

# **EPA-State Approach to Instream Monitoring for NWQI – Webinar 1 April 30, 2013**

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## **Slide: EPA-State Approach to Instream Monitoring for NWQI – Webinar 1**

### **Stuart Lehman**

Good afternoon, and welcome to the webinar. We're going to get started here, and I'd like to remind you that this is the webinar on the EPA State Approach to Instream Monitoring for the National Water Quality Initiative. I'm Stuart Lehman with the Nonpoint Source Control Branch, and this is our first webinar in a series intended to help states with instream water quality monitoring. So throughout the webinar, we'll encourage you to submit questions to our speaker. To ask a question, just type it in the "Question" box on your control panel on the right of your screen. If your control panel is not showing, just click on the small orange box with the white arrow to expand it. If you have any technical issues, you can let us know by also entering them in the "Question" box to the right of the screen and then clicking on the "Send" button. We will do our best to respond to your issue by posting an answer in the "Question" box. And if you have other questions that come up while we're presenting, just for a quick point of clarification, we'll try to address those. But for the most part, I think we're going to go through the presentation and try to leave plenty of time at the end to answer the questions, just really spend some time on the questions. Now I'd like to introduce Lynda Hall. Lynda is the Chief of the Nonpoint Source Control Branch in EPA's Office of Wetlands, Oceans and Watersheds.

### **Lynda Hall**

Okay. Thank you. Hi, everyone. I'm actually just going to provide some brief context relative to the expectations on NWQI monitoring and the 319 grant guidelines and some introductory comments, and then Stuart is going to do most of the presentation. And by way of introduction for him, Stuart has been in the Nonpoint Source Control Program for a number of years and also has worked for many years at the state level, both in Montana and Maryland, on watershed planning, implementation, and monitoring. So he is our lead for monitoring under the NWQI and has done a lot of the work here at Headquarters to -- on what we're about to show to you. I also want to acknowledge Tom Davenport from Region 5 who I don't think is able to be on the call today. But he's a long-time expert in nonpoint source monitoring, and he's had a big voice and influence in the approach that we're presenting today and certainly in the technical assistance that we hope to make available as we move forward.

## **Slide: Overview**

So with that, the next slide, please. I just want to let you know what we're going to cover today, which is the primary goals and objectives for monitoring under the NWQI, a summary of some of the challenges we know we all will be encountering as we attempt to assess the water quality impact of conservation practices and agricultural watersheds and review with you the approach that we are proposing here that we hope will minimize -- or maximize our ability to be successful in this endeavor, notwithstanding those challenges. I do want to say that we are not presenting to you kind of a completely developed and done-deal sort of approach here today. We are going to be sharing with you our proposed approach. I mean, some of the elements must be retained, but we do have some ability to manage this adaptively going forward. And one of the really primary purposes of this first webinar is, first of all, to have a first real conversation with you, the states, on this topic. We've been referring to it for more than a year, and I've given a couple real brief overviews in earlier calls, mostly on the 319 grant guidelines. But this is our first real opportunity to have a discussion about NWQI monitoring and a dialogue about it. And so we want to -- we really do want to spend a fair amount of time hearing your questions and issues, and then there will be an opportunity, which we'll describe later, to send us some information in writing, as well. But the bottom line is this is really the beginning of a process with you to get this effort underway, and we have some room to shape it as we go forward. So with that, we will be presenting the approach. We will be presenting a rough schedule with some key milestones that we see. And then, as I said, we'll be looking forward to having some interaction and questions from you.

#### **Slide: NWQI Monitoring Expectations in 319 Guidelines**

So on the next slide, I just want to refresh your memory or review for you what the recently released 319 grant guidelines say about NWQI monitoring. The actual language in the guidelines, you probably have noticed, is pretty brief. And we did that intentionally. It was necessary to codify the expectation that we will be doing water quality monitoring under the NWQI. This is one of OMB's greatest expectations, I would say, with respect to the 319 grant guidelines. So we needed to have it in there, and we needed to have, you know, just some outlines in there of what the expectations were. But for a variety of reasons, we didn't think it was appropriate to go into a lot of detail in the guidelines about how this was going to unfold. For one, as I said, we hadn't really had a chance to have much engagement with you on it. And also, it's a technical area, and it's a complex area, and the guidelines really weren't the appropriate place to get into those details. But we did put in the guidelines a few markers, if you will, that bracket the expectations for states under the 319 grant guidelines on NWQI monitoring. So basically, the guidelines say the states will monitor in NWQI watersheds where the watershed has been recommended or approved, okayed, by the state water quality agency. So this was intended to address the situation we had actually in a number of states, until very recently, where the rushed watershed selection process last year did not include a very good collaboration and where some of the watersheds didn't reflect state water quality agency support. I think, after this most recent round with NRCS, we have, I think, in virtually all states at least one watershed among the NWQI watersheds that the state has recommended or agreed to. So this is perhaps less of an issue now, but we wanted to make sure it was clear that our expectations about monitoring go along with the fact that this is, in fact, a joint effort and that the state is monitoring in a watershed that it agrees is a good one for this investment, for the EQIP investment.

The other descriptor in the 319 grant guidelines is where circumstances are aligned to assess the effects of conservation practices. So by this, we're referring to things we're going to discuss in detail here today about the watershed characteristics, the availability of baseline data, and the availability of information on the conservation practices that have gone in. The guidelines

also note that the states can use their own monitoring and QA/QC approaches, so here we are signaling we [inaudible] and there are expectations about monitoring that are specific to NWQI. From the state's perspective this can be, and hopefully would be, integrated with monitoring as you're doing it now, so whatever your schedules are, what you're monitoring, the samples that you tend to collect, the data that you would track, you know, obviously the standard that you're assessing against. All of this monitoring would hopefully be aligned, then, and complement with and complement that and not be something separate and apart from it. So we're not imposing new design expectations here, although there is certainly an opportunity to learn about best practices and design. And then the other thing the guidelines say is considering the extent of practices and lag time, and that's just a way of signaling and hopefully making sure expectations are aligned with reality we know we're going to face, which is the changes that emerge in a watershed or water body are going to very much be a function of -- well, many variables. But two very important ones are the extent of practices that are in place, what are those practices relative to the pollutants of concern, and then the lag time that it will take between the adoption of those practices and results emerging.

### **Slide: NWQI Monitoring Expectations in 319 Guidelines (2)**

So that's what the guidelines say. And then, on the next slide, the guidelines also say, since we didn't elaborate in the guidelines themselves, it notes that EPA will elaborate on these expectations, propose watershed selection criteria, and further guidance. So that's the process that we're starting now with this webinar. And after we complete this webinar and one or two others and have had some back and forth with you on this issue, then we will be doing probably a guidance memorandum on this that would come out in advance of FY 14 and would provide, in writing, the further detail that would probably be helpful to have in terms of what to put in your FY 14 319 grant work plans.

So I guess one other point I would like to make here that is -- that while NWQI is what's bringing us to the table right now to discuss monitoring, and that's a near-term initiative, you know, we need to get underway and need to engage on in terms of monitoring, I also view this from a broader perspective for the 319 program and State Nonpoint Source Program that there's a really good opportunity to start engaging more as a community on nonpoint source monitoring issues in general. We know these are challenging and technically complex issues. We know some states struggle in this area, that others have been very engaged with the National Nonpoint Source Monitoring Program and are well aware of the lessons and the technical expertise that's available there, and maybe others less so. And this is an opportunity to engage more broadly in conversation about the monitoring needs and challenges for the Nonpoint Source Program. We won't do that today. We won't do that probably in the next couple webinars. But I do see this as a conversation we're starting in the context of NWQI but a much broader opportunity for the program. And we are going to be bringing in the regional and state counterparts, monitoring coordinators, into this conversation. Just for your information, next week Stuart and I will be giving a presentation that's somewhat along these lines to the regional monitoring coordinators, and then we'll be reaching out to the state monitoring coordinators. And probably future webinars we'll invite them as well. We thought we would start this one just with kind of the 319 and nonpoint source community but that we will be broadening it out to include, obviously, those other important partners in monitoring.

### **Slide: Additional Information on NWQI**

And the final slide, for me, is just some additional information to keep in mind on NWQI as we have this conversation. So as you probably all know, the watersheds for FY 13 were released

on Friday. We believe the list that is up on the website now is correct, thanks to the folks who did flag there were some errors in the first list. So the final watershed count, which is the FY 12 and FY 13 watersheds together, is 165. So that's 11 more than the FY 12 count, and that does reflect a fair amount of change. There were, I think, 43 watersheds that changed between FY 12 and 13, so although the total count isn't hugely different, there was a lot of moving watersheds which, I think, was largely a positive thing because it was addressing what I think NRCS and some states recognized as a hasty process, perhaps not the best watersheds selected last year, and then, again, in some cases, not in collaboration with state partners. So I think it's largely good news on the watershed selection this year. Two points that NRCS has made clear recently: One is that NWQI is a multi-year investment and that they do expect to continue investing in these watersheds as long as it is fruitful to do so -- and so they expect NWQI to go on for at least the next few years -- and that they will continue in these watersheds for as long as that is feasible. So they are not expecting the level of changeover in watersheds next year as we had in FY 14. So I think, for us, that means we're going to be working in these watersheds for a while and we can plan accordingly. So that's basically all I wanted to present. At this point I'm going to pass it over to Stuart, and we'll go through the proposed approach and move on from there.

### **Slide: NWQ Water Quality Monitoring Goals & Objectives**

#### **Stuart Lehman**

Okay. Thanks, Lynda. This first slide is an attempt to clarify our primary goal and talk about a couple sub-objectives. The primary goal is to assess the water quality impacts of agricultural conservation practices, or systems of practices, for nutrients, sediments, and pathogens in the NWQI watersheds. There are two objectives that follow, and these are a little bit unusual in that they're -- it's kind of an either-or. For one watershed in each state, we would like to meet either objective 1 or objective 2, ideally objective 1 because it's answering the question, have water quality related practices resulted in the change? Do they show a causal relationship? And this usually requires a good local knowledge of what practices are happening in the watershed and understanding that the preexisting practices as well as what's newly put in through this initiative. And it's important in this kind -- to meet this kind of objective to have a good baseline or to have some control over the watershed design so that you can say you have a -- basically have a control watershed, like an upstream downstream situation or a paired watershed, to really be able to say what's happening in the test watershed. Now, the second objective is, if you can't do 1, it would be ideal to meet the second objective and show that there's been an association between what's happened in the watershed and resulting water quality change. It's sort of a slightly different question. This would be usually done with -- over a longer period of monitoring where you understand where you started from, your baseline, and then how different factors in the watershed have changed over time. And you might think of this also as kind of a regression analysis, what was independent and what was dependent upon those actions. And it doesn't always result in a demonstration of causality, but still, with enough explanatory variables and enough other information in the watershed, you can often say something about what caused the change.

### **Slide: Monitoring Effects of Ag BMPs Poses Scientific Challenges**

The next slide, we talk about some of the challenges in doing monitoring in agricultural watersheds. As many of you know, there are a lot of scientific challenges. To do it well, you need to put the right practices at the right locations and at the right time to get -- measure changes in the watershed. So practices vary considerably in their ability to target pollutants. Conservation practices that are scattered broadly across the watershed or are not in sufficient

number often don't result in a change that's measurable, and having a good, robust baseline dataset is important in reporting progress. So there are numerous sources of nonpoint source variability that require good baseline data and to be able to detect a change that's occurring in the watershed.

### **Slide: Invest Monitoring Resources Strategically**

Next slide -- so these challenges have been pointed out in the results of other projects. We cite a few here, the USDA's CEAP project, Conservation Effects Assessment Project. We've also identified how to monitor strategically and what some of the pitfalls are in our EPA National Nonpoint Source Monitoring Program. And I guess it just goes back in time, that we learned that we need to be more strategic in monitoring in the old USDA Hydrologic Unit Area projects and, before that, the Rural Clean Water Project. Again, you need to have the right practices for the right pollutants in the right locations. And you see we talk about the problem with lag time. We're talking about monitoring here for five to ten years, possibly, and lag time is an important issue. It can often be caused by the time that it takes water to move through the groundwater and get to the stream, or maybe excess soil loads of pollutants, like phosphorus, in many areas. Some of the ways to deal with that are through staging your design so you're monitoring for a set period to get a good baseline and then waiting a number of years while implementation occurs and then monitoring at some farther period into the future. That's one way to deal with it. It's also important to look for other indicators, maybe monitor physical changes in the watershed where the water quality is likely to change faster, maybe have indicators for habitat quality and things like soil peat to understand if you're making progress over this longer period of time. And monitoring is costly, and these challenges mean that it must be done judiciously to document results. And part of that keeping the cost down is -- and we've said this to the regions and states -- it's important to leverage your existing programs where you can. You may have state programs monitoring water quality. You may have other agricultural partners helping you. And we're going to talk in a minute about some of the other USDA practices that are important to be aware of as you go around and select NWQI watersheds to monitor.

### **Slide: Overall Approach: NWQI Water Quality Monitoring**

So the overall approach, we have a few slides here that will describe that. The approach, we feel, can succeed best where monitoring MOUs are secured at the state and watershed level. It's because we're looking at the effects -- generally looking for effects monitoring. Not all watersheds are going to be good candidates for monitoring, so we're looking at a subset of watersheds that are more likely to yield some water quality results. And we selected some -- we suggested some criteria that you can use to select watersheds that you monitor, and we'll talk about that in, I think, the next slide or two. It's also -- we're suggesting that you try to align with some of the other USDA activities that may be occurring in the NWQI watersheds, such as the edge of field monitoring -- that's what that EOF is there in the second bullet down -- and other state and federal monitoring programs where feasible. And we also see this as a chance to get some monitoring in place and then reevaluate the level and the number of watersheds that the state wishes to monitor. We're looking at one per state now, but as Lynda said, there's going to be an opportunity for further investments in these watersheds or ones nearby. So we can look at this first round for 2014 as a pilot in some ways.

### **Slide: Proposed Approach: NWQI Monitoring and Tracking (cont.)**

The just sort of elements of the proposed approach, we want to take advantage of existing state programs to monitor water quality trends and where special studies are being done, either statewide or in particular watersheds. Some states may have rotating basin type monitoring going on as a part of their assessment for water quality standards attainment, so it's important that states look at all different ways to not only keep costs down but leverage these programs. Part of the reason is that we want states to attempt, to some degree, to track the progress that's happening in all watersheds that are designated as NWQI watersheds. In some cases, besides that one watershed that's monitored in a focused way, states may wish to monitor what's happening in some of their other watersheds. They also, for ones they can't monitor directly, they may want to track the progress of the implementation of BMPs. They may want to use or support NRCS with their use of APEX models in the water quality index or may have their own state assessment programs that they would like to use.

### **Slide: Proposed NWQI Watershed Monitoring Selection Criteria**

Okay, next slide. These are the selection criteria that I mentioned earlier. These are suggested for selecting among the NWQI watersheds the states wish to monitor. We're looking at 12-digit HUCs or smaller. Often, it's better to try to focus within the 12-digit HUC. If there's a high degree of implementation occurring, it may be possible to monitor just upstream and downstream of that and actually target within a 12-digit HUC. But by and large, these NWQI watersheds will be 12 digits. Agriculture is the dominant land use. Ideally, there's a TMDL or watershed plan in place. Part of the value of having this is that there is a greater number of potential partners that may be involved in monitoring the watershed. There may already be assessment models, and there may already be detailed implementation plans that would support the activities of the targeted NWQI EQIP projects. There needs to be significant conservation practice implementation, and likely to be measured in five to six years and, where feasible, build on existing monitoring partnerships with USDA, such as the Mississippi River Basin Initiative and Great Lakes Basin Initiative. They will be doing -- NRCS will be doing edge of field monitoring in some of these watersheds, as well, and to the extent they can, states can try to bracket these projects within their selected watersheds.

### **Slide: Features of Proposed Approach**

To summarize the features of our proposed approach, we're trying to use our 319 funding judiciously. We think that with a concerted effort to get good data, we're going to improve the level of analysis and, ultimately, the chance of measuring some results in the watershed. Depending on the monitoring design, data may be useful in calibrating and validating water quality models that can help states evaluate similar watersheds or possibly other NWQI watersheds that they're tracking. We also point out the monitoring MOUs, considering the location of practice and edge of field studies funded by NRCS, will be important to understand causality. So we're going to talk a little bit more about these MOUs in the following slide.

So NWQI provides an opportunity to increase the collective understanding of agricultural water quality monitoring issues, and we feel this technical support may be useful in other parts of the state for states. And just in my own experience, and sometimes with these things that come down where you not only have to meet certain commitments to groups like OMB, is that there's often an opportunity created where you can do more -- do a little bit more or refocus some of your efforts in a state and actually get some pretty big benefits. So that's, I guess, the final feature we think that this approach has.

### **Slide: NWQI Monitoring – Potential Roles**

I've put together in the next slide a description of the various roles and the type of monitoring, just to show -- try to clarify what some of these earlier slides are talking about. I hope it helps clarify. If you look in the upper left-hand corner, you see focused monitoring, and this really represents the selective group, the one per-state, where we want to attempt to show causality under objective 1 or objective 2. The optional monitoring is where other NWQI watersheds exist, where we're encouraging states to monitor. But it's really up to them if they have the resources to do it. And then the lower row is talking about tracking the remaining NWQI watersheds just to have some idea of what's happening, what's being implemented, what level of success is occurring in the watersheds. And you can see that there are slightly different levels of resources available, and each of these -- some of it is from NRCS, and some of it is coming from EPA and from the states.

### **Lynda Hall**

I'm sorry to interrupt. This is Lynda. I just wanted to make one comment here, and that is we were -- when we entered this initiative, we were dealing with the expectation of monitoring in all the NWQI watersheds. So one of the things we were pleased about when this proposed approach got accepted -- you know, we had conversations with management here, with USDA, and, importantly, with OMB. And we got acceptance for this approach of each state doing one watershed and then doing others as desired. But this third -- so we're, you know, doing the monitoring in 50 watersheds, let's say. But this third item of tracking is we do expect, even though there haven't been detailed conversations about it yet, that OMB is going to expect some level of tracking and description of what's going on in all these watersheds. And it's not all going to fall on the 319 side. I think a lot of those expectations will come to USDA from OMB. But I think this is an area where we have some flexibility right now to define -- you know, to propose some measures we think would make sense as a way to track progress in all the watersheds over time. So I just wanted to make that comment here so folks can start thinking about it.

### **Stuart Lehman**

Okay. This is -- this tracking area is another place that states might look to other program partners, and they're doing monitoring potentially in these NWQI areas, such as a standards attainment or rotating basin type projects. And we list a few things like models that are used to evaluate, to some degree, the success, like STEPL, NRCS is working on a water quality index, and I think NRCS or ARS is also working on APEX as potentially a way to judge or evaluate a potential water quality change. So the states should keep that in mind.

### **Slide: Technical Support for All States**

The next slide discusses sort of our technical support we'd like to provide to the states. The first bullet there is our -- describes our series of webinars, this first one just to introduce our approach and some of the elements of NWQI. But then we were thinking the next one will be about acquiring sufficient baseline data and managing data, different frameworks you might have for nutrients. And then, just tentatively, we had some other subjects, such as summarizing various monitoring designs and also providing case studies where they exist. But this is really an area where we're looking for state feedback. You know, what would be more useful than monitoring designs? Or what particular problems in designing monitoring projects are you having? I think any one of these could be broken down or expanded upon, so one of the things we'd like to do is get some of your input on that after the presentation. And then we wanted to point out that states can request follow-up information and limited technical support. We're looking at providing assistance to one state per region on a more intensive, single state basis.

We're also able to provide links to potentially useful reports and tools and maybe even provide some additional webinars that we are proposing to these four.

### **Lynda Hall**

And it may be worth noting, just so folks know, this technical expertise is coming out of the National Nonpoint Source Monitoring contract. Tom Davenport is the project officer on that. So these are the folks that have been working on the National Nonpoint Source Monitoring Program for some years, so this is real in-depth technical expertise that folks have a chance to tap into.

### **Stuart Lehman**

We mentioned engaging USGS. I think this is really a -- we don't have special funds for this, but we see it as -- and you probably do too -- as a potentially important asset in assessing water quality, looking at the effects of flows, and maybe taking advantage of their co-op program or even their expertise at looking at sediment loads. And then the final bullet talks about exploring the feasibility of using the national surveys. We don't know to what extent we can do that now, but they are interested, some of the monitoring experts, in our national program here and seeing what they can learn from assessing land use in the watersheds that they're studying on a randomized basis around the country and maybe coming up with some competence and some findings there that we may be able to find useful in that area of tracking what's happening in other watersheds.

### **Slide: Technical Support for Individual States**

One idea that we're putting forward is having the states submit a one-page monitoring summary at some time here in the future, and we'll talk about schedules in a minute.

### **Slide: One-page Monitoring Summaries**

The idea is just to summarize the approach that the state is going to use in each of the NWQI watersheds. The summary is really for the ones that are going to be monitored intensively. And we think that we can also use these one-page summaries as a chance to get a feel from the states on whether they would like some one-on-one technical assistance from our contractors. And you can't describe a whole monitoring program in one page, but you know, we think that maybe just describing the problems, the technical -- the approach very roughly, the amount of existing baseline data, and anticipated level of implementation, that those factors may be important to discuss, as well as maybe the condition -- whether there's a TMDL or a watershed plan in place for the watershed.

### **Slide: Monitoring MOUs**

Okay, next page. We're just highlighting the importance of having good information in the watershed about where practices are being put in place. We -- monitoring MOUs with NRCS will be necessary to ensure that adequate data is obtained to demonstrate cause and effect. I think I've already mentioned that. We plan to work a little more at the federal level with NRCS on what might be inappropriate agreements, and then states that have agreements in place are encouraged to move forward and possibly extend these in to NWQI.

### **Slide: Focused Monitoring Needs for NWQI/Potential Issues for Technical Assistance**



Next slide -- so we put together a list of what are important considerations in monitoring design for NWQI watersheds, and these are elements that are usually ones that require a little extra work in assessing causality in watersheds. But we also saw them as a potential to list some of the things that states may choose to look for technical assistance with, setting up objectives and monitoring questions that are to be answered, understanding if the right parameters are being monitored for the right problems in the watershed. And then an important one is what you do with the data that you collect, how the data will be managed, how it will be stored, retrieved, analyzed, and interpreted. And these are pretty important technical questions not only for this project but ones for which the state may wish to get technical assistance. So we may look at that during the question and answer period.

### **Slide: Proposed Schedule NWQI Activities**

I have three more slides to just go through pretty quickly. They're a proposed schedule for the NWQI rollout or activities that we'll be looking for in the next coming year or year and a half. The first one just lists the webinar that we're doing now. Future ones are likely to include a contractor and, I guess, to be as technical as you want. We have -- we set aside a point in May, May 24th, where we'll be looking for any technical questions that you'd like us to address through the supply of information or potentially webinars or one-on-one assistance that can go into future webinars. And then the last three elements on the schedule are the following webinars that would occur in the May to June timeframe, July, and then the fourth potentially in August. And these are being proposed, just sort of scheduled out, but they could shift some, and particularly with your input, the subject matter should be considered very changeable.

### **Slide: Proposed Schedule – Cont'd**

The next schedule page, we're looking at July 1st as the time that the states would select for monitoring the watershed, NWQI watersheds for monitoring. That would also be a time where we would look to get a one-page summary of the general type of monitoring that would be occurring in the watershed. And we're looking for the states to consult with NRCS on that, get some feedback and actually work with it a little bit. Then the next schedule item is really a six-month timeframe to complete monitoring of the -- I mean, complete the monitoring MOUs, working with their state cons, primarily. August 30th relates to the July 1st item on the one-page summary and the selection of watersheds. Once we get the one-page summaries, then EPA would expect by August 30th to be able to select the states for technical assistance with the input of the regions. The next item is an eight-month time period, August to March '14, 2014. This is the time we set aside for one-on-one state technical assistance with EPA support, National Nonpoint Source Monitoring support and the contractors, and this is one state per region would be -- could be supported with our existing level of funding. We hope to potentially get funding in upcoming fiscal years. And then the winter 2014, we would expect to start seeing, in the Nonpoint Source work plans, the inclusion of NWQI activities, and this is sort of a cooperative effort in getting those work plans approved with the regions.

### **Slide: Proposed Schedule – Cont'd (2)**

On the next page, this is the final page of this schedule, by February 2014, if there's no MOU forthcoming, then we're still encouraging the states to select some watershed, and it could be even one where there's not a NWQI priority. We're asking the states to pretty much use the same selection criteria, where BMP systems are likely to be effective and it meets their state program priorities as well as the other seven elements we talked about before, where they're likely to see effects, where there's a high level of implementation. We still are encouraging

states to select watersheds for monitoring. We feel that it broadens not only the EPA but the region's experience in monitoring, it can support the state programs, and I think it also would be important for OMB to see that states and EPA's Nonpoint Source Program is interested in upping the level of our abilities to monitor in ag watersheds. The spring 2014, we would estimate that would be the time that most states would begin monitoring in their NWQI watersheds. Some states may already be out in front of the ball a little bit, may know where they want to monitor, and, in fact, may be doing some of it from previous fiscal years watershed selection. So other states may already be at it at this point, but some states would be starting in the spring. And then finally, the last item we have on here is the reporting of what's happening in these watersheds. And we expect that the first annual report on NWQI activities would be coming about in the fall of 2014 and that GRTS would be the natural place to do that. It's fairly easy to attach documents and attach information that not only helps us explain to our federal partners what's going on, but it keeps the status of projects in one place. So we think there's some benefits in doing that. So I know that's quite a bit of new information. Lynda, do you want to add anything?

### **Lynda Hall**

Yeah, I just wanted to add a little bit more on the MOUs because everyone understands that this is kind of the crux of the deal. So we have, in our discussions with USDA and in our discussions with OMB and with management here, made it clear that for states to be partners with NRCS in monitoring in these watersheds, there will need to be available information on practices and when implemented, where, which ones. So that is out there, and I think everyone understands it in concept. So what we have laid out for you here is our plan going forward, assuming we can get these MOUs in place. So we all know, though, that that isn't necessarily going to proceed easily in all places, so I just wanted to tell you a little bit more about our plan here on that. So we will be reengaging with USDA headquarters on this soon and reminding them of the importance of this issue and talking with them about what they would be comfortable proceeding with in terms of advising the state conservationists and elements of MOUs that could be established at the state level. So we will definitely be carrying that ball forward here at the national level of NRCS headquarters. I think we would encourage you -- and it would be interesting to get your feedback on this -- so we know in some states probably is not right, but in other states where you have a good relationship already, even if you don't have an MOU for data sharing, if you have a good relationship with your state con, it might be a conversation worth initiating at the state level for some of you. But we will -- so obviously, we'll have some conversation on that in a minute, but I just wanted you to know we are going to be pursuing this, of course, at the national level. And I think we all need to proceed right now as if we're going to get these -- the MOUs and get the information we need in these watersheds. But as Stu said, we may need to do some adaptive management. We're going to give this several months to take and to get some progress with our partners at NRCS on this, and I think we're going to have to, you know, assess and see how that goes. But right now, I think we're proposing we all proceed as if this information is going to be available. It's important for a number of reasons. To me, it's kind of the crux of the partnership here. If states are going to invest resources to monitor, essentially, the performance or the improvements, hopefully, for NRCS conservation practices, they need to have the information they need to do that well. As we said at the outset here, we want to be judicious in how we assess monitoring resources. So I think it's important to, you know, pursue the point for that reason alone, but also it could, you know, eventually lead -- if we're successful getting these agreements in at the state level in the context of NWQI -- it could be helpful down the road, working more closely with them, too, on some other information sharing. So just wanted to elaborate a little bit on our thinking on that very important issue, and then at this point, why don't we open it up, and it looks like quite a few questions have come in.

## **Slide: Questions / State Feedback**

### **Stuart Lehman**

Okay, there are a couple ways that you can ask questions. You can write them in the boxes, or there's the ability to raise your hand, where you click on an icon. It's in the upper right -- oh, you click on the hand, okay, in the webinar.

### **Katie Flahive**

A couple questions have come in, so we can go ahead and get started asking them. The first one here is: I don't see time for the QAPP process in the timeline. Would these -- are you expecting this to work -- this work to go under existing state QAPPs?

### **Stuart Lehman**

Yeah, I think, for the most part, it would be occurring under the QAPPs that the state agencies use with the nonpoint source projects that they normally fund. As used to happen in some of the states I worked in, we had a QAPP that was kind of programmatic for the Nonpoint Source Program, but then when we entered into a monitoring agreement and agreement to fund, we had an individual project plan that included the elements that the state looks for in their state program, quality assurance.

### **Katie Flahive**

And there's another question here: Can we get copies of the presentation? And one thing to note is if you were on the e-mail that I sent out, that you received from Katie Flahive, you should have gotten an updated invitation to this webinar today with the presentation attached. But we will send it out again. Oh, couldn't hear? We need to get you --

### **Stuart Lehman**

I see one of the listeners said they didn't hear my -- didn't hear me on the QAPP question. We do think that would be an important part of the monitoring for these -- for these projects, and generally the states will be relying on their programmatic QAPPs, and then, for any monitoring that's being proposed, getting a project plan like they normally do through the approval process. I don't know what the timeframes are in the regions or in states right now. I imagine there's quite a bit of variability, but I think folks will have to build that into that project planning period that we talk about there, the spring of 2014.

### **Katie Flahive**

Okay. Here's a good question: Before we develop an MOU with NRCS, what assurance does the state have that funding is available? And I'm assuming this is 319 funding. And additionally, if the monitoring program will be funded long-term, why will not the administrative portion of 319 program be funded for multiple years. Does that make sense?

### **Lynda Hall**

Wow, I'm not sure I understand that question. So -- but I'll make a couple points that might be relevant. So in terms of -- if the question is about will NRCS continue to invest in the watersheds, the best information we have is that they will and that the funding will remain at about five percent of their financial assistance. So I think we can proceed, based on what we've been told by NRCS, with the assumption that practices will continue to be put into these watersheds. If the question is about 319 money, we, you know, always have to deal with the uncertainties of our budget process. One of the -- so we don't have a definitive answer beyond FY 13 at this point in terms of 319 funding levels. But one of the things we have tried to do with

this approach is make sure that the investment can be targeted and that the monitoring that takes place makes sense, you know, given the extent of practices in the watershed and that kind of thing. So we're hoping that allows for pretty, you know, judicious use of 319 or other state monitoring funds in one watershed per state. So the amount that the total 319 allocation might fluctuate I don't think will have huge consequences for this effort.

**Katie Flahive**

Okay. There's a clarification point from slide 11, asking if this is the -- about the five to seven years. Would the five to seven years continue five to seven years after implementation or five to seven years total?

**Stuart Lehman**

You know, that one really depends upon the individual project. We were thinking of two to three years to get pre-project monitoring, pre-implementation monitoring, and another three or four years of post-implementation monitoring, so starting from the beginning. But it may be that states would prefer to go to a design where they'd do -- they get a baseline, and then they wait several years for implementation to start having an effect, and then maybe monitor several years, you know, after that. So it kind of really depends on the state. We were thinking of, similar to on the National Nonpoint Source Monitoring plans, of having five to seven years. But even some of those have felt like there's a lot to be learned by keeping monitoring for another year or two, so some of those are eight or nine years.

**Lynda Hall**

Yeah, so I think -- at this point, I think five to seven is kind of a rough timeframe that we're using, but, you know, at the same time we are trying to provide the flexibility states need to do the monitoring that makes sense. So I think this will get back to, you know, as this effort proceeds, we'll need to understand what each state's approach is going to be. And, you know, if that means not monitoring for a couple of years and there's a good reason for that, then that should be fine. We just kind of need to understand what the overall strategy is, and of course this all links back to what's been implemented and what information do we have on that. So I think just -- at this point, that's a general -- a general timeframe, and I think it will very somewhat, and we'll get probably much more into the details as this process plays out.

**Katie Flahive**

Okay. Here's a question about standards, looking to meet: If the standards in question are aquatic life standards, like macroinvertebrates or algae, would bio-monitoring be adequate to meet these requirements?

**Stuart Lehman**

Yeah, I think we have to say that really depends on the state and their confidence in their standards. It may be habitat criteria they feel correlate very closely or relate to their water quality standards, and some states have been doing biological monitoring for years so they have established a very strong baseline data -- a baseline dataset in some watersheds and may be able to come around in five or six years and renew that data to see that there's been a change in water quality. You know, that's more of the objective 2 kind of monitoring, and it would be important to have other variables there that relate to the ag implementation, including the information of where and what ag practices went in and the amount of coverage of critical areas and things like that in the watershed.

**Katie Flahive**

Okay. Who will make the match for monitoring funded through the 319 program?

**Lynda Hall**

Well, match for the 319 grant, as always, has been left to the state to decide and to meet at the level of the whole grant. So the requirement in the grant regulations is whatever the federal portion is, you know, the state puts in a 40 percent match. It does not have to be met project by project, so there wouldn't be a requirement that there be a match component to NWQI monitoring. You certainly could include that if you had resources leveraged or state resources provided here, but it's not required on a project specific basis.

**Katie Flahive**

Okay. And another question: Will there be a simultaneous effort to ensure that the most effective practices are installed at the most critical locations?

**Lynda Hall**

Who wants to take that?

**Stuart Lehman**

This is an important one. EPA doesn't have a lot of say over how the conservation practices are targeted within the 12-digit HUC. Over the years, there may be a substantial amount of implementation that occurs in that watershed, but I think to the extent that the states can, I think they need to impress upon their state NRCS associates the value of having targeted areas within a 12-digit HUC. And we agree with the questioner, that there's an opportunity to get a faster response and a more definitive response if you have clusters of projects that are easier to bracket with your monitoring design. And so that was one of the reasons that in the presentation I mentioned that it may be -- you know, ideally, you may even get to a smaller scale than the 12-digit HUC when you organize your monitoring project.

**Katie Flahive**

Okay. There's a bit of a follow-up to that, Stu. Sounds like we're talking small scale BMPs rather than watershed scale projects. Really, we're talking about, you know, working at that watershed scale, like Stu just said, collaborating with the NRCS state offices in order to do the, you know -- implement the practices that need to be implemented in those targeted areas. There's a related --

**Lynda Hall**

And again, I think the questioner said one year of implementation. So again, I think we're looking at multiple years of implementation here. We already had FY 12. Now we're going to have FY 13. And our understanding from NRCS is we will have at least a couple more years, maybe more. So we're not looking at a single year of implementation. We'd be looking at a suite of practices over some time.

**Katie Flahive**

There's a follow-up question to the funding one that you just answered: Could the funding for monitoring come entirely from the state match and not federal funds?

**Lynda Hall**

Sure.

**Katie Flahive**

I will just note there have been -- over the course of the webinar here, there have been a lot of questions come in about the level of specificity in the MOUs. I think since these questions have

come in, Lynda has elaborated on that. And I think in the future, near term, we'll be coming out, you know, with further information on that, as Stu indicated during the webinar.

**Lynda Hall**

So I guess just one further point on that is I think it would be helpful to have -- and maybe Katie can follow up and facilitate this -- but I think we would benefit, before we embark on our conversations with NRCS, with getting some input from especially states that have experience with these MOUs. What is -- you know, what is a usable level of detail, level of aggregation that still works for the purposes of the state in terms of understanding what's gone on and, you know, in this case, for the purpose of monitoring? Because I think the devil is going to be in the details on this, and while I think our view is we're better off approaching NRCS as kind of an open-ended dialogue, you know, what direction can you provide to your state conservation from this, I think if we have from you a better sense of what is -- what is the data, that would be helpful. That would inform what we ask of NRCS. So maybe Katie can do some follow-up on this.

**Katie Flahive**

Yeah, actually that's a great idea. If you have thoughts, send them my way. I certainly welcome a dialogue on this. We are going to be engaging on this pretty soon with NRCS at the headquarters level, so any input that you might want to share with me about this, give me a call, send an e-mail.

**Lynda Hall**

I mean, if there's a quorum, we could have a conference call conversation.

**Katie Flahive**

Yeah, that would be really useful, really helpful.

**Stuart Lehman**

I can see a question here about, you know, one state that only has one stream, and they're concerned about getting baseline data before they start implementation. I just want to say that in many cases there will have been monitoring in some watersheds. Even if the states don't have it, it could be in the Land Grant University offices or Forest Service or other places. I think it's important to get an inventory of the information that's available for different NWQI watersheds, and there may actually be some baseline information. And then, barring that, a state could look to a nearby watershed with a similar level of implementation that could serve as a control watershed for a paired watershed study, and then they would have to look at the trend over time in those watersheds. So to the extent they could be calibrated as behaving similarly than after implementation, you know, being able to note the differences. So that is a tricky question. If you didn't have a chance to select a watershed, and there's only one, then getting that good baseline.

**Katie Flahive**

Okay, we've got a question here about the one-page summaries. Will EPA approve the state's monitoring approach in those one-page summaries?

**Stuart Lehman**

We're really looking at them to target the technical assistance and also just to have -- to be able to see what the status is of projects, where states intend to go. It's not really for detailed management purposes or approval or anything like that.

**Lynda Hall**

Right. We don't expect that, in something that brief, that you could really even lay out the full design, but we will need to know where you are intending to monitor and, you know, what the basic situation is and what you'll be monitoring for. So we were going to lay out a few suggested elements for that one-pager -- it might be a two-pager -- but if states have other ideas on that, we'd like to hear them.

**Katie Flahive**

There were a couple questions about the NRCS edge of field monitoring standard, and I can't answer completely. I understand that NRCS has sent to each of the NRCS state offices the information on those. They're a little different now, so it had been originally under a conservation practice code, the 799 standard. This is now a conservation practice activity, so it's being managed a little bit different out of the NRCS offices. It still will be available under EQIP funding. But NRCS does have quite a bit of information, I believe, available about that, and I think that's something that we -- best that we could send out after the webinar.

**Lynda Hall**

Sure. And I guess we could also share, Katie, our understanding, even though we -- kind of how many watersheds roughly might end up having some edge of field monitoring. That would probably be helpful for folks to -- it's less than we thought, bottom line. Originally, I think we had thought that NRCS would expect to have some edge of field monitoring maybe pretty widely distributed among the watersheds. And, you know, they're facing practical and budget constraints, and they're going to have a more limited number of places where there is edge of field monitoring, and we can share whatever information we have on that.

**Katie Flahive**

Yes, we'll certainly do that as follow up.

**Stuart Lehman**

What I've seen of the standard includes trying to have paired fields and controls built in to the monitoring design and also has a quality assurance plan that NRCS is comfortable with but for states involved in monitoring. And part of that data sharing might involve understanding how that data is generated, what's involved in those quality assurance plans.

**Katie Flahive**

Well, we don't have any further questions at this point. If anyone does have one, you can raise your hand. Oh, Tim Craddock has a question, and now I see your -- you've gotten your microphone, okay. Oh good, we've got a couple now. So Tim Craddock, I've just un-muted you. You can go ahead. We can't hear you if you've got it on mute there. Okay. Maybe we'll come back to you, or you could type your question in the box. Robert Ray, I've un-muted you. This doesn't seem to be working.

**Stuart Lehman**

Maybe if they could type in something very quickly.

**Lynda Hall**

Yeah, we can't hear you. Sorry about that, folks. If you are speaking, we aren't hearing you. So we may have to resort to typing questions in.

**Katie Flahive**

Will NRCS be sharing implemented conservation practices and locations? This goes back to the MOU discussion. Like I said, there are a lot of questions that are coming in about what level of detail are in the MOUs. And I think this question is right in line with that. We don't have all the answers right now, but we will be working on this in the very near term with NRCS headquarters, and those states, as Stu and I think Linda also mentioned, those states that do have a working relationship with the state conservationists should continue to engage in those conservations and start the conversation now about building those MOUs. And in the meantime, as we just discussed, you're welcome to send us ideas here. Send us your thoughts. Send us your perspective on what would be useful in those MOUs, and we can begin that conversation, as well.

**Lynda Hall**

Yeah, what would you like to see? And then, maybe, what could you live with? Maybe both of those things would be really helpful to have. Since there aren't a huge number of questions coming in, I thought this might be a good time just to call your attention, in the table that had different actions and dates next to it, that we are suggesting, as you select the watersheds where you want to monitor, that you do have a conversation with your NRCS counterpart about that. And it's not required, but we thought it would be a good gesture and would also be a way to open the dialogue with them, you know. We're in this collaboration, and as part of this collaboration, the state is being asked to monitor in these watersheds. You know, if you have a couple watersheds you would be happy to monitor in, you could, you know, even ask NRCS if they had an opinion about which one. You could also ask them about whether they have any sense of -- again, if you have watersheds to choose from -- whether they have any sense for the extent of implementation they're going to expect to see between those two watersheds. You might have a good sense of that yourself, but the NRCS folks might have a perspective on it, too. So it's a suggestion, but we think it would be a really good idea to check in with the NRCS folks, even as a courtesy. Even if you only have one watershed to choose from, it's still not a bad idea to touch base with them.

**Stuart Lehman**

Okay. We have a question about whether a watershed-based plan monitoring proposal could be used for monitoring in this case. And that really depends on the -- how well designed the monitoring is in the watershed-based plans. In some cases, usually in the plan itself, it's just a summary of the monitoring and what kind of stations and parameters will be monitored without, you know, a detailed monitoring plan or project plan. So if there is a more detailed monitoring plan that's part of the watershed-based plan, then yes. And where you can combine these things -- and this is exactly what we're talking about in terms of leveraging existing projects and actions within watersheds -- to save on the expense of this, that it's a good idea.

**Katie Flahive**

Okay, a question has come in here: What if we believe we already have an adequate baseline?

**Stuart Lehman**

Yeah, I think some cases, watersheds may be ready to go, states may be ready to go, have good baseline information. I think they should -- the region should be comfortable with the state's assessment and -- because ultimately they would have to approve funding for the additional activity in the watershed, funded with 319, anyway.

**Katie Flahive**

I think we're going to go back to go back to the MOUs here. There's a question that's a pretty basic question: What is the purpose of the MOU between NRCS and the state water quality



agency? I would answer that we've had, you know, a couple of years of conversations with NRCS about, you know, interested parties and measuring and tracking results. And in some states where the state water quality agency and NRCS has had a good close working relationship over time, we have seen these Memorandums of Understanding be developed between the federal NRCS office and the state water quality agency in order to share information that they can -- you know, share the detailed practice information so that, say, the state water quality agency can use that in a model in order to assess progress towards a water quality goal. So where we've come right now with the NWQI in recognizing that we need these MOUs is that NRCS has struggled, you know, with how to make this information available to partners in order to track progress. There's some pretty stringent language in the Farm Bill that they have continued to bring to the forefront of the conversations. But they have found a way to work around that by entering into these data sharing agreements, these Memorandums of Understanding. With, you know, very specific agencies or organizations that sign on to these MOUs, the data then can be shared between the people, maybe, who are mentioned in the MOUs, the organizations that are mentioned in the MOUs. The MOUs generally would outline what the goal of -- you know, of sharing that information is. In this case it would be to assess the National Water Quality Initiative and to have an understanding of where the practices are so that the states can effectively monitor those areas. So there -- You know, I'm really getting a clear sense from the questions that are coming in here that we -- that there's a lot of need for discussion on this. And I think we're going to take that back. We're going to figure out a way to bring these dialogues. I do see a need for a general dialogue with you all about these -- we can do a little thinking on the up-front. Send -- give me a call. Send me some ideas, and we'll get that going.

### **Lynda Hall**

Yeah, we can have a follow-on call just on this topic and get people's ideas. I mean, I think everybody recognizes the need, so the real next step, I think, is what is that level of information that you need and that we have that and a way to describe that as we have these headquarters level conversations with NRCS, and then, you know, there's a shared understanding of that, too, as some of you pursue these conversations with your counterparts at NRCS. So just to add on to Katie's -- and this may be stating the obvious -- but in terms of the purpose of these MOUs is really to -- all the science that we have, including USDA science from the Conversation Effects Assessment Project, says you really can't do the kind of monitoring that we laid out on the objectives page. You can do monitoring anywhere, you know, and there's lots of monitoring going on by states right now. But you can't really do -- you can't do cause and effect monitoring, and it's pretty hard even to do the associative monitoring without pretty specific information on what has gone on in the watershed in terms of location and type and extent of conservation practices. You know, states made that point loud and clear in commenting on the 319 grant guidelines. So that's our need in terms of these MOUs, and USDA's need is that they, you know, have them structured in a way that doesn't compromise them vis-a-vis the prohibitions in the Farm Bill on sharing personal data about land owners and that kind of thing.

### **Katie Flahive**

And one -- a follow-up question here is: Could we see a template or a sample from other states. And there are a couple samples out there, so we should work and compile that and get those out. I'll check in with the states that have them so that we can confirm that we can share those. And I'll just note, on the template, that that is a next step. As we say here that we're going to be engaging in the near term with NRCS at headquarters here, we're going to be talking about what those elements are so that this is something that NRCS could share with their NRCS state offices and also with the, you know -- we could share what NRCS shares with

you all, the state water quality agencies. I think it's really important that these are developed between the -- what we're hearing from NRCS headquarters is that these are kind of a local agreement, a local MOU. So it's going to be really key that they're developed through the relationships that you all are forming right now in the watershed selection discussions and continue, you know, these processes as we move forward with the MOUs. One point that was mentioned earlier was once you all, you know, come up with some ideas about where the states will be doing the water quality monitoring under -- in the NWQI watersheds and you share that, you know, have those discussions with the state conservationists from NRCS, the idea of that is just continue to build the relationships where it may be new and to focus on, you know, developing these relationships into the long-term. As Lynda has indicated and Stu has indicated, we know from NRCS that this program is going to be here for a while. There is going to be continued implementation in these watersheds. It's going to be, you know, more difficult to switch watersheds into the future, so this is the -- this is the state of play. So as we continue to develop the relationships at that state level with the state NRCS offices, that's really where these MOUs are going to be drawn from.

### **Lynda Hall**

So it sounds like next steps are we'll just double-check and make sure we can share the MOUs we have, that a few states have already gotten in place, and then we'll ask for your input on, you know, do these look like they'd would work for you? What specific information would you like to see? How would it be arrayed? You know, is it a spreadsheet? Is it a map? I don't know that format matters, but kind of what do you need to see? And then, again, I think it would also be helpful to have like just what would be the minimum that you feel like you could use to make some decent assumptions about, you know, has enough gone on in the watershed to warrant monitoring at this point. And we'll get that input from you, and then we'll have a follow-on call, if that sounds like a pretty good set of steps forward.

### **Katie Flahive**

Okay. I don't see any further questions coming in.

### **Stuart Lehman**

Like I mentioned in the schedule, there will be about three weeks, or by the 24th of May, looking for ideas for future webinars or additions besides the things that we've talked about. So feel free to send those to me. Not only that, but if you're interested -- what types of one-on-one type topics would be the most useful to you, things that maybe you'd want to replace out of the existing schedule of planned topics in webinars. So feel free to e-mail those to me. Like most e-mails here, it's last name, first name -- it's [lehman.stuart@epa.gov](mailto:lehman.stuart@epa.gov).

### **Lynda Hall**

Okay. Last chance. Type fast if you have another question. Meanwhile, while we're waiting to see if there are any final questions that come in, thank you to so many of you for calling in and participating in this. We recognize this is a challenging effort, and we've tried to do the up-front work to make it as straightforward as possible for us as a program to implement it. We do recognize that, you know, with the MOUs being so central and not having a lot of answers on that right now, that's difficult. But we felt like it was very important to talk with you, you know, and have this conversation and at least lay out the overall approach and our thinking and give you a chance to mull that over and ask questions and so on. So I appreciate your engagement on that, and we'll be following up pretty shortly, I think, on these MOU next steps. And Katie will be in touch in terms of a follow-up call on that once we, you know, get your inputs on the elements that will be useful.

**Stuart Lehman**

Alright, thank you all for listening today and be sure to send us your questions and comments and we will try to answer them or set up something where we will be able to. They were great questions!

**Katie Flahive**

Alright, thank you!