FTS-NRCS-NHQ-DC

Moderator: Debbie Curtis
June 15, 2011
12:45 pm CT

Coordinator: One moment please.

Welcome and thank you for standing by.

At this time all participants are on a listen only mode until the question and answer session of today's conference. At that time you may press star 1 if you'd like to ask a question.

I'd like to inform all parties this call is being recorded. If you have any objections you may disconnect at this time.

I now would like to turn the call over to Mr. Tom Christensen. You may begin sir.

Tom Christensen: (Laurie) thank you. I appreciate that. I want to welcome the folks on the phone. We understand there are 20 some folks that are tied in by phone. And then there's probably about 40 here in the USDA Whitten Building.

But thank you for coming to this second meeting regarding efforts to increase the adoption of Ag border management drainage efforts, and we're excited to have a pretty full agenda today.

So what we will do is forgo introductions. There's a lot of people here and that would take quite a bit of time so we won't do introductions.

But maybe we can pass around the sign-up sheet. At least we can capture the people that are here.

I would ask if you have phones to keep them off the table or BlackBerrys because they do sometimes tend to provide feedback.

And then we'll have a question and discussion period as you can see on the agenda towards the end.

So in order to get through these items and share this information, we'll ask if you can hold your questions and then we'll open it up and hopefully have a very good discussion about the things you've heard and any additional feedback, input and questions.

So with that I'm going to turn it over to Dave White who's the Chief of NRCS. And appreciate him providing us the introduction.

Dave White: Well greetings everyone. It is a pleasure to be here with you. You all look spectacular and I'm sure the folks on the phone do as well.
This is kind of a follow-up meeting. I'm going to be real brief dealing with the importance of this whole way we manage water in drainage systems.

The focus is not on new of course but it is to ensure the design and implementation of the system really gives us an opportunity for solid nutrient management.
At our initial forum it was the 23rd I think of March so this is about three months from then - that point. We agreed to ensure that this remains a partnership effort and to really seek public input.
We've agreed to have a continuing dialogue and are going to have a Partner's Forum at some point in the future. And we will be sponsoring that along with some others, a proposed National Summit on Drainage Water Management.

Last time I talked with some folks about offering a free lunch if we could get a really cool name instead of Ag drainage water management, doesn't even make a good acronym.
The best I've heard so far is Water Star from Dr. (Schaefer) which stands storage treatment and what? Huh? Oh, storage treatment and removal.

So barring anything better if you have - we'll keep the floor open for - till our next meeting. But I still would like to have a more - a better name for this.

The focus on today's meeting is to update everyone, all the partners on what's been done to date, to review that draft action plan, get more information on the technical issues. Answer questions that were at the first Partner Forum. Provide some additional information about this National Summit.
And then really have an open dialogue and get some feedback from you all and then to see where - when our next meeting would be whether August, September, somewhere in that timeframe.
So with that I would like to turn it back to Tom and we'll go - we'll run through this agenda.

Tom Christensen: Thank you Dave, appreciate that. And next on the agenda is Dr. Wayne Honeycutt. He's the Deputy Chief for Science and Technology. Came to us more recently from ARS and we're extremely pleased to have him on board. And he's going to talk about efforts in the Midwest.

Dr. Wayne Honeycutt: Hello everyone. It's nice to see some of these smiling faces here today. I - my pleasure to be able to come talk to you a little bit about drainage water management from Midwestern row crop agriculture.
Are you pointing towards me? Microphone not working? How about now?
Woman: Green light.
Dr. Wayne Honeycutt: The light's on.

Dr. Wayne Honeycutt: Need to speak up louder, stand closer?
This particular project -- not advancing; there we go -- was a Conservation Innovation Grant that was awarded in '06 to the Agricultural Drainage Management Coalition. And they focus their project on Ohio, Indiana, Illinois, Iowa and Minnesota.

The collaborators on the project included Ohio State, Purdue, University of Illinois, Iowa State, Minnesota Department of AG, University of Minnesota. Then there were two ARS locations in Iowa and Ohio.

And the objective of their project was to demonstrate the benefits of drainage water management on water quality, soil quality and on farm economics.

And as you know, many of you know I'm sure that Conservation Innovation Grants are not really for conducting research but they're more for providing demonstration of technologies to help adopt them.

Now I just kind of want to make sure that we're all on the same page. This is what one of these structures looks like. And so in the field you have a number of basically lateral drainage lines that feed into this big blue line here. They're called the main line.

And essentially those lateral lines will go through this water control structure. And what you do is you add flashboards into there to control the water level within that structure and so therefore the water levels out in the field that's been fed by those lateral lines essentially equilibrates with the water level in that control structure.

And so that the idea is that you don't just have a continuous flow in these drainage systems that are already out there in the field. You don't have just a continuous outflow off of the field like into the river. For example, into Mississippi or wherever you are.

But this allows you to retain more of the water on the field at those times that you don't really need to be draining it. For example in the winter months, you don't really need to be draining it.

But then you can remove some of those flashboards, lower that water level in that structure and therefore lower the water level in the surrounding soil that's being serviced by that structure and to allow you to get in there to plow, to till, to plant.

And then later on in the summer as the root systems start to grow down deeper in the soil then you can add some flashboards and then raise that water level a little bit in the subsoil so that you can essentially provide moisture to those growing crops.
And then again as we get ready to harvest then you can lower the water level again so that you can get onto the ground and make sure it's not too moist to allow the harvest. And then you can basically start the cycle again in the winter.

So it's - that's why we're really emphasizing the word management here is since we're going from just kind of a conventional drainage system that allows just that continuous outflow of water off these drained soils to really managing that water on that and to our field.
And this is what the top of it looks like. You can see the - I'm trying to show here with the arrow on the mouse, this is now the top of that structure that I just showed you where the trenches now have been filled in. You can see a little solar panel. It communicates really back to the farmstead. It can tell the grower just what that water level is and the structure.
Now there's two slides that I'm going to be showing you that I think are important. And this is one of them.

Looking here at the percentage of harvest acres that use, currently use subsurface drainage, the white zero percent, blue zero to 5%, 5% to 10% and then the brighter green 10% to 20% getting into the yellow shaded areas 20% to 40% of the harvest acres using subsurface drainage, then 40% to 60% and then the red 60% to 100%.

And what you're going to of course see clearly here and this is why I say it's so important is that these areas here in the upper reaches of the Mississippi these are the ones that are very heavily drained using the subsurface drainage techniques.

So this is an area of course that strongly influences things that like hypoxia down in the lower reaches in the Gulf Coast.

In this particular CIG Project, the Five State Project, you can see from looking at those some - same states was pretty well represented by the dispersion, the distribution of plot locations that were used in this project.
So in each of these four states there were - each of these five states I'm sorry, there were four paired plots that compared what the conventional drainage where the water just essentially just moves out because the drainage system is there compared with this managed drainage system where we're really controlling what that water level is and when it is moved out.
And these were - they attempted at each of these places to locate these on similar soils, places that had historically similar yields, historically similar management in each of those areas so that they didn't have some of this kind of the background noise.
But I should also say that, you know, it's not like a small plot replicated study where you can really closely control a lot of these things. We're looking at 15, 20, 25 acre areas here.
And so there's many cases where they did cross over different soils. And that's not really the nature of these demonstration projects to be so tightly controlled. It is to provide more of a real world types of representation.
And all these sites were on farmland and using the same corner soybean varieties at each comparison, you know, each paired treatment. And they use the same fertilizer and cultural practices so that they were trying to minimize the amount of kind of a variability in that way.

I see this came out quite blurry when we blew it up here. But if you can see the kind of the pinkish lines, this is - manageably it was about an 18 acre site that was managed. This is this red dot here is where the control structure

would be so these lines here represent the tile drainage lines that feed into that control structure right next to this conventionally managed drainage system, right next to it.

And the different colored backgrounds show you that there are some different soils there. So again you do see that in this particular example they have these plots laid out for every single paired combination that was evaluated. In this particular example you can see that they did cross over some different soils. But again that's kind of the nature of this size of demonstration doing something on a field scale like this.

All of these sites were retrofitted with these subsurface drainage systems that I showed you the picture of, that control structure. And they were manually managed by the producers and then as I showed you with that one solar panel that information was then transmitted back to the farmstead and what the water levels were.

In each of those systems though they measured the water flow rates and they measured the nitrate in the water on at least a weekly basis. And then they - but when there was like more frequent rainfall for example they measured it more frequently. They did all these other types of measurements that are listed there; production cost, yields, precipitation.

Getting into some of the results, there was a pretty wide variation in yields. They increase as much as 20% when you manage the drainage water and they decrease as low as 12% when you manage the drainage water; 60% of these comparisons meaning the paired plots managed versus the conventional drainage, 60% of those cases they observed increased yields, 40% they observed decreased yields.

And when you average the data across all five states it was basically no yield effect. And, you know, that is I think of concern to a number of people because obviously you would hope that you would see a yield effect.

Looking at the water management though, we were able - these people that conducted this project were able to reduce drainage outflow and nitrate loading off of those fields by up to 90%. And it averaged 35%.

Now I told you I was going to show you two important slides. The first one was the heavy frequency or predominance of these drainage systems in the upper reaches of the Mississippi. And I think this is the other important slide is that if - when you do reduce that drainage outflow using these management systems then you are able to have a very significant effect of reducing nitrate loading.

And this is adding - taking the data from each of the five states. Each one of those little diamonds there represents data at each of those states.

Now I think this is kind of a - one of the in my opinion, one of the strong aspects of this particular project is the five state comparison. You can see that if we just did this in one state we would assume that there's really no benefit. You see if we did it in these two states we would probably assume there's no benefit because we'd be basically drawing a straight line across them.

But by having the data from all five states we did get a wide range of drainage outflow reduction that allowed us to compare it to a wide range of nitrate outflow reduction. And you could see that we had a very substantial relationship there.

You know as I mentioned earlier also some of the economic evaluations were done. There were not really real stringent economic evaluations. But they did evaluate how much it would cost to put in some of these control structures. A lot of this depends on things like pipe diameter. It depends on things like the slope gradient that's out there that's much cheaper or less expensive I should say if it's level.

As you increase your slope then you need to start thinking about contouring your drain lines and those types of things and the costs do go up.

But in general if you figured about a 20 acre zone of influence for one of these control structures and yes, that's variable depending on site characteristics but it's a pretty good average, then we're talking approximately $75 per acre for one of these structures.

And the CIG Project that I was telling you about also did a lot of outreach and so I felt compelled to let you know some of the - some of those efforts that they took forth in and they had a number of field days, training sessions, conferences and workshops. They took this very seriously and getting the information out.
This is a picture of them out in the field demonstrating how to install one of these structures.

And then they came up with - they called these recommendations. I think they're a little bit more on the line of observations that they felt like these retrofits or these management structures were most feasible on slopes less than half of a percent. And they felt like that there were about 10 million acres in the U.S. where this could be applied.
And but they - and they also felt like that the contour re-draining was feasible on slopes of 2% or less.

So the overall conclusions from that project that there are very negligible impacts on yield but some very substantial environmental benefits from this practice.
And of course this informs our NRCS practices. But I think it also very much plays into the concept of environmental markets and using these environmental benefits from these types of practices to help achieve some of the - some of our other environmental objectives too of our agency.

So I'm going to stop there. Turn it over to Paul or Tom.

Tom Christensen: Wayne thank you very much. Can we make that PowerPoint available on our Web site?

Dr. Wayne Honeycutt: You bet.

Tom Christensen: Okay, we'll do that. And Doug I think you're up next. Doug is going to talk about the effects on groundwater.

Doug Toews: Before I start I thought I'd show you what an actual water control structure looks like. Wayne had pictures of it.
But after the meeting if you come up and see the real one. So I made some 2-inch pipe up to 24-inch and this is shorter (unintelligible) show you how it works.

Good afternoon. At the last forum we had quite a few questions on the effects of this practice on the groundwater. So today I wanted to share what we know further about this and a little bit about what we don't know.
How do you go forward on this?
Okay. Hang on, (unintelligible). Oh this one, okay, thanks.
Sorry about that.

So these are the questions that get asked. Using this practice, managing drainage, what's the effect on the hydrologic cycles, the water? What's the effect on the nutrients specifically nitrogen?
I want to show you here graphically an idea of what's involved starting with the water balance. This is a profile, a soil profile. You can see, I'll use my pointer here, the soil surface. You got the crop. Here we have a drainage tube tile line installed.

So in the conditional drainage mode the water elevation is down here. With the installation of this water control structure like we were just talking about with the flashboards you can stack water up as high as you want. Typically

this is during the growing season, 2 feet from the surface backing water up like that. So this is the water that's stored.
Okay, the hydrologic water balance. We have gains and we have losses. Below here is the equation. The gains are on the left side. We have precipitation of course and potentially irrigation.
It's not real typical in the upper Mississippi but sometimes we do have irrigation. It could be applied from the surface or subsurface.
So those are the two gains of water. Okay, the losses, we'll start with evapotranspiration of the plants. Evaporation is from the soil surface from the plant itself. And of course transpiration from the roots.
Okay, and then during a precipitation event it's typical to have rain - runoff when you have a rate greater than infiltration.
Okay, and then down here we have seepage. It can be deep, you know, straight down. It can be lateral or a combination thereof depending on the geology.
And of course we have the drainage water itself.

Okay, so what happens when you use it to practice?
Here I've shown in red what the relative changes are in water storage dew to drainage water management. First one of course to note is the drainage. We reduced the amount of water coming out of the drain. So that's a net gain actually, okay. So the right hand side of the equation that's a negative.
Okay, so to compensate for that these three things have to go up. And the relative proportion - well the reason they go up, ET typically goes up because you're raising the water surface and it's just closer to the root zone. It's not a big change but ET invariably goes up even if it's slight.

And like I mentioned runoff, if you are raising the water table you have less water holding capacity in the profile. You get intense rain, you have more runoff.

And then of course seepage is probably the biggest component depending on the geology.
So with storing this water here and drainage being reduced these three things go up. Seepage and runoff probably the biggest of the three.

Okay, let's take a look at the nitrogen cycle. Okay, again we have a balance. We have our hydrologic elements here plus in addition we have application of fertilizer as a gain of nitrogen. Okay, you can have some nitrogen from that atmosphere. In your rainfall usually small amounts. But it's accountable.
Okay, irrigation, there's a thing called fertigation where you actually apply fertilizer through the irrigation system so this could definitely be a source or if you're recycling (tail) water that invariably has nitrates in it.
And the other gain is over here in net mineralization. What this is is a natural soil process where dead plant material provides nitrogen to the living plants and there's a complicated process where some of it's immobilized.
But the net mineralization is that amount of nitrogen above and beyond immobilization.

Okay, what are the losses in nitrogen?

The right hand side of the equation down here. Okay, we'll start with plant uptake. Okay, just like ET these plants utilize the nitrates to grow. That's a definite one.
And runoff like I said invariably carries some nitrates with it. And the - let's see let me (follow on here).

Okay, de-nitrification, that's the natural soil process where the nitrogen, nitrate specifically is reduced into a dinitrogen back to the atmosphere. So that's a loss of nitrogen from this chunk of land.

Okay we have the seepage with soluble nitrates. They go with the seepage. And then of course the drainage water like Wayne pointed out, the nitrogen load is proportional to the flow pretty much.

Okay, so this is a balance of nitrogen. What happens when we apply drainage water management?
We have found that of course with the drainage you're reducing the flow of volume so that nitrogen load decreases drastically. That's the biggie right there. That's the big environmental advantage to the surface waters from this practice.
In addition since plant uptake tends to increase with the water the uptake of nitrogen also increases.
Runoff will carry nitrogen. Since it increases, it's going to take nitrogen off with it. That is not necessarily a good thing but it can be mitigated with other practices like buffers, cover crops. (Thing also trap) phosphorus.
Okay net mineralization doesn't seem to have a significant change. Results show some increases, some decreases.
Nitrification being (an overhead) process, you raise the water table it definitely goes up.
The CIG didn't show that because it's difficult to measure in the soil profile. We were measuring concentrations coming out the drainage pipe. The de-nitrification goes up. And the loss of seepage also goes up since it's a significant hydraulic - hydrologic component.

So in brief summary here the benefits of this practice are achieved by of course minimizing the drainage flows. Wayne showed that. The CIG showed that. All research has showed that basically the loads of nitrogen reduced losses are comparable to the flow rates.

But we're also maximizing ET to the plants for healthy plants, maximizing an uptake by the plants, increasing de-nitrification, increasing the seepage which the CIG tends to denitrify through the soil profile. It's a good thing.

And then the thing that is maybe not a great thing, the increased nitrates in the surface runoff we can mitigate those and still get these other benefits.

Yes, with the surface runoff for sure.

Oh, I'm sorry. The question was, did that apply to phosphorus also? And yes, that surface runoff mitigation definitely applies to phosphorus because it's attached to the soil particles, the sediment.

So I would like to thank Dr. Skaggs and his associates down in North Carolina State for sharing some recent information with me. This came from - actually he was kind enough to share an advanced copy of a paper that'll be presented I believe at the ASABE Conference in Louisville in August.

And I'll I guess wait for questions at the end of the show. Thank you.

Tom Christensen: Thank you Doug. And there'll be a written test on that at the end of the meeting.
Next we're going to turn to Michele Laur. And Michele and her group have done some work with the Conservation Effects Assessment Project and the effects of Ag drainage water management through modeling.

Michele Laur: Thank you. And thank you for your time this afternoon.

So Dr. Honeycutt and Doug have really laid the groundwork for my presentation because they've given you a sound idea of what a Drainage Water Management System looks like and they've talked about the science that we've been gathering for quite sometime on the use of these devices.

And it's just this kind of science that is used to give us the capacity to develop a model like the Conservation Effects Assessment Project model so that we can predict or estimate what actions may occur or what outcomes we might achieve when we put different practices on the ground.

Some of you may be aware of the CEAP Project because we released both the Chesapeake Bay Cropland Report a couple months ago in this year and then last year the upper Mississippi River Basin Report.

Most recently the CEAP Modeling Team in Temple, Texas posed the what if question, what if we were to add drainage water management practices on the landscape along with the current conservation practices that are already in place?

We took a very conservative approach with this analysis in that we only applied drainage water management to those acres where it was most applicable. And I'll talk about the criteria we used to determine eligible acres. But we also only applied it post-harvest to early spring.

Now we ran two different scenarios for this analysis.

The first one we ran the scenario by only adding drainage water management to eligible acres in combination with the currently existing conservation practices.

The second scenario we actually added in addition to drainage water management the use of enhanced nutrient management. And simply by that we mean that when you're going to put nutrients on the ground that you try to use the proper form, timing, rate and method.

Oh wait.

Now I briefly talked about the fact that we only applied drainage water management and the combination with nutrient management on eligible acres. The way we determine which acres should be eligible are listed here in this slide. We only applied it to landscapes where the slope was less than 1%, where we already had the existence of subsurface tile drainage, open ditches and surface drainage or some combination.
The final criteria was that the soils had to fall in one of these drainage classes. Somewhat poorly, poorly, very poorly or ponded.

So if you look at what's going on here in the Mississippi River Basin after we applied the criteria that I briefly discussed a moment ago, you can see from this slide how many acres were actually eligible for us to apply these two practices and run the scenarios.

For example the first item on the list is the Ohio Subbasin. And if you look at this slide you can see that there's nearly 24 million acres in that - of cropland in that Subbasin. And with the application of the three criteria that I previously spoke about, we could only apply drainage water management to about 4 million of those acres.
When you look across the entire basin you'll find that it was the Ohio Subbasin and the upper and lower Mississippi River Basins where most of the eligible acres could be found.

This particular slide talks about the analysis results. And it's always nice when your colleagues have the same results that you do. And from this slide you can see a couple different things. Let's go first to the Ohio Subbasin.

And what you see in that first column that's labeled Baseline Loss Pounds, that simply means that with the current conservation practices in place that at the edge of the field you're going to lose approximately 88 million pounds of nitrogen, total nitrogen losses at the end of the field.

However if you were to put drainage water management on that same set of acres you would only have a loss at the edge of field of about 65 million pounds per year and that's a 26% reduction.
But what's really telling is if you go back and you add in combination both the drainage water management practice along with this enhanced nutrient management practice you see an edge of field loss of about 34 million acres and that's a 61% reduction. That's pretty remarkable.
And you can see this kind of result across the board.

Oh sorry, thank you - pounds.

These are model, these are CEAP modeling. But the - you have to recall that what we had done throughout the CEAP effort is to do a number of cross studies where we did some actual on the ground monitoring that we then went back and used to verify the results.

So what does it tell us overall?
First of all drainage water management can be applied to over 14 million acres in the Mississippi River Basin.

And as I said before the drainage water management does work but if you only use drainage water management in addition to the current conservation practices what you will see is a reduction of 74 million pounds of nitrogen total losses at the edge of field. However if you were to combine the drainage water management practice along with this enhanced nutrient management practice you actually see those losses at the edge of field reduced by 224 million pounds. That's a significant result.

Primarily these estimates can be projected further beyond the edge of the field. And if you look at the gulf you can see a reduction of 39 million pounds with drainage water management by itself. And then in combination that increases to 120 million pounds that you can reduce up in the gulf.

I think an important statement that was made and I think it was in Dr. Honeycutt's presentation is that we didn't really see any significant loss in yield. And that's extremely important.
So you've got great ecosystem benefits coming out of this and you're not suffering any significant yield losses in the process.

Now important thing that should be brought up is the fact that the drainage water management was not as effective in colder climates. So a recommendation that you might want to think about if you're looking at say the upper Mississippi or Missouri River areas where the climates are colder is that you may want to apply it not just in the wintertime but you may want to apply it during the growing season as well.

And finally, I think Doug may have said this that the use of dikes and edge of field practices can also enhance the reduction in the losses that you achieve.

Thank you.

Tom Christensen: Michele thank you very much. And I just wanted to clarify one thing, when you talked about the inclusion of nutrient management and you said enhanced nutrient management, is that the four Rs in our case, the right timing, the right placement etcetera?

Michele Laur: It is the four Rs that I was referring to. And in some cases, you know, some of those four Rs are already in place. And so we didn't have to necessarily add all four across the entire landscape.

Tom Christensen: Thank you. Okay, we're going to move into the next phase of the agenda. And this is where we want to talk a bit about the draft action plan and actually share a hard copy with you.

And this is very draft. What I want to indicate, it's not been vetted by the Chief. It's not been adopted by the Chief.

But we're really interested in giving you a copy for any kind of feedback you can provide us and Paul's going to cover that.
Before I do that I want to mention of course, Paul is our leader for this effort. And Paul is housed in Bismarck, North Dakota.
But we're very pleased to have him in this position. He's got the right technical and programmatic skills to provide this leadership.
He leads a team of 11 members from across the agency. And then that is also supplemented by 7 people from our states. So it's not just national headquarters and technical people. We have 7 people from our states. And then that also includes in addition 3 advisors, Jane Frankenberger from Purdue University, Norm Fausey from ARS in the Midwest area and Dr. Wayne Skaggs who's from North Carolina State University.
So those are the folks that have been working on the draft action plan. Paul.

Paul Sweeney: Thank you Tom. Again I'm Paul Sweeney. And I'm located out of Bismarck leading the team effort. And right now our focus on getting - is getting that draft action plan developed.

Some of the background of course we had a team that we called Phase 1 that functioned last fall till this spring or late winter. And I'm not going to go into details for that.
But they basically handed the baton off to us, the Phase 2 Team, to carry on for the next two years.
And it talks about the team members and so forth there. You can take a look at that if you'd like when we get this slide posted.

Some of the recommendations for the Phase 1, the charge is was to evaluate the Phase 1, develop and implement our action plan, formulate and conduct a

National Summit, stimulate innovation and creativity. And that's of course going to always be a challenge and we're focused on that. Evaluate our progress, performance and outcomes and practice adaptive management.

The plan, the rough draft was due in June. We hope to have a final draft with partner comments by the National Summit in October.
And we'll call that action plan finalized probably the 1st of December.

There are six key components. I'm not going to go into those in detail but they're going to be communication - I'm sorry, seven, communication, technology, training, policy, programs, wildlife habitat and then outcomes.

And I'm going to pass out the draft action plan to each of you and then we'll also post it on the Web site after the presentation.
Under communication and those are some of the major topics that we're going to be dealing with. Some of those are external, some of them are internal. An outreach campaign both at the national and at the state level. And also interacting throughout the time with our partners.
Technology again, we need to keep strengthening and redoing our technology making sure that we've got all the technology and the standards where we need to have them. We need to improve our training at the field and other areas and with some of the partners, our conservation districts and so forth. And then also accelerate the use of technical service providers in doing the conservation activity plans and also implementation.
Policy, we need to look at I'll call them barriers to implementation of these practices whether they're at the national, state or maybe it's our policy related to technical service providers being able to assist us in this effort. So we're going to be looking at all those.

Under programs, the same effort. We're going to look for barriers that we need to change. We're also going to look at ways to track implementation.

And then we're going to try to identify any new programs or opportunities that we can use on this program.
Under wildlife habitat we want to integrate this into the laboratory bird habitat initiative. Then also continue to promote the dialogue with our wildlife partners and what we can do to make sure that we're hearing them and also utilizing these practices the best we can for wildlife habitat creation, enhancement and restoration.
Some of the outcomes we're going to look at is estimates and projections right off the bat. What do we think we can do as far as impacts and then also report the outcomes as we move through this process semiannually related to our action plan and also reporting what actual nitrogen or nitrate reductions and other benefits that we might be getting related to wildlife and others?
The other time that I didn't focus on was looking at the trading opportunity that this might present to producers.

The National Summit Mr. Honeycutt is going to talk about that. I've got a comment and question slide here. But I'm going to wait for those till afterwards.

And then Tom should I just go ahead and move into the - okay.
One of the tasks that I've been given was to look at a Web site and setting that up so that our partners and others can see what we're doing.
So I think that on the home page we actually have a news item on this now. If you go to the nrcsusda.gov site you'll see that there's a nutrient drainage water management clip on there.
And if you go to that slide over on the left you're going to find a link to the activities that we're involved in related to this team.

So the other site, it'll take you directly to the site from the home page where you can navigate through our technical resources and on the left that name will also be there.

And then under Water Resources where all that information related to the Partner Forum that we've had, our action plan, news releases, links to research and other things that would be helpful for folks to be able to look at and the activities, reports of what the team is doing.
So we'll get this up and running so that the public has access. And there's as much transparency as possible in what we're doing.

So if you have any questions on that this will be part of the PowerPoints that'll be uplinked so that you can take a look at these.
But there will be a link directly off of our home page hopefully by our team name or Drainage Water Management link right into this particular page under Water Resources.
Okay, Tom that's all I have.

Tom Christensen: Thank you Paul. Steve Nechero, are you out there online?

Steve Nechero: Hi Tom. Can you hear me okay?
Tom Christensen: We can. If you could proceed with the LiDAR coverage, that'd be great.
Steve Nechero: Is somebody going to advance the slides for me?
Tom Christensen: Yes.

Steve Nechero: Yes, thank you. LiDAR stands for Light Detection and Ranging. And the photograph of the aircraft showing the laser beam hitting the trees and the branches and the leaves, there's multiple returns at the speed of light that record discrete XYZ values that help give us not only topographic information but also tell us information about the vegetative canopy.
On the left hand side of the slide shows a derivative product from elevation data and this is an example of conservation in Texas. And from the shaded relief product you can definitely see terraces and water bodies and fences within the image.
Next slide, please.

Here's a map of the current NRCS Project Slate. The areas in red have been investments from this past year. Our emphasis has been in watershed areas up to eight digits in size approximately; some of those red areas over 1000 square miles that we're going to be acquiring LiDAR data.

There's also been investment by NRCS with other partners both at the federal, state and local level. And there's also been several state initiatives. So NRCS at the state level has been very proactive in putting investments into statewide programs.

Next slide please.

This map comes to us from the U.S. Geological Survey. They're the national stewards for elevation for the United States. The areas in dark brown show where we have LiDAR data readily available.

And the orange areas are where LiDAR is to come this next coming year.

So as you can see there's many statewide initiatives already in place for Iowa, Ohio, West Virginia, Pennsylvania, North Carolina and Louisiana. Minnesota is coming close behind and there's many other states kicking up statewide initiatives.

Next slide, please.

Here's a map that shows the current national elevation database available from USGS and from NRCS and its partners. This map is going to be used to do - develop some of the preliminary slope maps along with soils and other data sets to look at the potential areas for where these systems will work or are appropriate.

And in again the dark areas show where LiDAR data is available. The gold-ish color is a legacy product. This came to us from the original USGS topographic maps. Many of them are still in use in our service centers and they are turned into a 10 meter elevation product that will support the initial analysis.

And Tom that's all we have. Thank you.

Tom Christensen: Thank you Steve. And Steve is actually a cartographer in our center in Fort Worth, Texas. Very helpful. Thank you.

I'm going to turn it back to Wayne again who's going to talk about the National Summit that David mentioned in his opening remarks.

Dr. Wayne Honeycutt: Thanks. Yes. I just want to just very briefly update you all that we do plan on the National Summit in October, October 11th through the 13th in Minneapolis.

And we're hoping to bring a number of folks from the Ag communities, different Ag industry organizations, agencies, environmental groups, conservation organizations, technical service providers, universities, a whole host of, you know, stakeholders and partners to the event.

And our purpose is going to be essentially to assess the state of the science and the technology and so that we can make sure that we have everything out on the table and so that we can start to identify the barriers to adoption, the barriers to the technology, what new things we need to know, what lessons can we identify and share among the rest of the group to foster some of these partnerships.

And it's also I think going to provide more input to the action plan that Paul mentioned. There I think still be opportunities at that point. I think to a certain extent it'll be a living document because as we learn as we go, then we may need to modify some things.

And so I just wanted to make sure that folks were aware of the Summit and we're fortunate that Alex Echols of the Sand County Foundation is going to be a key leader on this. I don't know if, Alex, if you want to add anything or...?

Alex Echols: We're excited that you're taking on this initiative. We recognize it's complex that you're trying to manage it to maximize the benefits, minimize the

difficulties and unforeseen problems. It's something that we share very much and I think we're going to need lots of partners to make this succeed.

Dr. Wayne Honeycutt: Good. Thanks. That's it Tom.

Tom Christensen: Thank you Wayne and Alex. One last brief presentation and then we're going to turn it over to Dave and he's going to lead us in a dialogue.
So Troy Daniell is going to talk about the practice application to date basically, what we've been able to gather.
And Troy is an Initiative Coordinator for NRCS housed here in headquarters.

Troy Daniell: Thank you Tom. Is it working? Yes.
I just wanted to give a brief overview of what - basically what our practice is, what drainage water management is and means to the agency and our partners and give you some numbers over the last decade or so of what kind of practice has been applied, how much and an overview of the program funding.
That's blank. There we go.
Typically from what I could find - oh need to be a little closer. We decided not to go back to the 70s. We tried to keep it in the more recent past.
And from what I could find in recent Farm Bill information, EQIP, our lead Farm Bill Program has been utilized primarily. Wildlife Incentive Program has also been utilized. And of course Conservation Technical Assistance has been utilized quite a bit with sporadic use of state and local cost share programs. In some of the states we did get reports that they had targeted state level funds and special funds towards drainage water management in certain states.
Just wanted to make sure we were all on the same page by defining what we call drainage water management. It's the NRCS practice code 554. It's a process of managing water discharge from surface and/or subsurface Ag drainage systems for the following purposes.

Of course what we're probably focused on the most these days is the reduction in nutrient pathogen and pesticide loading, drainage systems, into drainage systems downstream, improved productivity and health and bigger plants. That goes back to the sustainability of the farm. Reduced oxidation from organic matter in the soils. And I think some of that was discussed earlier. Wind erosion probably not so much.

And then seasonal wildlife habitat. That seems to be a little more on the rise in recent years. The use of existing systems to be acclimated and utilized for wildlife so.

Typically when we develop conservation plan we like to develop them into systems and a system approach. And these are some of the primary practices that would link to drainage water management to complete a system that we're talking about. Nutrient management, pest management, waste utilization. And again wetland and wildlife habitat management and then some of your structural practices that are used to facilitate the drainage water management.

There's a list of 16 states here. There's actually a dabble of drainage water management in almost every state.

But these are the states that have typically utilized the practice, been a little more aggressive at getting the word out and exploring new ways to utilize drainage water management.

I can tell you as probably you've noted, the Midwest states typically have the lead in that. They probably utilize the practice more than others around the country.

And then down to the numbers. We dug through our numbers and I dug through - Paul actually sent out a request to a lot of partners. What we've come up with and this is probably a low figure but roughly over 30,000 acres in the last ten years of drainage water management has been applied for the purpose of nutrient management specifically tied to nitrogen and phosphorus.

Another number I think we could probably keep digging and find more information on is that over 600 acres has been applied directly to benefit laboratory bird habitat. And we think those will go up even in the near future because of some of our initiatives that are going on.

Financial assistance over 2.4 million in EQIP and WHIP alone. I did not get numbers from all the states on the state agency inputs but that's what we spent in our system in the last ten years or so.
So it gives you an idea of where we've been. And then future opportunities, some of these have been talked about before but the future is going to lie in things like value-added nutrient and water trading markets, purchase benefits from municipalities and other organizations for clean water and flood water retention. Regulatory certainty and then cultural and social are very important and being able to keep the farms on the land and keep those rural communities in place while saving environment and gaining environmental benefits.
So that's all I had Tom.

Tom Christensen: Thank you Troy. I'm going to turn it over to Dave White now.

Dave White: Greetings and once again and thank all the presenters. For those of you in the room and outside, this agenda was constructed really for the express purpose of trying to answer a lot of the questions that were raised at the previous meeting. We're now at that point in time where anything that's on your mind, any other questions, issues, opportunities and feedback.

So is there anyone in this room that wants to - has a question or wants to raise a point?

Mark Gaede, please identify yourself and state your affiliation.

Mark Gaede: I'm Mark Gaede with the National Association of Wheat Growers. On the last slide there was a mention of regulatory certainty. Are you sharing any of this stuff with EPA?
And if so what's their reaction?

Dave White: Yes. There's two EPA people.

Tom Christensen: (Who)?

Dave White: I think that what Troy's referring to, and this is Dave White from NRCS, is the potential for helping - assisting farmers in this effort. I don't think we're too far down that road but and there's other thoughts on how certain things should be done.
But this is maybe a way to do that. But we have not engaged in in-depth discussions with EPA on this.
Well yes ma'am. Go ahead.

Eileen McLellan: Eileen McLellan with Environmental Defense Fund. So there is in existence an Agricultural Drainage Task Force which began its initial look with what I think are those control drainage. What you're referring to is drainage water management. And has since evolved into an array of other management practices for Ag drainage water.
Can you indicate for us the future evolution of this effort vis-à-vis the Ag Drainage Task Force and also whether in the future there's any anticipation of expanding the work of the team into some of the other drainage water management practices such as controlled wetlands, certain constructed wetlands?

Tom Christensen: I'll start an answer on that. This is Tom Christensen, NRCS.
Yes, actually we have met with the Task Force, I think it was back in March in Illinois and briefed them just as we had the partners here back in March.

And I believe the three members that are technical advisors to our team are on the Task Force. Is that correct?
So I think there's some integration there. You know the Task Force is a separate thing. But for us they're a wonderful resource for both expertise and to test questions against and get input and that sort of thing.
The issue of protected wetlands, I mean I think that's a conservation option. It's one of the tools. And it needs to be evaluated and used in appropriate places in combination with the system's approach. But it's just one of many tools.

Dave White: Paul do you have a follow-up on that?

Paul Sweeney: Yes. This is Paul Sweeney. The action plan draft that's coming around on the last page there's a footnote to each of the, I'll say groups that are out there. The NRCS Team, the Ag Drainage Management Systems Task Force and then also the coalition that we refer to.
And kind of what their purpose is and how that will tie, if you look at the Task Force, it's mostly scientists and planners. And they're kind of the research side. NRCS really is not allowed to do research.
So we're depending on them to bring us good science and help us with that. But we identify science we need and hope they can help us with that.
Does that help too? Okay.

Dave White: And as Paul indicated the draft action plan is being passed around here. And for those on the phone this will be posted on the Web site so you can, as soon as we're out of here.

And speaking of those on the phone, (Laurie) can I ask you to open the lines to see if there's any questions out there?

Coordinator: Thank you. We'll now begin the question and answer session. If you'd like to ask a question please press star 1. Please record your name. It is required to introduce your question. To withdraw a request you press star 2.
One moment while we wait for the first question.

Dave White: Okay, while we're waiting for that (Laurie), we have a question here.

Don Parrish: Chief this is a target rich environment for (unintelligible)...

Dave White: Wait a sec. Okay, identify yourself please.

Don Parrish: Don Parrish.

Dave White: Okay.

Don Parrish: American Farm Bureau Federation.

Dave White: Okay.

Don Parrish: A target rich environment question. The first one I have particularly with this practice that's going to increase hydrology and agricultural fields, have you guys had - you know my colleague here from wheat asked about, you know, the discussion is on, you know, I don't know what this does (with non-point source). But I don't see you guys having any rollover at EPA.
But if you increase hydrology you could clearly increase wetlands, could increase the chances of farmland being regulated as well. Have you guys looked at that at all?

Dave White: Let me take a shot at this. First, if I recall the map that was put up there where this is, I would guess a lot of that stuff is already considered prior converted cropland.
And that would not be impacted in any way, shape or form. And, you know, once a PC always a PC.
But you may have some additional...
Oh I don't know. Oh.

Woman: (Unintelligible).

Don Parrish: That's a great answer Chief. And I appreciate it. I agree with that. But if you could kind of drive that point home at least within the federal government that would be a really good thing.

Dave White: Right. Thank you. (Laurie) do we have anything?

Coordinator: I do. Our first question up is with Greg Fogal. Please state your company.

Greg Fogal: Hi. This is Greg Fogal with the National Sustainable Agriculture Coalition, just a quick logistical question. You mentioned the Web site a number of times.

Dave White: Greg we're only picking up about every third word. There's a problem with the audio.

Greg Fogal: Is this any better?

Dave White: Well that's a lot better.

Greg Fogal: Okay, I was on a headset. You mentioned the Web site a number of times. Id didn't catch the actual Web site address. Can you please...?

Dave White: Okay it's - you can just Google up NRCS and it'll be there. But it's www.nrcs.usda.gov.

Greg Fogal: Oh man, okay.

Dave White: Okay.

Greg Fogal: I'm sorry. I didn't realize it was just on the NRCS Web site.

Dave White: Yes. You just access it through our main page.

Greg Fogal: Okay, thank you.

Dave White: Right. (Laurie) back to you. (Laurie) are there any other questions out there?

Coordinator: Yes. We have a question from Vicki Anderson. Your line is now open.

Vicki Anderson: Hi. I'm Vicki Anderson. I'm a Great Lakes Coordinator with NRCS.

And I wanted to mention that although phosphorus came up a couple times in the presentation...

Dave White: Vicki we're having trouble hearing you.

Vicki Anderson: Sorry. I'll try to speak louder.

Dave White: Yes. Or take the headset off, whatever.

Vicki Anderson: Yes. I'm talking directly into my set so. The concern is with phosphorus. And whether dissolved phosphorus is moving through the tiled drainage systems and this practice has a potential to help mitigate the impacts of that.

Dave White: Yes. Do you want to answer it? Oh.

Doug Toews: Doug Toews. The soluble phosphorus in this process is less well known. I myself, I don't know. I think we'd have to defer to experts. I don't know if John Davis has an idea. But I don't at this point.

Vicki Anderson: And my point is to consider this as we're moving forward because that will be an issue that we will want to be able to look at. If you look at Dr. Honeycutt's map from earlier and the red areas where there's a lot of tile drainage, a couple of the big areas occur within the Great Lakes Basin.

Paul Sweeney: Yes. This is Paul Sweeney. The Task Force individuals have done a lot of work on the phosphorus side of this. So we'll try to get some of that information put up on the Web site, you know, their research and their outcomes.

Yes. There is some additional I think soluble phosphorus moving through the system but the amount is pretty minute from what I've seen both surface water and also subsurface.

So I don't think it's a major impact but it is increased.

Dave White: Okay. We have a question here. Go ahead.

Mitch Hunter: Hi. This is Mitch Hunter, American Farmland Trust. I'm just looking at this and not seeing a huge financial benefit for farmers since we're not seeing a sustained, you know, big yield increase.

I'm just wondering if any of the science talks about the ability to reduce nitrogen input to save money that way and if that can be an economic incentive for farmers to adopt this practice or if that's not likely.

Dave White: Dr. Honeycutt.

Dr. Wayne Honeycutt: This is Wayne Honeycutt. I think you're right. I think that potential is definitely there. And particularly when we look at starting to raise the water table again as the plant roots are really getting some depth to them because as just that practice alone you would think that by providing more water to the root system then you're going to have greater uptake efficiency of the nutrients that are applied.

I think that it is in an area right for research. I don't think there is a lot of information that I've seen on it yet. But I think you're exactly right. I think it's a good idea.

Dave White: A follow-up from Don Parrish.

Don Parrish: Dr. Honeycutt I'm curious, such a wide variation in yield responses. You know that's a lot.

Dr. Wayne Honeycutt: It is.

Don Parrish: Please conjecture on that if you will.

Dr. Wayne Honeycutt: I think that the wide variation in yield response that we saw in the - well they conducted a CIG Project that they observed in the project is very much related to the underlying variability that they engaged in with the design of their project.

I think that if they were to have looked at these on a much finer scale where they were more closely controlling the soils and therefore reducing the variability that we would have a much more complete picture on whether or not there is a significant positive or negative effect on yield.
I think it's - you know it's when you conduct those types of plot studies you're giving up the information that you would gain if you did it more on a field level. That's kind of more what the farmer may experience.
When you conduct these types of trials on what the farmer may experience on a field level, you know, comparing like 15 acre fields versus 18 acre fields that traverse a number of different soils and what you give up in doing that is that level of control that helps you minimize that variability to allow you to statistically determine whether or not one treatment is significantly different from another.

Dave White: Okay. We have another question here. And (Laurie) you'll be on deck. Sir.

Bruce Knight: Bruce Knight, Strategic Conservation Solutions. I've got a couple of questions on this. First accolades for you all that have been working on this because this is a fantastic advancement in conservation.
Michele you had some interesting points on CEAP as it pertains to the connection, interconnection between drainage water management practices and nutrient management practices.
And are those nutrient management practice strategies going to be reflected in the strategic plan that you're putting together on drainage water management or will those only be drainage water management practices?

Paul Sweeney: Paul Sweeney, I'll take a stab at that Bruce. Really the focus of the team right now is drainage water management and getting that applied to the ground.

But we're going to be trying to implement this in a systems approach so we're adding those nutrient management practices to our training, to our emphasis and so forth.
But the team's focus again is the drainage water management practice.

Bruce Knight: The reason I'm asking this question by way of follow-up has to do with the need to make sure that we're analyzing the barriers because some of those barriers, the technological advancement of Ag drainage water management may very well turn out to be very similar to the barriers that we have for implementation of 4R as it pertains to acceptance of new technologies.
And I think it would be well served by attempting to look at both simultaneously.

Another follow-up question. You were looking in one of these slides at practices from EQIP. I didn't see any practices from the Conservation Security Program being mentioned.
And this is a - I always think of CSP as the management program. This is Ag drainage water management.
So are there enhancement products in the pipeline as it pertains to Ag drainage water management?

Dave White: I'll take that one? Dave White, Chief of NRCS. And the answer is I don't know.
We are going to make some changes to the enhancement list on CSP and I'm supposed to see those next week.
But that's a point well taken. This is probably a target rich environment in Mr. Parrish's words for those type of management activities.

Bruce Knight: My last follow-up question, again Bruce Knight from Strategic Conservation Solutions. If you could as you're developing this action plan would you look at the potential of risk reduction as it pertains to this set of management

practices? This may get at the AFT concerns about farmer bottom line issues because if we can in fact show reduced risk associated with Ag drainage water management then in turn some of us could go talk to crop insurance about putting a risk reduction premium discount associated with that much like what is done with biotechnology product lines.

And then you get the chance to bring the risk management to do it.

But accolade, job well done.

Dave White: Thank you. (Laurie) back to you. Do we have any questions online?

Coordinator: I show no questions. Again if you do have a question please press star 1 and record your name.

Dave White: Okay. Are there any further questions in the Williamsburg Room? Yes sir. You'll have to use the - come to the table.

Greg Kidd: Greg Kidd with NRCS. And this is a question I guess for Dr. Honeycutt or Doug.

Have there been any studies that compare the nitrogen output on the historical unmanaged (Clay Tara) Systems for the nitrogen output on those same systems that was retrofitted with the more efficient contour plastic systems? That is to say would there - is there any concern that we'll actually as we make these systems more efficient we'll actually - we could increase the nitrogen output?

Dr. Wayne Honeycutt: This is Wayne Honeycutt. Doug and I just looked at each other as you were asking and we don't know of those types of studies. Do you know of any that you could point in our direction? Yes. Yes, yes, I'm - we're not aware of those.

Okay, so sorry. Can't answer your question.

Dave White: Okay, next.

Mark Gorman: Mark Gorman, Northeast-Midwest Institute. Did the economic analysis in the CIG Pilot studies include an analysis of the labor that went into managing the drainage water because that's a cost as well to the farmer as well as the cost out to construct?

Dr. Wayne Honeycutt: It was just limited to the installation. I think I described it in the presentation as kind of a pseudo economic analysis. And they did not provide an analysis of all the variables an economist would like to see.
But it was mostly just the installation.

Dave White: Another question here.

Shana Udvardy: Thank you. Shana Udvardy with American Rivers. I just had a quick question about the map of subsurface drainage and how that - how you came up with that map. I'm just wondering were those estimates or surveys or data? And where did you get the data?

Dr. Wayne Honeycutt: Those were all generated by a participant. Doug you were more heavily involved. Do you know how...?

Doug Toews: (Unintelligible).

((Crosstalk))

Dr. Wayne Honeycutt: Okay. Last drainage NRI in 1993.

Dave White: Hold on a second. (Laurie) do we have any questions online?

Coordinator: I show no questions.

Dave White: Okay, back here. Go ahead sir.

Alex Echols: Alex Echols, Sand County Foundation. Michele you talked about your assessment, I think I understood, looking at just closing drains during the winter during nonproduction.
Did you do any initial look at management through the growing season and the potential benefits?

Michele Laur: We stuck with just the wintertime post-harvest to February, March timeframe because we wanted to go with a very conservative analysis so that we clearly feel like we're underestimating what the positive results might be.
But as I said also on another slide, we found that in the cooler climates that it might be beneficial to extend that into the growing season.

Alex Echols: And how about advanced technologies that might allow installation on greater slopes and with additional techniques?

Michele Laur: We didn't do that particular analysis. Again we were trying to be very conservative and only apply what we thought would be safely eligible acres. But, you know, it's certainly something we could look at in the future.

Dave White: Alex what are you referring to like the slopes up to 2%? Okay. Michele could we ask Dr. Northley to take a look at that, slopes up to 2%?

Michele Laur: Yes.

Dave White: Okay. Go ahead sir.

Mark Gorman: Mark Gorman again from Northeast-Midwest Institute. I appreciate the systemic approach that you're taking to this. I would suggest that maybe increase the size of the system somewhat at least maybe from the research end of things and look at a couple of things that may be of importance.

One is the water quantity changes that might ensue because of implementation of these practices. And also from the de-nitrification aspect look at the greenhouse gas emissions that might be caused because de-nitrification from nitrates and nitric oxide and emissions in the atmosphere maybe from a whole systems application perspective that you've taken under the CEAP initiative.

Dave White: Thank you Mark. (Laurie) do we have any questions online?

Coordinator: I show no questions. And if you do have a question please press star 1 and record your name.

Dave White: Are there any further questions in the room here?
Okay, yes sir.

Don Parrish: Just so I'm clear, $75.00 acre.

Dave White: Hold it. Questioner is Don Parrish from Farm Bureau.

Don Parrish: I'm sorry. Don Parrish, Farm Bureau. I think I heard $75.00 per acre is what (unintelligible).

((Crosstalk))

Dave White: Right. That was the cost of the thing to buy the number of acres it served. I think that was average.
Yes. Mr. Gaede. Follow-up question.

Mark Gaede: Mark Gaede again with the National Association of Wheat Growers. I have a question about LiDAR.
What is the data that's generated from this going to be used for?
And may I suggest, I can't recall if it was on a map or not, but I would suggest a high priority area for further surveys might be the Chesapeake Bay region.

Dave White: Steve do you want to address what - how LiDAR would be used?

Steve Nechero: Yes sir. Can you hear me okay?

Dave White: Perfectly.

Steve Nechero: I'll take the second part first. There was a very high interest of work in the Chesapeake Bay along with NRCS, FEMA and USGS has added several new areas that are currently under collection.
And you should be seeing those areas probably coming up in the next 6 to 12 months.

How the products are going to be used, in the slideshow we showed the shaded relief. That's a very common product because people want to identify conservation areas or other activities not unlike an image.
So it's almost like a pictorial representation of your elevation. That's the shaded relief.
A very common product is contours. And many of our conservationists (unintelligible) these legacy contour maps from USGS for many years.
Depending on how accurate our LiDAR data is we can create probably up to 1 foot contour intervals. And that'll be very beneficial for both planning and then some design of practices.
That's all I have.

Dave White: Mark there is a company in Iowa right now that is designing software where you can do terrace design, waterway design, just using LiDAR. And designing it in a manner of minutes and then just do some field verification.
And it is turning to be an incredibly accurate. So the future use of this could be huge.
Are there any other questions? Yes sir.

Jeremy Peters: Jeremy Peters, National Farmers Union. Just looking at the action plan and on the state level activities reviewing the state action plans and the local determinations that will be done through the State Technical Committee and Local Work Group Process as usual or who will be making those decisions?

Paul Sweeney: Okay. I heard you say State Technical Committee and what decisions are you referring to? On the priority areas, is that what you were looking at?
Right. One of the barriers that was identified was the fact that we can say drainage water management is very important to the upper Mississippi River Basin and nitrogen or nitrate transmission - transfer.
But unless we convince the local working group, you know, within the counties I'll say or watersheds that that's a high priority it never gets - the practices don't get funded. So we have to identify how are we going to do that?
And it's not necessarily telling those local work groups what they'll do but maybe incentive - provide incentives that they participate in a priority area or a pilot project or something like that.
So the purpose or the actions was not to tell them what to do but to write incentives and educate them also of the importance of drainage water management in those areas.
Does that help? Okay.

Dave White: Follow-up.

Don Parrish: Oh I want to chase a different rabbit if I could Chief, Don Parrish. I'm curious. We talk about the NRI data points. Those are - tell me a little bit about the security of that - those data points?
And I'm also interested in who has access to LiDAR information on private property.

Dave White: Okay. The NRI, the National Resource Inventory, I think it started in 1982. NRCS does that jointly or the big cooperator is Iowa State. The Iowa State and in (AIMS), they have access to the data. We have access to data. And that's about it as far as I know.

The - where these - I think there's I don't know, 800,000 primary sample units, data points around the country. The farmers don't know where it's on their property.

So it's a pretty - it's pretty close held. And the reason for that is one, confidentiality. But also each point, I think the NRI gives us like 95% statistical reliability at the national level. So if point A is a cornfield in 1982 and in 2007 it's a parking lot, we - that will represent a certain amount of acres that have been converted from agriculture to development.

So it's pretty important we keep that confidentiality.

Now as far as access to LiDAR I'll defer to Steve in Texas.

Steve Nechero: Currently the LiDAR data that NRCS has purchased is in the public domain so we freely share that with our partners and cooperators.

And it's also made available through USGS through their data provisioning systems. Data is collected not unlike our National Agricultural Imagery Program data. So it's from an airborne platform.

And the lasers are pretty safe, so there should not be any kind of safety issue with the laser.

Dave White: Okay. (Laurie) are there any questions online?

Coordinator: We have a question from Wayne Skaggs. Your line is now open.

Wayne Skaggs: It's not a question but a comment. There was a discussion earlier about and concern about the amount of scatter, the amount of variability in the results

that had been measured in this CIG Project regarding the positive or negative impact of drainage water management.

Dave White: Dr. Skaggs we're losing parts of what you're saying.

Wayne Skaggs: I can speak louder. Does this help?

Dave White: Yes.

Wayne Skaggs: What I want to comment on is the amount of variability that - the discussion that occurred earlier about the variability in the yield response that had been measured in the CIG Project.

And my comment is simply that having worked on these for a long time you expect to see that variability.

And the reason you expect to see it is that it's very much weather related. This practice as you know manages the tile or the drain - the subsurface drain outflows, reduces those outflows during the time it's being managed.

When conditions are dry you don't have outflows to be managed. And so that often occurs. And that will vary as you know from place to place during a particular year and from year to year in any one place.

And so seeing responses that are increased yields in some years or excuse me, increased yields at some locations and not in others probably reflects a difference in the rainfall at those places and therefore in the opportunity to manage the drainage water.

And the same kind of variability will occur from year to year.

On the negative side the - where there may have been losses in yields measured that's an issue probably of learning how to manage the system.

Those systems should be managed such that the negative benefits or losses in yields should rarely occur.

I just wanted to - since there was discussion and concern about that earlier I wanted to make that comment about it.

Dave White: Thank you Dr. Skaggs for that clarification. We appreciate it.

(Laurie) anything else.

Coordinator: I show no further questions.

Dave White: Are there any further questions in this room?
Yes sir.

Bill Wenzel: Bill Wenzel from the Mississippi River Network. Just a clarification on how the nitrate runoff is going to be handled. Said increased the (unintelligible)...

((Crosstalk))

Dave White: The runoff?

Bill Wenzel: Yes.

Dave White: Doug you can maybe help me out but I'm guessing waterways, buffer strips, some sort of vegetative barrier, filter strip.

Man: (Unintelligible).

Dave White: I generally don't require anything. But I think it's part of the system. It would be part of an overall functioning system.

Any other questions here?
(Laurie) anything on your end?

Coordinator: I show no questions.

Dave White: Okay. Okay, for those of you who are online we will post this action plan on our Web site. Paul Sweeney is the person you want to give your comments to.

What we can do is actually put his email on the draft action plan so you can just hit it and it'll probably or paste it in a box or somewhere. But he'll be the one you can get your comments to.

We will have a subsequent meeting about three months from now and then a reminder. We'll get more information out about this National Summit October 11th through 13th in Minneapolis.

Is there anything from anyone prior to adjourning this meeting?
Hearing none. I want to thank you very much for participating. I hope you found this worthwhile. And we will be in touch.
(Laurie) thank you for your very professional and excellent facilitation.
Take care.

Coordinator: Thank you. This concludes today's conference call. Thank you for participating. You may disconnect at this time.

END