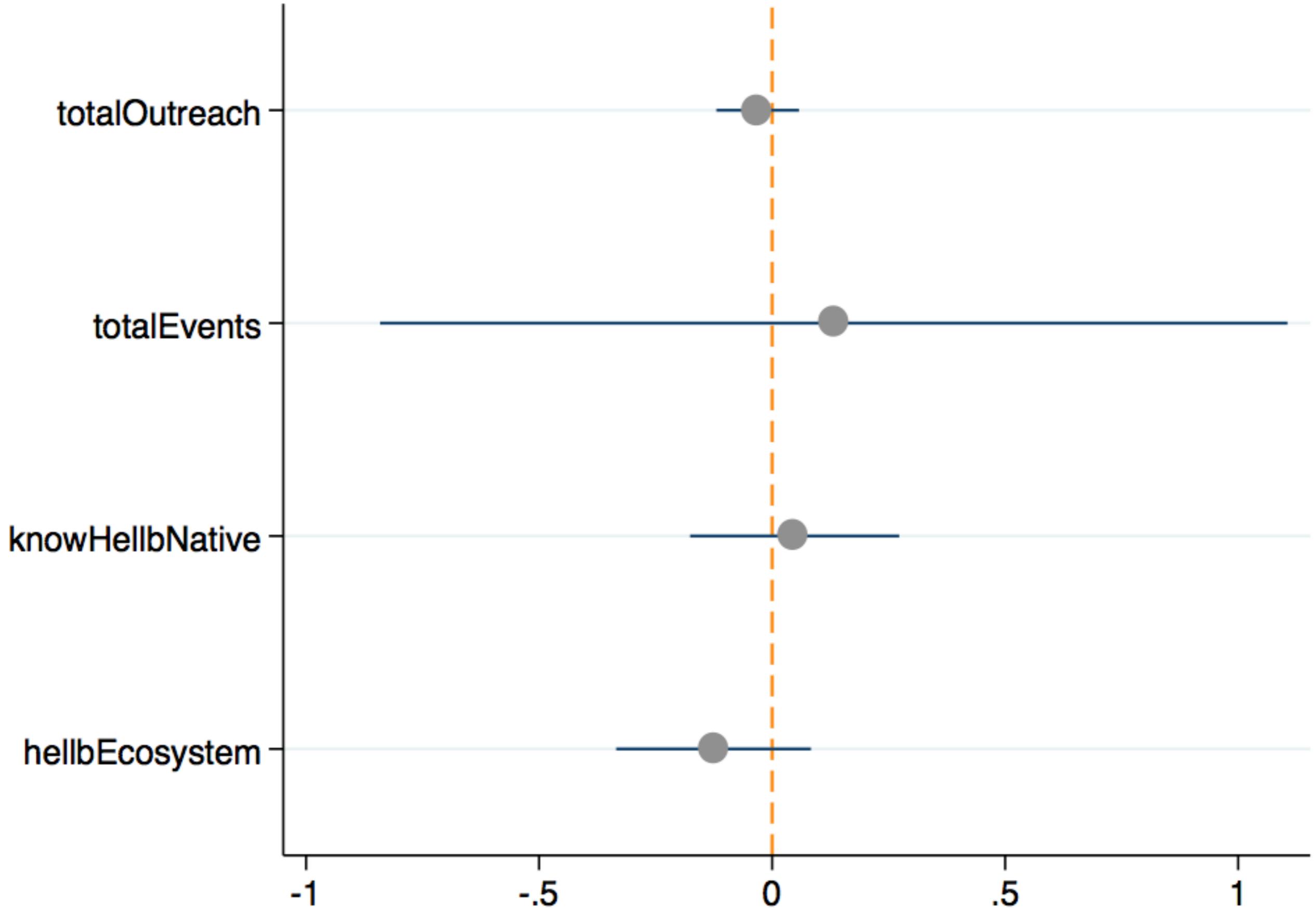
Thank you.

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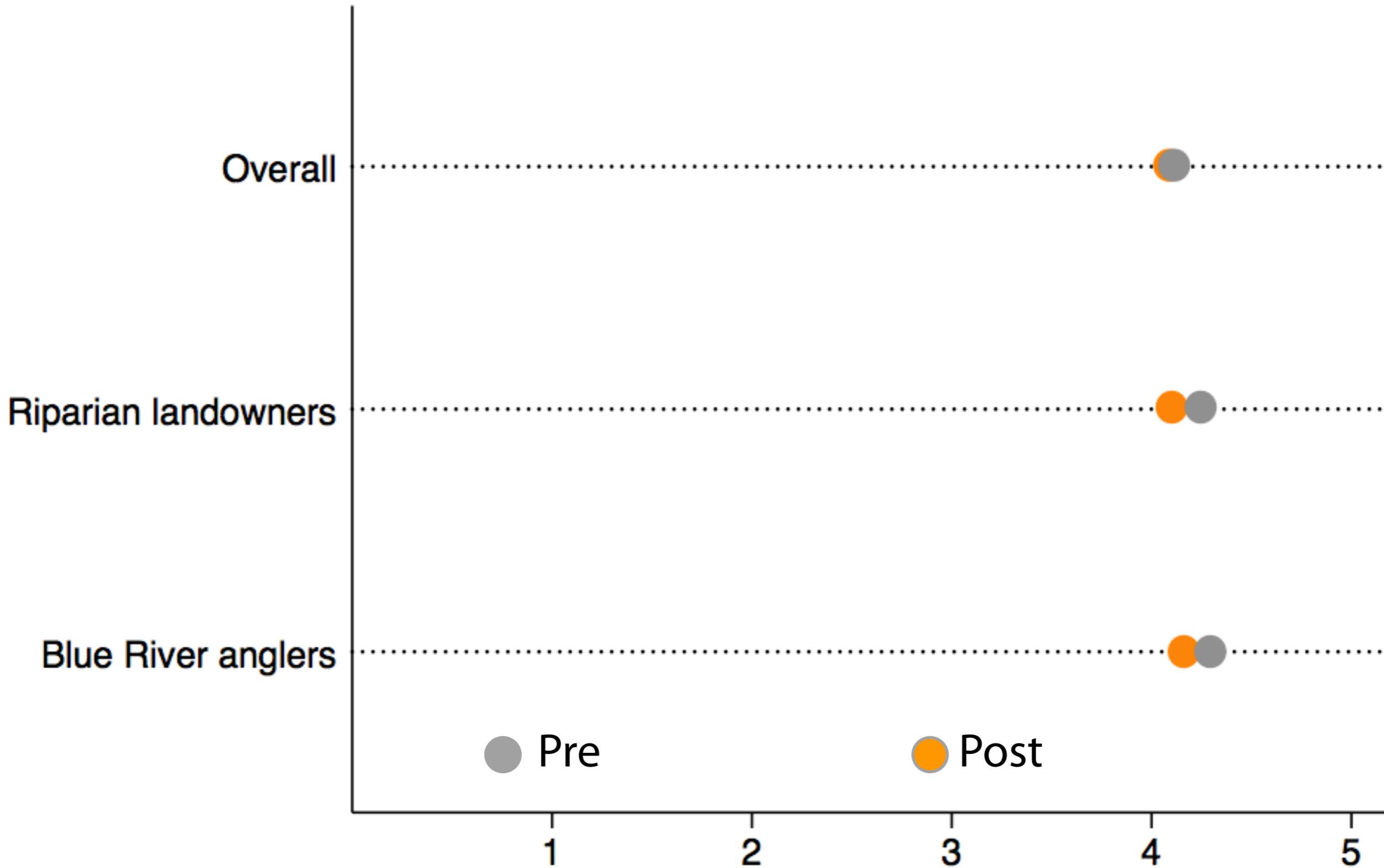
Linda Prokopy
Natural Resources Social Science Lab
Purdue University
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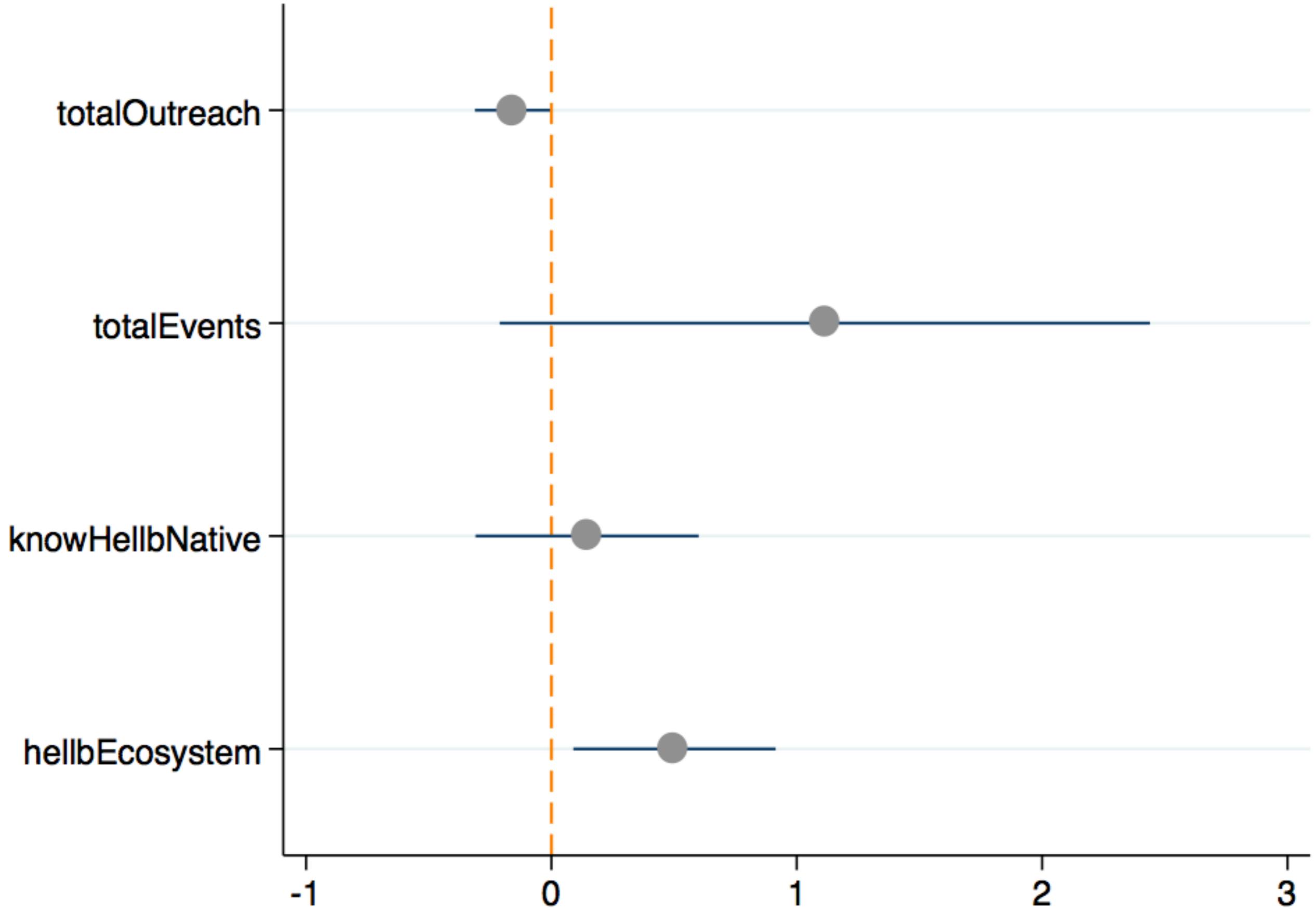
hellbDrySlimy



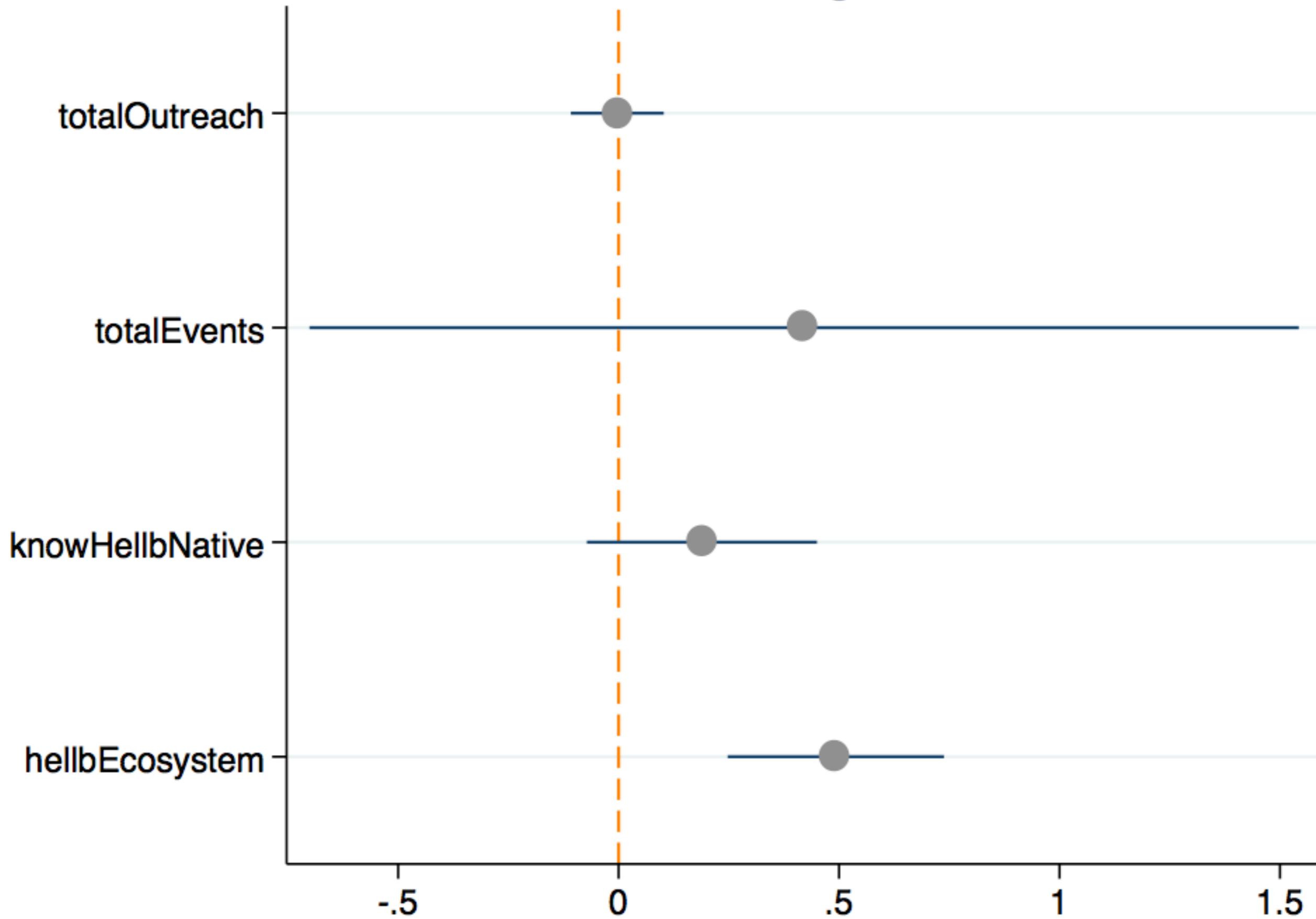
Hellbenders have as much right to live as any other animal



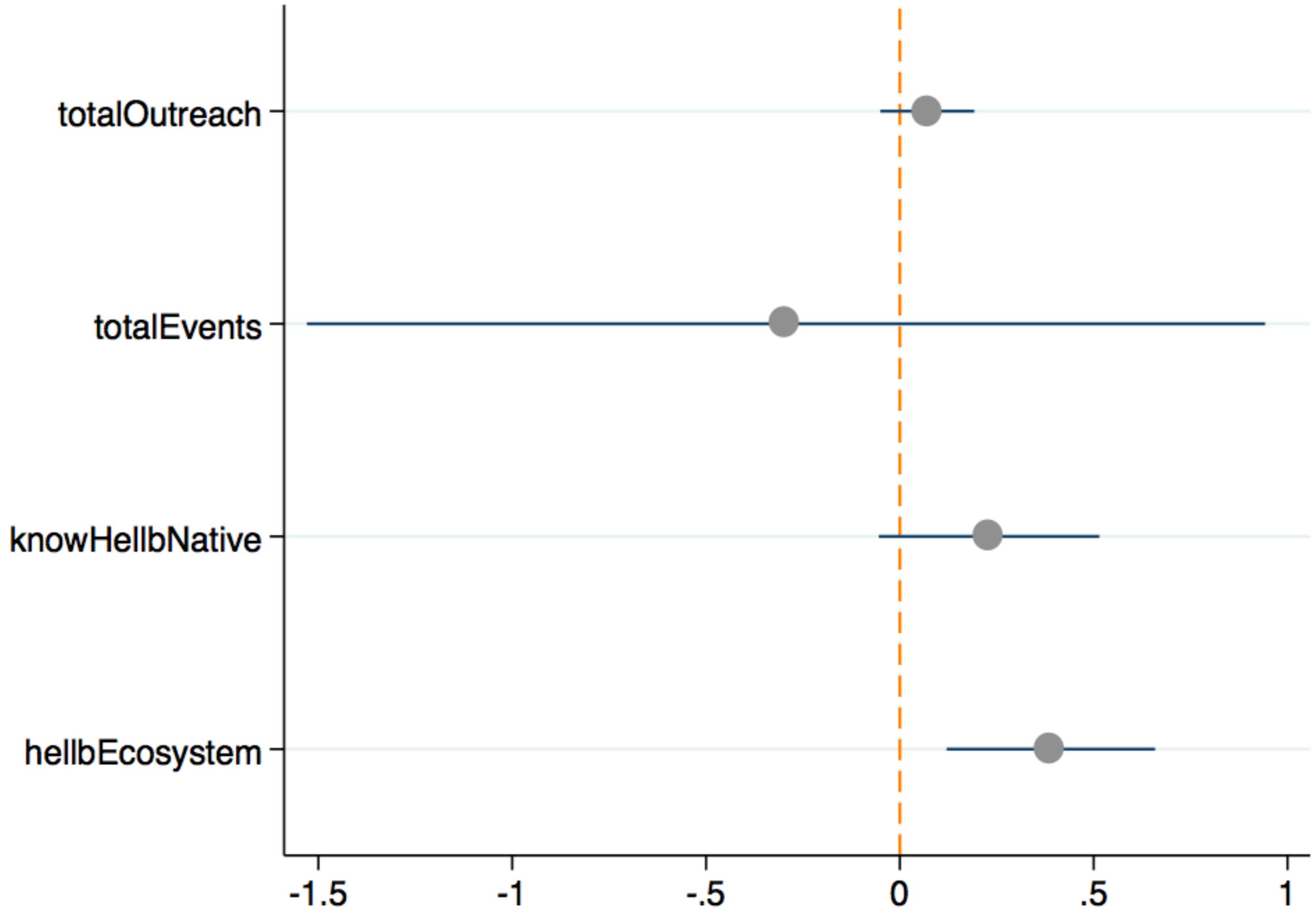
hellbGoodBad



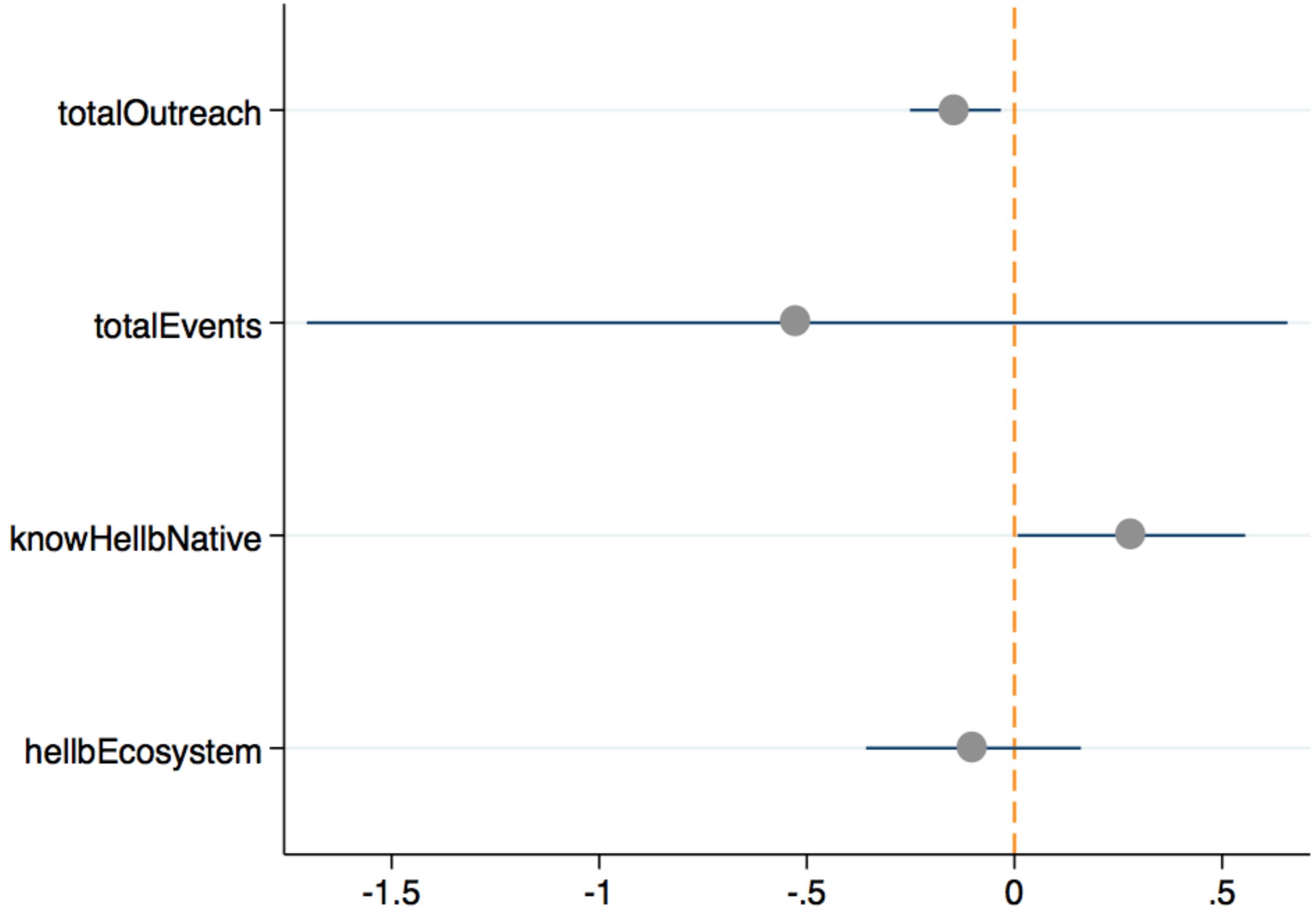
hellbDangerous



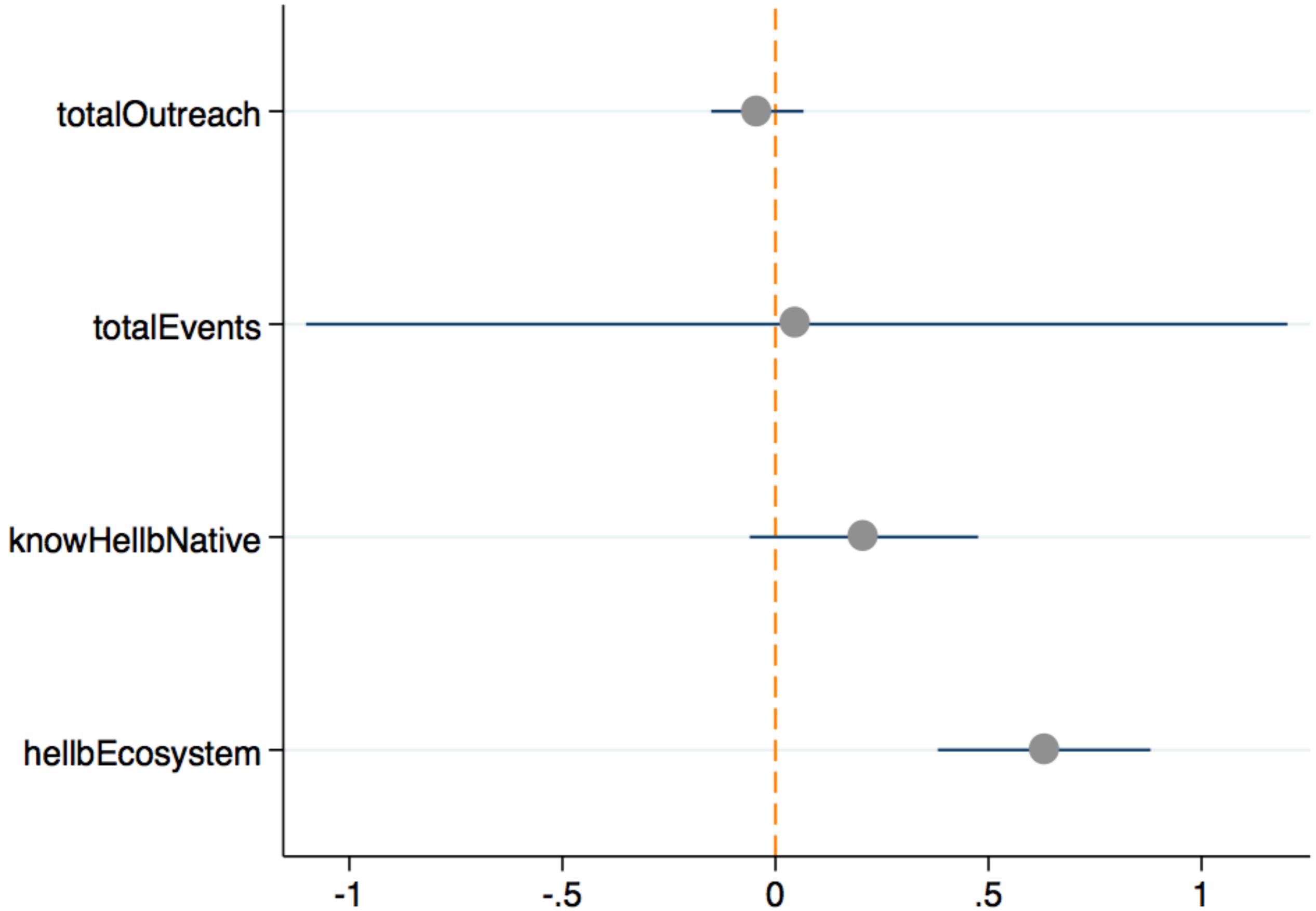
hellbCleanDirty



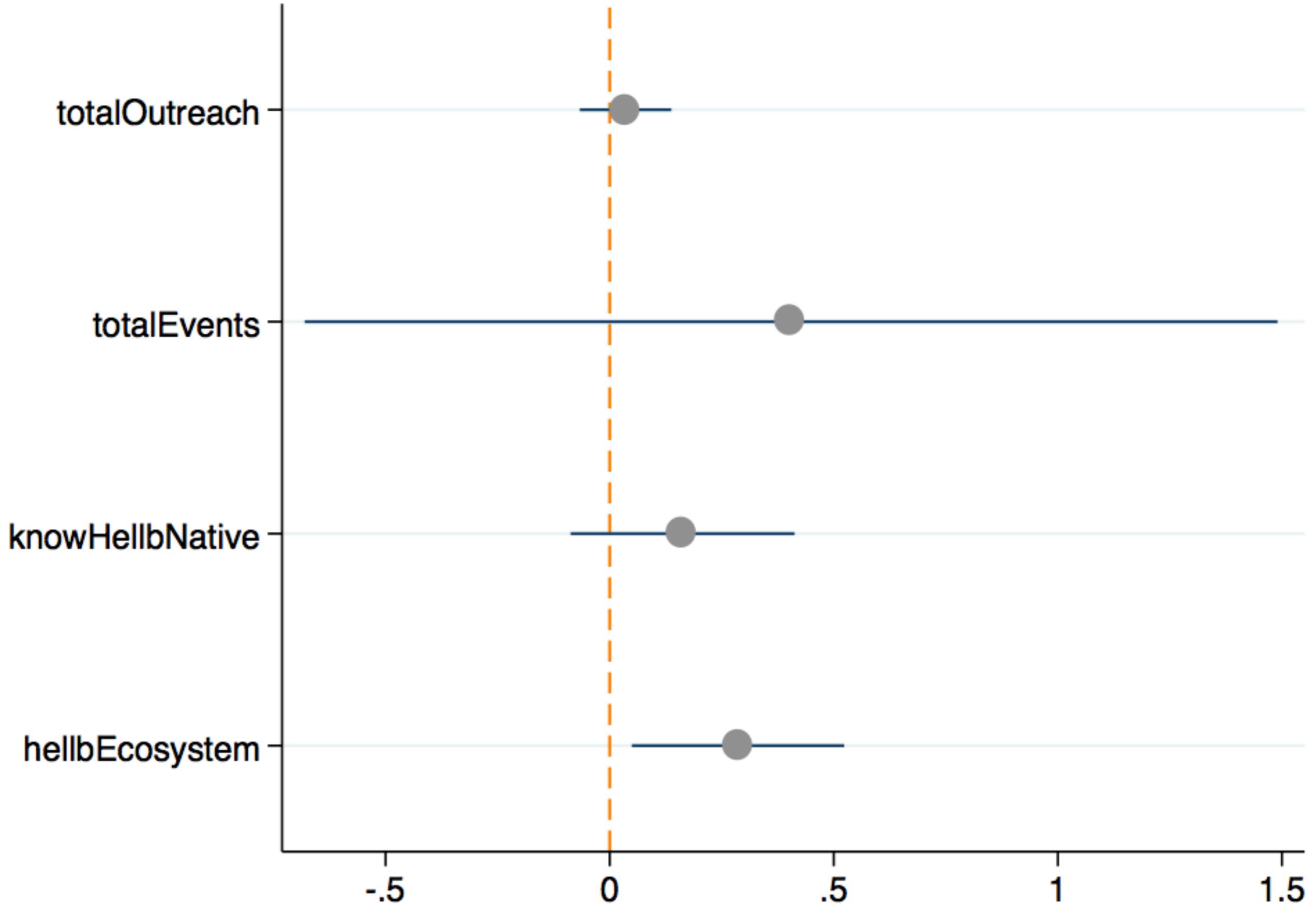
hellbHardy



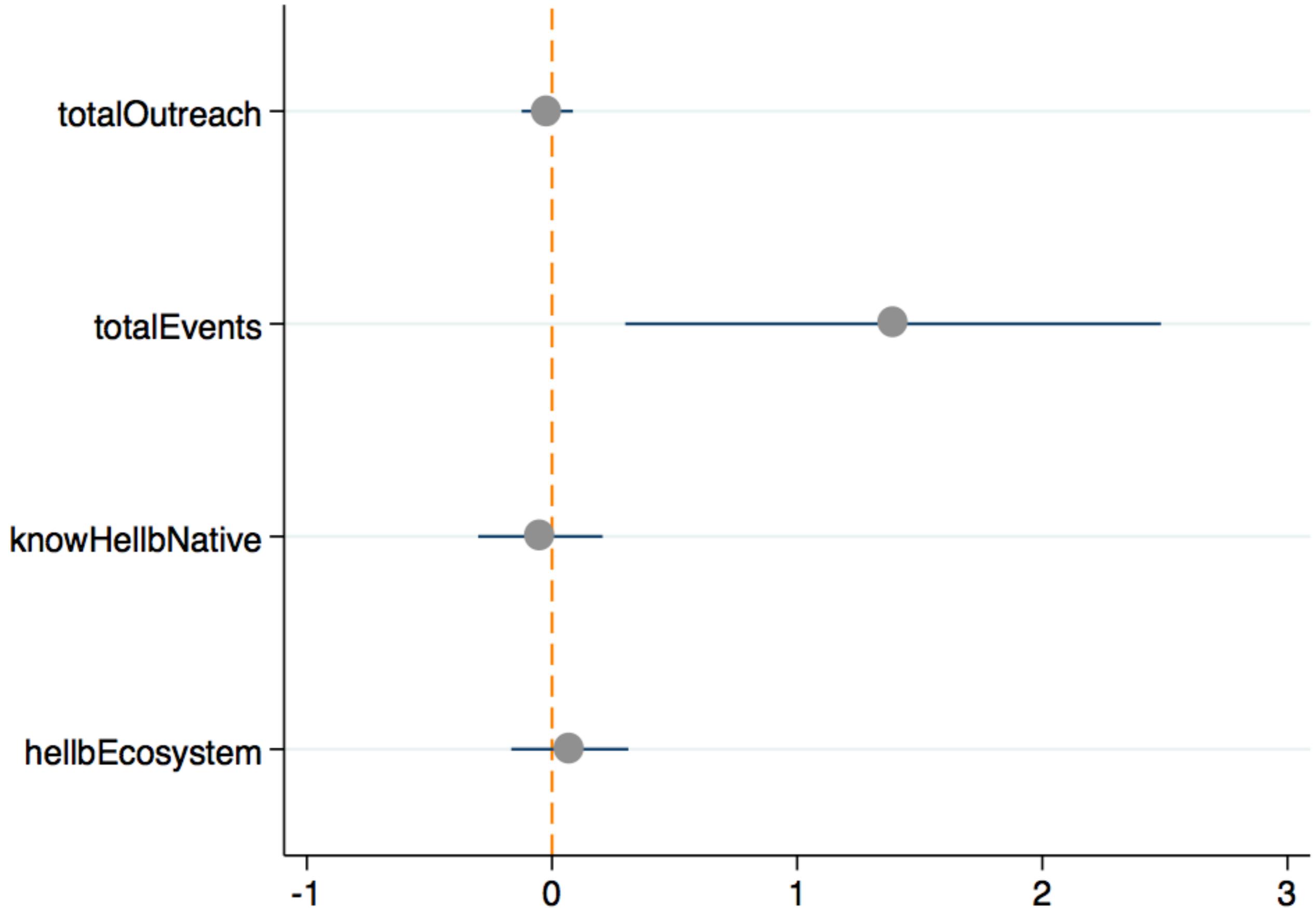
hellbValuable



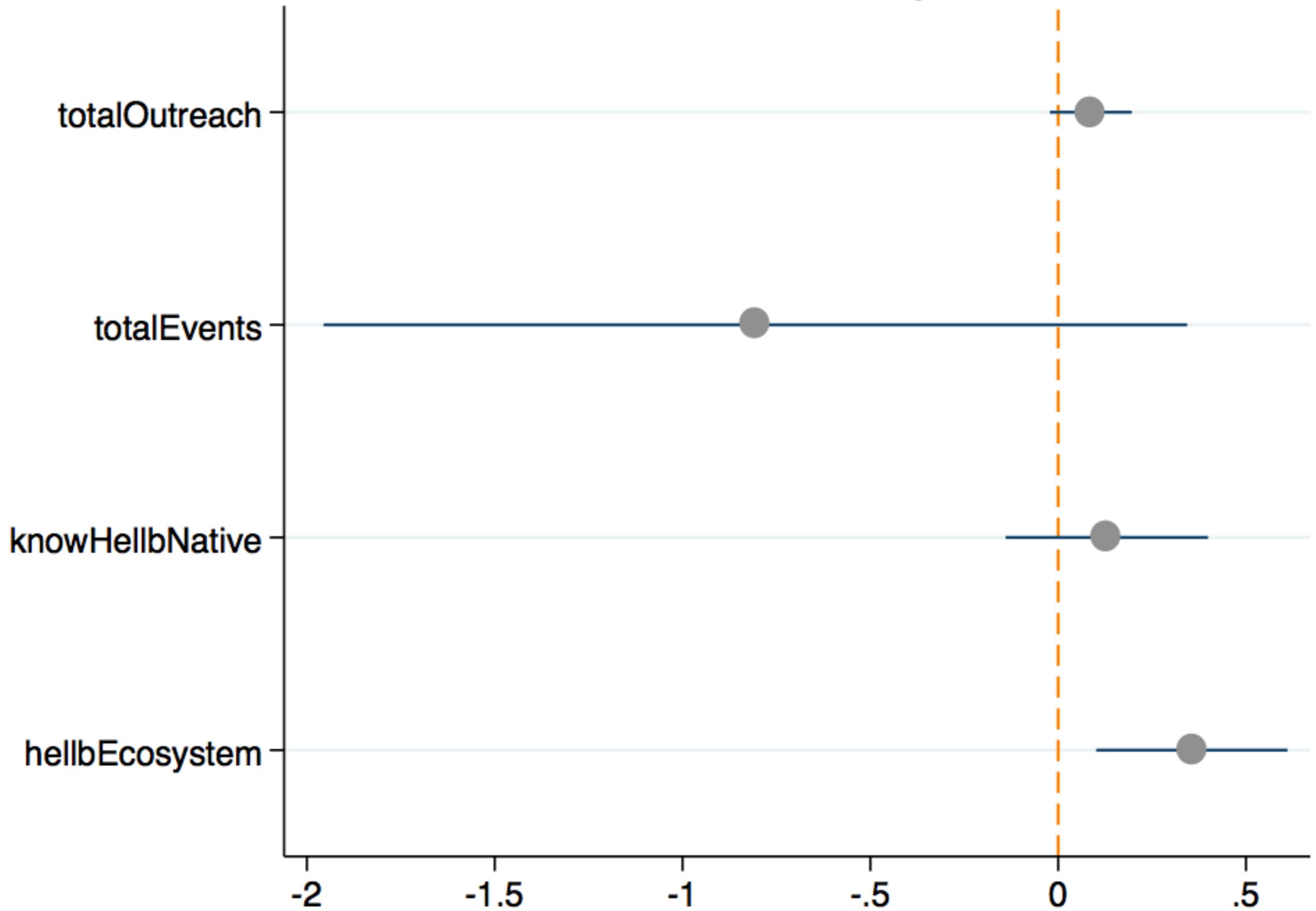
hellbPleasant



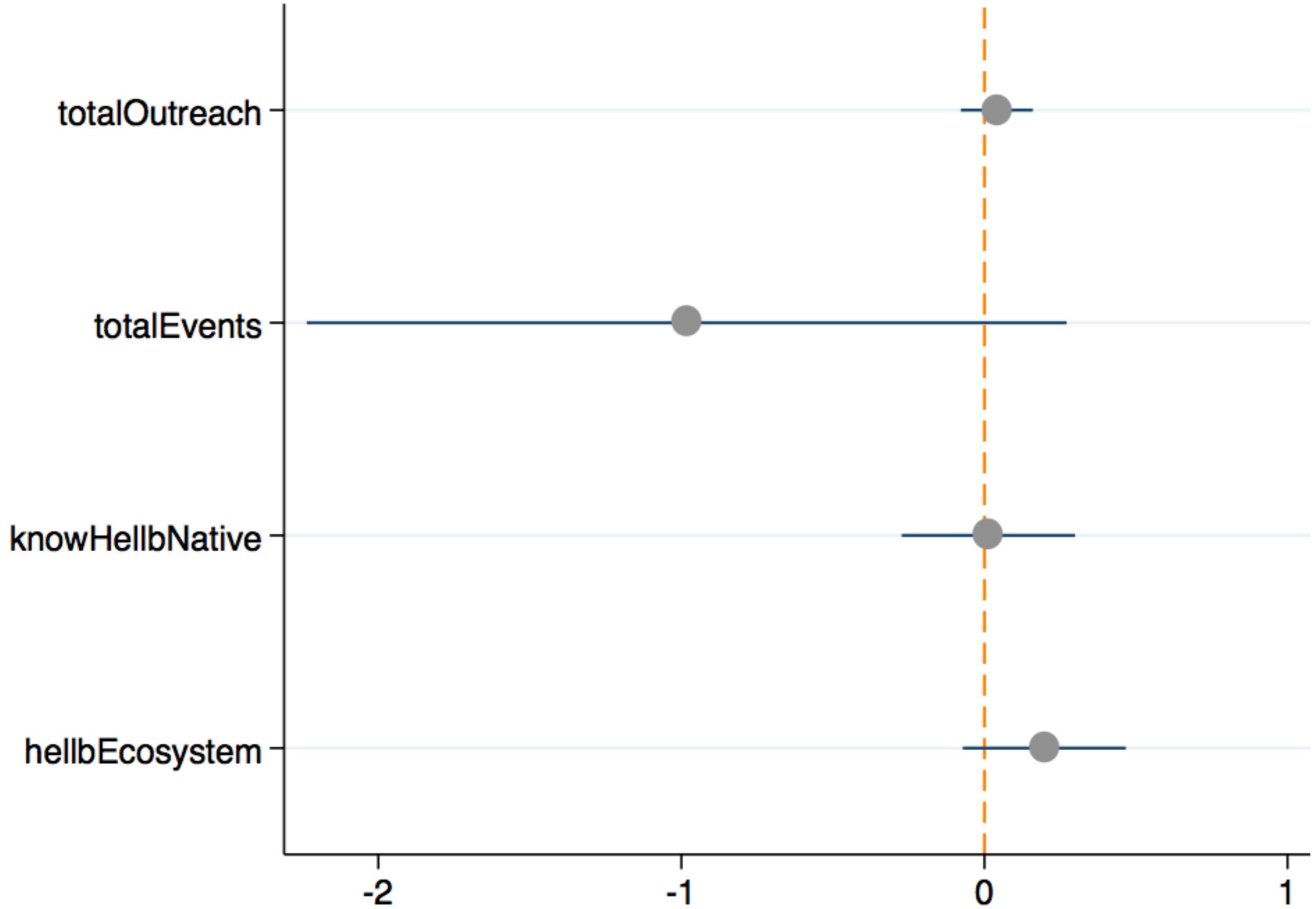
hellbWarmCold



hellbFriendly



hellbBeautifulUgly



hellbGoodBad

