

COLUMBIA RIVERKEEPER®

RIVER CURRENTS

Spring 2014 Newsletter



This Issue:

Youth Voices Against Coal Export

Fossil Fuel Tankers Could Increase Dramatically

What's in the Hanford Reach?



Columbia Riverkeeper is a non-profit organization working to protect and restore the water quality of the Columbia River and all life connected to it, from the headwaters to the Pacific Ocean.

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Join the conversation and keep up with the latest from Columbia Riverkeeper!



River Notes

A LETTER FROM THE DIRECTOR

Mick, my one-year-old son, just got his first life jacket. I plan to get Mick and his nearly three-year-old brother, Gus, out on the water as much as possible this summer. The PFDs are great for running around the beach, playing on a board in shallow water, or riding on the boat. Splashing in the Columbia River is the go-to activity for our family on a hot summer day. Like all of you, I have a vested interest in keeping it clean.

On the banks of the Columbia last summer, Gus shoved mud and sediment into his mouth as only a toddler could do. Cleaning up old contaminated sites and preventing new toxic pollution is no abstract goal when your child is literally eating the sediment and drinking the water. (I stop him when I can, but you know how it is.) The kids also eat a lot of Columbia River salmon. Fortunately, I get to work each day to protect the river, to make things better.

When Riverkeeper stops illegal pollution by enforcing the Clean Water Act, or helps pass new limits reducing toxic pollution, these victories matter to me, and to the thousands of other families relying on a clean Columbia. When we, as a region, take a stand against dirty coal and oil, I'm thankful and proud. Those kids playing in the river are not afraid of oil spills and toxic pollution. Let's work to keep it that way.

RIVERKEEPER EXECUTIVE DIRECTOR, Brett VandenHeuvel

On the Cover: Youth Voices Against Coal Exports photos by Alex Milan Tracy
Five hundred people rallied on March 8, 2014, to support youth voices calling on Governor Kitzhaber to deny all coal export permits on the Columbia River. (left-right, top-bottom) Berkley Franklin, Isaac Vergun, Simone Holmes, Sydney Yelton, Emilia Cox, Miko Vergun, Zakiah Schaeffe, Yona Voss-Andreae

Hanford Paddle

July 26-27, 2014

\$115 per person*

- Tour of the historic Hanford B Reactor
- Dinner on the banks of the Columbia
- Accommodations at the Richland Red Lion Inn
- Kayak or SUP rental
- 19 mile educational paddle on the Hanford Reach of the Columbia River
- Lunch on the river

*double occupancy
register at:
www.columbiariverkeeper.org



By Brett VandenHuevel, *Executive Director*

Riverkeeper takes paddlers to the free-flowing Hanford Reach of the Columbia because it is fascinating, beautiful, provocative, and emotional all at once.

Here is a reflection I wrote about the paddle trip.

I push off into the Columbia River, letting the swift current take me into the heart of the most contaminated place in the western hemisphere. Each year the paddle trips we lead down the Hanford Reach of the Columbia are, for me, an odd pilgrimage of love and fear. The love: the mighty river moves up here, full of riffles and boils, a wild river not subjugated by dams. The water is so clear that when I stand shoulder deep in the water I can see my toes and clean gravel where salmon still spawn. The fear: is right in front of me. Dominating the bank on river right is the B-reactor, America's first large-scale nuclear reactor, the genius of the Manhattan Project, and the birthplace of the bomb we dropped on Nagasaki, killing 100,000 people. The B-reactor and her eight sister reactors at Hanford produced 75% of America's nuclear weapons from 1943 through the 1980's cold war, along with a stunning array of radioactive and chemical waste.

Strontium-90, uranium-238, tritium, carbon tetrachloride, and chromium were dumped in ditches, trenches, and placed in huge storage tanks. The radioactive waste has leached into the soil and groundwater—some waste plumes are currently reaching the Columbia River

The morning's bird song has stopped and it is eerily quiet. The kind of quiet that happens when it is over 100 degrees and all the other animals are smart enough to be sleeping in the shade. At the base of the White Bluffs I pull into a large eddy which circles me to shore. I take off my sun hat and old white river shirt, face the reactors, and jump in. I dive deep, turn upstream, align with the current like a salmon, and let the whole of the river flow by. I rise, face the reactors again, and dive deep.

The first time I swam in the Hanford Reach, it was an act of rebellion, a reckless way of rejecting the whole messed-up situation. But now, it's different. It's simply something I need to do. I think about the plumes of radioactive waste, shown on computer models as tongues of red and orange lapping the river. I think about what's flowing downstream.

I stay under as long as I can and let the river surround me, flow through me.

Riverkeeper Happenings

There is never a dull moment on the Columbia! Here are some highlights.

Clark County Agrees to Improve Salmon Habitat and Comply with Stormwater Pollution Laws

Clark County Commissioners agreed to invest \$3,000,000 to improve salmon habitat and reduce dirty stormwater pollution as part of a binding settlement agreement with Riverkeeper and allies. This comes after we prevailed in several rounds of litigation. This is major victory for clean water and the Columbia!

Toxics in Fish

A fundamental part of our work is ensuring local fish are safe to eat. As massive toxic spills grip national headlines, we are working hard at home to use the power of the people and environmental laws to protect our right to eat fish without fear of toxic contamination. In 2010, Oregon adopted the nation's most protective water quality rules for toxics. But, the rules are only the first step. Oregon needs to use its full authority to implement the rules and identify rivers that need toxic recovery plans. So, this past February, we pushed the Oregon Department of Environmental Quality to take the necessary steps right away to do just that.

Major Step in our Coal Dust Case

In March, the U.S. District Court for the Western District of Washington rejected BNSF Railway's motion to dismiss our coal dust lawsuit, allowing our Clean Water Act case to proceed. Sierra Club, Riverkeeper, and allies filed a lawsuit against BNSF last year to hold them accountable for their toxic coal dust pollution



Coho Salmon
photo by Oregon Department of Wildlife

State Enforces Permit Requirement for Proposed Morrow Pacific Coal Export Project

In February, the Oregon Department of Environmental Quality (DEQ) announced a new water quality review for the flailing Morrow Pacific Project on the Columbia River, requiring Ambre Energy to apply for a Clean Water Act section 401 certification. The 401 certification process is rigorous and will scrutinize impacts to the Columbia River, salmon, and our health. We're also pushing Oregon to deny Ambre's major dock-building permit, which is pending right now.

Comprehensive Review Promised for Proposed Millennium Coal Export Project

The Washington Department of Ecology (Ecology) and Cowlitz County are taking to heart the public desire for a thorough analysis of the impacts of the Millennium coal export proposal in Longview, Washington. Ecology and the county announced in February that the scope of their environmental review will include a broad look at coal train traffic, community health, and greenhouse gas emissions from burning the coal. A record-breaking 215,486 people submitted comments on this proposal with the vast majority asking for a thorough scope of review.



Photo by Trip Jennings

Port of Portland Puts Brakes on Oil-by-Rail

The Port of Portland, Oregon's largest port, announced in March that it will not open its doors to risky oil-by-rail projects. The Pacific Northwest is currently at the epicenter of proposals for oil-by-rail shipping terminals. As oil production skyrockets in North Dakota and neighboring states, Big Oil is turning to rail lines running through Spokane, the Columbia Gorge National Scenic Area, and Portland to move crude oil to market. The Port of Portland's announcement draws attention to the Port of Vancouver's short-sighted approval of a massive oil-by-rail project, and we urge Vancouver to reconsider its rushed decision. Crude-by-rail is simply too dangerous.



Photo by Trip Jennings



Photo by Power Past Coal

Stop Dangerous Oil Trains

Riverkeeper and our ally, Forest Ethics, released a video that puts the Northwest's oil-by-rail issue in the national spotlight. We are also asking the Governors of Oregon and Washington to protect our communities by opposing proposed oil-by-rail projects. Watch the video, sign our petition, and share with your friends and family. Find the video and petition at www.columbiariverkeeper.org/our-work/oil-by-rail.

State Orders Action on Leaking Tank at Hanford

In March, the Washington State Department of Ecology stood up to the U.S. Department of Energy (Energy), and issued an administrative order that requires Energy to begin pumping nuclear waste from a leaking double-shell tank by September, 2014. More than a year ago, Energy revealed that a double-shell tank, AY-102, was leaking nuclear waste into the space between the inner wall and outer shell of the tank. Washington's order overrules Energy's plan to take two years or more to remove the dangerous waste.

Stay up-to-date on all Columbia River happenings by joining our mailing list at www.columbiariverkeeper.org/stay-informed.



Support our work to protect and restore the Columbia River. Make a donation today at: www.columbiariverkeeper.org/donate

Friend us! Follow us! Join us in the social media sphere on Facebook, Twitter, YouTube, and LinkedIn.

Meet Riverkeeper's Citizen Outreach Team

Our Citizen Outreach Team works to engage the public in Columbia River issues, shows people how to get involved, and helps raise funds.



Rowan Jones

Vision for the Columbia:

I hope for a respected and protected Columbia. A place that is not treated as a garbage can for toxic waste, or a sewer, or a fossil fuel highway, but as a recognized necessity for the thousands of species who rely on its wealth of resources—from North American beavers to Columbia torrent salamanders.



Eric Morton

Vision for the Columbia:

The Columbia River is a beautiful and important place. I would love to see people swimming and fishing in the Columbia in ten years without a worry in the world.

Viktoria Talovskaya

Favorite Place on the Columbia:

Cascade Locks. My friend took me there one day and I fell in love with it. Fascinating views! It's a great spot to take good panoramic pictures of the Columbia.



Courtney Rae

Inspiring Journey:

When I first arrived in Oregon, I came through the Columbia River Gorge. The dynamic landscapes and ecology were so enthralling; I turned what would have been a 4-hour drive into a 4-day excursion.



Alex Smith

Favorite Animal:

Panthera leo or the lion. Beautiful, social creatures who retain the members of their prides for life.

Best Part About the Job:
Meeting People!

The Numbers Don't Lie

Fossil Fuel Terminals Would More Than Double Large Ship Traffic on the Columbia River

Imagine fishing for Chinook salmon near Astoria, Oregon, and a ship the length of three football fields and towering 20-stories high is headed your way. Oh, and it is carrying highly explosive liquefied natural gas (LNG). Time to get off the river.

The biologically rich Columbia River Estuary near Cathlamet, Washington.

The projected increase in deep-draft (aka ocean-going) vessels carrying fossil fuels on the Columbia River is stunning. When we combine the projected deep-draft vessel traffic from **supertankers carrying LNG** and the **Panamax vessels** carrying coal, crude oil, and methanol, we're looking at a 117 percent increase in vessel traffic on the Lower Columbia. The Columbia should not become a fossil fuel highway.

According to the Washington Department of Ecology, **1,428 deep-draft vessels** called on Washington and Oregon ports on the Columbia River in 2012. Taken together, the proposed LNG, coal, methanol, and crude oil projects would result in an **additional 1,676 new deep-draft vessels** every year.



Fossil Fuel Export Proposals on the Columbia

Riverkeeper scoured government filings to nail down what fossil fuel export projects, if built, would mean for people who live and fish along the Columbia River. Here's what we discovered.

Oregon LNG Terminal ● WARRENTON

Oregon LNG proposes exporting roughly **1.25 billion cubic feet per day**, which is more than twice the amount of natural gas the entire state of Oregon uses. This would add **125 new outgoing LNG super-tankers** every year.

Ambre Energy's Morrow-Pacific Coal Export Terminal ● PORT WESTWARD

Ambre proposes exporting **8 million tons of coal** per year through this terminal. This would add **133 new outgoing Panamax vessels** per year.

NOTE: Ambre would ship coal via rail to the Port of Morrow, near Boardman, Oregon, and transfer the coal to **four-barge tows**. From there, Ambre would barge the coal 219 miles down the Columbia River to Port Westward, located near Clatskanie, Oregon. At Port Westward, the coal would be loaded on to **Panamax vessels** for shipment to Asia.

Global Partners Crude Oil Terminal ● PORT WESTWARD

Global proposes shipping as much as **43.8 million barrels of crude oil** per year through this terminal. This would add at least **115 new outgoing Panamax oil tankers** per year.

Northwest Innovation Works Methanol Export Terminals ●● KALAMA & PORT WESTWARD

Two methanol export proposals would use large volumes of natural gas to produce and export methanol to China from the Port of Kalama and Port Westward. Each terminal would send **two new outgoing Panamax vessels** per week, adding **208 total vessels** per year.

Ambre Energy's Millennium Bulk Coal Export Terminal ● LONGVIEW

Ambre proposes exporting **44 million tons of coal** per year through this terminal. This would add **730 new outgoing Panamax vessels** per year.

Tesoro-Savage Crude Oil Terminal ● VANCOUVER

Tesoro-Savage proposes exporting **131.4 million barrels of crude oil** every year through this terminal. This would add **365 new outgoing Panamax oil tankers** per year.

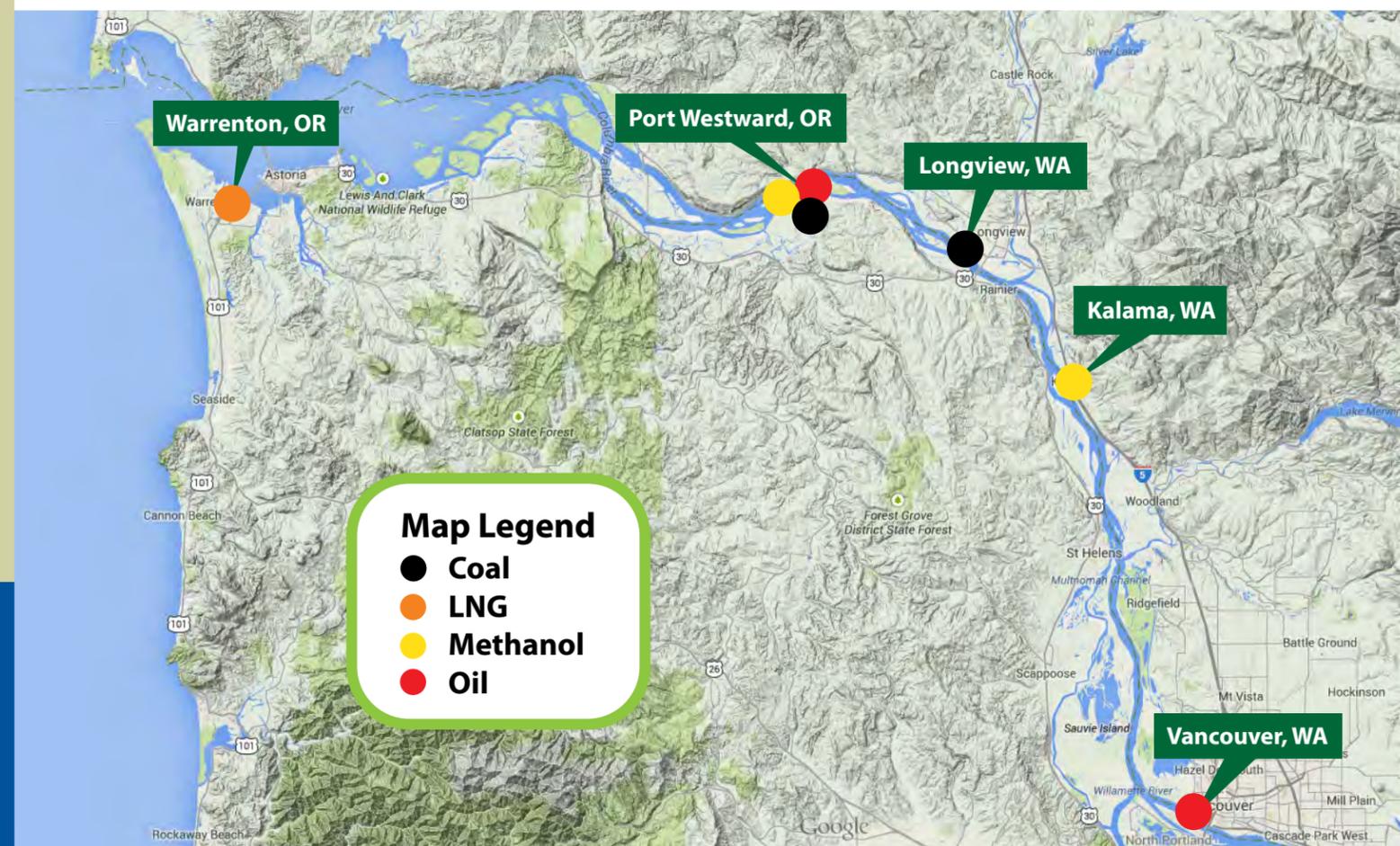
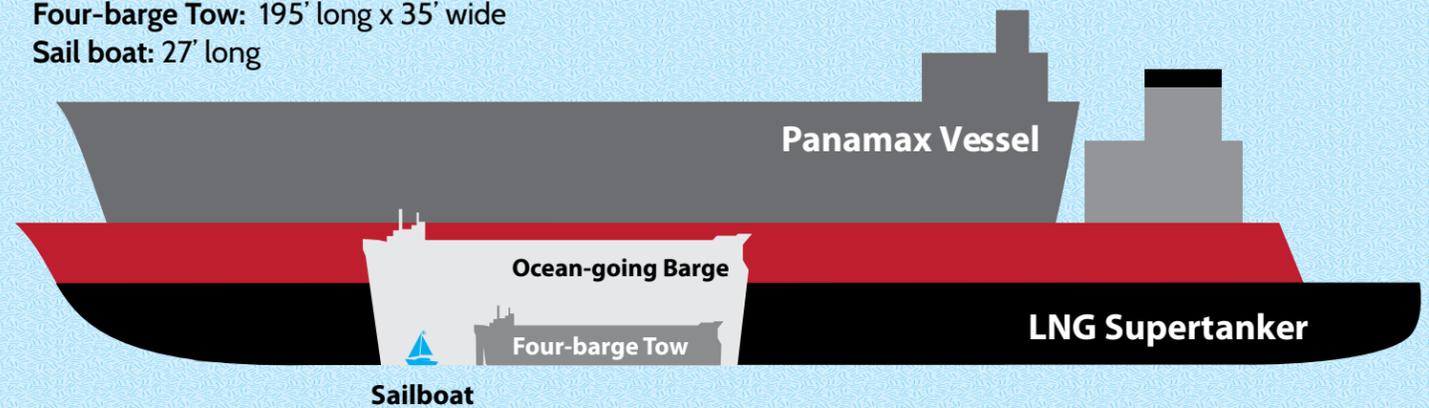
This year marks the 25th anniversary of the Exxon Valdez crude oil spill near Alaska's Prince William Sound. Even after 25 years and billions of dollars in clean up, oil still lingers. A recent study found that long-lasting components of oil once thought to be benign turned out to cause chronic damage to fish hearts when fish were exposed to tiny concentrations of the compounds as embryos.

Here's what we know about oil spills: Where oil goes, spills follow. According to Bloomberg Businessweek, oil spills are clustered in major oil ports, where storage facilities, refineries, tankers, and pipelines link up. One-third of all waterborne spills take place in rivers and canals, which are heavily trafficked by ships moving oil to refineries and storage tanks.

Deep-draft ship traffic on the Columbia River includes vessels carrying wheat, barley, soybeans, wood products, automobiles, and refined petroleum products. The Columbia is currently free of LNG, coal, and methanol ship traffic. Crude oil is a different story. Starting in late 2012, without any

public debate or input, Global Partners began operating a crude oil terminal at a shuttered ethanol facility at Port Westward, near Clatskanie, Oregon. Global currently ships crude oil to West Coast refineries using **ocean-going barges**, but recently announced plans to significantly increase its crude oil handling capacity.

LNG Supertanker: 1,132' long x 177' wide x 114' tall
Panamax Vessel: 950' long x 106' wide x 229.5' tall
Ocean-going Barge: 300' long x 20' wide x 100' tall
Four-barge Tow: 195' long x 35' wide
Sail boat: 27' long



Our Future *Matters*

Oregon's youth called on Governor Kitzhaber to protect their future by saying no to dirty coal. Five hundred people rallied in Portland's Pioneer Courthouse Square on March 8, 2014, to support these young voices and ask Oregon's Governor to deny all coal export permits on the Columbia River.

Dae Dahlquist was one of the inspiring youth voices at the rally. Read his empowering, eloquent call to the Governor:

I am thankful that you are all here today, because you are being responsible with my future. I am here today to talk to you about how to change the world, because as much as people might tell you otherwise, ***together we can change the world.***

I started being interested in Climate Change when I heard on the radio that the world's future was looking rough. I was only 4, but I could tell something was really wrong and something needed to happen. I decided that it was more important to try and fix the problem than to be scared of it.

Over the past few years, I have learned that fear is based on wanting to hide yourself. Fear comes from feeling that you are powerless. I am here today to tell you that you are powerful beyond measure. That your voice is more powerful than any other. It not only has the ability to change the world, it is the only thing that ever will.

Coal companies may tell us that we are weak, and unable to fight the power of corporate greed. But when shall we be stronger? Will it be tomorrow? Will it be next week, or in a few years? Will it be when our sacred river is polluted with coal dust to the point there are no more salmon? Will it be when our planet is so warm it will no longer support the glaciers? Will it be when the parts per million of carbon in the atmosphere is over 450? Will it be when all the coal is ripped off every mountain top and all the oil is drug up from every pristine place beneath our feet?

It is our future, Mr. Governor, and it is time to act upon the voices of Oregonians and deny the permits for these coal companies. Climate change is the fight of our generation. If we do not make the choice to stop these coal exports, who will?

We tell ourselves, "They are not going to listen to me." We tell ourselves that we are small and powerless. Feeling small doesn't serve anyone. It is easy to feel small. It is easy to feel like others are bigger than you, the world is bigger than you, that the problems are bigger than you. It is easy to dismiss yourself as not able to change anything. But that is not true. Our nation allows all people, regardless of size or age to speak out.

When kids speak, it surprises the world! No one expects kids to say anything important. No one expects us to know anything. No one gives us much credit. But we do not have to believe that to be true. We can be our own people.

This is our moment to show the world they have been wrong about kids. Do not operate from a place of fear. Dismiss the fear inside you. Then operate from a place of hope. Let the hope engage you, and fill you with the promise of tomorrow.

The capacity of hope is the most significant fact of life. It provides human beings the sense of destination and the energy to get started. For the beauty of life is this: while we cannot undo what is done, we can see it, understand it, learn from it, and change. So that every new moment is not spent in regret, guilt, fear, or anger, but in wisdom and understanding.

We cannot undo the damage that has already been done. The past is gone. But together, we can make a new future.

Surprise the world, surprise yourself! Grab hold of the power inside you. Speak out for what you believe in. Speak out for the environment. Speak out for your future! Make the decision to become larger than your age! Make yourself heard. It is our time to speak. More than that, it is our obligation!

Dae Dahlquist is nine years old and lives along the White Salmon River in the Columbia River Gorge. Dae has testified over a dozen times at public hearings and to the Washington State legislature on coal and climate issues. He is working to organize other kids to fight climate change and inspire adults to take action.



photo by Alex Milan Tracy

Watch more empowering young voices speak about coal export, climate change, clean air, and the healthy future they want and deserve at www.youtube.com/user/columbiariverkeeper. 11

Natural Water Filters

Wetlands and riparian buffers—the ecosystems that surround the Columbia River—are incredibly valuable. Protecting these ecosystems from degradation and pollution is a high priority for Riverkeeper.

Columbia River by Alan Silvester

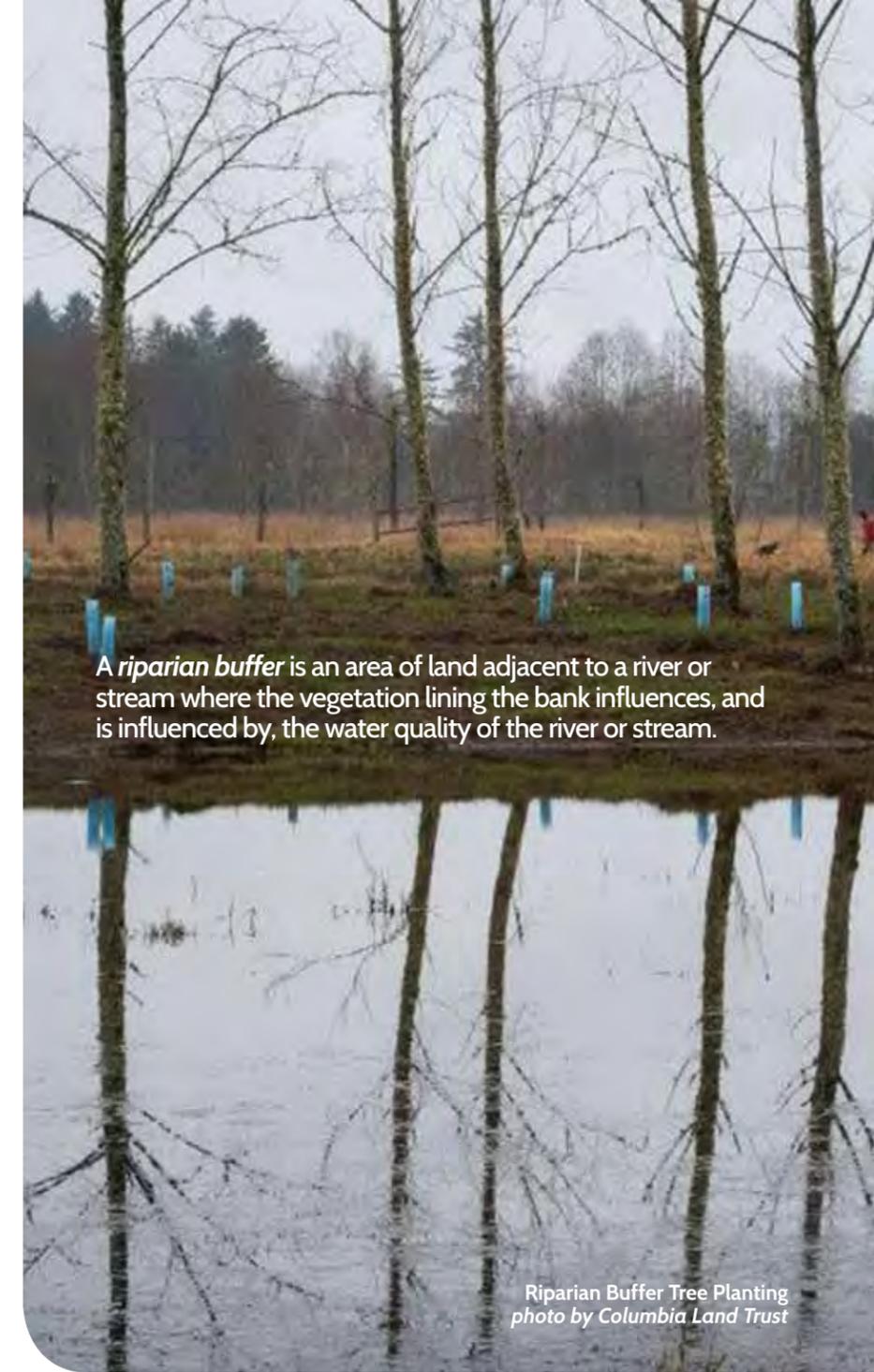
Stable riparian buffers and wetlands are essential components of a healthy river ecosystem. Riparian buffers are particularly helpful during floods when vegetation slows the flow of water and the roots stabilize stream banks. A healthy buffer zone includes a native grass or herbaceous filter strip along with deep-rooted trees and shrubs. These buffers, which fluctuate in width, pick up pollutants like nitrogen and phosphorus from runoff. In addition, buffer zones serve as wildlife corridors. Loss of riparian vegetation can result in increased water temperatures, decreased dissolved oxygen, severe erosion, loss of water storage capacity, and increased pollutants in the water. Riparian buffers are negatively impacted by adjacent development. Upstream development and increased impervious surface, like pavement, accelerates water flow downstream, uprooting plants.

Wetlands are federally protected under Section 404 of the Clean Water Act. They behave like a natural sponge. Wetlands trap and slowly release surface

water over time, which helps prevent flooding. They have important filtering capabilities and retain excess nutrients and other pollutants through plant uptake. Wetlands help maintain stream flow during dry periods and replenish groundwater. Wetland ecosystems are incredibly valuable to plant and animal species. More than one-third of threatened and endangered species live only in wetlands, and nearly half use wetlands at some time in their lives. Wetlands are lost through increased development, and drained for agricultural purposes.

Throughout the Columbia River watershed, Riverkeeper works to stop pollution and destruction of wetlands and riparian habitat. Riverkeeper engages in large development projects, such as coal and LNG terminals, and other wetland protection efforts on the mainstem and tributaries. In addition, Riverkeeper's volunteers monitor habitat and water quality at sites that impact riparian buffers and wetlands.

Riverkeeper's Clean Water Act enforcement work has protected or restored thousands of acres of salmon habitat by requiring illegal polluters to fund restoration projects by non-profit organizations, including the Columbia Land Trust and the Lower Columbia River Estuary Partnership. For example, after Riverkeeper and allies challenged Clark County's violation of the Clean Water Act, the county agreed to a \$3 million settlement to fund salmon habitat grants through the Lower Columbia Fish Recovery Board, which will begin in 2015. We are proud of the joint effort between multiple organizations to protect and restore the Columbia River and all life surrounding it. The health of the river and the communities that depend on it are important to all of us.



A riparian buffer is an area of land adjacent to a river or stream where the vegetation lining the bank influences, and is influenced by, the water quality of the river or stream.

Riparian Buffer Tree Planting photo by Columbia Land Trust



Species Monitoring: Northwestern salamander (*Ambystoma gracile*) egg mass photo by Columbia Land Trust



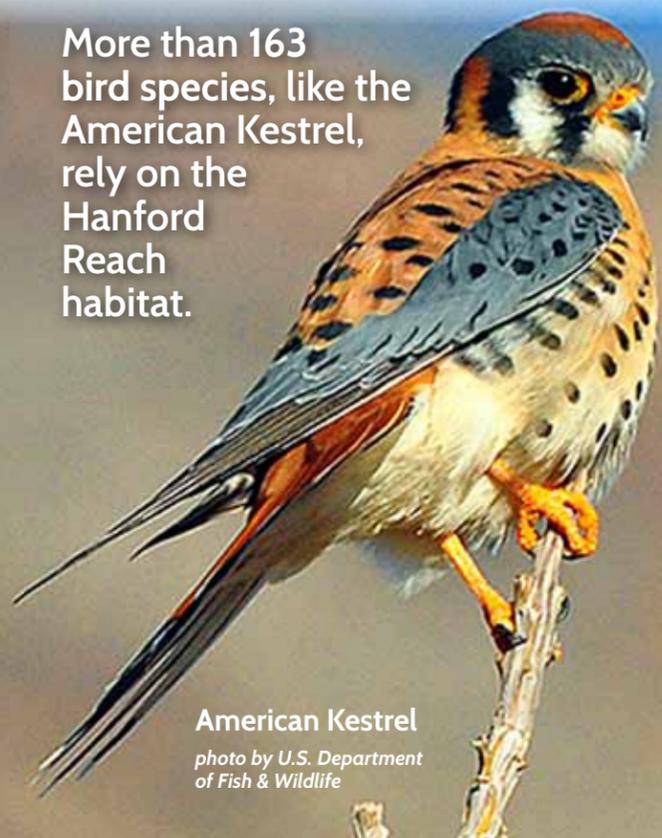
A wetland is an area where water covers the soil or is near the surface of the soil continuously.

Sauvie Island wetland

What's *in* the Hanford Reach?

Hanford
Environmental
Report

More than 163 bird species, like the American Kestrel, rely on the Hanford Reach habitat.



American Kestrel
photo by U.S. Department of Fish & Wildlife



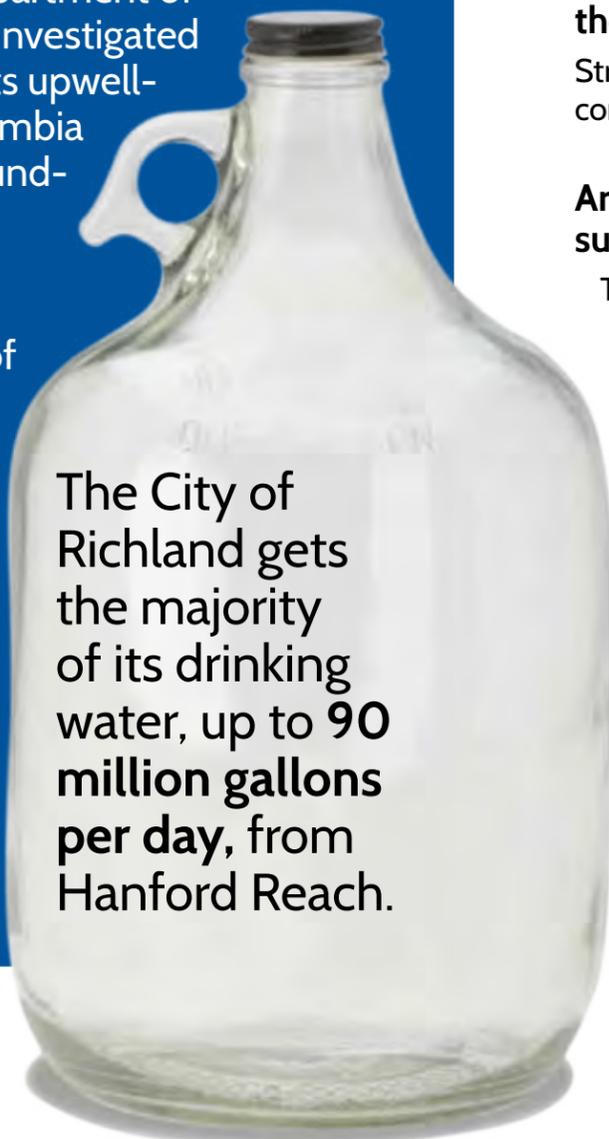
The Hanford Reach produces 52 million juvenile Chinook salmon every year.

Juvenile Salmon
photo by U.S. Department of Fish & Wildlife

The **Hanford Reach** of the Columbia River flows for **51 miles** between the Priest Rapids Dam and Richland, Washington, through the Hanford Nuclear Site.

Contaminated groundwater plumes flow from the Hanford Nuclear Site to the Columbia River and contaminate the sediments and river water column. The Department of Energy recently investigated the contaminants upwelling into the Columbia River. While groundwater treatment programs have decreased the concentrations of pollutants, such as **strontium-90**, reaching the river, elevated levels of **arsenic, cadmium and uranium** are observed in the river.

The City of Richland gets the majority of its drinking water, up to **90 million gallons per day**, from Hanford Reach.



Contaminated groundwater plumes are discharging into the Hanford Reach of the Columbia River. Although concentrations of radionuclides in the river are low, they are cause for concern.

Are there elevated levels of contaminants in the Columbia?

Yes, elevated levels of tritium, uranium-234, uranium-238, strontium-90, arsenic, and cadmium are frequently observed in the river.

Are the contaminated groundwater plumes entering the Columbia?

In-river samples show contaminated water is upwelling into the river in the 100 and 300 Areas.

Where is strontium-90 entering the Columbia?

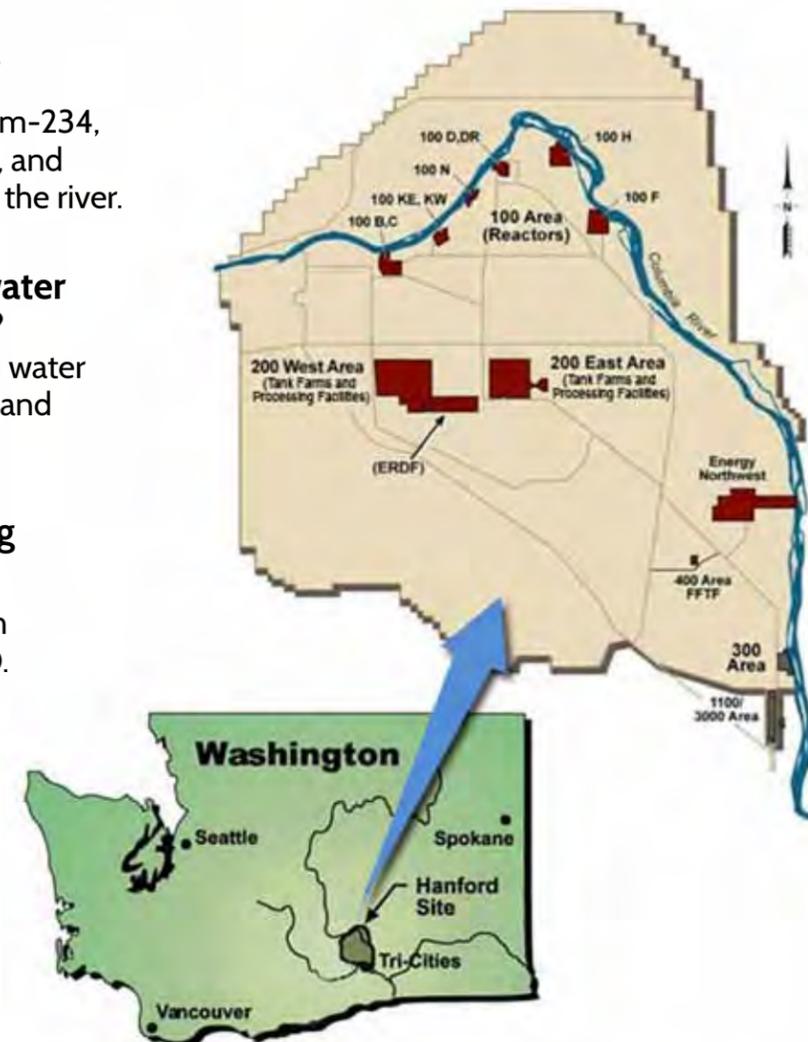
Strontium-90 enters the river in high concentrations at 100-N and 100-D.

Are there any recent successes?

The levels of hexavalent chromium and strontium-90 entering the river have decreased sharply due to the success of the groundwater pump and treat systems and apatite injections.

What are the next steps?

The U.S. Department of Energy needs to commit to existing, reliable, groundwater treatment to prevent further contamination of the river. Energy also needs to prioritize removing the subterranean pollutants that are above the groundwater (in the vadose zone) before contaminants enter the groundwater.



Map by Environmental Protection Agency

This product was funded through a grant from the Washington Department of Ecology. While these materials were reviewed for grant consistency, this does not necessarily constitute endorsement by Ecology.



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March 8, 2014,
rally-goers form the
shape of Oregon
photo by Alex Milan Tracy