Appendix D

Interviews with GLRI Program Managers & Focus Groups with Priority Watershed Farmers

Researching the Effectiveness of Agricultural Programs

Researching the Effectiveness of Agricultural Programs:

Analysis of Interviews and Focus Groups with Farmers and Program Managers

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Table of Contents

List of Figures

List of Tables

I. Objectives

The agricultural community of the Great Lakes Basin has received over $100 million from the U.S. Environmental Protection Agency's Great Lakes Restoration Initiative (GLRI) for projects and programs that fall within the GLRI's Focus Area 3: "Nonpoint Source Pollution Impacts on Nearshore Health." These investments are intended to increase the adoption of agricultural conservation practices, influence on-farm decision making in the short and long term, and ultimately improve water quality. This research project evaluates the effectiveness of these investments in terms of their ability to increase the adoption of conservation practices, create lasting cultural changes among farmers, and expand the capacity of local agencies and organizations to administer programs and projects that advance GLRI Focus Area 3 goals in priority watersheds.

This exploratory project collected qualitative data via focus groups with farmers and in-depth interviews with program managers of institutions that have received GLRI funding for projects and programs that support Focus Area 3 objectives. Data collection focused on sub-themes that inform the research questions, including: 1) how farmers make decisions about the adoption of conservation practices; 2) why farmers participate in conservation and incentive-based programs; 3) what leads to additional farmers participating in these programs; 4) how program participation changes practices and attitudes about adoption of practices in the watershed; 5) how GLRI investments impacted participating institutions; and 6) how GLRI investments could be improved from the perspective of participating institutions and farmers.

The data has been collected in order to evaluate the effectiveness of GLRI Focus Area 3 investments within four GLRI priority watersheds. This written document summarizes the research team's analysis and provides reflections on ways to improve future investments in terms

of both the ways that institutions distribute and utilize GLRI funds and engage with on-farm decision makers.

This research constitutes one portion of a larger, U.S. Environmental Protection Agency funded research project (EPA-R5-GL2016-AIP: "Researching Effectiveness of Agricultural Programs"). Therefore, the output of this research will eventually be incorporated into a larger report.

II. Background and Rationale

Preliminary analyses of GLRI Focus Area 3 investments in priority watersheds indicate that most of the funding is used to incentivize the implementation of conservation practices on farm-level operations, with a focus on cover crops and more precise nutrient management (Great Lakes Restoration Initiative, 2018). Other investments have focused on outreach and education, traditional and innovative conservation program expansion, water quality monitoring and research, and the creation of models and decision support tools. While the EPA's reporting requirements attempt to assess the immediate impacts of these investments (e.g. acres put in to conservation, farmers enrolled in programs, or pounds of phosphorus and sediment load reduced), a data gap exists when attempting to assess whether these immediate results lead to long-term cultural changes among communities of farmers and/or programmatic improvements among the institutions that serve them. Prior literature on farmer adoption of conservation practices indicates that financial incentives, producer attitudes towards various types of environmental institutions (e.g. private, federal to local government, and NGOs), and beliefs concerning the efficacy and return on investment of conservation practices all influence on-farm

decision making (Prokopy, et al. 2008; Burnett, et al. 2018; Wilson, et al. 2018). Building on a growing body of literature on conservation institutions (e.g. Ostrom, et al. 1994; Ostrom, 2009) this report takes a closer look at how different institutions and individuals respond specifically to GLRI Focus Area 3 funding in priority watersheds in both the short and long-term. We accomplish this by engaging a subset of representatives of organizations that were direct recipients of GLRI funding from the EPA, those who received GLRI funding as a sub-recipient below a primary recipient, and individual farmers who ultimately received funding to implement conservation practices.

III. Results

A. Pre-focus group survey

Of the 41 focus group participants, 38 opted to complete a brief (five question) pre-focus group survey. These surveys collected demographic data, the size of their farm operations, and whether or not they are aware of GLRI. These questions help us to better understand the relationship between these factors and farmer decision-making about conservation incentives and practices.

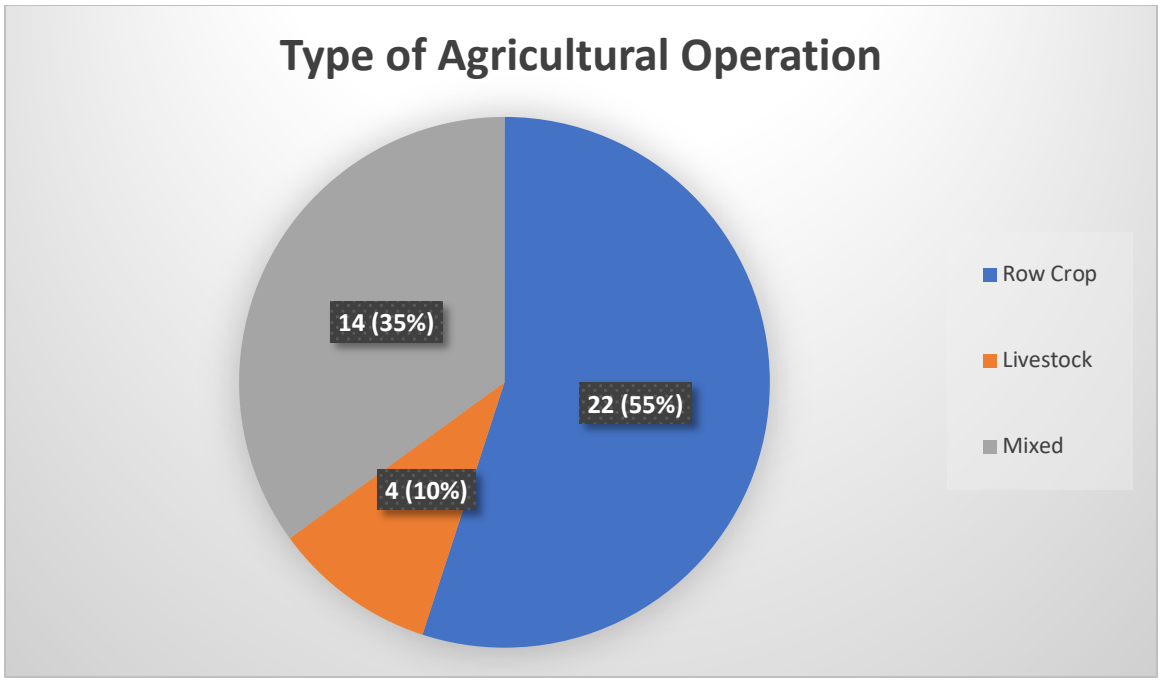

Figure 1: Type of Agricultural Operation

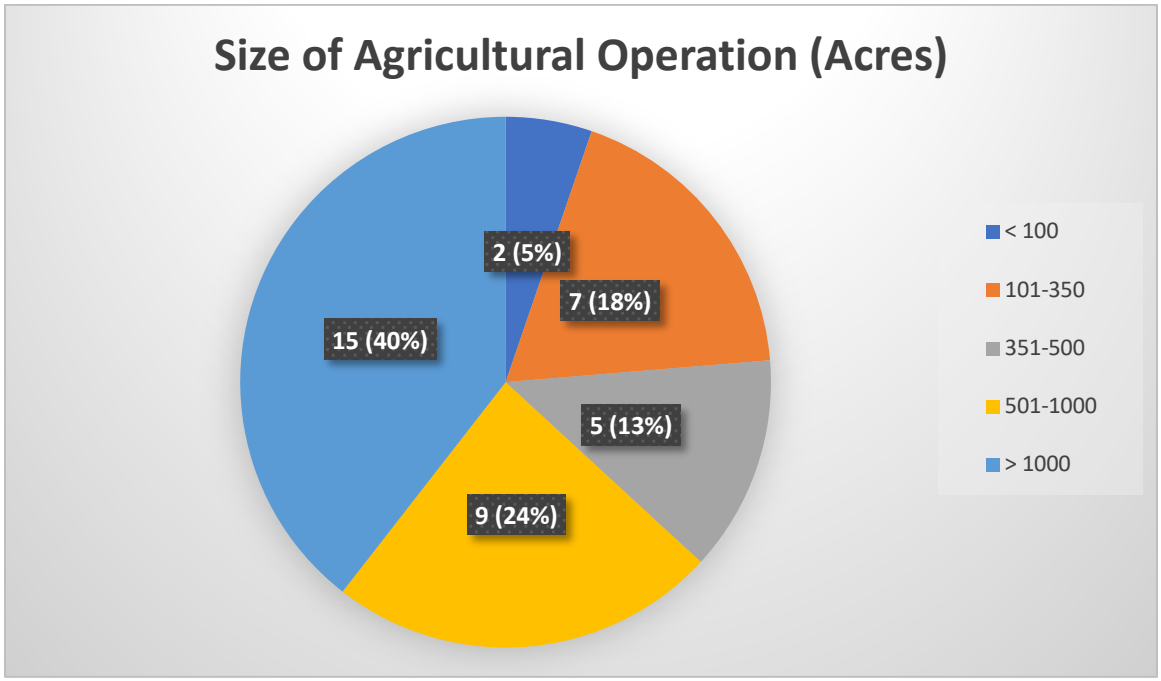

Figure 2: Size of Agricultural Operation (Acres)

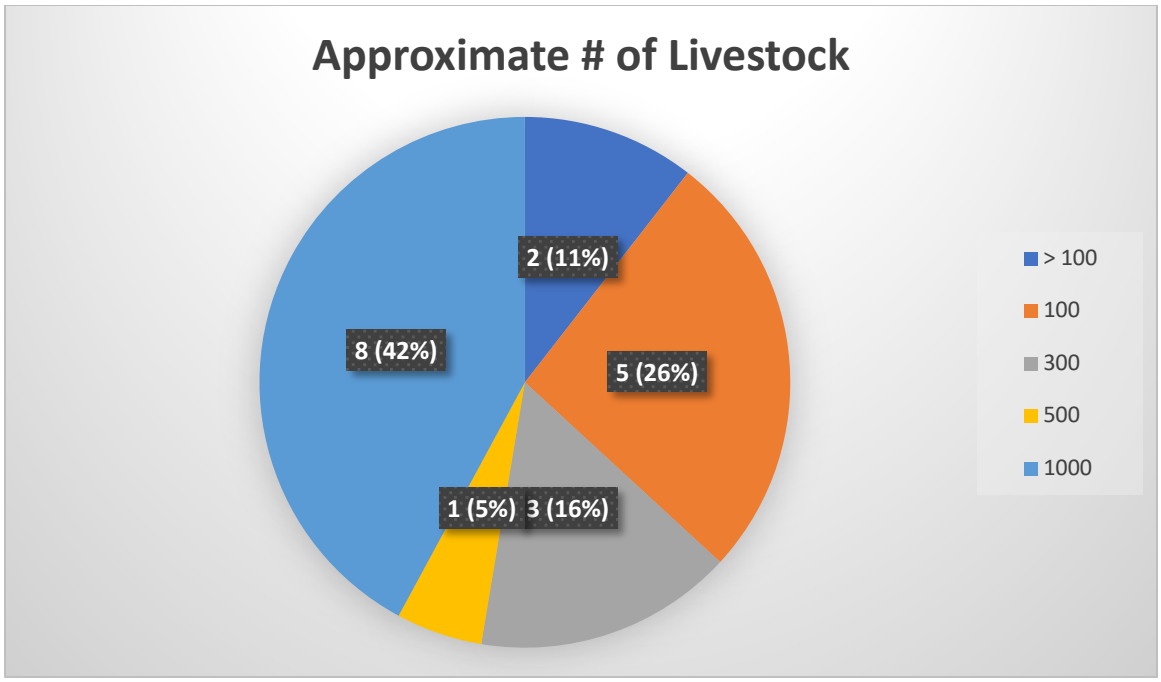

Figure 3: Approximate Number of Livestock (If Applicable)

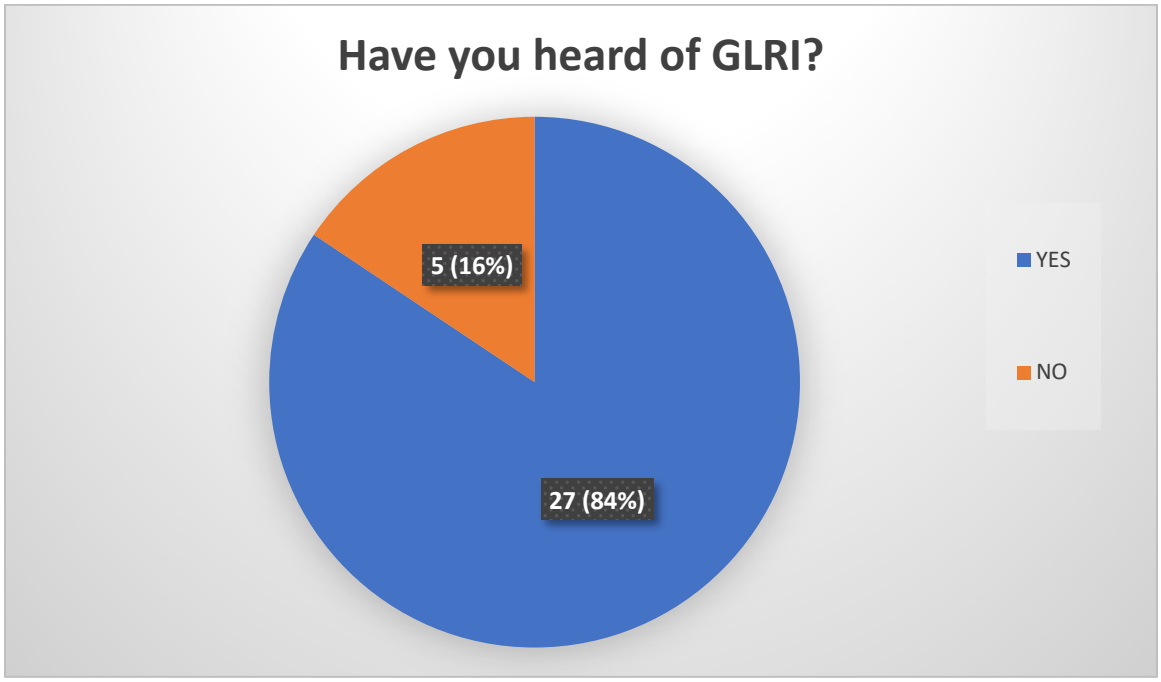

Figure 4: Awareness of GLRI

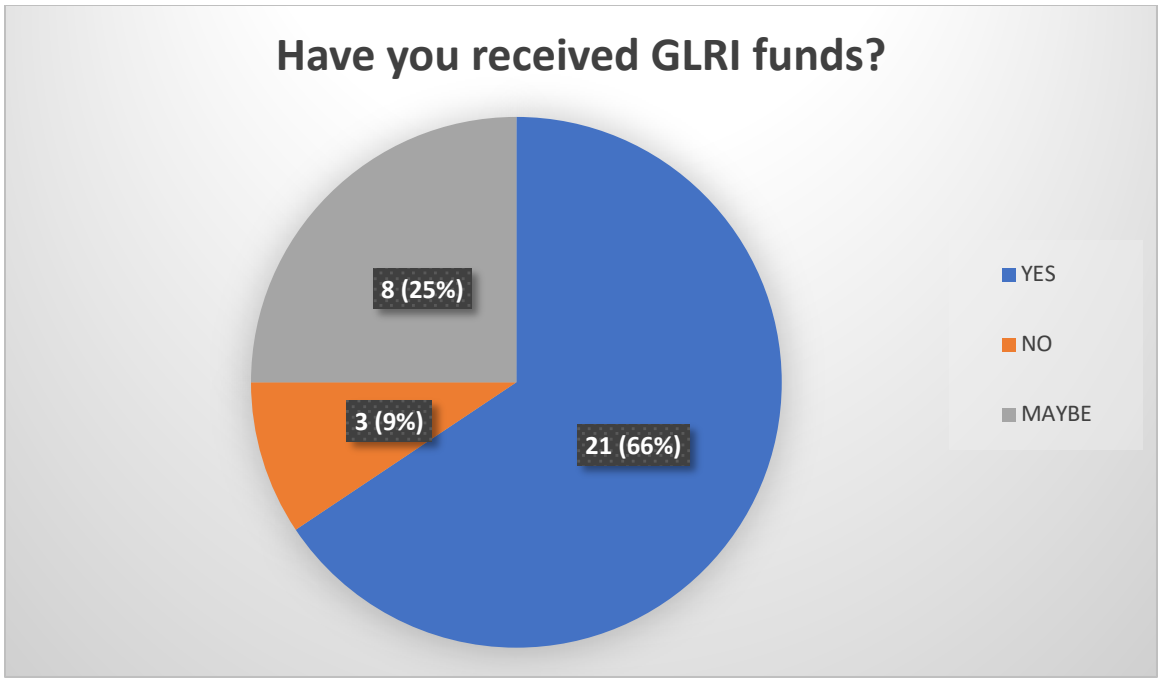

Figure 5: Awareness of Receiving GLRI Funds

B. Focus groups

We conducted eight focus groups with a total of 41 participants in three of the priority watersheds (two focus groups in the Lower Fox, with a total of 13 participants; three in the Maumee, with a total of 17 participants; and three in the Saginaw, with a total of 11 participants).

1. RELATIONSHIP WITH GRANTING ORGANIZATION/OUTREACH

What has your experience been like in working with the organization administering GLRI funds?

The vast majority of focus group participants reported a positive working relationship with the organization administering GLRI funds (all participants received GLRI incentives via their County Soil and Water Conservation District (SWCD) office). The major positive traits associated with the SCWD offices were that they were helpful, flexible, and prompt. While no negative sentiments were expressed in the sessions, some participants noted that their local SWCD offices were understaffed, and therefore felt that additional staffing would help prevent a bottleneck effect.

Example quotes:

> They have the level of experience, and that's huge. Time is everything in this business, or in any business, for that matter, and if you don't have to sit down and do calculations and wonder if they're right or wrong or just exactly what, that's a big deal. And when you're receiving grant money it has to be done right, and if it isn't done right you just forfeited everything that you've done. And if you've got someone to guide you through all those processes and make sure that you are doing things right, then that leads to a really good outcome.

> You know, more agronomists, stuff like that on the support would help somebody support some idea. It has been good, but a lot of times you never have enough. But I think one of the things that we kind of struggle with, okay, hey, does this practice work and what was the return on investment on this practice. And there's not enough people, there's not enough, you know?

What kinds of outreach were conducted by this organization?

What did you think of it? Why was it effective/ineffective? How could it be improved/done differently?

The majority of participants heard about GLRI in one of three ways: either 1. an on-farm visit from a SWCD staff member; 2. a visit to the local SWCD office for a separate purpose, which led to conversation about GLRI; or 3. word of mouth from other farmers. Smaller numbers of participants commented that they heard about GLRI via mailed notices and/or newsletters or local meetings. Field days/demo farms were discussed as effective alternatives to

meetings, especially when participants had the ability to converse in small groups. Texting and email were also mentioned as effective forms of communication for some farmers (specifically in the Lower Fox watershed, where there is a highly-organized texting list in place).

Farmers consider individualized on-farm visits to be the most effective form of outreach and relationship-building. On-farm visits help to create and maintain positive working relationships between program managers and farmers. Regardless, it is clear that adequate staffing on the local-level is a key determinant of success for GLRI projects.

Example Quote:

> I think with us, I mean, we had some knowledge of it, but I think some of these younger agronomists, they actually physically stopped one day and started talking about this, and there was funding for it. Like I said, rebuilding some of the waterways and the buffers. And, well, that sounds pretty good, and jumped on that.

RECOMMENDATIONS RELATED TO RELATIONSHIP WITH GRANTING ORGANIZATION/OUTREACH:

1. Ensure adequate funding for local-level staff in order to maintain or increase on-farm visits.
2. Maintain or increase opportunities for field days/demo farm visits with small groups of farmers.

2. EFFICACY OF INCENTIVES

What would make this organization's use of GLRI funds more effective? Less effective?

If you could design a perfect payment program, what would it look like?

Focus group participants were near-unanimous in their support for the current structure of GLRI, suggesting that it is broadly perceived as an effective program as-is. Participants agreed that the level of local control allowed for positive relationship-building and also allowed for flexibility. Many participants expressed a fear of bureaucracy and hoped that GLRI would continue to avoid becoming overly bureaucratic. Individual participants reported that GLRI could be improved with: increased staffing at the local level, a decreased paperwork burden (although many also felt that the paperwork was reasonable), and/or making the program more responsive to local or watershed-specific factors, such as weather or topography.

Participants floated different, and sometimes contradictory, ideas for improving payment structures. For example, one focus group coalesced around the idea of a "step-wise" payment structure, where participants would receive increased incentives for each year they participated. Meanwhile, another focus group discussed the merits of a payment structure that provided larger up-front payments and then incrementally decreased payments year-by-year. Yet another focus group noted that, in addition to the GLRI incentive, allowing for a harvest of cover crops (e.g., winter wheat or alfalfa) would make the practice worthwhile.

Participants also debated the pay-for-performance model. Some suggested that it would help motivate farmers to try more and/or novel conservation practices. Others countered that the uncertainty would be worrisome, because they could lose money if they pay to implement the practice up front, but the practice failed due to uncontrollable factors like weather.

Multiple participants noted the importance of the non-farmer landowner in terms of conservation practices, and one participant advocated for non-farmer landowners to receive a portion of the incentive payments. Many participants noted that rental contracts are competitive, that they are negotiated yearly, and that non-farmer landowners will rent to the farmers that can

produce the highest yield. Therefore, farmers will not adopt conservation practices that may affect their ability to compete for rental land. If GLRI incentives were to make up the difference by compensating non-farmer landowners directly, then more farmers would adopt the practices without fear of losing their rental contract.

The larger takeaway from these conversations is that participants were open to multiple payment structures, as long as they seemed to make sense for each individual's operation. This plays to GLRI's strengths, as it can be adapted to meet local conservation needs. Therefore, providing farmers with multiple options (for types of conservation practices as well as payment structures) leads to increased probability of effectiveness.

Example quotes:

On GLRI as being effective as-is:

> I'd just like to say thanks for the program. Any time somebody's putting funds out there that we can grab onto that we can make fit, we appreciate it. And I'm surprised more farmers don't get on the programs. Because some guys are just so scared to look at it, I guess, I don't know. But it has been a plus for me.
>
> I think it's one of the better programs I've ever run across. For years they always, you know, the government set aside programs or they'd come in with runoff from your barns and stuff, really there was no education there, it was just do it. But now you're actually getting educated. It seems like we're learning something. It's interesting.

On pay-for-performance:

> Pay the farmer for what he does. I know it's a little harder. It's just easier to throw a lump sum at somebody. But if you try to put a little thought into it and break it down that way, I think you would get, if you're looking for results, you'd get more results because they're going to try different things the more you pay them for doing more.
>
> But performance-wise, there's got to be, like now, if you put all these cover crops on and then we have a fall like we might have, when you found there's no cover crop left or no inter seed left, but yet we stuck all this money in it, so I don't know

> how you could justify… You just have to buy it, but you didn't get the results, but yet I'd like to have [less uncertainty].

On the current program structure:

> But you don't want them to get too big, either. I love the way it is now working with our watershed people. It's very personable, one-on-one, working together. If it gets too big and the pot gets too large, then it becomes a bureaucracy and then it's the rules are the rules are the rules kind of mentality. I think the smaller, the more local control you can have over it the better off the [environment] is.

On non-farmer landowner payments:

> So many landowners now are top dollar, that's all they care about. So if these cover crop type of programs and stuff take two, three years to do it—and I'll be the first to admit that there is a yield hit going to you with no till and cover crop, at least during the first three to four years, for sure. If you're going out there competing against farm ground, it's ROI, return on investment. And the money goes to the farmer, but they're…the non-farm public doesn't know. They're just all about the dollars and cents.

On allowing harvesting of cover crops:

> Participant 1: Okay, they want cover crops really bad, and cover crops are defined by crop that you do not harvest. You know how good a cover crop winter wheat is? Unbelievably good because it stays there. The other thing we're trying to accomplish is the removal of phosphate. A cover crop don't remove much phosphate, but a wheat crop really removes a lot of phosphate. If you go in there and you remove the grain and then you take straw, part of the straw, I'm telling you, you took a lot of phosphate off that ground. So I think we're a little bit wrong on that. I don't know that you've got to pay for a guy to plant winter wheat. But if you're going to pay somebody to plant a cover crop, well then why couldn't you just pay the same amount to plant winter wheat? Today winter wheat's price isn't quite so bad. Well, a year ago when it was four bucks, that's kind of a painful crop to have out. But if you can harvest it, that's a better deal. And it's good environmentally. Everything's good about that. But they've whacked that off and you aren't supposed to harvest. I think that's a mistake.
> Participant 2: And you could put alfalfa in that same category.

RECOMMENDATIONS RELATED TO EFFICACY OF INCENTIVES:

3. Retain the emphasis on local control of projects in order to continue positive relationship-building, avoid bureaucratization/remain nimble, and encourage robust participation.

4. Emphasize multiple practices and multiple payment structures:

a. Utilize payment structures with larger up-front payments with yearly decreases for practices with higher up-front costs. Once conservation practices have been adopted, they often remain in place even beyond the incentive period, especially if the maintenance costs are minimal.

b. Utilize payment structures that include yearly increases for practices that may require longer tenures before farmer benefits can be realized, such as cover crops or no till.

c. In addition to programs that incentivize farmers through either the widespread pay-for-practice model or the less prevalent pay-for-performance model, add programs that are a mix of these two systems. These programs should: 1. establish a floor to cover farmers' basic costs in the event of poor performance, and 2. account for local factors (weather, topography, etc.).

d. Consider payment structures that include payments to non-farmer landowners. This would increase the likelihood that farmers using conservation practices could compete for rental contracts with conventional farmers. It would also raise awareness of conservation practices among non-farmer landowners.

e. Consider allowing a harvest of cover crops such as winter wheat and alfalfa.

3. EFFECT ON OPERATION

How has the money you received from (a given project X) changed your operation?

Generally, participants did not feel that their operations have changed drastically as a result of GLRI incentives. One self-described "beginning farmer" noted that GLRI funds helped him stay afloat and learn better practices, both in terms of conservation and overall yield. Most felt that they had adopted and maintained practices that were relatively unobtrusive.

Which conservation practices did you choose to install? Why?

Participants reported a range of practices, including no till/partial till, trapping practices, cover crops, etc. Generally, participants indicated that they chose the practice(s) that their local SWCD official recommended based on their particular operation. Participants used this question as an opportunity to discuss the pros and cons of the practices they had tried. For example, the Flint (Saginaw) focus group discussed the merits of no till, and felt that no till vs. conventional till was a harsh dichotomy, and that there should be room for a "minimum till" or "reduced till." Meanwhile, one of the Lower Fox focus groups discussed buffer strips, recommending a change in the size requirements from NRCS-EQIP's standard 35' requirement to a flexible size requirement dependent on local factors.

Example quotes:

On GLRI incentives helping a beginning farmer:

> Well, for us, as a new farmer, it helped us to stay in business. It really has... But also I think we've learned a few things... we learn different programs. We tried with till, integrated pest management, cover crop, basic nutrient management, enhanced nutrient management, and we had a drainage project. That's separate, but those things got us to get in the fields more, to check our crops, and for weeds, and learn... So from the standpoint of a new farmer it's helpful in those ways, a lot of ways, really.

On allowing for a minimum till incentive:

> Participant 1: We worked on something no till, but we've been struggling on that because of weather. I love no till, and we can do good on it, but our weather has been so off the last two years we've mudded corps out terrible. How do you no till through—
> Participant 2: Through the ruts.
> Participant 3: I mean, it's so damp.
> Participant 2: Through the deep ruts.
> Participant 1: The no till program, I would really like to see little changes in it because it's not working with our weather today. We need to be able to... like a 'minimum till' would help a ton.

On allowing for different/smaller size requirements for buffer strips depending on each farm's characteristics:

> Participant 1: I've been thinking about putting more of them in by ourselves and just make them smaller, not necessarily 35 feet for every buffer you're going to do.
> Participant 2: Couldn't agree more.
> Participant 3: Yeah.
> Participant 1: Thirty-five feet, I mean, we get some of these fields, half the field is buffer by the time you're done. And it's kind of a pain to work around with equipment and…
> Facilitator: So reducing the size would be a good thing.
> Participant 1: For some of them, yes.
> Facilitator: And when you say some of them, what's the…?
> Participant 1: Some of the concentrated flow areas. There's some that absolutely need to be 35 feet and there's some other ones that you just watch after a heavy rain I don't think need to be as big.
> Facilitator: Okay.
> Participant 4: Or in a field, yeah, where there's not that much grade, the water's not moving.
> Participant 5: Every field has a different story because it depends on how much is coming from upstream or to it type of thing, so it's…I agree 100%.

What kinds of impacts have you noticed from these changes? Are these impacts different from your expectations? How so?

Participants were generally split between those who noticed no/minimal changes, and those who noticed positive changes. Among those who were enthusiastic about the changes,

participants expressed either an overt concern for environmental stewardship or a desire to "change the negative narrative" around the environmental impacts of farming.

Example quotes:

On the efficacy of buffer strips:

> We can see it starting to work with all these torrential rains, too. I mean, the buffer strips. And we don't have as much stuff washed out. It was ten inches and we had mud all over the place.

On uncertainty regarding efficacy:

> It's kind of something you can't see. I mean, obviously the exercise was to keep sediment from flowing into the river. Well, neither one of us stands out in the rain watching, but so far…how do you know? I mean, it's got to be helping. If you sifted all that water through grass instead of bare dirt.

On the efficacy of a two stage ditch:

> We got that two stage ditch installed in 2014, and before that period I would have been ashamed to take anybody on that farm just because of the damage that was happening in the ditch. It's a mindset around everybody and all of us that get it off my land as quick as possible. And what it really is, is somebody's got to slow it down somewhere. And that ditch gave us the ability to slow it down a little bit... I mean, we're all draining more than we were 50 years ago. And you have so much water coming in there so fast. And the stream was just destroying itself, destroying the banks, and so much sediment was lost. I mean, the contribution down to the lake, I can't imagine how many tons we donated there. But with this ditch that we put in there, it slowed that water down. Maybe it was running ten mile an hour before and we got it down to three or four mile an hour now. I mean, I don't know for sure what that would be, but it's something similar to that, just slowing it down in those high flow situations. It's a lot easier to control it when it's like that. So that was huge, very huge.

On how no till has changed one operation:

> I may not have jumped into it without the payment. The payment definitely encouraged me to do it. The no till, I no tilled. It worked good for me for years. And it hasn't…the past couple years it's like [the others in the Flint focus group] say, the weather, the ruts, you can't get to it. But no till did start failing me. My crops were going downhill. And now that I've started working the ground again,

> and like I say, I give the cover crop a lot of credit. My crops have really changed since doing that.

Do you feel you are better or worse off as a result of participating in this program? Why?

The answers here ranged from neutral to much better off. There were no respondents who felt worse off as a result of their participation in GLRI.

- Maumee: All participants answered that they are better off as a result of participating in GLRI (n=17).
- Saginaw: Both Ithaca participants answered in the neutral (n=2). All Flint and Frankenmuth participants responded in the affirmative (n=9).
- Lower Fox: All participants answered that they are better off as a result of participating in GLRI (n=13).

Example quotes:

Ithaca participant:

> I guess from my side we're no worse off. We learned a few things [about environmental impacts].

Lower Fox participants:

> Facilitator: ...Do you feel you're better or worse off as a result of participating in this program?
> Participant 1: Much better.
> Facilitator: Much better?
> Participant 2: A lot better.
> Facilitator: Across the board? [Participants nod]
> Participant 3: More enjoyable. Diversification.
> Participant 4: Keeps us sort of open mind, you know, with the different ideas, different practices.

Did you continue these conservation practices after the incentive stopped? Why/why not?

Generally, participants reported that they did continue the conservation practices after the incentive stopped. Many participants indicated that GLRI payments covered up-front costs which allowed them to integrate the practices into their operation. Once integrated, they said, many of the practices either paid for themselves or required very little cost to maintain.

Example quotes:

> If the program has performed and proved of benefit, it's going to stay in place. If it hasn't performed and hasn't proved of benefit, then it probably would not be continued on. But most of the programs, I feel, have been of benefit to the general operation of a farm, and so they're probably going to stay in place.

> Participant 1: I plan to [continue]. I'll chase the money. Why not? But I've been doing more on my own. The last filter strip I put in, I put it in myself. Didn't make it quite as big, but maybe we should have.
> Participant 2: That's a good point what he just said. We've done several projects on our own now. It goes back to we learned. You guys helped us a lot.

RECOMMENDATIONS RELATED TO EFFECT ON OPERATION:

5. Maintain flexibility to allow farmers to experiment with different conservation practices, which empowers farmers to learn and take ownership of their conservation outcomes, encourages participation, and leads to better long-term outcomes (i.e., continued implementation and maintenance of conservation practices beyond incentive period).

6. Avoid tethering GLRI funds to other programs' standards (i.e., NRCS-EQIP's universal 35' buffer strip requirements), since this type of arrangement is incompatible with GLRI's greatest strengths (e.g., flexibility, creativity, local problem solving).

4. PERCEPTIONS OF AGRICULTURAL CONSERVATION

Did participating in this particular program change the way you view Agricultural conservation practices? How so?

Some participants reported an initial hesitation in participating in GLRI programs, due to uncertainty around the costs and benefits. A large majority of focus group participants felt that participation in GLRI projects increased their knowledge of agricultural conservation practices and made them feel like their efforts were important. Some participants expressed that they felt like better stewards of the land.

Example quotes:

On the impact of GLRI on conservation behaviors:

> [The GLRI program] probably makes us realize the importance of having [agricultural conservation practices]. There's a really good reason to implement a lot of this stuff.
>
> [The GLRI program] makes you think about the importance of these kind of practices and keeping the water from just gushing off our land. Also it shows me that there is an understanding, a broad understanding that there is a problem out there, especially in filling up our lake with phosphorus and that sort of thing, and we as farmers need to do something about helping that situation. And I think that's been a learning thing for me.

On establishing a comfort level:

> Participant: Okay, so I come in a little bit leery... There was a little bit of hesitancy to say this is really what I want to do very bad, you know.
> Facilitator: Okay. But how does it seem now?
> Participant: Oh, there's definitely a comfort in it that I'm not as scared of it as I was to start with.

On learning and becoming "better stewards of the land":

> Facilitator: Did participating in this program change the way you view agricultural conservation practices?
> Participant 1: Definitely.
> Facilitator: And how so?
> Participant 1: That there is other ways to do it, and, you know, it was all chemicals, chemicals, chemicals.
> Participant 2: Made us better stewards of the land.
> Participant 3: Yeah.
> Participant 1: Like in here, you work with the land, it works with you.

How did your participation affect your likelihood to partake in future conservation activities?

Across the board, focus group participants reported that their participation in GLRI projects increased the likelihood that they would partake in future conservation activities, both on their own ("...But I've been doing more on my own. The last filter strip I put in, I put it in myself") and through continued participation in incentive programs.

RECOMMENDATION RELATED TO PERCEPTIONS OF AGRICULTURAL CONSERVATION:

7. Respondents indicate that past participation increases their likelihood to partake in future conservation activities. Therefore, in order to increase adoption of agricultural conservation behaviors, GLRI projects and programs should continue to enroll farmers at the same or higher levels.

5. OVERLAP WITH OTHER INCENTIVE PROGRAMS

What's the difference between this particular program and any other incentive program you've participated in? Is it similar/better/worse than other programs?

Many participants were unaware of the difference between GLRI and other conservation programs, such as the Farm Bill's Conservation Title programs traditionally administered by NRCS under pay-for-practices models, such as the Environmental Quality Incentives Program (EQIP). As one participant said, "You sign up at the same offices. You get everything at the same place. Where's the money coming from, who's offering it… It doesn't really matter."

However, once we confirmed GLRI projects with participants to make sure they had the information they needed to answer questions, participants began to describe the ways that GLRI worked better than other programs. For example, one participant said, "They're more at our level. They come out there as an equal and say 'let's try this,' not 'I'm in charge.'"

In the Maumee, an extended conversation on GLRI vs. NRCS-EQIP was particularly important (in this example, the participants use "NRCS" or "EQIP" interchangeably. They are all referring to NRCS-EQIP):

> Participant 1: I think we see a difference here with this Great Lakes thing than we do with the NRCS. NRCS is like pulling teeth. Great Lakes has not been difficult at all. Either you're in or out. And you make that choice. I think that's distinctive for us. We're in a lot of EQIP contracts which have just been like a nightmare almost. We're getting through it, but the GLRI is very good. Very easy.
> Participant 2: It's a piece of cake compared to that other.
> Facilitator: Could you talk a little bit more about that distinction between NRCS and GLRI?
> Participant 1: Well, I see it as mostly bureaucracy... the state NRCS business is just too many people have to touch too much stuff. I mean, this shouldn't be that tough. It goes from our engineer, who knows what it takes to make this legitimate, to the state engineer that should say yes, that's correct. How much more do you have to have? We don't have to touch it every…everybody in the state don't have to touch this thing. Way too many people. No, there's not way too many people, there's not enough people to do the way too much job.
> Participant 2: There's too many stipulations in the process.
> Participant 3: Too many hoops.

> Participant 1: And the GLRI is just very simple. You plant cover crops within this date, the right cover crops, you get paid.
> Participant 2: I mean, the other thing I think I see is that in the Great Lakes thing the rules are well defined and you either make it or you don't. Trying to figure out the rules on the NRCS thing is like waking up in the middle of the night and not knowing where you're at. They seem to be changing. Nobody has the authority to make a decision and live with it. That's where the frustration, I think, comes from.
> Participant 3: And even people in this office that work for the NRCS are frustrated within themselves because you'll ask a question and they say, well, I don't know about that, I've got to find out.
> Participant 2: And that's in contrast with what we're saying from Great Lakes, is it's defined, it's here, you know what it is. The rules aren't changing daily.

Participants also mentioned that the speed of GLRI payments was a positive, particularly in comparison to NRCS. In addition, some focus group participants liked that GLRI required less paperwork than NRCS. On the other hand, participants expressed understanding that since NRCS contracts were longer, more paperwork was necessary. Some expressed a desire for GLRI programs to offer longer (e.g., 15 year) contracts in line with NRCS. However, they also worried that having longer contracts would make GLRI less nimble and more bureaucratic.

RECOMMENDATION RELATED TO OVERLAP WITH OTHER INCENTIVE PROGRAMS:

8. GLRI's strengths are different from other programs (e.g., the Farm Bill's Conservation Title programs traditionally administered by NRCS under pay-for-practices models, such as the Environmental Quality Incentives Program (EQIP)). Participants report that GLRI offers clear parameters for program participation, quick payment, and less paperwork than other programs. Therefore, GLRI offers an effective complement to other incentive programs. However, GLRI is miscast when used as supplemental funds for other programs (e.g., when adopting other programs' structures and requirements instead of maintaining its own). GLRI can and should bolster its unique position by ensuring its funds are used in accordance with its strengths.

6. OBSTACLES

What if any aspects of the program you participated in presented key obstacles for you?

Most participants expressed a general level of satisfaction with GLRI, but two particular obstacles arose during focus groups. One participant suggested that "having the resources [available] when you need them" was an obstacle, because "everything is so timely [in this business]." Other participants across multiple focus group agreed: when resources (e.g., machinery, supplies, personnel) are unable to respond quickly to shifting conditions, it presents an obstacle.

Another participant suggested difficulties in "making the adjustment [from year-to-year] of where a particular cover crop may go and how soon it can get seeded," because economic factors drive crop rotations, and "you don't know three years out, or five years out, what it might be, and it might change." Allowing for seasonal adjustments could help with this obstacle.

> And there's not enough [staff], there's not enough, you know? They always talk about it on the harvesting part of it, and they don't have time.

> I think the only way you can make it maybe a little better is if... you know, if you put a little more input into it, maybe you get a little bit more out of it. But it's been good.

> To get a good established cover crop it's a timing thing for us, and it's a difficult one to thread the needle on.

RECOMMENDATIONS RELATED TO OBSTACLES:

9. Increase funds for staffing at the local (program manager) level, in order to increase time available for on-farm interaction with farmers and avoid "bottlenecking" of resources.

10. Include allowances for year-to-year adjustments for certain practices (e.g., cover crops) to account for uncertainty in crop rotations.

C. Interviews

We conducted 29 interviews with program managers. This includes interviews with 10 individuals in the Lower Fox watershed; eight individuals in the Saginaw watershed; eight individuals in the Maumee watershed; and three individuals in the Genesee watershed. In some cases, we interviewed multiple people who had worked on the same project; we have adjusted these data so that they do not over-represent duplicate answers.

1. EFFECT ON ORGANIZATIONAL CAPACITY

Did receiving a GLRI grant expand or improve your organization's ability to:

a. Engage with producers in your jurisdiction? How so?

Most (n=20) respondents who answered this question answered **yes**. The **yes** answers were grouped into three categories (see Table 1).

The most popular reason related to the increased capacity to build individual relationships. This means that GLRI funding led to an increase in individualized interaction with farmers (or SWCD staff, in the case of Indirect grants). Program managers in this category felt that the GLRI grant allowed them to "build community," "build relationships," and make "connections" with farmers.

A smaller group of program managers responded **yes** because the GLRI grant allowed for creative solutions. Simply put, these program managers were able to implement novel programs that allowed them to engage with a new and different audience of farmers. Another small group of program managers responded **yes** because the GLRI grant created a buzz with farmers. They felt that farmers were excited about GLRI funding and therefore were eager to engage.

Table 1. Increased engagement with producers via GLRI funding

ANSWER	REASONING
YES – increased capacity to build individual relationships	• building community and finding partners over multiple GLRI projects over multiple years • working together with farmers • adds to credibility • increased capacity for building relationships • funded individualized outreach • the funding keeps staff consistent and reduces turnover which helps build relationships with farmers • connection with farmers is closer because of GLRI funding • allows me time to meet in person with famers across multiple counties • allows us to build relationships • increased ability to engage with SWCD staff (Indirect grant) • funding for staff • made outreach possible • funded outreach • the planning meetings, phone calls, and visits increased contact with farmers who wouldn't usually come to the office • allowed one-on-one technical assistance for farmers • allowed us to work with new producers, especially through soil sampling

YES – allowed for creative solutions	• creative solutions • trying new things • funding the creation of demo farms • creating educational materials • allows us to engage farmers outside of NRCS-EQIP
YES – created a buzz with farmers	• created a buzz with farmers and they wanted to participate • GLRI projects are flashy and farmers are interested • the dollars piqued their interest
MAYBE	• there is an appetite [among farmers] for pay-for-performance, but that funding is not specific to GLRI
NO	• GLRI allowed us to address a larger number of issues overall, but it was just another tool in the toolbox

Did receiving a GLRI grant expand or improve your organization's ability to:

b. Advance initiatives aimed at changing on-farm decision making at the field level? How so?

Most (n=13) respondents who answered this question answered **yes**. Two responded **maybe**. These answers (shown in Table 2) largely repeated the same points from the previous question (Table 1). Again, the major reason for **yes** answers was related to increased capacity to build individual relationships, but program managers also cited allowing for creative solutions and creating a buzz as important factors. One potentially important insight came from a **maybe** respondent, who felt that it was easier to work on changing decision making through their private funding sources, which allowed them to focus on behavioral outcomes without attaching tangible environmental outcomes to the work.

Table 2. Advancing initiatives to change on-farm decision making

ANSWER	REASONING
YES – increased capacity to build individual relationships	• staff available to build relationships • allows for direct interaction with farmers • building one-on-one relationships with farmers • via hands on, one-on-one interaction with farmers • via interaction with SWCD staff (Indirect grant) • targeting individual farms based on GLWMS • without it, our ability to administer conservation would be hindered
YES – allowed for creative solutions	• funding field days and demo farms • through demo farms and farmer roundtables • being more in control of funds to work with farmers who we already had a relationship with • another tool in our toolbox
YES – created a buzz with farmers	• the farmers are already interested, and GLRI allows it become reality • reaches early adopters, which leads to word-of-mouth spread
MAYBE	• to be determined • other private funding sources allow us to do more behavior change work without clear tangible environmental outcomes

Did receiving a GLRI grant expand or improve your organization's ability to:

c. Start a new program or expand an existing one? How so?

Most (n=18) respondents who answered this question answered **yes**. Three answered **no**. Here, the **yes** answers were split into four categories (Table 3), with most answers falling within the first two: that GLRI increased their capacity via staff availability, or that GLRI had funded

small/pilot projects which subsequently turned into larger projects (e.g., pay-for-performance pilots, demo farms). A smaller number of **yes** answers pointed to expanded technical capacity (e.g., GIS, soil sampling, monitoring) or the addition of a fleet of rental equipment (e.g., interseeder) that was made available to farmers in their jurisdiction.

Table 3. Starting a new program or expanding an existing one through GLRI

ANSWER	REASONING
YES – Increased capacity via staff availability	• staff availability increased capacity for existing programs • staff availability has expanded one-on-one visits and selling of the conservation practices • we became a bridge to support our local partners on the ground (Indirect grant) • expanded outreach and project capabilities across the board • expanded outreach
YES – Small/pilot projects have led to larger projects	• allowed us to refine our framework • demonstrating capability on smaller projects has allowed us to plan more and bigger projects • funded pilot pay-for-performance program • funded trial of experimental pay structure • funded pilot projects that demonstrated capacity and are now expanding • funded a variety of new projects • funded the creation of demo farms • funded demo farms and farmer roundtables
YES – Expanded technical capacity	• expanded drainage management program • funded the continuation of monitoring (baseline, edge-of-field) • expanded GIS capabilities • expanded soil sampling capabilities

YES – Added rental equipment	• added a new fleet of rental equipment (e.g., interseeder) • bought rental equipment
NO	• allowed us to do more work overall but didn't change the programs

Did receiving a GLRI grant expand or improve your organization's ability to:

d. Hire additional employees? How many?

A majority (n=11) of respondents who answered this question answered **yes**. The rest (n=8) answered **no**. The details of their answers are included in Table 4.

Table 4. Hiring additional employees through GLRI

ANSWER	**GLRI-SUPPORTED ADDITIONS (BY PROJECT)**
YES	• One FT position • ½ of one new hire and one subcontractor • Two FT positions • One temporary/PT subcontractor (engineer) • Three temporary/FT positions • One FT position and ½ of one temporary/PT position • Six FT positions and two PT positions • One FT position and one temporary/PT position • One FT position and two graduate students • One PT position • One PT position
NO	• seven responded with simple "no" answers • One responded that they supported ½ of one existing staff position with GLRI funds

Did receiving a GLRI grant expand or improve your organization's ability to:

e. Access tools and resources that expand your work flow efficiency? How so?

Respondents were split between **no** (n=9) and **yes** (n=7), with one **maybe**.

Table 5. GLRI impact on tool and resource access

ANSWER	COMMENTS
YES	• Great Lakes Watershed Management System (x3) • Increased GIS capability (x2) • HIT and various EPA tools • Networking more with USGS edge-of-field • USDA Agricultural Conservation Planning Framework (ACPF) • Through increased partnerships
NO	• Most respondents in this category continued using the same tools and resources that they had used prior to GLRI funding • One responded that GLRI slowed them down because GLRI asked for a double measurement
MAYBE	• Through GLRI we are possibly more effective in creating nutrient management plans

RECOMMENDATIONS RELATED TO THE EFFECT ON ORGANIZATIONAL CAPACITY:

11. Focus on facilitating the building of individual relationships at the field level through adequate staffing.
12. Continue to fund innovative pilot projects and equipment rental programs, which create a buzz amongst farmers.
13. Encourage flexibility in tool and resource use and provide trainings to help program managers learn how to use them efficiently.

2. CULTURAL IMPACTS

In your experience, have GLRI investments resulted in lasting cultural changes among participating institutions and producers?

While many program managers believe that GLRI investments have resulted in lasting cultural changes, the response was not unanimous. Program managers reported that GLRI investments created lasting cultural changes in cases where: local staff were available to spend significant time with "boots on the ground" to assist the farmer; and the project timeframe was long enough that the farmer began to realize the economic benefit of the practice (or, at a minimum, not have to worry about a possible economic risk). Other program managers are optimistic, but express a "wait and see" approach, cautioning that cultural advances could be lost without continued GLRI investment. A third segment of program managers do not see evidence of lasting cultural change.

Example quotes:

Yes. The GLRI funds have provided opportunities for more kind of grassroots solutions that will fit and work for those local producers and that localized watershed and natural resource concerns.

Yeah, yeah, for sure, especially with the producers. There's always people that are just in it for the money. They come in asking for a program and they just want to make a few bucks where they can. But I've had a number of people, especially the ones that have applied to GLRI, where years one and two they're just kind of sort of interested in it, but after year three, and then even after their contract ends they're still contacting us because the practices that they were doing really started to work, they started to see the benefit, so they're absolutely continuing to do them and actually improve upon them even after they're not receiving funds for them anymore.

Where there is lasting cultural change the reason it's happening is because that individual is working with someone with the boots on the ground to support them and collaborate with them.

So among producers I would say it's starting to make a lasting change: I don't think we're there yet, but I think the momentum is headed in that direction.

From a cultural standpoint, GLRI has done a lot. But I think it also it tenuous, based upon GLRI's existence.

It's tough to say because we don't have a strong metric to figure that out with. And probably, some sort of longitudinal assessment would need to be done.

No. While it was a brilliant effort, it was a great idea, I feel like there were a lot of challenges and barriers that kept us from scaling this and making it a long-term effect and impact to farmers in the environmental outcome.

More specifically, once the GLRI money ran out:

a. Did producers continue to implement or maintain the conservation practices after the GLRI payments stopped? Why or why not?

Most program managers were optimistic about farmers' continued implementation or maintenance of conservation practices beyond the GLRI payment period. Still, many were cautious, recognizing that this could change quickly.

Example quotes:

> Yes, because it gives them an opportunity to try things with reduced risk to their business, and be involved in the decision-making of what that looks like for their farm. And that if we do our jobs well and make something that fits [for] them from the beginning, it's more likely to be something that they retain long-term.
>
> Oh, yes. ...[One particular farmer] has got personal interest. He stepped forward and wanted to do this project because he wanted to protect his land. He was also interested in his own life, to demonstrate to his peers that you could do this kind of thing, which is pretty forward thinking on his part.
>
> Yes. In regards to continuing the projects, yes. Because of the existence of those other sources of funding, like I mentioned, a lot of the farms do also continue with those best management practices on their own once they realize how to do things.
>
> Some of them, but not all of them. I'll tell you that right upfront. Some of them did... others, no. ... if they see any kind of a risk associated with that or if they perceive it as not being as cost effective as their previous method, then they tend to want to migrate back to that previous method.
>
> Some of them are just like bought in, like they're in it, they believe in it, they're going to do it no matter what. Other ones are like… they're not ready to take the risk financially.

b. Did participation in the GLRI project/program lead to a change in producer's attitudes about Ag conservation to improve water quality (increase or decrease confidence and acceptance towards such practices)? Why or why not?

Again, while answers leaned towards the optimistic, with many program managers noticing a change in farmer attitudes about agricultural conservation to improve water quality, not all program managers were willing to attribute attitude those changes to GLRI. Most program managers reported that a suite of factors had led to changed attitudes, of which GLRI constituted one factor. In some cases, the farmers who participated in GLRI projects were

identified by local staff as being "conservation-minded" or "early adopters" prior to GLRI funding.

Example quotes:

> I wouldn't say a change. I mean, the farmers we spoke with were somewhat in tune with what was going on already.
>
> [It's] just now gaining traction. I think folks are starting to understand it. ...So has it caught on yet? I don't know. We have hope.
>
> Yes and no. I think that all of the conservation partners want to bring the tool box of resources to the producer. And the producer doesn't always need to know which acronym of funding is behind it. They just need to know that it makes sense for their farm and for conservation. ...As far as making behavior change, each incremental change has a ripple effect to the neighboring acres, for considering to try these BMPs.
>
> I know specifically the farmers I worked with in that GLRI had a conversation mindset anyway, so I didn't have to do any hard conversion from a farm that might not have been conservation-oriented to one that may be. So, I would say that they were happy with the projects.
>
> With a lot of them, yes, their attitudes did improve, they increased.
>
> We're seeing attitudes change, we're seeing more farmers show up for the discussion to learn about what's happening.
>
> I think it did change people's attitude about it. You're not just talking about a financial benefit, not just talking about oh, we're keeping sediment out of the streams and helping fish. You're talking about the difference between looking down into your ditch and seeing mud or seeing clear water. So yeah, I think that made a huge difference in people's attitudes.
>
> A lot of it comes back on the staffing in making sure that we go back out and communicate. We can't expect them to continue with their project if we're not out there going back and following up with them and communicating with them.

c. Did your organization's expanded capacity endure? Why or why not?

In some cases, program managers reported that the increased access to tools and resources helped their expanded capacity endure. For others, losing GLRI funding meant a loss of staff. It is clear that at the conservation district level, enduring expanded capacity is most closely tied to staffing levels, which are precarious and uncertain.

Example quotes:

> A lot of it. Right now, I think that we will be sustainable, except for we may lose [one staff person].
>
> Yes – due to increased access to tools and resources.
>
> Prior to when I started working here, we were about to possibly close the doors, and it was absolutely the start of GLRI and the technician funding that came with that, and adding phosphorus priority watersheds here that would be the first two solid grants that we got that kind of kept the doors open. And then that has allowed us to kind of build from there and get into other programs and other grants and things like that.

What would make GLRI-funded projects and programs more effective at engaging producers and creating lasting cultural impacts related to Ag conservation for water quality?

Again, program managers were concerned that building long-term relationships with farmers would be impossible without a commitment to funding "boots on the ground." This would mean a long-term commitment to funding staff and technical assistance in order to make the transition less "scary" for farmers. Supporting "innovative" farmers, and then using those successes as pilots to convince other farmers to try conservation practices, takes time and energy— perhaps five to seven years before the benefits become apparent.

Example quotes:

I think it really does need to have a bit of a cradle to grave approach. …We've got to have staying power, longevity for them. We need to have education and outreach about those, and just to keep monitoring them to show how they're working.

One is understanding that in order to have lasting cultural impacts, you need to have the right people and enough people, boots on the ground, to build the relationships to help make the changes. Without those, we're going to be putting money out for conservation that's going to stop when the money stops. I feel really strongly about that.

If we can provide the tools to not make these changes quite so scary for producers, because you hear producers use that word, "scary". And I get it, if that was my living, that it would be scary to make a complete change. So, providing more tools to farmers to let them try out, I think would be great.

if they could have a long-term likelihood of funding they would probably be more invested, I'll say, emotionally. Their thinking, their mindset would be more invested in—it would become a habit at that point. And then over a couple of years' time they probably would figure out ways to make it so that it was very, very profitable if they didn't have the funding. But it takes more than a year or two to make it a habit and to find those systems and put systems in place that are going to make long-term differences.

It's being able to have that close relationship, on a fairly regularly basis, that I think builds the trust and the likelihood that the farmers are going to both be receptive and to have it more persistent—become part of the way they want to run their operation, [as] opposed to just doing it for a short-term project purpose. So yeah, that sort of boots-on-the-ground concept.

It feels like there's been a strong emphasis on implementation of practices and not enough emphasis on staff and technical assistance.

Having a group of farmers who are willing to do innovative things and share, share, share, share about it, and share the benefits and share the challenges and share the failures, is the way to make lasting change.

RECOMMENDATIONS ON CULTURAL IMPACTS:

14. Encourage lasting cultural change through a commitment to an individualized "boots on the ground" approach.

15. Implement five- to seven-year pilot projects, especially with innovative and influential farmers.

16. Fund longitudinal research to track farmers' conservation behaviors and perceptions post-GLRI funding.

3. OVERLAP WITH OTHER INCENTIVE PROGRAMS

What if anything distinguishes GLRI from other incentive programs?

"Flexibility" was the most frequently cited positive trait mentioned by program managers in response to this question. Because GLRI allows for a flexible approach, program managers and farmers were able to experiment with novel or innovative concepts. This lends the program a "grassroots" feel. By contrast, other incentive programs were viewed as "strict," "top-down," or "overly regulatory." The ability to fund staffing, equipment, outreach, and cost-sharing, was seen as a positive. These traits help GLRI build a sense of ownership among participating farmers and institutions, as they work together to problem-solve and deliver creative solutions.

Another distinguishing factor, according to multiple program managers, is GLRI's more localized approach. This allowed participants to target specific areas, and also to feel more confident in their chances of securing funding.

Example quotes:

> They welcome innovative ideas. ... why I really like GLRI is that it allows you to think outside the box and come up with innovative ideas to address environmental outcomes that we need to in those specific regions.

> The flexibility, especially when it comes to equipment. There is no cost-sharing or equipment funding that comes out of any other government program, as far as I know.
>
> The GLRI has allowed people that have got passion for certain things to come together. ... The producers are a lot more open to it. We've got a lot of different eyes looking at things.
>
> GLRI gave more flexibility for the kind of practices that could be cost shared, and the amount that could be provided to a producer. I think that sort of a flexibility both on the practices and the cost sharing that was possible, was great and I think allowed some more creativity to try to make improvements to water quality.
>
> The ability to have enough staff people out talking to the farmers. And two, the flexibility of the practices that can be funded. Those two things, I think, are the biggest.
>
> I would say the flexibility, the creativity, and the ability to really localize and target what's needed. And to try something on.
>
> It reduced competition enough that where there were people that had maybe applied in the past and couldn't get in because it was so competitive and there wasn't enough money available, those people were kind of turned off previously. So now being able to go to them and say there's a reasonable likelihood that if you come and apply and work with us on this that we can get you funded and get you in, that side of things has absolutely helped.
>
> The amount of dollars that are available in a smaller geographic area. And the fact that the competition for those dollars is greatly reduced, so the change of a producer going through all the paperwork that's associated with the signup, planning and on and on and on to him seems to be more worthwhile to get the chance of being successful at getting access to those resources and getting the practice installed is greatly increased over getting those statewide programs.

Does GLRI reach people that NRCS-EQIP does not? How so?

Program managers generally agree that GLRI does reach people that NRCS-EQIP does not, because: it allows for innovative practices; it represents less "red tape;" it seems more attainable than other funding programs; it allows for better targeting of potential participants; and/or it feels less regulatory/governmental.

Example quotes:

> I think it does because it's allowing us to do some of those different and innovative practices. I think that's really the strength, that it's allowing us that.
>
> I think that the timelines, and some of the red tape, that does come into play with the NRCS grants can be a barrier. I understand why those things are there. They need to be there. But for producers, sometimes those timing delays don't work for their operation. And so GLRI funds can usually be decided and distributed to producers with a quicker turnaround, depending on who the subgrantee is.
>
> It probably reaches producers that otherwise wouldn't participate or otherwise wouldn't know what's going on or would say that they're not going to waste their time. And that's kind of the attitude they had towards like a regular EQIP. It's a waste of time. I'm not going to get funded.
>
> I can't speak for all of them. But I do think that whether it's NRCS or County Land Conservation Departments that don't have the proper staffing, we're seeing farmers that come in the door to sign up for practice, those are the farmers that get the payments and get the funding for practices. That's not the way that the GLRI dollars that we're using work. The GLRI dollars that we're using, we go out and we target the farms that really need to be targeted.
>
> If it's funneled through a soil and water district…Soil and water districts reach people that NRCS don't always reach. Because we're a subdivision, we're a little bit of a less level of government. So, if we're able to be the boots on the ground people with farmers, sometimes we do work with more conservative farmers that aren't fully bought in to, say, Federal Farm Bill programs.

What kinds of outreach were associated with the GLRI grants, and what did you think of it? Why was it effective/ineffective? How could it be improved/done differently?

Program managers report a suite of different approaches to outreach, each specific to their own unique region. One program manager noted that GLRI has changed their outreach approach from a regulatory perspective to a "focus on solutions and positive change." Many program managers reported that their greatest outreach successes came as a result of personal interaction: visits to demo farms, training days, field days, and one-on-one education in the field

with farmers, were all cited as successful approaches. Word-of-mouth between farmers was noted as being an especially effective form of outreach. Other traditional approaches (e.g., newsletters, direct mail, email, newspaper advertisements, agricultural journal advertisements, social media, websites) were also mentioned, but with less enthusiasm.

Example quotes:

> I think in the past, we focused on the bad, pointing out the problems in regulation. It seems like when GLRI came around, we started to focus on solutions and positive change. So, that funding source provided a huge change here locally for the whole process of opportunities and change.

> The best salespeople for this program have been the enrollees themselves. Nothing sells this program like a satisfied farmer participant. So we get him enrolled, he has a good experience, he starts talking to his neighbors about it. And that has been by far the greatest outreach mechanism.

> If you get in front of the right person and the right producer that has a good reputation in the community, and someone that people know they do things right on their farm, and you get the attention of them and they spread the word. I think I've had more people sign up through referrals than anything else.

RECOMMENDATIONS ON OVERLAP WITH OTHER INCENTIVE PROGRAM:

17. The strength of GLRI is that it feels like a localized, grassroots, and flexible program. Maintain those characteristics and build upon them by incentivizing innovation and creativity.

18. By contrast, other incentive programs feel regulatory and strict. Distinguish GLRI by providing positive reinforcement instead of punishment.

19. Emphasize interpersonal outreach methods: field days, demonstration farms, training days, and one-on-one education in the field with farmers, all of which encourage word-of-mouth outreach between farmers.

4. OBSTACLES

What if any aspects of the GLRI funding process presented obstacles for your organization or the producers that you were engaged with?

Without question, administrative burden is the primary obstacle identified by program managers. This obstacle was expressed in multiple ways, including: uncertainty/inconsistency with distribution of requests for proposals; long timelines between project applications and acceptance, which can lead to farmers losing interest; a cumbersome amount of project reporting requirements that varies based on the particular program administrator; burdensome QAPP process; EPA staff turnover leading to lost efficiency; and the advance requirement for food and travel expense.

Program managers described these obstacles by using words like "rigid," "onerous," "burdensome," "inconsistent," "cumbersome all the way down to the producer," "throws up more obstacles than [it] removes," "tied down," and "complex."

However, this was not a universal experience. Some program managers did not mention administrative burdens as an obstacle. Others described the process in very positive terms, as "easy," "simple," and "straightforward." This indicates an inconsistency: some program managers are being burdened with more administrative hurdles than others.

Example quotes:

> The administrative burden is overwhelming on our end. ...I don't think this is necessarily indicative of all GLRI. It may be just our particular program administrator. Everybody has a different grant administrator. Maybe it's just a

function of this one we have. But the reporting requirements are very burdensome.

The administration of a federal contract is rather onerous and does require some time and investment to not only realize that you're going to be spending a good about of time administering the grant, not only actually doing the work you said you were going to do.

I think the timing of the grant, just getting all the grant paperwork organized at the beginning, was a bit of an obstacle. Just not knowing when the start date would be, and all of that. And it just taking a lot longer than any of us probably anticipated.

I think I should emphasize the roadblocks that are oftentimes put up by the agency hierarchy. Rather than being supportive and finding ways to help field office staff navigate around obstacles that they run into, they seem to throw up more obstacles than they remove. And it's hurt us.

We're not very flexible on letting the farmers try different things. If they have an idea, they saw something, they want to make a change, we can't just snap our fingers and do that... So, that's been very frustrating to the farmers specifically. They feel like their hands are tied.

We haven't gotten the sense that we've been able to be flexible to make changes on the fly when a producer has an idea that may be new, unique, may not have a standard out there, but it's something that they believe in and they want to try. To have that flexibility and freedom to be able to do that and not be tied down to the system of, "Well, we don't have protocols in place to do that, so we can't do it."

GLRI funding, in my mind, has been very user friendly. The way that the reimbursements are made, it's a really easy process. It's very quick. ...The reporting requirements, we've had some rough times working through workplan change requests with EPA, but overall, it's been a very positive experience.

Do you believe your projects' targeted activities were successful? Why or why not?

Do you believe the program's goal was achieved? Why or why not?

Most program managers feel as though their projects and programs have been largely successful. Many felt that an increased grant length would increase their certainty of success. In some cases, the conservation practices being installed under GLRI are going against decades of

tradition. In other cases, project success is difficult to measure in a limited time frame. Therefore, while most felt reasonably comfortable labeling their projects and programs as successful, they also cautioned that the success could be negated if GLRI were to end. Similarly, many believe that the success of GLRI would be enhanced by allowing for longer-term projects.

Example quotes:

> We all understand that a five-year pilot program is really too short to fully determine success, in terms of final water quality. But we've seen that we have moved the needle and improved water quality, and that's had some really good, positive impact that I believe we will continue to see.
>
> We tried new things. We weren't picky. We didn't make them… If they wanted to do it one way because they knew that that was the way they could sell it, fine. We weren't going to bootstrap them to anything. So I think we did just fine.
>
> Let's just say we've worked with – including cover crops – 200 producers over the last couple of years. Nobody has ever complained. Well, people have called to say, "Have you heard from my payment?" But it's never been negative...
>
> I would argue that GLRI funds is helping us to turn the corner. We've got a lot of young people here working with the GLRI funding. Just on this demo project, there's a lot of young people that are really getting involved and you can see they're excited about it. So I think part of that is infectious in the countryside with producers. I think they're doing the right thing now. People are proud of the products they're purchasing. We need to change that culture, and the funding, I would argue, is helping that.

What would make GLRI funded projects and programs more effective? Less effective?

Removing administrative burdens and administrative inconsistency would help relieve the pressure on program managers, which would allow them more time for program implementation (e.g., outreach, on-farm visits and relationship building, creating educational materials, providing technical assistance, organizing field days and demonstration farm visits, etc.). Program managers urged GLRI administrators to "[trust] the people at the local level."

Accordingly, many program managers recommended additional funding availability for staffing at the local level.

GLRI could also ease burdens on local program managers by facilitating networking between grantees. Some program managers expressed a desire to learn more about the successes and failures of other projects, in order to build collective capacity.

Finally, many program managers expressed support for the continuation of GLRI. Despite the obstacles, they felt that GLRI projects and programs were making an impact in their watersheds.

Example quotes:

On the continuation of GLRI funds:

> I can sum it up for you, Adam. Keep the funding coming from [GLRI]. Keep letting districts apply. We focus on the conservation practices based off phosphorus reduction. We've done models. Grass waterways show the most soil savings, as do filter strips, erosion control structures, water control structures. I would say keep the funding coming.
>
> If there was three times the amount of projects and three times the amount of money we probably could have done a lot more... But I think we did alright with what we had.

On the length of grant cycles:

> Long-term commitment of proper funding. And it's as clear as that as far as I'm concerned.
>
> Let's say if it's a HUC12 type project, minimum of five years is what should be funded. And then just kind of reiterating what I said before about GLRI being able to maintain or even expand its flexibility and what kind of projects it funds.
>
> The length of these things is really important. ...the longer we can commit resources and staff and resources to the issue, the more success we have.
>
> We found the larger five-year grant to be so much more valuable for implementation. So, I would say if I had a recommendation to how the GLRI

> dollars got spent, would be to do more, longer, larger grants, even if that means less grant cycles.

On building program-level capacity:

> Networking the successes and failures of the project themselves. You know, kind of like I think that's important with the BMPs in a community. Because you talk to each other and you find out what works and doesn't work. I would like to see that more among the grantees, as a potential way to build all of our capacity.

On funding staff at the local level:

> So being able to fund positions at the field office level, critical. Critical to being successful. Having a long-term employee so they can build rapport with producers is very important. Being able to get the answers that they seek from the field office when they call is really important.
>
> Having the staff there makes it more effective, absolutely.

RECOMMENDATIONS ON OBSTACLES:

20. Improve administrative efficiency by: standardizing reporting guidelines; standardizing granting periods (with sufficient notice to allow potential grantees to prepare applications without compromising regular duties); allowing for mid-project adjustments; and ensuring that EPA administrators are consistent across regions.

21. Consider additional emphasis on longer (five- to seven-year) projects.

22. Continue emphasis on local-level problem-solving.

5. ENROLLMENT

How many producers did your program enroll?

Table 6. Number of producers enrolled

Watershed	Number of producers enrolled (by project)
Maumee	• 98 • 75 • 90 • 1 (demo farm) • 3 (demo farms) • 2 (one restoration project, one pilot) • 100
Saginaw	• 60 • 21 producers, 40 contracts (some producers on multiple contracts) • 100 • 15
Genesee	• 4 (restoration projects) • 4 • 35 over seven counties
Lower Fox	• 200 over two counties (Brown & Outagamie) • 10 producers on 2,200 acres of crop land • 7

	• N/A (outreach project via demo farms, grazing programs)

Table 6 shows that there is a wide range of enrollment numbers. Traditional enrollment programs (i.e., pay-for-practice programs including cover crops, no till, and/or trapping practices) tended toward larger enrollment numbers (75-100 producers enrolled in Maumee; 35 in Genesee; 60-100 in Saginaw; 200 in Lower Fox). Novel programs, such as pay for performance in Saginaw and a restoration pilot project in Lower Fox, tended towards smaller enrollment numbers but instead emphasized number of practices implemented (i.e., 21 producers but 40 contracts) or acres treated (i.e., 10 producers but 2,200 acres of crop land). Programs that did not include a traditional enrollment component reported smaller enrollment numbers. For example, one program manager in Genesee reported working with four producers on restoration projects such as fuel tank containment facilities and covered barnyards, while multiple program managers in Maumee and Lower Fox were involved with GLRI-funded demo farms.

Did your program enrollment reach your desired capacity?

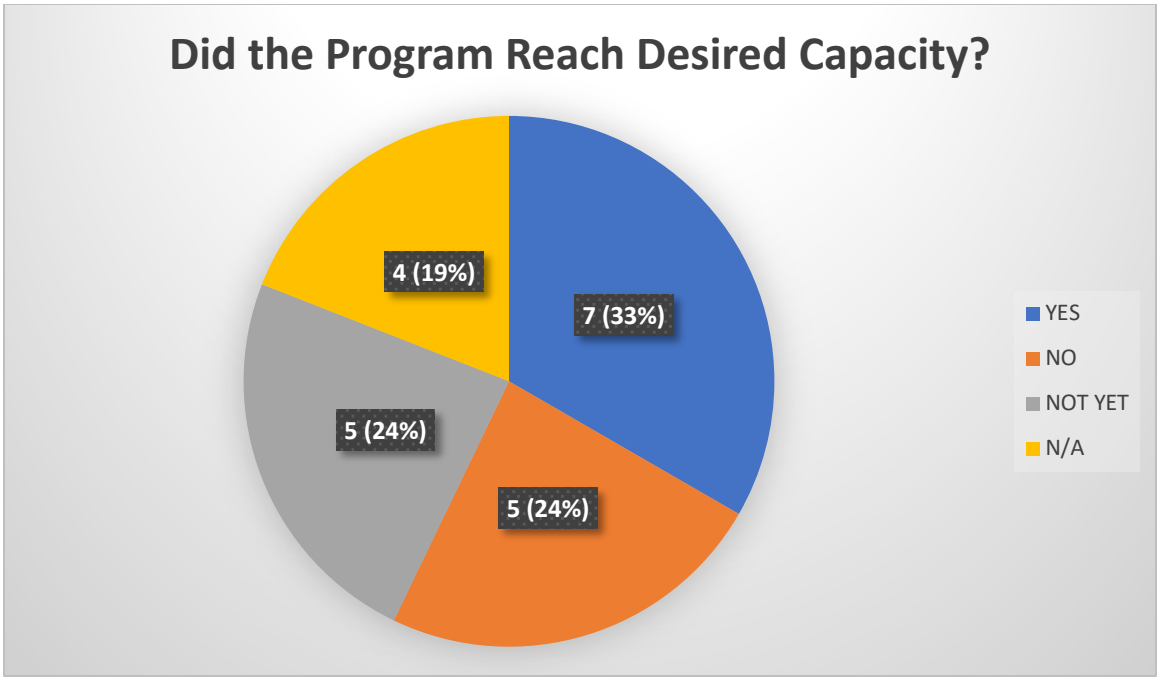

Figure 6. Did the Program Reach Desired Capacity?

Figure 6 shows that seven program managers reported reaching desired capacity; five reported not reaching desired capacity; five reported "not yet," meaning an ongoing enrollment period; and four reported that their programs did not include an enrollment element (e.g., infrastructure improvements, constructed wetlands, etc.).

If Yes: What made your program attractive to producers?

Table 7. Reasons for enrollment success

Reason	**Description**	**Number of respondents**
Ease of access	Quick turnaround/payments; easy to participate; minimal paperwork, flexibility	5
Individualized programs	Small/intimate program, meaning lots of individualized	3

	attention; Boots on the ground outreach/working with farmers	
Impact of demo farms	Impact of demo farms	2
Performance reimbursement	The economic utilization of nutrients; phosphorous performance reimbursement	2
Other (misc.)	Longer time frame than other EPA programs; State/other programs don't provide these incentives; No match component; Providing funding for soil sampling	4

If No: What was the barrier to enrolling your target number of producers (from your perspective & producers')?

Table 8. Barriers to enrollment

Barrier	**Description**	**Number of Respondents**
Insufficient economic incentive	Pay-for-performance rate was too low; Cost share dollar amount did not offset risk of participation; Commodity prices were down meaning farmers were less focused on	4

	conservation efforts; Fear of taking land out of production	
Lack of funding	Not enough staff/time to recruit; Project funding cuts; Ran out of funding; Difficulty finding time to explain novel approaches	4
Resistance to change	Farmer not interested in a change; Fear of the practice	2
Other (misc.)	Finding good locations; Delays due to increased administrative burdens; One project learned they needed to offer more than just cover crops in order to attract participants	3

As Tables 7 and 8 show, GLRI enrollment is optimized when the program is easy to access, individualized, and conducting personalized outreach. Conversely, GLRI enrollment targets were not met when funding levels either 1) did not offset farmers' fear of the risk associated with conservation practices, and/or 2) did not include funding for adequate staffing for recruitment.

RECOMMENDATIONS ON ENROLLMENT:

23. Provide funding for follow-up studies to optimize incentive amounts for novel practices, such as pay-for-performance, and gain a better understanding of how well current pay-for-practice incentives assuage farmers' fears of risk associated with conservation practices.

24. Ensure that future projects budget appropriately for recruitment purposes.

6. DECISION SUPPORT TOOLS AND MONITORING DATA

Did you use any models, decision support tools, or monitoring data from USGS, NOAA, or ACOE programs to target producers to enroll in your program, or to estimate the environmental benefits of your efforts?

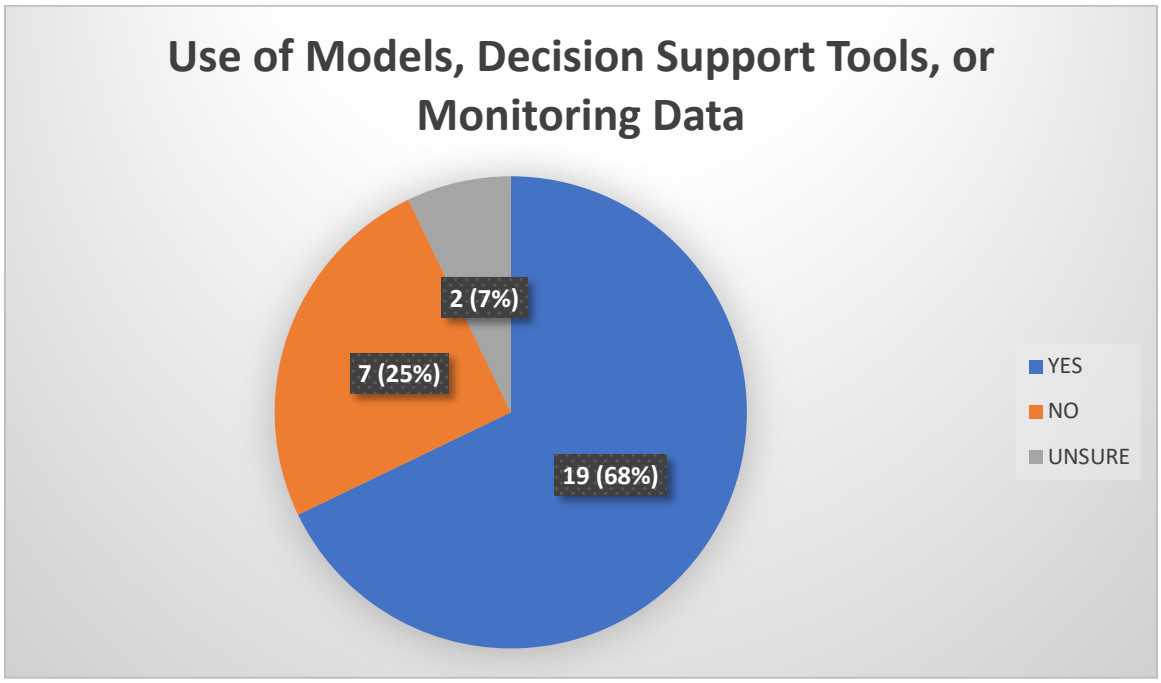

Figure 7. Use of Models, Decision Support Tools, or Monitoring Data

If Yes, what were they?

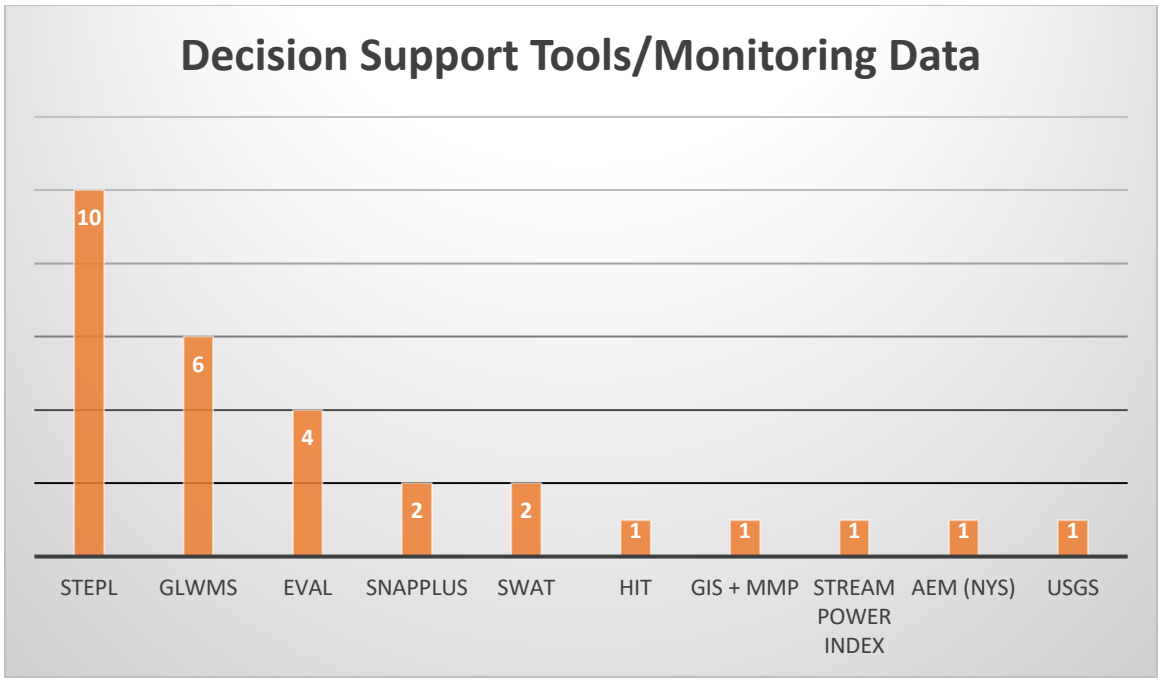

Figure 8. Decision Support Tools/Monitoring Data

Did the use of these resources have an impact on your ability to recruit producers?

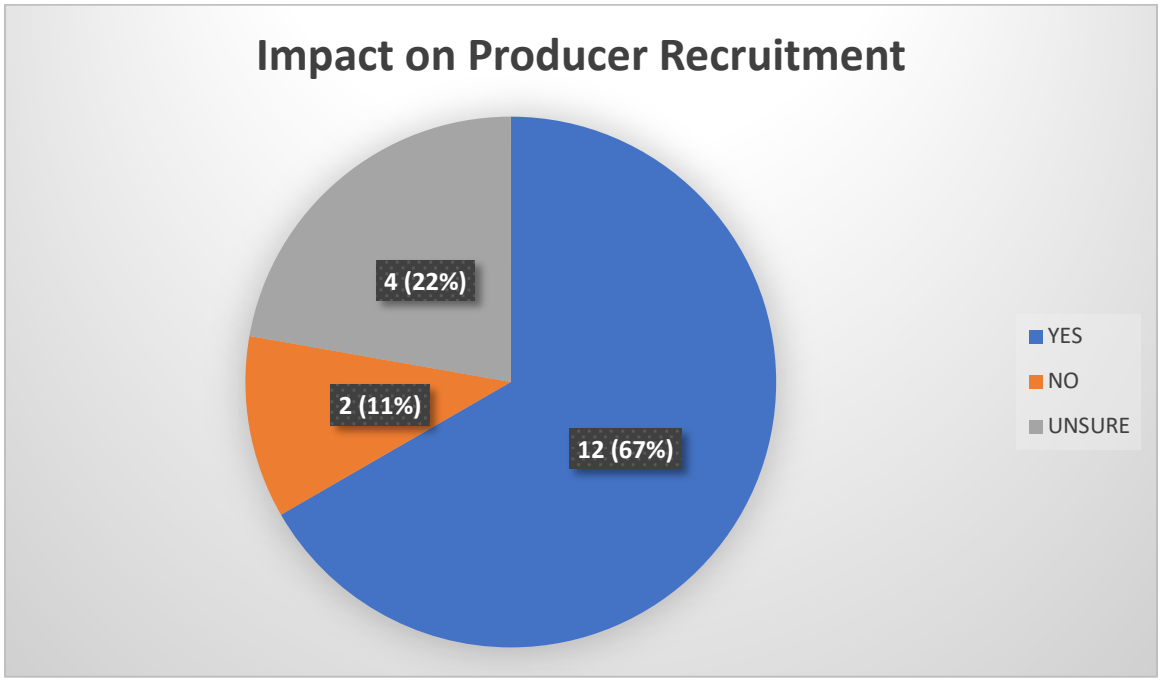

Figure 9. Impact on Producer Recruitment

Did the use of these resources increase your (or your enrollees) confidence in the efficacy of agricultural conservation efforts administered by your program?

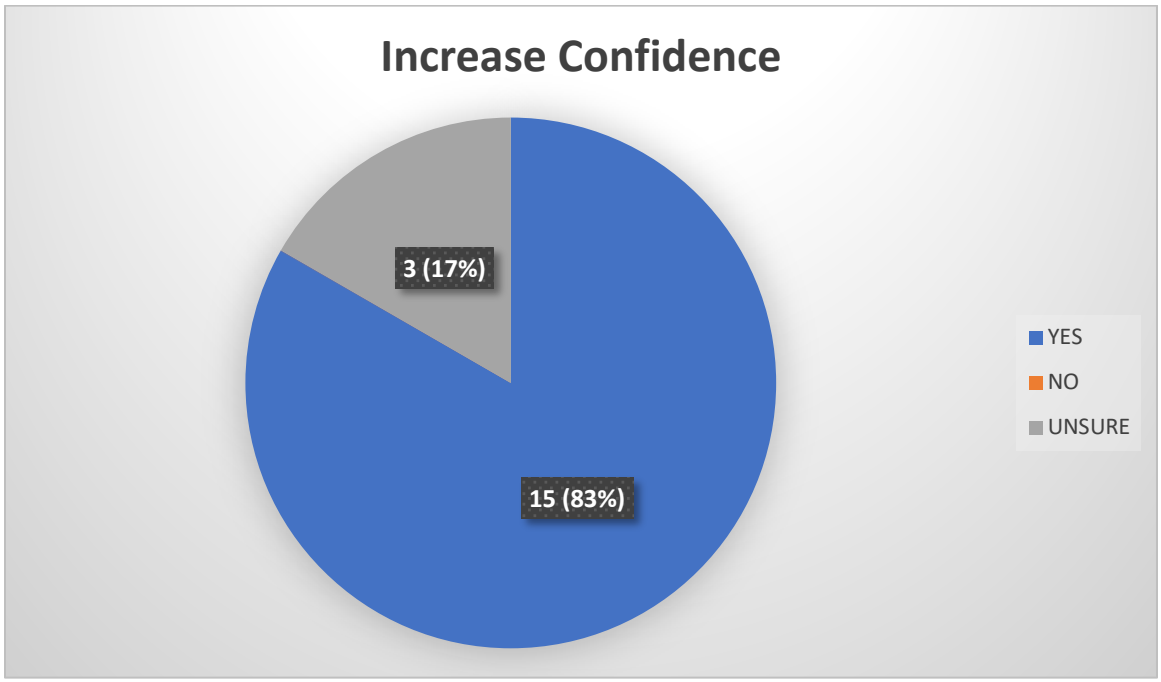

Figure 10. Increase Confidence

IV. Conclusions, Limitations, and Next Steps

This report presents 24 targeted recommendations on ways to improve future GLRI investments in terms of both the ways that institutions distribute and utilize GLRI funds and engage with on-farm decision makers. These recommendations are the result of an inductive content analysis of transcripts from 29 in-depth interviews with program managers (e.g., individuals that managed GLRI grants targeted at agricultural runoff reduction between 2010 and 2016) in the four GLRI priority watersheds: Maumee, Saginaw, Lower Fox, and Genesee; and

eight focus groups with 41 farmers in three of the GLRI priority watersheds: Maumee, Saginaw, and Lower Fox. The bullet points that follow represent the major themes that emerged from the primary data:

Focus Groups with Farmers:

- Participating farmers are largely satisfied with GLRI projects and programs
- Most farmers approved of the structure of GLRI and felt that they were better off as a result of participating
- Farmer participation was most effectively encouraged via the "boots on the ground" approach by local conservation district personnel
- Farmers often continued to implement or maintain conservation practices after the incentives stopped, especially after installing trapping structures
- Farmers requested more flexibility in program requirements and timelines
- Some farmers were intrigued by pay-for-performance concepts
- Some farmers felt that non-farmer landowners should be included in incentive payment structures, because it would encourage them to rent to farmers engaging in conservation practices
- Though farmers did not always notice positive project impacts on their operation, they also did not report any significant negative impacts

Interviews with Program Managers:

- Program managers overwhelmingly favored increasing the amount of staff funding available
- Program managers overwhelmingly felt that *flexibility* was GLRI's primary strength

- Because GLRI allows for a flexible approach, program managers and farmers were able to experiment with novel or innovative concepts, which lends the program a "grassroots" or participatory feel
- Compared to GLRI, other incentive programs feel "strict" or "regulatory"
- Because of its localized, "boots on the ground" approach, GLRI is able to target participants that other incentive programs cannot
- Program managers generally felt that their programs had been successful, though they cautioned that the success would not be maintained without continued GLRI investment
- Program managers reported varying levels of administrative burden, which indicates inconsistency in oversight

The limitations of this study include: low participation in Genesee (3 program managers, 0 farmers); and lack of control over farmer sample (farmers who participated in focus group sessions were recruited by their program manager). The strengths include: ideal sample sizes in the Maumee, Lower Fox, and Saginaw; the collection of primary data leading to new knowledge; and that it informs upcoming survey research which will address the limitations of this study.

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Appendix A: Procedures

A. Research Design

This qualitative research follows a grounded theory design for data collection and analysis (Glazer & Strauss, 1967; Strauss & Corbin, 1998; Charmaz, 2000). The purpose of grounded theory is to find and explain meaning in social interactions. To do so, researchers study the ways that humans interpret their world through symbols (including language). This approach lends itself particularly well to research involving *how* and *why* questions, including the primary research question and sub-questions involved in this study, because it sets out to collect "deep," "rich," "profound" data (Charmaz, 2006). In this study, we collect data via a series of in-depth, semi-structured interviews and focus groups. We then analyze data using a multi-stage coding process (open coding, axial coding, memo writing).

B. Sample

This study primarily uses expert sampling, which is a type of purposive sampling in which knowledge is gained from individuals with a particular type of expertise (Lavrakas, 2008). Experts have been selected using the following inclusion criteria:

1. Individuals who are members of one of the following populations:
   A. "Program managers" are administrators that have: i. received GLRI funding either directly from the EPA (primary recipient) or as a sub-recipient from a primary recipient (e.g. reporting to the primary recipient, not directly to the EPA) on behalf of an institution (e.g., environmental and agricultural agencies, conservation

organizations, watershed initiatives, coops, etc.), and ii. subsequently managed that GLRI -funded project.

B. "Farmers" are individuals that manage farm operations that are participating in GLRI programs and/or receiving GLRI funding indirectly via "Program managers."

AND

2. Individuals who are located in and/or have administered programs within one of the four GLRI "priority watersheds":
   A. The Lower Fox watershed in Wisconsin;
   B. The Maumee watershed in Ohio/Indiana/Michigan;
   C. The Genesee watershed in New York/Pennsylvania; or
   D. The Saginaw watershed in Michigan.

AND

3. Individuals who are adults (18+).

The exclusion criterion is: 1. Any potential participants who cannot describe their connection to GLRI funding.

For the "Program managers" sample group, the sampling frame was constructed from the publicly-available list of GLRI grantees in the four watersheds between 2010 and 2016. We used this sampling frame to recruit participants from these groups for one-on-one, in-depth interviews. We followed a two-step recruitment process: First, we sent an email recruitment to each potential participant on our sampling frame. If we did not receive a reply, we followed up with an additional email or phone call (see Appendix B: Recruitment Script).

There is no publicly-available list of individual farm operators who have indirectly received GLRI incentives or participated in GLRI programs ("Farmers"). Therefore, we used snowball sampling for recruitment of this group. Once we contacted, screened, and recruited "Program managers," we then asked those participants to recommend other participants who fit the criteria of "Farmers." We then used these recommendations to contact, screen, and recruit farmers to participate in focus groups. Often, this process was conducted on our behalf via program managers, who forwarded our recruitment materials on to individuals who met the inclusion criteria for the "Farmers" group.

Using a grounded theory methodology means that there is not a strict guideline that should be used to generate an exact sample size. Instead, the researcher iteratively reviews the data as it is collected and looks for the attainment of saturation (Thomson, 2011). Saturation, in this case, means that at a certain point in the data collection process, the researcher notices that relevant new knowledge is no longer being generated by data collection. Therefore, following grounded theory means allowing for flexibility in sample size (Thomson, 2011). During the research design process, we provided an estimate of the number of interviews and focus groups that we believed would allow us to attain saturation: 5-10 interviews per watershed (n=20-40); and eight focus groups, each with 5-7 participants (n=40-56). These numbers are consistent with Thomson's (2011) meta-analysis of sample size in grounded theory research and Greenbaum's (2000) analysis of focus group size.

C. Measurement / Instrumentation

Research following a grounded theory design does not test variables, but rather collects and analyzes participant responses in a process that allows "concepts" or "categories" to emerge inductively. Therefore, data collection should utilize the research instruments that are best suited

to collecting "rich" data that speak to *how* and *why* phenomena occur (Charmaz, 2006). In this study, we use two instruments that are well-suited for this type of research: 1. in-depth, semi-structured interviews, and 2. focus groups.

1. In-depth, semi-structured interviews have been administered to participants from the "Program managers" group.
    a. Justification: These interviews give participants the opportunity to share their personal experiences as managers and administrators of GLRI focus area 3 programs. As each interviewee will represent a unique program and/or organization, one-on-one interviews are an appropriate method to collect targeted and precise data relating to each individual context (Charmaz, 2006). These interviews allow us to look for common themes across a variety of individualized programs in different geographic locations.

2. In addition to understanding how GLRI incentives are managed and administered, we are also interested in farmer perceptions of GLRI incentives and how that impacts their decision making about conservation practices. To that end, we have facilitated focus groups with participants from the "Farmers" group.
    a. Justification: Focus groups give participants the opportunity to engage in a structured discourse with both the researcher and their peers during data collection. Since we are engaging with a relatively large sample of farmers (n=41), focus groups allow us to collect detailed data about *how* and *why* the phenomena of interest occur without being as resource-intensive as individual interviews (Greenbaum, 2000). In addition, this instrument allows new knowledge

to emerge from discussions *between* participants. While the "Farmers" group is not homogenous, we believe that intra-participant discourse highlights the commonalities and differences that exist within this group. For these reasons, we have chosen to conduct focus groups with this group.

D. Detailed Study Procedures

1. Methods for study data collection:

We administered 29 in-depth, semi-structured interviews with "Program managers" in all four research locations (the Genesee, Lower Fox, Saginaw, and Maumee watersheds). Adam Fix administered and audio recorded all interviews. These interviews were conducted either in-person (n=2) or on the telephone (n=27), at a mutually-agreed upon time (and location, if meeting in-person). The interviews were semi-structured. Therefore, a general list of questions was prepared by the researchers, but questions were omitted and/or unscripted follow-up questions were included as appropriate (see Appendix C: Interview Questions). The duration of each interview varied between individuals, depending on their willingness and availability to discuss their experiences. The interviews ranged from 21 minutes to 68 minutes, with an average length of approximately 45 minutes.

We conducted eight focus groups with participants from the "Farmers" group across three priority watersheds (Saginaw, Lower Fox, and Maumee). The focus groups were also semi-structured (see Appendix D: Focus Group Questions), and ranged in time depending on the participants' willingness to discuss their experiences. Focus groups ranged from 40 to 92 minutes, with an average length of approximately an hour and 15 minutes.

We initially chose to conduct one focus group in the Genesee watershed, and two focus groups in each of the remaining watersheds: Lower Fox, Saginaw, and Maumee (for a total of

seven focus groups). We made this choice because the number of GLRI grants that have been disbursed in the Genesee watershed is significantly less than in the other three watersheds. However, due to difficulties with recruitment in the Genesee watershed (n=3 Program managers), we were not able to conduct a focus group there. Because participation is voluntary, and our sample population is small, holding a focus group in the Genesee watershed was not possible.

Following best practices in focus group research (Greenbaum, 2000), we recruited 4-7 participants ("Farmers") for seven of the eight focus groups. One of the eight sessions (held in the Saginaw watershed) yielded only two participants. For this reason, we scheduled an additional (third) session in that watershed, held on December 5, 2018, in Frankenmuth, MI. Due to geographical considerations, we also scheduled an additional (third) session in the Maumee watershed (December 4, 2018, in Findlay, OH). Since the first two sessions in the Maumee watershed covered northern and central portions of the watershed, adding a third session ensured that farmers from the southern part of the watershed were represented in the study.

Adam Fix facilitated all focus groups in-person, at a mutually-agreed upon time and location. In addition, one research assistant (Laura Young from Michigan State University) was present at each focus group session. Young assisted with logistical issues, acted as a note-taker during sessions, and contributed questions and input throughout the process.

All interviews and focus groups were audio recorded using at two devices: 1. a Tascam DR-100mkII audio recorder, and 2. an iPad using the "Smart Record" application. In addition, Young took contemporaneous notes, and Fix wrote field notes (including brief reflections, impressions, and other details) about each session.

In addition, Fix and Young administered a brief survey to each focus group participant at the beginning of each focus group session. These surveys collected demographic data, the size of

their farm operations, and whether or not they have received GLRI funds before (See Appendix F: Pre-Focus Group Survey). These questions help us to better understand the relationship between these factors and farmer decision-making about conservation incentives and practices.

2. Timeline for data collection and analysis:

Subject recruitment for both interviews and focus groups began in July 2018. Data collection via interviews began in July 2018 and concluded in December 2018. Data collection via focus groups began in August 2018 and concluded in December 2018. Data analysis began in October 2018 and concluded in January 2019.

E. Reliability and Validity

Reliability and validity are core concepts in quantitative research. In the qualitative paradigm, reliability and validity are often conceptualized as trustworthiness and rigor (Golafshani, 2003, p. 604). As such, achieving reliability and validity means eliminating bias and increasing the researcher's ability to truthfully represent a social phenomenon. This study uses methodological triangulation (Carter, et al., 2014) to insure credibility/internal validity, eliminate bias, and increase the researcher's ability to interpret events truthfully. Methodological triangulation is the practice of using two or more methods to cross-check the study's findings. In this case, we are using two methods (in-depth interviews and focus groups) to achieve credibility through triangulation. From this research paradigm, triangulation is "a validity procedure where researchers search for convergence among multiple and different sources of information to form themes or categories in a study" (Creswell and Miller, 2000, p. 126).

In this study, even though program managers and producers are seen as different groups, both groups are sharing information on the same theme: the effectiveness of GLRI agricultural

conservation incentives for water quality in priority watersheds. Therefore, triangulation is occurring across groups in service of the emergent themes (via "multiple and different sources of information").

In addition, the use of grounded theory adds to the trustworthiness and rigor (reliability and validity) of the study, because no information is pre-determined. Instead, all codes, themes, memos, and subsequent findings are taken directly from the data. Codes are aggregated via a systematic multi-stage analysis both within and across groups. During this stage, data that are not repeated (supported) by multiple sources are discounted or discarded. This process further increases trustworthiness and rigor.

F. Data Analysis

Using a grounded theory approach, data has been analyzed with a multi-stage coding process following Glaser & Strauss (1967) and Strauss & Corbin (1998). First, each interview and focus group audio recording was transcribed by an approved vendor; in this case, Transcription Professionals (www.transprof.com). After transcription was completed, the researchers began an open coding process, using Atlas.ti qualitative data analysis and research software. Open coding involves systematic interpretation of the content of participants' discourse. This is an iterative process, involving multiple stages of reading and assigning codes to the text, as well as sorting and refining codes. After open coding, we conducted a second round of coding using hierarchical axial coding, during which conceptual relationships emerged based on trends or patterns. Following open and axial coding, the next stage of analysis is memo-writing. Memos serve as succinct descriptions of themes. They are intended to be clear summaries, but they also allow the researcher to begin to integrate the emergent themes into an analytic narrative and produce recommendations.

G. Output

This written document is an initial output that summarizes the research team's analysis of the support structure for farmer decision making and assessment of the impact of GLRI investments on that support structure.

This research constitutes one portion of a larger, U.S. Environmental Protection Agency funded research project ("Researching Effectiveness of Agricultural Programs", USEPA Cooperative Agreement with the Great Lakes Commission: GL00E02209). Therefore, the output of this research will eventually be incorporated into a larger report. These results will be shared via a project website, webinar, in-person meetings, and publications in academic journals.

Appendix B: Recruitment Script

Researching Effectiveness of Agricultural Programs

Recruitment script (email/telephone)

Group 2: Farmers

Subject: Request to participate in research about your involvement with GLRI

Hello,

My name is Adam Fix, and I am a researcher at The Ohio State University. I am contacting you to request your participation in a research study about the U.S. Environmental Protection Agency's Great Lakes Restoration Initiative (GLRI). This study investigates the long-term cultural impacts that past GLRI investments have had on producers' on-farm decision making.

I am asking you to participate in a focus group regarding your personal experience with GLRI projects. Examples of questions I may ask include: "What has your experience been like in working with the organization administering GLRI funds?" and "Did participating in this particular program change the way you view Agricultural conservation practices? How so?" Each focus group will take approximately one-and-a-half hours of your time. We will conduct the focus groups at [LOCATION] on [DATE] at [TIME]. I would like to record the focus group in an audio format.

Participation is voluntary, and you can withdraw any time if you change your mind. There are no known risks to participation. You will receive compensation in the form of a $75 USD Visa gift card. Refreshments (snacks and beverages) will be served. This study has been sponsored by a grant from the U.S. Environmental Protection Agency (EPA-R5-GL2016-AIP: "Researching Effectiveness of Agricultural Programs").

If you would like to participate, please contact Laura Young at [EMAIL] or [PHONE].

Group 2: Farmers follow-up email #1

Subject: RE: Request to participate in research about your involvement with GLRI

Thanks for agreeing to participate in a focus group on [day] at [time]. The focus group will be conducted [at X location]. Again, my name is Adam Fix, and I will be facilitating the focus group.

If for some reason you're unable to make it, please contact me at 716-510-2554 or fix.46@osu. I'll send an email the night before with a reminder.

Thank you very much, [name]. I'm looking forward to the focus group at [location] on [day/time].

Group 2: Farmers follow-up email #2

Subject: RE: Request to participate in research about your involvement with GLRI

Thanks for agreeing to participate in the focus group tomorrow at [location/time]. This is just a reminder.

If for some reason you're unable to make it, please contact me at 716-510-2554 or fix.46@osu.

See you tomorrow!

Appendix C: Interview Questions

RESEARCHING EFFECTIVENESS OF AGRICULTURAL PROGRAMS:

PRIORITY IN-DEPTH INTERVIEW QUESTIONS

Did receiving a GLRI grant expand or improve your organization's ability to:

a. Engage with producers in your jurisdiction? How so?

b. Advance initiatives aimed at changing on-farm decision making at the field level? How so?

c. Start a new program or expand an existing one? How so?

d. Hire additional employees? How many?

e. Access tools and resources that expand your work flow efficiency? How so?

In your experience, have GLRI investments resulted in lasting cultural changes among participating institutions and producers?

More specifically, once the GLRI money ran out:

a. Did producers continue to implement or maintain the conservation practices after the GLRI payments stopped? Why or why not?

b. Did participation in the GLRI project/program lead to a change in producer's attitudes about Ag conservation to improve water quality (increase or decrease confidence and acceptance towards such practices)? Why or why not?

c. Did your organization's expanded capacity endure? Why or why not?

What would make GLRI-funded projects and programs more effective at engaging producers and creating lasting cultural impacts related to Ag conservation for water quality?

What if anything distinguishes GLRI from other incentive programs?

Does GLRI reach people that NRCS (EQIP) does not? How so?

What kinds of outreach were associated with the GLRI grants, and what did you think of it? Why was it effective/ineffective? How could it be improved/done differently?

What if any aspects of the GLRI funding process presented obstacles for your organization or the producers that you were engaged with?

Do you believe your projects' targeted activities were successful? Why or why not?

Do you believe the program's goal was achieved? Why or why not?

What would make GLRI funded projects and programs more effective? Less effective?

RESEARCHING EFFECTIVENESS OF AGRICULTURAL PROGRAMS: PRIORITY SURVEY-TYPE QUESTIONS

How many producers did your program enroll?

Did your program enrollment reach your desired capacity? **(Y/N)**

If Yes: What made your program attractive to producers?

If No: What was the barrier to enrolling your target number of producers (from your perspective & producers?)

Did you use any models, decision support tools, or monitoring data from USGS, NOAA, or ACOE programs to target producers to enroll in your program, or to estimate the environmental benefits of your efforts? **(Y/N)**

If Yes:

What were they? (describe) Did the use of these resources have an impact on your ability to recruit producers? **(Y/N)**

Did the use of these resources increase your (or your enrollees) confidence in the efficacy of agricultural conservation efforts administered by your program? **(Y/N)**

OPTIONAL SURVEY-TYPE QUESTIONS

How large is your organization? **(#)** (Not relevant for some interviewees, e.g., state employees)

Where was your project work conducted? **(Locations)** (Only if we are unsure)

How many acres did your projects cover? **(Locations)** (Only if we are unsure)

Appendix D: Focus Group Questions

FOCUS GROUP QUESTIONS

What has your experience been like in working with the organization administering GLRI funds?

What kinds of outreach were conducted by this organization?

What did you think of it? Why was it effective/ineffective? How could it be improved/done differently?

What would make this organization's use of GLRI funds more effective? Less effective?

If you could design a perfect payment program, what would it look like?

How has the money you received from (a given project *X*) changed your operation?

Which conservation practices did you choose to install? Why?

What kinds of impacts have you noticed from these changes?

Are these impacts different from your expectations? How so?

Do you feel you are better or worse off as a result of participating in this program? Why?

Did you continue these conservation practices after the incentive stopped? Why/why not?

Did participating in this particular program change the way you view Agricultural conservation practices? How so?

How did your participation affect your view of the programs' effectiveness at improving water quality?

How did your participation affect your likelihood to partake in future conservation activities?

What's the difference between this particular program and any other incentive program you've participated in? Is it similar/better/worse than other programs?

What if any aspects of the program you participated in presented key obstacles for you?

Appendix E

Table 6. List of focus group sessions

Watershed	Location	Date	# of Participants
Saginaw	Ithaca, MI	August 13, 2018	2
Saginaw	Flint, MI	August 14, 2018	5
Saginaw	Frankenmuth, MI	December 5, 2018	4
Lower Fox	Kimberly, WI	September 5, 2018	6
Lower Fox	Kimberly, WI	September 6, 2018	7
Maumee	Wauseon, OH	September 12, 2018	5
Maumee	Wauseon, OH	September 12, 2018	7
Maumee	Findlay, OH	December 4, 2018	5

Appendix F: Pre-Focus Group Survey

RESEARCHING EFFECTIVENESS OF AGRICULTURAL PROGRAMS:

PRE-FOCUS GROUP SURVEY

1. Please tell us about your agricultural operation:
    a. Row crop
    b. Livestock
    c. Mixed row crop and livestock
    d. Other (please list) e.g. fruit, vegetables, etc.

2. If acres, approximately how many acres is your agricultural operation?
    a. < 100 acres
    b. 101-350 acres
    c. 351-500 acres
    d. 501-1000 acres
    e. > 1000 acres

3. If livestock, approximately how many animal units do you have?
    a. 100
    b. 300
    c. 500
    d. 1000
4. Have you heard of the Great Lakes Restoration Initiative (GLRI)?

A. YES

B. NO

5. Have you received GLRI funds?

A. YES

B. NO

C. MAYBE