



Lacamas Creek
Partnership
for clean water



Welcomes and Introductions



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Introductions



Meeting Objectives

1. Provide an overview of Ecology's Source Assessment and TMDL Alternative Restoration Plan process.
2. Learn about different programs and planning efforts in the Lacamas Watershed.
3. Discuss roles, responsibilities, next steps, and project timeline.

Meeting Agenda

Ecology's Water Quality Monitoring and Source Assessment 9:40 – 10:10 a.m.

Molly Gleason, Water Quality Specialist, Washington State Department of Ecology

- Watershed overview.
- Ecology water quality monitoring and historical data review.
- Source Assessment.

Water Quality efforts in Lacamas Watershed 10:10 – 10:50 a.m.

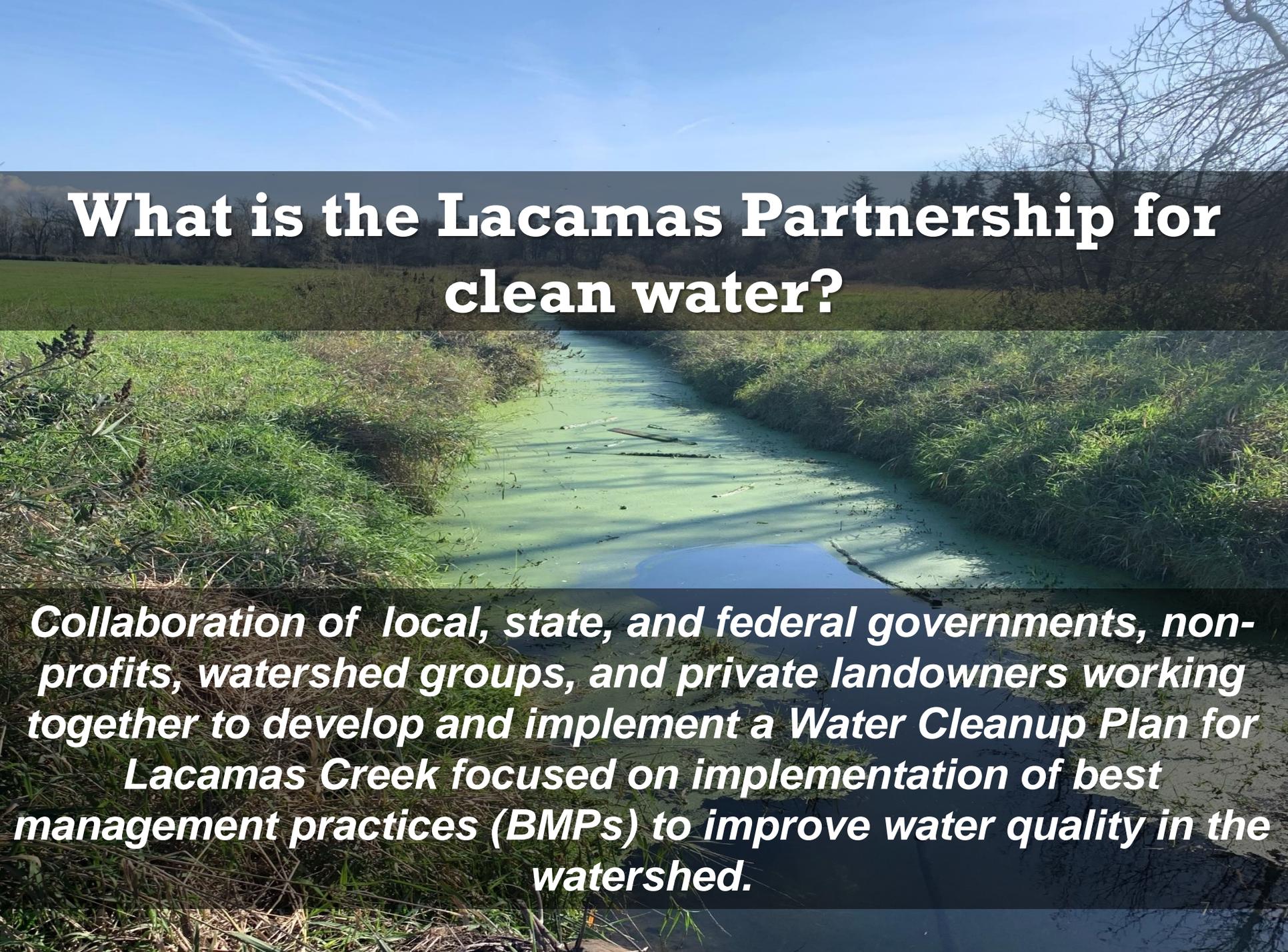
- City of Camas – Lacamas Lake Management Plan.
- Clark County – Fallen Leaf Lake & Swim Beach Monitoring.
- Washington State Department of Agriculture – Dairy Nutrient Management Program.
- USDA NRCS – Technical and Financial Assistance.
- Clark Conservation – Poop Smart Clark.

Discussion & Next Steps 10:50 – 11:00 a.m.

- Timeline, project schedule, and sampling plan.
- Roles and responsibilities.
- Meetings, coordination, information sharing, and data sharing.

What is the Lacamas Partnership for clean water?



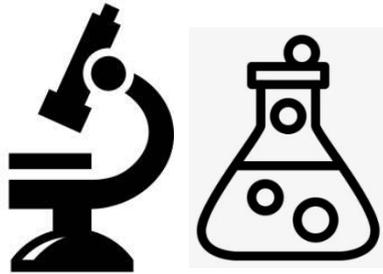


What is the Lacamas Partnership for clean water?

Collaboration of local, state, and federal governments, non-profits, watershed groups, and private landowners working together to develop and implement a Water Cleanup Plan for Lacamas Creek focused on implementation of best management practices (BMPs) to improve water quality in the watershed.

Ecology's Water Cleanup Process

Question: *How much pollution needs to be reduced to meet water quality standards?*



Step 1: Water quality monitoring and data collection

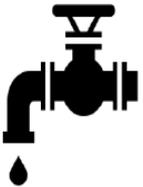


Step 2: Source Assessment



Step 3: Water Cleanup Planning

Step 4: Implementation – Stormwater, septic systems, agriculture, restoration.



Milestones

Quality Assurance Project Plan

Lacamas Creek Bacteria, Temperature
Dissolved Oxygen, and pH Source
Assessment



Timeline for Lacamas Creek Partnership

- June 2021** – Begin water quality monitoring and data collection.
- October 2021** – Complete water quality monitoring.
- August 2022** – Complete technical analysis of water quality data.
- April 2023** – Complete Draft Source Assessment Report identifying critical areas for water quality improvement.
- May 2023** – Water Cleanup Plan begins focused on implementation.

Achieve Clean Water
Meet Water Quality Standards
Support Beneficial Uses
For People, Fish, & Wildlife
Residents & Visitors of Clark County





Water Quality Monitoring and Source Assessment

*Molly Gleason, Water Quality Specialist, Washington
State Department of Ecology*



Water Quality efforts in Lacamas Watershed

10:10-10:50am

- **City of Camas** – Lake Management Plan.
- **Clark County** – Fallen Leaf Lake & Swim Beach Monitoring.
- **WSDA** – Dairy Nutrient Management Program
- **USDA NRCS** – Technical and Financial Assistance
- **Clark Conservation District** – Poop Smart Clark
- **Ecology Freshwater Algae Program** – Lake Cyanobacteria Management Plan



Next Steps

Milestones

Timeline for Lacamas Creek Partnership

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Roles and Responsibilities

- **Water Quality Data Collection** – Molly Gleason, Ecology
- **Source Assessment** – Sheelagh McCarthy & Molly Gleason, Ecology
- **Water Cleanup Plan** – Devan Rostorfer, Ecology
- **Lake Management Plan** – City of Camas & Lizbeth Seebacher, Ecology
- **Swim Beach Program & Swimming Advisories** – Clark County Public Health

Roles and Responsibilities

- **Dairy Nutrient Management** – WSDA
- **Agriculture** – Poop Smart Clark (Clark CD & NRCS) *Note: Ecology's NPS position currently vacant.*
- **Septic Systems** – Clark County Public Health & Poop Smart Clark (Clark CD & Watershed Alliance)
- **Stormwater** – Clark County, Camas, Vancouver

Next Steps

- What is everyone's availability and capacity?
- How often should we meet?
- Information sharing – Meetings, tableau page, EIM, StoryMap?
- Coordinating Lacamas Creek Source Assessment with Lake Management Plan.
- Implementation and Source Correction.

www.tinyurl.com/lacamaspartnership

Lacamas Creek
Partnership
for clean water



FY 2023 Call for Projects

Grant Funding Opportunities

- One of our regional goals is to help local jurisdictions develop competitive applications for Ecology Water Quality grants.
- To encourage communication earlier in the process and provide more time for project proposal development, Ecology is asking interested applicants to complete a short “Notice of Intent” form by **June 15, 2021**.
- Ecology will still host statewide application workshops in August and the final applications are due **October 12, 2021**.
- For more details please visit <https://tinyurl.com/ECY-SWRO-Grants>, or contact **Leanne Whitesell, Regional Fund Coordinator, Nonpoint Activity Projects**, (360) 407-6295 or Leaw461@ecy.wa.gov.

Investment in watersheds = Investment in lakes

**NO
SWIMMING**

WARNING!
CYANOBACTERIA (BLUE GREEN ALGAE) IS PRESENT
AVOID WATER CONTACT



No swimming No wading No wind surfing
Keep animals out of water

For information contact Clark County:
Public Health at 397-8428 or Parks Dept. at 619-1111

Thank you!





APPENDIX





WARNING

TOXINS FROM ALGAE IN THIS WATER CAN HARM PEOPLE AND KILL ANIMALS

No swimming. Stay away from scum, and cloudy or discolored water.

Do not let pets or other animals drink the water, or go near the scum.

Do not boat or kayak in areas of scum or algae.

Do not drink this water or use it for cooking.

Avoid fishing in areas of scum. Throw away guts and clean fillets.

ADVERTENCIA

LAS TOXINAS DE LAS ALGAS EN ESTA AGUA PUEDEN DAÑAR A LAS PERSONAS Y MATAR A LOS ANIMALES

Prohibido nadar. Mantengase alejado de la espuma lamosa, y agua turbia o descolorida.

No permita que las mascotas y otros animales tomen agua, ni estén cerca de la espuma.

No pasee en lancha o en kayak en áreas con algas o espuma.

No beba esta agua ni la use para cocinar.

Evite pescar en áreas con espuma. Tire las tripas y limpie los filetes.

ПРЕДУПРЕЖДЕНИЕ

Токсичное воздействие водорослей в воде может привести к ухудшению состояния здоровья людей и смерти животных

Купаться запрещено. Избегайте мест с водорослями.

Не разрешайте домашним и другим животным пить воду или приближаться к местам скопления тины.

Воздержитесь от катания на лодках или байдарках в местах скопления тины и водорослей.

Не пейте эту воду и не используйте ее для приготовления пищи.

Не ловите рыбу в местах скопления тины. Выбрасывайте ее внутренности и промывайте филе.



CLARK COUNTY WASHINGTON

Call your doctor or veterinarian if you or your animals have sudden or unexplained sickness or signs of poisoning.

Llame a su médico o veterinario si usted o sus animales presentan una enfermedad repentina o sin causa aparente o señales de envenenamiento.

Позвоните своему врачу или ветеринару, если у Вас или у Вашего домашнего питомца возникла внезапная или беспричинная болезнь или признаки отравления.

For more information. Para mas información. Для получения дополнительной информации:





DANGER

TOXINS FROM ALGAE IN THIS WATER CAN HARM PEOPLE AND KILL ANIMALS

Stay out of the water until further notice. Do not touch scum in the water or on shore.

Do not let pets or other animals drink the water, or go near the scum.

Do not eat fish from this lake.

Do not use this water for drinking or cooking. Boiling or filtering will not make the water safe.

PELIGRO

LAS TOXINAS DE LAS ALGAS EN ESTA AGUA PUEDEN DAÑAR A LAS PERSONAS Y MATAR A LOS ANIMALES

Manténganse fuera del agua hasta nuevo aviso. No toque la espuma lamosa en el agua o en la orilla.

No permita que las mascotas y otros animales beban el agua ni estén cerca de la espuma.

No coma pescado de este lago.

No use esta agua para beber o cocinar. Hervir o filtrar el agua no hace que sea segura.

ОПАСНО

Токсичное воздействие водорослей в воде может привести к ухудшению состояния здоровья людей и смерти животных

Держаться подальше от озера до дальнейшего уведомления. Избегайте мест с водорослями.

Не разрешайте домашним и другим животным пить воду или приближаться к местам скопления тины.

Не употребляйте в пищу рыбу, пойманную в этом озере.

Не пейте эту воду и не используйте ее для приготовления пищи. Кипячение и фильтрация не обеззараживают эту воду.



CLARK COUNTY
WASHINGTON

Call your doctor or veterinarian if you or your animals have sudden or unexplained sickness or signs of poisoning.

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For more information Para mas información Для получения дополнительной информации:





PUBLIC WORKS



PUBLIC HEALTH

Poop Smart Clark

Pollution Identification
and
Correction



DEPARTMENT OF
ECOLOGY
State of Washington



WATERSHED
ALLIANCE
of Southwest Washington



NRCS

**Water Quality
Monitoring**

**Septic System
Replacement and
Sewer Connection**

**Education and
Outreach**

**Septic System
Maintenance**

Site Visits

Poop Smart Clark
Pollution Identification
and
Correction

**Septic System
Inspections**

**Technical
Assistance**

**Canines for
Clean Water**

**Conservation
Planning**

**Agricultural Best
Management
Practices**

Lake Cyanobacteria Management Plan Template

- A. Title Page with Approvals
 - a. Lake Name Cyanobacteria Management Plan
 - b. Lake, County
 - c. Organization
 - d. Date prepared
 - e. Signature page
 - B. Table of Contents
 - C. Table of Figures and Tables
 - D. Executive Summary
 - E. Background
 - a. Study Area
 - i. Lake and Watershed
 - ii. Beneficial uses of the lake
 - iii. Current and historical land uses
 - iv. Number and location of houses on septic
 - v. Water use
 - vi. Water withdrawals
 - vii. Fisheries
 - viii. Aquatic plants
 - ix. Endangered/rare species
 - b. Water Quality History
 - i. Past water quality conditions
 - ii. Efforts to improve water quality
 - c. Current Conditions
 - i. Water quality
 - ii. Stormwater entry untreated?
 - iii. Contaminants of concern
 - a. Cyanotoxins
 - b. 303 d list status
 - c. TMDLs
 - d. Regulatory criteria of contaminants and cyanotoxins
 - d. Community Involvement
 - i. Public participation
 - ii. Public support
 - F. Project Description
 - a. Project goals and objectives
 - b. Project schedule
 - G. Monitoring Methods and Results
 - a. Lake level, stream inflows/outflows, groundwater & precipitation/evaporation
 - i. Monitoring methods
 - ii. Monitoring results
 - b. Lake water quality profile monitoring – Field measurements
 - i. Monitoring methods
 - ii. Monitoring results
 - c. Lake water quality sampling – Lab samples
 - i. Monitoring methods
 - ii. Monitoring results
 - d. Stream water quality sampling – Lab samples and field measurements
 - i. Monitoring methods
 - ii. Monitoring results
 - e. Phytoplankton sampling
 - i. Monitoring methods
 - ii. Monitoring results
 - f. Zooplankton sampling
 - i. Monitoring methods
 - ii. Monitoring results
 - g. Waterfowl survey
 - h. Vegetation survey
 - i. Submersed plants
 - ii. Emergent plants
 - iii. Shoreline plants
 - i. Shoreline modification survey
 - j. Lake sediment sampling
 - i. Monitoring methods
 - ii. Monitoring results
- H. Hydrologic Budget
 - a. Description of water budget components
 - b. Inflows
 - c. Outflows
- I. Nutrient Budget and Phosphorus Model
 - a. External phosphorus loading
 - b. Internal phosphorus loading
 - c. Phosphorus model
 - i. Model description
 - ii. Model results
- J. Management Methods for Cyanobacteria Control and Lake Restoration
 - a. Direct algae control methods
 - b. Internal loading control methods
 - c. External loading control methods
- K. Management / Restoration Methods Rejected
- L. Recommended Management / Lake Restoration Plan
- M. Future Monitoring and Adaptive Management
 - a. Evaluation
 - b. Adaptive changes
- N. Funding Strategy
- O. Roles and Responsibilities
- P. References