

Water Quality in Clark County

Washington State Department of Ecology

Presentation given by Devan Rostorfer, Water Quality Specialist

Clark County Council Work Session – February 17, 2021



As requested by Clark County Council, the transcript of Ecology's February 17, 2021, presentation on "[Water Quality in Clark County](#)," is provided in this document. Each slide in the presentation includes a slide number in the bottom right corner, which corresponds with text below. The [audio recording](#) of the presentation is also available online.

If you have questions, contact Devan Rostorfer, Water Quality Specialist, at devan.rostorfer@ecy.wa.gov or at 360-409-6693. Links to additional resources have been provided at the end of this document.

Work Session Attendees: Washington State Department of Ecology, Clark County Public Works Clean Water Division, Clark County Public Health, Clark Conservation District, Watershed Alliance of Southwest Washington.

Written transcript from presentation on February 17, 2021

Slide 1: Good morning everyone. I want to thank you all for making time to attend this Clark County Council Work Session today on the topic of Water Quality in Clark County.

Slide 2: My name is Devan Rostorfer, and I am a water quality specialist for the Washington State Department of Ecology's Southwest Regional Office. I am also currently a member of the Lower Columbia Fish Recovery Board's Technical Advisory Committee. Outside of work, I am a Commissioner on the City of Vancouver Parks and Recreation Advisory Commission, appointed through 2022. I am also a recent alumnus of Leadership Clark County Class of 2020. I have lived in Vancouver since May of 2018. I currently own a home in District 1, in City of Vancouver's Central Park neighborhood, right near Clark College.

Also on our Ecology, I want to introduce Sheelagh McCarthy, who is a Hydrogeologist in Ecology's Environmental Assessment Program. Sheelagh is the technical lead for water quality work in Clark County. Also on our team, we have Molly Gleason who is a water quality-monitoring specialist who goes into the field to collect the water quality data that supports our work. Lawrence Sullivan is the supervisor for the water cleanup and technical assistance unit. I also want to introduce Rich Doenges who is on the call today. Rich is the director of Ecology's Southwest Regional Office and I am delighted to have him with us today. Shawn Ultican is also on the call. Shawn is a former nonpoint specialist that has been working on nonpoint source pollution issues in Clark County since 2018.

Slide 3: Here is a map showing the total coverage area of Ecology's Southwest Regional Office. Personally, I cover all of the watersheds draining into the Pacific Ocean and the Lower Columbia from approximately the Chehalis Basin in Grays Harbor, Thurston and Lewis Counties, south to Skamania County. However, since I started at Ecology, I have had the great fortune to have the majority of my work targeted to watersheds in Clark County, which I am eager to talk to you about today.

Slide 4: For those of you less familiar with Ecology's presence in Clark County, I wanted to highlight that we do have a Vancouver Field Office with thirteen staff! This includes our spills prevention and spills

response program, toxics cleanup, and staff from the water quality program, which includes municipal stormwater, stormwater grants, construction stormwater, forestry, sand and gravel, and myself as the TMDL coordinator. We also recently added a Shorelands staff person to the Vancouver Field Office to work on shoreline management and wetland related to issues.

Slide 5: I also wanted to take a moment to recognize all of the partners on the call today. Since I started working in Clark County, I have worked closely with multiple organizations including Clark County Public Health, Clark County Public Works Clean Water Division, Clark Conservation District, Watershed Alliance of Southwest Washington, and Washington State University Extension. I invited leaders from each these organizations to join us today, as the work I will be talking about focuses a lot on how Ecology has been collaborating and coordinating with local organizations to tackle water quality challenges. Thank you to all of the partners who made time to join this work session this morning.

Slide 6: With that introduction, I was hoping we could take a moment for all of the Councilors and our Board of Health to introduce yourselves. I know I have not met all of you personally and I have been looking forward to meeting you, so please introduce yourselves for everyone at the meeting today starting with Council Chair, and going in order by district.

Slide 7: for today's presentation, I plan to start with a short overview of the watersheds in Clark County, and provide information on some of the nonpoint source pollution issues that impact water quality. I am also going to give you an overview of Ecology's active Water Cleanup work in the Clark County, starting with the East Fork Lewis River Water Cleanup Plan and the new Poop Smart Clark Pollution Identification and Correction program that is launching in Clark County. I will also give you a short overview of Ecology's planned work in Lacamas Creek. For the sake of time, I am not going to focus on Burnt Bridge Creek today. Although Clark County has some jurisdiction in Burnt Bridge Creek and collaboration with other jurisdictions will be necessary, I want to stay focused on East Fork Lewis River and Lacamas Creek, which will require more significant engagement from Clark County. I have set up this presentation where I will have time left at the end for questions, so I ask that you please hold any questions you have until the end.

Slide 8: Now let us get into the flow for today starting with a quick overview of watersheds in Clark County.

Slide 9: As many of you know, Clark County has approximately 10 major watersheds that drain water throughout Clark County's landscape from forest dominated headwaters in the east portion of the county, all the way downstream to the more urbanized areas along the Columbia river.

Slide 10: According to the US Department of Agriculture's (USDA) census in 2017, there are approximately 1,978 farms in the county making up an area of just over 90,000 acres in Clark County watersheds. Approximately 58 percent of these farms are associated with the production of livestock, poultry, and other products, and 42 percent are crops.

Slide 11: When I was preparing for this presentation, I was surprised to learn that Clark County is actually number three in the State of Washington for the total number of farms, behind Yakima and Spokane counties. In total, the market value of agriculture in 2017 was \$47.7 million dollars in Clark County, with almost \$28 million related to livestock. According to USDA, Clark County has over 300,000 chickens, and over 15,000 cattle, and this only a subset of the total livestock. The reason I am presenting

these numbers is to demonstrate that there is actually significant agriculture and livestock in Clark County's watersheds that can have an impact water quality.

Slide 12: Here is a map from Washington Department of Agriculture showing the dairy farms in Clark County that currently have Dairy Nutrient Management Act permits, which are required for all licensed cow dairies. Currently, the Lacamas watershed has the most dairy permits in Clark County.

Slide 13: Shifting gears to septic systems, according to Clark County Public Health, currently there are an estimated 34,500 septic systems in Clark County. This map shows the location and density of septic systems. Of the 34,500 septic systems, approximately 30 percent, or 10,350 septic systems are considered noncompliant because they have not been inspected within three years. Septic system inspections are required every three years to assess the location, condition, and performance of septic systems and to identify any maintenance, repair, or replacement needs associated with failing septic systems and water quality concerns. Normally, septic system maintenance and tank pumping is recommend every five years to keep septic systems functioning optimally. Replacement of failing systems are recommended every 25 to 40 years.

Slide 14: On the screen now is a map from the Department of Ecology's Water Quality Atlas in 2018. On this map, all of the waters shown in red are locations where rivers in Clark County are not meeting state water quality standards, and are considered impaired or on the states polluted waters list. As you can see, this makes up a significant amount of rivers in the County that run through backyards, and through public spaces and conservation areas near Clark County's Legacy Lands. When a segment of river is identified as being polluted, this is what drives Ecology to develop a Water Cleanup Plan.

Slide 15: One of the main questions Ecology tries to answer through a Water Cleanup Plan is, "how much pollution needs to be reduced to meet water quality standards?" In order to answer this question there are four main steps to Ecology's water cleanup process. First, Ecology completes water quality monitoring and data collection. Second, we complete a Source Assessment study. Third, we use the results from our study, and we develop a Water Cleanup Plan. Finally, in step 4 we focus on working with local partners to implement water quality best management practices for stormwater, septic systems, agriculture, and restoration.

Slide 16: Currently, Ecology has three major water cleanup projects in Clark County that are in different steps of the process. These include the East Fork Lewis River, which is in the final step and is currently focused on implementation. Burnt Bridge Creek, which is in step 3, and is currently focused on planning; and Lacamas Creek is in steps 1 and 2, which is the data collection and assessment phase.

Slide 17: The ultimate goal of all of Ecology's clean water work is to achieve clean water, meet state water quality standards, and support beneficial uses for people, fish, and wildlife; and residents and visitors of Clark County. This work is to ensure that surface water quality is swimmable, drinkable, and fishable for current and future generations.

Slides 18/19: Now I am going to shift focus to the specific Water Cleanup Plans that we have been working on starting with the East Fork Lewis River and our partnership for clean water.

Slide 20: The East Fork Lewis River is on Washington states polluted waters list for bacteria and temperature problems. Keeping the watershed clean is important because warm water temperatures

cause risks to salmon and the East Fork Lewis River is a priority for salmon recovery. Reducing bacteria in the watershed is important to protect the public health of swimmers and recreationalists.

Slide 21: To address water quality issues in the watershed, the East Fork Lewis River partnership was launched in 2018, which is a collaboration of local, state, federal, and tribal governments, watershed groups, and private landowners that are working together to achieve clean water in the watershed.

Slide 22: Through this partnership, the East Fork Lewis River Source Assessment was published in 2018 identifying critical areas for water quality improvement, and the draft East Fork Lewis River Water Cleanup Plan was developed to prioritize implementation actions for clean water.

Slide 23: Priorities for clean water in the East Fork Lewis River include addressing nonpoint source pollution impacts from septic systems, agriculture, and stormwater, and increasing riparian restoration and tree planting in the watershed.

Slide 24: From the Source Assessment we were able to determine the location of the largest shade deficits in the watershed, which present opportunities for tree planting projects. Priorities for addressing shade deficits are located in the middle watershed.

Slide 25: from the assessment, we know that there are shade deficits of up to 40 percent in the middle watershed. This is an image of one of the largest shade deficits at Lower Daybreak Park, which is owned by Clark County.

Slide 26: I do want to acknowledge that there has been significant progress made in the East Fork Lewis River through the Clark County Legacy Lands program, which has acquired and preserved over 2,000 acres of land for conservation and restoration purposes. I know that there are plans to preserve even more land in the watershed and I just wanted to quickly thank Clark County Council for your continued support for Clark County's Legacy Lands program, which makes a huge difference for water quality and salmon recovery.

Slide 27: Shifting focus to bacteria; from the East Fork Lewis River Source Assessment, we also know that significant bacteria reductions are needed in the watershed. Priorities for bacteria reduction are located in the lower and middle watershed.

Slide 28: Specifically, we know that some of the highest bacteria levels in the East Fork Lewis River were coming from McCormick Creek, which is a tributary that has shared jurisdiction between the City of Ridgefield and Clark County, close to I-5.

Slide 29: With this data, Ecology went into the field to investigate and find potential sources of bacteria.

Slide 30: This fieldwork ultimately led to the discovery of a large manure lagoon from an old dairy that was purchased by a developer for subdivision development. Ecology was then able to work with the City of Ridgefield, the developer, and the Washington State Department of Agriculture to provide technical assistance to decommission the manure lagoon, which ultimately removed a large source of bacteria from the watershed and prevented a large discharge to the river.

Slide 31: The Source Assessment also helped us identify a large source of bacteria coming out of Brezee Creek, which has shared jurisdiction with the City of La Center and Clark County.

Slide 32: From this work, we have been able to implement stormwater illicit discharge detection and elimination practices, which lead us to finding almost 10 new homes where a developer had accidentally connected the sanitary sewer pipe to stormwater infrastructure. This new development had homes directly discharging human waste to the East Fork Lewis River, just upstream from a popular swimming hole and boat launch area. This water quality work has led to more stormwater management planning, as well as more thorough inspection processes in the City of La Center. Currently we are working as partners to continue monitoring in Brezee creek and are exploring opportunities to develop an interlocal agreement to find and fix bacteria pollution sources.

Slide 33: Now I want to shift focus to a major implementation activity coming out of Ecology's East Fork Lewis River work, called Poop Smart Clark. Poop Smart Clark is a new pollution identification and correction program that is using quality data to find and fix sources of bacteria in Clark County watersheds.

Slide 34: Poop Smart Clark is a local-driven, collaboration between Clark Conservation District, Clark County Public Health, Clark County Public Works Clean Water Division, Washington State University Extension, United States Department of Agriculture's Natural Resources Conservation Service, Watershed Alliance of Southwest Washington, and Department of Ecology, and that started in 2019.

Slide 35: Together, Poop Smart partners are working to utilize water quality monitoring, to identify water quality concerns, and to conduct targeted education and outreach, and complete agricultural and septic system assistance. The goal is to increase the financial and technical assistance available to private landowners to fix nonpoint source pollution problems on private property, and achieve voluntary compliance with water quality standards. The program is currently building financial resources to implement agricultural best management practices for livestock and manure management, and is building a new septic system inspection and maintenance rebate program to help landowners pay for proactive septic care.

Slide 36: This program has had broad support across the State of Washington from public and private entities. Here is a list of all of the organizations that have submitted letters of support for Poop Smart Clark.

Slide 37: From the Poop Smart cooperation, we have been able to use data to target critical water quality areas to complete more mapping and assessment to support implementation. This map shows priority focus areas for water quality implementation in the East Fork Lewis River.

Slide 38: In these areas, we now know that there are 855 agricultural parcels located in priority areas of the East Fork Lewis River, near locations with documented bacteria pollution. Approximately 689 of these properties are located within 200 feet of the stream and provide significant opportunities for water quality improvement.

Slide 39: We also know that the East Fork Lewis River watershed has over 6,000 septic systems and almost 2,000 haven't been inspected. Approximately 1,800 of these are located in priority areas for water quality. Implementing septic system inspections and maintenance on these systems provides significant opportunity for water quality improvement.

Slide 40: So what is next for the East Fork Lewis River and Poop Smart Clark in 2021? Fortunately, now that we have completed implementation planning in the watershed and Poop Smart Clark is getting off the ground, the Poop Smart program has received some funding support from the federal government through the US Department of Agriculture, and additional funding from the State of Washington has been requested. The outcome for state funding will not be known until after the state budget passes later this year.

Slide 41: Even with some State and Federal funding, one of the main goals for 2021 is to achieve local support for Poop Smart Clark. Local support is needed not only for implementation of septic system programs such as increased inspections, maintenance, and replacement efforts, and but local funding support for agricultural assistance and Clark Conservation District is also needed. Currently Clark Conservation District only has three staff, which equates to each staff person serving almost 163,000 people or 30,000 acres of agricultural land per staff person. General support for increased nonpoint source pollution reduction, compliance efforts, and code enforcement related to protecting water quality is also needed in 2021.

Slide 42: I know I just covered a lot and you probably have many questions, but I quickly want to cover what Ecology is planning for the Lacamas Creek watershed before I wrap up today.

Slide 43: The Lacamas Creek watershed is on Washington State's polluted waters list for bacteria, temperature, pH, and dissolved oxygen impairments, which reinforces the importance of working in the watershed

Slide 44: Approximately 88 percent of Lacamas Creek is located within Clark County's jurisdiction, which is shown in the light yellow color. The City of Vancouver is responsible for 4 percent of the watershed and Camas's jurisdiction makes up 7 percent of the watershed. Today, only 22 percent of the watershed is publicly owned, which highlights the importance of having strong programs to work with private landowners, but also the importance of having Camp Bonneville in the watershed as a public natural area.

Slide 45: Here is a map showing polluted segments of the Lacamas Creek watershed where Ecology will focus upcoming water quality monitoring efforts.

Slide 46: The dominate Landcover in Lacamas watershed is 35 percent forested, followed by 25 percent agricultural with hay and pasture lands. Only 4 percent of the Lacamas watershed is wetlands.

Slide 47: Currently, Ecology is preparing to collect water quality data in the Lacamas Creek watershed to support development of a Source Assessment, which will identify priority areas for water quality improvement in Lacamas Creek. This will include, identifying priority areas for bacteria reduction to focus agricultural and septic work, and completing a shade deficit analysis to identify priority areas for restoration. Ecology Source Assessment is focusing on Lacamas Creek, because past studies determined that the majority of nutrient loading to Lacamas Lake that is associated with eutrophication and harmful algal blooms comes from Lacamas Creek.

Once Ecology completes its Source Assessment, step 3 will involve developing a Water Cleanup Plan to address nonpoint source pollution, and step 4 will be focused on implementation.

Some of you may also be aware that there are many other efforts happening in the Lacamas watershed right now. Recently, the City Council at Camas made water quality a priority for the city. Camas is now planning to complete a Lake Management study on Lacamas Lake, focused on reducing and preventing harmful algal bloom. This Lake Management Plan will compliment Ecology's water quality study by focusing on the areas around the lake, which are outside of the Lacamas Creek watershed and Ecology's study boundary. Together, Ecology's Source Assessment and Camas's Lake Management Plan will complement one and other. Recently, the Lacamas Watershed Council was also formed and they are tracking issues in the Lacamas watershed, and they have reached out to Ecology to have us present at an upcoming meeting. Clark County has also presented to the Lacamas Watershed Council. I also know that the City of Camas is working on stormwater implementation and recently received two stormwater grants that have the potential to help improve water quality. Salmon recovery partners are also exploring opportunities to implement restoration projects in the watershed.

Slide 48: Personally, where I see a lot of opportunity in the Lacamas Creek watershed is to build upon the success and momentum of the East Fork Lewis River Partnership and Poop Smart Clark to continue using the pollution identification and correction framework to find and fix pollution issues in the Lacamas watershed.

Slides 49/50: As far as next, we obviously have a lot of work to do to address the water quality issues in Clark County that I showed on the map at the beginning of the presentation. I know I wasn't able to take a deep dive into all of the challenges, opportunities, and potential solutions with only an hour this morning, However, I hope this meeting today is the beginning of many more conversations and new partnership with Clark County Council.

Slide 51: One thing I could ask you to consider is that if you see a nonpoint source pollution issue in Clark County watersheds, or if you get a phone call from a concerned community member about a pollution issue, you can report the problem online using Ecology's Environmental Complaints system. This is one of the best pathways for Ecology or the appropriate organization to receive and respond to water quality complaints in Clark County.

Slide 52: I also thought I would acknowledge that there has been a lot of focus and interest from the public recently on water quality in Clark County's lakes. I know I get many phone calls from concerned community members about harmful algal blooms and beach closures, and I am sure you do to.

Slide 53: It is of my professional opinion that an investment in Clark County's watersheds and an investment in Poop Smart Clark (Clark Conservation District, Clark County Public Health, and Clark County Clean Water Division) is an investment in Clark County's lakes. As a reminder, there are over 10,000 septic systems in the county have not been inspected and are considered noncompliant. Additionally, three staff at Clark Conservation District are tasked with managing 90,000 acres of agricultural land. I hope this presentation shows that Ecology is working closely with partners in Clark County to address water quality issues and we hope you will join us.

Slide 54: Thank you for the time, and thank you for your commitment to clean water. I look forward to discussion and answering your questions.

Additional Resources

East Fork Lewis River

- [East Fork Lewis River Partnership webpage](#)
 - [Draft East Fork Lewis River Water Cleanup Plan](#)
 - [East Fork Lewis River Watershed Bacteria and Temperature Source Assessment](#)
 - [East Fork Lewis River Water Cleanup Plan webpage](#)

Burnt Bridge Creek

- [Burnt Bridge Creek Partnership webpage](#)
 - [Burnt Bridge Creek Watershed Fecal Coliform Bacteria, Temperature, Dissolved Oxygen, and pH: Source Assessment](#)

Lacamas Creek

- [Lacamas Creek Fecal Coliform, Temperature, Dissolved Oxygen, and pH: Water Quality Study Design](#)

Submit an Environmental Incident Report

- [Report an Environmental Incident Report \(ERTS\) Online](#)

Other

- [2017 Census of Agriculture Clark County Washington Summary](#)

Contact

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