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Nutrient Management in Oregon Community Engagement

OREGON'S KITCHEN TABLE

National Policy Consensus Center NPCC

Oregon's KITCHEN TABLE

Portland State UNIVERSITY

Introduction

During the winter and spring of 2025, the Oregon Department of Environmental Quality (DEQ) partnered with Oregon's Kitchen Table (OKT) to engage Oregonians to better understand peoples' experiences, concerns and ideas about managing water quality issues caused by excess nutrients in Oregon. This was in part a follow-up to the engagement that Oregon's Kitchen Table had done on the Integrated Water Resources Strategy in 2023. The goal of this engagement was to inform a statewide nutrient management plan that will be created over the next year. Over 1000 people participated in a variety of engagement activities. This report provides a range of perspectives, experiences, hopes, and ideas for DEQ staff to consider as they develop the statewide nutrient reduction strategy.

Throughout this process, we met passionate people who care deeply about Oregon's water. As you will read in more detail below, we heard varying levels of trust and confidence in how a statewide plan can account for the range of diverse landscapes, conditions, and other competing needs that exist in Oregon. Some participants have been working on these issues for decades and have shared their experience and concerns with DEQ over many years and in some cases, they are frustrated by what they see as government inaction. And, we heard from many people who hadn't participated in this conversation before and were grateful for the opportunity to share their needs, values, and ideas.

In many instances, we heard significant confusion about the term "nutrients." We suspect that some people may not have believed that they had anything to say about "nutrient pollution" and may have bypassed opportunities to participate through the survey. By contrast, once people were involved in a community conversation, they were quickly able to catch up and offer examples, insights, and ideas. In all formats, we observed that it is difficult for people to disentangle nutrient-related pollution from the effects of temperature, bacteria, or other water quality concerns. As DEQ is developing the plan, it will be important to stay in conversation with communities and find ways to connect this topic to community concerns and desires (economic, recreational, and health-related, as well as environmental.)

The following report consists of an Executive Summary followed by the full report, which includes the following sections:

- Community engagement goals and design
- Connections and awareness about nutrients and water quality issues
- Concerns
- Preferred approaches and ideas for managing nutrient pollution
- Reflections from community forums
- Recommendations for future engagement

The appendices also provide annotated survey results as well as more details about the engagement process. The purpose of this report is to give a snapshot of where community values, hopes and ideas overlap and where they diverge at this moment in time. This engagement happened before, during and immediately after the change in presidential administrations in which there have been major shifts in funding and support for many players in the environmental and environmental justice field. As a result, there were shifts in capacity and priorities throughout the process.

This report is not a scientific study, nor a presentation of the facts about nutrient pollution in Oregon, but rather a recounting of conversations and other input over a particular period of time. It does not offer a comprehensive list of every comment shared, but meeting summaries from community conversations, letters OKT has received, and all responses to open-ended questions on the survey will also be shared with DEQ. In this report, we include a selection of quotes or comments we heard in different engagement settings. Quotes and comments included in the report either illustrate a particular point in someone's own words or echo what other people shared. Comments submitted through surveys are not altered or edited by Oregon's Kitchen Table except for length. They are presented as written by participants, in their own words. For quotes or comments in languages other than English, we have provided a rough translation.

This community engagement process and the creation of the statewide plan offer an opportunity for DEQ to acknowledge people's input and demonstrate how that input impacts future decisions and actions. We are proud and grateful for the opportunity to

talk with Oregonians during this process and to collaborate with DEQ on this important work.

Executive Summary[1]

Background

During the winter and spring of 2025, the Oregon Department of Environmental Quality (DEQ) partnered with Oregon's Kitchen Table (OKT). The goal was to hear from people who live in Oregon about water quality issues caused by excess nutrients. We wanted to hear their experiences, concerns, and ideas about this topic. This will help DEQ create a strategy for Oregon to address water quality issues caused by too many nutrients.

Nutrients are found in soil, water, and other places. Fertilizer, compost, and human and animal waste are high in nutrients. These include nitrogen and phosphorus. They are vital for all aspects of life.

But when too many nutrients get into our water, they become pollutants. They cause harmful blooms of algae. They can make water unsafe to drink or swim in.

High levels of nutrients result from:

- Runoff from cities, forests and farms.
- Leakage from septic systems in rural areas.
- Certain sources like sewage treatment plants.

Over 1000 people shared what they think about nutrients in water. This is a summary of how we reached people during the process and what they said. There are also suggestions for DEQ about ways to engage people in the future.

This summary is available in English and Spanish. To read the full report, visit https://www.oregonskitchentable.org/engagements/water-quality-and-nutrient-management-oregon.

Participation

OKT used these methods to hear people's thoughts and ideas about nutrients and water quality:

[1] The Executive Summary has been through a plain language review so that it is accessible to a wide range of readers.

- 16 individual and small group interviews
- Online surveys in English and Spanish
- 13 community conversations
- Tables at cultural and community events
- Partnerships with community organizers and organizations
- Joining regular meetings of organizations

Findings: Common themes

Experience with water quality

- People care deeply about water quality.
- Most people feel Oregon's water is clean and safe. Most feel their drinking water is clean. But, almost all can also point to a body of water they felt was not clean or safe.
- Many people do not know for sure how clean and safe their water is but often they still use it. People also have different points of view on what "clean and safe" means. Clean and safe for drinking water is different from clean and safe water for swimming or irrigation. The time of year and what is happening nearby also makes a difference in how clean and safe people think their water is.
- To decide if water is unsafe or unclean, people often pay attention to:
  - Garbage and debris.
  - How close the body of water is to sources of pollution.
  - How the water looks or smells.
  - Public warnings or word of mouth.
- People, especially students, are concerned about water quality in schools, particularly lead pipes.
- People can see the effects of climate change and drought in their communities.

- Many people feel there is a lack of understanding about what causes problems with water quality. Many people would also like more information from DEQ about sources of pollution and where problems exist.

Excess nutrients

- Many people are not familiar with the term "nutrients" and many people are confused about what it meant. People also find it hard to untangle the effects of excess nutrients from temperature, bacteria, and other water quality concerns.
- And, most people are concerned about water quality issues that can be linked to nutrients. The most common way people experience excess nutrient issues is through:
  - Signs that say a body of water is closed
  - Warnings not to swim or eat fish or shellfish from the water
  - Algae blooms
- Some people had questions about whether excess nutrients cause invasive weeds (milfoil), E.coli, the ocean becoming more acidic, or other issues.
- Recreational users reported high rates of experiencing algae blooms.
- Farm workers talked about sickness and health issues from drinking and bathing water as well as headaches caused by smells.

Solutions

- Some people feel frustrated and distrustful about what the strategy will achieve. Some people are afraid that this will lead to more regulations. Other people are concerned that there will not be real action.
- People are thinking about other people's needs in considering solutions.

Preferred approaches

We asked people to choose from five options about possible actions that DEQ could take. Across all our conversations, people mostly felt that one approach is not enough. People said DEQ should address the issues in various ways.

- People agree that there is a lot of good work already happening. Many people would like to see DEQ invest resources in approaches that already exist and are successful.
- People highlight that education, funding, and regulation are solutions that go together. Education can increase awareness. In turn, this can influence the actions people take. If people do not understand why a regulation exists, they may be less likely to follow it. If people can not afford to follow a rule and there is no help available, it creates conflict.
- Some issues may be caused by actions that were taken a long time ago. There are also places that do not have water quality problems now but might in the future. It is important to think long-term about water quality issues and not just react in the moment.
- People want to see solutions that benefit and work for many different people and groups. It is important for DEQ to balance protecting water quality and supporting agriculture as an important way of life and part of Oregon's economy. It will be important to find solutions that benefit farmers, industry and communities alike.

Outreach and Education

People would like to see outreach and education about:

- The causes of nutrient pollution and its effects.
- Modern agricultural practices.
- The public's role in reducing nutrient pollution. For instance, the impact of lawn fertilizer, pet waste, and runoff from paved surfaces.

People would also like to see more outreach and education in Spanish about contaminated drinking water so that farmworkers and people who are new to Oregon will understand the impacts of contaminated water.

People want DEQ to use clear, locally relevant examples that show how everyday actions impact water quality. That means the examples may be different in different parts of the state.

People suggested working with schools and expanding community education programs.

Monitor and Test

Many people feel they do not know enough about what is causing nutrient pollution to have detailed ideas about solutions. They would like to see more monitoring and testing so that resources are directed where they are most needed.

Many people would like to see more testing and information about drinking water quality. This includes:

- How water is tested.
- How often it is tested.
- What chemicals are found in drinking water.
- The potential health impacts of those chemicals.

There is interest in science programs where people (including recreational groups and students) help to monitor water.

Regulation

Some people believe that voluntary measures have not been enough. They believe that only regulations that can be enforced will drive change.

Some people were frustrated with approaches that place the burden on individuals. Instead, they urged the authorities to focus on big polluters.

Some people talked about specific gaps where regulations would help. One example is to create regulations about riparian buffers on agricultural land. Riparian buffers are strips of land next to bodies of water like creeks or streams. They have trees and plants growing on them. They help filter runoff before it reaches the body of water.

People have conflicting ideas about increasing regulations in agriculture. People see that farming is both a source of runoff and a vital part of Oregon's economy and way

of life. Some farmers feel unfairly blamed. People would like DEQ to find ways to reduce nutrient pollution from agriculture while respecting farmers' need to make a living.

Funding

People felt that funding is key to support the other strategies, like outreach and education, testing, and regulation. People talked about the need for funding to:

- Support farmers to make changes that protect water quality;
- Monitor and upgrade septic systems or create sewer systems in rural areas.
- Upgrade aging infrastructure, like pipes, roads, and systems that filter water.

Priorities

In deciding between where and how to act, people would like to see DEQ make these a priority:

- Human health.
- Areas where there is the most risk of negative impacts.
- Areas where action is very likely to have an impact.

One area of tension was that some people said DEQ should make it a priority to prevent and take action where there are low levels of problems, before the problem gets bigger. Other people felt that the state should focus on areas with the worst water quality issues first.

Some people stressed that fish populations are often the most sensitive to nutrient pollution. So, prioritizing fish would also meet human needs.

Partnerships

We asked people what types of partnerships DEQ should pursue to support the strategy to reduce nutrients. People suggested partnering with:

- Schools
- Recreational groups like kayakers and fishing clubs
- Universities

- Farmers
- Soil and Watershed Conservation Districts
- Watershed Councils
- Cooperative extension, including Master Gardeners
- Other state agencies like the Oregon Department of Agriculture and Oregon Department of Forestry
- Other environmental and civic groups
- Businesses that sell fertilizers like hardware stores or wholesale distributors

In rural areas, many people suggested that DEQ should work with individuals to gather people or help them form new groups. “In rural places, there may not be a lot of existing infrastructure with these types of groups in place,” one person shared.

What Happens Next

Over the next year DEQ will create the statewide nutrient management plan. There may be more opportunities for community members to provide input.

Based on what we heard, we encourage DEQ and other groups working on these topics to:

- Create more opportunities for people to get involved and help with water quality monitoring
- Create ways for people to learn more about excess nutrients and water quality problems.
- Communicate how the nutrient reduction strategy reflects people’s input from this engagement.
- Keep people informed about the nutrient reduction strategy and its implementation.

About Oregon's Kitchen Table

Oregon's Kitchen Table is a statewide community engagement program that invites all Oregonians to participate in the decisions that affect their lives. We particularly focus on reaching, engaging, and hearing from Oregonians that have been left out of traditional engagement processes.

Using culturally specific and targeted outreach, as well as community partnerships, we work with organizers, translators, and interpreters to assure that materials and online and in-person engagement activities are available for and relevant to all Oregonians. We honor and value the wide range of values, ideas, and lived experiences that community members share with us and with public decision-makers.

OKT is housed in the Hatfield School of Government at Portland State University.

Section 1: Community Engagement Goals and Design

Background

During the winter and spring of 2025, the Oregon Department of Environmental Quality (DEQ) partnered with Oregon's Kitchen Table (OKT) to hear from Oregonians about their experiences, concerns, and ideas about water quality issues caused by excess nutrients. This effort was a follow-up to a previous engagement effort—in spring 2023, the Oregon Water Resources Department (OWRD) and 13 other state agencies worked with Oregon's Kitchen Table to hear what Oregonians wanted to see in the update to the Integrated Water Resources Strategy. The report the community engagement on the Integrated Water Resources Strategy is available on Oregon Kitchen Table's website.

Nutrients are found in soil, water, and other places. Fertilizer, compost, and human and animal waste are high in nutrients like nitrogen and phosphorus. They are vital for all aspects of life. But when too many nutrients get into our water, they become pollutants. They cause harmful blooms of algae and can make water unsafe to drink or swim in. High levels of nutrients result from:

- Runoff in urban, forested and agricultural areas
- Leaching from septic systems in rural areas
- Certain sources like sewage treatment plants.

DEQ is looking at ways to address water quality issues caused by too many nutrients. In the winter and spring of 2025, over 1000 people shared their ideas with us through a survey, community conversations, and three community forums on Zoom.

Below is a brief overview of the engagement process. More details are included as "Appendix A. Community Engagement Process and Participation." The annotated survey results along with demographic information about participants is attached as "Appendix B. Annotated Survey Results." The agenda and questions posed to participants in community conversations are included as "Appendix E. Community Conversation Materials."

Engagement Goals

The goals for the community engagement process were:

1. to hear from people throughout Oregon about their values, priorities, and concerns about water quality and nutrients as well as their ideas for addressing these issues;
2. to hear from Oregonians who have not traditionally been included in statewide conversations about water.

In order to meet these goals and reach various communities, we created a number of ways for Oregonians to provide input in English or Spanish between February 10 and April 30, 2025. We followed up on those activities with three community forums held in June 2025. The Executive Summary and Appendix A. provide additional details about the process design, including information about the engagement process as well as the content.

Section 2: Connections and Awareness

Overall awareness of nutrients and water quality issues

We heard from people with a wide range of experience and familiarity with nutrients, their sources, and effects in water. While some people have been working on water quality issues for many years or think about nutrients as part of their everyday work, many people had never heard this term. For people who were not familiar with these terms, it has been difficult to quickly and accurately communicate about the issues related to "nutrient management" and how the overuse of nutrients might affect Oregonians in their day-to-day lives. People wondered if DEQ includes pesticides and other contaminants in this term. One person who works with ranchers commented that 'nutrient' has a specific and different definition in his sector – it includes vitamins, minerals, and water. Similarly, the vast majority of people do not differentiate between pollution from

> "People talk about the thing that's affecting them. Not nutrient pollution but nitrate pollution. Not nutrient but fertilizer or wastewater – those are analogues for nutrient. We focus on how people are being impacted and how we can help them with that specific issue."
> – Community organizer in Umatilla County

nutrients versus pollution from mercury, arsenic, lead, pesticides, or other natural or human influences on water quality. The community conversations allowed us to hear people grappling with the concept of nutrients and how the topic relates to their concerns.

Overall, many people feel that Oregon's water is uniquely clean and safe and important to protect. Throughout various forms of input, we heard many comparisons to other states and places in the world where there are severe water quality issues. At the same time, most people were also able to point to some body of water in Oregon that they felt wasn't clean or safe. While many people described their own water at home and work as very clean and safe, the same people also reported being concerned about nutrient pollution across Oregon more broadly.

People have significant care for and firsthand experience of water quality in the bodies of water they live near or recreate on. Many people noted that water quality varies by time of year, amount of rainfall, how much water is pulled out, as well as runoff and other inputs. Almost everyone we talked with talked about discerning between one part of a river and another—upstream or downstream, above or below a dam–or between one season and another.

While there was a common perception that agriculture is a primary source of nutrient pollution, people were also curious about other sources and wanted to better understand their role in nutrient pollution. As we noted earlier, most people were not able to untangle the impacts of nutrients from the impacts caused by bacteria, temperature, or other contaminants or pollutants. There was a common desire for more information from DEQ about where there are contamination issues and a broadly held opinion that the source of pollution needs to be identified in order to address it. People wondered if nutrient pollution is related to ocean acidification, Paralytic Shellfish Poisoning, and wildfire. In one conversation, someone asked if ash from a wildfire might contain nutrients and wondered if that might be leading to excess plant growth in the lake.

While in some communities it took some explanation to identify the connection between water quality issues and nutrients, farmworkers we heard from had a lot of experience with the connection between fertilizer and water quality. Those people talked

about effects on their digestion and skin, bad smells, and the connection between water applied to fields and their drinking water on the farm or at home. Many people working in agriculture are concerned about the impact of fertilizer on their health and their children's health.

While some people have been part of conversations about water quality for many years or even decades, many people we spoke with, particularly youth and farmworkers, had not been asked about or participated in public conversations around water quality in the past. They were excited about being involved and interested in being part of the solution. Some people felt that information about water quality had been intentionally hidden from them and their voices had been minimized and pushed aside. They felt this conversation was an opportunity to talk more openly and to share their ideas. We also heard significant enthusiasm about engaging in water quality or monitoring efforts, particularly from youth and recreational users like paddlers and anglers.

How people interact with water

In both community conversations and on the survey, we asked people how they interact with water. On the survey, people identified the following ways in which they interact with water:

- 64% of people said they or their pets swim.
- 55% of people said that they live next to a stream, river or lake.
- 51% of people said they kayak, paddle board, canoe, or kite surf.
- 42% of people said they drink well water.
- 39% of people said they fish.

Other responses included:

- 18% of people said they interact with water for spiritual or cultural purposes.
- 18% of people said they harvest shellfish.
- 15% of people use a motor boat or jet ski.

We also heard from a smaller number of people who shared that they interact in these ways:

- Use well or flood water for agriculture (ranching, farming, irrigating row crows);

- Work in water or watershed management, such as river conservation, restoration, on the board of the watershed council, manage land adjacent to streams, or enforce water quality;
- Harvest timber while protecting streams;
- Enjoy, appreciate, care;
- Recreation near water, like hiking, visiting ocean, backpacking or waterfowl hunting;
- Recreation in water like rafting or snorkeling;
- Drink municipal water;
- Use at home, such as for garden or cleaning.

> "I design water-related infrastructure to support cities and community members." – Washington County resident, comment on survey

> "I collect and reuse water in line with OWRD regulations" – Linn County resident, comment on the survey

Unique answers included using water for transportation, not having access to free-flowing water, having a business that relies on water .

Across community conversations, people frequently brought up recreational activities like swimming, kayaking, or fishing as ways that they interact with water. In addition, we heard from many people who work in water or watershed management or use water on their farms.

How clean and safe is the water where you live, work and play?

In the survey and conversations, we asked people how clean and safe the water is where they live, work or go to school, and play. These are general observations and themes of what we heard:

- Many people generally feel water in Oregon is clean and safe and that the areas they recreate are clean and safe. They may choose to go to those places because of clean and safe water. People talked about the importance of visiting water in the summer in particular. One notable exception was in the community conversation in Boardman, where everyone present felt that their water was not clean or safe.
- People distinguish what water is clean/safe for – that many areas are safe for swimming but not drinking. This question about what "clean and safe" means came up in almost every conversation. Overall, there were differing perspectives

about whether water is clean and safe and what "clean and safe" means. One person highlighted that different communities might have different 'indicator species' that they look to when they are considering whether water is clean or safe enough to recreate in. For boaters and anglers, it could be about whether the fish are safe to eat. For paddlers, people might think about whether it's safe for their dogs. And for some people, humans are the indicator species—"if I can swim here, it's good," someone said. The most common distinctions we heard were that people would use water for irrigation but not for recreation or drinking; or that people would be willing to recreate (swim, boat, kayak) but not drink from certain bodies of water.

- Many people don't know how clean or safe water is and may swim in, fish, harvest shellfish from, drink, or recreate in it anyways, even if they have some concerns. The quote on the right indicates this common sentiment. One person suggested that either that the standards have changed or that we test more, but that they've eaten fish and shellfish their whole lives "so why stop now."

> "Yo quiero saber como me puedo dar cuenta si el agua es limpia? Yo no se como yo podria saber." ("I want to know how I can tell if the water is clean? I don't know how I could know.") – Comment from community conversation in Woodburn

- And, most people can identify places that they don't think are clean and safe. There are many places people have concerns about. (See Appendix C. for specific places named by people in the survey or the conversations.) Generally, most people felt that alpine lakes and streams in wilderness areas are clean. People brought up concerns about urban creeks, rivers in and downstream of urban areas, lakes and reservoirs, ponds, and drinking water sources. There were many places that people had mixed feelings, like places on the Oregon coast where some people were concerned about woody debris and runoff and other people felt it was clean and safe.
- Many people said the biggest indicator of water being unsafe/unclean is garbage and debris. People also talked about whether water was clean/safe based on these factors: its proximity to agriculture, industrial areas, logging, or high-density areas like cities; how it looks or smells; advisories; or word of mouth. A smaller

number of people reported getting information from particular sources like a local swim guide or DEQ.

- There was a wide range of causes of pollution that people talked about. In general, there is a common perception that water near people is more likely to be unsafe, polluted, etc. People talked about preferring water upstream of densely populated areas and complained about hikers or boaters leaving trash and homeless people camped on the riverbank. Many people also brought up concerns about aging infrastructure, particularly old pipes causing water that is yellow, smelly, or leaves residues. Particularly among farmworkers, we heard concern about fertilizers and chemicals sprayed on grass and in parks flowing into the river.
- Many places, particularly lakes, were mentioned specifically in late summer when flows are lower. Other people pointed out that storms and tides also affect water's safety, particularly on the coast and flooding/sewage discharge in the Willamette.
- Many farmworkers we heard from reported on pesticides and chemicals they encountered at work influencing the water supply and expressed concern about the negative effects on their health and their children's health.
- Generally, we also heard significant concern from high school students about the water quality in their schools. In particular, students shared concerns about lead pipes in schools and drinking fountains that have been unusable for many years.
- Although we did not ask about air pollution, people brought it up in many conversations. Particularly in the community conversation in Boardman, people talked about air pollution causing headaches. In another community conversation, someone told us about a street in Eugene area that people call "Poo Alley" and avoid because of the smell.
- People shared stories about things changing over time. Many of those stories were about water quality improving.
- Some people expressed anger at the government. Some people felt that there has been improvement and expressed gratitude to government or communities for keeping water clean. Some people, particularly in the community conversation in

Boardman, felt that local authorities should do more to provide quality drinking water to all residents.

How do you use or produce nutrients?

In the survey, we asked people how they use or produce nutrients. Given that many people were confused about or not aware of what "nutrients" refers to, on the survey, these questions may have helped people understand their own role or relationship to nutrient issues. These were the most common ways people responded on the survey:

- 61% of people who responded to the survey said "I use fertilizer, compost or manure on my lawn, in my flower or vegetable garden, berry bushes, or orchard."
- 55% of people who responded said "I have pets or farm animals like dogs, cats, horses, goats, chickens, or cows.
- 53% of people who responded said "I compost kitchen scraps or animal manure."
- 40% of people who responded said "I have a septic system, composting toilet, outhouse, or a drain field where waste from laundry, sinks and showers go."

17% of people who responded said they use or produce nutrients at work, like on a farm, in a nursery, in a landscaping or forestry business, or in the fishing industry; and 13% of people said they do not use or produce nutrients. Among people who chose "other," several people pointed out that everyone produces nutrients by urinating and defecating.

When we asked how people decided how much fertilizer to apply, the majority of people said that they decide how much to apply based on the directions on the bag. This is how people who took the survey said that they decide how much fertilizer to apply:

- 59% of people said that they decide how much to put on based on the directions on the bag.
- 31% of people said they test their soil or crops to know how much to use.
- 18% of people said they look to an expert like an OSU Extension worker.

23% chose "other" and said they rely on common sense, past experience, or use compost they produce at home. Given that the instructions on the bag are such a

common source of information about fertilizer application, that may be helpful for DEQ to consider if they develop outreach and education strategies related to fertilizer application.

Section 3: Concerns

Indicators that water is not clean or safe

In both the survey and conversations, we asked people what indicated to them that water is not clean or safe. In the survey, people responded:

- Closures or advisories (61%)
- Warnings that it is not safe to eat fish, harvest oysters, crabs, or other foods from the water (59%)
- Algae blooms (57%)

21% of people who responded to the survey reported not having experienced any of these effects. A smaller number of people reported experiencing sickness or health issues or test results for well water outside of the normal range.

This mirrored what we heard in conversations. Recreational users like anglers and paddlers tended to report experiencing algae blooms at a much higher rate. Youth also reported seeing algae blooms in lakes and river.

In conversations with farmworkers in Eastern Oregon, a much higher proportion of people reported sickness or health issues from drinking or bathing in municipal water sources or well water. For instance, one person said:

> "Yo trabajo en una granja, y subcionan agua "segun potable" y la mayoria de mis companeros y yo hemos notado que tomando esa agua estamos sufriendo problemas digestivos, a comparacion de cuando nosotros llevamos agua purificada no hay problema."
> ("I work on a farm, and they supply water that is "safe to drink" and most of my colleagues and I have noticed that when we drink that water we are suffering from digestive problems, compared to when we use purified water there is no problem.")
> – Comment from community conversation in Boardman

We also heard from one person that there are serious concerns among certain Tribes about the effects of nutrient pollution on first foods, including salmon, steelhead, and smolt.

Other effects of nutrient pollution came up in conversations. For example, invasive weed overgrowth, particularly milfoil, was mentioned by boaters, houseboat owners and marina operators as a topic of significant concern.

Although our focus was on nutrient pollution, when we asked people about their perceptions of how clean and safe water is, they shared many other indicators of cleanliness or safety beyond the effects of nutrient pollution. Generally, these indicators may be useful to DEQ to understand how people judge what makes water clean or safe. These are reasons people commonly mentioned that they see water as unclean or unsafe:

Garbage and trash, particularly sharp edges, needles, or plastic. Many people on the coast also mentioned woody debris.

> "Even if it's not true human health risk - human waste or discarded trash intimidates people from getting in river. There's a perception that it's not healthy." –Multnomah County resident, comment during an interview

> "The most concerning place I have seen was the lower Willamette in downtown Portland. I was shocked to see the garbage on shore there." – Wasco County resident, comment on survey

Proximity to agricultural, industrial sites including Superfund sites, and high-density areas, especially downstream of those areas. Some people particularly mention illegal marijuana grows. Proximity will be explored in more depth in the next section on perceived causes of water quality issues.

> "Where ever there are logging operations water seems to be dirtier and questionable quality…" – Lane County resident, comment on survey

> "The only unclean water I have run into are city ponds. The city people who live in the larger towns in Oregon are terrible stewards of our water." – Marion County resident, comment on survey

How the water looks or smells. People particularly mentioned murkiness or cloudiness, oil sheens, stagnant water as signs that water is not clean. Many people mentioned that earlier in the season when flows are higher, water was cleaner and they avoided it later in the season when drought and irrigation reduce the flow of the river. For paddlers and anglers, river clarity and sedimentation are important indicators that relate to nutrient load. Some people mentioned seeing aquatic wildlife and riparian areas as indications of safety.

"We chose not to kayak because of the odor and appearance of the water." - Linn County resident, comment on survey

"We live on the Tualatin River with river access and a boat dock. The river is somewhat clean when the water is moving (in Winter and Spring) but quite polluted and unsafe in the late summer and fall." – Washington County resident, comment on survey

"Yo digo que el agua es mala porque tiene mucho cloro y minerales, cuando lavo trastes se queda una mancha por eso se que es mala." ("When I wash dishes a stain is left, that's why I know it's bad.") – comment during community conversation in Morrow County

Advisories, signage or word of mouth. A few people mentioned the DEQ fishable/swimmable standards and one person mentioned a local Swim Guide. A few people mentioned signage. Some people, particularly people who work in river or watershed management, talked about checking water quality testing prior to visiting.

"My only experience of unclean water is basically word of mouth. People will say something about unclean water or areas will have a reputation (ie. Willamette being Portland's "toilet"). Because I have heard things, I make assumptions." – Washington County resident, comment on survey

"I am assuming water at the OR coast is safe OR we would be told through signage or news report." – Lane County resident, comment on survey

"I frequent the Willamette River during the summer a lot… As someone who studied environmental science and trusts the research conducted by City of Portland I feel pretty safe and satisfied with the cleanliness. I typically review the CoP Willamette River Quality Testing site ahead of visiting the river." – Multnomah County resident, comment on survey

Past experience – Some people talked about their sense of safety based on having gone in the past and whether or not they got sick.

Less common responses included: excess aquatic plants (specifically on the Deschutes); knotweed; awareness of polluted sediment at the bottom of the river; historical pollution; increased turbidity; pesticides; and people who have personally participated in water quality testing.

> "The OR Coast, Metolius, Salmon River, Siletz, Alsea. I think they are fairly clean but I also do Blue Water Task Force sampling along Lincoln County so I know there are plenty of places/times where our water quality is compromised." – Lincoln County resident, comment on survey

Many people also compared water in Oregon to other places in the country or world where there are major water quality issues. While many people brought up more severe water quality issues and expressed gratitude for Oregon's clean water, a few people wondered if news about nutrient pollution and water quality issues in other places was shaping Oregonians' level of concern about nutrient pollution in Oregon.

When discussing water qualityis, people naturally began discussing testing—how it happens, whether there is testing, how to interpret results, and in many cases, people expressed a desire for more testing. For instance, in a community conversation in Jackson County, people expressed concern that the presence of an element in their well water would be acceptable at a certain level but not a higher level, and wished that they had more information about possible effects on human and plant health so they could decide for themselves. Some people expressed interest in helping with water testing or wondered if there is a "citizen science" approach to water quality testing. We particularly heard enthusiasm for this from youth and recreational users like anglers and paddlers. We will share more about peoples' ideas about outreach, education and testing in Section 3.

What people believe causes unclean or unsafe water

Many people shared that there is a lack of understanding and inaccurate perceptions about what causes water quality issues. Farmers told us that people

overestimate the input of agriculture; other people told us that people tend to overestimate the impact of sewers. People frequently asked OKT staff about the causes of certain algae blooms and how much individual homeowners might be responsible, as opposed to larger industrial or agricultural operations. This suggests there is an opportunity for education and engagement as part of DEQ's future actions on nutrient pollution. Below, we've highlighted what people see as the primary causes of water quality issues.

Densely populated areas, recreational users and people camping near water

A theme we heard across the surveys and conversations is that people believe that water near more populated areas and industrial areas is likely to be less clean. People talked about seeing cleaner water upstream of agricultural areas, cities, or dams. The attribution of pollution to people in general may point to the cumulative effects of industry, wastewater, stormwater, and aging infrastructure in more densely populated areas. Some people reflected that this is common sense.

"Waterways near agricultural or industrialized land are consistently far more stagnant, polluted, and unhealthy than those in undeveloped places. Wilderness or forested water is cleaner than water full of fertilizer & pesticides or industrial waste - it's not rocket science." – Morrow County resident, comment on survey

"I feel like a lot of the lakes are not clean. They feel very used, trashy and not that safe to swim in. I mostly avoid popular lakes such as Foster, and opt for a River that I know is safe to swim in. I do enjoy SUPing from Corvallis to Albany on the Willamette, however, parts of the river feel VERY dirty, and I am concerned about chemicals that could be in the water."- Linn County resident, comment on survey

"Closer to the headwaters and before a bunch of population centers and agriculture are around they seem pretty clean. The Rogue and Applegate below the dams are starting to get gross (unsurprisingly), but by the time the Rogue has gotten past Grants Pass it is pretty awful in my opinion." – Jackson County resident, comment on survey

Another dominant theme is that areas that people visit more are less clean. Some people talked about this as the 'usual effects' of human visitors while others expressed frustration or anger at recreational users, tourists, or homeless people who they feel are leaving trash or dumping waste.

> "I have visited hiking spots and waterfalls throughout Oregon, For the most part those places are safe, they are never fully clean because we are there. for the most part I feel is the culture of the folks that feel that they can just trash the hiking locations, specially dog poop bags. people want to enjoy the hiking but not carry their own dog's fecal matter." – Polk County resident, comment on survey

Many people, particularly in the Willamette Valley, brought up homeless camps along the river as a source of nutrient pollution. Some people mentioned substandard housing and others expressed frustration or anger at the state.

> "litter is a problem, liveing on riverbanks without adequate development and lack of consideration greatest threat to Water quality, Think they are less safe do to solid waste and paraphernalia concerns." – Douglas County resident, comment on survey

Agricultural Runoff and Fertilizer Use

Many people also shared concerns about agricultural practices, especially the impact of fertilizers and runoff. Many respondents identify these as major contributors to water contamination, particularly during dry months.

> "I generally observe cleaner water in more upstream locations, dirtier water in downstream locations closer to ag." – Yamhill County resident, comment on survey

> "Late summer - low water levels, fertilizer from cannabis farms." – Josephine County resident, comment on survey

These statements reflect a common worry about non-point source pollution and the way seasonal water scarcity amplifies its effects. However, the role of agriculture is also an area where there is some disagreement. Some farmers told us that they felt people tend to overestimate how much modern agricultural practices are contributing to nutrient-related water quality issues. One person told us that in investigating complaints related to nutrient pollution from agriculture, the source ended up being

non-agriculture-related about half the time. We also heard people differentiate between industrial and larger-scale agriculture and small-scale farms.

Run-off from Other Sources

Beyond agriculture, many people mentioned runoff from other sources as a reason that water is not safe or clean. These various sources included:

- Forested areas, particularly where grazing animals have decreased riparian buffers near streams. This quote from an Umatilla County resident captures this sentiment: "In general, I think our waterways do receive good protection though I would like to see better enforcement related to grazing near streams, particularly in national forests. Grazing is an important piece of forest and fire management but stream damage and pollution are observable results."
- Industries like logging, mining, nuclear power, and fracking
- Golf courses. For instance, one person from Coos County said, "I walk along several smaller streams in the Bandon area and my impression is that they are fairly clean but I do worry about runoff from Bandon Dunes into Whiskey Run creek and other small drainages across the beach. It seems like they probably use a lot of chemicals on their courses."
- City stormwater and wastewater. One participant from Lincoln County reflected this common sentiment: "Nye beach - contaminated with runoff from city stormwater system and leaking sewage plus who-knows-what coming from underwater piped-in wastewater from mills at Toledo."
- Highway runoff and poorly built or maintained roads.

Aging Infrastructure

> "I am concerned about failing septic systems and the impact on waterways, but I also know that testing and replacing septic fields is expensive, causing most people to not think about it until it fails. It would be great to have some assistance." – Multnomah and Linn County resident, comment on survey

Aging infrastructure and septic tanks are also frequently blamed for poor water quality. People specifically mentioned roads, pipes, septic systems, and water filtration systems.

This theme highlights concerns about public health, especially in more rural or underserved communities where infrastructure investment is lacking.

Regulatory Gaps and Weak Enforcement

> "Unless they produce meaningful consequences for farmers and corporations they will continue polluting and paying fines." – Multnomah County resident, comment on survey

> "State agencies need to do much more to address polution from fertilizer along Columbia south shore E of The Dalles and continuing east to the Blue Mts" – comment on survey

Many express frustrations over weak or inconsistent enforcement of environmental protections. The concern isn't just about rules, but how rarely they're followed or punished.

There's a notable tone of cynicism here, with residents feeling that larger landowners or well-connected individuals skirt the rules, creating a sense of injustice.

Relatedly, some people felt that pollution is caused by limited capacity at DEQ. Some people also talked about this as "neglect" of bodies of water. Both in terms of the cause of current pollution and barriers to solutions, people brought up understaffing, staff turnover, and lack of funding for DEQ. One person suggested that staff turnover at DEQ as well as in political leadership and the Governor's office makes it difficult to sustain long-term efforts or address complex land use issues.

> "DEQ answers phone but doesn't have money, staff…the barriers are too huge. The path would have to be paved by state leadership or DEQ continuity – someone tasked with doing this for the rest of their career." – Deschutes County resident, interview

Climate Change & Drought Effects

A large number of respondents link their experiences with water scarcity, pollution, and ecosystem stress to worsening climate conditions, particularly droughts. The insights from the survey show that people are noticing and naming climate impacts,

pointing to a more ecological understanding of the problem than just blaming single sources.

Unique perspectives: A few people also mentioned dams and that during reservoir draining, rivers would become muddy and stay muddy for several months.

> "Green Peter and Foster are muddy during the reservoir draining. It stays muddy for a few months… Stop draining reservoirs that create muddy water for months."

Section 3: Preferred Approaches and Ideas

In both the community conversations and on the survey, we gave people five options and asked them which approach(es) they would prefer to see DEQ take in the statewide nutrient management plan.[2] Those options were:

- More information and testing to better understand where in Oregon there is nutrient pollution now or will be in the future. This could include testing the soil and water on farms, home septic systems, drinking water, as well as lakes and streams with possible issues.
- More outreach and education to encourage actions that reduce nutrients reaching our water. For instance, educating homeowners, business owners, golf courses, large subdivisions or farmers to improve and reduce how they use fertilizer.
- More regulations to manage or reduce nutrient pollution in waters. This could include making stricter rules or updating rules about farming, wastewater, and stormwater.

[2] We offered these possible approaches because we wanted to make it possible for a broad range of people to share their opinions without having to guess at what was possible. We wanted to give options that have a realistic chance of being implemented; so, we worked with DEQ to identify categories of possible actions that DEQ, in collaboration with other agencies and organizations, could take.

Initially, we included an additional option: "Change rules that are causing nutrient pollution. For instance, allow sewage services in rural areas with septic system problems. Or, create more areas of land and plants along the edges of rivers, streams, lakes, and agricultural fields so less runoff enters bodies of water." However, after early feedback on the survey and discussion with DEQ, we decided that this option duplicated other options, primarily "more regulations," and so it was removed from the survey.

- More funding to support people who might be releasing too many nutrients. For instance, funds for homeowners to upgrade their septic systems or businesses to upgrade how they treat wastewater.
- Respond to urgent nutrient pollution events more quickly, even if it means focusing in one part of the state more than another part.
- Other
- I don't know.

Overall, across surveys and community conversations, there was not one clear approach that was favored above all others. 42% of people selected "more outreach and education" on the survey; 38% of people said "more information and testing;" 36% of people said "more regulations;" 31% said "more funding;" and 21% of people said "respond to urgent events more quickly."

Across all of our conversations, most people believed that there is a need for multiple approaches to address current nutrient pollution issues, remediate the effects, and prevent future pollution. In particular, many people felt that education, funding, regulation, and enforcement are all interrelated. In this section, we will highlight a few cross-cutting themes and then share what we heard from people about each approach. In many conversations, people agreed that "respond to urgent events more quickly" would be addressed by other approaches, so we have not included that here as a separate approach.

Cross-cutting themes

Support what is already happening

One consistent theme was that there is a lot of good work happening already and that many people—particularly those with more experience with water quality and nutrient issues—would like to see DEQ invest resources in already existing, successful approaches. Relatedly, some people noted that concerns related to water crosses many agencies and expressed both anxiety and hope that agencies can find alignment and work efficiently.

Through our conversations, people pointed out existing government and non-governmental bodies that are working on nutrient management and water quality. For instance, Soil and Water Conservation Districts and Watershed Councils work to address local water quality issues. They support landowners, including farmers, to learn and implement best practices. The Oregon Department of Agriculture also plays an important role in nutrient management by working with farmers. Many farmers are required to monitor how nutrients are applied and absorbed by their crops and whether there is runoff. Large producers like CAFO operators are required to have nutrient management plans. Organic farmers, including orchard operators, are also required to carefully monitor how nutrients are utilized. DEQ has many existing regulations and programs that help keep water clean and safe, such as TMDLs (Total Maximum Daily Loads) that set limits for the allowable concentration of a certain chemical or element in water.

Participants also shared many examples of people working cooperatively to address excess nutrients in Oregon. For example, in Malheur County, farmers and the Cooperative Extension staff worked together over decades to effectively eliminate the use of DCPA, a herbicide used to control grasses and weeds, long before the State of Oregon declared it toxic. As they described it, the key was framing the topic not in terms of environmental protection but also in terms of the benefit to agricultural producers. Applying less fertilizer or pesticides to crops, monitoring crops' needs to ensure that they are receiving the nutrition they need and not more, and delivering water in effective and efficient ways are all practices that save farmers money in addition to reducing the run-off of nutrients or pesticides from their farms.

We heard many other examples of good work happening in communities across Oregon to address and prevent excess nutrients. Many people who are involved at the local level believe that DEQ should build on this work and focus on partnering with local communities and resourcing their efforts. These were some of the projects that people and efforts that people talked about:

- Ross Island project
- Clean Marina program
- Tryon Creek

- Water Futures
- Local water quality plans (for instance Malheur, Owyhee, Umatilla Nitrate Reduction Plan)
- CAFO Advisory Committees
- "Follow the Water" campaign around lawn maintenance in Portland Metro area
- Groundwater Management Area committees and plans, such as the Lower Umatilla Basin Groundwater Management Area committee

In some cases, people told us about work that had been done with DEQ in the past that had been abandoned or not had adequate follow-up; or, that DEQ had created a plan for their area that was fundamentally incorrect because it did not consider local conditions. We heard frustration about the lack of follow-through on past work, for instance in Deschutes County, and a desire for DEQ to follow through and implement solutions that had already been identified over many years.

> "There's a lot of knowledge that can be gained from the experience the [Lower Umatilla Basin Groundwater Management Area] committee has, the plans that have been put together. There was a lot of hard work." – comment from interview

Combined approaches

Several groups suggested that DEQ should pursue specific combined approaches. In a conversation with high school students, they emphasized the connections between public education, regulation, and funding. "Regulations can't happen without education and outreach and funding," one student articulated in a community conversation.

Several students also emphasized the connection between education and regulation. They pointed out that awareness influences peoples' actions and is necessary to reinforce existing regulations. They suggested that people need to understand more about their impact and role in a system and why the rule exists to be willing to follow it.

As someone from Polk County commented on the survey, "I know it would be easier to make a rule and start to regulate water quality, but without proper education people won't know why those regulations have been established."

Many people brought up the connection between regulation and funding. There was widespread understanding that it would be difficult for people to follow regulations

without funding to do so. People also felt that combined approaches would ultimately make the last option, "respond to urgent action," less necessary.

Long-term Impacts and Future Generations

Another theme that cut across conversations was that many participants placed nutrient pollution in the context of long-term environmental health and intergenerational responsibility. There was a sense that nutrient management is not just a technical issue, but a moral one: current decision makers owe it to both present communities and to future Oregonians to act decisively. Several people noted that nutrient pollution has been a known problem for decades and lamented the slow progress. One person who took the survey pointed out that it's a lingering issue even after landmark environmental efforts:

> "53 years after the Clean Water Act was passed and called for "fishable/swimmable" water quality everywhere, nutrient pollution is one of the biggest remaining pollution problems in our state. The problems it causes will only get worse as climate change increases peak water temperatures and reduces minimum flows in many waters."

This quote highlights two points frequently raised: first, nutrient pollution (and resulting issues like algal blooms and water quality degradation) remains a serious challenge that we have yet to fully solve. Second, climate change is expected to exacerbate nutrient problems by creating conditions (warmer water, lower flows) that make bodies of water even more vulnerable to excess nutrients. In essence, the window for proactive management is closing, and today's leaders need to take bold action before the situation worsens.

Some people also pointed out that water quality issues require a longer time horizon to fully understand cause and effect. They pointed out that the consequences we are experiencing now could be the result of actions taken many years ago and that some solutions will take more time to have an effect. As one student put it in a

> "In my opinion, responsible, modern agriculture is helping to resolve the issue. Unfortunately between a few bad actors and past ignorance, we have problems in groundwater that will take a long time to resolve and to see improvement. Education and outreach are helpful both to the general public and to water users like farms and municipalities." – Farmer in Umatilla County, comment on survey

community conversation at Lewis and Clark College, this points to the need to "look at the root of the problem rather than just the most recent issue…mitigating the issue from an early point is ultimately best."

Relatedly, we also heard concerns about future nitrate pollution and frustration with the difficulty of mobilizing people to take action now to prevent future problems. For example, we heard from someone in LaPine that groundwater contamination because of nitrate loading isn't a problem now but is likely to become an issue the future. The issue would be solved by installing a sewer system in the area but that is difficult and not allowed by state land use regulations. Requiring people to upgrade their septic systems is not popular because it is expensive. This comment also highlights the importance of taking action soon to prevent long-term future harm:

> "There's analysis that says in 50 years with full build-out, we're going to have a nitrate loading problem in the aquifer. That was 15 years ago. Once we have that plume of nitrate loading, if no one ever flushes toilet again, it would take a generation…currently there's no issue. But the day someone turns on their faucet with a measurable level of nitrates or someone gets sick, watch out." – Deschutes County resident, interview

Alongside such cautions were heartfelt appeals to protect Oregon's water heritage. Respondents spoke about the value of clean water in sustaining not only ecosystems and fisheries but also the soul of Oregon's communities. One lifelong Oregonian from Jackson County gave a passionate plea:

> "As a 6th generation Oregonian, I care deeply about this state and its people. It is soul-crushing to see the degradation that has occurred to the environment around the state, and the health issues people are having to deal with because of it. I want Oregon to be as amazing of a place for future generations as it was for my ancestors and myself."

Voices like this underscore that the public's concern about nutrient management goes beyond immediate technical fixes – it's about ensuring a legacy of clean, abundant water. Whether it's keeping rivers safe for fishing and swimming or safeguarding drinking water from nitrate contamination, respondents see nutrient pollution control as part of a larger stewardship of Oregon's natural resources. They urged decision makers to take a long view, emphasizing prevention now so that our children and grandchildren inherit healthy waterways rather than costly, damaged ones. In their

words, clean water is “a public necessity, not a product to be bought and sold,” and protecting it is an investment that will “pay dividends back to the state” in the form of public health, ecological resilience, and quality of life.

Increase Outreach and Education

Many respondents emphasized the need for better education and information as a foundation for cleaner water. In discussing outreach and education, people talked about greater awareness about the sources of nutrient pollution as well as greater awareness about its impacts. Because everyone is connected to water and may be contributing in various ways to nutrient pollution, many people highlighted that broad involvement and engagement is important. Overall, many people believe that informed communities will be more empowered to protect their water.

Awareness of causes of nutrient pollution

Participants across the board noted that many people (ranging from homeowners to farmers) may simply be unaware of how their actions contribute to nutrient pollution and that people tend to underestimate their own impact on excess nutrients. In particular, people suggested that education and outreach could help address urban and residential non-point sources, such as lawn fertilizer, pet waste, and paved surfaces. People suggested expanding community education programs, school curricula, and public awareness campaigns about topics like fertilizer use, septic system maintenance, and environmental stewardship. One person pointed out that land management practices that prevent nutrient pollution, like building riparian buffers and getting natural vegetation to reduce runoff into streams, are well-known in agricultural communities, but the general public aren’t necessarily aware of the importance of these practices.

We also heard from people who said that they feel uninformed about local water issues, especially in cities, and called on agencies to share data and guidance more

broadly. For example, one urban participant from Multnomah County admitted they have no idea about their own water impact or risks:

> "Living in urban Portland, I don't even know my level of vulnerability, or the options related to water. DEQ can help me by providing any information at all on water quality in urban spaces, but also what the options are for folks to be more aware or make different choices."

Other people also expressed openness to learning about their own impact on water quality and adopting new practices. For instance, in a conversation with houseboat owners, people were interested in learning best practices for monitoring for leaks in their honeypots (waste management systems) and wondered whether the fertilizer they put in their potted plants might be contributing to the milfoil overgrowth they were seeing in the river. In another conversation, people noted that best practices for fertilizer application is often not produced at a local community level and that there may be an opportunity for community-led education about soil health and fertilizer application that fits with local conditions.

While some people talked about this as personal responsibility to learn about and take accountability for one's impact on water quality, other people pointed to the need for greater coordination and outreach by state agencies and community organizations to address these gaps in information, such as in a conversation with farmers where people noted that there aren't ways that newer small farmers or landowners learn the best practices and rules to follow.

In a community conversation on a college campus, participants noted that community education can have multiple benefits. In addition to helping people understand the issues and motivating them to change behaviors, community education can also build trust with officials, provide more opportunities for feedback, create room for diverse perspectives to be heard in a community, and offer clear ways for people to get involved. In particular, they emphasized that events that make room for community members to share their needs and values and/or offer feedback help to establish communication and build trust.

We also heard other ideas for creative outreach initiatives to engage people in solutions. For example, a few people described successful local projects that used positive reinforcement and community involvement, such as students working with a

golf course to reduce chemical runoff. These examples highlight the value of "more carrot than stick," where information, recognition and incentives encourage people to "do the right things" for water protection. Overall, there was a strong belief that lasting change will require a cultural shift in how people think about and manage nutrients in their everyday activities.

Perceptions about agriculture

Another theme of the conversations about outreach and education was the need for greater understanding of modern agricultural practices. While many people shared the general perception that agriculture is a primary source of nutrient pollution, we also heard from some people who said that the idea that agriculture is the overwhelming source of nutrient pollution is not true and it's based in historic, not current, agricultural practices as well as 'bad actors' who are the exception rather than the rule. One person reflected this sentiment we heard from many others when he said:

> "In ag and forestry, we're behind the ball on communicating what we're actually doing. We're not doing things like we did in the 1970s but we're not communicating about what we've changed and what we're doing now—we know more now." – Farmer in Umatilla County, interview

Similarly, several people suggested that the way that the public understand the connection between application and runoff reflects a lack of understanding about agriculture. They pointed out that the idea that "if there's nitrogen in groundwater, you should use less" is an oversimplification of the problem. "What we find is that weaker, sicker plants remove less nitrogen from the soil. We're working hard to educate DEQ about the importance of nitrogen at the right time…showing them it can be a benefit to have cleaner, healthier soils," said one farmer.

A farmer in Lincoln County also brought up that the application of biosolids is another area where there is an acute lack of understanding in the public. They felt that people are fearful based on stories from other places such as Central Texas or the Upper Midwest where industrial waste has entered water systems in a way that hasn't happened in Oregon. They said, "the more local the poop, the better. But a lot of people wouldn't agree…too much anxiety, they'd be bent out of shape to do it in our basin. I'm sure in a minority, but I'd like to be able to have it in my backyard…it would be a better

solution than me trekking in petroleum gas manure. It's not great for our carbon footprint to be trucking in."

Even within the farming community, there are conflicting ideas about the causes of nutrient pollution and potential solutions. Some farmers in more rural and remote areas suggested that a combination of legacy agriculture, bad actors, septic systems, golf courses and smaller hobby or urban farmers who aren't doing as much monitoring or testing could be a greater source of nutrient pollution. They felt that people might think, "since we're small and regulated, it can't be us."

Overall, many farmers we heard from see educating decision-makers about agriculture as a key part of any solution. Another farmer added that it is important for policy-makers to make decisions from a place of "understanding and not from a place of anxiety."

Awareness about effects of nutrient pollution

In some conversations, people were making the connection between the effects they experienced—from algae blooms to health issues like eczema or dandruff—and concept of nutrient pollution for the first time. Particularly in the conversations we had with farmworkers, we heard significant concern about the lack of information and outreach around contaminated drinking water. They also brought up that new families move to Oregon from small towns in central or south America and are living on small ranches that may not have potable water and do not receive information about the potential risks of drinking that water. They feel education is fundamental to addressing this problem.

> "Es la primera vez que vemos que hacen un taller específicamente de la preocupación del agua, y es interesante y muy importante, pero no sabemos que va apasar." ("It is the first time we have seen a workshop specifically focused on water, and it is interesting and very important, but we do not know what will happen.")
> – Comment from community conversation in Marion County

People highlighted that information and education are part of encouraging leadership and being able to speak up and get past a fear of speaking out. Some of the significant barriers they mentioned are that information including signage about water quality is often only available in English, a lack of local representation, poor interpretation for public meetings, not knowing how to turn to for problems, and a sense of not belonging in the community. One person said, "they see the Latin surname and you do not fit in there." The participant suggested that what was needed is public education that also builds a sense of community and ability to self-advocate without fear.

> "La desinformacion que tenemos en la empresa no, nos dicen las cosas bien, solo le dicen ahi estan los letreros, y por miedo o pena no pregunta uno y no ejerce sus derechos."
> ("The misinformation we have in the company, no, they tell us things right, they just tell you that the signs are there, and out of fear or shame you don't ask and you don't exercise your rights.")
> – Comment from community conversation in Morrow County

One unique perspective we heard was about the challenges agencies face in crafting public messaging about water quality issues. One participant talked about balancing the potential economic impacts of saying a lake is unsafe against the importance of informing people about health risks and how to keep themselves and their pets safe.

Specific suggestions

Specific ideas for community education and outreach included:

- Neighborhood associations, Homeowners' Association (HOA) meetings, Parent Teacher Association (PTA) events
- Library programming, such as book clubs, presentations, Ask an Expert
- Fertilizer 101 classes at local nurseries
- Course materials for public schools
- Scholarships for farmers to attend nutrient management courses, such as UWM Nutrient Management Farmer Education
- Education field trips to farms, water treatment centers, DEQ offices

- Citizen science projects that analyze water
- Sponsoring a bike race or running event
- Community gardens
- Flyers or postings on hiking trails and integrating water quality information into trail maps
- Flyers and signage explaining water contamination levels and whether water is safe for pets to drink at/near bodies of water
- On-farm programs like soil health assessments

Suggestions about places to engage directly or promote events or engagement opportunities included:

- Recreational sites like rivers, parks, hiking trails, etc.
- Near bodies of water, particularly where people fish or launch boats
- Local public spaces like libraries, schools, City Hall, bus stops
- At community events like marathons, and biking events.

Increase Information and Testing

> "easier access to testing would be a good detection system to prevent water contaminations. but some people/ farms or dairy farmers just do not have access to the testing capacity due to cost and how nearby the testing centers are." – Polk County resident, comment on survey

Many respondents highlighted the importance of monitoring, research, and data in guiding efforts to reduce nutrient pollution. One way that we often heard this expressed was a desire to "target pollution at the source." Many people felt they didn't know enough about what was causing nutrient pollution in Oregon to have ideas about solutions. People want to ensure that actions are informed by science and directed where they are most needed. There were calls for more frequent and widespread water quality testing – of rivers, groundwater, and runoff from specific sites – to identify nutrient "hot spots" and track improvement over time.

Alongside data collection and testing, we heard a desire for information to be available and accessible. Among farmworkers in particular, many people expressed wanting to see more testing and information about water quality. They wanted to understand more about how water is tested, how often, what chemicals are in the water, and potential health impacts. One person in a community conversation in Marion County said, "I think they put it in a little tube and they see by the color, but how do you know what chemicals are in the water?" Another added, "nobody knows how they do this test." In a community conversation in southern Oregon, participants expressed skepticism about the standards for what is clean or safe 'enough' and wanted to see more explanation about what chemicals are in the water supply and their potential health impacts so they could decide for themselves if the water is safe enough to drink. A few people also complained about the difficulty of accessing existing data, such as well testing results, or felt that testing has been hodgepodge.

We heard some disagreement about whether there is adequate information and data on water quality already. Some people felt that Oregon has done enough studies to know there's a problem, while others argued we still need better data in certain regions. One person from Jackson County summarized the desire for targeted data collection this way: "This requires collecting QUALITY data (and not just a handful of samples!) from Oregon's waters to better understand where resources should be dedicated to reduce impacts of nutrient pollution. A 'shotgun' approach simply wastes resources, whereas targeted efforts will be more impactful and measurable." In short, gathering robust data was seen as crucial for targeting interventions effectively and measuring success.

Some suggested that agencies should collaborate with local watershed groups or even citizen science initiatives to expand monitoring coverage. One person pointed to a program called "Drinkable Rivers" in Denmark that trains citizen scientists on testing and uploading data; the program's vision is that all water should be drinkable. Students also suggested that environmental science classes, Key Clubs, National Honor Society, and 4H clubs could be good partners in water quality monitoring and education. Paddlers and anglers we spoke with also offered to help with testing and suggested that it would be mutually beneficial, since they would like to know more about the water quality in the places they are recreating. In general, in many of our conversations with

students and recreational users, people expressed enthusiasm about learning more about and being involved with water quality testing. (These and other suggestions for potential partnerships are also listed in Section 4 under "Partnerships.")

A few people pointed to specific cases (for example, long-term nitrate issues in places like Harney County or the Lower Umatilla Basin) where ongoing testing and public reporting have raised awareness and spurred action. Overall, the theme of "knowledge first" emerged: by investing in monitoring and sharing data transparently, agencies can make more strategic decisions and build public support for the necessary nutrient reduction measures.

These were a few other specific suggestions related to monitoring and testing:

- Create well testing plans for rural areas with concentration of septic systems that may have nitrate loading issues in the future.
- Frequently monitor municipal water sources for nitrates.
- Increase ease and access to report water quality concerns or file complaints about water quality. One person asked, "Por ejemplo: Pago mi recibo del agua cada mes, pero donde presento una queja?" (I pay my water bill every month, but where do I file a complaint?)
- Conduct an environmental study of Detroit Lake lakebed post-wildfire to understand causes of algae blooms and identify remedies.
- Use Google Maps and other existing online platforms where people leave reviews of recreational areas to identify concerns about pollution.
- Cumulative monitoring for CAFOs, including clarity between ODA and DEQ about enforcement and responsibility.
- An updated public map of local pollution sources and water quality so that residents can see where problems are and track improvements.
- Requiring testing from large corporations and incentivize testing for landowners and small businesses. One person said, "I test my well water but not often enough because of cost and inconvenience but if the state provided it for free I would test more regularly as I should. Test and monitoring should be at no cost and DEQ could use the data to see the bigger picture."

"I have encountered some lakes where I find fishing hooks and smashed cans. I usually just put a review on Google Maps because I honestly don't feel that if we submit a complaint, we will be heard…Realistically, the platforms might have some insights into which state parks are doing badly by reviewing the one-star reviews, for example. I think the data is there." – Polk County resident, comment on survey

Increase Regulation and Enforcement

Even while many people suggested creative voluntary actions to reduce nutrient pollution, there was a significant number of people who emphasized the importance of more robust regulation and enforcement. This is the place where there was the most heat and disagreement in the conversation.

Desire for more regulation. Many participants argued that voluntary measures have been inadequate and that only enforceable rules will drive meaningful change. As one person from Jackson County put it, "The approach of simply hoping that people will stop polluting water is outdated and clearly ineffective. At this point, we need regulation—because money talks. When people understand there are real consequences for failing to manage runoff from their property, behavior will start to change." Others echoed that polluters have had "free rein" for too long without penalties, urging agencies to hold offenders accountable through stricter laws and fines.

"Quiere decir que se tengan regulaciones y leyes mas estrictas, pero que se hagan valer esas leyes, las entidades respectivas que hagan las leyes a favor de todos, con valance y equilibrio de todos."
("This means that there should be stricter regulations and laws, but that these laws should be enforced, the respective entities that make the laws in favor of everyone, with balance and equilibrium for everyone.")
– Comment from community conversation in Morrow County

Many people also argue that voluntary measures and small-scale individual actions, while helpful, are not sufficient to address the scope of the problem. As one person from Multnomah County put it bluntly, "Educating the public isn't enough." There was a clear frustration with approaches that place the burden on individual homeowners or consumers. Instead, respondents urged authorities to focus on big polluters. One Multnomah County resident captured this common sentiment:

> "I'm tired of focusing on individual actions that don't add up to big changes. I'd rather see more regulations on large businesses and farms to reduce pollution." – comment on survey

This perspective – that robust regulations and enforcement of major nutrient sources are necessary – was repeated by many people in both the survey and conversations. Participants want decision makers to hold large agricultural operations, industries, and wastewater dischargers accountable for reducing nutrient runoff and discharges. Some people expressed frustration that nutrient pollution has been known about for decades and is still getting worse each year. Several noted that ordinary people can only do so much (for instance, maintaining their yards or septic systems), but significant improvement will require policy changes at higher levels. The underlying expectation is for strong leadership and rules that ensure everyone, especially major contributors to nutrient loads, does their part.

Specific regulatory gaps. Some people felt there are specific gaps that need to be filled at a regulatory level. For instance, one person felt that regulation is needed to create greater public access to information, such as gathering collective data about fertilizer use, better monitoring of where nutrient contamination is happening, and more studies with tracers and isotopes to understand where nutrient pollution is coming from.

Another topic that came up in several conversations was that there are enforceable riparian buffer minimums on forest land but none on agricultural land; some people would like to see enforceable riparian buffer minimums on agricultural lands. As mentioned earlier, an Umatilla County resident also mentioned the need for stronger enforcement of rules related to grazing near streams, particularly in national forests.

Among houseboat owners, a few people felt that there is a lack of regulation and enforcement on liveaboard boats, which they said pump waste into the river after dark. "If everyone on a liveaboard boat followed the rules, the river would be cleaner - but the state doesn't want to regulate them," a participant said in a community conversation.

In one of the forum conversations, someone noted that there is no regulatory standard for phosphorous, "therefore ODA attempts to regulate for it but if push comes to shove a landowner doesn't need to."

In addition, a Lane County resident mentioned that Oregon has not had an update to the Ag Water Quality Act "in decades."

One person pointed out that small farmers who don't own land and are sharing space with farmers using heavy nutrients or pesticides have unique challenges that may not be addressed by current regulatory strategies.

The impact of illegal cannabis operations was also mentioned many times, particularly by participants in southern Oregon.

The role of local authorities. In addition to polluter accountability, some people brought up feeling that their county and local authorities were not doing enough to fulfill their role of providing quality drinking water to the public. Particularly among farmworkers, people felt that county officials should be responsible for addressing nitrate issues and offering quality drinking water to the entire population, including distributing purified water if the municipal drinking water is not safe to drink—not just for people with wells, but for everyone in the community. One person in the community conversation in Morrow County put it this way: "Yo tengo mi idea, de que nos aporten agua potable, agua purificada para tener buena salud." ("I have my idea, that they provide us with drinking water, purified water to be in good health.")

This frustration with weak enforcement was widespread. Some simply wrote "Enforce existing regulations" or suggested penalties like fines for those who pollute local waters. Others went further, urging lawmakers to impose tougher consequences on offenders. As one person from Clackamas County declared, "I support any legislation that would penalize polluters and the manufacturers who have made the toxic products; funds from any fines could help with remediation." There is a clear expectation that government should hold polluting parties accountable – whether individuals, farms, or industries – so that communities are not left bearing the cost of dirty water.

Fear of over-regulation. However, a smaller subset of respondents voiced concern about over-regulation. These individuals – who often identified as farmers or rural residents – expressed fatigue with government "intrusion" and cautioned against

piling on new rules. We also heard concern about the impact of regulation on small town economies that rely on water for recreation and tourism. One person from the Detroit Lake area said, "Our town and the canyon has struggled since logging left, has been decimated by wildfire, can't rebuild our commercial zone because of regulations. Now we have all these regulations about how high the lake can be and now they're artificially lowered it…my spidey sense is a little up when I hear 'what kind of regulations?' This town could go belly-up if the wind goes another direction." These perspectives emphasize collaborative problem-solving and using existing regulations and targeted enforcement rather than broad new mandates.

Despite this caution, even many who dislike regulation agreed that egregious polluters and "bad actors" should be penalized and that current rules must be enforced consistently. Many people we heard from believe that even with rules on the books, there's insufficient follow-through to deter polluters. They shared anecdotes of seeing violations go unchecked and called for agencies to step up oversight. One Josephine County participant, for instance, highlighted a lack of enforcement in the face of water theft and pollution associated with new industries:

> "Enforcement! In the fallout of cannabis legalization people were pulling water from creeks and the water agency had basically no enforcement power to get people to stop illegally pumping water out of creeks and wetlands."
> – Josephine County resident, comment on survey

Conflicting ideas about regulations in agriculture

> "Tenemos industrias y tenemos agricultura, necesitan mejorar sus prácticas, en cuanto a las regulaciones que tienen y supervisar que eso se pueda ejecutar de una manera efectiva para todos los miembros de la comunidad, tiene un alto nivel de nitrato, eso significa que ese nivel alto de nitrato tiene afectaciones a la salud, tales como: algunos tipos de cáncer, apenas se esta hablando de eso cuando ya se sabia hace mas de 30 anos, necesitan mejorar practicas y regulaciones y seguir reglas."
> ("We have industries and we have agriculture…they need to improve their practices, in terms of the regulations they have and supervise that this can be executed in an effective manner for all members of the community. [The water] has a high level of nitrate, that means that this high level of nitrate has health effects, such as some types of cancer…this is just now being talked about when it has been known for more than 30 years. They need to improve practices and regulations and follow rules.")
> – comment from community conversation in Morrow County

A significant number of comments highlighted the need to consider the agriculture community when implementing nutrient management strategies. Respondents recognize that farming is both a source of nutrient runoff and a vital part of Oregon's economy and way of life. The messages to decision makers reflected a balancing act: find ways to reduce nutrient pollution from agriculture without driving farmers out of business.

Many people perceive agriculture as a primary source for nutrient runoff in many areas of Oregon. Respondents widely supported measures to mitigate agricultural impacts on water quality. Specific farming practices came under scrutiny. Comments touched on fertilizer use and land application of wastewater, with calls to regulate or provide guidance on appropriate application rates to prevent excess nitrogen and phosphorus from leaching into water. "Regulating fertilizer application amounts and preventing overuse would reduce leaching and nitrogen or phosphorus runoff," one person wrote on the survey, succinctly capturing this idea. Manure management was another concern, as large feedlots and livestock operations can contribute to nutrient loading; some suggested stricter containment of animal waste away from waterways. As mentioned earlier, riparian buffers (vegetated strips along waterways) were frequently mentioned as an effective tool to filter runoff before it enters streams.

Some felt that such practices should be expanded and, if needed, enforced. One Multnomah County participant, referring to decades of voluntary farm programs, argued that "Oregon Department of Agriculture has relied primarily on voluntary efforts and education for private landowners since the mid-1990s … and it hasn't worked. Oregon must step up its regulatory oversight on private agricultural lands based on the overwhelming body of scientific research showing the value and efficacy of riparian buffers on agricultural lands." This sentiment—that stronger oversight of farm nutrient management is necessary—was echoed by numerous others who observed that past voluntary approaches have not solved the problem.

At the same time, farmers and people who work closely with farmers emphasized they are already trying to be efficient (especially given high fertilizer costs) and felt unfairly blamed. Many farmers and people who work closely with farmers pointed out that farmers are often very familiar with carefully managing nutrients on their farms and already have more regulations than other types of land, like forested land. Farmers also have an economic incentive to apply just what is needed and not more. They also pointed out that local economies and consumers depend on agriculture. These voices urged that regulators focus on actual problem areas and involve farmers as partners in solutions, rather than create blanket rules.

> "As a farm, we're really preoccupied with nutrient management. We have a plan for the farm…it's so important for us in stewardship of water resources. We want to make sure we're not misapplying either livestock nutrients or fertilizers that we rely on for the farm that we spend a lot of money on. It's done economically." – Farmer in Lincoln County, interview

Some respondents, often identifying as farmers or rural residents themselves, also expressed fear that complex regulations could overwhelm smaller farms. They shared concerns about "red tape" and costs making it hard for family farmers to comply. "There are stories of small farmers being burdened or run out by not being able to sell eggs or milk or meat from their farms…small farmers cannot afford hours of time or lawyers to scroll through all kinds or red tape and bureaucracy," one Malheur County resident warned. Others expressed fatigue with government "intrusion" and cautioned against piling on new rules. "I don't think more regulations for most farmers is the answer… Oregon is already unfriendly to farm and ranch production and we need more not less farmers!…There are already regulatory programs for water quality correction. Take water samples in the streams, prove pollution then enforce. More paperwork and reporting isn't the answer," one participant warned. This perspective emphasizes using existing regulations and targeted enforcement rather than broad new mandates.

We heard in several conversations the desire to find solutions that are mutually beneficial rather than causing further polarization. In the conversation in Malheur County, participants shared many success stories about cooperative land management from Malheur and Owyhee counties. They emphasized that to get a powerful response,

there needs to be thoughtful consideration of what creates benefits for all involved. As mentioned earlier, it is economically beneficial for farmers to apply less nutrients. Relatedly, in a conversation in Jackson County, people suggested that the plan should focus on creating cooperation and highlight the shared benefits of having clean water and avoid blaming certain communities or deepening divisions. "I think this is something that everybody wants, everybody wants clean water…don't make it into a big farmer vs. small farmer or city versus country urban/rural thing," a Jackson County farmer said. Similarly, we heard from many people who aren't farmers a desire to find solutions that work for farmers. "Many farmers are barely surviving the economy as is. Be careful about implementing rules that affect farmers without fully understanding the economic cost to them. We could put people out of business and reduce our overall food supply by making rules that are too costly to implement," said a person from Lane County on the survey.

Increase Funding

> "If the funding that addresses glaring issues isn't there, it becomes a hostile environment, as far as trying to make changes."
> – Comment from community conversation in Jackson County

Participants frequently pointed out that adequate funding is critical to implement nutrient reduction measures. Respondents noted that many communities need funding, technical assistance, and updated infrastructure to reduce nutrient pollution. Expensive fixes – like testing and upgrading old septic systems, improving stormwater facilities, or modernizing wastewater treatment – were seen as beyond the reach of individuals or small communities without outside help. As one rural resident explained, even knowing about problems doesn't solve them if people can't afford to act:

> "I live in rural Clackamas County. We all have septic tanks in my area. I think that guidance and financial help to upgrade the older septic systems would be effective." – Comment on survey

Likewise, participants from lower-income areas stressed the importance of support for those with fewer resources. One Jackson County respondent bluntly urged officials to "be public servants to help poorer people have good quality clean water."

Whether through grants, subsidies, or other programs, many felt that additional investment is needed to empower communities to maintain clean water infrastructure and prevent pollution at its source.

Respondents also argued that state agencies should secure funds or grants to help farmers, landowners, and local governments make necessary changes. "Ensuring that certain areas can get proper nutrient management practices will require money that a lot of times isn't there," one Multnomah County respondent noted, reflecting a common concern that good ideas will falter without financial support. Another person who works closely with farmers pointed out that many farmers, particularly small-scale and organic farmers, are already implementing the very management practices that reduce nutrient runoff. One person in Jackson County said, "the solutions are all the organic, regenerative practices…cover cropping, composting in responsible ways, keeping riparian areas intact with ideally native vegetation, not having bare ground…those are built into organic farming practices. Most people have that kind of ethic around farming, land stewardship and water stewardship."

In the conversation in Malheur County, participants also emphasized that best practices vary based on location, landscape and geography and that farmers need flexibility to decide what makes sense to implement on their farms. Having financial resources to support people in implementing best practices is also critical, since finances can be a significant barrier. For instance, many farmers are converting from flood and furrow irrigation to pivot irrigation, but the cost of the infrastructure is high.

Rather than immediately imposing strict new rules, many people suggested offering positive motivators (grants, technical assistance, or other incentives) to help farmers adopt nutrient-reducing practices. It is important that people can choose the practices that make sense on their land and for their crops, so rather than a regulatory approach, an incentivized opt-in approach is much more effective. One participant from Wasco County explained this preference clearly:

> "If further research finds that agriculture is in fact a significant source of excess nutrients in surface or ground water, I would prefer to see incentives tried to motivate change where needed rather than regulations that have unintended consequences and always increase the burdens on the ag community."

This viewpoint encapsulates a broader theme: collaboration over punishment. Respondents want decision makers to work with farmers – providing education, resources, and incentives to implement solutions like precision fertilization, cover cropping, continuous crop sampling, improved manure management, pivot irrigation, or buffer strips – before resorting to punitive measures. The overall message is to craft nutrient management policies that achieve environmental outcomes while also being mindful of economic and social impacts on Oregon's farmers and ranchers.

People also mentioned programs and efforts that already exist or offer good examples. One person pointed out that Natural Resources Conservation Service already offers funding for farmers and landowners through their Conservation Stewardship Program but because the paperwork is cumbersome and acreage-based, smaller farmers and landowners don't apply. Chronic understaffing also contributes to this issue. Another person mentioned the STAR program which offers incentives for farmers to implement best practices to manage soil health.

Generally, several people suggested incentive-based approaches – such as tax breaks or certification programs – to reward businesses and landowners who take proactive steps to reduce nutrient runoff. Several comments highlighted specific areas where funding could make a difference. Examples included:

- cost-share programs for farmers to improve manure management or install riparian buffers,
- subsidies for homeowners to repair failing septic systems,
- incentives for landowners to test well water frequently,
- increased state/federal investment in modernizing wastewater treatment facilities,
- upgrading infrastructure in schools to remove lead pipes and old infrastructure,
- design and multi-year monitoring for large infrastructure projects that repair manmade problems that create environment for algae to flourish, such as putting a channel through the Ross Island Lagoon,
- increased funding for research about fertilizer alternatives and ways to localize agriculture,

- provide funding for rural “corner towns” to establish water and sewer infrastructure. One particular suggestion was to incentivize people to partner with local government to organize Local Improvement Districts and use tax dollars to pave unmaintained dirt road in exchange for putting in sewer connection. The county would maintain the road and the LID would pave the road. This would increase the value of local homes, benefitting homeowners, as well as creating sewer infrastructure to reduce nutrient loading,
- provide funding for staff time or hiring additional staff in project construction funds awarded to organizations and businesses that restore waterways.

In general, there was agreement that aligning financial resources and incentives with nutrient reduction goals would accelerate the adoption of best practices.

Other ideas

One person suggested that going after lowest-hanging fruit with highest impact, easiest to implement would be a great way to start. Something where there is money, political will and peoples’ time will result in concrete action. In a conversation with youth, another student also reflected the sense that taking action should happen alongside longer-term planning: “Start actively working on it! A lot of the time, there's a lot of talking about and planning an issue, but not a lot of time actually working on it.”

Students were curious about how ecosystems, including other species, could heal themselves from the effects of nutrient pollution. In a conversation with high school students, one person asked, “In aquariums, there’s fish that eat algae and in turn clean the tank. Can we let nature help in the process?” Another pointed out that in China, some farmers use fish instead of pesticides in rice fields and wondered if there are other symbiotic relationships that might reduce the application of nutrients.

Many people specifically pointed to increasing riparian buffers and bioswales to capture excess nutrients before they enter waterways. In several conversations, people brought up the idea of planting native species and building ecosystems along waterways which both reduces nutrient runoff and has other benefits for wildlife.

One person in northeastern Oregon suggested doing "aquifer dialysis" – building a well field in a high-nitrate area, trying to pull water out of the ground and use it to irrigate crops and in the process, pulling nitrates out of the water.

One person from Multnomah County pointed out that increasing recreational access and usage creates more awareness and public will for stewardship. "People protect what they love. There is a clear nexus between recreation and stewardship." This suggests that future action should prioritize creating and maintaining recreational access as an aspect of stewardship.

One person suggested that worms may be used to address challenges with septic systems.

One person suggested intentionally cultivating floating water fern communities in rural area tributaries or public lakes to naturally reduce water temperatures and harmful algal blooms.

Section 4: Reflections from Community Forums

In June 2025, Oregon's Kitchen Table hosted three community forums to share back the findings from the community engagement effort and help DEQ staff think about how to incorporate the community's input and ideas. Two forums focused on Eastern and Western Oregon, respectively, and a third forum had a statewide focus. Across these conversations, 34 people participated. Participants included people from community-based organizations, county governments, Soil and Water Conservation Districts, staff from DEQ and ODA, and people who care about water quality concerns and are interested in getting involved.

During these three conversations, we shared back a summary of what we had heard from people during the engagement from December to May. (The slides used in these conversations are included in Appendix G.) We invited people to reflect on the findings, ask questions and share ideas. We also focused on two specific questions: 1) how people would like DEQ to prioritize, given that everyone mentioned some area with unclean water issues; and 2) given that information and outreach was a predominant theme, how people would suggest that DEQ approach communicating about both causes and effects of nutrient pollution.

Prioritizing

Given that nearly everyone could name a body of water that is not clean or safe, we asked forum participants to help DEQ staff prioritize their work. We offered possible criteria like population, business interests, level of contamination, drinking water quality or fish.

Common themes. Across all conversations, people highlighted that human health and potential risk should be top priorities. Common themes included: prioritizing areas based on risk and potential impact; starting with areas with the worst water quality; prioritizing most sensitive systems and vulnerability; and the need to balance multiple criteria, including the feasibility of implementing the strategy and willingness of landowners to engage.

People noted that human health is connected to drinking water quality, which should be prioritized, as well as food systems, fish health, and water quality in recreational areas. People also emphasized that more monitoring and testing and making sure information is accessible to people should also be prioritized. Some people suggested starting with testing and prioritize based on water quality and impacts on public health: "first get water quality results. Then, correlate to affected populations. Prioritize these waterways/bodies of water."

Areas of difference. Comments also reflected different ideas about what DEQ should prioritize. One tension we heard was that some people suggested DEQ should focus on prioritizing prevention and taking action where there are low levels of problems; and other people, particularly people who work closely with rural communities, felt that the state should focus on areas with the worst water quality issues first. In the statewide forum conversation, one group noted that particularly in rural Oregon, "landowners express a desire for regulators to address the worst water quality first before targeting other watersheds." They noted that it would be important for DEQ to be able to articulate why they are targeting particular places and that it is well thought out and doesn't feel like "random acts of regulation."

A few people also talked about moving from a reactive approach to a preventative approach, which also came up in the initial engagement. Many people said that they

would prefer to see DEQ take preventative approaches which reduce the overall impact and risk of nutrient pollution rather than only focusing on "putting out fires."

Another approach we heard suggested in the Eastern Oregon forum was prioritizing based on risk, rather than specific sources. One person said, "risk is easier to get to than specific sources." Similarly, other people suggested focusing on the highest density of sources or potential for runoff and targeting places where there could be the highest level of potential impact first.

In the Western Oregon and statewide conversations, some groups suggested prioritizing the most sensitive systems, "both ecologically and socio-culturally." Relatedly, some people emphasized that "fish needs are often the most sensitive; if DEQ and other agencies pursue solutions to address fish needs, it'll end up meeting needs for swimming and other beneficial uses."

Balancing multiple criteria. In the statewide conversation, most people said that DEQ would need to balance multiple criteria, such as balancing drinking water and population, impact on fish, and level of contamination. Another group suggested that DEQ should consider economic impact, feasibility of implementing the strategy, willingness of landowners, and whether strategy is voluntary or regulatory, and noted that different issues will require different approaches (e.g. drinking water issues vs. harmful algal blooms).

Across both conversations, people also agreed that population should not be used as a primary factor for DEQ to decide where to focus their attention with the nutrient reduction strategy. "Clean water is important for all," a Jackson County resident said.

Partnerships

> "DEQ should be working with local partners to determine where the focus should be." – Baker County resident, comment on survey

We also asked participants about some of the most promising partnerships that DEQ should pursue in implementing the nutrient reduction strategy. Some of the key takeways included:

- Particularly in rural areas, people suggested that DEQ should work with individuals to gather people or to support them in forming new groups. "In

rural places, there may not be a lot of existing infrastructure with these types of groups in place," one person shared. "People lead you to other people…you get a collaboration of people who are interested."

> "Real progress comes from local collaboration over top-down action." – Columbia County resident, comment from statewide forum

- Universities and researchers will be important partners to ensure that approaches are backed by reliable data and science.
- K-12 schools can be a way of involving both young people and their parents. As we heard in other conversations, people said schools offer opportunity for citizen science initiatives. In particular, people mentioned Key Clubs, National Honor Society, 4H Club, and environmental science classes.
- Soil and Water Conservation Districts and Watershed Councils have been working on these issues for many years and will be important community partners. One person from Columbia County reflected that "we have been working on this for a long time, since 1996…since the water councils began."
- Many people suggested environmental and advocacy organizations such as Riverkeepers, Great Old Broads for Wilderness, Water Watch, American Farmland Trust, LIVE, Salmon-Safe, and others.
- There is an opportunity to partner with recreational groups and civic groups on clean-ups and water quality monitoring.
- We heard apprehension, particularly in the conversation with people in Eastern Oregon, about partnering with sources of contamination.
- It will be important for DEQ to partner with other agencies like ODFW and ODA to address topics that are outside DEQ's jurisdiction, like riparian buffers on agricultural lands.
- One person highlighted that there are untapped opportunities to connect with people doing fertilizer sales to farmers and landowners, such as hardware stores. "These are places people are obtaining things that go into our water systems but do we have signs in hardware stores? Giving people info at the right time and place could have a pretty big impact."

Communication

Many people talked about wanting more information and broader outreach about both sources and effects of nutrient pollution. And yet, DEQ staff reported that there are both programs and information online that reflect what people are asking for. So, what's the disconnect? We asked people for their suggestions about how to communicate and who needed to be involved to communicate effectively about water quality.

One theme across all conversations was the need for information to be accessible, easy to understand, and relevant. These are recommendations we heard about communication:

- Communicate in multiple ways to reach across generations, communities, and ways of getting information and consider nontraditional advertising streams. Specific suggestions included: radio PSAs and monthly specials, flyers in the mail, regular meetings, social media.
- Work with locally trusted individuals and organizations.
- Use clear, locally relevant examples that show how everyday actions like fertilizer use, septic maintenance, or stormwater runoff impact water quality. This will look different in different parts of the state and different communities.
- Messaging will differ based on audience and should take into account what people know. "It depends on who you're talking to, will change how you talk about the problems," one person said in the statewide forum.
- Create ways for people to participate and get information that are not regulatory/tied to regulation.
- Improve coordination among agencies so that there are unified messaging and information, including about what programs and opportunities exist. Ensure that information isn't contradictory and make it easier for people to find what they are looking for. For instance, one person talked about trying to find opportunities to participate in citizen science water monitoring and struggling to navigate the landscape of agencies and resources.

In all three conversations, people reflected that there is a lot going on and it is difficult to get peoples' attention. In the Eastern Oregon conversation, one person from

Umatilla County shared that there are many surveys about water going around, some with 60-70 questions. “We don’t want people to get overloaded and burnt out on trying to do the right thing,” he reflected, suggesting that DEQ should focus on making actions that people can take relevant, clear and simple. In the western Oregon conversation, people working in water stewardship also talked about the difficulty of getting peoples’ attention and getting people to show up for events.

How people can get information about their local water quality—aside from nutrients—was also a subject of conversation. There was some disagreement about whether adequate and quality water monitoring is happening – some people expressed that it is “already happening but need to better understand how to use that data for decision-making and action.” One person from Umatilla County reflected that the way DEQ’s website displays water quality information is difficult to navigate. In addition, they pointed out that “in rural areas with bad WiFi, website referrals are not useful.” Others wished for more water testing and monitoring, particularly in recreational areas.

Section 5: Recommendations for Future Engagement

In addition to the suggestions and ideas that people shared above about how DEQ can work better with communities and community members, we offer some additional recommendations for DEQ to consider as they create the statewide nutrient reduction strategy.

Communicate about nutrient issues in clear, simple, and relevant ways. Given the confusion about the term nutrient, people suggested that using plain language and clear, relevant examples will be important. For instance, DEQ could focus on actions or decisions that lead to nutrient runoff (such as fertilizer use, septic maintenance, riparian land management) and/or effects (such as algae blooms, sickness, weed overgrowth, and drinking water quality issues.) We suggest that DEQ communicates in different ways for different audiences, based on how familiar the audience is with nutrient-related issues and what relevant examples exist locally.

Increase opportunities for people to participate in water quality monitoring and citizen science. A lot of people said that they would be interested in helping with water quality monitoring, and citizen science efforts. In addition, many people would like to have easier access to information about the quality of water in their home or land as well as information about how to interpret those test results. This is an opportunity for collaboration and outreach.

Create ways for people to learn about nutrient issues and contribute to the solutions. We heard interest from many people, including farmworkers, farmers and people working to protect water quality, in staying involved. We encourage DEQ to keep people updated on the nutrient reduction strategy and create additional opportunities for input. Additional points of engagement could help DEQ address skepticism, build trust and demonstrate how engagement has informed the strategy. Particularly among farmers, several people emphasized that "the approach matters" and that letting people know about the issue and then seeking to develop solutions together is important. DEQ could consider including outreach and education about the causes and effects of nutrient pollution alongside other aspects of their strategy.

In addition, some aspects of this engagement that were successful could be helpful as DEQ continues to engage with communities, such as:

- Providing incentives and accommodations to encourage people to attend, such as food, childcare and/or activities for children, and support with transportation
- Providing information in multiple languages, using plain language, and in multiple formats
- Making sure information is relevant and is shared in engaging, participatory ways
- Using targeted efforts to engage communities that are harder to reach and communities heavily impacted by nutrient pollution.

Share how people's input was used in creating the strategy. We also recommend that DEQ share what decisions are made throughout the process and how

they came to those decisions. We encourage DEQ to articulate the impact, benefits, and actions that result from this process. One person said, "I'm not interested in being part of a report that will collect dust on a shelf." Some people expressed deep fatigue and frustration at having gone to many meetings and shared their stories. Without action, people feel they have not been heard.

We also encourage DEQ to prioritize going back to communities in person to share the results. We found that in-person conversations were particularly effective for helping people connect to their experiences of nutrient pollution. Some people, particularly students, also highlighted that having DEQ staff participate in public education events would help people feel heard, build trust, and emphasize the importance of the issue. Oregon's Kitchen Table would be happy to report future actions and results back to participants in this engagement.

Build on existing work. Across the state, we heard that DEQ has an active presence in many communities and has staff or relationships with people who are deeply familiar with local conditions and histories. This suggests to us that there are many opportunities to build engagement into DEQ's day-to-day work and to continue to learn about community needs and priorities. Building on the idea that many people who are deeply engaged with this work would like to see the statewide strategy build on existing work, DEQ could consider ways to continue to learn about work that is already happening and could highlight success stories and effective solutions in the strategy.

Conclusion

This engagement process provides DEQ a snapshot of peoples' experiences, concerns and ideas related to nutrient management in Oregon. Community members engaged with this topic from a wide range of perspectives, experiences, and familiarity with nutrient pollution. The range of responses reflect community members' passion about water in Oregon and willingness to participate in shaping our shared future. And, this is one point in an ongoing conversation among Oregonians about the health, safety and quality of our water. We hope that this report offers guidance for the plan as well as its implementation and continued engagement in the future.

Appendix A. Community Engagement Process and Participation

Goals

The goals for this community engagement process were:

1. to hear from people throughout Oregon about their values, priorities, and concerns about water quality and nutrients as well as their ideas for addressing these issues;
2. to hear from Oregonians who have not traditionally been included in statewide conversations about water.

In order to meet these goals and reach various communities, we created a number of ways for people who live in Oregon to provide input in English or Spanish between February 10 and June 10, 2025. We followed up on those activities with three community forums held in June 2025.

Content for Engagement

Because this engagement was intended for a wide range of people, it assumed that people bring different levels of knowledge and experience. It was our goal to make sure that people could share what they believe and have experienced.

We developed questions for interviews and community conversations that fell into several general themes:

- How clean and safe the water that people interact with is
- People's awareness of nutrient-related water quality issues
- Ideas about potential causes and solutions
- What approaches they would prefer to see DEQ take

Throughout community conversations and other engagement activities, we did not ask people explicitly to share any personal information, but people volunteered information about their jobs, where they have lived in the past and live now, and other aspects of their identity.

Participation

Over 1060 people participated across the different forms of engagement. The people we talked with have a wide range of experience and expertise with nutrient issues and water quality. People we talked with included:

- High school and college students, including students who do water-based sports like crew
- Farmers, ranchers, and people who work with farmers
- Farmworkers
- Houseboat owners
- Marina operators
- Paddlers (like kayakers)
- People who preferred to engage in Spanish
- Anglers
- Staff and board members of Soil and Water Conservation Districts and Watershed Councils
- Cooperative extension staff
- Landowners, including people who live on the edge of lakes and rivers in Oregon
- People from environmental justice advocacy organizations
- Staff of the Oregon Department of Agriculture and Oregon State Marine Board
- Local elected officials
- People who lead recreational clubs and associations
- Water quality specialists and hydrologists
- Master Gardeners

Several people we spoke with or heard from work with communities across the state or work for statewide organizations. We heard from people who live in 31 of Oregon's 36 counties. We also heard from many people who shared stories about water quality issues in other places in the United States and around the world.

Design and Outreach activities

Here is a description of the activities that were part of this engagement.[1]

- OKT conducted 16 individual or small group interviews with a total of 20 people.
- OKT organizers led 3 conversations with farmworkers and migrant families in Umatilla and Marion Counties; 110 people participated in these conversations in Spanish.
- 529 people responded to an online survey, which was available in English and Spanish.
- OKT staff and organizers hosted 10 community conversations, in a mix of in-person and virtual settings. 194 people participated across these conversations. Conversations were led in English and Spanish. Conversations occurred in Jackson, Malheur, Multnomah, Marion, Umatilla, and Washington Counties, as well as online.
- OKT staff and organizers engaged in culturally specific organizing and tabling at 4 events. 113 people shared ideas in writing during these tabling events.
- OKT also worked closely with a class of Environmental Engagement undergraduate students at Lewis + Clark College in Portland, Oregon, in collaboration with Professor Alana Rader. The students led engagement on their campus and in the nearby community, hosted a community conversation and multiple tabling events, and conducted parallel analysis of the input. Their insights and contributions are also attached to this report as Appendix F.
- OKT staff joined 3 standing meetings to share about the community engagement process, invite people to be involved, and lead short conversations about peoples' experiences, concerns and ideas about nutrient pollution. 87 people participated in these conversations.
- Over 30 people participated in 3 community forums on Zoom in June 2025 where we shared back a summary of what we had heard and heard peoples' feedback and ideas.

[1] DEQ also conducted government-to-government consultations with Oregon's Tribes under the auspices of this engagement.

INTRODUCTION

WELCOME!

Would you please answer some questions about keeping water in Oregon clean and safe?

The Oregon Department of Environmental Quality (DEQ) works to keep our water in Oregon clean and safe. One of the ways DEQ does this is to protect water from pollutants.

Some pollutants are called "nutrients." Nutrients come from many sources. They are found in soil, water, and other places. They help plants grow. Some nutrients are nitrogen and phosphorus.

But when too many nutrients get into our water, they become pollutants. Too many nutrients can make water unsafe for drinking. They can make rivers and lakes smelly, cloudy, and unsafe for people and animals.

DEQ is working to create a statewide plan to manage nutrients in our water. They are working with Oregon's Kitchen Table to hear from people across our state about issues related to the nutrients in and the quality of our water. DEQ also wants to hear what ideas you have about ways to keep water safe and clean.

Your input will also help the State of Oregon find ways to partner with local communities, researchers, and other agencies to solve water quality issues in the state related to nutrients.

Please fill out this survey if you live in Oregon. You can fill it out through April 15, 2025.

BACKGROUND

How can I help?
Please fill out this survey! And invite other people in Oregon who you know to fill it out, too.

Are you interested in hosting a conversation about managing nutrients in Oregon? If you want to lead a conversation, please download our Kitchen Table Conversation guide (ADD LINK). If you would like support, you can contact us at info@oregonskitchentable.org.

By sharing what you think, you can help make sure that the DEQ makes a plan based on what people in our state want to see happen.

How will DEQ use the results of this survey?

The Oregon Department of Environmental Quality (DEQ) has asked for this information. DEQ will get a report. It will be based on the answers from this survey and from the conversations.

The report will help DEQ decide about what to include in a statewide plan to manage nutrients in our water. It will also help DEQ find ways to partner with local communities, researchers and other agencies to solve water quality issues related to nutrients in Oregon.

How can I know the results of this survey?
In April, we at Oregon's Kitchen Table will host a number of conversations on Zoom to share the results of the survey. We will also discuss ways people, organizations, and companies can get involved. We will share information about the forums on Oregon's Kitchen Table's website.

We will share the report with people who choose to share their emails. We will also post the report on our Oregon's Kitchen Table's website.

QUESTIONS

First, we'll ask you about how you interact with water and how clean or safe the water is in your community.

1. How do you interact with water?

RESPONSE CATEGORY	Respondents to this question = 514
I swim or my pets do.	64%
I live next to a stream, river, or lake.	55%
I kayak, paddle board, canoe or kite surf.	51%
I drink well water.	42%
I fish for myself and my family.	39%
Other	20%
I interact with water for spiritual or cultural purposes.	18%
I harvest shellfish.	18%
I use a motor boat or jet ski.	15%

2. How clean or safe is the water at your home?

RESPONSE CATEGORY	Respondents to this question = 513
Very polluted and unsafe	2%
Somewhat clean and safe	24%
Very clean and safe	75%

3. How clean or safe is the water at your work?

RESPONSE CATEGORY	Respondents to this question = 462
Very polluted and unsafe	3%
Somewhat clean and safe	31%
Very clean and safe	66%

4. Do you visit rivers, beaches or lakes in Oregon for fun? Yes ____ No ____

RESPONSE CATEGORY	Total answers to survey = 517
Yes	95%

   a. If you answered "Yes," can you describe the places you visit and your experiences with how clean and safe you think those places are?

      Responses provided to DEQ.

5. If there are places you think are not clean or safe - what makes them unclean or unsafe? It's okay if you don't know.

   Responses provided to DEQ.

SECTION 2

Now we'll ask you about issues having to do with nutrients. When they are present in low or moderate amounts, nutrients are vital for all aspects of life in water. This includes lakes, streams, rivers, and estuaries.

But when they are present in high amounts, nutrients can cause harmful effects. This includes harmful blooms of algae. These blooms are a blue-green scum that are harmful to pets and wildlife. Also, too many nutrients can pollute wells and drinking water.

High levels of nutrients can result from many things. They include:

- Runoff in urban, forested, and agricultural areas.
- Leaching from failing septic systems in rural areas.
- Certain sources like sewage treatment plants.

At this time, there are some parts of Oregon that have water quality issues because of too many nutrients. DEQ is looking at ways to address those water quality issues.

6. How do you use or produce nutrients?

RESPONSE CATEGORY	Respondents to this question = 518
I use fertilizer, compost or manure on my lawn, in my flower or vegetable garden, berry bushes, or orchard.	61%
I have pets or farm animals like dogs, cats, horses, goats, chickens, or cows.	55%
I compost kitchen scraps or animal manure.	53%
I have a septic system, composting toilet, outhouse, or a drain field where waste from laundry, sinks, and showers go.	40%
I use or produce nutrients at work, like on a farm, in a nursery, landscaping, forestry, or in the fishing industry.	17%
I do not use or produce nutrients.	13%
Other: *(Responses provided to DEQ.)*	2%

7. Do you use fertilizer, compost or manure on your lawn, orchard, forest, or crops?

RESPONSE CATEGORY	Respondents to this question = 516
Yes	65%
No	35%

If you answered “Yes”, how do you decide how much to put on?

RESPONSE CATEGORY	Respondents to this question = 333
I follow the directions on the bag.	59%
I test my soil or crops to know how much to use.	31%
Other *(Responses provided to DEQ.)*	23%
An OSU Extension worker or other expert tells me.	18%
Someone tells me how much to use, like my boss, neighbor, friend or parent.	5%

8. In this question, we list some of the effects when too many nutrients enter the water. Which of these have you experienced?

RESPONSE CATEGORY	Respondents to this question = 517
Closures or advisories at beaches, lakes or rivers that the water is not safe for dogs or people to swim in.	61%
Warnings that it is not safe to eat fish, harvest oysters, crabs, or other foods from the water.	59%
Algae blooms on lakes or streams. They are blue-green scum or greenish mats that extend deep into the water.	57%
I have not experienced any of these.	21%
Sickness or health issues in people or pets after swimming or drinking water.	9%
Test results for my well water that are above drinking water standards or warnings from water supplier that water is not safe to drink	6%

Is there anything else you would like to add about your experience or what you think causes these issues?

Responses provided to DEQ.

9. How concerned are you about issues related to nutrients in the water?

RESPONSE CATEGORY	Respondents to this question = 517
Not at all	14%
Somewhat	37%
Very much	49%

SECTION 3

Now we'll ask you about your ideas about solutions. We'll also ask you what you would like to see included in the plan to manage nutrients in our water.

10. Just below are some of the actions that DEQ and other agencies can take to reduce unsafe levels of nutrients in our water.

Which of these are most important to you? Please choose the 2 that are most important to you.

RESPONSE CATEGORY	Respondents to this question = 515
More outreach and education to encourage actions that reduce nutrients reaching our water. For instance, educating homeowners, business owners, golf courses, large subdivisions or farmers to improve and reduce how they use fertilizer.	43%
More information and testing to better understand where in Oregon there is nutrient pollution now or will be in the future. This could include testing the soil and water on farms, home septic systems, drinking water, as well as lakes and streams with possible issues.	38%
More regulations to manage or reduce nutrient pollution in waters. This could include making stricter rules or updating rules about farming, wastewater, and stormwater.	35%
More funding to support people who might be releasing too many nutrients. For instance, funds for homeowners to upgrade their septic systems or businesses to upgrade how they treat wastewater.	33%
Respond to urgent nutrient pollution events more quickly, even if it means focusing in one part of the state more than another part.	21%
I don't know	5%

Other	14%

If you would like to share more about why you chose those 2 actions, you can let us know here.

Responses provided to DEQ.

11. One of the things DEQ is thinking about is how to best support communities to maintain clean water for themselves. What do you think your community needs to keep the water clean in your community?

Responses provided to DEQ.

12. What else would you like decision makers to know as they think about how to manage the use of nutrients in Oregon?

Responses provided to DEQ.

SECTION 4

Now we are going to ask a few questions about you. This is to help us make sure that we are hearing from lots of different kinds of people across Oregon. You can choose to answer these questions or not.

13. **What is your zip code?**

Responses provided to DEQ.

14. What is your age?

RESPONSE CATEGORY	Respondents to this question = 515
17 years old and younger	<1%
18 to 29 years old	8%
30 to 39 years old	12%
40 to 49 years old	16%
50 to 59 years old	18%
60 to 69 years old	21%
70 or older	19%
I prefer not to answer	5%

15. What language do you prefer to get information in?

RESPONSE CATEGORY	Respondents to this question = 509
English	99%
Spanish	<1%
Arabic	<1%
Chuukese	<1%
Mandarin	<1%
Russian	<1%
Somali	<1%
Ukrainian	<1%
Vietnamese	<1%
Other language not listed here (please write the language)	<1%

16. Which of these describes your racial or ethnic identity?
Please mark all that apply.

RESPONSE CATEGORY	Respondents to this question = 489
White	89%
American Indian, Alaska Native, Indigenous Mexican, Central American, or South American	5%
Hispanic, Latino, Latina, Latinx, Latiné	4%
Asian	3%
Black, African American	2%
Native Hawaiian, Pacific Islander	1%
Middle Eastern or North African	<1%

If you would like to share in your own words how you describe your race, origin, ethnicity, ancestry or Tribal affiliations, please use this space:

Responses provided to DEQ.

Thank you for sharing! Your input will help DEQ create a statewide plan to manage nutrients. Your input will also help them find ways to partner with local communities and other state agencies to solve water quality issues related to nutrients in Oregon.

In April, we at Oregon's Kitchen Table will host a number of online forums to share back what we heard in this survey.

In July, we will give DEQ a report with the results of this survey and what we learned at other community conversations and events. We will also post it on our Oregon's Kitchen Table's website. You will be able to see the report here: https://www.oregonskitchentable.org/results

Thank you for sharing your ideas with us!

Appendix B. Places that people think are not clean or safe

In the survey and in community conversations, we asked people to identify places that they did not think were clean and safe. This is a list of those places that people said were not clean and safe, even if they were mentioned only once. In many cases, there were mixed opinions.

GENERAL / NOT REGION-SPECIFIC

- Alpine lakes (specifically Mountain Lakes Wilderness, Sky Lakes Wilderness) – some feel these are very clean, a few people don't

  > "I interact with lakes, rivers, streams, and the ocean throughout Oregon both for work and play. In recent years, it has been very disappointing to find mountain lakes with blue-green algae blooms devastating recreation opportunities"
- Oregon coast
- Lakes
- Lower mainstem, tributaries, tidal sloughs and pasture ponds
- Reservoirs
- Urban creeks

  > "Many of our urban creeks exceed safe limits for pesticides, as indicated by our sampling for the Pesticide Stewardship Partnership. Most waterbodies we're sampling for 6PPD-q exceed the EPA recommended safe concentration."

VALLEY/NORTH COAST – Clatsop, Columbia, Tillamook, Marion, Polk, Yamhill, Benton, Lane, Lincoln, and Linn counties

- Netarts Bay
- Willamette River – highway, farm, runoff. Several people commented it is cleaner than it used to be but there are still issues. In particular, the Coast Fork of the Willamette was mentioned.

  > "Willamette River and tributaries are cleaner than they used to be but still contain too much erosion, legacy pesticides and not enough shade"
- Rivers/creeks in Tillamook area

> "One area that was particularly unsafe (in my opinion) was the rivers/creeks in the Tillamook area. The water seems to have been polluted by the cattle farms and manure in the streams from runoff from the cattle farms. We chose not to kayak because of the odor and appearance of the water."

- Fern Ridge Lake
- Amazon Creek – urban waterway
- Mid-coast, Yachats River – debris on beach that has washed down rivers or been discarded in ocean, Yachats River, feeder systems and estuary

> "The Yachats River, feeder systems, and estuary are water systems I have great concerns about. Farms along the river do not have mandatory buffers to keep livestock away from the shoreline (fecal matter in the estuary in the State Park closed the park for days) and clear cuts in the forests have in the past degraded our water system so badly that the city of Yachats was unable to use its secondary drinking water resource for two years because of turbidity."

- Siletz, Alsea Rivers – algae problems
- Yaquina Bay, Nye Beach, Fogarty Beach, near Seal Rock – E. Coli

> "I also sometimes harvest mussels from Fogarty Beach or near Seal Rock, and clams from the Yaquina or Alsea bays and am aware that certain times of the year must be avoided for harvesting due to demoic acid levels in shellfish."

- Beaches/rivers around Newport – runoff after rains and discharge from Georgia Pacific Plant in Toledo
- Municipal Water from North Santiam – generally safe but some toxic algae blooms

> "I believe the municipal water we use (sourced from the North Santiam) for drinking is generally safe, there have been instances where we have been unable to drink the city water for extended periods of time due to toxic algae blooms."

- Wiley Creek

> "large homeless camps on property along Wiley Crk in which sewage from R.Vâ€™s is commonly dumped on the ground and enters the river."

- Drinking water in Lebanon, Sweethome, and Albany

> "Due to the last 2 years with Green Peter Reservoir. Being drawn down so low it has caused the Santiam to run very muddy, making drinking water in Lebanon, Sweethome and Albany undrinkable"

- Foster Lake
- Green Peter Reservoir
- Middle Umpqua – coliform bacteria in the summer
- Creeks in Nehalem Urban Growth area

  > "There are at least 2 creeks used for water in the Nehalem Urban Growth areas along North Fork and Riverview Meadows Lane where we live. The meadow in the Riverview Meadows Phases 2 & 3 is being developed for 78 homes and the construction crews donâ€™t seem to be taking any precautions for protecting the streams from their slash and other waste and dust and dirt from the project. The watershed area was cut for timber last summer and now rains wash all the detritus from their cuts and the burn slash debris also into the creeks."
- Nehalem drinking water – impact of logging on Bob's Creek watershed

PORTLAND METRO – Clackamas, Multnomah, Washington

- Columbia River – polluted by toxic leaks from Hanford Nuclear Reactor, solid waste debris in water and on beaches, homeless camps, barges going through
- Columbia Slough

  > "Kayak the Columbia Slough and avoid kayaking after June due to heavy scum on surface."
- Urban streams like Johnson Creek
- Willamette River
- Tualatin River – seasonal
- Fairview Lake

  > "Live on Fairview lake which typically has a hab every July so not as clean and safe., algae in summer"
- Johnson Creek –

  > "Johnson Creek - where I have done some water testing and found PFAS in the water near Precision Cast Parts."

SOUTHERN OREGON – Jackson, Josephine, Coos, Curry, Douglas

- Bear Creek

  > "Bear Creek; not clean or safe due to impacts of homeless encampments."
  > "I sample Bear Cr. in the Rogue Valley, which for decades has had E. coli concentrations frequently exceeding the safe limit in the summer."

- Lost Creek Reservoir – summer

  > "Lost Creek Lake can sometime have green algae blooms but those are not tracked and identified."

- Rogue River – seasonal pollution with nutrients and fecal coliform bacteria, summer algae blooms, impact of large boats stirring up sediment

  > "Rogue River; very clean and safe, aside from uncontrolled non-point nutrient pollution on Big and Little Butte Creeks downstream of Lost Creek Dam"

- Coquille River

  > "Coquille River seems impacted by cow manure and drinking water in Coquille is often very cloudy or chlorine-flavored from a lot of drinking water filtration and cleaning due to cow manure and sediment."

- Bandon – runoff from Bandon Dunes into Whiskey Run creek and other small drainages across the beach
- Umpqua River – particularly in late summer, algae and bacteria concerns in South Umpqua River
- Emigrant Reservoir, Hyatt Reservoir in the summer
- Galesville Reservoir – concern about accumulation of naturally occurring mercury in fish due to metals accumulating in bottom sediment
- Coquille and Coos Basins - streams

  > "I conducted fecal coliform bacteria monitoring in the Coquille Basin and the Coos Basin for the last three years. These basins have significant levels of fecal coliform bacteria pollution that exceed DEQ's limits. DNA testing revealed humans and livestock as pollutant sources. Livestock wallowing in streams during the summer resulted in pollution at many of my test sites. With the human DNA showing up in the samples, I am very concerned about leaky, derelict, and unpermitted septic systems. Every stream I tested was polluted during at least part of the year downstream of where humans and livestock existed in the watershed."

- Lake Selmac – frequent algal blooms during summer

CENTRAL OR – Croos, Deschutes, Jefferson, Klamath, Lake

- Deschutes below Lake Billing Chinook, in Maupin
- Dog Lake– great at beginning of summer, turns green later in summer
- Drew Reservoir – great at beginning of summer, turns green later in summer

- Klamath Lake

  > "Klamath Lake water quality has historically been, and still generally is, very poor due to excessive nutrient loading and algae blooms. Tributary water quality is generally better, but can still be poor at times."
- La Pine
- Lake Ewauna
- Lakeview – arsenic in ground water
- Lofton – great at beginning of summer, turns green later in summer
- Prineville Reservoir
- Sprague River

  > "Sprague River - used to be clean even with historic ranching, but because of the 25 years of geo-engineered southern Oregon drought, this river is a mess."
- Suttle Lake
- Upper Klamath/Agency Lake

  > "Cyanobacteria blooms dominate Upper Klamath Lake during the summer months, making the water quality impaired for long periods of time."
- Williamson River – "Some streamside trash and pollution"

EASTERN OR – Gilliam, Grant, Harney, Malheur, Morrow, Umatilla, Wheeler, Baker, Union, Wallowa

- Many rivers, in general

  > "In eastern Oregon, many rivers are polluted from ag runoff and irrigation withdrawals reduce flows and increase water temperatures to sometime lethal levels."
- Many lakes – not safe later in summer
- Many streams in Ochoco National Forest
- Owyhee and Silvies Rivers and smaller creeks – Chickahominy, Moon, most ponds
- Unnamed creek in Scio

  > "Once got very sick after swimming in a creek full of farm-runoff in Scio."
- Umatilla County – surface waters in eastern Umatilla County
- Surface waters in western Morrow County
- Groundwater in the Lower Umatilla Basin

Community Connector Interview
Nutrient Management Community Engagement

About the project

When present in low or moderate amounts, nutrients are essential for all aspects of life in lakes, streams, rivers, and estuaries. However, when present in high amounts, nutrients can cause harmful effects for people, pets, and wildlife. For example, excess nutrients can contribute to the formation of harmful algal blooms (blue-green scum) in water or can lead to contaminated wells and drinking water. High levels of nutrients can result from runoff in urban, forested, and agricultural areas, leaching from failing septic systems in rural areas, as well from specific sources like sewage treatment plants.

The Department of Environmental Quality (DEQ) is working to make our water safe by reducing those kinds of pollution through partnerships with local communities and state agencies, regulation of sources like wastewater treatment and stormwater, and funding for restoration and best management practices. DEQ is working with Oregon's Kitchen Table to hear peoples' experiences, ideas, and perspectives on how nutrients affect water and what ideas people have for making water safe. This input will inform the creation of a statewide nutrient management plan.

Right now we are planning for the community engagement that will begin in February 2025. We are talking to a number of different people as we plan to better understand some of the different perspectives around this issue and opportunities for making sure we hear from people in your community.

Questions about nutrients and water quality

- How do you interact with water? How far do you have to travel to do that?

- How clean or safe do you think the water in your community is? Why do you think that? Has it changed over time? (This includes rivers, streams, lakes as well as drinking water and well water.)

    - What about the water where you work? Why?

- What concerns do you hear about water quality in your community?
    - Do you know of issues in your community that relate to excess nutrients or water quality?
    - How do people in your community talk about nutrients or water quality?

- If there are too many nutrients in the water, it can result in harmful algal blooms which look like blue-green scum. Are there places or activities you or other people avoid because of algae blooms or concerns about water quality?

- What ideas do you have about how to address nutrients going into the water? Have you seen anything done that works well?

Questions about community engagement

Oregon's Kitchen Table is planning for more opportunities to hear from people around the state about this topic through next spring. We want to hear your thoughts about how we might invite more people into this conversation.

- What suggestions do you have for how we might continue to hear from people in your community January through next spring?

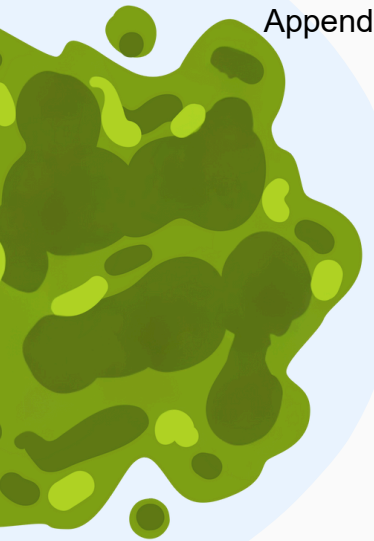
- Are there places or events in your community where people would welcome an opportunity to share about their experiences with water between January through March?

- What needs are you aware of that members of your community might have in order to be able to participate in community conversations about this topic? (transportation, language preferences, supervised activities for children, food, setting, meeting set-up, materials, etc.)

- Who might be the best person or organization to invite you or members of your community to engage on this topic?

- Who else would you suggest we connect with about engaging community members in your community or who you serve who might be interested in this topic?

The Oregon Department of Environmental Quality wants to hear from you!



Nutrients like nitrogen and phosphorus help plants grow. But when too many nutrients get into our water, they can make rivers, lakes, and drinking water smelly, cloudy, and unsafe for people and animals.

Share what you think!

Scan here with your phone:
https://bit.ly/oregon-nutrient-mgt

Hosted by Oregon's Kitchen Table

State of Oregon Department of Environmental Quality

Share what you think!

What ideas do you have to reduce nutrient pollution in the water in your community?

TODAY'S CONVERSATION

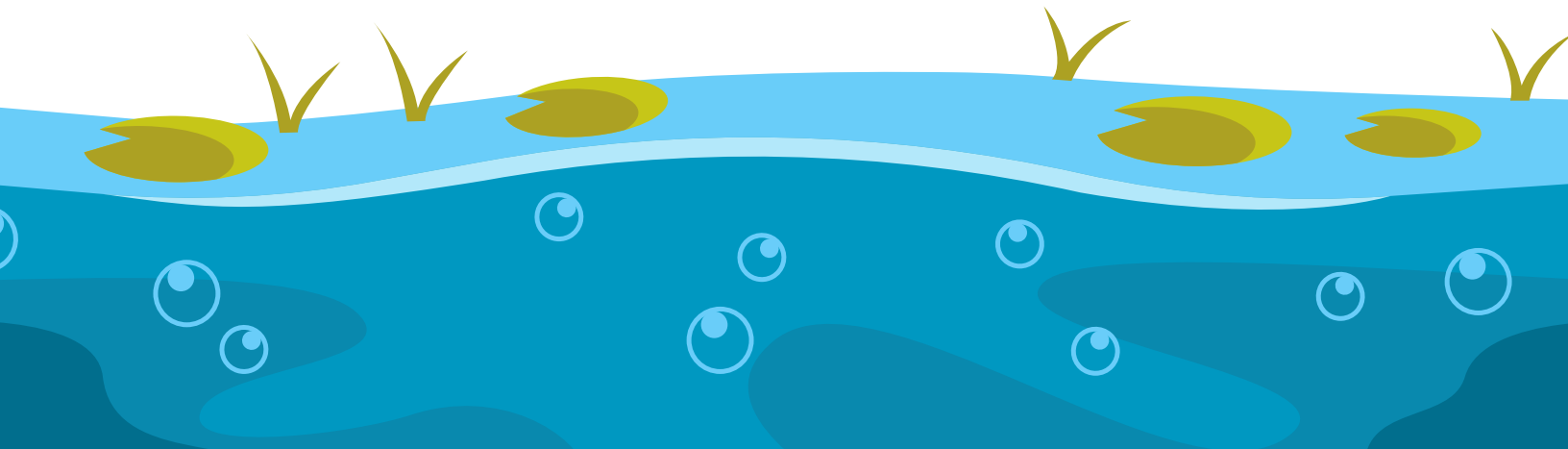
Background and Introductions

Question 1: How clean or safe is the water at your home, work, and places you go to have fun?

Question 2: What is your experience with nutrients getting into water?

Question 3:
Review the approaches that DEQ is considering to address nutrient pollution in Oregon.
Discuss what you think your community needs from DEQ to keep the water clean in your community.

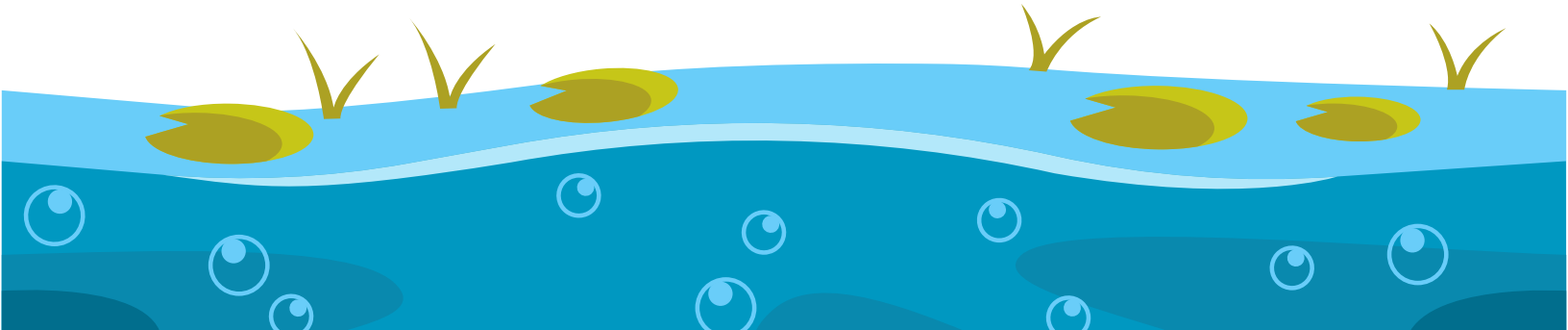
Closing, next steps and appreciations



GUIDELINES FOR OUR CONVERSATION

These are the discussion guidelines OKT sets for how we'll interact with each other today:

- Make room for everyone to share
- Listen with curiosity
- Be respectful of your neighbors
- Make room for disagreement or differing experiences

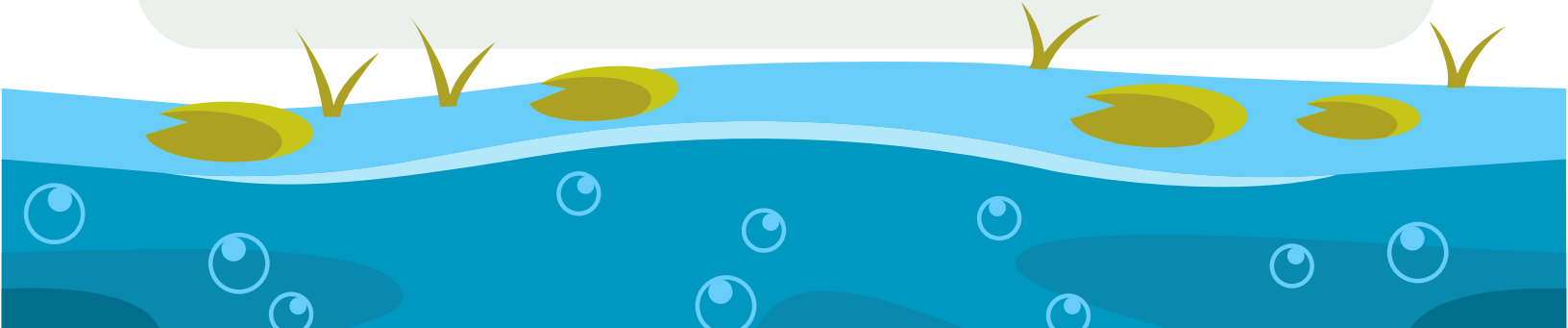


FINDING SOLUTIONS

These are some of the actions that DEQ and other agencies can take to reduce unsafe levels of nutrients in our water.

Which of these are most important to you? Why?

1. **More information and testing** to better understand where in Oregon there is nutrient pollution now or will be in the future. This could include testing the soil and water on farms, home septic systems, drinking water, as well as lakes and streams with possible issues.
2. **More outreach and education** to encourage actions that reduce nutrients reaching our water. For instance, educating homeowners, business owners, golf courses, large subdivisions or farmers to improve and reduce how they use fertilizer.
3. **More regulations to manage or reduce nutrient pollution** in waters. This could include making stricter rules or updating rules about farming, wastewater, and stormwater.
4. **More funding to support people who might be releasing too many nutrients.** For instance, funds for homeowners to upgrade their septic systems or businesses to upgrade how they treat wastewater.
5. **Respond to urgent nutrient pollution events more quickly**, even if it means focusing in one part of the state more than another part.



CONVERSACIÓN DE HOY

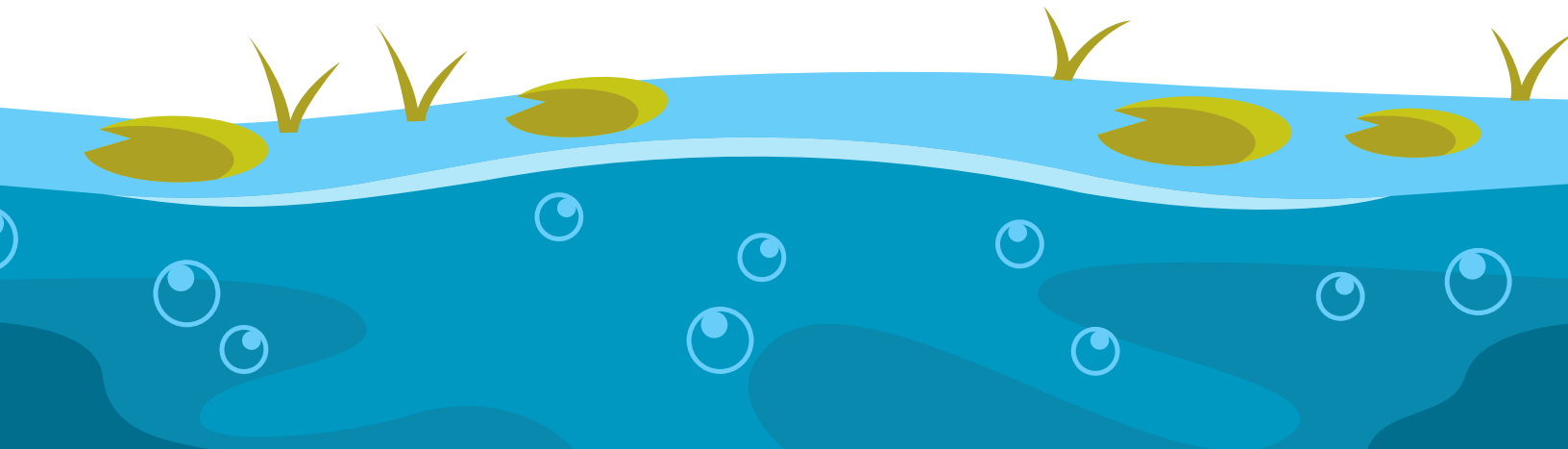
Antecedentes e Introducciones

Pregunta Nº 1: ¿Qué tan limpia o saludable es el agua en su hogar? ¿Qué tan limpia o saludable es el agua en su lugar de trabajo? ¿Y qué tal en los lugares donde le gusta pasear?

Pregunta Nº 2: ¿Cuál es su experiencia en cuanto a los nutrientes entrar al agua?

Pregunta Nº 3: ¿Qué acciones le gustaría que tomaran las personas que las toman decisiones en el estado?

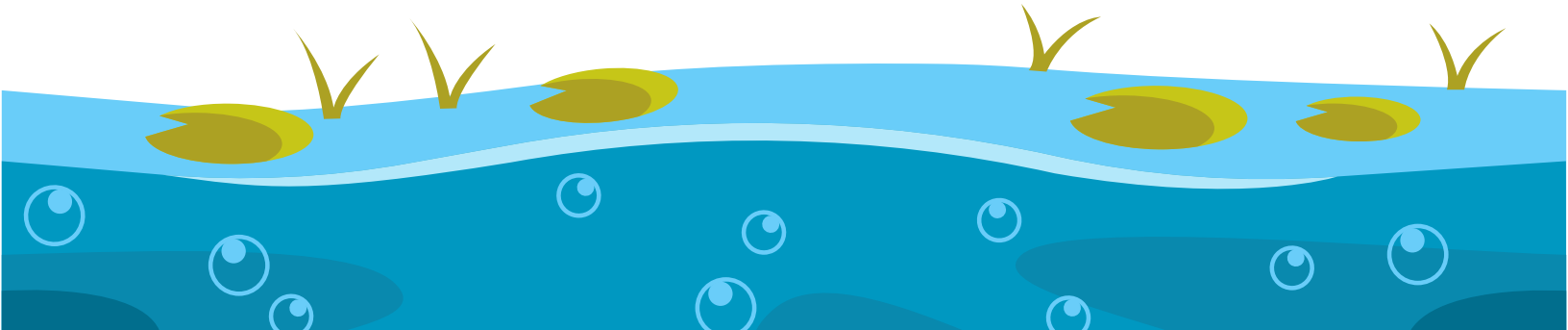
Cierre, próximos pasos y agradecimientos



GUÍA DE DISCUSIÓN

Éstas son las guías para la discusión que OKT pone en lugar para cómo interactuamos el uno con el otro en el día de hoy:

- Dé tiempo y espacio para cada persona
- Escuche con curiosidad
- Sea respetuoso con los demás
- Dé lugar para desacuerdos o para experiencias diferentes



ENCONTRANDO SOLUCIONES

Aquí hay algunas de las acciones que el DEQ y otras agencias pueden tomar para reducir los niveles dañinos de nutrientes en nuestra agua.

¿Cuáles más le importan?

1. **Más información y pruebas para poder entender mejor adónde en Oregón hay una contaminación de nutrientes ahora o que podría haber en el futuro.** Esto puede incluir examinar la tierra y el agua con posibles problemas en las granjas, sistemas de aguas residuales en los hogares, en el agua potable, así como en pozos de agua, en lagos y arroyos.
2. **Más alcance y educación para animar acciones que reduzcan que los nutrientes lleguen a nuestra agua.** Por ejemplo, educar a los dueños de casas, dueños de negocios, campos de golf, de grandes subdivisiones o agricultores a mejorar y a reducir el uso de fertilizantes.
3. **Más reglas para manejar o reducir la contaminación de nutrientes en las aguas.** Esto puede incluir hacer que las reglas sean más estrictas o actualizar los reglamentos sobre agricultura, aguas residuales y aguas por lluvia o nieve.
4. **Más fondos para apoyar a las personas que tal vez estén soltando demasiados nutrientes.** Por ejemplo, fondos para los propietarios para que puedan actualizar sus sistemas de aguas residuales o negocios para que puedan actualizar la manera en la que tratan aguas residuales.
5. **Responder de forma más rápida a eventos urgentes de contaminación de nutrientes,** aún cuando ésto signifique el enfocarse en una parte del estado más que en otra.

Welcome!

Please share in the chat:

- **Name**
- **Pronouns**
- **Where you live**
- **What is a body of water that is important to you?**

Oregon's KITCHEN TABLE

Sarah + Nina

State of Oregon Department of Environmental Quality
DEQ

Oregon's Kitchen Table is a statewide community engagement program that invites all Oregonians to participate in the decisions that affect their lives. We particularly focus on reaching, engaging, and hearing from Oregonians that have been left out of traditional engagement processes.

INTRODUCTIONS: YOUR TURN!

Name

Where you live

and

What is a body of water that is important to you and an activity you like to do there?

(swim, fish, spend time with family, enjoy wildlife etc.)

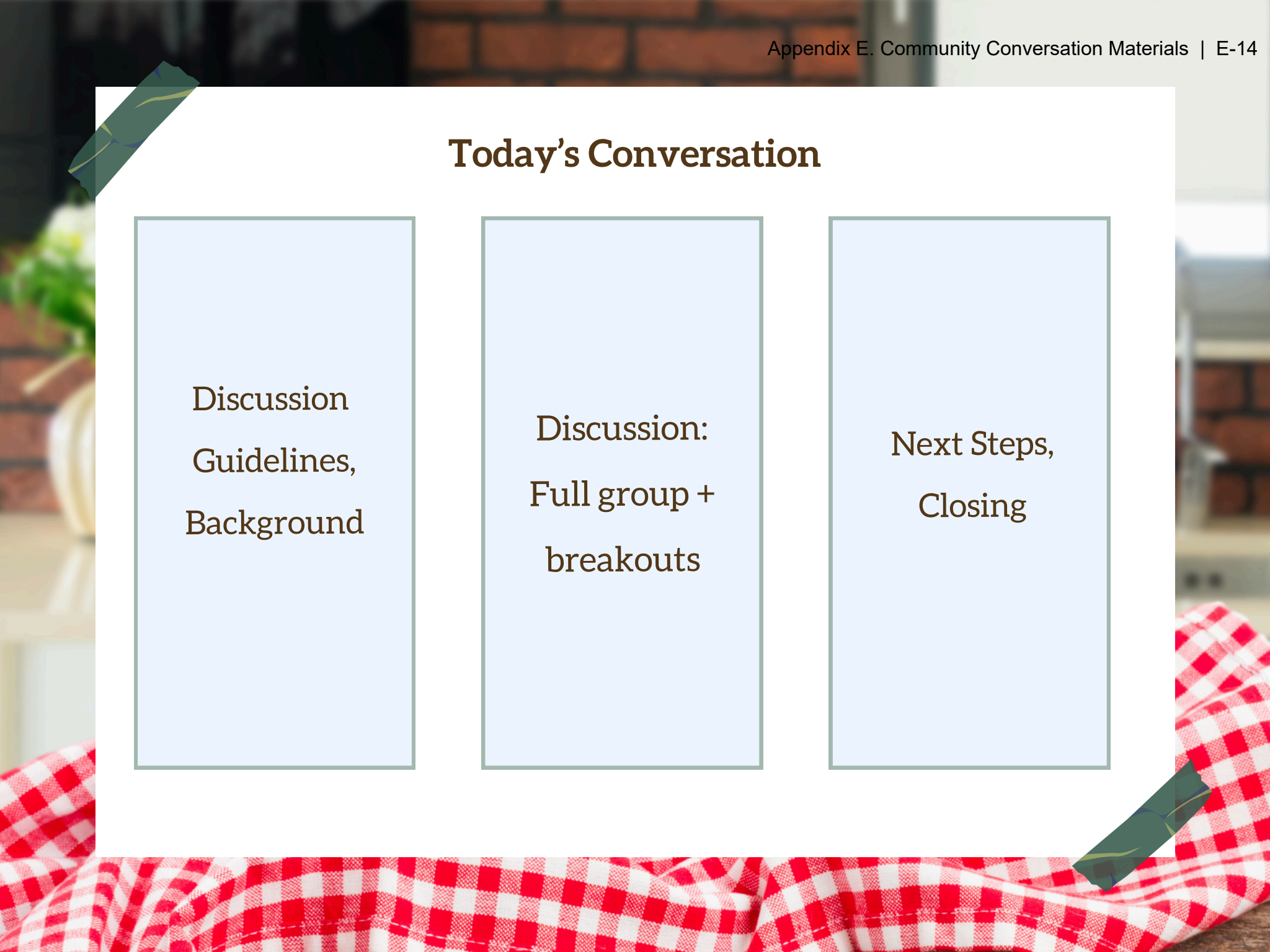
We'll do this in pairs!

Background

The Oregon Department of Environmental Quality (DEQ) works to keep our water in Oregon clean and safe. One of the ways DEQ does this is to protect water from pollutants.

Nutrients like nitrogen and phosphorus help plants grow. But when too many nutrients get into our water, they can make rivers, lakes, and drinking water smelly, cloudy, and unsafe for people and animals.

DEQ is working to create a statewide plan to manage nutrients in our water. They are working with Oregon's Kitchen Table to hear from people across our state about issues related to nutrients and water quality. DEQ also wants to hear what ideas you have about ways to keep water safe and clean.


Today's Conversation
Discussion Guidelines, Background
Discussion: Full group + breakouts
Next Steps, Closing

Community Agreements

Give time and space for each other

Be respectful of your neighbors

Listen with curiosity

Make room for different ideas and experiences

LET'S DISCUSS!

How clean and safe is the water where you live?

Drop a number from 1 to 5 into the chat

1 = very clean and safe!

5 = disgusting, dangerous, nasty

LET'S DISCUSS!

How clean and safe is the water where you work or go to school?

Drop a number from 1 to 5 into the chat

1 = very clean and safe!

5 = disgusting, dangerous, nasty

LET'S DISCUSS!

How clean and safe is the water where you go to have fun?

Drop a number from 1 to 5 into the chat

1 = very clean and safe!

5 = disgusting, dangerous, nasty

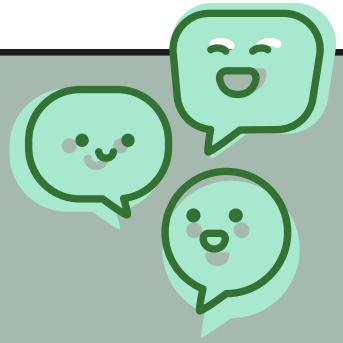
LET'S DISCUSS!

What is your experience with nutrients getting into water?

These are some of the actions that DEQ and other agencies can take to reduce unsafe levels of nutrients in our water. Which of these are most important to you? Why?

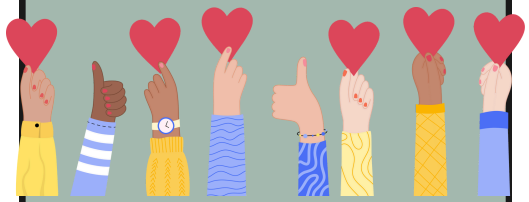
1. **More information and testing to better understand where in Oregon there is nutrient pollution now or will be in the future.** This could include testing the soil and water on farms, home septic systems, drinking water, as well as lakes and streams with possible issues.
2. **More outreach and education to encourage actions that reduce nutrients reaching our water.** For instance, educating homeowners, business owners, golf courses, large subdivisions or farmers to improve and reduce how they use fertilizer.
3. **More regulations to manage or reduce nutrient pollution in water.** This could include making stricter rules or updating rules about farming, wastewater, and stormwater.
4. **More funding to support people who might be releasing too many nutrients.** For instance, funds for homeowners to upgrade their septic systems or businesses to upgrade how they treat wastewater.
5. **Respond to urgent nutrient pollution events more quickly,** even if it means focusing in one part of the state more than another part.

Next Steps



The survey is open and other conversations like this one will be happening across the state through the end of April.

The survey is here: https://bit.ly/oregon-nutrient-mgt



In late May, we'll hold forums on Zoom with DEQ to share back what we heard. These are open to everyone!

The input will be put into a report that will be shared in July with DEQ and everyone who participated. DEQ will use this input to create their statewide nutrient management plan.

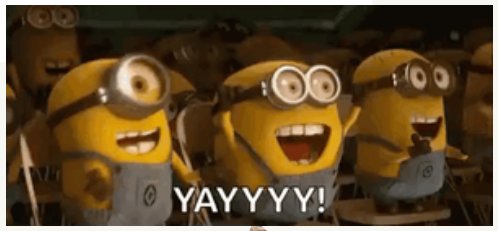
Thank you!

Sarah Giles - sagiles@pdx.edu

Nina Pamintuan - ninapami@pdx.edu

Closing question: What's one piece of advice you have for DEQ in this process?

Reminder to send your mailing address so we can send you a gift card!



KITCHEN TABLE CONVERSATION GUIDE:

Nutrient Management & Water Quality in Oregon

WWW.OREGONSKITCHENTABLE.ORG

This Guide is for anyone in Oregon who wants to organize and host a Kitchen Table Conversation with their family, friends, or neighbors about nutrient management and water quality in Oregon.

We hope this Guide provides helpful ideas for organizing a community conversation, a structure for what to talk about during the conversation, and a clear way to summarize what people shared and get it to OKT.

If you need support or assistance, please reach out! Email info@oregonskitchentable or call (503)725-3420.

CONTENTS

OUR APPROACH

Oregon's Kitchen Table strives to include all Oregonians in the decisions that affect their lives, with a particular focus on reaching, engaging, and hearing from Oregonians who have been left out of traditional public processes.

We work with organizers, translators, and interpreters so materials and online and in-person consultations are available for Oregonians who speak a wide variety of languages and learn in a variety of ways.

We recognize that people bring all different levels of knowledge and familiarity regarding issues / policies. We use approaches to ensure those who may not have as in-depth knowledge can still respond and share what they believe and have experienced. People participate in many different ways: through online and paper surveys, individual or small group interviews, culturally specific and community events, festivals, listening sessions, or public meetings open to anyone.

One of the approaches we use is what we call a Kitchen Table Conversation: a group of people gathering together to learn from each other and share what they think in the language, setting, and format that is most comfortable for them.

GATHERING PEOPLE TO TALK

INVITATION

Use whatever method people will pay attention to, but make sure it feels warm, welcoming, and inviting. It might be a text, a phone call, WhatsApp, a social media post, or an email. Some people set up e-invites. Make clear the time, place, purpose, what to expect (food or participant incentive), and if they need to RSVP.

GROUP SIZE

10-12 people is a nice size. But larger groups can be broken up into smaller groups. And you can still have a good conversation with 2-3 people.

FORMAT

You can meet in person, over Zoom, or group chat (people have used WhatsApp before, for example). You can talk while planting trees or clearing out invasive species. You can have the conversation on a bus during a field trip. Hold the conversation in a space that is easy and comfortable for people in your community.

WELCOMING

HOST

Think of yourself as the host, welcoming people at your table,

FOOD

If you are in person, have food! Even a simple snack (popcorn, cookies, water, fruit) will help people feel welcome.

FUN

If you're in-person or virtual, have some element of fun and joy that makes sense for your group: music, a short game, decorations.

ACTIVITY

Have an opening activity that allows for all to say something at the beginning so that they can get comfortable. For example, you could invite everyone to share their name, where they live in the area, and a body of water that is important and an activity they like to do there (swim, fish, spend time with family, enjoy wildlife etc.)

ROLES FOR CO-HOSTS

If you are working with a partner or a team to co-host a conversation, decide who will take which role. Here are some common roles. You could also invite participants to join you and take on one of these roles.

- Facilitator: Guides conversation, asks questions, and helps capture themes, commonalities, or differences.
- Notetaker: Captures what people say. Bullet points are fine! If the notetaker can get any good quotes, that's great but not required.
- Timekeeper: Use a clock (phone works!) to help make sure that there's enough time for each part of the conversation. Give facilitator / group time warnings.
- Reporter: If there are small group discussions, shares a summary of what the group discussed for the whole group.
- Observer: Helps the Facilitator make sure everyone gets a chance to talk or that no one person takes up too much time.

PURPOSE FOR GATHERING

Explain why you've inviting people in your community to gather together to talk about water quality. Below is a description of what the decision is and why it matters. You can read this or summarize in your own words.

The Oregon Department of Environmental Quality (DEQ) works to keep our water in Oregon clean and safe. One of the ways DEQ does this is to protect water from pollutants.

Nutrients like nitrogen and phosphorus help plants grow. But when too many nutrients get into our water, they can make rivers, lakes, and drinking water smelly, cloudy, and unsafe for people and animals.

DEQ is working to create a statewide plan to manage nutrients in our water. They are working with Oregon's Kitchen Table to hear from people across our state about issues related to the nutrients in and the quality of our water. DEQ also wants to hear what ideas you have about ways to keep water safe and clean.

Your input will also help the State of Oregon find ways to partner with local communities, researchers, and other agencies to solve water quality issues in the state related to nutrients.

GUIDING THE CONVERSATION

1. BACKGROUND

People have different experiences and knowledge about the topic. We honor all of those experiences and knowledge. Share the basic background provided in the "Purpose for Gathering" section.

2. QUESTIONS FOR CONVERSATION

OKT has developed a few questions with the decision maker. We usually have a few main questions to pose along with follow up in case people need some direction in responding or in case there's extra time.

3. HOW TO SPEND YOUR TIME TOGETHER

It's ok if people want to spend time on just one or two - we want to know where their interests and energies are, so that's fine!

4. CONFIDENTIALITY

Let people know that their names or anything that identifies them won't be shared. You'll give OKT a summary of what you all talked about. OKT will combine all the input from different conversations, surveys, and other ways people share what they think.

CONVERSATION QUESTIONS

How clean or safe is the water at your home, work, and places you go to have fun?

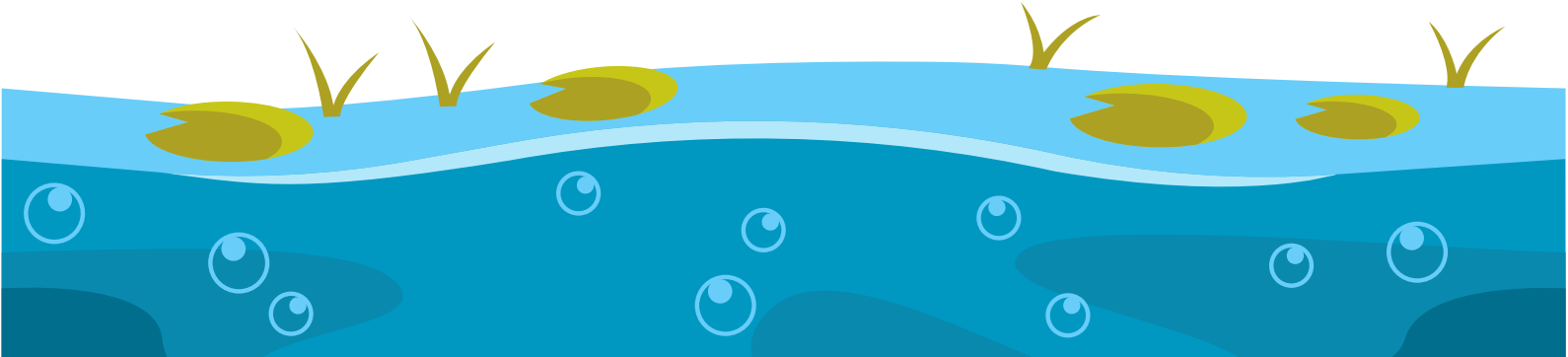
- Why do you think that?

What is your experience with nutrients getting into water?

- What concerns do you have?
- What ideas do you have about how to address these issues?

Take a few minutes to review the approaches that DEQ is considering to address nutrient pollution in Oregon.

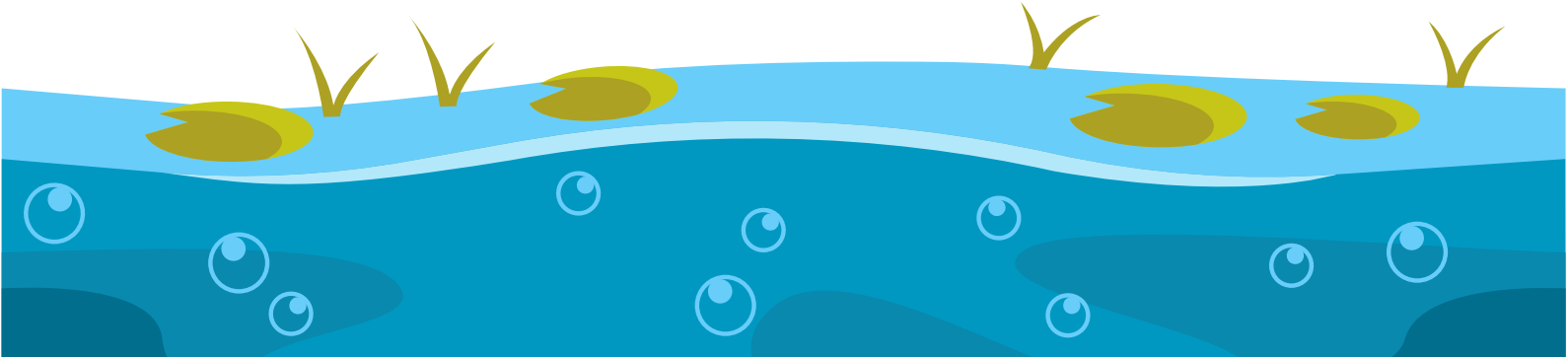
- Thinking about these general approaches, discuss what you think your community needs from DEQ to keep the water clean in your community. Choose the approach(es) that are most important to you and discuss the specifics.
- Are there other aspects or considerations that you think it's important for DEQ to think about?



FINDING SOLUTIONS

Just below are some of the actions that DEQ and other agencies can take to reduce unsafe levels of nutrients in our water. **Which of these are most important to you?**

- **More information and testing** to better understand where in Oregon there is nutrient pollution now or will be in the future. This could include testing the soil and water on farms, home septic systems, drinking water, as well as lakes and streams with possible issues.
- **More outreach and education** to encourage actions that reduce nutrients reaching our water. For instance, educating homeowners, business owners, golf courses, large subdivisions or farmers to improve and reduce how they use fertilizer.
- **More regulations to manage or reduce nutrient pollution** in waters. This could include making stricter rules or updating rules about farming, wastewater, and stormwater.
- **More funding to support people who might be releasing too many nutrients.** For instance, funds for homeowners to upgrade their septic systems or businesses to upgrade how they treat wastewater.
- **Change rules that are causing nutrient pollution.** For instance, allow sewage services in rural areas with septic system problems. Or, create more areas of land and plants along the edges of rivers, streams, lakes, and agricultural fields so less runoff enters bodies of water.
- **Respond to urgent nutrient pollution events more quickly**, even if it means focusing in one part of the state more than another part.



CLOSING

CONNECTING BACK

Let people know where their input will go and how it will be used. You can use the timeline on the next page. Also let them know that you will connect with Oregon's Kitchen Table with whatever questions came up and circle back to people with any answers.

INVITING MORE VOICES

Share information about ways that people can invite others they know to share what they think. Use the postcards with the link and QR code included after the templates.

APPRECIATIONS

Let people know how important their input is and we appreciate hearing their ideas, thoughts, experiences and time on this important issue. You can invite everyone to share their appreciations for each other.

ACTIVITY

If there's time, you can invite people to share aloud. If there's not time, have post-it notes or cards for people to write or draw their response to a closing question:. One example: "Share one wish you have for the future of water in our community."

WHAT HAPPENS NEXT

1. INVITE YOUR NEIGHBORS TO PARTICIPATE

Engagement will happen February 10 - March 31.
Invite other people you know to share what they think!

Visit https://bit.ly/oregon-nutrient-mgt
OR
Scan here with your phone:

2. JOIN A FORUM ON ZOOM

In April, OKT and DEQ will host several forum conversations on Zoom. Anyone in Oregon can join. We will share back things we heard February and March. DEQ is interested in finding ways to partner with community, other agencies, and organizations to address water quality issues across the state. We will also share info with anyone who gave us their contact information.

3. OKT REPORT ON WHAT WE HEARD

OKT will provide a report of what we heard to DEQ in July 2025. We will post the report and a summary of that report in English and Spanish on the OKT website. We will also share it with anyone who gave us their contact information.

4. HOW DEQ WILL USE THE INPUT

DEQ will use this input as they make decisions about what the nutrient management plan should include. They will also use this input to inform their priorities in the future.

TIPS FOR SUMMARY

- Bullet points are fine! This is a summary not a formal report.
- Let us know any areas where there is agreement or disagreement in people's perspectives.
- Let us know if there are any unique perspectives (an idea / experience / belief one person shared even if others didn't have it).
- Add your observations/reflections: Feelings, sense of issues, concerns, positive experiences.
- Let us know if there's anyone we ought to follow up with on any ideas they shared.
- Share any questions about the project that you couldn't answer and who to follow up with.
- Include any pictures from the conversation. Make sure to ask permission first!

SUMMARY TEMPLATE

Date / Place:

# of people:

General description of the group (age ranges, languages spoken, any ways the group might identify themselves):

Opening activity (what you did, anything anyone shared):

SEND YOUR SUMMARY BY MARCH 31 TO FEEN@PDX.EDU

SUMMARY TEMPLATE

How clean and safe the water is

Experiences with nutrients getting into water

SEND YOUR SUMMARY BY MARCH 31 TO FEEN@PDX.EDU

SUMMARY TEMPLATE

Specific approaches people think are important and anything else they hope DEQ considers

Closing activity (what you did, anything anyone shared):

SEND YOUR SUMMARY BY MARCH 31 TO FEEN@PDX.EDU

SUMMARY TEMPLATE

Areas of agreement among the group

Areas of disagreement among the group

SEND YOUR SUMMARY BY MARCH 31 TO FEEN@PDX.EDU

SUMMARY TEMPLATE

Unique perspectives

Areas where someone was persuaded by someone's else's point of view

SEND YOUR SUMMARY BY MARCH 31 TO FEEN@PDX.EDU

SUMMARY TEMPLATE

Direct quotes

Any observations you had

SEND YOUR SUMMARY BY MARCH 31 TO FEEN@PDX.EDU

The Oregon Department of Environmental Quality wants to hear from you!

Nutrients like nitrogen and phosphorus help plants grow. But when too many nutrients get into our water, they can make rivers, lakes, and drinking water smelly, cloudy, and unsafe for people and animals.

What ideas do you have to reduce nutrient pollution in the water in your community?

Share what you think!

https://bit.ly/oregon-nutrient-mgt

Scan here with your phone:

Hosted by Oregon's Kitchen Table

State of Oregon Department of Environmental Quality

QUESTIONS?
IDEAS?
NEED SUPPORT?
CONTACT US!

503-725-5248

INFO@OREGONSKITCHENTABLE.ORG

WWW.OREGONSKITCHENTABLE.ORG

Oregon's KITCHEN TABLE

Continue the conversation!

Between February and May, **over 1000 Oregonians** have shared what they think about water quality issues related to excess nutrients.

The Department of Environmental Quality will use this input to inform their plan for reducing pollution caused by excess nutrients in Oregon, but first they want to think together with you and other Oregonians about how best to use that input.

Join a community forum

Focus: Eastern Oregon:
Wednesday, June 4, 6-7:30, online

Focus: Western Oregon:
Tuesday, June 10, 6-7:30, online

Focus: Statewide:
Friday, June 13, noon-1:30pm, online

For info and to register:
bit.ly/okt-oregon-nutrient-mgt

Interpretation available upon request.

Continue the conversation!

Between February and May, over 1000 people have shared what they think about water quality issues related to excess nutrients in Oregon. How should the Oregon Department of Environmental Quality use this input? This is an opportunity to ask questions and share your ideas.

Focus: Eastern Oregon:
Wednesday, June 4, 6-7:30

Focus: Western Oregon:
Tuesday, June 10, 6-7:30

Focus: Statewide:
Friday, June 13, noon-1:30pm

Welcome

As you join, please share in the chat:

- Name
- Where you are joining from today
- What is a body of water in Oregon that is important to you?

Oregon's Kitchen Table creates ways for people in Oregon to participate in the decisions that affect their lives, with a particular focus on reaching, engaging, and hearing from Oregonians who have been left out of traditional public processes.

Background

The Oregon Department of Environmental Quality (DEQ) works to keep our water in Oregon clean and safe. One of the ways DEQ does this is to protect water from pollutants.

Nutrients like nitrogen and phosphorus help plants grow. But when too many nutrients get into our water, they can make rivers, lakes, and drinking water smelly, cloudy, and unsafe for people and animals.

DEQ is considering possible ideas for addressing water quality issues caused by too many nutrients. They are working with Oregon's Kitchen Table to hear from people across our state about issues related to nutrients and water quality. DEQ also wants to hear what ideas you have about ways to keep water safe and clean.

COMMUNITY ENGAGEMENT ON NUTRIENT MANAGEMENT TIMELINE

Oregon's KITCHEN TABLE

YOU ARE HERE

1. PLANNING

Identify key outcomes and project milestones, bring in relevant IWRS analysis

September - November 2024

2. COMMUNITY CONNECTOR INTERVIEWS

Identify community connectors, conduct interviews

by December 31, 2024

3. PROCESS DESIGN

Identify focus communities, stakeholders; draft engagement plan; develop content for engagement

by January 30, 2025

4. PREPARE FOR ENGAGEMENT

Plain language review and translation, program survey, develop community conversation guide

by February 10 2025

5:ENGAGEMENT ACTIVITIES

Collaborate with organizers, individual interviews

February 10 - April 30, 2025

6. INTERIM REPORT

by April 20, 2025

7. FORUMS

OKT leads 3 Zoom forums

Planning: April - May
Forums - June 2025

8. FINAL REPORT

OKT prepares final report and summaries in English and Spanish

July 2025

Updated 2/10/2025

Today's Conversation

- Introductions
- Agenda review and agreements
- Findings from community engagement
- Discussion in full group and break-out groups
- Next steps and closing

Community Agreements

Give time and space for each other

Share your ideas --even if they're not fully formed.

Put aside distractions - keep camera on if possible!

Listen with curiosity

Make room for different ideas and experiences

INTRODUCTIONS: YOUR TURN!

Name

What's your connection to nutrient management?

One thing you are curious about

Participation

- Over 1030 people participated from every corner of Oregon
- 529 people responded to the OKT survey in English and Spanish
- 110 people participated in conversations in Spanish, 210 people participated in a conversation or interview in English
- We connected with over 200 people through tabling, written input and joining standing meetings
- Some people have been deeply involved for a long time; other people have never participated before

What we heard: Common themes

- People have significant care for and firsthand experience of water quality
- Many people feel Oregon's water is uniquely clean and safe; most people feel their drinking water is clean
- And yet, most people also reported being concerned about water quality issues related to nutrients
- Almost everyone could point to a body of water they felt wasn't clean or safe
- Desire for more information from DEQ about sources of pollution and where problems exist

What we heard: Observations

- Significant confusion and lack of familiarity with the term "nutrients"
- Difficult to disentangle the effects of excess nutrients from temperature, bacteria, and other water quality concerns
- Frustration and distrust about what the strategy will accomplish, fear of both regulation and inaction
- People are noticing and naming climate change and drought
- People are thinking about other people in considering solutions

What we heard: Perceptions about water quality

- Differing perspectives on what "clean and safe" means.
- Many people don't know how clean/safe water is but still use it.
- Indicators of unsafe/unclean water: garbage and debris, proximity to pollution sources, appearance/smell, advisories or word of mouth.
- Wide range of ideas about sources of pollution and people generally don't tease them out. Many people feel there is a lack of understanding and inaccurate perceptions about what causes water quality issues.
- Concerns about water quality in schools, particularly lead pipes.

What we heard: Indicators of nutrient pollution

- People most commonly experience excess nutrient issues through closure or advisories, warnings about consuming food from water, or algae blooms.
- Recreational users reported high rates of experiencing algae blooms.
- Farmworkers talked about sickness and health issues from drinking/bathing water, headaches caused by smells.
- Questions about connection to invasive weeds (milfoil), e.coli, ocean acidification, etc.

What we heard: Preferred approaches

- In surveys and conversations, we asked people to choose among 5 options:
  - More information and testing
  - More outreach and education
  - More regulations to manage or reduce nutrient pollution
  - More funding
  - Respond to urgent nutrient pollution events more quickly
- Consensus on the need for multiple approaches to address current issues, remediate the effects, and prevent future pollution

FINDING SOLUTIONS

These are some of the actions that DEQ and other agencies can take to reduce unsafe levels of nutrients in our water.

Which of these are most important to you? Why?

1. **More information and testing** to better understand where in Oregon there is nutrient pollution now or will be in the future. This could include testing the soil and water on farms, home septic systems, drinking water, as well as lakes and streams with possible issues.
2. **More outreach and education** to encourage actions that reduce nutrients reaching our water. For instance, educating homeowners, business owners, golf courses, large subdivisions or farmers to improve and reduce how they use fertilizer.
3. **More regulations to manage or reduce nutrient pollution** in waters. This could include making stricter rules or updating rules about farming, wastewater, and stormwater.
4. **More funding to support people who might be releasing too many nutrients.** For instance, funds for homeowners to upgrade their septic systems or businesses to upgrade how they treat wastewater.
5. **Respond to urgent nutrient pollution events more quickly**, even if it means focusing in one part of the state more than another part.

What we heard: Preferred approaches

- Cross-cutting themes:
  - Support what is already happening
  - People highlighted the connections among information/testing, education, funding, and regulation and enforcement
  - Need to consider historical context of current issues and impacts on future generations
  - Desire for mutually beneficial solutions

What we heard: Preferred approaches

- Increase outreach and education
  - Causes - how general public may be contributing
  - Modern agricultural practices, biosolids
  - Effects - particularly among farmworker communities impacted by groundwater contamination

- Increase information and testing
  - "People want to ensure that actions are informed by science and directed where they are most needed."
  - Desire to understand how water is tested, how often, and what results mean
  - Citizen science

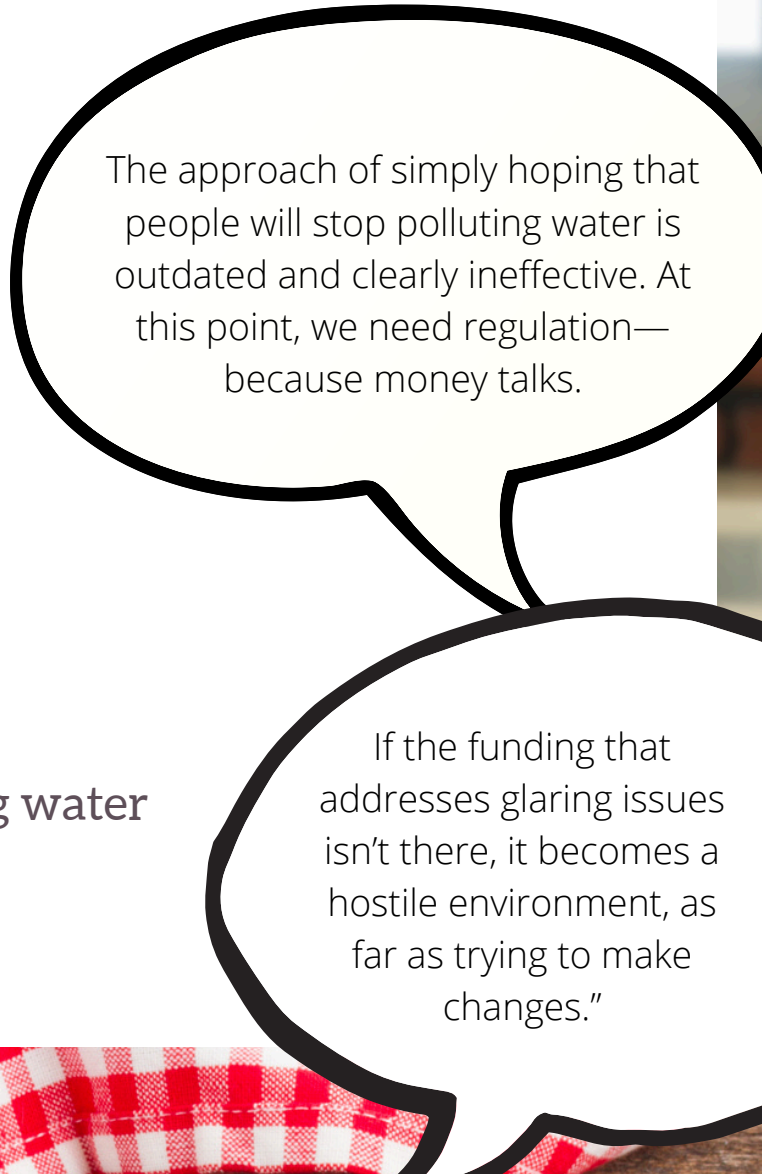
Engaging kids on issues through school could be easier and then the kids could present their findings to their communities.

In ag and forestry, we're behind the ball on communicating what we're actually doing. We're not doing things like we did in the 1970s but we're not communicating about what we've changed and what we're doing now—we know more now.

What we heard: Preferred approaches

- Increase regulation and enforcement
  - Specific regulatory gaps
  - Conflicting ideas about increasing regulation in agriculture
  - Desire to avoid further polarization
  - Frustration and anger

- Increase funding and incentives
  - Remove barriers for farmers to implement best management practices; need for flexibility
  - Septic systems
  - Upgrade aging infrastructure - schools, drinking water
  - Sewer systems in rural areas



What we heard: Areas of tension

- Varying levels of trust in government and statewide solutions.
- Differing perspectives on the balance between regulation and voluntary measures.
- Regional variations in concerns and priorities.
- Confusion about the term "nutrients" and its scope.
- Perceptions of how clean and safe the water is.

Let's discuss!

We received a long list of places that there are water quality issues and suggestions that strengthen projects that are already underway.

If you were DEQ - what criteria would you use to prioritize? ex. population, business, level of contamination, drinking water quality, fish

What do you think might be some of the most promising partnerships or types of partnerships that DEQ should pursue to address water quality issues?

Let's discuss!

Many people talked about wanting more information and outreach about how they may be contributing to pollution as well as about effects on water quality.

As you think about how to communicate about those things, what would you suggest?

Follow up: What organizations, people or local government need to be involved?

Next Steps

The input will be put into a report that will be shared in July with DEQ and everyone who participated. It will also be on OKT's website.

DEQ will use this input to create their statewide nutrient reduction strategy over the next year.


As we wrap up, please share in the chat:
What's one piece of advice you have for DEQ in this process?
thank you!
Oregon's KITCHEN TABLE

Appendix H. Lewis & Clark College Students' Final Presentations

As part of our engagement on nutrient management, we worked closely with Professor Alana Clark's undergraduate ENVS 295 Environmental Engagement course at Lewis & Clark College. The students in the course analyzed data from the survey and community conversations, hosted a Kitchen Table conversation on their campus, and presented their findings and recommendations to the OKT team at the end of their semester.

This partnership was a great benefit to the overall engagement and brought in many youth participants who had not participated in public decision-making about water in the past. We are including the students' final presentations here.

Note that students worked with data in March and April 2025, before we had closed the survey and finished all the community conversations and prior to the forums, so the data they were working with does not include the entirety of what we heard over the course of the process.

Contents of this appendix include:

ENVS 295 - Engagement Project Part 1– Guidelines
Facilitating Engagement with our Engagement Partner

Total Points: 15

Timeline & Due Dates:

Phase 1) Prepare for Engagement Jan 21 to Feb 14
Information gathering & summarizing - full class activities
Outreach Planning - **group 1** due Feb 17

Phase 2) Engagement Activities Feb 17 to March 28
Interview and Data synthesis and analysis - full class activities
Community Organizing & Kitchen Table Conversation - **group 2** due March 31
Data visualization - **group 3** due March 14 and April 18
Interview and survey synthesis - **group 4** due March 14 and April 18

Phase 3) Engagement Forums April 15 to May 6
Forum preparation and attendance - full class activities
Forum design support - **group 5** date April 28

Engagement Recommendation Presentation for Policy Makers: **May 06** from 1:00 - 4:00 PM PT

Goals

- The **overarching goal** of the Engagement Project is to shadow an actual real world engagement process to gain skills in engagement preparation, running engagement activities, and hosting engagement forums. You will synthesize information and lessons from the engagement process in a recommendation presentation for policy makers.

- You will identify a particular part of the engagement process that you will take 'the lead' on for our class. Taking the lead on your task of choice will require you to listen and work with your peers and relay our class activities to the engagement practitioners we are working with.

- The **outcome** of this Engagement Project is practice, experience, and material products of hosting an engagement, synthesizing information from that engagement, and using it to further environmental outreach through communication materials. This shows skills in communication and survey, information analysis and synthesis, and design.

Structure

- **Who will we work with?** Students will complete assignments in their Engagement Groups. When your Engagement Group is working as a 'lead' for part of the engagement process, then you will work extra closely with Alana and Oregon's Kitchen Table.

- **What should our project be on?** Each group will choose a specific task within the engagement process to lead - this piece of the engagement process will make up the bulk of your engagement project grade.

- **What are we creating?** The specific deliverable is dependent on what piece of the engagement process you hope to focus on! However, all groups will produce a presentation for engagement recommendations geared towards policy and decision makers.

Description of Deliverables

Group 1: Outreach Planning (Due Feb. 17)
Group 1 will take the lead in grounding nutrient management in OUR community of Lewis & Clark and urban Portland more broadly. This work includes reviewing current news articles, scoping interviews to date, and nutrient management policy suggestions and directions to consider the best approach for WHO makes sense to be included in this conversation, and the relationships between these individuals. Tasks may include, but are not limited to, designing outreach materials, suggesting and describing which environmental publics may need to be at the table, mapping important locations, relationship mapping, and more.

> *Assignment Deliverable:* Outreach plan document and materials that includes the background information for who should be at the table, and best strategy to appeal to these individuals. The strategy to appeal to these individuals may include the actual outreach material students developed.

Group 2: Community Organizing & Kitchen Table Conversations (Due March 31)
Group 2 will take the lead in organizing a Kitchen Table conversation in our chosen community. This community can be either in class, on campus, or include multiple communities beyond campus. To prepare for this, students may be able to attend, participate in, and take notes during one of OKT's conversations with communities impacted by nutrient management processes. The student organized conversation, or series of conversations should take place before 03/31.

> *Assignment Deliverable:* Organized event or series of events completed by 03/31

Group 3: Data Visualization (Due March 14 & April 18)
Group 3 will take the lead in applying data visualization techniques to communicate various trends, outcomes, and results from the community surveys and conversations. Results to be visualized will be

collected on a rolling basis, so data visualization will present first an early check in of how results are looking on March 14 and then a more thorough analysis of results on April 15.

> *Assignment Deliverable:* Check in presentation and final presentation outlining synthesis of data and results, visualized and communicated in engaging formats, as well as original visualization files (pngs, pdf, jpg)

Group 4: Conversation Synthesis (Due March 14 & April 18)
Group 4 will take the lead in reading through and synthesize notes and transcripts from the conversations and interviews and qualitatively code for aspects of value, emotion, actions, and relationships. Doing so will start to highlight the various trends in how different publics relate to nutrient management across Oregon. Transcripts and notes to code will be collected on a rolling basis, so synthesis will be presented first as an early check in on March 14 and then a more thorough analysis of results on April 15.

> *Assignment Deliverables:* Check in presentation and final presentation outlining the broader themes and discourses related to nutrient management, as well as original excel spreadsheet used for coding.

Group 5: Re-Situating & Reporting Back (Due April 28)
Group 5 will take the lead in re-situating all that we have learned in our chosen community (reflecting from Group 1's work), and develop strategies to communicate our findings and themes back to the folks and communities that may have participated with us along the way. Group 5 will develop outreach materials specifically tailored to the various environmental publics, values, emotions, and actions that we have encountered throughout the engagement process to date to report back.

> *Assignment Deliverables:* Presentation and outreach materials to report back to the communities that we as a class were able to hold a conversation with.

For Part 2 of the Final Project (15 points) You can expect the following:

All Groups: Nutrient Management Posters at ENVS End of Semester Celebration (May 1 at 5:00 PM)

All Groups: Final Presentation for Policy Makers (May 6 at 1:00 PM)

Nutrient Management

Engagement Recommendations

ENVS 295 Group 1
Don Le Fevre, Gwyneth Murphy-Cunningham,
Lucas Hausman, Myla Butzlaff, Michael Medlock Jr

Context

ENVS 295 x Oregon Kitchen Table Partnership

- Engagement recommendations for Oregon DEQ in anticipation of updated Nutrient Management Policy
- Our recommendations are informed by:

OKT Statewide Survey and LC Kitchen Table Event

  - Our kitchen table event brought together individuals from the Lewis and Clark community, urban Portland, and the Willamette Valley

Image Credit: Nina Johnson

Focus of Our Suggestions

- Strategies to encourage community feedback throughout the policy making process
- Increasing avenues for community feedback through education
- Create ongoing events, surveys, or workshops to keep communication open
- Building trust in the feedback process to encourage communities to engage

Community Reports and Requests

From our kitchen table conversations

Values	Actions	Emotions	Actor/Environment Relationship	Statement Meanings
Health and cleanliness	Water Consumption	Desire	Community Member	Issues with nutrients in agricultural runoff
Communication	Observation	Fear	Recreation	Transparency with water quality makes people feel safer
Policy	Learning	Anger	Consumer	Education about water quality and nutrient management is needed
Education	Learning	Concern	Community Member	Funding is needed

Data Visualizations created by Group 4

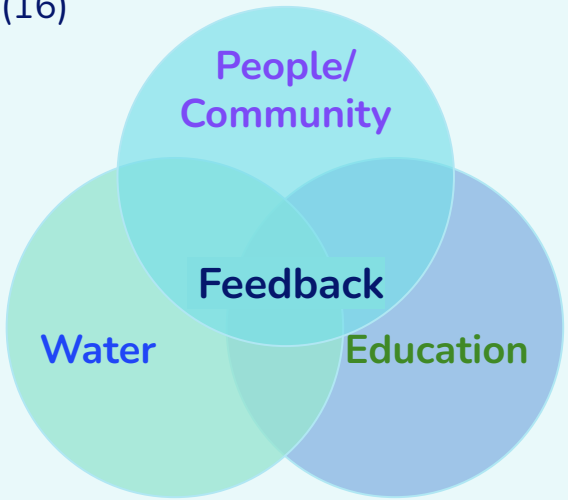
Education is a significant value for our **community members** who felt **concerned** with the lack of knowledge about nutrient management and suggested increased funding

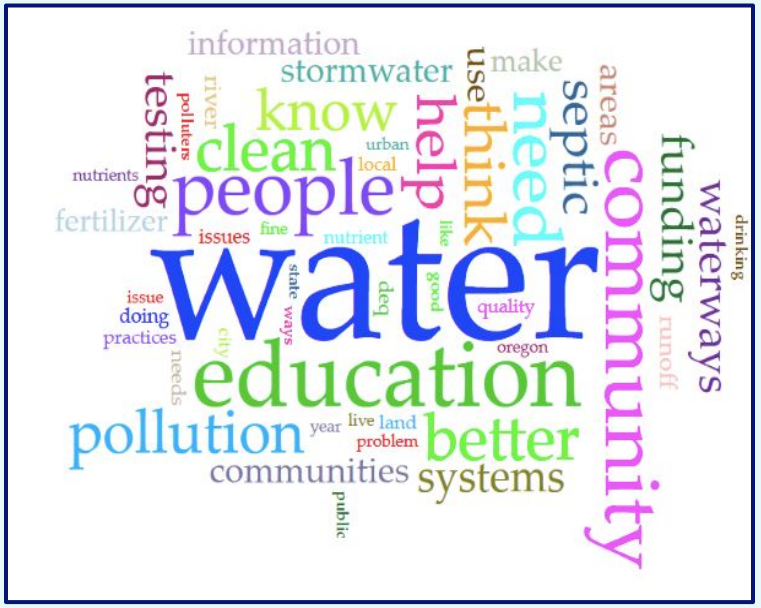
Community Reports and Requests

From OKT survey respondents

In addition to what DEQ is already doing, what do you think your community needs to keep the water clean in your community?

Top words:
Water (59); Education (20); People (16); Community (16)





Data Visualizations Created by Group 3

What Community Members Across Oregon are Saying about Education

Education in normal spaces like libraries. Where are people already comfortable?

Education in schools and more field trips and direct work within communities.

Engaging kids on issues through school could be easier and then the kids could present their findings to their communities.

Education is important because more awareness will influence action and the more people that know about the nutrients and water quality changes regulations will likely be reinforced.

Regulations are good as long as there's education and funding along with them - if farmers don't have the knowledge, that can put them out of business.

A lot of people don't know where the drinking water versus "fun" water is, and we need to keep an eye on both but especially the drinking water, since its going inside our bodies

Statements from Group 4's Coding of Oregon Kitchen Table Conversations

How Education Events Encourage Community Feedback

- Create knowledge – Individuals better understand the issues, solutions, and language of nutrient management
- Incentivized feedback – Learning about nutrient management in community could help individual's see the importance of these policies in their lives and motivate them to provide feedback

Community education events could also:

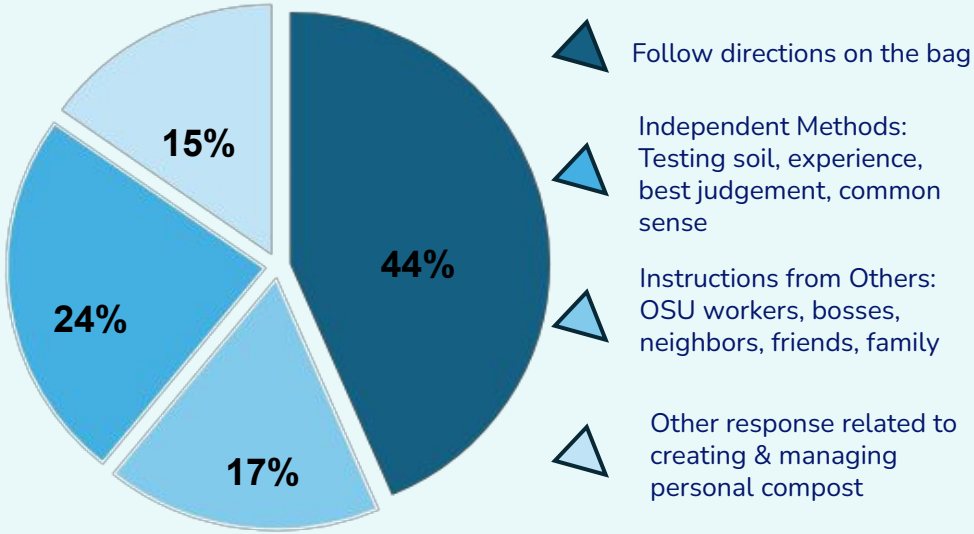
- Build trust with officials and experts
- Provide opportunities for feedback (survey, conversation, follow-up events)
- Encourages more diverse voices to be heard
- Offers clear ways for people to get involved



Education Example:

- Only 17% of people utilized information from others to determine how much fertilizer to apply
  - ➔ Knowledge about best practice for fertilizer application is not produced in community
- How can we increase this section of the pie chart while incorporating community values?

How do you decide how much fertilizer to apply?



Total Responses: 388

Data Visualizations created by Group 3 using OKT survey responses

Education Can Take Place Anywhere

- Education can happen anywhere that educators can provide information
  - In-person and online

- On-site education can teach farmers how new methods could be applicable to their own farms
- It can be customized to suit the needs of the community

Our Suggestion: Community Education Events

Monthly **Workshops** at **Neighborhood Association Meetings**

Library Programing: Book club, Presentations, Ask an Expert

Scholarships to attend UWM Nutrient Management **Farmer Education Curriculum**

Water Analysis **Citizen Science Projects**

Fertilizer 101 Classes held by Local Nurseries

Nutrient Management **Course Materials** for public schools

Educational **Field Trips:** Visits to Farms, Water Treatment Centers, DEQ Office

Build Feedback Avenues into Events!

Building Feedback Avenues into Education Events

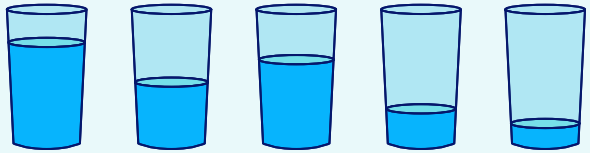
Education events are a great time for people to provide feedback utilizing what they have learned!

Event feedback avenues include:

- Survey
- Conversation
- Post-Event Group Reflection
- Comment Box

THANK YOU

Please feel free to ask questions!



Engagement With Nutrient Management:

Recommendations For Info-Gathering and Feedback Collection

Our Kitchen Table

- Our ENVS 295 class held a successful kitchen table in early April
- Large student turnout
- Engaging conversations
- Lots of feedback taken from this experience

OKT's Example:

Oregon Kitchen Table events achieve:

- Community building
- Personal involvement
- Idea sharing
- Hearing from others
- Connecting to DEQ

Goals of Engagement:

1. **Dialogue across difference**: providing diverse perspectives on issues that impact communities differently
2. **More complex ideas**: breaks down simple scenario perspectives and invites the construction of nuanced perspectives
3. **Environmental justice**: use engagements as a form of data that informs the DEQ with a more holistic view

Event Appeal

- Provide incentives & accommodations to encourage people to attend
  - Food at event
  - Prizes/raffle at event
  - Multiple events
  - Accommodate parents (activities for kids, etc.)

→

- More attendees who might not have been target audience / able to attend
  - Diverse info
- Less of a “lecture,” more of a fun community event
  - Better/more personal info
  - More casual/comfortable

Accessibility:

Engagement should be an equal opportunity process to ensure that the discourse and data collection is welcoming all communities and perspectives.

Our Ideas for future events:

1. Consider transportation and venue
2. Select timing that is free to most
3. Have a broad outreach process
4. Don't require educational standing
5. Free events

Structure of Engagement

Set-up

-Group tables with 4-5 chairs for each table so people walk in and sit down with a group

OKT Conversation Style

-Ask an open question⟶allow small groups to discuss⟶allow large group discussion
-distribute time based on total event time period (we did 5 min small group share, 5 min large group)

Small Group Discussion

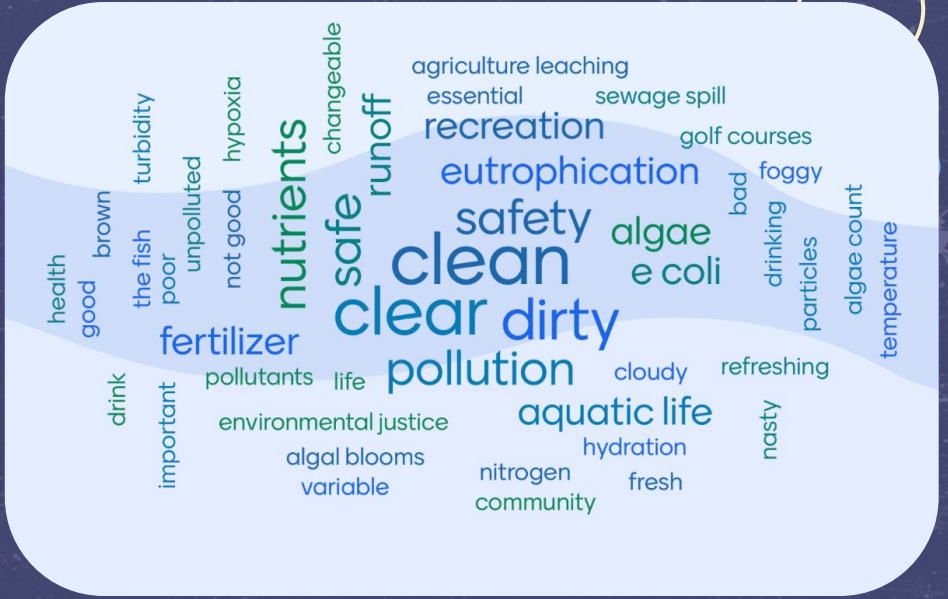
-Break participants into small groups of 4-5
-Encourage participants to equally answer questions (equal time for each group member)

Large Group Discussion

-allow participants to come back together and invite people to share
-ask follow up questions

Break the Ice

- Give participants questions to consider before beginning
- Encourage them to meet new people
- Do a group icebreaker
  - Word Cloud from Mentimeter



Providing Background Info

- Some attendees not sure what is meant by “Nutrient Management”
  - Could affect info gathered
  - Could alienate those who don’t know
  - Confusion doesn’t foster conversation
- Provide unbiased description of what nutrients are in this context & how they relate to water
  - Allows attendees to form their own opinions & draw from personal experience
  - Fosters communication & learning
  - Allows for more informed data

Biased vs. Unbiased Background Info

Biased example:
"Nutrients are **harmful** chemicals that **leach** into soil and water due to **unregulated farming** practices."

Unbiased example:
"Excess nutrients, like nitrogen and phosphorus, enter our water bodies and cause algal growth."

Discuss Policy Outcomes

- Polarization
  - Lowering the stakes
  - Passion vs. Polarization
- Value of dialogic interaction
- What surprised us
  - Eagerness to share

Include ways to continue involvement!

- We included links to stay up to date with DEQ's reports
- Also invited people to join Oregon's Kitchen Table or take the survey
- Also included a list of non-profit organizations that people could get involved with
- Having a resource for people to check their own water quality as well

Official DEQ water quality report:

Sending people these resources could help reinforce as well

Representation from DEQ

!!!

With a policymaker engaging, people would:
-feel heard
-build trust
-realize their voice matters
-stay engaged/informed
-understand issue's importance

Thank You!

Presenting Nutrient Management in Public Spaces

By Shubhika, Iris, Dakota, Dulce, and Ian

May 06, 2025

Nutrient Management Goals in Oregon

Recreational Water Safety

Ensuring the quality of water that people regularly interact with is safe to swim in, fish from, have their pets near, ect.

Equity

Making sure that groups that are especially impacted receive more support and are involved in decision making processes.

Drinking Water Safety

Making sure that the water that people drink is safe to do so and ensure regular testing to make sure it remains that way in all areas.

Environmental

Engaging in nutrient management for the sake of the environment, protecting it from excess nutrients in water from human activity for the betterment of all parties involved.

Community Concerns and Values

The people who were surveyed conveyed their concerns and values surrounding nutrient management in water. This is important for future engagement opportunities because it shows what the public think needs improvement and what is important to them.

Healthy Drinking Water

People want to make sure the water they are drinking is safe

Accessibility

Clean water to be readily available and fairly inexpensive

Education

Informing the public on safe water consumption and interaction

Main Values

Aesthetics/Recreation

Aesthetic bodies of water to engage in recreational activities

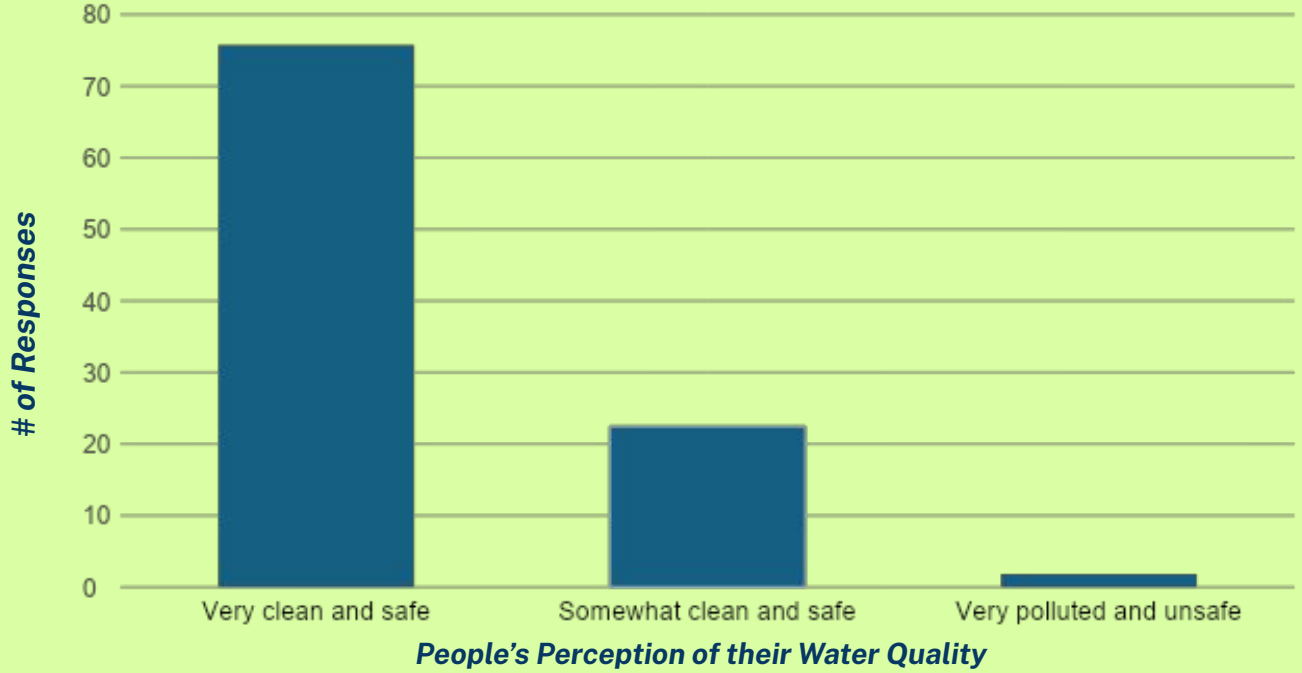
Environmental Well Being

Working toward improvement and ensure preservation of water ecosystems

Inclusion

Make sure marginalized and underprivileged communities are included in water policy decisions/actions

Other Values



Current Involvement

https://oregonessential.com/best-portland-neighborhoods/

Ideas on WHO to Engage More

3/163 Responses

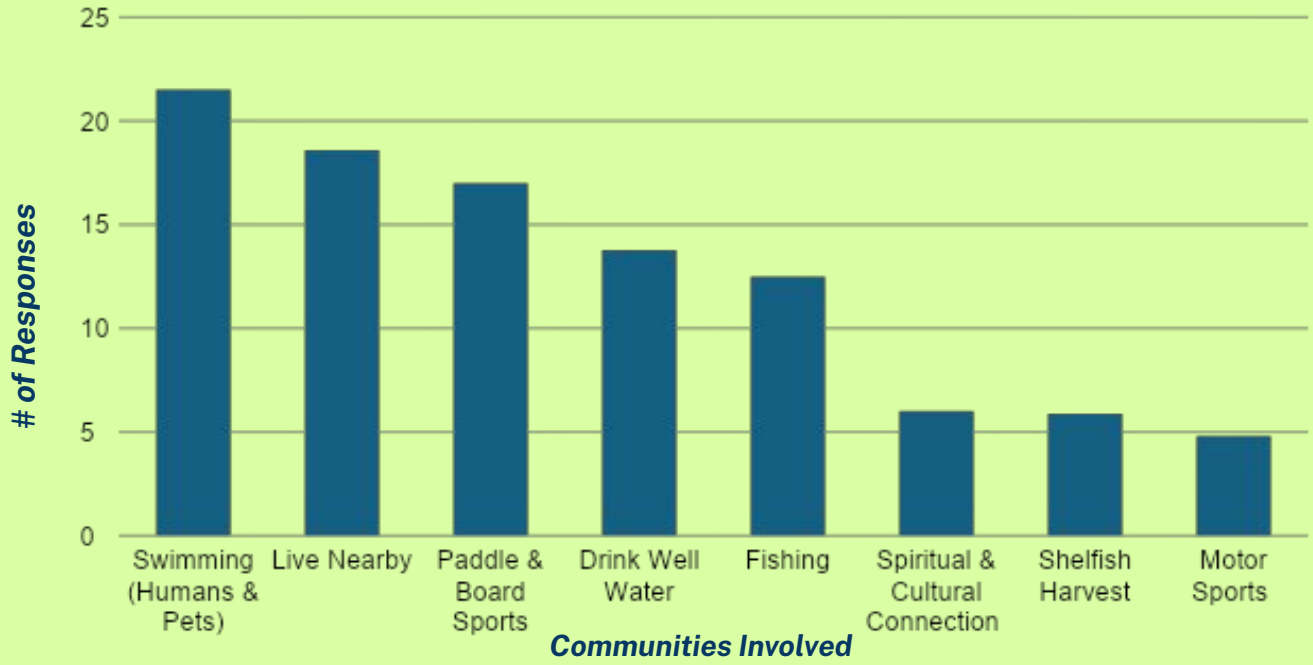
Very polluted and Unsafe

Most people who took the survey believed their drinking water is very clean and safe which means they may be:

- Living in more privileged areas
- Unaware of harmful substances in their water

Engage more who:

★ Live in areas with polluted water systems



Current Involvement

https://tillamookcoast.com/blog/oysters/

Ideas on WHO to Engage More

1. *Motor Sports*

People who own:
-Boats
-Jet Skis

Area:
-The Willamette River (recreational users + ferry systems)
-Chinook Landing
-The Columbia River

2. *Shellfish Harvest*

Main Areas for Shellfish Harvest:
-Tillamook Bay
-Clatsop Beaches

Types of shellfish:
-Razor clams
-Bay clams
-Oysters

Near Bodies of Water

Ex. Areas where people fish, or launch their boats

Local Spaces

Ex. Libraries, Schools, City Hall, Bus Stops, etc.

Recreational Sites

Ex. Rivers, Parks, Hiking Trails, etc.

Community Events

Ex. Marathons, Biking Events, etc.

Where to Promote Engagement

Those who interact with local spaces or events may be interested in the water quality of their community.

Communication Materials

Near Bodies of Water

- "Think Before You Splash" **sign** – a bright visual display explaining water contamination levels
- **Flyer** to alert people that the water is not safe for pets to drink

Local Spaces

- Paste **QR code** stickers and flyers on bus stops to reach commuters with quick access to more info
- **Bulletin Boards** with sticky notes or pens provided for interaction

Recreational Sites

- **Flyers on posts** near hiking trails
- Make **trail maps** with information on water quality of streams running through the trails

Community Events

- **Sponsor** a bike race or running event
- **Table** at the finish line of race near the water station

- Look at 14A.50 of Portland City Code to learn about **Advertising on Streets**
- Install **multilingual signs** to ensure non-English speakers understand the health risks

Water Testing
Test the water to identify water pollution levels and identify sources.

Crisis Response
Allocate resources to areas that more critically need help, especially in areas of marginalized groups.

Nutrient Capture
Make a plan to capture excess nutrients such as planting trees or other plants along waterways.

Support for Farmers
Financial or other forms of support for farmers who may be a source of nutrient pollution to help shift practices if needed, not just blame.

Initial Suggestions

Plant Native Species for Nutrient Capture
By planting native species and building proper ecosystems along waterways, these can also become wild spaces and safer wildlife corridors.

City Runoff Capture
Capturing the runoff from cities/urban areas that's washed into waterways from lawns, streets, sidewalks, etc.

Broad Involvement
Ensure that people of different groups, occupations, etc. are involved and equitably represented and served by the outcome.

Additional Suggestions

Thank you for your time

- Iris, Dakota, Ian, Shubhika, Dulce

COMMUNICATION AND EDUCATION REGARDING NUTRIENT MANAGEMENT

Group 4
Colin Shimabukuro, Kimani Johnson, Twyla Metcalfe, and Marly Moore

TODAY'S PROBLEM

Nutrient management is a growing issue not only in Oregon but around the country. A large issue we are facing is a disconnect between agricultural producers, community members, and policy makers regarding water quality issues and the nutrients that enter our water. Many waterways in Oregon have been **contaminated** with nutrients such as, phosphorous, magnesium, sulfur, calcium, nitrogen, potassium, and iron. Our group was tasked with coding and identifying the values and sentiments of the community regarding their water quality. Through our findings, we recommend numerous ways to bridge this gap and foster more transparency between the nutrients that go into our water, and the policies surrounding water quality.

PEOPLE'S THOUGHTS ON NUTRIENT MANAGEMENT AND POLICY (USING OKT + OUR KITCHEN TABLE FINDINGS)

What is valued?	What is the action?	Emotion Conveyed	Actor-Environment Relationship	Original Statement	Statement's Concept
environmental justice	critical analysis	compassion	community member	People want to pay attention to the race and prejudice aspect of the regulations because the water quality issues have a tendency to impact marginalized communities the most	Marginalized communities are impacted by the water quality issues the most
health/cleanliness	removal	anger	community member	"We should also get rid of lawns"	Lawns lead to water quality issues
policy/ communication	learning	compassion	stakeholder	Regulations often cause certain push back so making sure that the education and communication about why certain regulations are in place is important.	education and communication is needed for policy
policy	critical analysis	desire	community member	Looking more at the causes of nutrient issues rather than just solutions, looking at industries and companies that contribute and placing regulations then finding solutions to the problem to solve it not to control it/manage it.	Looking at causes and making policies regarding the causes
education	learning	anger	community member	Would like more outreach but in combination with more funding for those causing the nutrient pollution. Education without people having the means to change their behavior does not change much. Thinks people need incentives.	Funding and education are needed to change behaviors
education	learning	desire	student	Engaging kids on issues through school could be easier and then the kids could present their findings to their communities. I	education is needed
communication	collaboration	anger	community member	Citizens would love to see the time scale that each action taken by DEQ is implemented on and receive updates on issues surrounding water quality so that they know something is being done	Time scale and communication is important and needed.
communication	collaboration	anger	community member	It means nothing to just promise that the government will do something without showing how over time they are	Needing consistent updates and regulations and enforcements from the government

CODING FROM LEWIS & CLARK'S KITCHEN TABLE

OUR DISCOVERIES ON VALUES FOR COMMUNICATION AND EDUCATION

Health/cleanliness, education, and communication were the main values of the people who contributed in these conversations.

education	learning	desire
education	learning	desire
education	learning	desire
education	learning	enjoyment

Portion of the OKT coding showing some of the most common values, actions, and emotions

- These conversations emphasized a **desire** to **learn** about nutrient management in the community
- **Education** was consistently related with positive emotions like **desire** and **enjoyment**

IMPORTANCE OF COMMUNICATION

Participants want collaboration

Largest concern came from community members

Greatest value was communication

Key aspects:
Transparency
Trust
Accommodations for small-scale farmers/ Businesses
Youth participation
Education

communication	collaboration	desire	community member	The sharing of information is really important because these problems impact people first and very drastically when the problem gets too large.	Transparency with water makes people feel safer about the water they engage with
communication	collaboration	desire	community member/pol	Learning from people who utilize and deal with NM daily may give insights into what is possible for NM in OR, like from ranchers and farmers.	People engaged in NM can give insights on NM issues
communication	collaboration	desire	community member	Transparency and communication about boil advisories + big pipe tracking = water is safe unless we hear otherwise.	Transparency with water makes people feel safer about the water they engage with
communication	collaboration	desire	community member	Communication about water quality makes folks feel more secure and increases trust	Transparency with water makes people feel safer about the water they engage with
communication/transparency	collaboration	desire	community members	I would love to see how youth could specifically open up discussion and awareness at schools or clubs	Collaboration is important to address environmental issues/education opportunities are needed
communication/transparency	collaboration	desire	stakeholders	Going forward with clear and compassionate communication towards buisnesses and farms is going to be super important	Collaboration is important to address environmental issues
communication/transparency	visitation	desire	community members	More outreach and education to raise awareness for people in the area and tourists.	Education opportunities are needed
communication/transparency	signage/policy	cleanliness concern	community members	Kids would throw stuff in, so having warning signs would be helpful	Humans pollute waterways

- **Strengthening bonds** between community members and policy makers increases trust & participation
- **Ensuring** needs of community members are recognized & addressed, especially those directly impacted, like small farmers
- **Greater understanding** of resource allocation & timelines (taxpayer dollars)

COMMUNICATION RECOMMENDATIONS

We recommend various forms of communication because, not every form is useful to everyone.

Email
- Around 90% of people in the United States use email!
- Receiving newsletters via email can help many people stay up to date with water quality issues.
- This increases reach to younger generations who are more online (also an effective way to share information)

Mail
- Sometimes emails get sent to junk/spam so hard-copy mail can ensure everyone receives information
- While not as instantaneous as emails, informing the community is the largest priority, better to hear about your water quality late than never!
- Appeals to older generations and who aren't as technologically fluent

SMS/Text
- Convenient to reach anyone with a phone
- Regular updates regarding events and policy changes and direct people to additional resources

Flyers
- Post informative flyers around the community, which is an effective way to reach the majority of community members
- They can contain information on nutrient management, as well as resources individuals can use to learn more
- Flyers can also be advertising for community engagement events

IMPORTANCE OF EDUCATION

Community members identified ***education*** as one of the most important values in relation to nutrient management

- Education is the first step in addressing nutrient management through environmental engagement
- An increase in knowledge surrounding the topic makes community members feel more motivated to take action and advocate for themselves
- Community members noted how their lack of knowledge about nutrient management deterred them from engaging in the issue

- Some suggestions from community members were to provide easily accessible public resources and events at community locations

education	learning	desire	community member
education	learning	desire	community member
education	learning	desire	community member
education	learning	enjoyment	community member

From earlier slide, portion of the OKT coding showing education as a predominant value

EDUCATION RECOMMENDATIONS

Partnerships and collaborations

Partnering with local agricultural organizations to reach a wider audience and get more people engaged.

- Connect with urban community gardens and neighborhood associations to increase nutrient management education in urban areas as well
    - Can host events and engagement education sessions as well as specific guidelines on class content and education information.

Interactive tools

Interactive tools can include engagement opportunities and access to more education options.

Education needs to be accessible - a key value

- Accessible information can look like a website or online platform with resources, slides, and information on nutrient management
- Holding presentations at PTA events, HOA meetings, and schools about nutrient management
- Online courses, webinars, and seminar events on nutrient management
- In conjunction with digital tools and the use pamphlets or flyers to citizens who live in the area affected by these issues and other seminars for those who are not

EDUCATION AND COMMUNICATION RECOMMENDATIONS: WITH A FOCUS ON STAKEHOLDERS

Workshops and Trainings for farm owners and off farm nutrient users

Conducting workshops for farmers and other stakeholders to explain policy and gain a better understanding of their needs.

- Allowing people to communicate their needs and values allows a stronger base of **communication**.
- These workshops can include information on nutrient management and keeping areas clean as well as strategies that can go along with that.
- Allow information to be widely accessible
- Not limiting workshops to just farmers but to any business owners and off farm nutrient users.

Soil Health and Nutrient Management Education

Providing guidance on soil testing and interpretation can help people understand their nutrients. This helps to **educate** the people on the importance of nutrient management

- Offer on-farm soil health assessments to identify areas for improvement.
- Provide **resources and subsidies** to farmers trying to transition into better nutrient management practices
- **Partnering** with gardens and community spaces to plan engagement and teach people about nutrients through activities in an area close to home.

SUMMARY OF OUR POINTS

Through engagement events and opportunities we (OKT and our engagement) have had, we can see that people value more ***communication*** and more ***education***.

Communication suggestions:

- Having accessible communication geared towards certain users
  - Email – younger generations
  - Mail– to reach those who may not have access to technology
  - Text- convenient and accessible
  - Flyers - to reach all community members and foster communication

Education suggestions:

- **Interactive tools**
  - Including educational opportunities
  - Website/ online platforms
  - Seminars and events
- **Soil health education**
  - On-farm soil health information
  - Subsidize resources to manage nutrients - i.e. soil testing kits
- **Workshops**
  - People communicating their needs and values allows a stronger base of communication
- **Partnerships with organizations**
  - Partnering with local agricultural organizations to get more people engaged

THANK YOU!

Questions?

Environmental Engagement

Recommendations For Nutrient Management Policy

Group 5: Ashlyn Kelly, Henry Hay, Ernesto Antonucci, Parker Valley

01

Process

How we did our engagements

02

What we heard

Experiences and Perception of water quality and nutrient management

03

Notable Data

Representative data from what we heard folks say

04

Possible Suggestions

Possible engagement strategies for more equitable outcomes

Our Process

- Our class split into smaller groups to accomplish various engagement related tasks
- Students held a kitchen table event, collecting views on nutrient management, mostly attended by Lewis and Clark students
  - The event consisted of free food and group discussions over water quality/nutrient management concerns, and was based on the engagement format provided by OKT
- Our group presented at Lewis and Clark's Festival of Scholars and Artists, where we shared our class's experiences with environmental engagement, and encouraged listeners to share their own experiences with nutrient management and water quality issues

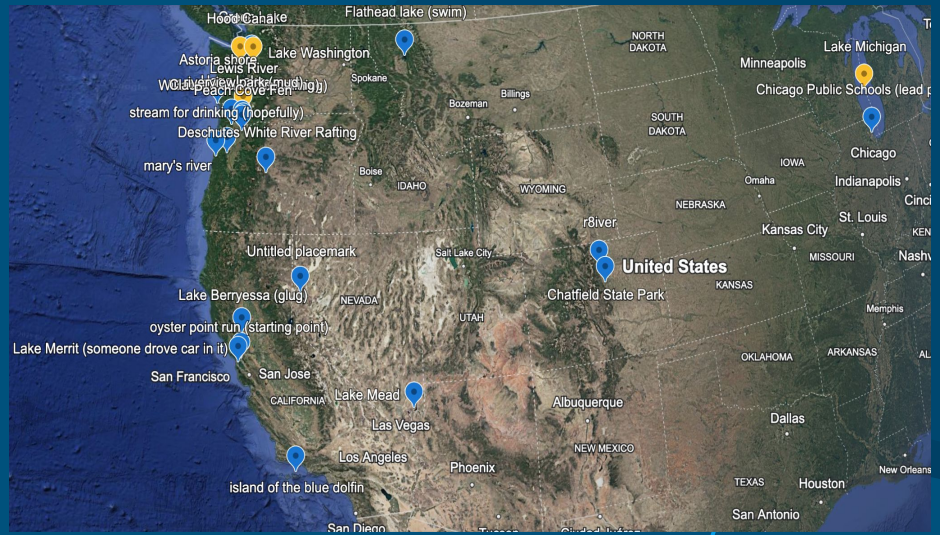
What we Heard

- We collected a list of LC student's favorite bodies of water that they may have nutrient related concerns over, and created a map.

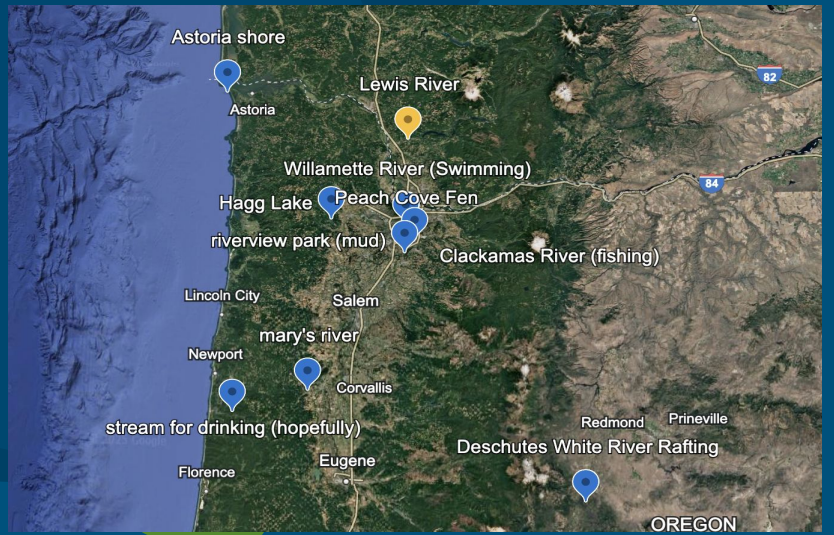
- We heard a moderate level of concern over water quality, mostly over the ability to safely recreate (fishing, swimming, etc), but also some concern over drinking water quality.

Map of Bodies of Water Important to LC Students - Areas of Concern for Nutrient Management

Map of US



Zoomed in on Oregon



Our Suggestions

Transparency

Increase transparency through more frequent reports and more specific testing.

Timescales

Make sure residents are informed about timescales of water quality issues.

Funding

Increase donations and partnerships through continued outreach.

Outreach methods

Increase outreach opportunities to rural areas to allow more inclusive access to voicing their opinions. Asking more specific questions to target different communities.

Our Suggestions for Possible Solutions

Suggested Solution:

"More information and testing to better understand where in Oregon there is nutrient pollution now or will be in the future. This could include testing… [the areas with] possible issues."

Our Kitchen Table Response:

- 'More information' can be problematic depending on the ways in which information is disseminated.

→ Can create knowledge imbalances and reinforce certain conditions and views

- Increased testing is good and most residents said they liked having open communication about tests and testing happening around them

→ Residents may be opposed to increased testing if it cost them money.

Our Suggestions for Possible Solutions

Suggested Solution:

"Respond to urgent nutrient pollution events more quickly, even if it means focusing in one part of the state more than another part."

Our Kitchen Table Response:

- This was probably the most relevant and possible solution however this brought in issues of time scale for residents

→ Many felt that water quality issues like boil orders and algae blooms felt ephemeral and like something that comes and goes.

- How would short term events like these be balanced with long term issues like groundwater contamination?

→ Especially in places where long term groundwater contamination is a priority.

Thank You!

Any Questions?