

Farmer Willingness to Engage in Transactions for Cost-effective Provision of Aquatic Ecosystem Services

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Cost-effective Conservation

- ❖ **How can we get the most environmental benefit using a limited budget?**
 - Make programs attractive for farmers -- offer the right incentives and make enrollment easy
 - Target high impact fields
- ❖ **Conservation auctions can assist with targeting and revealing farmer preferences.**

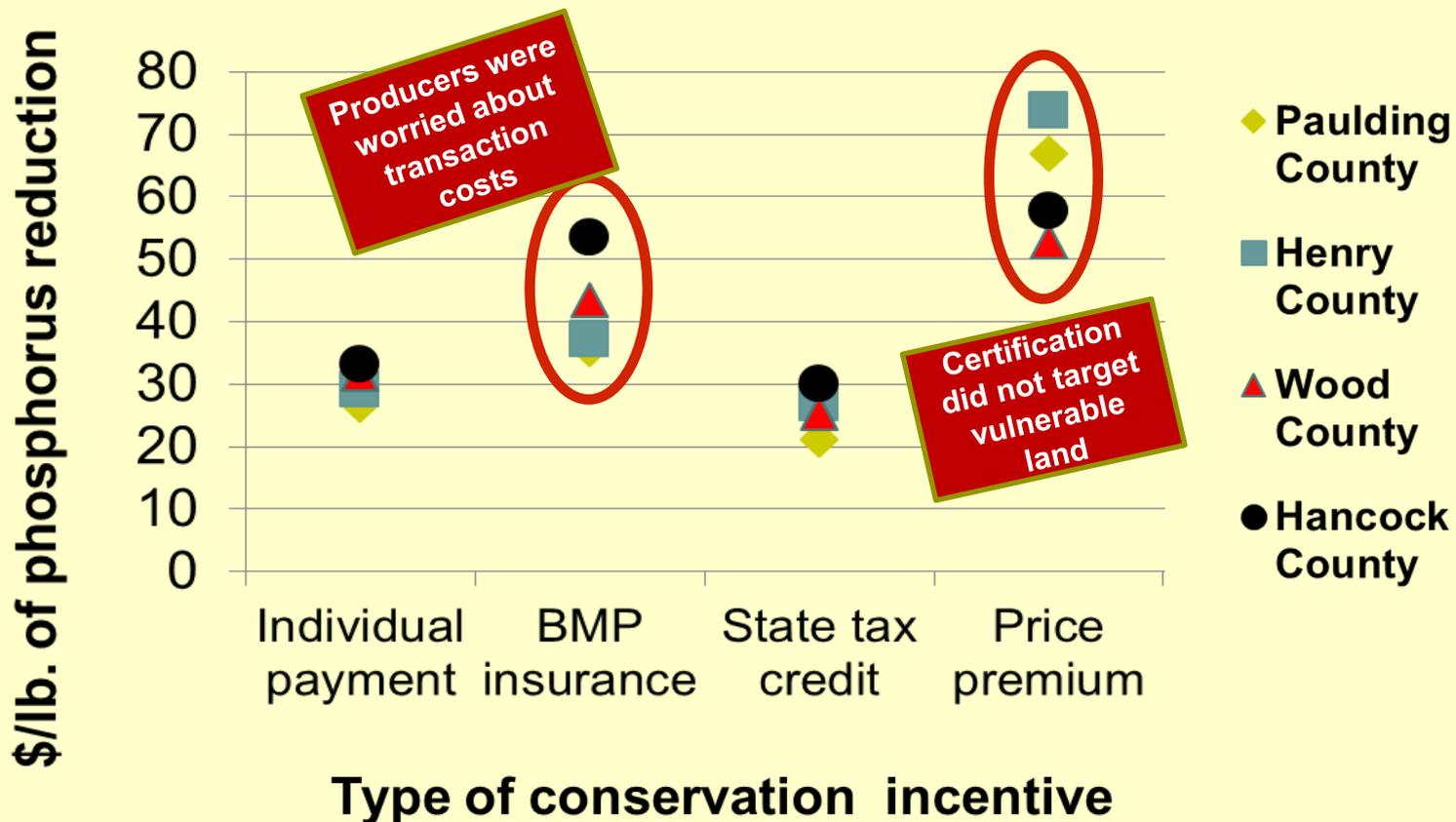
Year 1 Pilot Auctions: Testing conservation incentives



- ❖ **Direct payments**
- ❖ **Product price premiums**
- ❖ **BMP insurance**
- ❖ **Tax credits**

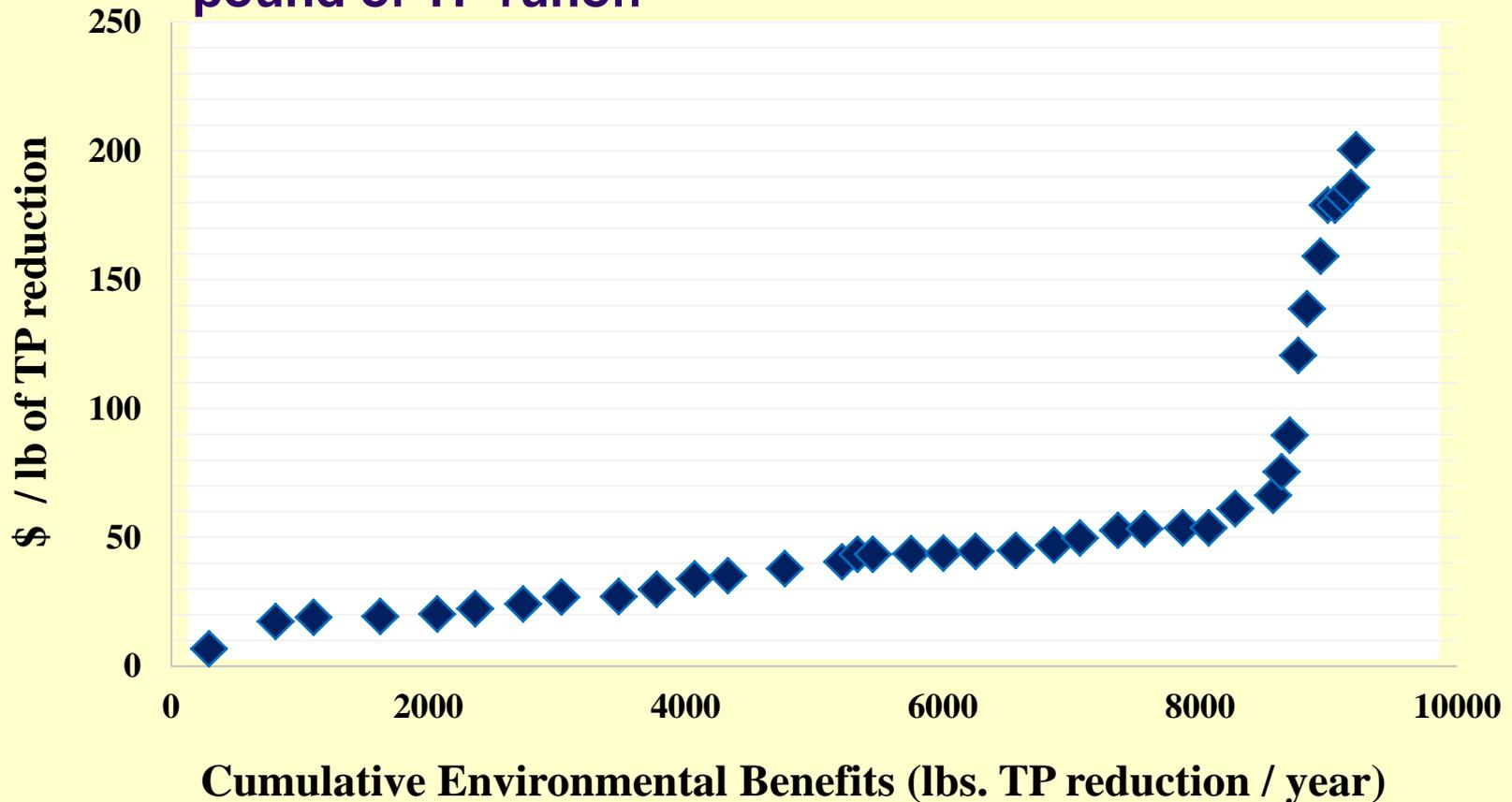
Simple, targeted programs are most efficient

Cost-effectiveness of accepted contracts

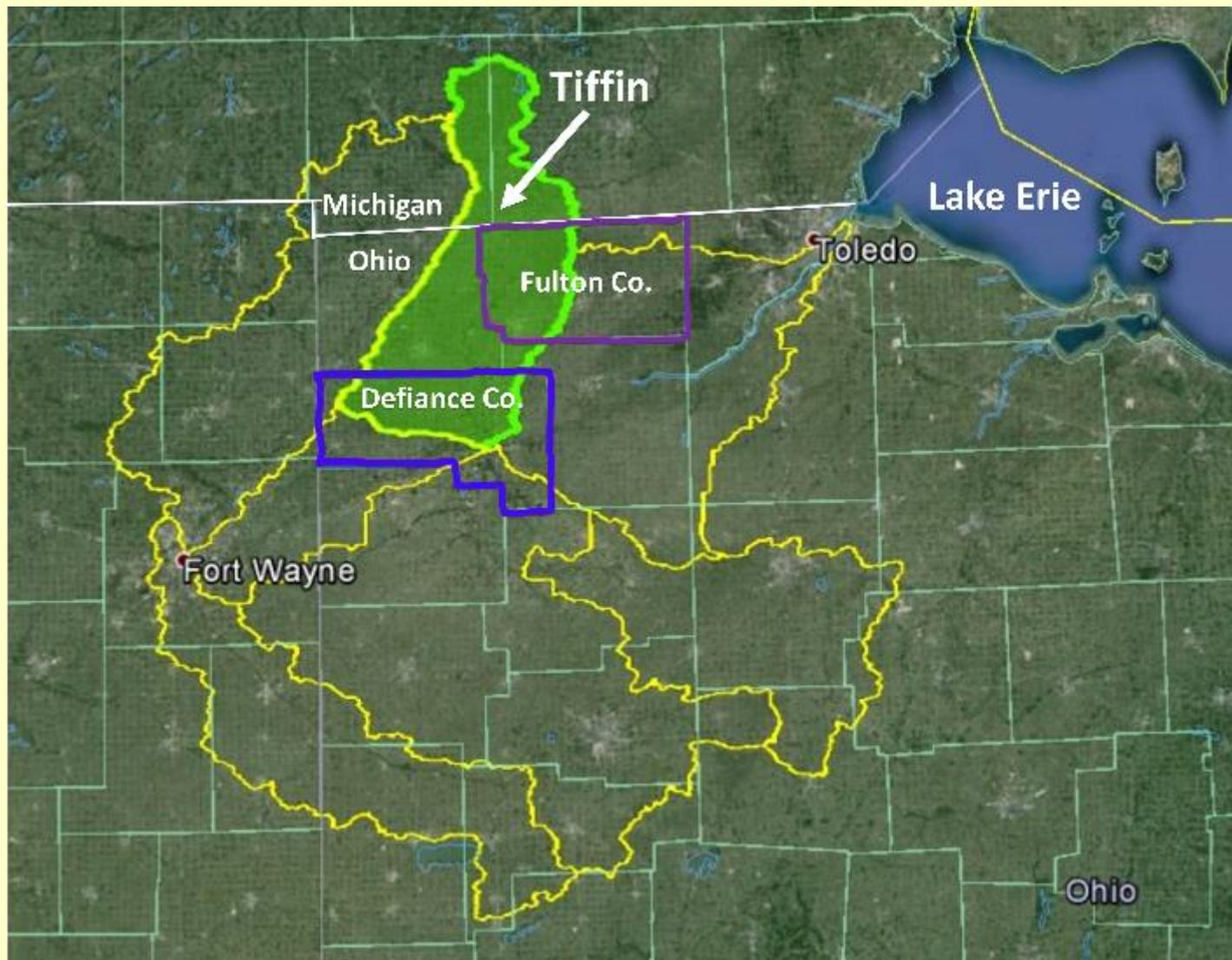


Cost-effectiveness: Some sites give much better value for money

Bids are ranked based on the cost of reducing each pound of TP runoff



Real conservation auctions in the Lake Erie Basin



Real conservation auctions in the Lake Erie Basin

Defiance-Tiffin Watershed BMP Auction

- Defiance-Tiffin BMP Auction
- Frequently Asked Questions
- Environmental Benefits on Your Land
- Bidding Instructions
- Conservation Practice Standards
- Contact



Defiance-Tiffin Watershed BMP Auction

Our Goal
The goal of the Defiance-Tiffin Watershed BMP Auction is to pay farmers to adopt BMPs that improve water quality in the Tiffin River and Lake Erie.

<http://www.defiancetiffinbmpauction.org/>

Only 1% of landowners submitted bids

❖ 36 bids submitted

- 75% of bids for cover crops
- 14% for drain control structures
- 11% for filter strips

❖ Bids ranked on the cost per pound of bioavailable phosphorus reduction (SWAT modeling by LimnoTech)

- Some very low P removal → Extremely expensive

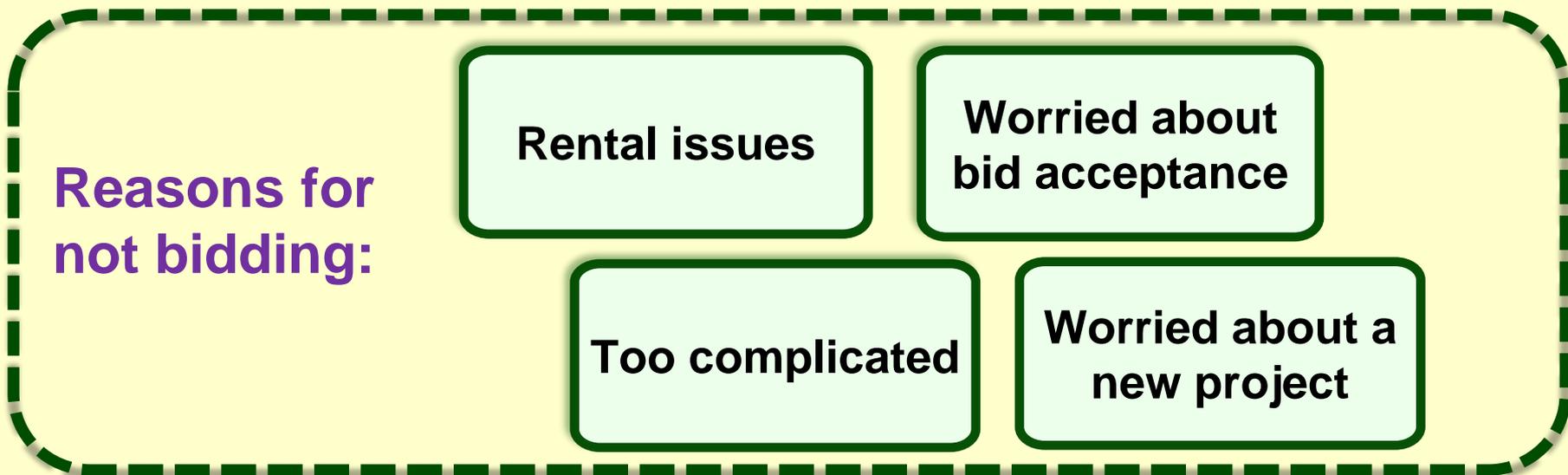
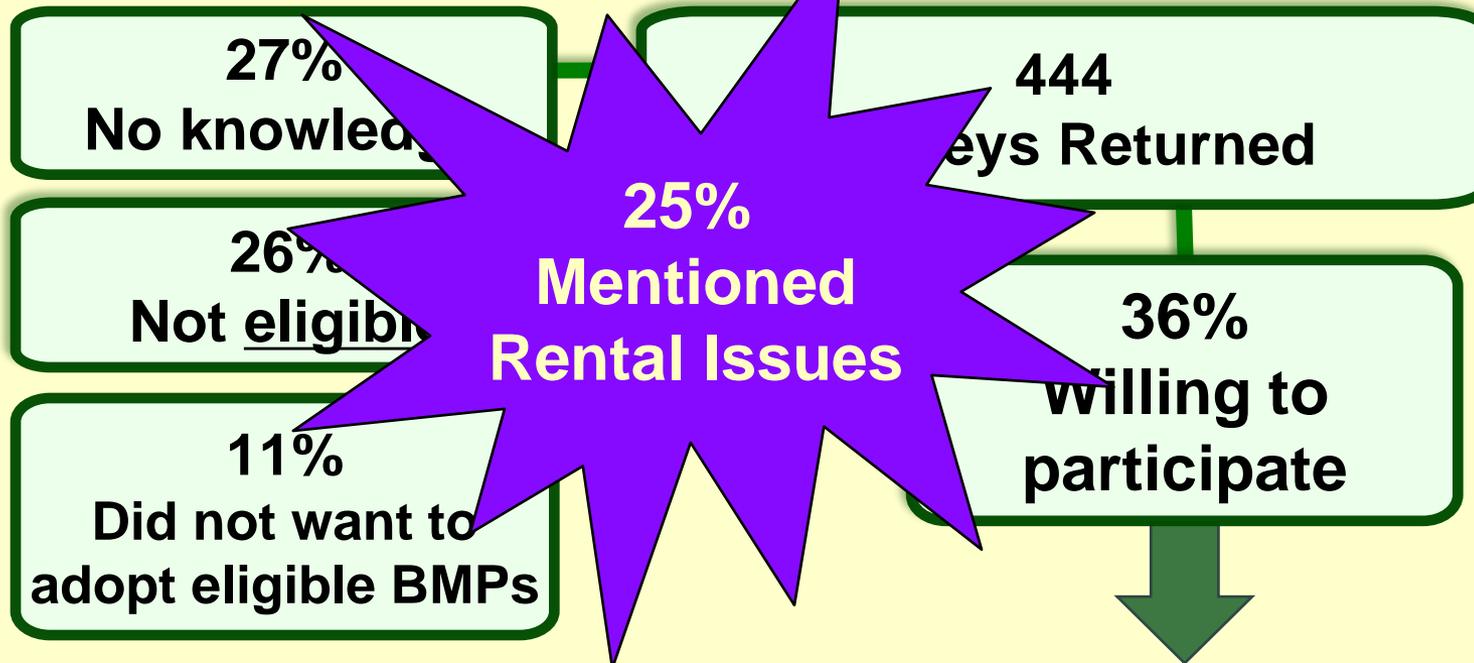
❖ 29 bids accepted

- Filter strips were the most cost-effective

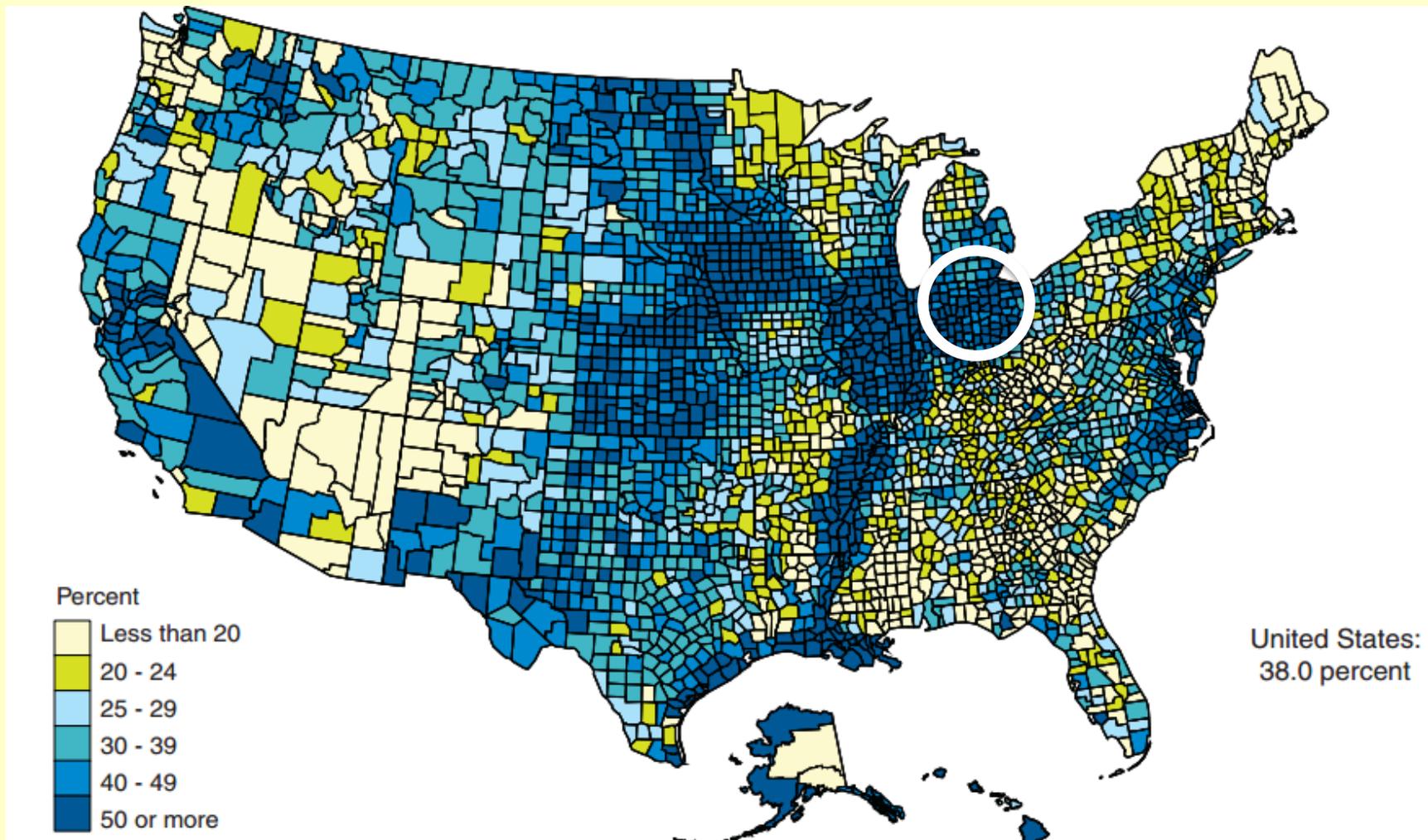
Auctions: Too complex to be cost-effective?

- ❖ **Few bidders** → Hard to target so hard to get cost-effective performance
- ❖ **Complex ecological models** →
 - 1) time-consuming to evaluate bids
 - 2) some model assumptions can strongly affect predicted ecological outcomes

Why so few bids? Survey results



Over 50% of farmland rented in the Western Lake Erie Basin, 2007



Policy suggestions for cost-effective conservation:

- ❖ **Reduce complexity of conservation programs**
 - Simplify auctions *OR*
 - Fixed BMP payments that target vulnerable lands.
- ❖ **Use spatially explicit apps to educate and engage farmers in conservation planning.**
- ❖ **Make programs attractive to renters and non-operator landowners.**
 - E.g., Auctions/ fixed payments for 1-yr. practices like cover crops

Audience Questions