



## **MINUTES**

### **Wastewater Treatment Workgroup (WWTWG)**

#### **Face-to-Face Meeting**

**CBPO Office, Annapolis, MD – Room 305a**

**Tuesday, July 7, 2015 10:00 AM- 3:00 PM**

**Conference Line: 866-299-3188, code: 267-5715**

**Adobe Connect: <https://epa.connectsolutions.com/wwtwg/>**

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#### **Summary of Action and Decision Items**

**DECISION:** WWTWG members approved the May meeting minutes as written.

**ACTION:** Laura Free (EPA) will reach out to jurisdictions individually to begin scheduling one-on-one calls to solicit more feedback on the point source data collection process.

**DECISION:** The WWTWG recommends further investigation into providing nutrient reduction credit for boat pump-out facilities in a no-discharge zone. They propose convening a subcommittee to evaluate the regulatory and modeling details and to develop a formal proposal.

**ACTION:** David Wood will contact WWTWG membership with the list of no-discharge zones in the Chesapeake Bay watershed, and will ask for volunteer participation on the subcommittee. Marcia Degen (VDH) will reach out to representatives from Virginia's marina program for volunteers.

**ACTION:** Marcia Degen will work with Matt Johnston to write up a short document that outlines the chosen methodology and criteria that would allow for credit to be given for monitored systems that fall outside of the BMP definitions outlined in the Onsite Systems Expert Panel report.

**ACTION:** Matt Johnston and Greg Busch will work with the CBP modelers to develop options and a formal recommendation for how to include loads from rapid infiltration basins in the Phase 6 Watershed Model.

**ACTION:** WWTWG members should review Appendix F from the Phase 5.3.2 Watershed Model documentation in order to have a reference for the type of information that Ning will need regarding the jurisdictions' data cleanup methodology.

**ACTION:** Jurisdictions who have not yet submitted their historic data or spray irrigation/biosolids data, should send their files to Ning Zhou as soon as possible.

**ACTION:** At the August WWTWG conference call, the group will discuss potential land uses that could receive biosolids and spray irrigation loads and determine the best way to have those loads distributed in the Phase 6 Watershed Model.

**ACTION:** CBPO staff will develop a strawman version of a 2-year workplan for the WWTWG, which will be distributed for workgroup review.

**ACTION:** Please contact David Wood with ideas for audience and topics to cover in the Wastewater sector webinar on BMP Verification Guidance.

**Welcome, Introductions, and Announcements**—*Tanya Spano (Chair)*

- Tanya convened the meeting and David Wood (CRC) reviewed the action and decision items from May.

DECISION: WWTWG members approved the May meeting minutes as written.

**Point Source Data Project - Update and Stakeholder Outreach** – *Laura Free, EPA*

- In March, Laura introduced a project aimed at documenting the current process for receiving and correcting point source data that is fed into the Bay Watershed Model. She updated the WWTWG on findings, shared a framework for beginning conversations with each jurisdiction, and accepted feedback on the overall framework. Each jurisdiction will have time to voice their unique concerns in separate, individual conversations.

**Discussion**

- Spano: Representatives from the jurisdictions all bear a lot of the burden of data collection and we wanted to make sure you have the resources you need and that you have the opportunity to weigh in on challenges you all face. This project is a request for feedback on the best way forward.
- Allan Brockenbrough (VA DEQ): How much of an effort is it in other states to come up with these databases? It takes a week and a half for significant facilities in Virginia.
  - Dave Montali (WV DEP): West Virginia is similar to Virginia, it may take about a month. The process for compiling data on significant facilities has improved the last two years.
  - Greg Busch (MDE): It is a significant workload for Maryland. We are working towards electronic DMRs, but doing QA/QC on paper DMRs take a good amount of work. We are starting to streamline the process.
  - Ning Zhou (VT, CBPO): I have noticed improvement in data quality from all jurisdictions and there are differences state by state. We are trying to standardize everything so we can have one automatic system that can handle all those differences, so that when data comes in, it is in a standardized form. Ideally, that system would also help with the QA/QC process.
- Laura Free (EPA): What are your thoughts on using one database such as ICIS-NPDES for both compliance reporting and Chesapeake Bay Program (CBP) data reporting?
  - Montali: To me, the compliance data are a little different than CBP data. For enforcement, I think one needs to look at the state databases because that is the best data available.
  - Busch: I would need to check back at MDE and get feedback on that for you.
  - Ron Furlan (PA DEP): ICIS doesn't receive the supplemental data we have on permitting that goes above and beyond the electronic DMRs. Plus, EPA is making changes to eDMR, so you would need to be in communication with them.
  - Brockenbrough: ICIS would be pretty worthless for Virginia as of today. It would be good to get flow data, BOD and TSS data for non-significant facilities. Most do not have nutrient monitoring in their permits.
- Furlan: I don't agree with the concept that having some data is better than no data. That introduces huge amounts of error. It is just made-up data.
  - Spano: Progress reporting is different than reporting under the TMDL. For progress, precision is not the standard. The assumptions are better than having a blank. Because

we have the TMDL, if there is some question of someone passing or failing load allocations, then the questions that Pennsylvania is raising become really important.

- Montali: The assumptions made in progress data should be a whole different issue and shouldn't impact the permit compliance.
- Spano: Is it an obligation to feed all DMR data to ICIS?
  - Brockenbrough: That is the goal but we aren't there yet. We are just starting to get non-significants in there for the first time.
- Spano: So I'm hearing that the state methods have been fine.
- Busch: We appreciate the effort to streamline the process, and that is certainly important to us, but the methodology is up for discussion.
- Free: Is the data that feeds the CBP model better than what is in ICIS-NPDES?
  - Brockenbrough: For significants, it is the same data. There is a little QA/QC for the CBP data.
- Marya Levelev (MDE): If the ICIS data is corrected, sometimes the historical CBP data is not getting corrected. In the past if we notices some changes, we weren't able to go back and make changes for previous year.
  - Zhou: For progress data, that is true. Once it is final, we don't want changes until next year's model data. Preparation for the Phase 6 Model is that opportunity to make those changes though.
- Spano: Jurisdictions' ability to screen data is better than what ICIS can do for you. So you feed your own process to ICIS and to the CBP. I would assume your state database is the most robust database then?
  - Brockenbrough: ICIS would capture everything we would need for significantss but nowhere near what we need for non-significants.
  - Montali: I don't know that ICIS is the way to go. Generally I don't think we need to go the compliance data route with the CBP data reporting. If there are high loads in noncompliance, then CBP gets those loads. It should be left to the NPDES permit process.
  - Furlan: Prior to 2010, there are a number of different data sets that were used. For historical data, ICIS won't give you what you need. After 2010, you probably have better data, but it is still improving.
- Spano: Some of what needs to be captured is what the quality of the data that exists is, and knowing what data is good.
- Free: We will want to follow up about the compliance and progress data split. We have a concern about maintaining two different data sets. There are still some lessons to be learned about data quality regardless of where the data is housed. EPA has an interest in building something that allows you to submit data in one place with less work required and faster quality assurance.
- Spano: I ask states please clearly articulate where you see efforts being duplicated.
- Brockenbrough: Any thought to doing this for significant facilities only?
  - Free: I think that would be challenging because both significants and non-significants are included in progress data, but we can consider it.

**ACTION:** Laura Free (EPA) will reach out to jurisdictions individually to begin scheduling one-on-one calls to solicit more feedback on the point source data collection process.

**Boat Pump-Out Facilities BMP** -- *Tanya and Ning Zhou (CBPO)*

- Since the last meeting, the City of Virginia Beach submitted a response to comments received on their proposal to consider Boat Pump-Out Facilities in No Discharge Zones as a BMP for credit in the Bay Program's modeling tools. The WWTWG was asked to determine how this new loading source could be included in the model and whether or not to endorse the formation of a BMP expert panel to evaluate this practice.
- Tanya reviewed the responses to comments.

**Discussion:**

- Spano: Maybe an expert panel is not the proper approach, since we are not asking for a technical analysis of a reduction efficiency. The reductions would be directly monitored, so our questions are more based on how the practice would be applied. Maybe we could form a subcommittee from this group to develop a formal proposal.
  - Brockenbrough: I think the expert panel would be overkill and agree with the subcommittee approach.
- Furlan: I think we will have a problem with getting credit for meeting compliance.
- Spano: Getting credit is predicated on knowing the baseline load, and right now we don't have a baseline load.
- Spano: It still sounds like folks are still in support of finding a way to get credit for this practice, since it is a real, on the ground reduction. There are details to be defined and regulatory constraints that need to be defined. Are there any fundamental problems with proceeding with the approach of forming a subcommittee versus calling for an expert panel?
  - Brockenbrough: I am in support as long as the CBP and EPA are ok with giving credit under that approach. It is a real reduction and we would like to find a way to credit it.
- John Paine (AECOM): Only good can come from crediting this practice. Localities won't meet their TMDLs because of this, but it is one more cost effective tool they'd have available.

DECISION: The WWTWG recommends further investigation into providing nutrient reduction credit for boat pump-out facilities in a no-discharge zone. They propose convening a subcommittee to evaluate the regulatory and modeling details and to develop a formal proposal.

ACTION: David Wood will contact WWTWG membership with the list of no-discharge zones in the Chesapeake Bay watershed, and will ask for volunteer participation on the subcommittee. Marcia Degen (VDH) will reach out to representatives from Virginia's marina program for volunteers.

**BMPs for Small Onsite Systems Proposal** – *Marcia Degen, VDH*

- Marcia led a discussion on how to obtain credit for onsite systems that do not fall under current BMP definitions, but which are monitored to verify compliance.

**Discussion:**

- Montali: So these aren't non-proprietary systems where you can take a rate that can be applied anywhere. It is a case-by-case, engineered solution aimed at the traditional BMPs. It wouldn't fit well to have another expert panel do this.
- Matt Johnston (UMD, CBPO): What we have in Scenario Builder is maybe five types of named septic systems. In the NEIEN appendix, we may have 200 septic system names, but 50 of them map to a single technology. We could do one of two things: First, we could add an additional BMP in the NEIEN reporting list so that Virginia can report something like "50% Denitrification

Equivalent” and receive credit for the Scenario Builder BMP, “50% Denitrification Units with Conventional In Situ.” Alternatively, we could create a sixth Scenario Builder BMP Name, such as “50% Denitrification Equivalent,” AND have the same name in NEIEN.

- Spano: Does anyone have a problem with either of these two approaches? I think we need to mechanistically find ways to apply these load reductions in the model and we need to address the verification requirements.
- Montali: I think there might be some arguments about the proprietary systems process. We need to make sure to break this out because this is not a proprietary systems issue.
- Johnston: I see this as the jurisdiction writing something up to explain to CBP that a particular set of practices is eligible. Marcia would explain the process they went through and monitoring data they found, and explain how it fits into an existing BMP box. Then the Bay Program would sign off on it.
- Degen: Would we have to do that every time we get a system like this?
  - Johnston: According to the onsite systems expert panel report, you have to go through this monitoring and verification process. I see this as on the ground verification, and based on that verification, you are showing that you are meeting a reduction of 50% that was already approved through the CBP partnership. I think a 1-pager explaining that is legitimate and that it should make it into the verification QAPPs.
- Spano: I think there should be a template that allows us to explain that in an easier context. The question is how often you would have to revisit this process and how often it would need to be verified.
- Montali: Would it be easier to have a BMP called “On-site, As-equal” or something like that?
  - Johnston: It is very easy to do a NEIEN BMP name, but the second part is if we want a 6<sup>th</sup> box that is called a 50% equivalent and we can do that too.
- Montali: We need the WQGIT to sign off on the white paper, but this workgroup is recommending this path forward.
  - Johnston: I think that is an easy sell because it is outlined clearly in the onsite systems report.
- Degen: I can get the documentation prepared in a week or two.

ACTION: Marcia Degen will work with Matt Johnston to write up a short document that outlines the chosen methodology and criteria that would allow for credit to be given for monitored systems that fall outside of the BMP definitions outlined in the Onsite Systems Expert Panel report.

#### **Rapid Infiltration Basins** – Ning and Greg Busch, MDE

- Workgroup members discussed a path forward for considering Rapid Infiltration basins for inclusion within the Chesapeake Bay Program’s suite of modeling tools.

#### **Discussion:**

- Busch: These rapid infiltration basins are captured in a sewershed area but are not conventional systems.
- Furlan: Would this be applicable to stormwater?
  - Busch: To me this is a wastewater system.
- Degen: We are starting to get proposals in for systems that are almost but not quite rapid infiltration basins. They are large covered pads. Those are being counted as septic.
  - Busch: A lot comes down to how you are defining your sewerage area. For Maryland there is a permitting distinction.

- Furlan: You might have one system in a sewered area that isn't connected. It may be infiltrating but doesn't have effluent limits. Maryland is proposing that the load is being rapidly infiltrated but does have an effluent limit they have to meet. We do this in Pennsylvania under our reuse manual.
- Spano: There is a need in the coming year to look over the terms we use and what it is we are referring to.
- Busch: I see this and think of it as similar to spray irrigation. If we are talking about including spray irrigation in the next version, it is just another technology we use in Maryland.
- Johnston: This is very different than Marcia's proposal because this is a new load. States would need to provide data for every rapid infiltration basin and their loads going back all the way to 1985.
  - Busch: We can do that, we just did it for spray irrigation and I thought we could just append this effort to that.
- Zhou: Do you have monitoring data for both spray irrigation and rapid infiltration?
  - Busch: Limited monitoring data. We gave you what we have for spray irrigation.
- Zhou: The next step is we will treat all land-based applications the same as far as attenuation factors. Those factors are dependent upon the decisions of the attenuation expert panel.
- Spano: I am trying to find common themes here. We don't need an expert panel. We have a way of accounting for it. Can we find a way of organizing things that way?
  - Johnston: Unfortunately my gut is that these are not the same issue. Those spray irrigation loads are applied on farm lands, so they essentially are seen in the model as a load from corn. We don't have a load for rapid infiltration basins, so we need to add a whole new load.
- Busch: We don't have a huge load from these systems. I don't know what effort is worthwhile for this. If it is completely different modeling from spray irrigation, then I don't know.
- Spano: Is it a source allocation issue?
  - Johnston: Mechanistically they look the same, but from an allocation and load source perspective they are different. I would like to think about it a little more and talk with Lew Linker (EPA) and Gary Shenk (USGS) and I will get back to you.
- Busch: If it is a huge mountain of work, then that is fine. We can have discussions offline on possible options.
- Spano: At this stage does anyone have a problem with recommending further investigation in possible options for ways to include loads from rapid infiltration basins?
  - No problems were raised with the approach.

ACTION: Matt Johnston and Greg Busch will work with the CBP modelers to develop options and a formal recommendation for how to include loads from rapid infiltration basins in the Phase 6 Watershed Model.

#### **Historic Industrial Load Analysis – Greg Busch, MDE**

- Shannon McKendrick (MDE) presented Maryland's methodology for estimating nutrient and sediment loads from individually permitted minor industrial facilities back to 1985.

#### **Discussion:**

- Spano: It would be interesting to see what decision rules you have for making some of these judgments. Documenting those decision rules could be useful to others.
- Busch: We will likely use some kind of regression to smooth out the explanations of the trends we can't track down. We can give an update next month once we have that methodology.

**Historic Data Cleanup, Biosolids, and Spray Irrigation Data – All Jurisdictions**

- Each jurisdiction was asked to provide a brief update on their data collection and cleanup efforts. While the draft data was due on June 30<sup>th</sup>, this was an effort to provide insight into the methods used for data collection and any useful data sources that may be beneficial to other jurisdictions as they look to put finishing touches on their data for the final data submission due September 30<sup>th</sup>.

**Discussion and Updates:**

- Montali: Wastewater data should be on its way today or tomorrow. We don't have a lot of facilities, and we have a good permit database that is good for determining start and end dates for those facilities. We rely on phosphorus default concentrations, and as part of the data cleanup we eliminated some of the drastic changes in the default phosphorus numbers that were obviously not representative of reality. For biosolids, we don't have a good land application database. We have NPDES permit information that allows us to track the amount material that is land applied. It was a tough project, and we have some good numbers of dry pounds that are land applied, by month. We might have sludge quality monitoring for total nitrogen and total phosphorus about every other month, but then you start making assumptions. There is no way to figure out what crop type it was applied to. They aim for 5 year rate on any particular field, so we then back-calculated the number of acres the monthly load was applied to. Then we had them applied to crop types proportionate to what they were allowed in their permits. We have a few more things to figure out but none of them would jeopardize the September 30 deadline. We are looking forward to your review.
- Spano: We are not done with Blue Plains WWTP yet, but we are working on it and making sure all of our data is consistent. We may need to revisit how the 001 is presented in the database. If it changes the legal status, that may need to be reflected in the Model, because it would be allocated differently in the TMDL.
- Zhou: I received a huge file from Virginia to download. I haven't had a chance to review that data yet.
  - Brockenbrough: Have you received spray irrigation data from Valerie Rourke (VA DEQ)?
  - Zhou: I received Virginia's spray irrigation data for recent years but I need it back to 1985. If you don't have that data, please make an assumption and document the methodology. If you don't we will need to make those assumptions for you.
- Spano: I ask folks take a look at Appendix F because that is the general construct for the type of information that is needed.

ACTION: WWTWG members should review Appendix F from the Phase 5.3.2 Watershed Model documentation in order to have a reference for the type of information that Ning will need regarding the jurisdictions' data cleanup methodology.

ACTION: Jurisdictions who have not yet submitted their historic data or spray irrigation/biosolids data, should send their files to Ning as soon as possible.

- Busch: I think we have submitted biosolids and spray irrigation data. It is based on permitted data for a couple of the big facilities. There is some monitoring data for the largest facilities, but not much. We checked municipal data and made some corrections, but only a handful, and we will have that to you in the next few days. We will send industrial data once we worked through the concerns we just presented.

- Zhou: Please just document where the corrected data came from. You only need a couple of lines on why there is a change from the official progress run. Not too much.
- Zhou: I received a detailed write-up from Delaware. They started by putting their ICIS and PCS data in a spreadsheet and filling in the missing data with an average of the available data. They averaged based on any data from the same year first. If that wasn't available, they took data from the same facilities from other years to get an average. If neither was available, they used a default.
  - John DeFriece (DE DNREC): An issue with ICIS is that it doesn't accept negative values. Replacing those values with zeros skews the averages high. Also, different test methods give you different reporting values.
- Furlan: We are working on it, we have about 70% of our historic data cleanup completed. We are finding a number of facilities that weren't accounted for, or used to be accounted for but dropped out of our reporting system. We are working through it as best we can.
- Zhou: New York sent in their quality assurance plan but I don't have their data yet.
- Zhou: Please try to finish cleaning up your draft data by the end of July so we have time to review it before September.
- Johnston: Up to this point, we have been treating biosolids and spray irrigation like they are applied only to agricultural lands. Are there any that are not? And if so, how would we flag them?
  - Spano: I think you ought to lay out all the possible land uses that could potentially receive those inputs because I think it would help people sort through where it is most likely. I know a part of the Blue Plains biosolids load goes to silvaculture.
  - Degen: We have some small spray systems that handle single family homes that don't get picked up anywhere.

ACTION: At the August WWTWG conference call, the group will discuss potential land uses that could receive biosolids and spray irrigation loads and determine the best way to have those loads distributed in the Phase 6 Watershed Model.

#### **WWTWG Work Plan Development** – *Tanya Spano, Chair and Workgroup Members*

Tanya Spano facilitated a discussion of workgroup members to begin to develop a more strategic WWTWG work plan for the coming months, as well as to identify overall priorities and objectives for the next two years. The workgroup members were asked to focus in particular on any critical tasks or information needs that must be completed or resolved prior to the 2017 Midpoint Assessment (MPA) and those decision points in 2017/2018. Topics considered included:

- Remaining MPA priorities
- Upcoming BMP Expert Panels
- Rapid Infiltration Projects
- Potential Workshops or New Efforts to Pursue
- Regulatory or program challenges that the states face
- Technical challenges that the sector faces
- Support needed from EPA/CBPO

#### **Discussion:**

- Spano: We would like to develop a documented workplan for moving forward. I don't want to lose track of anything that needs to be resolved by 2017.



- Furlan: Can states move loads within their sectors, from wasteload allocations to load allocations, without revising the TMDL? I think that needs to be answered.
- Spano: Historical data we have our first deadlines, but we may have a second shot at revisions after the first calibration. Dates will be written into 2016 grant guidance.

**Other topics to consider:**

- Revised Appendix F documentation of data cleanup and model assumptions.
- BMP Expert Panels:
  - Ongoing: Attenuation Panel- Report likely available by September 2015.
  - Upcoming: Second Onsite Systems Panel- Led by Marcia Degen, working with Vic D'Amato.
- Subcommittees:
  - Boat Pump-out in a No-Discharge Zone (Charge due by Aug. 3. Complete report by April 1)
  - Rapid Infiltration Basins (Preferred by September 14, Required by April 1)
  - "Non-Conforming BMPs" (To WQGIT by September 14)
- BMP Panel Queue:
  - Develop a method for annual evaluation and prioritization of BMP requests (Fall 2015)
- Governance Protocol
  - Establishment of a Chair and Vice-Chair and definition of membership.
- EPA database project
- Potential workshops:
  - STAC workshop for advanced WWT workshop in the past, but there have been a lot of regulatory and technology changes since then. Suggested another proposal to redo that workshop to focus on changes in technology and what that means going forward. (2016 STAC Submittal)
  - Workshop on optimizations or retrofits (Ning's suggestion) 2016 STAC
- Trading and the use of state revolving loan funds
- Reuse and redistribution

ACTION: CBPO staff will develop a strawman version of a 2-year workplan for the WWTWG, which will be distributed to workgroup review.

**Quick Updates**

- BMP Verification Plan presentation by each jurisdiction during the next two workgroup calls

ACTION: Please contact David Wood with ideas for audience and topics to cover in the Wastewater sector webinar on BMP Verification Guidance.

**Adjourn**

List of Meeting Participants

Name	Affiliation
Tanya Spano (Chair)	Metropolitan Washington Council of Governments
Ning Zhou (Coordinator)	VT, CBPO
David Wood (Staff)	CRC, CBPO
John Paine	AECOM
Shaun Bradbury	AECOM
John DeFriece	DE DNREC
Megan Thyng	EPA
Laura Free	EPA
Ann Carkhuff	EPA, R3
Dianne McNally	EPA, R3
Jenny Tribo	HRPDC
Greg Busch	MDE
Shannon McKendrick	MDE
Marya Levelev	MDE
Nassir Ameen	MWCOG
Lana Sindler	MWCOG
Rashid Ahmid	NYSDEC
Ron Furlan	PA Dept. of Environmental Protection
Dharmendra Kumar	PA Dept. of Environmental Protection
Matt Johnston	UMD, CBPO
Marcia Degen	Virginia Dept. Of Health
Allan Brockenbrough	Virginia DEQ
Dave Montali	WV DEP