2013 State Nutrient Reduction Strategies Web Series

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Indian Creek Watershed Project
Transcript

Speakers:
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Chad Watts, Project Director, Conservation Technology Information Center
Matt Maier, Director, Livingston County Soil and Water Conservation District
Amy Walkenbach, Watershed Management Section Manager, Illinois Environmental Protection Agency
Trevor Sample, Environmental Protection Specialist, Illinois Environmental Protection Agency

Moderator:
Cynthia (Cyd) Curtis, US Environmental Protection Agency

>>Slide: Indian Creek Watershed Project

Cynthia Curtis
Hello, everyone, and welcome to our 10th official webisode for the State Level Nutrient Strategy with an Ag Focus. Today, along with the theme of April showers, we have a deluge of speakers today with a lot of interesting information on Indian Creek Watershed community supported conservation. Real quick, I see that a lot of you are clicking in the boxes below. If you can just kind of keep filling that in for us to let us know who's here today, and just it helps our speakers tailor the presentations. If you have any technical issues, please type in the chat box up at the top. I'll be monitoring that, and I'll start a sideline discussion with you to try to resolve any technical problems. So with that said, let's hand things over -- and Karen, if you want to take it away.

>>Slide: Topics of Discussion

Karen Scanlon
Sure. Thanks, Cyd. Today we're going to talk about our Indian Creek Watershed project, and it's a true collaborative effort that I'm happy to introduce you to, along with my fellow presenters. So I'll start by introducing you to the people on the call today. Then we'll review some highlights about our project in the Indian Creek Watershed in Illinois and talk to you about how we built the project and focus some of our conversation on farmer involvement and engaging farmers in a meaningful way in this effort and some considerations at the end for you to take home.

>>Slide: Introductions (1)

So I am Karen Scanlon, the executive director of the Conversation Technology Information Center. We're based in West Lafayette, Indiana, and with me today from CTIC is Chad Watts. He's our project director, and he is leading this Indian Creek Watershed project for CTIC.

>>Slide: Introductions (2)

Also with us today is Marcus Maier. He's a director at the Livingston County Soil and Water Conservation District, and they are our local partner in the Indian Creek Watershed.

>>Slide: Introductions (3)

And also with us, Amy Walkenbach and Trevor Sample with the Illinois Environmental Protection Agency, and they'll talk to you about Illinois EPA's involvement, and particularly the water quality monitoring, that they are leading and contributing to the effort.

>>Slide: Indian Creek by the numbers…

So some highlights of our project in Indian Creek Watershed is -- one thing we're very proud of is that 100 percent of the farmers in the watershed have been contacted and offered technical and financial services or assistance through the project and through our partner efforts there in Livingston County, and 55 percent of the producers in the watershed have enrolled in a financial or technical assistance program. Forty-one percent of the acres are currently enrolled in the Conservation Stewardship Program, and we've had great attendance at our outreach efforts, particularly last summer's field tour. And we have an annual winter meeting that has great attendance from producers and other community members as well. We have nutrient-use efficiency plots and demonstrations, and they are each about 20 acres. And we're also very proud of the private sector involvement that we have, 14 active sponsors that are bringing products, technologies, and equipment to demonstrate and share with the producers in the watershed.

>>Slide: Indian Creek Watershed – Livingston County, Illinois

So first, an overview of Indian Creek Watershed: We are in central Illinois, so you see the perspective there.

>>Slide: Indian Creek Watershed – Vermilion River Watershed, Illinois River

It's a HUC 12 watershed, and it's part of the larger Vermilion River Watershed in Illinois, part of the Illinois River Watershed.

>>Slide: Indian Creek Watershed

So some more details about that, it's an 80-square mile, or 51,000-acre, drainage area, primarily crop land, and there are 104 farms in the watershed. And I mentioned it's part of the larger Vermilion Watershed, which is a target area for the Mississippi River Basin initiative, and it's also listed for aquatic life use and public water supply impairments.

>>Slide: Indian Creek Watershed (map 1)

So I'm going to ask Marcus Maier, our partner at the Livingston County Soil and Water Conservation District, to chime in and provide any perspective about the watershed. This slide here shows you that it is a watershed dominated by agricultural land use. So you see here, all the yellow indicates ag vegetation, the red is the town of Fairbury, and the green is forest and woodland.

>>Slide: Indian Creek Watershed (map 2)

So you see that it's predominantly agricultural land, and this shows the corn and soybean distribution, corn being yellow, green being soybean. Marcus, did you want to make any -- introduce the watershed to the folks on the call?

Marcus Maier
The only thing that I would add, Karen, is that there are quite a few of livestock producers in this area, too, dairy farms and quite a few hog farms. And also now we have some turkey farms in the area, too, so there are livestock operations there as well, so nutrient management from a manure standpoint is becoming a bigger opportunity for those involved.

Karen Scanlon
Great. Thank you. And I failed to point out that Marcus is also a producer in the watershed. In addition to being a director at the Conservation District, he's also a producer himself.

>>Slide: Indian Creek Project – 319 Grant

So our project started three years ago, and CTIC and Illinois Environmental Protection Agency started talking about how we could work together to initiate a project on a small scale in a small, targeted watershed where we could apply conservation systems and track the impacts to water quality that those conservation systems would result in. And so we had some initial conversations and realized very quickly that an important ingredient for success would be to find a strong local partner. As I mentioned in our introduction, CTIC is based in Indiana, and we wanted to work in Illinois. So we needed a local partner that would have great relations with the community and the ability to provide the assistance needed, technical and access to financial assistance, to make this project a success. So we were very lucky to find Livingston County Soil and Water Conservation District, and they have a great relationship at that field office with the Illinois NRCS. So they have -- we formed a strong partnership to build

this project. And I also want to mention that many of CTIC's members have joined in the effort as a partner, because they are sponsoring the demonstrations and some of the nutrient-use efficiency studies that we're able to put on through this effort. And so part of the effort is funded by a 319 grant through Illinois EPA, and as I mentioned before -- well, mentioned sort of -- that our goal is to determine what water quality impacts result when 50 percent of farmers and acres in the watershed adopt conservation systems.

>>Slide: Indian Creek Project – MRBI

So not long after we initiated the 319 project, the Livingston County Conservation District applied for and received funding through the Mississippi River Basin Initiative, and they formed -- the goals of that project complement the goals of the 319 effort. So it was designed for these two to work together. Marcus, any comments about the MRBI effort that the District is leading?

Marcus Maier
No, that pretty much covers it all. I think it just gave us the opportunity to really engage with our local -- our farming community. And I mean by community, meaning the City of Fairbury and surrounding areas as well as the actual operators in the field. So we saw it as a great opportunity to kind of blend all that together and see what we could do, and so far it's worked out very well.

>>Slide: MRBI Funding

Karen Scanlon
Great. Thank you. So the Mississippi River Basin funding brought in specifically funds through the Environmental Quality Incentives Program and the Conservation Stewardship Program. So these are additional funds through EQIP and CSP that are available to Indian Creek producers to achieve those goals of the MRBI project.

>>Slide: Indian Creek CSP Coverage

And to date, this is a -- this map shows you the extent of those CSP contracts within the Indian Creek Watershed. So one of the numbers I showed you earlier was that 41 percent of the acres have CSP action on those acres, and this represents that.

>>Slide: Livingston County CSP

And we wanted to show you this, as well. This is an image of the entire county, the Livingston County CSP adoption rate, and you'll see that the highest concentration of CSP acres is down here, in this region within the watershed and also surrounding the watershed. And to -- a point to make here is that producers who manage and own land within the watershed are likely to also manage and own land outside of the watershed. So we're able to influence, or hope to influence, through the efforts of this project, the application of those conservation

efforts not only in the watershed but in the area around it as well. So, to Amy and Trevor.

>>Slide: Water Quality Monitoring (1)

Trevor Sample
Okay. Am I on?

Karen Scanlon
Yes, you're on.

Trevor Sample
Okay, good. I'm Trevor Sample. I'm with the Illinois EPA, and I'm overseeing the water quality monitoring effort. So the watershed is actually made up of three HUC 12s, and in April of 2010 we did a watershed reconnaissance and chose five stations to conduct our sampling on. Our upstream site is DSPA 04, and then right at the break of the first and middle HUC 12s, we show site DSPA 03, and then DSPA 02. On the main stems, we chose one tributary site. That's the DSPA 01, and the DSPA 01 was a site that had already been established, so we did have some background data from there. We began our grab samples in May of 2010, and then in December of 2011 we formed a partnership with USGS to install a stream gage as well as a continuous nitrate probe. So we're taking data from that probe every 15 minutes, and that's located at the DSPA 01, furthest upstream site.

>>Slide: Water Quality Monitoring (2)

So as far as our sampling schedule, from -- I should actually say from March through June, we're taking weekly grab samples for nitrates, and once a month we're also taking total phosphorus and TSS. From July through February, then, we're taking monthly grab samples. Every time we go out, we're also using a quanta probe, which measures pH and TSS conductivity and temperature.

>>Slide: Fitting it all together

Karen Scanlon
Thanks, Trevor. So to fit it all together for you, wanted to point out that we have the 319 efforts funded through Illinois EPA that allows us to do some educational efforts and provide some social support by connecting producers in the watershed so they can connect with each other and learn from each other. We have the SWCD's Mississippi River Basin Initiative efforts through which they can offer technical assistance and financial assistance to the producers in the watershed. And then, to complete this story, we have the water quality monitoring by Illinois EPA and USGS to tell the story about how our efforts on the land are impacting the water quality in the watershed.

>>Slide: Steering Committee

And one thing I wanted to point out that we think is a real key to our success is we have the pieces in place. We have the resources. We have the experts. We have the technology that we can bring and we can talk about. We have the water quality monitoring to track our progress. We have the resources, the financial and technical assistance available. But what -- the glue that keeps this project together and keeps us focused in the right direction is the steering committee that we formed early on in our efforts, and it's made up primarily of producers in the watershed. So producers are taking a leadership role in our effort and, in addition to producers on the committee, we have the mayor of Fairbury, which is the largest town in our watershed. We have a high school ag teacher. We have retailers, fertilizer retailers in the area. We have the farm bureau. We have a local land trust. We have local food growers that are part of the steering committee. So we think they are the key to keeping this project on the right track and making sure that our efforts are resulting in real-world advancements for conservation in this community. And, Marcus, can you add your perspective also to this?

Marcus Maier

Yeah, I think another important thing, we have individuals, farmers and others, who really aren't afraid to try something new and to -- and to really go about the business of trying to protect our natural resources and primarily our soil and our water, our quality there. So we have guys that aren't afraid to try something new, to go out on a limb and work on it, whether it be a cover crop -- like myself, I'm trying cover crops. I've learned quite a few things of what not to do, but just from that standpoint, we have guys who are not afraid to try something new. So I think that's important, as well as we have members of the community who are willing to be in this together with us and to try to learn not only from us but from each other and to put those practices -- and then, from a public relations standpoint, that's good for us, too, because it engages the public, saying, hey, that the owner-operators and farmers are willing to try things to improve our water quality and to improve our soil structure in our soil and preserve it for future generations. So it's exciting for these guys to step out on a limb, so to speak, and to kind of walk the walk and to talk the talk at the same time.

>>Slide: Demonstrations and NUEs

Karen Scanlon

Thank you. Now I'm going to ask Chad Watts, our project director for CTIC, to go over with you what we're able to offer through the 319 support we have through Illinois EPA as well as the sponsor support that our partners on the project provide us through the educational efforts we have on the ground with the demonstrations and nutrient use efficiency study. So, to you, Chad.

Chad Watts

Thank you, Karen. The demonstrations and the NUEs -- and NUE stands for nutrient use efficiency trials -- as you see here on the slide, we've got -- we have increased the number of demonstrations that we've been able to offer throughout the years. And really, these demonstrations are where the rubber hits the road in terms of putting conservation systems on the ground, putting technology in the hands of the farmers in the watershed so that they can try it out on their own farms and, you know, sort of see how it fits with their operations. And like I say, you can see that we have increased the number of demonstrations throughout the years, the number of opportunities that producers have had to try different things. And it goes without saying, I guess, part of it is that we come up with ideas of what kinds of things may be important to producers in the watershed, and then that list of those important trials is brought to the steering committee and ask for their recommendation. If they have any additional demonstrations that they would like to see happen on the land, they can make those recommendations, and they're included in the suite of things that we offer. But they're ultimately the ones that -- the steering committee ultimately is one of the ones that approves that list of demonstrations for use in any given year. And as you can see, you know, one of the big threats to the watershed in general, and to the larger Vermilion Watershed, is nitrogen. So we've done a good part of our demonstration work with different nitrogen timings, different forms of nitrogen, rates of nitrogen, that sort of thing, so that we can come to a point where we're trying to determine the best practices for that -- for the watershed and for the farmers in the watershed to use that can make the most efficient use of those applied nutrients. And again, cover crops is another part of that, a piece of that puzzle that helps to maintain -- you know, trap some of those nutrients and make them more useful for the crop. And also, controlled drainage is another opportunity that we've offered for folks in the watershed to give a try and, you know, sort of see how it works on their farm. And one of the good things about these demonstrations in general is that when we -- when a producer works on a demonstration or does a demonstration on their farm, oftentimes they are asked to come back later at field days and winter meetings and those kinds of opportunities and give their experiences to other producers in the watershed about what they learned and the kind of things they did and what they saw. So it's a great learning opportunity not only for the producer who got to try the demonstration but also for the others who can learn from their experiences.

>>Slide: Demonstration Locations

This little map, the green dots represent locations of demonstrations within the watershed. And you see there are some demonstrations that are outside the watershed. And what those represent are producers who have farms that are also in the watershed that the particular demonstration that they wanted to try fit best on the farm -- they farm both inside and outside the watershed, so the farm where they have chosen to do the demonstration is an area where it best fits the demonstration that they are trying to do. And that may be outside the watershed. But the dots outside the watershed that you see, those producers are also

farming inside the watershed. So it's still a value to the watershed to do those kinds of demonstrations.

>>Slide: Indian Creek Demonstrations and NUE Plots

Here's an example of one of the demonstration areas that we do. This one in particular is a nutrient use efficiency trial, and as you can see in the legend there, there's a variety of different rates of nitrogen that were used, and those trials are replicated throughout the field so that we have, you know -- so that we can get the most accurate results we can in different parts of the field. So it's just an example of one of the maps of one of the nutrient use efficiency trials that we are operating.

>>Slide: Demonstrations

So as Karen mentioned earlier, most of the demonstrations consist of 20-acre or larger blocks for different trials. Products were compared. Again, we use different technologies, application methods, formulations, and timings that we're looking at in terms of trying to figure out -- and help farmers figure out -- what the most efficient way to apply nutrients in their operation is and how we can get the most nutrient into the crop and the least nutrient, you know, that volatilizes into the air or gets into the water. And we look at those results on an annual basis. We calculate those results, and then those results are presented to the producers at winter meetings and other opportunities.

>>Slide: Nutrient Use Efficiency (NUE) Plots

One of the more specific plots we use, it's called a nutrient rich efficiency plot. And these are smaller, heavily managed and monitored plots, where we are essentially calculating a mass balance for nutrient usage. In essence, we know the amount of nutrient that we applied to the field. We can measure the amount that's in the soil and in the crop. And so from that, we can subtract the crop and soil nutrient from the applied nutrient, and the remainder, then, would give us an indication of the amount of that nutrient that has either leached into the water or volatilized into the area, so lost to the environment. So we can really hone in on, you know, how much of that nutrient we're getting into the crop and how much is not going into the crop, it's just being -- is not used by the crop and is left in the soil or lost to the environment. And in these, again, those are -- the map that I showed you earlier was of a nutrient use efficiency plot, and those are smaller replicated plots where we apply a variety -- in this case it was nitrogen -- applied nitrogen to the plot in a variety of different rates to calculate -- so that we could eventually calculate the maximum economic rate for nitrogen on each plot. And what that is, it's the measure of the maximum return to the grower on investment of the applied nitrogen. So in essence, he's getting the most nitrogen into the crop and the least losses to the environment, which is not only a benefit to the grower but also a benefit to water quality.

>>Slide: MERN Calculation

And this is the calculation that we use. The International Plant and Nutrition Institute has come up with this calculation, spreadsheet calculation, that allows us to calculate the maximum economic return for nitrogen, or rate for nitrogen. And as you see here, in the red circle, in the orange column there, 176 pounds of nitrogen was the economic threshold for this particular plot on this particular year, and that would have yielded us 232 bushels per acre. And that means that, basically, that was putting the most efficient use of the nitrogen, putting the most in the crop and the least left in the soil, the least lost to the environment.

>>Slide: 4R Principles of Nutrient Management

Essentially what we're doing is we're monitoring -- we're looking at all of the variety of nutrient opportunities out there, and we're testing them against the 4R principles of nutrient management that are established by the fertilizer -- the TFI, the Fertilizer Institute. So we're looking at the right fertilizer source at the right rate at the right time and in the right place. So we're evaluating all of those different variables in our demonstrations for nutrients.

>>Slide: Right Source

So as we think about the source, we realize that, through some of our trials, that the source of the fertilizer can make a difference in yields. In 2011, using some phosphorus trials, using diammonium phosphate and also micro-essentials from the Mosaic Company as a phosphorus source, applied in the same manner, the micro-essentials did show us a little bit of a yield bump, again, because of the different source of phosphorus that comes from that versus the DAP. Also, you know, looking at the different nitrogen technologies and formulations and how they impact nitrogen breakdown or they can inhibit nitrogen breakdown, so that we're spoon feeding that crop nitrogen rather than dumping a whole bunch of nitrogen at one time, some of which gets used and some of which, you know, gets lost to the environment.

>>Slide: Phosphorous Sources

This is a chart showing the yield response to the micro-essentials versus the diammonium phosphate. As you can see, the DAP lagged in yield in both cases. Again, for that particular year at that particular time on that particular farm, there was an advantage to using that different source of phosphorus. This was in a field that was -- had low phosphorus tests and so it would respond to phosphorus treatments.

>>Slide: Nitrogen Sources

This is another -- we looked at Super U, which is a slow release nitrogen source, versus straight urea, and this is the graph showing the soil nitrogen, the nitrogen level in the soil. So we can see, in some places where we're spoon feeding that

nitrogen out to the plant at lower rates, more -- we can assume that more of that nitrogen went into the crop rather than in the soil. And then, as we get greater amounts of nitrogen, we can look at that and say that there was more -- since we timed it out for a longer period, there was more that stayed in the soil that could be used by the crop at any point in time. So we're seeing the value of the timing of that nitrogen application in relation to when the crop -- when the corn crop needs to have it and spoon feeding that nitrogen.

>>Slide: Right Rate (1)

We also looked at the rate, a fertilizer rate. Again, we're talking about slowing the breakdown of the nitrogen fertilizers, and that's showing promise for the efficiency of nitrogen use. Also, we're finding that oftentimes a later season application of nitrogen can increase the producer's planning and flexibility to help maximize efficiency. For instance, in a year like we just had, we can look at the early season -- the lack of rain in the early season -- so there was more residual nitrogen in the soil that could have been used for the crop. So we may have backed off on a later season application to make more efficient use of the nitrogen we have and lose less at the end of the season. A later season application gives you more flexibility in that regard. Also, the use of different technologies, the variable rate technology, which instead of using, you know, 180 pounds of nitrogen blanket across the field, we can specifically apply more nitrogen to areas of the field that -- where the crop can use that, where the soils can handle that kind of thing. For instance, if we had sand, we would apply less nitrogen in the sand areas, because that would have less opportunity to hold on to that nitrogen late in the season, whereas a higher clay content soil would have more opportunity to hold the nitrogen and could have a better opportunity to allow the crop to use it. So we can adjust our -- on the fly, we can adjust our fertilizer rates to those areas that need it and those that don't.

>>Slide: Right Rate (2)

And looking at a drought year, you know, water -- by and large, what we found in 2012, that water was the greater limiting factor to the crop than nitrogen rate and availability. And I think Trevor mentioned that, maybe, a little bit, when he talked about the water quality monitoring and that, you know, last year, if you would have done water sampling last year in the stream, it would have looked like we solved the nitrogen problem, because none was getting into the -- into the water. But we didn't have any water to move it. So this year, you know, we're seeing more spikes in that nitrogen just because the additional nitrogen in the soil that was not used by the crop last year. And there's a couple things we can do to help us hone in on that rate, a couple tests we can do. The pre-sidedress nitrate test, that can help us guide that later season application. We can have a, you know, an amount -- we know the amount that's in the soil at that point, and we can further gage our later season application to better feed the crop what it needs. Also, the Illinois Soil Nitrogen Test that's evaluating nitrogen mineralization across the field to help guide variable rate application technology, and also we have been working with the NREC and -- I can't recall the acronym right now, but

there's a group in Illinois, a fertilizer institute group in Illinois, that is working on doing some nitrogen testing in the field so they can determine, better determine, the fate the nitrogen. They're testing throughout the season so that they can detect better the movement of nitrogen, better understand what we can do to help us maximize nitrogen use throughout the season. So again, those are important considerations to think about, you know, the soil nitrate test, the Illinois Soil Nitrate Test and the pre-sidedress nitrate test, are both things that can teach us a little bit more about the fate of nitrogen, where it's at at that point, and help us guide that -- our applications as we move forward. And those are -- the good thing about this, and sort of how things fit together with this project, is that some of those tests, the cornstalk nitrate test and the pre-sidedress nitrate test, are testing opportunities that are available through the Mississippi River Basin Initiative. So there's producers out there that are getting those kind of things through that program, and then those -- we're helping them to use those to help, you know, guide nutrient decisions as they move forward.

>>Slide: Nitrogen Rate

Again, this is another opportunity to map of where they're using the soil nitrate test to help dictate and influence the variable rate technology, where they're applying it at differing rates throughout the course of the field. And you can see the different management areas within the field and those areas where they're doing that -- where they're making those rates, changing those rates based on field conditions.

>>Slide: Right Time

And finally, we're looking at the right time of the nitrogen. You know, we're looking at opportunities for splitting application between fall and spring, and those have, at times, showed promise for yield and efficiency gains over time. And we talked about cover crops before and introducing cover crops into the farming system and how those can increase soil nitrogen availability at the right time and also help us to collect other nutrients, capture other nutrients, and make them available for subsequent crops. And so, when properly planned, we can use those credits from nitrogen, especially to produce and help us give guidance on inputs of nitrogen for the future so that we can make more efficient use of that which we apply.

>>Slide: 2012 Cover Crop Plot

And this is some information from our cover crop -- one of our cover crop trials in 2012, and this is fairly consistent with what we've been seeing with cover crop yields, you know, across the nation. There was a benefit, you know, nitrogen-wise to have cover crops on the farm.

>>Slide: Right Place

And the right place, as we think about the accuracy that we can gain through our -- through the RTK, or real-time kinetic, satellite systems where we can, you

know, place our fertilizer in bands. This is especially important if we're using strip till as a tillage system. We can incorporate those nutrients within those strips, those tilled strips, where the crop could use those nutrients and maximize the uptake. And also, you know, whether or not we band the fertilizer or we broadcast the fertilizer, you know, we can -- it makes a difference as to where -- what's available to the crop and how easy it is for the crop to take up those nutrients. So those are certainly considerations as we think about nutrient application and nutrient management, you know. Those 4Rs are the things that we need to -- need to consider, and we're giving opportunities for producers to sort of test those different methods, timing, rate, sources on their farms so that, you know, they learn from their own farms and then, again, can help teach others with what they've learned. So I think I'm going to pass it back to Karen or Marcus, and they're going to talk about some of the personal contacts and one-on-one visits with producers.

Karen Scanlon
Thanks, Chad. So Chad just outlined for you the work we're doing to bring additional information to the producers in the watershed about technologies, products, systems, and equipment that could increase productivity, profitability, and conservation of their resources and reduce negative impacts on water quality. And so, to get that information out to the producers beyond those involved directly with the demonstrations, we have to have some outreach mechanisms. So we wanted to outline those for you now. The first one is personal contacts that the Conservation District makes, so I'd like -- I'll turn it back to Marcus to overview that for you.

>>Slide: Personal Contacts

Marcus Maier
Thanks, Karen. I think this is really the key to what has made our Indian Creek Watershed project go. And the middle guy there is Eric McTaggart. He's with our local NRCS. And then the gentleman on the right is Terry Bachtold. He's our resource coordinator from our Soil and Water Conservation District. Those two guys have really been the instigators or the power behind what we're trying to do here in the Indian Creek. Definitely, their attitude, their -- the way they can relate to producers -- Terry is also a cattle, beef producer -- makes such a big difference, when they can go one-on-one with a producer operator and say, "Hey, this is what we want you to try. We think this will be a good thing for you in the future and to help protect our soils." To me, it boils down to one-on-one, and it boils down to these two individuals on the right to make it all go. And they can explain the different programs, whether it's CSP or EQIP, what's available to them, what they can do to participate and to help in this particular study. So to me, the bottom line in all of this are the people behind it, pushing it, and having the availability to work with individuals in their particular situations to make it all fit together. So that's really what I wanted to say about this slide. It boils down, to me, to those two individuals. And if you can find individuals like that in your

particular watershed or whatever particular thing you're looking at for conservation, that makes -- that makes all the difference in the world.

>>Slide: Winter Meetings

Karen Scanlon
Indeed, it does. Thanks, Marcus. Another way we bring the producers together to talk to themselves, to connect with Terry and Eric, and to hear about the demonstrations and the trials that we're doing is that we host, every year, a winter meeting that is -- and invitations go directly to producers as well as other community members so that it's an opportunity for producers in the community to discuss progress and what we're learning through the demonstrations, the conservation systems that the producers are putting together, the financial assistance that's available through the District and NRCS. So it's really an opportunity to share all that we're learning and that we're -- the assistance that's accessible through the partners in the project. And we're getting great attendance, a good representative of -- good representation from the community, and we cover topics like soil health and, as I mentioned, the financial assistance. And we have producer panel discussions, and we believe we're really increasing the awareness about -- not only about the project, but the assistance and information that's available through our partnership effort.

>>Slide: Summer Field Tour

Marcus Maier
If I might add real quickly, it does another thing. It provides us with farmers who maybe were reluctant to -- or operators reluctant to participate in the CSP or EQIP or even in the watershed in general. It allows them to listen to guys, their neighbors who are participating, and that might encourage them to do so. I think that's great. And the second thing, it might -- it might -- it enables our local operators who are participating in the watershed and in particular programs to talk with people who have -- who may have influence on our agricultural policies. And to me, that's a big thing, too.

Karen Scanlon
Absolutely. Great. Thank you, Marcus. And another opportunity that we present for producers to do several of the things that Marcus mentioned as well is a summer field tour. So the winter meetings are necessarily indoors, and we can show pictures and we can have speeches. But with the field tour, we get out with our feet on the ground, next to the demonstrations, talking to the producers and our agronomic advisers about these demonstrations and what we're learning about the products and technologies and the systems and how they're working here in Livingston County, here in Indian Creek. And so we're highlighting those demonstrations, talking about the nutrient use efficiency results, getting down in a soil pit and showing how cover crop roots extend into that soil, and talking about varieties that are successful in the watershed, and really providing opportunity for that interaction and communication between and among the producers and the advisers and policy makers. Any comments on that, Marcus?

Marcus Maier
Yes, what I'd like to say about this is I think this really encourages operators and farmers to try things on their own. They don't really necessarily have to be part of a particular program, but they can try and see what works on their particular farming operation and their particular style of farming, help them to push the envelope a little bit and try to develop something that helps conservation, helps our water quality, but tailored to their particular situation. I think that's what I tried to get across when I spoke last summer about that, is it really boils down to the farmer has got to try some things on his own, just to experiment. Like, I tried the late season Super U application. Last year it didn't work so hot because of the dry weather, but I'm willing to try it again this year. So to me, that's what is the key to this as well, is people have to try things on their own to see what works for them and see how we can push this conservation effort along.

>>Slide: 2013 Conservation In Action Tour

Karen Scanlon
Great. Thank you. And as Marcus mentioned, he is speaking about this project not just here today, but he's talking about his involvement here and our whole approach to this. He's been invited to speak at other events, and also another producer that's on our steering committee, John Traub. He joined us at the Commodity Classic earlier this year and was on a panel to discuss his involvement in the project as well. So it's not just CTIC and EPA and the District talking about this project. We're putting the farmers who are putting their fields -- volunteering their time in their fields to -- for these demonstrations. They're also spreading the word about what they're learning, why they're participating, and how they're -- how they're gaining from an effort like this and offering encouragement to others to explore these opportunities.

And so we invite all of you to join us in the Indian Creek Watershed in Livingston County this summer so you can learn more about the effort we have there as well as other great innovative technologies and innovative conservation programs in Illinois. We're having our annual Conservation and Action Tour will be July 9th and 10th. We anticipate a great attendance of 250, probably over 260 this year, and we'll be visiting Terry Bachtold's farm, whom Marcus introduced you to earlier; the Kilgus Dairy, which is where we have some trials as well; and also the Trainor Farm, which is where we have a tile outlet monitoring study underway, which is another complementary project to this one, funded through a conservation innovation grant. So we'll be focusing our conversations around soil health, nutrient management, and drainage water management on our tour. The tour is all day on the 10th, and the evening before, on July 9th, we'll have the evening social, which would be in the Normal -- Bloomington Normal area at our hotel base, which is the Marriott there. So encourage you to visit CTIC.org for more information on that, and hope to see you there.

>>Slide: Considerations for Success

So just some final thoughts that I'll review here, and then I'll turn it over to Marcus, Chad, Amy, and Trevor for their final thoughts as well. But some summary points I wanted to make sure we left you with is that good things don't happen overnight. This is -- we're just three years into this effort, and we're hoping that we continue for many more, because we know we're just getting started. We think we've built a -- found our strong local champion. We're giving producers a real voice, and we are leveraging our partnerships and resources to make a difference. But we want to keep going so that we can continue to build on that success.

>>Slide: More Considerations

And other considerations is to certainly being inclusive. If you want to target agriculture in a watershed, include agriculture, include producers in the CCAs and the retailers and the farm bureau and the commodity organizations. They have to be a part of setting the goals and setting the direction and everyone being clear with what their interest is in the effort, and starting off being open and inclusive sets the right direction. And recognizing people's desire to protect things in their own backyard, so recognizing the inherent stewardship ethic and desire to have a safe and productive community is important to build a successful effort in the area.

>>Slide: Community

And my final thought to leave you with is -- you've heard us use the word over and over again -- and that's community. And we felt it was important for us to recognize the community here in Indian Creek Watershed. It's a strong community where people support each other, agriculture is supported by the community, and vice versa. And so we're really able to capitalize on that and use that to our advantage to -- and complement that with the technical assistance, financial assistance, educational efforts that we're able to bring in and really become -- become part of that community for local buy-in and greater impact and greater success. So to Marcus first, and then Amy, Trevor, and Chad, your final comments please.

Marcus Maier

Yeah, to me, it all boils down to everybody needs to eat so -- to stay alive. So everybody really is involved with agriculture at some point, and especially, everybody is involved with conservation. So we all play a part of that, and what we can do as operators and farmers are try to communicate that better with the people that live in our local villages and towns and cities and to get them to understand that we're all in this together and let's work together. We're trying to do our part, out here in the country, the best we can. The second thing is to really move -- I keep harping on this point -- but to really move this project forward and to keep it going, you need some very strong people to really do that. And I mentioned Terry and Eric, and those two people have been so important in getting this started and maintaining it across the board. And the third thing would

be that you need a couple of local farmers who aren't afraid to try things and who can be leaders in that. And to me, those three things are what we're trying to do here in our community as far as the Indian Creek Watershed goes. Thank you.

Karen Scanlon
Thanks, Marcus. Amy and Trevor?

Trevor Sample
I just want to say, in terms of the water quality data, the USGS probe is real-time, so you can go on the USGS website and look up the Indian Creek site near Fairbury and look at the real-time data. It's been pretty interesting to do the last week or so, with the floods that have been going on up there, and seeing the spikes. In terms of any results, just looking at the probe data, last year, of course, there wasn't a lot of water running. We had some spikes in May and in November when it did rain, but most of the data has just kind of shown that when it rains, you do get some nitrate spikes.

Karen Scanlon
Thank you. Anything from Amy?

Amy Walkenbach
The only thing I'd like to say is so far this has been a great success. The partnerships have been something that has shown to be successful. And what I'm really looking forward to out of this whole project is that we can then have a cookbook or a menu, something that we can take from this watershed and replicate in other watersheds much easier and show that it has been a success. Thank you.

Karen Scanlon
Thanks, Amy. Chad, any final thoughts?

Chad Watts
Yeah, I just think -- I want to say that the majority of the success from this project, I think, can be attributed to the interest and the buy-in from the local folks. I mean, everything from people being eager to serve on the steering committee to help guide the project to people being eager to participate in the demonstrations and the nutrient use efficiency trials. I mean, it's been a real rewarding experience to work with those folks that want to be a part of this and they realize they're a part of something bigger than themselves. And I think that's -- you know, often we discount that, the desire of the locals to want to be involved and to want to have a say in these kinds of projects. Because, you know, there's a lot of interest there, and it's even spawned a couple of other projects. Karen talked about one of them that we'll visit on our tour, but you know there's another project from the Argon National Laboratory that has come in and been a part of the nutrient reduction strategy there in the watershed by introducing bio-mass planting. So it's not just -- this is not just a CTIC project. This is not just a

Livingston County Soil and Water District or an NRCS project. This is -- you know, the local partnership and the diverse group of partners that have become part of this project -- and again, you can't discount the desire and the -- just the desire of the locals to want to be a part of this thing is a huge boost and gives us a lot of opportunities to bring people to meetings because they're interested, to get people involved in doing the demonstrations and to volunteer for doing things. I mean, it's really -- it's really incredible.

>>Slide: Any Questions?

Karen Scanlon
Thank you. Thank you, Chad, and we thank you all for being here today, and we look forward to hearing your questions and continuing the conversation. So we'll turn it back to you, Cyd.

Cynthia Curtis
All right. Great. Well, thank you so much. That was really informative, exciting to see just the creative use of so many different partners and funding opportunities and data from several different perspectives. So we've already had several questions start to roll in. The rest of you, if you have other questions, please just type them in the chat box, and we will lead you through them. For all the speakers that have cameras, make sure and start them up and share it with the screen. So first question I have is from Frank Ruswick: What do you do to generate such high attendance at both winter meetings and summer field tours?

>>Webcam: Karen Scanlon and Chad Watts

Karen Scanlon
Well, my mic is on, so I'll start. But I think my first answer to that -- and I'll ask Marcus and Chad to answer as well -- is something that we've said often during the webinar, is that we think it's the involvement of the steering committee, it's the connection that the Conservation District, specifically Terry and Eric, have with the community, that it's their personal connections. And when they send out a letter or they make a phone call, they're talking to friends and they're talking to colleagues. And they know that if Terri and Eric ask them to do something, that it's worthwhile. So it's, first of all, the relationship that we're building through our connection with the Conservation District, that we're building trust that what we're offering is worth people's time. And then, when they do attend the event, we give them real information that they can -- that's useful for them. So I think that helps to drive the attendance. Marcus and Chad, your thoughts on that?

Marcus Maier
I think that's exactly correct. And we keep harping on Terry and Eric, and I think that's important because those guys make the one-on-one contacts. They make individual invitations, things like that, especially those producers that maybe aren't as interested and haven't participated. They get invited, and their neighbors will invite them to come as well. To me, that all plays a big part of it

and to get that local interest involved. So to me, it boils down to that networking, those one-on-one contacts that we have. That's where I see it.

Karen Scanlon
And I--

Chad Watts
And I think, too--

Karen Scanlon
Sorry, Chad. We keep mentioning Terry and Eric, and I just wanted to point out that they would be here except that Eric is actually helping to develop a video that's going to be used in our tour this summer, and Terry, I believe, is working on a tree sale for the District. So they're out -- they were not available today to join us. Otherwise, they would be here. Sorry, Chad.

Chad Watts
That's okay. One of the things that I see that gets people to the meetings and things is, number one, the kind of information we're providing to them. I think we've always tried to develop, with the steering committee, a good program that is going to provide people with information on things that they're looking for. The other part of it is, I think, it's the involvement of the producers at these meetings, and they're the ones that are doing some of the presenting, you know. They're learning from other producers. They're learning from the experience of those other producers, and I think that's an important draw to get people, you know, to come and learn from one another rather than -- you know, it's important to hear from experts and, you know, agency folks and university folks and that sort of thing, but, you know, adding that part about where producers are helping producers is an important element of those meetings that I think is bringing people in.

Cynthia Curtis
All right. Great. Thank you. So the next question is from Brian Austin in Wisconsin: I'm interested in any summary results reports that you may have developed based on your NUE studies. Are these available for sharing at this point?

Karen Scanlon
Chad?

Chad Watts
We have reports that we -- in fact, we just got a report put together that summarized 2011 and 2012 information, and I'd be glad to get that out to you.

Cynthia Curtis
Great, Chad. What we could do is I could associate a link to that report up on our website, if that sounds good to you.

Chad Watts
Yeah, I think that would work, or I could post my e-mail address and people could e-mail me and I could send it to them. However of what's best to do it.

Cynthia Curtis
Yeah, we'll work that out. We'll make sure, for those of you when I send out the next announcement, I'll do a little follow-up to let you know. But most likely, there will be the link up on our Region 5 nutrient web series page. All right. Next question -- I know this got touched on a little bit -- but Tom Davenport is asking: Isn't there an Argon National Lab study in the project area? Would you guys like to say any more about that right now?

Karen Scanlon
Sure. The Argon National Laboratory approached us a couple of years ago and was interested in working in a watershed where they know could have producer input and involvement in an experiment they wanted to do involving planting of trees to -- on -- trees, where the tree roots would grow and intercept any nitrogen leaving the -- leaving the crop field. And so we talked about doing it in Indian Creek, and they moved forward with that. There is a site where they, last year, planted cottonwoods and willows, and then the drought happened. So they're trying -- they continue to work on it, and they're moving forward and keeping the experiment there in the watershed, and we hope to learn more as it -- as it progresses.

Cynthia Curtis
Okay. We've got a couple questions from Nate Mullendore from Purdue: Could you comment on perception surveys and how those were used? And also, has monitoring data been shared with the producers, if at all?

Karen Scanlon
Chad, do you want to take those?

Chad Watts
I will. The perception surveys, we got the -- sent out some initial surveys early in the project and at some of the events, like the tours and the winter meetings, to gage -- get an initial gage of what producers in the watershed thought about not only their perceptions of water quality but also what kind of impact they felt they had on that water quality. And so right now we're in the process of working to get out the final surveys to see if those perceptions have changed over the years, over the three years of the initial project. So you know, like I say, we're in the middle of that process right now, so I can't -- there's nothing really definitive in terms of what those results are at this point. And the monitoring data, it's another

one of those things that we're still collecting that monitoring data, and we're going to evaluate that monitoring data against, again, the baseline conditions compared to what we have now to see if that project has -- the project has made a measurable difference to this point. However, as Trevor mentioned, some of that data is real-time live, so anybody would have the opportunity to go take a look at that data if they chose to do so. We haven't -- honestly, I haven't even seen a lot of the data to this point until we're going to do that analysis of before and after. So, you know, it's not something that we have actively shared or have specifically not shared with anybody. It's just -- we're working our way through that.

Cynthia Curtis
All right. Great. Joe Piotrowski also had a question about have you done any edge of field monitoring, or is it being -- and if not, is it being considered?

Karen Scanlon
We mentioned briefly that there is a complementary project happening in the watershed. We have a separate funding through a USDA conservation innovation grant to establish a tile outlet monitoring study or demonstration, and it's at the Trainor Farm in Wing, Illinois -- W-I-N-G is the name of the town. And so last -- gosh -- 2011, the fall of 2011, the monitoring equipment was installed, and 2012 nutrient practices were applied on the field and nutrient use efficiency trial was set up, and then the drought of 2012 happened. So we didn't have any water flowing through the tile in which to capture or to sample or to measure, so we are -- so again, that's another project that is -- Mother Nature has impacted, but we are requesting an extension of that effort so that we can continue to work there, collect some information, and incorporate that into what we can share through this project. Did I cover that accurately, Chad?

Chad Watts
Yeah, I think what you can say about that project is our results to date show that when you install a lot of monitoring equipment, it discourages rain.

Karen Scanlon
And Marcus, you were going to make a comment?

Marcus Maier
(Inaudible) -- Add that the (inaudible) out there at Trainors, and so -- and that is a visit on the tour -- I think it was mentioned already -- for this summer. So hopefully what Chad just said will not apply this year, that we'll get some rain in the summertime as well.

>>Question 1

Cynthia Curtis
All right. Thank you very much. So now, what you might have noticed is now our speakers have some questions of you. They're looking for your feedback, your ideas. The question that they have to you is: How do you keep producers

engaged over a long period of time? And what you can do is, it works just like a chat box. Type in any input that you have or suggestions for them, and we'll be collecting them and e-mailing them to the speakers at the end of this. So while you all are thinking about that and sharing any pieces of wisdom for you all, I have a couple of questions. One is: How did you all -- what was -- what went into recruiting the steering committee members that you did, because it seems like you said these are so pivotal. How did you select them?

Karen Scanlon
Well, Marcus, do you want to comment on that, because that was really led by our Conservation District partners. Because as we said before, that they are our local voice and face to the project, so they really led the way on assembling that steering committee. So, Marcus?

Marcus Maier
Sure. Terry and I both live in the Southeast Livingston County, where primarily the watershed is located. And so obviously, in smaller communities, you -- everybody knows everybody, and so on and so forth. So we kind of had a pretty good idea, just by being around for so many years, who would be a good person to be on the steering committee, that isn't afraid to try something new, who isn't afraid to be out front a little bit, and who's personable enough to be able to talk to his neighbors and friends and those around in the community to really give a big push for this effort. So we kind of knew up front who we were interested in as far as talking to, and so we went out one-on-one again and talked to them, and that's kind of how we formed our steering committee. Nothing scientific; just the old-fashioned one-on-one and --

Cynthia Curtis
So a one-on-one recruitment, as well. So Joe Piotrowski Added another question: Have you had any issues related to farmer confidentiality of information or data?

Chad Watts
I have not seen that at this point. No, most of the stuff is -- and the demonstrations especially, they're just trying different products and sharing their experiences, so there's nothing really sensitive or personal that we're asking people to provide to us. So that's not really, to my knowledge, has not been an issue. Maybe, Marcus, you have a different viewpoint on that and can share what you know about that, but I have not seen that.

Marcus Maier
Yeah, we really haven't had that problem. We had one large farmer who's part of the watershed and part of the steering committee (inaudible) broken off and done -- they're still part of the steering committee, and they were kind of doing some things on their own, too, on a much larger scale. But from a confidentiality standpoint, I haven't seen that at all.

Chad Watts
I've found that, for the most part, people are willing to participate and are eager to share, you know, with others what they've learned from their participation. So we've actually seen quite the opposite.

Cynthia Curtis
That's great. Thank you very much, all of you, for presenting today.

Marcus Maier
And our operators and farmers in this area realize that we have to (inaudible).

Cynthia Curtis
We lost a little bit of what you said, Marcus. Could you say it one more time? It might be that our internet connection is hungry for lunch. I don't know. We'll see. All right. Well, at this point, I'm looking at the time, and we're scheduled to go to 11:15. So I want to wrap up and thank you all again very much for speaking today. For those of you that participated as audience, thank you again so much. I want to point out that in our latest announcement, we have a bonus presentation on May 1st on what drives successful nutrient reduction. This is a joint presentation. Both EPA and USDA have invited these speakers to present, so we're looking forward to that presentation and a big audience. And you're going to see a couple of other presentations popping up -- another one late May that's not on the announcement list yet -- but they're going to -- a few more are going to be rolling in pretty soon here again. These webcasts are being recorded, and we're working on getting them a home so that you can access them. Bear with me, and I will keep you posted as soon as they're accessible. So thank you again, everyone, so much, and I will see you in a week.

Karen Scanlon
Thanks, Cyd.

Chad Watts
Thank you.

Marcus Maier
Yes, thanks, Cynthia.