

**Whidbey's Water Future in a Changing Climate
June 10, 2023**

SETTING THE STAGE - Main Auditorium

Welcome Pamela SeaMonster

9:25-10:00. ***Our Water Future in a Changing Climate.*** Richard Gammon

10:00-10:35. ***Whidbey's Living Water Cycles*** Perry Lovelace

10:35-11:15. ***The New Water Paradigm: Water is Earth's Blood.*** Brian Kerkvliet

11:15-12:30. LUNCH

AFTERNOON WORKSHOPS - choose one from each pair. "A" Workshops will be in the Main Stage auditorium. "B" Workshops will be in Zech Hall.

12:30-1:30.

1A Paul Belanger How sea level Change will impact erosion of our bluffs and threaten our Aquifers: what citizens can do for mitigation.

1B. Jake Stewart - Water, Soil and the Local Food System: Regenerative Farming Solutions for Resiliency in a Changing Climate

1:30-2:30

1A. Brian Kerkvliet. Designing a Water Resilient Landscape

1B. Leah Beckett The Wonder-full World of Washington's Wetlands!

2:30-3:30

1A. Penny Livingston. Using Grey water and Rainwater Catchment to lessen reliance on our aquifer.

1B. John Lovie. Groundwater contamination and protection on Whidbey Island

WRAP UP - Main Stage Auditorium

3:34-4:15. ***Reflections*** Pamela SeaMonster

4:15-5:00. ***Questions and Answers from all Speakers***

Workshop Descriptions

12:30-1:30. - 1A, 2A, 3A - Main Stage. 1B, 2B, 3B - Zech Hall

1A. How Sea Level Change will Impact Erosion on our Bluffs and Threaten our Aquifers - What Citizens can do for Mitigation. Our bluffs, the result of multiple glacial advances and deposits, are subject to erosion. Research is ongoing by the USGS, WWU and the UW, as to how sea level rise is going to impact erosion of these bluffs. Community Science projects, which participants are invited to join, contribute to our understanding of these processes. This workshop will also focus on strategies and resources for bluff-dwellers to properly drain bluffs near their edges, and the challenges of minimizing undercutting and collapse of bluffs. We will also talk about establishing rain gardens and water conservation efforts AWAY from bluff edges to help enhance aquifer recharge and reduce the risks of salt water intrusion. Main Stage

1B. Water, Soil and the Local Food System: Regenerative Farming Solutions for Resiliency in a Changing Climate. Join us for an engaging workshop on climate resiliency with a focus on water and soil management from a regenerative farmer's perspective. With a background rooted in science, Jake Stewart will share his insights on the importance of innovation and 'adaptive resiliency' to meet the challenges of a rapidly shifting climate here on Whidbey Island. We will emphasize the significance of managing our natural resources like aquifers, forests and integrated soil systems to ensure the future health of our island. Zech Hall

1:30-2:30

2A Designing a Water Resilient Landscape. Over the last several years we have witnessed increasing occurrence of floods and threats of fire. Although we get around 30" of rain per year, it only rains in the winter. Brian Kerkvliet will share an overview of strategies that can be implemented on the land you inhabit to work with water to maximize the benefits and minimize the problems. Learning to read the land and install natural systems to create a resilient abundant regenerative system. Main Stage

2B. The Wonder-full World of Washington's Wetlands! Wetlands provide us with so many services from groundwater protection and clean drinking water to habitat for rare and beautiful carnivorous plants; and yet many of us are unaware that wetlands are all around us; even in cities and lawns. This talk will focus on exploring the many varied types of wetlands on Whidbey Island as well as what wetlands do, how to identify them, and what we can do to protect, restore and value them. Zech Hall

2:30-3:30

3A. Grey Water and Rainwater Harvesting. As groundwater is becoming increasingly depleted and salt water is intruding along the coasts, rainwater and stormwater management and harvesting techniques will become important and necessary, as will using grey water for landscape irrigation. Penny Livingston will share the techniques and strategies for harvesting rainwater, as well as techniques to mitigate flooding in valleys. Main Stage

3B. Groundwater contamination and protection on Whidbey Island

The recent discovery of PFAS ("Forever Chemicals") in our groundwater and drinking water on Whidbey Island highlights the vulnerability of our aquifer to surface contamination. John Lovie's presentation will give a brief overview of these chemicals, their effects on human health, and how they get into our groundwater, what's being done to clean them up, and what you can do to protect yourselves in the meantime and what we need to do to protect our groundwater now and into the future. Zech Hall

Speaker Biographies

Dr. Paul Belanger is a retired geologist who has studied the marine record of past climates. Since retiring to North Whidbey several years ago he has been involved with Sound Waters Stewards, and now serves as their President. He enjoys leading geologic field trips on Whidbey and Camano focusing on the bluffs - how they formed, how they vary, how they nourish beaches and how climate change will impact them.

Dr. Leah Beckett has been working in wetlands for over twenty years. She earned a Ph.D from the University of Maryland studying the effects of sea-level rise on coastal wetlands. Since then she has worked as a wetlands research scientist for the City of New York and the Northwest Indian Fisheries Commission here in Washington State. Currently she is the Wetland Specialist for Washington State Department of Ecology

Dr. Richard Gammon is Professor (Emeritus) of Chemistry and Oceanography, and Adjunct Professor (Emeritus) of Atmospheric Sciences at the University of Washington. Richard cop-authored the first scientific assessment by the Intergovernmental Panel on Climate Change, in 1990. As Chief of the Carbon Dioxide Program, he directed the U.S. government's program to globally monitor atmospheric CO₂ from 1982-84. He is continuing an active program of public outreach presentations in climate change science and policy in the Pacific Northwest.

Brian Kerkvliet is a co-steward of *Inspiration Farm*, and thus has a wide breadth of practical knowledge on how to partner with natural systems to bring forth regenerative stability and abundance. He has three Permaculture Design certificates and is recently one of the first graduates from Zach Weiss's *Water Stories* course at the professional level. He now teaches and offers consultation services for others who want to fast track resilient systems of their own.

Penny Livingston is internationally recognized as a prominent permaculture teacher, designer and speaker. She is the co-founder and director of the Regenerative Design Institute. She has extensive experience in all phases of ecologically sound design and construction. Penny specializes in design and installation of perennial agroforestry systems, biological water purification systems, site planning and the design of resource-rich landscapes integrating rainwater collection, edible and medicinal planting, spring development, pond and water system

Perry Lovelace Perry has 25 years experience in groundwater management. He is the Bayview Beach Water District Commissioner and serves as a Langley Public Works Advisory Commissioner. But for over 50 years, Perry has been curious how the earth's dynamic systems work together, especially the cycle of water in diverse climates around the world (deserts, rainforests, arctic, etc.). His special interests are rainfall patterns, aquifers, wells and how we manage Earth's precious resources.

John Lovie is a director and past president of the Whidbey Island Water Systems Association, and has received a Lifetime Achievement Award from the Washington State Office of Drinking Water. He is a member of the Department of Health and Ecology PFAS Chemical Action Plan advisory team and is currently working with a Public Participation Grant from the Department of Ecology for public education and engagement in cleanup of PFAS contamination in groundwater.

Pamela SeaMonster is the Vice Chair of the Snohomish Tribal Council and is a Human and Environmental Rights activist. She serves as the Fish, Wildlife and Environmental Director of the Tribe. She is the Founder of Salish Sea Environmental Education and Action and a cultural educator for the Duwamish Longhouse and Cultural Center in Seattle. Pamela dedicates her time to sharing the culture and histories of the First Peoples of the Salish Sea.

Jake Stewart has over 20 years of experience in localized sustainable systems, including renewable energy, climate adaptation, conservation and sustainable food security. He has received recognition for his work on localized sustainable energy systems in Eastern Africa, Europe and Central America. He remains actively involved in federal policy development for integrated sustainable systems, low carbon technologies and climate change adaptation strategies. He is currently focused on climate adaptation and sustainable farmstead integration/education.