

## Tech Note 23 Discussions

WSDA has been working on Tech Note 23 and an Aquifer Susceptibility Map since 2015. Now WSDA states that Tech Note 23 evaluations are invalid. Consequently, there is no documentation of pollution related to Washington CAFO manure lagoons.

On 3/2/2015 the WSDA Dairy Nutrient Management Program discussed using Tech note 23 and gathering necessary data using lagoon assessments in Yakima.

On 3/6/2015 DNMP Director Ginny Prest sent instruction to Laurie Crowe from the SYCD and Dan McCarty DNMP inspector for Eastern Washington on using Tech Note 23 for lagoon inspections.

On 9/17/2015 the DNMP discussed using a 2013 updated Tech Note 23 as a lagoon assessment tool. Yakima inspectors planned to use the Tech Note for lagoon inspections.

On 2/18/2016 Anthony Dorsett, a dairy inspector from Eastern Washington asked for a water depth map and a WSDA Aquifer Susceptibility Map, that he apparently believed were in place.

On 12/21/2016 WSDA DNMP was working out problems with Tech Note 23 and expected to use the tool for inspections statewide in a week.

On 12/21/2016 DNMP Director Ginny Prest tells officials that the DNMP is ready to implement lagoon assessments across the state.

On 2/9/2017 DNMP Director Ginny Prest implies to Keith Grellner from DOH that the inspection process is going well.

On 9/12/2017 Perry Beale from WSDA referenced the 2011 Aquifer Susceptibility Map and meta data that was used to create it.

On 8/8/2018 Chery Sullivan from WSDA tells Ecology that the DNMP is looking for data on seasonal high water tables.

On 12/10/2018 Kyrre Flege from WSDA questioned the value of the work on waste storage ponds in an email to a colleague

On 12/15/2018 Michael Isensee stated that the vast majority of Whatcom WSPs will be in the high risk category under Tech Note 23, regardless of the depth between the bottom of the lagoon and the seasonal high groundwater table.

On 4/6/2020 Kyrre Flege from WSDA emailed Melanie Redding saying they agreed that groundwater testing is needed to fill in gaps for manure lagoon assessment.

7/14/2020 WSDA sends Ecology manure lagoon data from Yakima County

In 11/5/2020 DNMP Director Sullivan expresses concerns about the reliability of Tech Note 23 assessments.

On 11/17/2020 Chelsea Morris from Ecology and Michael Isensee from WSDA state problems documenting lagoon assessments in Whatcom County

On 3/2/2021 USDA tells Ecology that Tech Note 23 does not conclude no discharge from any manure lagoon and there is o regulatory certainty associated.

On 3/12/2021 WSDA DNMP sends Ecology recommendations for changes to the NPDES permit for CAFOs

In the attached document WSDA states:

*TN 23 currently uses Aquifer Susceptibility as a factor determining risk to groundwater based on WSP locations. However, the Aquifer Susceptibility map, created by Washington State Department of Agriculture is outdated, with no confidence that the GIS layer accurately reflects aquifers susceptible to pollution.*

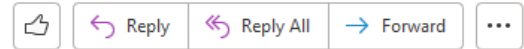
WSDA has been working on Tech Note 23 and an Aquifer Susceptibility Map since 2015

On 3/2/2015 the WSDA Dairy Nutrient Management Program discussed using Tech note 23 and gathering necessary data using lagoon assessments in Yakima.

RE: Dairy lagoon assessment form



Prest, Virginia (AGR)  
To: Sullivan, Chery (AGR); Hancock, Jaclyn (AGR)



Mon 3/2/2015 5:50 PM

You forwarded this message on 3/4/2015 9:38 AM.



Sorry Chery – I should have been more clear.

This is the NRCS process that DNMP field tested. I forgot you were not really around when we were fussing with this thing (sorry). Jaclyn this is the document I talked to Kirk about.  
Ginny

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**From:** Sullivan, Chery (AGR)  
**Sent:** Tuesday, February 24, 2015 1:49 PM  
**To:** Hancock, Jaclyn (AGR)  
**Cc:** Prest, Virginia (AGR)  
**Subject:** Dairy lagoon assessment form

Hi Jaclyn,

After a conversation with Kirk, Ginny Prest asked me to forward the form we used for lagoon assessments last year. Please take a look and share with Kirk...when we (DNMP) move ahead with lagoon assessments in Yakima, we'd like to be sure we're capturing all of the information that your program needs.

Thanks,  
Chery

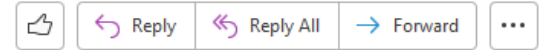
Chery Sullivan  
DNMP Technical and Compliance Specialist  
Dairy Nutrient Management Program  
WA Dept of Agriculture  
Office: 360.902.1928

On 3/6/2015 DNMP Director Ginny Prest sent instruction to Laurie Crowe from the SYCD and Dan McCarty DNMP inspector for Eastern Washington on using Tech Note 23 for lagoon inspections.

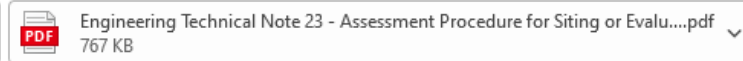
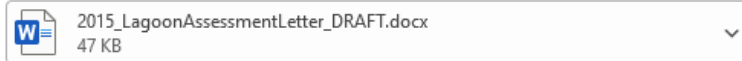
## Draft Lagoon assessment letter



Sullivan, Chery (AGR)  
To: ls@sycd.us; McCarty, Daniel (AGR)



Fri 3/6/2015 10:50 AM



Hello Laurie and Dan,

I've attached the first draft of the lagoon assessment letter. You'll see that there is a place for adding a day and time for the assessment. This worked really well for the last round conducted in Whatcom, Skagit, and Snohomish counties. Names, addresses, and times/days were put in a spreadsheet, then mail merged to individual letters. Only a handful of producers rescheduled.

I've also attached the NRCS document that guided the 2011/2012 lagoon assessment. It looks like about 6 pages were taken (modified somewhat) from this document to create the assessment for each lagoon.

I look forward to your comments. And...Laurie, I don't have Landon's email, so please forward as you see fit.

Thanks,  
Chery

Chery Sullivan  
DNMP Technical and Compliance Specialist  
Dairy Nutrient Management Program  
WA Dept of Agriculture  
Office: 360.902.1928  
Mobile: 360.292.5870  
[csullivan@agr.wa.gov](mailto:csullivan@agr.wa.gov)

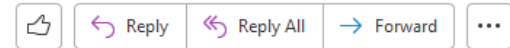
On 9/17/2015 the DNMP discussed using a 2013 updated Tech Note 23 as a lagoon assessment tool. Yakima inspectors planned to use the Tech Note for lagoon inspections.

## Lagoon Assessments



Flege, Kyrre (AGR)

To Sullivan, Chery (AGR); Isensee, Michael (AGR); Prest, Virginia (AGR); McCarty, Daniel (AGR)  
Cc Love, Kerri (AGR); Dorsett, Anthony (AGR)



Thu 9/17/2015 1:46 PM



All,

Early in 2013, NRCS updated Tech Note 23 which we have used in the past as a lagoon assessment tool. This may be a newer version than has been used by our program in the past.

Sounds like Anthony and Chery will be using the Tech Note with the Yakima dairies to remain consistent and finish strong with that project. In addition, we'd like to use Collector to at least get them mapped.

I would like to know what info you all are interested in collecting with the iPad? This will give us an opportunity to test it out in the field and see what works well with the iPad and data management. To me, questions like... **Is the dairy well prepared for the wet season? Y/N** or... **Is the operation and maintenance specified for this structure being completed? Y/N** .. make the most sense to tell the story of how producers are managing storage. We could capture the other details like how full, etc. as well.

I'd like to get started on this collection process next week so let's get this conversation started.

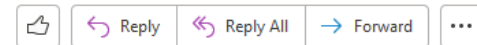
On 2/18/2016 Anthony Dorsett, a dairy inspector from Eastern Washington asked for a water depth map and a WSDA Aquifer Susceptibility Map, that he apparently believed were in place.

## Arc GIS



Dorsett, Anthony (AGR)

To Flege, Kyrre (AGR)



Thu 2/18/2016 8:51 AM

Hello Kyrre,

I wanted to make sure I was clear and am not confusing you about what I would like help with. I need two things added to the LA GIS map. First, I need a water table depth map, which I think we received a link in those emails from Larry Johnson at NRCS. Second, I need a WSDA Aquifer Susceptibility map, which should have also been contained in the e-mail from Larry Johnson at NRCS. I have a soil map layer I already added to the LA Tool GIS map. If you have any questions, or the links are not what I though please let me know.

Thank you for your time and effort,

Anthony

On 12/21/2016 WSDA DNMP was working out problems with Tech Note 23 and expected to use the tool for inspections statewide in a week.

### Update: Tech Note 23 - WSDA format



Prest, Virginia (AGR)

To Sullivan, Chery (AGR); Isensee, Michael (AGR); McCarty, Daniel (AGR); Flege, Kyrre (AGR); Love, Kerri (AGR)



Reply

Reply All

Forward



Wed 12/21/2016 2:38 PM



SoilsInfoExample.pdf  
76 KB



SoilDBdata.xlsx  
20 KB



00050\_Pond 1\_DataEntry\_12-20-2016\_Redacted.pdf  
395 KB

All

**The Tech note 23 inspection will not be available for additional testing until next week, two little tweaks to work out.**

**1 - Right now it will only work for Yakima and**

**2 - Issues with WSP names are being resolved - again the issue is only in Yakima.**

**3 - I do not have any of the other county soils data in format I can get downloaded.**

There are still a couple of issues to be addressed:

1. I am working on getting the data in excel format for the entire state from NRCS - cross your fingers, wish us luck, or if you know how to get this information - help me. What am I looking for specifically
  - a. This information comes from the NRCS soil survey - physical soil property tables - (see attached file "SoilsInfoExample") with the fields we need highlighted. I believe they have an access database and it is a matter of a query.
  - b. Looking/hoping for a excel file with "County - MUS - **MUN - Top depth - Bottom depth - USC - Ksat low - ksat high**" (see excel file attached "SoilDBdata")

I sent the following message to NRCS, EPA and EY this morning with the attachment "00050 Pond 1 DataEntry"

A copy of the report out of our Tech Note 23 that we will be using for lagoon assessments next year is attached. The input form looks similar. I am hoping you can provide time to review and feedback by Jan 15.

- We have completed most of the Yakima Valley but have a few follow ups to complete in order to fill in the blanks. This will be a priority for the program the first half of 2017.
- We will also be implementing this into our other regions in 2017.
- We will not be trying to collect this information on Non-dairy operations.
- We will be collecting this information through our inspection database

How could we use this tool?

- Use the tool to
  - Identify WSPs that would benefit from evaluating and making changes to operation and maintenance
  - Identify WSP that would benefit from additional evaluation of the WSP structure
- Provide feedback to dairy producer regarding their WSPs
- Suggest the producer seek additional evaluation from NRCS, local CD or private engineer.
- Prioritizing work load on risk?

Couple comments

- WSP - Site Attributes Form (SSIF - 6/10\_WSP) Q5. WSDA Aquifer Susceptibility Rating - We are not using this characteristic at this time. WSDA NRAS program is re-evaluating this tool and thinks there will be more value in a 4 risk rating category (moving from low - med - high TO low - med low - med high - high)
- We could think about including a stop light map with the report out.

Virginia "Ginny" Prest, Manager  
Dairy Nutrient Management Program  
Washington Department of Agriculture  
PO Box 42560 Olympia, Wa 98504-2560  
Office 360.902.2894 Cell 360.529.7422  
[VPrest@agr.wa.gov](mailto:VPrest@agr.wa.gov)  
<http://agr.wa.gov/FoodAnimal/Livestock-Nutrient/>



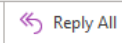
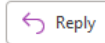
On 12/21/2016 DNMP Director Ginny Prest tells officials that the DNMP is ready to implement lagoon assessments across the state.

### Tech Note 23 - WSP (lagoon) evaluations

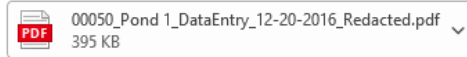


Prest, Virginia (AGR)

To Jay Gordon; Capper, Patrick (AGR); Butler, Laura (AGR); Evan Sheffels



Wed 12/21/2016 12:00 PM



Good Morning

It has been a long time coming but we are finally ready to implement lagoon assessments using Tech Note 23 across the state.

I have attached a copy of the report out of our Tech Note 23 that we will be using for lagoon assessments next year. The input form looks similar. I am hoping you can provide time to review and feedback by Jan 15.

- We have completed most of the Yakima Valley but have a few follow ups to complete in order to fill in the blanks. This will be a priority for the program the first half of 2017.
- We will also be implementing this into our other regions.
- We will not be trying to collect this information on Non-dairy operations.
- We will be collecting and storing this information through our inspection database

How could we use this tool?

- Use the tool to
  - Identify WSPs that would benefit from evaluating and making changes to operation and maintenance
  - Identify WSP that would benefit from additional evaluation of the WSP structure (by an engineer)
- Provide feedback to dairy producer regarding their WSPs
- Suggest the producer seek additional evaluation from NRCS, local CD or private engineer.
- There is interest from both ECY and EPA in using this process to prioritize lagoon for further review in the CAFO permit process.
- Prioritizing work based on risk?

Thanks in advance and a huge thank you for your patience. This took a long time to get it right.

Virginia "Ginny" Prest, Manager  
Dairy Nutrient Management Program  
Washington Department of Agriculture  
PO Box 42560 Olympia, Wa 98504-2560  
Office 360.902.2894 Cell 360.529.7422  
[VPrest@agr.wa.gov](mailto:VPrest@agr.wa.gov)  
<http://agr.wa.gov/FoodAnimal/Livestock-Nutrient/>





On 2/9/2017 DNMP Director Ginny Prest implies to Keith Grellner from DOH that the inspection process is going well.

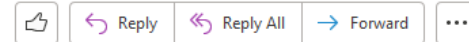
RE: Permit Questions




Prest, Virginia (AGR)

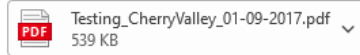
To: Grellner, Keith (DOH); Jennings, Jonathan (ECY)

Cc: DeLong, David J (DOH); Sullivan, Chery (AGR)



Thu 2/9/2017 11:28 AM

 Click here to download pictures. To help protect your privacy, Outlook prevented automatic download of some pictures in this message.



Good Morning Keith

I will let Jon answer the CAFO permit questions but I wanted to let you know that when Chery presents to the board in March, she will be able to give you a sneak peek at the WSP evaluation process that we are in the final stages. I am attaching a copy of our most recent testing of the data report out. While it will be required for all permitted CAFOs, WSDA developed the process to allow us to collect the information for all dairies in WA.

It will take some time to accomplish this as the evaluation requires

1. an "empty" and "full" evaluation,
2. then review by local conservation district, NRCS or private engineer with additional input from them for table SSIF 10/10 and PSCRF
3. Back to WSDA for data evaluation and risk analysis
4. Then final report outs to both producer and local conservation district (and Ecology if facility is under CAFO permit)

We have completed most of the evaluations for all Yakima dairies and currently QA/QCing and testing online input form. We expect to have a roll out in May with a possible field day in Lewis County – Interested?

Ginny

**From:** Keith Grellner [<mailto:keith.grellner@kitsappublichealth.org>]

**Sent:** Thursday, February 9, 2017 11:12 AM

**To:** Jennings, Jonathan (ECY) <[joje461@ECY.WA.GOV](mailto:joje461@ECY.WA.GOV)>

**Cc:** DeLong, David J (DOH) <[david.delong@sboh.wa.gov](mailto:david.delong@sboh.wa.gov)>; Prest, Virginia (AGR) <[VPrest@agr.wa.gov](mailto:VPrest@agr.wa.gov)>

**Subject:** Permit Questions

Hi Jonathan. I hope all is well.

I looked through the new permit, and it looks pretty good. Congratulations on completing a very difficult and challenging project.

I have a couple of questions for you (and possibly Ginny) that I could not find an answer for on the ECY website:

1. Is the new permit application process a "self-reporting/self-application"? In other words, are there any mechanisms other than CAFO self-reporting or self-application to compel a CAFO with discharges to apply (i.e., surveys, inspections, complaint response investigation programs, etc.)?
2. Is there a state inventory of CAFO waste storage ponds that ECY/WSDA/NRCS will work off of to complete the pond assessments?
3. Does the pond assessment requirement apply to all CAFOs, regardless of whether or not the CAFO has self-applied for a NPDES permit?

**Keith Grellner, RS | Administrator**

Kitsap Public Health District

345 6<sup>th</sup> St., Suite 300 | Bremerton, WA 98337

On 9/12/2017 Perry Beale from WSDA referenced the 2011 Aquifer Susceptibility Map and meta data that was used to create it.

Re: Regarding the WSDA 2011 Aquifer Susceptibility Map



Beale, Perry (AGR)  
To: McLain, Kelly (AGR)  
Cc: Bahr, Gary (AGR)

Reply Reply All Forward

Tue 9/12/2017 3:08 PM

You replied to this message on 9/12/2017 5:17 PM.

I thought the question was if we had a higher resolution version of the map - which we don't. That GIS data could be shared however that was used to create those maps as I sat down with Kirk a few years ago to create metadata for it so he could provide it to DOH and ECY. It was packaged so it would be small enough to ftp or thumb drive it.

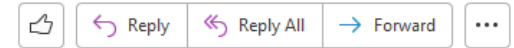
Perry Beale  
NRAS / Office of the Director  
WA State Dept. of Agriculture  
[Yakima WA](#)  
[\(360\) 951-9098](#)  
<http://agr.wa.gov/PestFert/natresources/AgLandUse.aspx>

On 8/8/2018 Chery Sullivan from WSDA tells Ecology that the DNMP is looking for data on seasonal high water tables.

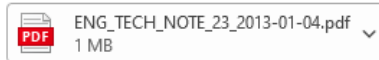
RE: Groundwater maps



Sullivan, Chery (AGR)  
To Niewolny, Laurie (ECY)



Wed 8/8/2018 7:52 AM



Hi Laurie,

We're looking specifically for the seasonal high ground water table levels. We plug this information into Engineering Tech Note 23 as part of a risk assessment associated with dairy lagoons. We don't need the water quality data for this assessment. I've attached all 42 pages (it's a quick read) of the Engineering Tech Note 23 as a reference. You'll see several spots where depth to groundwater is referenced.

After a conversation with NRCS yesterday, they recommended that we leave sections blank where we don't have reliable information. I'm hoping not to have to leave too many sections blank.

I appreciate your help!  
Chery

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**From:** Niewolny, Laurie (ECY)  
**Sent:** Tuesday, August 07, 2018 5:16 PM  
**To:** Sullivan, Chery (AGR) <[CSullivan@agr.wa.gov](mailto:CSullivan@agr.wa.gov)>  
**Subject:** RE: Groundwater maps

Chery, can you tell me more specifically what type of data is important? I'm guessing here but do you need to know if an aquifer is present, depth of the aquifer/distance to water table or are you looking for monitoring data describing the water quality of the groundwater? Just need to get a sense where to start looking...thanks!

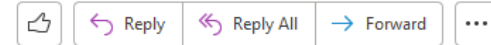
**Laurie**  
Desk: (360) 407-6329  
Cell: (360) 522-2987

On 12/10/2018 Kyrre Flege from WSDA questioned the value of the work on waste storage ponds.


RE: EPA Letter Regarding Interagency Engagement on Nutrient Reductions



Isensee, Michael (AGR)  
To: Flege, Kyrre (AGR)



Mon 12/10/2018 10:15 AM

 Click here to download pictures. To help protect your privacy, Outlook prevented automatic download of some pictures in this message.

Edaleen might. I have not directly interacted with them in a couple of years since Kerri inspects them.

Another interesting option would be Bel Lyn. Erika Fifer recently did their lagoon eval. Without first seeing an expert NRCS report on some of the lagoons, it could be interesting to visit them and then compare our thoughts to her report.

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**From:** Flege, Kyrre (AGR)  
**Sent:** Monday, December 10, 2018 9:14 AM  
**To:** Isensee, Michael (AGR) <[MIsee@agr.wa.gov](mailto:MIsee@agr.wa.gov)>  
**Subject:** RE: EPA Letter Regarding Interagency Engagement on Nutrient Reductions

A worthy reminder, indeed. I'm also struggling to see the value in what we've committed to doing. I agree that where our program has the potential to be helpful is in the physical assessment of the WSP. I'm hoping that we can spend some time talking about WSPs, what our experience shows are the common failure points, and how we might build upon or modify the "TN-23" to be a more useful and appropriate regulatory tool. I'd like to carve out some time in January to do that.

Do you have any places in Whatcom that might be well suited to us conducting a TN-23 lagoon assessment or that might be particularly illustrative? Would edaleen let us roam around on their H St. Lagoons?

**Kyrre Flege**  
WSDA - DNMP  
Office: 360.902.2894  
Cell: 360.746.1249

**From:** Isensee, Michael (AGR)

**Sent:** Wednesday, December 5, 2018 10:34 AM

**To:** Sullivan, Chery (AGR) <[CSullivan@agr.wa.gov](mailto:CSullivan@agr.wa.gov)>

**Cc:** Flege, Kyrre (AGR) <[KFlege@agr.wa.gov](mailto:KFlege@agr.wa.gov)>; Love, Kerri (AGR) <[KLove@agr.wa.gov](mailto:KLove@agr.wa.gov)>; Gibson, Kristina-Nina (AGR) <[KGibson@agr.wa.gov](mailto:KGibson@agr.wa.gov)>; Sulak, Daniel (AGR) <[DSulak@agr.wa.gov](mailto:DSulak@agr.wa.gov)>

**Subject:** RE: EPA Letter Regarding Interagency Engagement on Nutrient Reductions

It is worth remembering that the vast majority of Whatcom WSPs will be in a risk category that requires modification regardless of the depth between the bottom of the lagoon and the seasonal high groundwater table:

1. The majority are built in a Medium or High Aquifer Susceptibility according to the NRAS WSDA Aquifer Susceptibility Map, thus giving a waste storage pond 3 points.
2. The Ksat (saturated hydraulic conductivity) of soils through the farmland areas (based upon NRCS soil surveys, considering the top 60 inches of the soil profile and a weighted average for the soils that comprise each soil map unit, is greater than 36 and in many cases is above 100 micrometers per second. This gives the WSP an additional 3 points in the site risk assessment, making the lagoon HIGH SITE RISK.

If there is any issue with the structure, it will score at least a MEDIUM STRUCTURE ASSESSMENT RISK. This combination places it as a Category 3C or 4 RISK. Such lagoons under the permit are required to be modified. However, one cannot modify site risk factors inherent in the site. Such lagoons will always rank as a high site assessment risk. In all those instances the lagoon will have to be replaced with a concrete or steel tank.

Determining whether there is any structural issue is done during the physical assessment of the WSP, the part we have volunteered to do on behalf of permitted facilities. I remain very cautious about undertaking this knowing that at stake is a large financial consideration for the facility. I know I was at one lagoon with Susanna and Chris. I told the producer I did not believe the WSP met the minimum top width requirements of a lagoon. Erika from NRCS has since conducted a TN23 assessment and passed all the lagoons, whatever that means.

-Michael

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**From:** Sullivan, Chery (AGR)

**Sent:** Wednesday, December 05, 2018 9:00 AM

**To:** Isensee, Michael (AGR) <[MIsensee@agr.wa.gov](mailto:MIsensee@agr.wa.gov)>

**Cc:** Flege, Kyrre (AGR) <[KFlege@agr.wa.gov](mailto:KFlege@agr.wa.gov)>; Love, Kerri (AGR) <[KLove@agr.wa.gov](mailto:KLove@agr.wa.gov)>; Gibson, Kristina-Nina (AGR) <[KGibson@agr.wa.gov](mailto:KGibson@agr.wa.gov)>; Sulak, Daniel (AGR) <[DSulak@agr.wa.gov](mailto:DSulak@agr.wa.gov)>

**Subject:** RE: EPA Letter Regarding Interagency Engagement on Nutrient Reductions

Both sides...sounds like the other side appealed on all of the exact things they appealed on the first time.

---

**From:** Isensee, Michael (AGR)

**Sent:** Wednesday, December 05, 2018 8:59 AM

**To:** Sullivan, Chery (AGR) <[CSullivan@agr.wa.gov](mailto:CSullivan@agr.wa.gov)>

**Cc:** Flege, Kyrre (AGR) <[KFlege@agr.wa.gov](mailto:KFlege@agr.wa.gov)>; Love, Kerri (AGR) <[KLove@agr.wa.gov](mailto:KLove@agr.wa.gov)>; Gibson, Kristina-Nina (AGR) <[KGibson@agr.wa.gov](mailto:KGibson@agr.wa.gov)>; Sulak, Daniel (AGR) <[DSulak@agr.wa.gov](mailto:DSulak@agr.wa.gov)>

**Subject:** Re: EPA Letter Regarding Interagency Engagement on Nutrient Reductions

Did only ag appeal CAFO, or both sides?

Michael Isensee

Dairy Nutrient Management Program

Sent from my iPhone

On Dec 5, 2018, at 7:56 AM, Sullivan, Chery (AGR) <[CSullivan@agr.wa.gov](mailto:CSullivan@agr.wa.gov)> wrote:

Good Morning,

Interesting bit of info forwarded from our ACWA coordinator regarding the federal government's outreach to state governments. EPA and USDA are looking for partnership opportunities to reduce nutrient pollution regional watersheds.

Also a quick update from the Dairy Conference. Their opening session was a panel discussion of the CAFO permit; the panel included Stu Turner (EA region consultant), David Haggith (N3 consultant), Jay Gordon and Dan Wood (Dairy Federation), and Elizabeth Howard, the attorney that represented the Dairy Fed during the CAFO appeal hearings. Most interesting to me, was that because the permit is again under appeal, the existing permit cannot be re-written to accommodate the PCHB ruling regarding the depth to groundwater from the top of the lagoon liner. Per Elizabeth, that means that any TN 23 eval will be conducted based on the existing permit, which means that NW region dairies with lagoons, may still find themselves out of compliance with permit requirements for two feet of separation. Hmm...

Happy Wednesday,  
Chery

**From:** Sean Rolland [<mailto:srolland@acwa-us.org>]

**Sent:** Wednesday, December 05, 2018 5:47 AM

**To:** Sullivan, Chery (AGR) <[CSullivan@agr.wa.gov](mailto:CSullivan@agr.wa.gov)>

**Subject:** EPA Letter Regarding Interagency Engagement on Nutrient Reductions

**To:** All Members, Nutrients Permitting Committee, Permitting and Compliance Committee, Rural Workgroup

EPA recently mentioned an example letter that EPA and USDA leadership sent to all state environmental and agricultural agencies. See link below.

#### **Inter-Agency Engagement on Nutrient Reduction**

<https://www.epa.gov/nutrient-policy-data/inter-agency-engagement-nutrient-reduction>

EPA and the U.S. Department of Agriculture (USDA) have been working for decades to reduce nutrient losses from agricultural lands and improve water quality. Thanks to the hard work of states, tribes and stakeholders we have made significant progress reducing excess nutrients in some watersheds. Now is the time to build on that success.

EPA – in partnership with USDA – is encouraging increased engagement and a reinvigoration of state, tribal and federal efforts to reduce excess nutrients in waterways, with a focus on market-based and other collaborative pollutant reduction approaches. The Agencies are committed to working with federal agencies, states, tribes and stakeholders such as agricultural producers, wastewater and drinking water service providers, and conservation organizations, to develop solutions tailored to the needs of specific communities and watersheds.

[Joint EPA-USDA letter to state environmental and agricultural departments \(PDF\)](#)

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**Sean Rolland, Esq.**

**Deputy Director**

*Association of Clean Water Administrators -- "The Voice of States & Interstates"*

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(P) 202-465-7179

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[srolland@acwa-us.org](mailto:srolland@acwa-us.org) ; [www.acwa-us.org](http://www.acwa-us.org)

On 12/15/2018 Michael Isensee stated that the vast majority of Whatcom WSPs will be in the high risk category under Tech Note 23, regardless of the depth between the bottom of the lagoon and the seasonal high groundwater table.

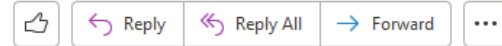
RE: EPA Letter Regarding Interagency Engagement on Nutrient Reductions



Isensee, Michael (AGR)

To: Sullivan, Chery (AGR)

Cc: Flege, Kyrre (AGR); Love, Kerri (AGR); Gibson, Kristina-Nina (AGR); Sulak, Daniel (AGR)



Wed 12/5/2018 10:34 AM

You replied to this message on 12/10/2018 9:13 AM.  
Click here to download pictures. To help protect your privacy, Outlook prevented automatic download of some pictures in this message.

It is worth remembering that the vast majority of Whatcom WSPs will be in a risk category that requires modification regardless of the depth between the bottom of the lagoon and the seasonal high groundwater table:

1. The majority are built in a Medium or High Aquifer Susceptibility according to the NRAS WSDA Aquifer Susceptibility Map, thus giving a waste storage pond 3 points.
2. The Ksat (saturated hydraulic conductivity) of soils through the farmland areas (based upon NRCS soil surveys, considering the top 60 inches of the soil profile and a weighted average for the soils that comprise each soil map unit, is greater than 36 and in many cases is above 100 micrometers per second. This gives the WSP an additional 3 points in the site risk assessment, making the lagoon HIGH SITE RISK.

If there is any issue with the structure, it will score at least a MEDIUM STRUCTURE ASSESSMENT RISK. This combination places it as a Category 3C or 4 RISK. Such lagoons under the permit are required to be modified. However, one cannot modify site risk factors inherent in the site. Such lagoons will always rank as a high site assessment risk. In all those instances the lagoon will have to be replaced with a concrete or steel tank.

Determining whether there is any structural issue is done during the physical assessment of the WSP, the part we have volunteered to do on behalf of permitted facilities. I remain very cautious about undertaking this knowing that at stake is a large financial consideration for the facility. I know I was at one lagoon with Susanna and Chris. I told the producer I did not believe the WSP met the minimum top width requirements of a lagoon. Erika from NRCS has since conducted a TN23 assessment and passed all the lagoons, whatever that means.

-Michael

On 4/6/2020 Kyrre Flege from WSDA emailed Melanie Redding saying they agreed that groundwater testing is needed to fill in gaps for manure lagoon assessment.

### Lagoons, TN23s and groundwater sampling



Flege, Kyrre (AGR)  
To: Redding, Melanie (ECY)  
Cc: Sullivan, Chery (AGR); Morris, Chelsea (ECY)

Reply Reply All Forward

Mon 4/6/2020 4:39 PM

DairyLagoons1.xlsx 84 KB TN23 Outcomes1.xlsx 20 KB 09659-02086\_TN-23\_L4\_Complete.pdf 560 KB

Hi Melanie,

Good speaking with you today. I think that we have a shared feeling that actual groundwater monitoring conducted for a sample of lagoons will fill a much need gap of information in evaluating lagoon discharge potential. A modeling exercise leaves too much assumption, and TN23 data should not be relied upon alone for making big policy decisions. I'm happy to help out with that, gathering data or bouncing ideas! Here are a couple pieces:

- 1) Attachment 1, a list of all the lagoons and upright tanks at dairies in Washington.
- 2) Attachment 2, a list of the TN23s that have been at least in part completed (few have actually seen a review by the Conservation District yet)
- 3) Attachment 3, an example of a completed TN23 form with comments and review from the Conservation District.

Good luck,

**Kyrre Flege**  
Inspector - Regulatory Lead/Supervisor  
Dairy Nutrient Management Program  
Washington State Department of Agriculture  
360.746.1249  
[kflege@agr.wa.gov](mailto:kflege@agr.wa.gov)



## On 7/14/2020 WSDA sends Ecology manure lagoon data from Yakima County

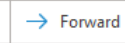
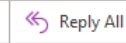
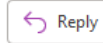
### TN 23 data for Lagoon Assessment project



Flege, Kyrre (AGR)

To Redding, Melanie (ECY)

Cc Chelsea Morris (ECY) (MORR461@ECY.WA.GOV)



Tue 7/14/2020 11:57 AM

NRAS_AquiferSusceptibility_Metadata.pdf 4 MB	TN23_AssessmentData_1-2017-7-2020.xlsx 46 KB	TN23_DataReportKey.pdf 561 KB
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Hi Melanie and Chelsea,

We've generated a report for the data that is entered and calculated behind the TN 23 assessment form. I've attached that report for all records in our database spanning the timeframe of the existence of the tool... roughly 2017 to present. The column labels can get a little cryptic because there is sooo much data. I've also attached the pdf you sent with a comment for each field showing the corresponding column label if you get lost.

Finally, you'd asked for some detail on the Aquifer Susceptibility layer and underlying input data. I'm attaching a power point presentation that discusses the data inputs. From our NRAS folks, here's the qualifiers: "It's an older dataset now. Be careful using site specific info, as a raster based on the SURRGO dataset it is very granular at small scales. Raster map combines statewide aquifer susceptibility assessment with leaching properties of pesticides (divided into four classes). For detailed description, contact WSDA for the Aquifer Vulnerability Assessment Background Data; Assumptions document. The susceptibility assessment is a result of manipulating four GIS layers: The base extent of the coverage is dependent upon the NRCS SSURGO soils layer. In addition, the WADNR statewide geological layer, depth to first encountered groundwater, and the availability of recharge to groundwater were used."

Before I share that layer, I need Chelsea to update the sharing settings on this group: <https://arcg.is/iiW8W0> to allow outside organizations to securely share content. Once that is done, I'll share the tile layer to that group and Melanie, if added as a member will be able to view the layer.

Chelsea, let me know when that is done or if you have another idea.

Thanks!

**Kyrre Flege**

Inspector - Regulatory Lead/Supervisor

Dairy Nutrient Management Program

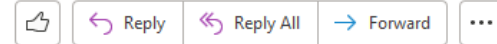
Washington State Department of Agriculture

In 11/5/2020 DNMP Director Sullivan expresses concerns about the reliability of Tech Note 23 assessments.

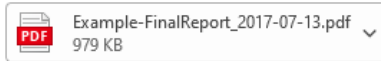
### Tech Note 23 discussion



Sullivan, Chery (AGR)  
To erica.fifer (erica.fifer@usda.gov)



Thu 11/5/2020 7:45 AM



Good Morning Erica,

I know we're Skyping this morning, and I know that my internet service at home has been a little unreliable. So I wanted to make sure you had access to the document that our staff are using to complete TN 23 evals on lagoons. Some of my questions about the risk analysis come from not having confidence in the information that we have access to, such as seasonal high groundwater and depth to groundwater.

I'm looking forward to talking with you,  
Chery

**Chery Sullivan**

Program Manager  
Dairy Nutrient Management Program  
Washington State Department of Agriculture  
[csullivan@agr.wa.gov](mailto:csullivan@agr.wa.gov) | Office: 360.902.1928 | Mobile: 360.292.5870

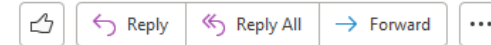
*"Everyone shall wear a mask. Those who are not doing so are not showing their independence — they are only showing their indifference for the lives of others." Sydney Morning Herald, February 3, 1919.*

On 11/17/2020 Chelsea Morris from Ecology and Michael Isensee from WSDA state problems documenting lagoon assessments in Whatcom County

RE: TN23 in Whatcom



Morris, Chelsea (ECY)  
To: Isensee, Michael (AGR)



Tue 11/17/2020 11:40 AM

You replied to this message on 11/17/2020 12:22 PM.



Whatcom TN23 Summary.xlsx  
17 KB



2019-12-03 LA.pdf  
476 KB

Hi Michael,

Thanks for sending this list over. I have one more permittee to add – Bloks Evergreen. I filled in a portion of your spreadsheet from the data I've been compiling in my own spreadsheet.

Attached is the complete paperwork we received. When I went to look for it in PARIS, I realized it's not visible to the public and I'm not sure why.

Chelsea

Chelsea Morris (she/her)  
360-764-0890

**From:** Isensee, Michael (AGR)  
**Sent:** Monday, November 16, 2020 3:13 PM  
**To:** Morris, Chelsea (ECY) <[MORR461@ECY.WA.GOV](mailto:MORR461@ECY.WA.GOV)>  
**Subject:** TN23 in Whatcom

Chelsea,

I hope your records are more complete than ours. I only could find the single NRCS TN23 letter on Roger Blok, but here is the basic info I was thinking about. There is much more that could be there.

**Michael Isensee**

1111 West Holly St, Suite E, Bellingham WA 98225-2922

[Washington State Department of Agriculture](#) | [Dairy Nutrient Management Program](#) (new website)

360-961-7412 cell | [misensee@agr.wa.gov](mailto:misensee@agr.wa.gov)

[Water quality Results Map](#)

[Story Map](#)

On 3/2/2021 USDA tells Ecology that Tech Note 23 does not conclude no discharge from any manure lagoon and there is o regulatory certainty associated.

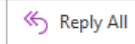
FW: Engineering Tech note 23



Hanson, Donald - NRCS, Spokane, WA <donald.hanson@usda.gov>

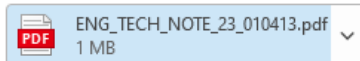
To Morris, Chelsea (ECY)

Cc Gibson, Kristina-Nina (AGR); Sullivan, Chery (AGR)



Tue 3/2/2021 5:12 AM

You replied to this message on 3/2/2021 7:12 AM.



File name: ENG\_TECH\_NOTE\_23\_010413.pdf  
File type: .pdf File

External Email

3/2/2021

Dear Chelsea,

You being my go-to person in the WDOE, and the fact that your offices are currently updating the CAFO permitting process, I forward this email from Kristina Gibson and offer that we work out related issues that may be important in pertinent conservation efforts.

The primary reason for addressing Kristina's interests is that our technical note for assessing existing WSPs, referred to in your current CAFO permitting under "S7.B. Existing Lagoon Assessment" may be worth discussing as part of what your offices decide for the updated CAFO permitting process. My first inclination is to make it clear that the assessment tool does not reach a conclusion that zero discharge occurs from any structure (WSP) or in any way "provide any regulatory certainty from state regulatory agencies."

I attach the current issue (2013) of the technical note for any discussions that we may decide to develop pertinent to the technical note, your offices, and the offices of the WDOA.

Sincerely, Don Hanson

On 3/12/2021 WSDA DNMP sends Ecology recommendations for changes to the NPDES permit for CAFOs

DRAFT CAFO permit change recommendations



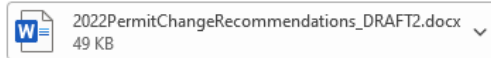
Flege, Kyrre (AGR)

To Chelsea Morris (ECY) (MORR461@ECY.WA.GOV)

Cc Chery Sullivan - WSDA - DNMP (csullivan@agr.wa.gov); Michael Isensee (misensee@agr.wa.gov); Love, Kerri (AGR); Daniel Sulak (AGR) (DSulak@agr.wa.gov); Kristina-Nina Gibson (AGR) (KGibson@agr.wa.gov)



Fri 3/12/2021 4:12 PM



Hi Chelsea,

Please find the attached document that captures most of the high priority change recommendations from DNMP. This document has undergone review from our whole team, but several recommendations are still being worked out. My hope is that you will feel free to ask questions, start discussion, and will go ahead and reach out to the authors the recommendations if you would like specific clarification. I think all of us would be happy to join any topic-specific ad hoc Skype meetings if needed. Please let us know how we as the inspection team can help support development of the permit.

Have a great weekend!

**Kyrre Flege**

Regulatory Lead, Supervisor, Inspector

Dairy Nutrient Management Program -- Washington State Department of Agriculture

c. 360.746.1249 e. kflege@agr.wa.gov

In the attached document WSDA states:

*TN 23 currently uses Aquifer Susceptibility as a factor determining risk to groundwater based on WSP locations. However, the Aquifer Susceptibility map, created by Washington State Department of Agriculture is outdated, with no confidence that the GIS layer accurately reflects aquifers susceptible to pollution.*