Animal Agriculture and Water Quality (AAWQ) Subcommittee of the

Farm, Ranch, and Rural Communities Federal Advisory Committee (FRRCC)

Meeting Summary | December 6, 2024

This meeting summary is organized according to the agenda and as listed below.

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I. Welcome and Call to Order

The U.S. Environmental Protection Agency (EPA), with Venus Welch-White presiding as the Designated Federal Officer (DFO), convened the third meeting of the Farm, Ranch, and Rural Communities Federal Advisory Committee's (FRRCC) Animal Agriculture and Water Quality (AAWQ) Subcommittee on December 6th, 2024, virtually at 10:05 AM EDT. Dr. Welch-White shared that information on the subcommittee, charge, and members, can be found at https://www.epa.gov/faca/frrcc-0.

II. Overview of Agenda

Venus Welch-White (DFO) reviewed the meeting agenda noting that the meeting is scheduled to conclude at 3:45 PM EDT. Dr. Welch-White noted that public commenters will be able to provide their comment at the end of the meeting. Dr. Welch-White noted that members of the public who are interested in providing public comment may also provide written comments through December 21, 2024, by emailing aawq@epa.gov. Members of the press can reach out to press@epa.gov for additional information.

Dr. Welch-White thanked members for convening and for the work they have completed since the last subcommittee meeting in August 2024.

III. Roll Call

James Pritchett*, Chair of the AAWQ Subcommittee, took roll call.

Roll Call:

Alexis Andiman

Mike Callicrate

Laura DiPietro

Steve Goans

Teena Gunter

Devon Hall

Tarah Heinzen

William Higgins

Chris Hoffman

Kelly Hunter Foster

Becky Joniskan

Keith Larick

Tom McDonald*

Rick Naerebout

Kevin Shafer

Marguerite Tan

Alicia Vasto

Melissa Wilson

Kent Woodmansey

Terron Hillsman (ex-officio) (not present)

**Member of the FRRCC.*

IV. Overview of Ad Hoc Workgroup Process

James Pritchett (Chair) thanked everyone for attending the meeting and expressed gratitude to the subcommittee members for volunteering their time to this process. He noted that the group has been collecting ideas and identifying opportunities of shared interest. The purpose of the meeting was to share findings with the subcommittee, identify areas of overlap, and "set the table" for the next phase of the process which is developing recommendations. Dr. Pritchett also thanked EPA and facilitator teams for their support of the subcommittee.

Dr. Pritchett reviewed the agenda, noting that each of the three ad hoc workgroups will report on what they have been discussing and items of consensus. At that point, the subcommittee will be able to ask questions and reflect on what was shared. Dr. Pritchett noted that after each presentation, the subcommittee will hear from a speaker providing information that was requested by the members. There will be an opportunity to ask questions following these speaker presentations.

Rob Willis (Ross Strategic) introduced himself as the meeting facilitator and acknowledged this is the first virtual subcommittee meeting. He noted that for each ad hoc workgroup, one or two members will be providing a report-out followed by about 30 minutes of discussion.

Venus Welch-White provided context for the public regarding the three ad hoc workgroups. Dr. Welch-White noted that at the conclusion of the August subcommittee meeting, the subcommittee divided into three ad hoc workgroups: Nutrient Management Plans (NMPs), Manure Management Systems, and National Pollutant Discharge Elimination System (NPDES) Implementation and Collaboration.

Dr. Welch-White noted that each member of the subcommittee is on one of the ad hoc workgroups, and the topic areas reflect the common themes that came up during the formation of the subcommittee and the first two subcommittee meetings.

V. Ad Hoc Workgroup 1 Report: Nutrient Management Plans

A. Ad Hoc Workgroup Members

Chris Hoffman
Rebecca Joniskan
Rick Naerebout
Alicia Vasto
Melissa Wilson

B. Presentation

Alicia Vasto provided the report-out for Ad Hoc Workgroup 1: Nutrient Management Plans (NMPs). Ms. Vasto shared that the group has been discussing the continued theme of needing more information to better understand regional and state variations in oversight for compliance, NMP program implementation and requirements, and land application rate guidelines. The group has also been exploring successful state programs and practices to understand effective methods. Lastly, the group is interested in exploring current approaches to documenting how manure transfer is tracked in NMP records. In particular, how nutrients from manure are accounted for when exported from the farm where manure was generated, how programs account for other land applications of commercial fertilizer, or account for manure application from unpermitted animal feeding operations (AFOs) in the same areas.

Ms. Vasto also reviewed the group's Statements of Common Understanding:

1. The workgroup understands there are differences in state programs regarding land application rate guidelines (e.g., crop yield, nutrient uptake, soil testing, soil types, manure composition, environmental conditions). The workgroup believes that more information about where these differences exist, how states determine which guidelines to use, what EPA's role is in approving or overseeing state approaches, and if there are differences in water quality outcomes depending on

which guidelines are being implemented will enhance understanding of how to address water quality issues.

2. The workgroup believes consistent oversight of EPA-delegated state concentrated animal feeding operation (CAFO) permitting programs across regions is important. The workgroup endeavors to better understand the current process EPA uses to ensure appropriate and consistent oversight across EPA Regions and whether increased collaboration or other approaches among EPA Regions could support improved consistency.
3. The workgroup recognizes the need for flexibility and practicality in implementation of NMPs to enable farmers to adapt to changing conditions and to ensure that NMPs are workable, meaning they are a useful, effective tool for farmers to protect water quality and achieve compliance. The workgroup understands that conditions vary across states and different types of CAFOs, and that there is often a variance between the plan and its implementation.
4. The workgroup recognizes the various challenges and barriers farmers face including the complexity of NMP administrative requirements, the shortage of technical service providers, time and financial constraints, limited access to resources to develop and implement NMPs, and more. The workgroup is interested in exploring ways to address these barriers and whether collaborating with states or EPA Regions to develop a clearer process for developing, reviewing, and implementing NMPs could reduce the burden on farmers and state agencies.
5. Recognizing that NMPs are a tool for protecting water quality, the workgroup wishes to explore how EPA and EPA-delegated state programs implement NMPs and assess their effectiveness in achieving intended water quality.

Ms. Vasto concluded her report-out by providing the group's proposed discussion topics for the subcommittee: variation in state programs regarding land application rate guidelines, reporting requirements, and oversight; regional variation in EPA oversight of state permitting programs; EPA and EPA-delegated state program implementation of NMPs and assessment of NMP effectiveness; ways to address challenges for farmers and ensure that NMPs are a useful, effective tools for farmers to protect water quality; and ways to improve the process for developing and reviewing NMPs to increase compliance and reduce burden on farmers and State agencies.

C. Discussion

An ad hoc workgroup member commented that from their perspective, as someone who manages several NMPs, they noted how complex and comprehensive NMPs are (e.g., accounting for things like manure composition, soil types, and regional variation). The member noted that NMPs are a highly collaborative process, and they have come to appreciate how EPA works with states and conservation districts to support these programs.

An ad hoc workgroup member shared that there is significant need for flexibility in NMPs since they apply to many different regions, situations, and types of farmers.

A member asked if the group had looked into individual state programs and if they have identified any differences.

In response:

- An ad hoc workgroup member noted that many differences were identified via conversations about the different states represented in the ad hoc workgroup. The member noted that the group has requested additional information and presentations on the differences in NMP programs between states.
- An ad hoc workgroup member noted that while the group has shared about the states they come from, the group has specifically requested information on states they know less about.
- Rob Willis noted that in the group's Statements of Common Understanding they reference variation between states with regard to oversight as well as implementation of NMP programs.
- The member who asked the initial question noted that each state has the requirement to implement a baseline NMP program and has the prerogative to layer on additional requirements based on their geography and additional factors. They asked if the ad hoc workgroup is finding more instances of states having additional requirements, or states having deficiencies in their programs.

A member noted that many states will rely on their land grant universities to define the requirements for their NMPs. He/she noted that there will be systematic differences, for example a state may have a phosphorus or nitrogen tool that looks different from another state. The member asked if the goal is to look at these detailed differences or look at the content and categorical components of NMPs.

In response:

- An ad hoc workgroup member noted that the group is looking into broader concerns. For example, some states use land grant universities to establish guidelines, but not all do.
- The member who asked the initial question noted that they believe the majority of the science comes from land grant universities or other scientific organizations, but the standards come from the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). They agreed it would be interesting to know the differences across states.

A member asked, regarding Statement 5, whether the group had defined the metrics to identify if water quality outcomes are being achieved.

In response:

- An ad hoc workgroup member noted that this has not been specifically discussed by the group yet but has been identified as an area that needs to be explored.
- An ad hoc workgroup member noted that the group did have conversations about how an NMP addresses water quality and crop uptake. The conversation centered around discussing whether an NMP is a tool for protecting water quality or maximizing crop yield. He/she noted that from their perspective, NMPs aim to address both. He/she noted that they see improvement in water quality in Pennsylvania, where the Department of Environmental Protection has cited the implementation of best management practices (BMPs) and tools as a significant contributor for this.

- An ad hoc workgroup member noted that an NMP is a risk assessment tool and will not measure how much of a given nutrient, such as phosphorus or nitrogen, is lost to the environment.

A member asked if there is any additional information the subcommittee could provide that the ad hoc workgroup would benefit from.

In response:

- An ad hoc workgroup member shared that they would be reticent to compare and contrast NMP parameters across all 50 states. The member noted that an upcoming EPA presentation to help the group better understand how the EPA administers the oversight of NMPs, NPDES, and the Clean Water Act (CWA) will be helpful to understand how oversight mitigates state-to-state differences.
- An ad hoc workgroup member noted that it could be helpful to hear from other subcommittee members about some of the questions that are consistently raised by the group. These questions relate to land application practices and how states implement NMP oversight.

A member noted that Ad Hoc Workgroup 3 (NPDES Implementation and Collaboration), has also been discussing consistency across EPA Regions. The member noted that their group has discussed training for the EPA as well as consistency in oversight of the regions and states. The member noted that the subcommittee would benefit from information on the EPA's regulatory tools and how nimble they are. Oversight could be specific (e.g., out-of-date soil testing) or address larger issues (e.g., overapplication of manure on land). It would be helpful to understand where enforcement stands.

A member noted that there is overlap between this discussion and Ad Hoc Workgroup 2 (Manure Management), particularly around land application. The member noted that the workgroups might want to collaborate to provide expert advice and identify if there is an opportunity to share useful information between the groups.

A member noted that there is also overlap with Ad Hoc Workgroup 2 (Manure Management) regarding Statement 4, which discusses challenges and barriers. The member noted this is something that the subcommittee should consider looking at across the board, not just as individual ad hoc workgroups.

A member shared that NMPs have a regulatory context, but are also a management tool for farmers. The member noted that NMPs were used before they were a regulatory requirement as most farmers want to know the nutrient levels in their soils and their crop needs. The member shared that there is benefit to having an NMP, including maximizing crop yields, not over-applying, and sustaining the farming operation. The member encouraged the subcommittee not to only view NMPs as a regulatory requirement and lose sight of the fact that it is also a management tool that all farmers use.

James Pritchett (Chair) thanked Ad Hoc Workgroup 1 for their contribution. He noted that he appreciated that the subcommittee identified areas where the members could collaborate and help one another. He noted that he is beginning to pick up on emerging themes and is looking forward to next steps as the ad hoc workgroups report-out.

Venus Welch-White (DFO) thanked everyone for their good work and thoughtful discussion.

VI. Presentation: Keeve Nachman

A. Presentation

Keeve Nachman, PhD., Professor of Environmental Health and Engineering at Johns Hopkins Bloomberg School of Public Health provided a presentation entitled "Rethinking Approaches to Manure Management: a Public Health Perspective." He began his presentation by sharing his background in public health, stating that he thinks about animal manure in relation to peoples' exposure to chemicals. He shared that he believes there are opportunities to integrate the public health and animal agriculture perspectives in a way that will meet everyone's goals.

Dr. Nachman stated that CAFOs produce enormous amounts of manure, and that manure carries contaminants that can make people sick. The way manure is stored and managed creates opportunities for it to pollute surface water and groundwater. He noted that these are not the only modes of exposure, but that they were the ones most relevant to this subcommittee. When people drink water that is sourced from polluted surface water and groundwater, they can be exposed to animal manure. He stated that the current approaches to manure management do not prioritize the protection of water quality, and deprioritizing water quality threatens the health of water users. He also stated that while manure has been managed for a long time, there is new science on the public health side that suggests new approaches are needed.

Dr. Nachman stated that manure management matters for several reasons. The USDA estimates that there are 1.4 billion tons of manure produced each year, by almost 10 billion animals. He noted that this production is not equally distributed across the United States, and there are areas where it is far more concentrated than others. He noted that contaminants found in manure are not limited to nutrients like nitrogen and phosphorus, but also include natural and synthetic hormones, metals, pharmaceuticals, pesticides, and pathogens such as bacteria, viruses, and protozoa. He emphasized the importance of looking at cumulative exposures when determining health impacts and reiterated that the way manure is stored and managed creates opportunities for these chemicals and pathogenic contaminants to get into surface water, and subsequently, groundwater.

Dr. Nachman shared that United States Geological Survey data from 2022 shows that 162 million out of 269 million individuals who use public water rely on drinking water sourced from surface water. He noted that exposure can come from home uses like drinking, food preparation, washing clothes and dishes, bathing, brushing teeth, and water for pets. He also noted that there are recreational activities like swimming that present opportunities for exposure. He shared that surface water and groundwater are not isolated, with surface water replenishing groundwater in many cases. Thus, anything that happens to surface water may have downstream impacts on groundwater.

Dr. Nachman shared recommendations for a different approach to NMPs. He shared that there is variation in current NMP guidance, but that most prioritize crop needs as the basis for decision making with a smaller emphasis on minimizing environmental impacts. He also noted that there is no mention of human health in the core components of an NMP.

Dr. Nachman recommended that manure management consider the cumulative burdens by an exposed person and how stressors can act together to harm health. He shared that there is a clear, and well-documented disparity in who is most burdened by agricultural pollution and its related stressors. He emphasized that the externalized costs of manure management practices are borne disproportionately by rural communities and low-income communities of color.

Dr. Nachman stated that there is newer science that indicates current regulation of contaminants that come from animal waste may not adequately protect public health. He reviewed the regulation of nitrate in drinking water as an example. Dr. Nachman began by reviewing the human health risk assessment process as established by the National Academy of Sciences. He noted that the key steps are hazard identification, dose-response assessment, exposure assessment, and risk characterization. During the hazard identification process, epidemiological, toxicological, and mechanistic studies are utilized to determine if exposure to something causes a health outcome. If exposure does cause a health outcome, the next step is determining the dose-response relationship. Through this analysis, toxicity values such as reference doses, or cancer slope factors are determined.

Dr. Nachman shared data from the EPA's Integrated Risk Information System (IRIS) regarding nitrate's finalized toxicity evaluation from 1991. The reference dose given is 1.6 mg/kg/day and was developed on the basis of methemoglobinemia. He stated that this is a hematological condition in which hemoglobin becomes less able to carry oxygen and is often referred to as "blue baby syndrome." Based on the 1991 assessment, the nitrate maximum contaminant level (MCL) is 10 mg/L.

Dr. Nachman noted that the current nitrate MCL may not be protective of public health. The nitrate MCL was established in 1992, and only applies to community water systems, leaving private wells, which serve approximately 45 million people, unprotected. He noted that this research contains little consideration of interindividual variability; the composition of gut microbiome and that co-exposure to water contaminated with bacteria can increase risk. He also noted there is a narrow consideration of health effects and a reliance on older evidence. There is no cancer assessment, and no other health endpoints were utilized.

Dr. Nachman stated that there is newer evidence. A 2018 review led by scientists at the National Cancer Institute looked beyond methemoglobinemia and identified colorectal cancer, thyroid disease, and neural tube defects as outcomes with the strongest evidence. The review also found several studies with evidence of adverse health effects at drinking water levels below the nitrate MCL of 10 mg/L.

Dr. Nachman shared that in November 2023, EPA's IRIS announced a formal protocol for updating the nitrate and nitrite toxicological assessment. Depending on the outcome of this assessment, there could be changes to reference doses, a cancer determination with the potential creation of a cancer slope factor. He noted that a new nitrate MCL would result in a lower level of nitrate allowed in drinking water regulated by the Safe Drinking Water Act (SDWA). An updated value would also provide a basis for considering public health in NMPs.

Dr. Nachman closed his presentation by stating that a new, multi-objective approach and model for nutrient management is needed. He emphasized that this would be a collaborative and multi-disciplinary approach including agriculture, engineering, and public health. He stated that the benefits of this approach extend beyond surface water protections, including better management to reduce environmental and human impacts, and can be applied to other areas such as commercial fertilizers and human biosolids.

B. Discussion

A member asked for clarification about the scope of the subcommittee regarding discussing the various aspects of this presentation.

- Venus Welch-White (DFO) clarified that the AAWQ Subcommittee Charge falls under the jurisdiction of the CWA Dr. Welch-White emphasized that the subcommittee is working closely with the Office of Water (OW), which oversees the Safe Drinking Water Act (SDWA). Therefore, the group should

not feel limited in identifying connections when developing recommendations, while focusing on the NPDES program.

A member asked what the subcommittee is able to address with regards to the contaminants discussed, including hormones, and other chemicals that go beyond phosphorus and nitrogen.

- Dr. Welch-White clarified that IRIS risk assessments are completed by other EPA offices, but there is cross collaboration with the Office of Water.

A member noted that while the presentation discussed manure and biosolids, the subcommittee should be aware of commercial fertilizers as well, since these fertilizer applications make up the majority of nitrogen applied in some states.

A member stated that he/she would like a presentation on the IRIS program if the subcommittee is to consider it.

A member shared that he/she felt the presentation was about how NMPs could be improved to address public health and asked Dr. Nachman to reorient the group.

- Dr. Nachman reiterated that he is suggesting that NMPs could incorporate human health considerations. He clarified that NMPs could not just look at nutrient loss, or even quantifying nutrient loss, but also how that loss translates to health impacts through various exposures, including drinking water.

A member thanked Dr. Nachman for the presentation and stated that it relates to what he/she has been trying to convey in their workgroup. The member stated that the reason that the EPA is engaged in NPDES permitting is to protect water quality for the purposes of protecting public health. The member stated that he/she does not think this is adequately happening with the current requirements for NMPs or implementation at the state level, since the current focus is on crop yield and waste management rather than water quality. The member suggested that human health should be the focus of the ad hoc workgroups and the subcommittee.

A member noted that animal agriculture is more heavily regulated than any other facet of agriculture. The member noted that he/she will be hesitant to invite more regulation on themselves while other sources of contaminants go unregulated. The member noted that he/she will also not be able to solve this problem by creating more regulation for animal agriculture alone.

- Dr. Nachman clarified that he is not advocating more regulation and does not believe that singling out animal agriculture while ignoring other sources is the answer. He clarified that he is advocating for a smarter approach to protect public health.

A member noted that the presentation signaled a need to move beyond just nitrogen and phosphorus. He/she asked Dr. Nachman to provide further information on what those contaminants are.

- Dr. Nachman shared that these contaminants include mineral supplements (zinc and copper), hormones, veterinary drug residues (unmetabolized parent compounds and metabolites), pesticides, and metals. They also include pathogens which can cause acute illness or weaken a person's defense to exposure of other chemicals.

A member noted that with regard to the nitrate regulation, the IRIS process is only in the Hazard Identification phase. The member stated that it seems premature to act without knowing the risk posed by the universe of chemicals found in manure.

- Dr. Nachman clarified that the EPA has characterized risk for a lot of chemicals. He continued to explain that in the case of nitrate, the MCL is outdated, does not reflect new science, and needs to be updated. He stated that the biggest question is how to keep people's exposures under the acceptable limit.

A member noted that their states look at private well water quality. The member shared nitrate is monitored since it is the most likely to move. The hope is that in controlling nitrate, we can also address potential contamination of other contaminants.

- Dr. Nachman confirmed that a model used for creating NMPs that addresses health impacts would need to incorporate fate and transport and how it differs by contaminant.

A member stated that he/she would like the subcommittee to think about the things they can control, and that there are aspects of risk assessment and water treatment that they do not have control over.

- Dr. Nachman agreed and noted that it is important for animal agriculture to recognize that they are not the only source of contaminants. Because of this, there may be a need for more scrutiny or stringency in what animal agriculture can add to the mix to prevent people from getting sick.

A member asked Dr. Nachman what he believes the nitrate MCL should be.

- Dr. Nachman noted that he trusts the IRIS process to make this determination. He noted that some studies have found effects at three to five parts per million (ppm) and there is ample evidence the 10 ppm is too high.

Dr. Welch-White thanked Dr. Nachman for his presentation. She noted that there are other sources of the contaminants found in manure, including veterinary and medical practices, and other industries.

James Pritchett (Chair) thanked Dr. Nachman for his input and noted that the ad hoc workgroups will now have a larger breadth of knowledge, allowing them to ask better questions and build this information into their workgroup activities.

VII. Ad Hoc Workgroup 2 Report: Manure Management Systems

A. Ad Hoc Workgroup Members

Mike Callicrate
Devon Hall
Will Higgins
Kelly Hunter Foster
Tom McDonald
Kevin Shafer
Margurite Tan
Kent Woodmansey

B. Presentation

Tom McDonald and Kelly Hunter Foster provided the report-out for Ad Hoc Workgroup 2: Nutrient Management Plans (NMPs). Mr. McDonald shared that the group aims to address concerns with manure management systems at CAFOs. He noted that the group has requested inspection records from the EPA to look at where violations have been found and to identify deficiencies. The group also wants to address practices, management strategies, or new and alternative technologies available to address these deficiencies that are appropriate for different geographic areas. Lastly, the group is focused on barriers to the adoption of BMPs and new technologies including regulations, funding, and the industry structure.

Mr. McDonald also provided an overview of the group's discussions. He noted that the group began with an initial review of the AAWQ Workgroup Topics and Focus Areas document, and agreed to begin with problem characterization to focus on the components of the manure management system that may need to be addressed. To understand the problems, the workgroup identified watersheds with predominantly animal agriculture to discuss problems and solutions. The majority of discussion has been centered on determining the criteria for this watershed approach.

Ms. Hunter Foster shared the group's Statements of Common Understanding:

1. The workgroup believes protecting water quality is a key component when determining recommendations for manure management.
2. The workgroup will select widely studied watersheds that are agriculturally dominant and investigate manure management practices' impact on water quality.
3. The workgroup recognizes the variety of practices in use around the country and that solutions will not be one size fits all.
4. The workgroup believes that there are conservation practices, BMPs, and technologies that are both effective and practicable at preventing discharges. The workgroup would like to investigate current and emerging practices and technologies.
5. The workgroup believes a better understanding of barriers to adoption of effective management practices, and how the barriers can be addressed, would improve current and emerging technology/practice adoption and implementation.

C. Discussion

A member asked if this workgroup can address new and emerging technologies could be aided by the Effluent Limitation Guidelines study.

- Julie Sullivan (EPA) clarified that the study is being completed in parallel with the subcommittee.

A member noted that the Office of Research and Development (ORD) does work on BMP evaluations and techniques. He/she shared that the workgroup could use this work to inform their discussion. The member noted that he/she has worked directly with ORD to discuss research opportunities.

A member asked, regarding Statement 5, if there has been any more specific discussion of barriers to adopting BMPs or new technologies.

- An ad hoc workgroup member noted that he/she was thinking of barriers broadly. They noted that barriers could include equipment not being available or not being cost-effective. He/she also noted that there may be regulatory barriers to the implementation of BMPs and new technologies.
- An ad hoc workgroup member noted that a lot of operators and contractors are some of the poorest people in the country. While there are NRCS programs, many are cost-share only programs. The member noted that perhaps the burden should be put on the integrator to make the improvements required.

A workgroup member noted that Ad Hoc Workgroup 3 (NPDES Implementation and Collaboration) has also discussed barriers in the NPDES program, and what the EPA could do to address them. He/she noted that smaller facilities cannot handle the same costs as larger facilities, and these are often barriers to implementing practices.

A member noted that regarding Statement 4, there is overlap with Ad Hoc Workgroup 1 (NMPs). He/shenoted that this is a topic where the groups could collaborate since BMPs are an important part of creating an NMP.

Rob Willis (Ross Strategic) asked Ad Hoc Workgroup 2 if there are any aspects of investigating well-studied watersheds that the other workgroups could contribute to, or benefit from.

- A workgroup member noted that the group is looking to find a representative sample of watersheds rather than document every single type of practice or scenario. He/she noted that there is a very diverse set of perspectives in Ad Hoc Workgroup 2. He/she shared that the workgroup does understand that the most important consideration is water quality and the adoption and use of best practices.
- A workgroup member noted that the group has had discussions around staying within their group's scope, however, there is significant overlap between manure management and NMPs.
- A workgroup member shared that as the workgroup is looking at watersheds, it would be useful to check in with Ad Hoc Workgroup 1 (NMPs) as potential issues are identified, so that relevant information is shared across groups.
    - A member agreed that NMPs are relevant to the review of what is affecting watersheds. It would be helpful to identify additional areas of investigatory overlap and coordinate their discussions.
- A member suggested that the group look at EPA's ambient monitoring as a measure of watershed health. The member noted that this is a heavy lift, and in their state, he/she had a statistician looking at one contaminant in one stream for over a year.
    - A workgroup member noted that the group is not set up to do that analysis, and as such, they are looking at watersheds that are well-studied and where analysis has already been done. The workgroup is also planning to invite experts to speak to the group.
- A member noted that watersheds will look different across the country, but within a region, there will likely be less variability for manure handling and storage.

A member asked if the group could give examples of some BMPs that could be adopted that are not widespread.

- The ad hoc workgroup member stated that he/she has not gotten to this aspect of the discussion yet.

A member shared that NRCS has a program which collects runoff and attempts to do statistical analyses on the data. He/she noted that it can be difficult to assess the impacts of conservation practices on environmental quality, and the studies are not perfect, but they attempt to paint a picture in various places throughout the country.

James Pritchett (Chair) asked Ad Hoc Workgroup 2 about what EPA inspection data they are seeking.

- A workgroup member replied that the workgroup is trying to identify areas where there are common deficiencies. He/she believes it would be helpful to know what the EPA is seeing across the country. He/she also noted that this information may reduce the need for extensive watershed studies if they can get straight to identifying the practices in use.
- A workgroup member shared that inspections look at compliance with current standards, but the group is also interested in the current practices of manure management that may need to be changed. Any deficiencies in these areas would not be picked up in inspection or enforcement.
    - A member shared that he/she respectfully disagrees and that he/she believes the group will find areas where operators are struggling using inspection information.

VIII. Presentation: Michael Scozzafava, Katie Vallis, and Amanda Reed

A. Presentation

Michael Scozzafava, Acting Director of the Watershed Restoration Assessment and Protection Division, OW introduced himself, and highlighted the EPA's nonpoint source program (CWA Section 319), the assessment and listing programs , and total maximum daily loads (TMDLs), monitoring and assessment including the National Aquatic Resource Surveys, the Gulf Hypoxia Task Force, and multiple water data integration tools including "How's My Waterway." Mr. Scozzafava noted that he was joined by Katie Vallis (EPA Region 5), Amanda Reed (EPA Region 7).

Mr. Scozzafava presented on the EPA's CWA Section 319 National Nonpoint Source (NPS) Program. He stated that the Section 319 program is a small and voluntary conservation program. The role of the EPA is to ensure states, territories, and tribes have strong NPS programs; however, the program relies on strategic partnerships. These partners include larger funding sources like the USDA Farm Bill program, as well as local watershed groups, conservation districts, and landowners and agricultural producers. The program requires buy-in from these landowners and producers and this is based on developing trust and having a shared value to protect water quality. The Section 319 program acts as a catalyst for water quality projects. Given the Farm Bill's large investment in conservation, the program seeks to leverage USDA funding in its work. The program has had success in implementing a suite of actions across watersheds in the most efficient way possible so that money goes towards the most important problems.

Mr. Scozzafava noted that Section 319 funding cannot be used to implement NPDES permit requirements since a permitted discharge is a point source by definition. He shared that for CAFOs, while Section 319 funding cannot be used to achieve any permit requirement, it can support other water quality operations that go above and beyond the permit. Section 319 funds can be used to implement projects, performance measures, and outreach and education efforts beyond the NPDES requirements. Mr. Scozzafava emphasized that the EPA recognizes the importance of the Section 319 and NPDES programs working together.

Mr. Scozzafava provided background on Section 319. He stated that it was enacted in 1987 to control NPS pollution. The program provides a framework and funding for state and local NPS efforts. It is not meant to solve the entire NPS problem but plays a critical role by developing statewide NPS management plans and attracting other sources of funding. Of the program's funds that go to on-the-ground watershed projects, 30-40% annually goes to agricultural sources. These investments are often made in concert with USDA to demonstrate innovative practices.

Mr. Scozzafava reviewed Section 319(b), which establishes state NPS management programs or plans. He noted that these are updated every five years, set NPS priorities, drive annual workplans, and may provide an opportunity for public comment as well as engagement with a wide variety of partners. He noted that this allows states to be creative and flexible in implementing their programs and is particularly useful in helping partners access funding to implement watershed-scale projects.

Mr. Scozzafava reviewed Section 319(h) which is the grant program which allows the EPA to issue grants to eligible states, territories, and tribes, once they have an approved NPS management program. He noted that the EPA national NPS program works very closely with EPA Regions who oversee the grants and grant guidelines. In most cases, grantees sub-grant at least 50% to local partners.

Mr. Scozzafava shared that any on-the-ground work funded by Section 319 grants must be informed by a Nine Element Watershed plan as required in the grant guidelines. He noted that the elements are informed by lessons learned as well as monitoring and assessment data. He shared this is important because the strategic use of conservation practices is critical to measurable water quality improvement. The nine elements can be categorized into three major sections: a technical roadmap (how to impact water quality), an engagement roadmap (how to engage the right partners), and a desired outcomes roadmap (how to measure progress and create a sustainable program).

Mr. Scozzafava shared that there are approximately 500 state and tribal staff currently implementing NPS programs, with approximately 1,800 on-the-ground projects. In EPA Region 5, there are also around 225 partner organizations involved in active projects.

Mr. Scozzafava shared that NPS programs have had success in addressing animal agriculture contamination issues. He noted that these success stories involve funding from not only Section 319, but also USDA. In total there have been 774 impaired water bodies that have been partially or fully restored using Section 319 funding. He noted that they have addressed 56 different pollutants.

Mr. Scozzafava shared a map of funding overlayed with pinpoints for Section 319 projects that address row crop agriculture, animal agriculture, and silviculture. He noted that there are many success stories for watersheds impaired by row crop and animal agriculture, and silviculture that have been restored with investment from Section 319. He noted that frequently funded animal agriculture practices include waste management, fencing, alternative water sources, and nutrient management. Frequently funded animal agriculture projects have addressed include nutrients, sediment, pathogens, and biological oxygen demands. He emphasized that practices not only address water quality issues, but they improve soil health and build resilience to natural hazards and climate conditions.

Mr. Scozzafava provided an overview of the data that can be retrieved from their grants reporting database including a primary pollutants chart and most used practices chart. He also shared links to success stories, noting that there are 368 success stories which implement animal agriculture practices.

Katie Vallis (EPA Region 5) shared a case study from Lake Shakotan in Minnesota. She shared that the primary land use in the watershed is agricultural including 12% pasture and rangeland, and 43% cropland.

Excessive nutrient and sediment runoff from cropland manure application, animal feedlots, pastureland, livestock access, failing septic systems, and developed shorelines has led to extensive algal blooms in Lake Shakotan. In 2002 the lake failed to meet its aquatic recreation and aquatic life use designations and was placed on the impaired waters list. In 2004, partners used $63,000 of Section 319 funds to develop a TMDL.

Ms. Vallis shared that in addition to TMDL development, a suite of BMPs have been implemented by local partners including: feedlot upgrades, relocation, and retirement; pasture fencing; tile inlet removal and upgrades; septic system upgrades; wetland restoration; and conservation easements. Ms. Vallis emphasized that these practices were implemented using around $1 million in additional funding, most of which was sourced from Minnesota's Clean Water Partnership program over multiple years.

Ms. Vallis provided an overview of the results of these practices noting that there was a decrease in phosphorus concentrations, less frequent algal blooms, improved water clarity, algal community composition shift, and establishment of rooted vegetation. Lake Shakotan was removed from the impaired waters list in 2018.

Ms. Vallis emphasized that Section 319 funding can be used for a variety of practices, not just TMDL development. She also highlighted the importance of having partnerships on the federal, state, and local levels to implement these practices and access funding. She noted that no single BMP can fix a watershed, and a suit of practices is necessary to see measurable results. Lastly, she noted that these efforts take time, and coordinated long-term efforts can have a big impact.

Amanda Reed (EPA Region 7) provided an overview of a livestock feeding relocation and grazing land improvement case study in Kansas that was funded by Section 319. Ms. Reed emphasized that these projects take time and require trust, especially when working with individual producers to implement practices. She shared an aerial image of the farm, highlighting the problem areas where bacteria and sediment were reaching a waterway. She noted that in this case the water flows through a confined feeding area, and relocating it was important to solve the issue, however, the producer also needed a layout that worked for them. The producer ultimately got cost share to build a hard feeding bunk.

Ms. Reed shared that this producer also had a lot of pasture and grazing land, including areas that were degraded and had water flow. The new feeding pad and feed bunks allowed them to abandon pasture feeding areas and add more water sources to discourage cows from going to the stream. Ms. Reed shared that a few years later, the problem was resolved. She noted that this underscores the importance of working with producers to improve their facilities in addition to implementing BMPs.

B. Discussion

A member noted that he/she sees a lag in water quality improvement after practice implementation and asked the presenters if there is an average time for noticeable improvement.

- Mr. Scozzafava shared that it depends on the practices and land use. He noted that Section 319 does have publications regarding time lag.
- Ms. Reed noted that it varies greatly depending on how many waterways and pollutants a project is trying to address and how many BMPs need to be implemented. She noted that it is also hard to understand how many land-use changes are occurring, which might impact water quality. It can take a significant amount of time to see changes in water quality data.

A member noted that one struggle he/she has had with the Section 319 program is having enough management programs in place to give the funding away. The member also noted that they used Section 319 to deal with a groundwater issue and emphasized that there is some flexibility in the program. Lastly, they noted that establishing a Nine Element Watershed plan is very difficult, even with partners.

- Mr. Scozzafava shared that his office has heard these concerns from states and are working to provide more flexibility for alternatives to the Nine Element Watershed plan.

A member asked why there is not a similar funding pool for point source facilities.

- Mr. Scozzafava suggested that the group hear from the Clean Water and Drinking Water State Revolving Funds (SRF). He noted that point sources are one of the three primary eligibilities of SRF funding, but there are other smaller grant programs as well. Generally, at a national level, the NRCS conservation program is meant to be the major source of funding for agricultural producers.
- A member noted that one of their limitations to using SRF funding is that it has to fund a public entity. The member noted that their ad hoc workgroup has had discussions about what federal funds smaller farmers can use to establish point source controls.
    - Mr. Scozzafava agreed that the SRF can be limited by state-level regulations. He shared that he is trying to advance watershed financing partnerships in which an entity can take out a loan to work on a watershed scale and provide funding to producers. He noted that there are resources available on this approach to using SRF funding.

A member noted that Section 319 funding cannot be used to meet NPDES permit requirements. He/she asked what eligibility a CAFO without an NPDES permit would have.

- Mr. Scozzafava clarified that permitted CAFOs are not automatically ineligible for Section 319 funding, but Section 319 funding cannot be used to achieve permit requirements.
- Ms. Reed noted that areas that exist outside of the permit are eligible for funding.

A member noted that based on the interest of Ad Hoc Workgroup 2 (Manure Management), it would be helpful to learn more about the SRF and NPS programs.

A member noted that there is a disconnect in NPDES permitted CAFOs being ineligible for this funding. He/she noted that in the example shown, a smaller farm with animals with access to surface water was able to use the funding, but a CAFO with a NPDES permit would not be able to.

Venus Welch-White (DFO) thanked Mr. Scozzafava, Ms. Vallis, and Ms. Reed for their presentation. She noted that the Section 319 program has also worked closely with the FRRCC, and the committee has made recommendations on the Section 319 program focusing on its implementation and value to farmers and the environment.

IX. Ad Hoc Workgroup 3 Report: NPDES Permitting Implementation

A. Ad Hoc Workgroup Members

Alexis Andiman
Laura DiPietro

Steve Goans
Teena Gunter
Tarah Heinzen
Keith Larick

B. Presentation

Keith Larick provided the report-out for Ad Hoc Workgroup 3: NPDES Permitting Implementation. He began by providing an overview of the discussions that have occurred during workgroup meetings. He noted that much of the group's discussion has centered around the data that is used to support the EPA's findings that CAFOs are discharging without NPDES permits. He noted that statements citing that 75% of CAFOs are discharging without NPDES permits can be found in documents such as the EPA's "Legal Tools to Advance Environmental Justice." He noted that this statistic could date as far back as 2001 and may be outdated. The group is seeking to better understand the nature of discharges (e.g., ongoing versus one-time) so that they can address why these CAFOs are not permitted. The group has asked the EPA to look into these statements, and also look into information regarding types of discharges, demographics of CAFOS where discharges occur, and the management types used in these cases (i.e., manure handling systems and land application methods).

Mr. Larick reviewed the group's Statements of Common Understanding:

1. The workgroup recognizes the importance of sufficient capacity for the EPA and delegated NPDES programs to support effective permitting, compliance, and enforcement. The workgroup is interested in exploring:
    a. The permit/inspection cycle and the EPA's role in effective program compliance and enforcement.
        i. Training for EPA inspectors, 5-year requirements for inspections from the EPA, EPA agility in enforcement, and if there is a data gap between State/local enforcement and compliance efforts on non-NPDES permitted farms and the EPA's information on these State/local enforcement reports.
    b. Expanding or creating EPA loan and grant programs for permittees to encourage measures to enhance and improve water quality.

Mr. Larick noted that proposed discussion topics for the future include how state capacity may result in under-permitting as well as resources to address inspection capacity deficiencies. He noted that it would be useful to look at reports on inspections to see what data is available and get a snapshot of what is happening nationwide.

C. Discussion

A workgroup member shared that it is possible that the CAFO regulation has changed from when the 75% statistic was calculated. He/she noted that in 2001 it included permitting for facilities with the "potential to discharge." The member shared that he/she has requested information on this statistic. . He/she noted it would be helpful for the group to learn more information about inspection and inspector training.

A workgroup member shared that the workgroup has spent a lot of time coming to the agreement that there is a problem with NPDES permitting. EPA established this subcommittee to strengthen permitting and

address under-permitting. He/she stated that recognition of the problem is vital, and he/she would like to hear from the EPA regarding this.

A workgroup member shared that the group is looking at the five-year inspection requirement as the pressure of inspections may lead to better implementation of practices. He/she also noted that enforcement can require a higher level (i.e., courts and lawyers) and this may not always happen for minor issues, which may be an opportunity for improvement. He/she expressed that inspections could provide more detail and be nimbler so that producers can better understand their compliance status, and are able to correct small problems before they become larger. He/she noted that this is similar to NMPs, where there is the potential for a lot of detail. He/she noted that the subcommittee heard about this support being provided by conservation districts in Pennsylvania. Lastly, the member noted that there seems to be a gap of knowledge that the EPA has on state permits and other information that leads them to make statements about facilities discharging with NPDES permit authorization. It would be helpful to understand this gap and improve it, to ensure that there is better information about the regulation available to the public.

A member noted that the EPA inspects unpermitted dairy CAFOs in Idaho every two to three years. He/she stated that getting successful inspection data would be helpful to understand that there may not actually be a shortage of permitted facilities.

A member shared that the FRRCC has previously discussed how the EPA conducts their inspections and the need for compliance assistance. He/she noted that some facilities may not understand what is expected. Rather than focusing time and resources on enforcement, assistance in helping the facility come back into compliance would be better received and yield better results.

A member shared that it might be useful for the workgroup to look into why states are offering alternatives to NPDES permits. The member noted that in their state, he/she had to develop an off-ramp from NPDES because the burden was too great.

- A workgroup member asked for clarification on this statement.
    - The member who made the initial statement replied that the EPA changed the permit requirements, and the member stated that the burden of compliance was too great.
- A member noted that their experience is very different in Pennsylvania. He/she shared that the permitting, compliance, and enforcement is done in collaboration with the state's environmental program. The member noted that he/she is inspected at least twice in a five-year period, and their conservation district inspects them every year. There is a lot of administration in permitting, and compliance and enforcement actions are often pushed up the chain as needed. He noted that it seems different from how other states are being regulated.

A workgroup member commented on the issue of capacity, sharing that in some places the framework is in place but there is insufficient staff capacity to complete inspections or increase their frequency. The workgroup member emphasized that it is important to assess capacity before assuming that the program itself is insufficient. The workgroup member noted that many states have capacity issues based on things like land area and population.

X. Presentation: Craig Johnston

A. Presentation

Craig Johnston, JD, Professor of Law at Lewis and Clark Law School provided information on the benefits of issuing NPDES permits when there is doubt about the occurrence of discharges. He noted that he has no practical involvement in CAFO issues, but he has been studying them since 1994. He noted that he will not comment on the state programs outside of NPDES but will speak to the advantages of the NPDES program.

Mr. Johnston noted that the main advantage of the NPDES permit program is transparency and public participation. Every draft permit has a factsheet (or, if a minor permit, a statement of basis) that accompanies it, and the conditions of the permit are available to the public. He stated that the public has a chance to comment on draft permits and request a hearing. He stated that current CAFO regulations generally require NPDES permit limitations that are expressed as BMPs. The current regulation allows delegated states or the EPA to establish state technical standards consistent with the federal CAFO regulations. State technical standards provide the basis for critical elements of the site-specific terms of the NMP.

Mr. Johnston noted that some producers are concerned about NPDES permit process due to the possibility of enforcement implications if they are found to be in violation of the permit. Mr. Johnston stated that the risk of those CWA enforcement actions may be higher in the absence of a NPDES permit, or if the operation is only covered under a state non-NPDES permit.

Mr. Johnston noted that 47 states have assumed delegated authority for the NPDES program. He noted that most of the funding for the NPDES program comes from the federal government, and many states agree that it is in their best interest to assume responsibility for the program.

Mr. Johnston shared that regardless of whether the EPA or the state is authorized to administer the NPDES permit program, extra protection is provided by the CWA and NPDES regulations. He cited the permit shield provision of the CWA which states that if a facility meets the requirements of the permit it is deemed to be in compliance with the law. CWA 402(k). Mr. Johnston stated that a non-NPDES state-generated program would offer no protection from an EPA action or a citizen suit under the CWA. If EPA or a delegated state issues an NPDES permit without challenge, the facility is shielded from other interpretations for the statute or regulations.

Mr. Johnston noted that in *County of Maui v. Hawaii Wildlife Fund*, the Supreme Court determined that point source discharges of pollutants that travel through groundwater to waters of the U.S. require a permit when they are the "functional equivalent of a direct discharge." Mr. Johnston noted that the Supreme Court described seven non-exclusive factors that may prove relevant in determining whether a discharge is the functional equivalent of a direct discharge, including time and distance.

Mr. Johnston closed by stating that he believes clear benefits exist for facilities that discharge by having an NPDES permit and complying with the permit.

B. Discussion

A member asked if Mr. Johnston could speak more about the transparency requirements for NPDES permits as well as the EPA's support for states issuing these permits.

- Mr. Johnston noted that the NPDES permit issuer has to generate a factsheet explaining the derivation of requirements and legal decisions, so there is a record available to the public.. A public hearing should be held when there is a significant amount of interest expressed during the public comment period or when it is necessary to clarify the issues involved in the permit decision. A member thanked Mr. Johnston for his presentation. The member asked for clarification on the statement that if a facility has an NPDES permit, the facilityis deemed in compliance with the CWA.
- Mr. Johnston indicated that if the permittee is in compliance with the terms and conditions of their permit, then the facility is in compliance with the CWA. He noted that if interested parties had any issues with the proposed requirements of the draft permit, it should be resolved during the permit issuance process.

A member asked Mr. Johnston to provide background on the effluent monitoring requirements of the CWA.

- Mr. Johnston noted that effluent monitoring ("end of pipe" monitoring) requirements for numeric limits are generally relatively straightforward for many industrial facilities in that monthly reports are submitted to the state. He noted that in the context of CAFOs, it is more complicated. Many requirements are expressed as non-numeric BMPs. Venus Welch-White (DFO) thanked Mr. Johnston for his presentation and invited the subcommittee to think about this information in reference to the ultimate goal of water quality. She also noted that this presentation provided context on the reason for the formation of this subcommittee.

XI. Public Comment

Blakely Hildebrand, Southern Environmental Law Center

Ms. Hildebrand highlighted the importance and severity of the effect that industrial animal agriculture has on water quality and public health. She shared that in North Carolina, which is a top poultry and hog producing state, the vast majority of industrial animal agriculture operations are unpermitted or under a state non-discharge permit, which lacks regulatory power. The majority of these operations are also located in the Cape Fear River Basin and the Cape Fear River is a drinking water resource for over 500,000 people. Ms. Hildebrand emphasized that the pollution impacts that Dr. Keeve Nachman discussed translate directly to public health impacts. She noted that she appreciates the information provided and thoughtful conversation during the subcommittee meeting. She noted that she hopes the members of the subcommittee will continue to unpack these difficult issues, recognize the significant pollution problems that industrial agriculture facilities cause in North Carolina and across the country, and move forward with meaningful recommendations for regulatory improvements.

Scott Sanderson, Conservation Law Foundation

Mr. Sanderson is a staff attorney at the Conservation Law Foundation, an organization that works throughout New England to resolve environmental challenges. He commented on the importance of NPDES permits for CAFOs. Two years ago, the Conservation Law Foundation filed a petition that asked the EPA to withdraw approval of Vermont's NPDES program. The Vermont Department of Environmental Conservation has never required a CAFO to obtain an NDPES permit and instead the Vermont Agency of Agriculture issues state non-discharge permits, despite significant evidence of CWA violations. In September 2024, the EPA concluded that Vermont is "clearly failing to meet the requirements of Clean Water Act and that over

reliance on the Agency of Agriculture had undermined the state's NPDES programs." The EPA cited four failures as evidence: (1) failure to conform state requirements to NPDES regulations, (2) failure to issue NPDES permits to CAFOs, (3) failure to require and oversee NMPs, and (4) failure to enforce and monitor compliance on CAFOs. In Vermont, the cost includes stalled progress in farm pollution mitigation and toxic algal blooms in Lake Champlain, the state's most important source of drinking water. Mr. Sanderson urged the subcommittee to move toward stronger CAFO permitting requirements, as CAFO permits are critical tools for protecting communities, building trust between farms and their neighbors, and shielding farms from litigation. Mr. Sanderson thanked the subcommittee for their work on this topic.

Gordon Watkins, Buffalo River Watershed Alliance

Located in the Ozark mountains of Arkansas, the Buffalo River Watershed Alliance's mission is to protect the Buffalo National River. Mr. Watkins focused on the need to address site selection, particularly in regard to karst terrain. The Buffalo River watershed is located on karst geology, so the groundwater is particularly vulnerable. The Buffalo River Watershed Alliance was litigated for six years with an NPDES-permitted hog farm, which the state eventually closed once it became clear that the farm had not met permit requirements, largely relating to compliance with NRCS guidance on site selection on karst terrain. Mr. Watkins noted that he was particularly interested in previous commenter Mr. Sanderson's comments about removing delegated authority as he has faced a similar situation in Arkansas, where all liquid animal waste permits are state permits. The closed hog farm was the first and last NPDES permit issued in Arkansas, which is a weakness in the state since dye trace studies and water quality monitoring have proven that any facility on karst terrain will discharge.

Cheryl Ruble

Dr. Ruble shared that she is a physician-activist from Michigan and her work focuses on the intersection of industrial animal agriculture, the environment, public health, and climate change. She noted that she also lives near a hog CAFO and in a region heavily targeted for dairy CAFO growth. The CWA has fallen far short of its mission to restore and maintain water quality with unchecked agricultural pollution largely to blame. Dr. Ruble stated that the root cause is a broken regulatory system, including weak Effluent Limitation Guidelines (ELGs). She stated that she is urging the EPA to take the following actions: (1) Reject the premise that any CAFO operates without discharging and require all large CAFOs to obtain NPDES permits because CAFOs inherently discharge pollutants even if they propose otherwise. (2) ELGs must address the liquid manure tile drainage problem in Michigan's Lenawee County. Citizen-led water testing has traced rampant surface water pollution, including Lake Erie's harmful algal blooms to permitted dairy CAFOs and the application of liquid manure to tiled fields. (3) Prohibit states from issuing alternatives to NPDES permits. (4) Close the manifested waste loophole (also called the exported or transferred waste loophole); Michigan allows CAFOs to avoid permits through certification under a voluntary environmental stewardship program and by manifesting all production waste. Reclassifying manifested waste as a nonpoint source creates a loophole that allows operators to evade reporting requirements and in Michigan, permits. Regardless of ownership, CAFO waste must be regulated as point source pollution. (5) Severely curtail excess phosphorus applications; ELGs must address dissolved phosphorus loading, prohibit CAFO waste application on frozen or snow-covered grounds, and NMPs must prioritize water quality, public health, soil health, and not waste disposal.

Sandy Bihn, Lake Erie Waterkeepers

Ms. Bihn shared that she is with Lake Erie Waterkeeper. She shared that the algal blooms started occurring when large dairy operations from the Netherlands set up operations in the Maumee watershed. Since then,

there has been CAFO growth in the watershed with over 1.8 million hogs, 24 million poultry, and 400,000 dairy cows, producing 6 million tons of manure and 11 thousand tons of phosphorus. She noted that approximately two-thirds of those operations are not permitted. In 2014, Toledo told 500,000 people not to drink the water because of the microcystin caused by a harmful algal bloom. Efforts to reduce phosphorus in the Lake Erie Watershed have worked for commercial fertilizer. There has been a 40% reduction which has been offset by the increase in manure phosphorus. Research shows that the investment in reducing commercial fertilizer has not benefited the area. Most recently, in 2023 a large CAFO with over 100,000 cattle in the watershed has no permits. Ohio did issue some violations after citizens reported runoff in ditches. She noted that the Lake Erie Maumee watershed is the most tiled and ditched area in the country. She noted that CAFO manure is not addressed in the EPA-approved Maumee-Lake Erie TMDL and there are no NPDES permits in the watershed. Hundreds of millions of dollars have been spent for BMPs with no phosphorus accounting. A current NRCS-run project has invested $18 million for 6,000 acres and only addresses commercial fertilizer. Unless there are soil phosphorus limits in the watershed, NPDES permits, and a different approach, Lake Erie is not going to recover, and perhaps there will be an incident equivalent to the burning of the Cuyahoga River.

Kemp Burdette, Cape Fear Riverkeepers

Mr. Burdette shared that he is a Cape Fear Riverkeeper in North Carolina. He shared that North Carolina is one of the country's leading producers of both poultry and swine. Based on sales volumes, the state has become the nation's leading producer of poultry. Poultry CAFOs in North Carolina do not require a NPDES permit, or even a general permit, to operate. Instead, they are deemed permitted when they begin to raise poultry. The North Carolina Department of Environmental Quality, which the EPA has delegated to oversee the implementation of the CWA, is unaware of the location of the state's poultry CAFOs. He shared that on regular patrol flights of the watershed he often sees large piles of poultry litter left uncovered on the landscape. In several instances these piles appear to be stockpiles of litter from multiple facilities. While waste management rules stipulate an uncovered pile of litter cannot stay on the landscape for more than 15 days, this rule is frequently ignored. He has documented large piles left uncovered for over a year and a half. He shared that water quality sampling downstream showed elevated levels of nutrients, antibiotics, and bacteria which persisted for months. In some waterways downstream of facilities, state-certified labs have detected bacteria at 600 times the safe limit for human contact. At a recent meeting with the North Carolina Department of Environmental Quality, the department was unable to confirm if they had ever issued a single violation related to the storage of poultry litter despite hundreds of referrals from citizens and watchdog groups. He stated that there is a clear potential for water quality impacts from multiple types of CAFOs in North Carolina. He shared that the lack of permitting makes oversight and regulation especially difficult. He asked the committee to consider the potential impacts to water quality and public health when the nation's leading producer of poultry operates without permits and without regulators being aware of their location.

Sonja Trom Eayrs

Ms. Eayrs shared that she is a lawyer based in Minneapolis, Minnesota. She stated that she grew up on her family's farm in Dodge County, Minnesota and her family has been on the land for over 100 years. She shared that she is also involved in the day-to-day operation of the farm. Ms. Eayrs' family farm is surrounded by 12 swine factory farms in a three-mile radius. She stated that for decades they have had a front row seat to the takeover of rural America by large national corporations. She referenced a book that sheds light on the corrupt practices and failure to follow legal procedures when issuing permits for factory farms in counties such as Dodge County, Minnesota. She shared that she knows her family's experience is

similar to that of other front-line families, including the harassment and intimidation that has occurred. They have witnessed first-hand the late-night overapplication of manure and the double pledging of land for multiple factory farming operations. She stated that no one knows where the manure is being applied and no one knows how much is being applied. She shared that Dodge County has also dealt with high nitrates in their water and *E. coli* in their wells. She emphasized that something needs to happen to change this.

Lauren Lurkins

Ms. Lurkins shared that she has worked with livestock farmers across multiple species for almost 20-years in helping with federal permits, state enforcement actions, proactive compliance, education and outreach. She stated that in almost every single case, the focus of the farmers is to avoid a discharge to the environment to prevent environmental harm and so they can operate without inviting regulatory or legal repercussions. She mentioned that during the discussion, a member from a state agency shared that the implementation of the NPDES permit became so complex that they had to look for other ways to regulate. She urged the subcommittee to focus on a set of recommendations to the EPA to keep it simple so that farmers and regulators themselves can understand and comply with the law, and make sure that the environment is benefited. She noted that multiple representatives of the agricultural community noted that they asked for information, and in one instance the EPA said that the person who worked on a report had retired. She urged the EPA to respond to these requests so that these workgroups can complete their work.

Jean Mendoza

Ms. Mendoza shared that she is from Yakima County, Washington. She stated that in Washington State, dairies are required to have NMPs but there is no requirement for them to follow these plans. She stated that dairies in Washington export most of their manure to neighboring farms and there is no requirement for these third parties to apply at agronomic rates. She added that less than 10% of Washington's CAFOs have NPDES permits. CAFO dairies on Washington Indian Reservations are not inspected and are not required to have NMPs. She shared that there are areas in Yakima County where aquifers are falling at alarming rates. Municipal and domestic wells are going dry, but the county keeps permitting more CAFOs and the state keeps issuing well permits. She shared that a large dairy CAFO wanted to establish themselves in Yakima County in the year 2000, and as a condition of their approval, the dairy had to monitor for nitrates. 15 years later, the monitoring wells have gone dry, and the problem is solved because there is no water to monitor. She stated that in Washington, dairy CAFOs withdraw as much water as they like without any regard for anyone else. She stated that the EPA should exercise oversight and compel state and local agencies to protect both water quality and quantity. She stated that the apparent assumption that there is unlimited time to address these conjoined problems is wrong.

Ben Weinheimer, Texas Cattle Feeders Association

Ben Weinheimer introduce himself as president and CEO of the Texas Cattle Feeders Association, who represents cattle feeders in Texas, Oklahoma, and New Mexico. He shared that their members produce to market almost six million head of cattle annually, providing more than 25% of the nation's fed beef. He noted that their members have maintained NPDES permit coverage for over three decades, and before that they operated under state-issued CAFO permits. As an agricultural engineer and licensed professional engineer, he shared that he has worked as a CAFO subject matter expert for his entire career. He stated that the Texas Cattle Feeders Association has extensive knowledge of CAFO activity and compliance in their three-state region. He stated that the CAFO permitting system has and continues to work well and is protective of water quality. He encouraged the subcommittee to respect the role and intent that each aspect of the CAFO regulatory system serves. This starts with key expectations that must be met by CAFOs in the

ELGs, followed by additional requirements and CAFO regulations. From there, it is the responsibility of the CAFO regulatory agency to further define the requirements for production areas, manure management systems, NMPs, land application area, sampling, and recordkeeping and reporting. He stated that those permits may be in the form of general or individual permits. He shared that using those permits as a roadmap, CAFO owners and operators create site-specific plans that demonstrate compliance with the ELGs, CAFO regulations, and permit requirements. He stated that in reality, hundreds of pages of ELGs become thousands of pages of documentation over a five-year NPDES permit. He stated that the remaining key element of the CAFO regulation is compliance and enforcement where state and federal agencies can and should exert their authorities to ensure compliance. He stated that it is critically important to respect the role of each of component and not create overly prescriptive ELGs and regulations that would preclude the site-specific flexibility that must be afforded to CAFO operators.

Molly Armus, Friends of the Earth

Ms. Armus shared that she is the Animal Agriculture Policy Program Manager at Friends of the Earth. She stated that the first presenter did a great job showcasing why the current regulatory scheme is inadequate when it comes to protecting community health and water quality. A billion tons of manure simply cannot be managed through NMPs, and a concern she is hearing from front-line communities is the increasing presence of anaerobic digestors. She stated that state laws, including those in Iowa and North Carolina, allow CAFOs to increase in size if they use digestors, however, digesters are not a nutrient management tool. She stated that waste is still left behind and is often more soluble than fresh manure, and is spread on the land without treatment, running into waterways, and contributing to the pollution of surface water and groundwater. She stated that she previously lived in Maryland and now resides in Virginia, and added that poultry litter has been a driving source of pollution in the Chesapeake Bay. She stated that front-line communities are frustrated as they do not feel their concerns are being heard or adequately addressed, with the balance currently being very much in favor of CAFOs. She stated that the current regulatory regime is not working, and she encouraged the group to provide substantive recommendations that actually improve water quality and increase transparency.

Ben Nully, Iowa Pork Producers Association

Mr. Nully noted that not every geographical location across the United States is the same. He shared that manure application rates are complicated due to a variety of factors including soil types, crops planted, forms of manure, timing of application, and weather factors. In Iowa, state manure discharge requirements are stricter than NPDES requirements and confinement operations are not required to have permits because Iowa law requires total containment of manure until it is applied to cropland in compliance with the manure management plan. He noted that manure cannot be allowed to discharge from a confinement manure storage structure even if it does not reach a body of water and the Iowa Department of Natural Resources has the authority to take enforcement actions against any accidental discharges and require that the reason behind the accidental discharge be corrected. Mr. Nully shared that since the 1990s, Iowa confinement feeding operations laws have become stricter in the following ways: (1) confinement feeding operations with more than 500 animal units are required to submit and follow Manure Management Plans, (2) open feedlots of 100 animal units or larger are required to submit and follow NMPs, which ensure efficient management of nutrients to avoid water quality impacts, (4) there are restrictions on applying liquid manure on frozen snow-covered ground, and (5) all land applications are regulated regardless of whether CAFO operators own or maintain the land unless the title to the manure transfers to the pursuant as regulated by the Department of Agriculture and Land Stewardships manure or fertilizer sales regulations.

Susan Catterall

Ms. Catterall is an activist in Indiana. She shared that Steuben County, Indiana and Williams County, Ohio is experiencing an influx of beef calves, financed by JBS. Ms. Catterall noted that one farm currently receives 3,000 calves a week, which is 150,000 calves annually and the majority of the farms that raise these calves keep their numbers just below the threshold to be permitted. Ms. Catterall referred to this situation as an "environmental nightmare," since the farm has at least 61 farms in eastern Steuben County and an unknown number further into Ohio, none of which are required to have a manure management plan. Ms. Catterall expressed concern with the amount of cow manure in the landscape and the rate of growth that JBS has enabled in the region, especially given the company's history with environmental issues and the fact that they fund the largest cattle operation in the Erie Basin. Ms. Catterall reported that Fish Creek, which runs through the farm, consistently tests high for nutrients in testing done by the Steuben County Lakes Council, and portions of the creek are on the Section 303(d) impaired waters list. The state of Indiana has told Ms. Catterall that they do not have sufficient funding to investigate the issue, but in the meantime, the farm has turned the region into one large, unpermitted, and unregulated CAFO. Ms. Catterall explained that Fish Creek runs into the St. Joseph River, which runs into the Maumee River, and eventually into Lake Erie. She asked how Lake Erie could be cleaned up if the issue of manure in the watershed was not addressed, and the farm is part of the problem. Ms. Catterall expressed that this issue needs to be addressed by the federal government since Indiana does not have the financial means to do so.

Heather Dziedzic, American Biogas Council

Ms. Dziedzic thanked the subcommittee for their time and effort and shared that there are many parties interested in contributing to regulatory improvements, environmental quality, and ecological quality through capital investment. She added that there are also a number of industries, including energy and agriculture, who are prepared to make investments in nutrient management systems, anaerobic digesters, and conservation measures to make positive progress. Ms. Dziedzic encouraged the subcommittee to consider incentives, investment, and cross-sector interest in their discussions for how to move forward. She also suggested that the subcommittee look to the precedents set in other countries, especially those with higher animal density and more nearby water sources than the United States, but who have developed systems that protect their economy and ecology while preserving their agriculture sector. Ms. Dziedzic offered to provide the subcommittee with any data or materials they may need.

Christina Gruenhagen, Iowa Farm Bureau Federation

Ms. Gruenhagen thanked the members for serving on the subcommittee and noted that there were good discussions that occurred, on which she would like to provide observations. Firstly, Ms. Gruenhagen shared that under-permitting is not a problem in Iowa. Ten years ago, Iowa's NPDES program underwent exhaustive review after a permitting allegation was made in a de-delegation petition to the EPA. During their review, the EPA found a small number of locations out of thousands of livestock farms that were lacking a permit, but the data was not on par with the 75% statistic. Secondly, Ms. Gruenhagen noted that the subcommittee had asked questions about state programs and shared that it is common for states with high numbers of livestock operations to have their own, more stringent regulations, whereas states with few livestock operations tend to follow federal regulations without additions. She stressed the importance of allowing this difference to remain. Ms. Gruenhagen shared that she looks forward to the continued efforts of the subcommittee.

Courtney Briggs, American Farm Bureau Federation

Ms. Briggs noted that many subcommittee members used imprecise percentages and supposition in their discussions and highlighted that the subcommittee needs more data to truly understand the specific

problems that exist in the landscape. She outlined possible data points as the following: the number of inspections annually, the number of CAFOs discharging without a permit, and the number of CAFOs who manage their operations without discharging. Ms. Briggs stated that it is incumbent on the EPA to provide the information collected in state inspections. Ms. Briggs also shared that she appreciated hearing from Mike Scozzafava on the Section 319 program and shared that the American Farm Bureau has had a good working relationship with the EPA OW that has allowed them to build successful collaborative efforts in watersheds across the country. Ms. Briggs emphasized her appreciation for how individual farmers allow conservation work to take place on their farms and use the Section 319 program or NRCS conservation practices to go above and beyond the permit requirements. Ms. Briggs thanked the subcommittee for giving her the opportunity to provide comment and shared that she looks forward to seeing the subcommittees progress over the next several months.

XII. Wrap Up and Adjournment

Rob Willis shared that this subcommittee meeting was an opportunity for the workgroups to share information and gain an understanding of the subcommittee's collective body of work. Moving forward, workgroup members will continue to meet and make progress on their specific goals.

Dr. James Pritchett highlighted the deliberative and comprehensive style of the workgroup presentations and how it facilitated understanding of how the workgroups complement and overlap with one another. He thanked the speakers for adding to the group's body of knowledge and the facilitation team for structuring the meeting to allow members to ask questions. Dr. Pritchett noted that the public nature of this meeting allowed others to contribute to this work and highlights its benefits.

Venus Welch-White thanked the subcommittee members for their work and commitment, the speakers for their time and contribution to solving complicated issues, and the public commenters for their interest and perspectives on nutrient management. In response to comments on information requests for the EPA, she assured the group that the EPA takes all information requests from subcommittee members seriously. She added that though 90 seconds is a short time for each member of the public to provide comments, it was necessary to ensure all commenters had the opportunity to contribute to the conversation. The EPA is committed to supporting the common goal of protecting water quality and looks forward to continued collaboration.

Submit written comment to Aawq@EPA.gov by December 21, 2024, 11:59 pm EST.

For all press inquiries, please contact press@EPA.gov.

For more information www.EPA.gov/faca/frrcc/0.

Dr. Welch-White adjourned the meeting.

Meeting Summary Certification

I, James Pritchett Chair of the Animal Agriculture and Water Quality Subcommittee, certify that the meeting summary for the date of December 6, 2024, as hereby detailed, contain a record of the persons present and give an accurate description of matters discussed and conclusions reached and copies of all reports received, issued or approved by the advisory committees. My signature complies GSA Final Rule.

James Pritchett

James Pritchett

7/21/2025

Date