



Reducing Toxics In The Columbia River Basin

www.epa.gov/r10earth

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Highlighting Toxic Reduction Success Stories
in the Columbia River Basin

The Columbia River Basin covers a major portion of the landscape of North America, including parts of seven states and British Columbia. It provides drainage for hundreds of tributaries over an area of more than 260,000 square miles, and is an important backdrop for urban settlement and development, agriculture, transportation, recreation, fisheries and hydropower. It also serves as a unique and special ecosystem, home to many important plants and animals.

EPA and other federal agencies, states, Tribes, and non-profit partners established the Columbia River Toxics Reduction Working Group to share information, coordinate activities, and develop strategies to identify and reduce toxics in the Columbia River Basin. Working Group partners collaborate to:

- Prevent toxic chemicals from being used in the first place through pollution prevention and green chemistry. Preventing toxic exposures and avoiding future costs is the smartest, cheapest and healthiest approach.
- Assist businesses to reduce or manage the amount of toxic chemicals that enter the environment.
- Clean up toxics that have polluted air, land or water. These actions are more costly than proactive pollution prevention.
- This fact sheet provides some success stories of pollution prevention and toxics reduction throughout the Columbia River Basin

More information: www.epa.gov/region10/columbia



Come to December 6 Working Group Meeting - Yakima, WA

We encourage you to learn more about reducing toxics in the Columbia River and get involved:

Columbia River Toxics Reduction Working Group Meeting

Date: Tuesday, December 6, 2011

Place: US Bureau of Reclamation
Columbia-Cascades Area Office
1917 Marsh Rd
Yakima, WA 98901-2058

Time: 9:30 am – 3:30 pm

Agenda will be posted on:
www.epa.gov/region10/columbia

Inaugural Columbia River Basin Toxics Reduction Executive Meeting a Success

Columbia River Basin Executives from tribes, states, federal agencies and non-profits met for the first time on August 24, 2011, in Spokane, Washington which was graciously hosted by the Upper Columbia River United Tribes. The meeting participants, led by Dennis McLerran, EPA Region 10 Regional Administrator, shared information on important toxics reduction work efforts throughout the Basin which reflect implementation of the 61 actions of the Columbia River Basin Toxics Reduction Action Plan http://www.epa.gov/region10/pdf/columbia/toxics-action-plan_sept2010.pdf.

The Executives agreed to formalize the Columbia River Toxics Reduction Working Group and most participants signed an Executive Statement formalizing the Group and committing to continue to work together to reduce toxics. The Executives agreed to hold a follow up meeting in one year and to broaden the group to other entities not at the first meeting.

This meeting was followed up by a Columbia River Basin Toxics Reduction Working Group Meeting on August 25, 2011, sponsored by the Washington Department of Ecology. A meeting summary and the presentations will be posted on EPA's Columbia River Website. www.epa.gov/region10/columbia

Oregon Revised Human Health Criteria Approved by EPA on October 17, 2011

On October 17, 2011, EPA approved Oregon's revised water quality standards for toxic pollutants based on a fish consumption rate of 175 grams per day or about 23 eight-ounce fish meals a month. The new standards are the most protective of any state in the US (although some tribes have more protective standards for tribal lands). The outcome of the Oregon fish consumption rate project will have national technical and policy implications, not only for EPA and other states in the Pacific Northwest, but also for other states with tribal subpopulations.

Oregon submitted revised water quality standards to EPA in 2004, revising almost all of their toxics criteria to reflect EPA's most recent recommendations, including human health criteria based upon EPA's default fish consumption rate (FCR) of 17.5 grams per day. Tribal governments objected to the criteria, stating that they do not protect tribal members who consume much greater amounts of fish and for whom fish consumption is a critical part of culture and religion. EPA CWA guidance recommends a default FCR of 17.5 grams per day, and recommends a higher rate if local fish consumption data is available. A 1994 study conducted by the Columbia River Inter-Tribal Fish Commission (CRITFC) identified much higher rates of fish consumption by tribal members. The study, included consumption data from two Oregon Tribes (Umatilla and Warm Springs), a Washington Tribe (Yakama) and an Idaho Tribe (Nez Perce).

The State of Oregon, in partnership with the Confederated Tribes of the Umatilla Indian Reservation and EPA, conducted a thorough multi-year public dialogue with tribal governments, citizens, municipalities, industry and others. The goal of the dialogue was to understand the issues associated with increasing the fish consumption rate used in Oregon water quality standards. As a result of this public dialogue and after consideration of the benefits and costs, the Oregon Department of Environmental Quality adopted revised human health criteria based on a consumption rate of 175 grams per day. The revised toxics criteria are intended to be protective of all Oregonians, particularly those for whom fish is a significant portion of a regular diet: tribes, local fishermen and coastal communities. EPA will work with the State of Oregon as implementation of this important work effort proceeds.

More information: <http://www.deq.state.or.us/wq/standards/humanhealthrule.htm>

Port of Vancouver Clean Water Challenge

The Port of Vancouver has made a strong commitment to reducing its environmental footprint and encouraging its tenants to keep the Columbia River clean. In addition to an extensive suite of best management practices to treat 99% of stormwater before it reaches the Columbia River, the Port of Vancouver has also established the Clean Water Challenge. The Port has asked its tenants to examine their operations and take measurable steps to reduce pollution to water around them using certain criteria. The tenant whose actions provide the most benefit to water quality will be awarded the Environmental Tenant of the Year Award at the Port's annual Port Re:Port breakfast in April 2012 and be highlighted on the Port's website and in port publications.

More information: <http://www.portvanusa.com/environmental-programs/stormwater-protection/clean-water-challenge>



Walla Walla River Basin Pesticide Stewardship

The Oregon Pesticide Stewardship Partnership Projects use monitoring data to drive collaborative implementation of best management practices (BMPs) that can lead to reductions in levels of pesticides in streams. In addition, legacy pesticide collection events are held periodically to reduce the risks associated with pesticides that were used in past. Since 2006, the Oregon Department of Environmental Quality (DEQ) and its partners have collected over 140,000 pounds of agricultural pesticides, including over 1,000 pounds of DDT, through eight grant-funded agricultural collection projects in various watersheds.

Recent monitoring in the Walla Walla River Basin indicates that there has been a greater than 80% reduction in the average concentrations of the insecticide chlorpyrifos between 2006 and 2010, in two tributaries where water monitoring has been conducted. A wide range of best management practices have been implemented in Walla Walla River Basin since 2006, including pesticide drift reduction training and assistance, installation of weather stations to ensure pesticides are applied when the weather conditions are optimal, and integrated pest management strategies such as mating disruption activities.

More information: http://water.epa.gov/resource_performance/upload/FY2010_EOY_full_report.pdf



Nike Considered Chemistry

Materials selection became a key focus of Nike's sustainability efforts, with particular emphasis placed on evaluating the toxicity of the chemicals that go into Nike products and the materials that aid manufacturing. The company has been on a nonstop voyage to find better ways to evaluate materials and produce products that are safer for consumers and the environment.

Nike uses a sustainable product design tool called the "Considered Index" to predict the environmental footprint of a product before it is marketed to the public. The system examines solvent use, waste, materials and innovation for footwear. The company also proactively targets, removes, or replaces chemicals that, while not illegal to use, fit the scientific definition of toxic. Nike has made a significant investment in the development of a Restricted Substances List (RSL) and an extensive management system designed to ensure that suppliers comply.

The Nike Considered Index Breakdown:

The Index is tool for evaluating the predicted environmental footprint of a product prior to commercialization

This system examines solvent use, waste, materials and innovation for footwear. Apparel products are evaluated on waste, materials, garment treatments and innovation.

Products are assigned a "Considered" score using the Index framework based on Nike's known footprint in these areas. Only products whose score significantly exceeds the corporate average can be designated as "Considered."

The Index metrics are based on over a decade of collecting solid waste and solvent use data in footwear, and the examination of waste footprints in hundreds of apparel and footwear products across all sport categories. They are also based on the evaluation of every commercial material used to manufacture Nike products using a life cycle approach.

More information: http://www.greenchemistryandcommerce.org/downloads/Nike_final.pdf



Salmon Safe Success Story

The 3,000 acre Hudson Bay Farm, located in the Walla Walla Valley and owned and operated by the Williams brothers and their wives, was initially certified organic and is now also certified Salmon-Safe. Adding Salmon-Safe to the organic certification made sense to the Williams because Salmon-Safe standards focus on both inputs and outputs, guaranteeing high water quality in the streams flowing through their property. This enables Hudson Bay Farms to do its part to help restore the Valley's salmon runs, which have increased from single digits in 2000 to over 1,200 returning adults in 2010. Seattle-based Puget Consumer Cooperative (PCC) has acknowledged the Williams' dedication to become Salmon-Safe with contributions from their PCC Farmland Trust, demonstrating how the marketplace can respond positively to good stewardship.

More information: <http://www.salmonsafe.org/>



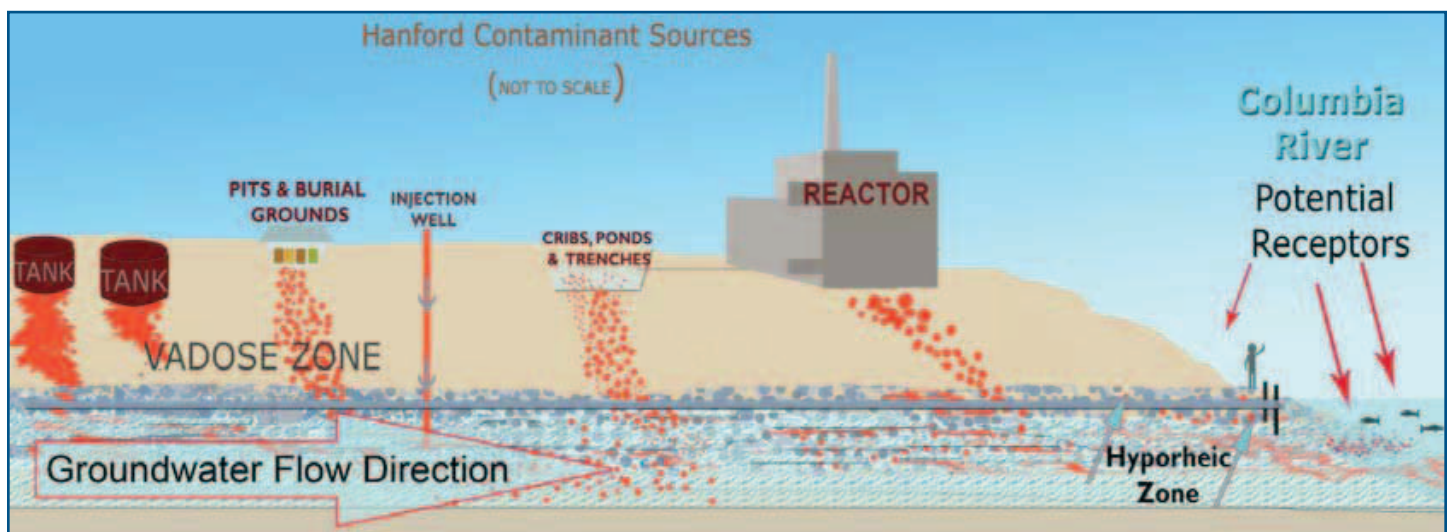
Protecting the Columbia River through groundwater cleanup at the Hanford Nuclear Reservation

The focus of the Hanford Nuclear Reservation (Hanford) cleanup has been protection of the Columbia River. The only current pathway for Hanford contaminant to reach the Columbia River is via contaminated groundwater. Groundwater was contaminated during operations at Hanford when large volumes of contaminated water were released into unlined trenches that quickly drained to groundwater, and continues to be contaminated by waste sites that have leached to groundwater.

Cleanup actions began in the early 1990s along the Columbia River. Over 9 million tons of soil contaminated with both chemical and radiological waste was removed from waste sites near the Columbia River. There are currently two large pump-and-treat operations for treatment of hexavalent chromium. They have treated over 2 billion gallons of contaminated groundwater and have removed one ton of hexavalent chromium. Recent

studies show that in the pore water (where the groundwater mixes with the Columbia River) there are detections of hexavalent chromium, tritium, Sr-90 and uranium above the Drinking Water Standard (DWS) and/or the Ambient Water Quality Criteria (AWQC). Surface water samples one foot above the river bottom did not detect any of these contaminants, except tritium, and it was well below the DWS. Groundwater cleanup will continue until the plumes meet the most conservative cleanup requirement (DWS or AWQC).

More information: <http://yosemite.epa.gov/R10/CLEANUP.NSF/sites/Hanford>



Bunker Hill Superfund Site

The region between Mullan and Cataldo in northern Idaho, called the Silver Valley, has been known for 100 years for its rich lead, zinc and silver mining opportunities. In the early years, mining and milling methods were inefficient compared to today and resulted in resource minerals and other concentrated constituents (lead, zinc, silver, cadmium and arsenic) remaining in the tailings. Remaining minerals and chemicals used in the milling process are hazardous to humans, fish, and waterfowl. Today, operating mines function at a higher efficiency for extraction and milling processes and operate under both state and federal environmental laws. One of the most important mines operating in the valley was Bunker Hill. Bunker Hill was more than a mine; it was also a zinc plant and a lead smelter. This allowed other mines in the area to save shipping costs and remain economically viable.

The Bunker Hill Superfund Site yard remediation program has completed the restoration of residential yards from lead contaminated soils. This activity has a direct public health benefit with lower (blood) lead levels in children (>400% down to the national average of 3%). Residential property cleanup began in a 21 square mile populated area called the Bunker Hill Box in 1986. Today, properties in the Bunker Hill Box are certified complete. Completing the yard remediation program is a major step in protecting human health.

Idaho DEQ worked in partnership with EPA to accomplish many important work efforts to complete this task including:

Conducted water, soil, and sediment sampling in water bodies in the Coeur d'Alene Basin to determine the extent of metals contamination,

Facilitated transfer of several remediated properties to local ownership, including 600 acres to Eagle Crest Inc. and an office building to the city of Kellogg,

Conducted a residential yard remediation pilot project to reduce costs, increase property owner input and satisfaction, assure local firms the opportunity to perform the work, and played a key role in overseeing ongoing residential yard cleanups in the basin, and

Worked with the Coeur d'Alene Tribe and local governments to develop a management plan to protect water quality in Coeur d'Alene Lake.

More information:

<http://www.deq.idaho.gov/regional-offices-issues/coeur-d'alene/bunker-hill-superfund-site.aspx>

Lower Yakima River Suspended Sediment and DDT Total Maximum Daily Load

Since completing the Lower Yakima River Total Maximum Daily Load (TMDL) for the lower Yakima River, many entities have successfully worked to reduce the amount of pollution returning to the river from irrigation return flows. The Roza-Sunnyside Board of Joint Control implemented a water quality policy, a water quality monitoring program, and used State Revolving Loan Funds to help finance on-farm irrigation upgrades that significantly reduced suspended sediment and DDT loading to the Yakima River. The North Yakima Conservation District assisted with the conversion of over 8,000 acres of hop fields to drip irrigation. All of this, along with much work and investment by Yakima Valley farmers, resulted in significant water quality improvements in the Yakima River.

In 2003, Ecology conducted effectiveness monitoring in the Yakima River and the major tributaries with targets set by the TMDL. Turbidity and suspended sediment levels are much improved in the lower Yakima River watershed. Three out of four irrigation return drains met targets set by the TMDL. Suspended sediment and turbidity in the main stem Yakima River was considerably improved.

Dropping levels of DDT found in fish in the Yakima River have led state health officials to drop advisories to limit meals from certain fish species from the river (all except carp, which are still under an advisory). A Department of Ecology study completed in 2007 found erosion control projects put in place by Yakima basin irrigators helped reduce DDT and its byproducts in fish from the Yakima River. The state health department evaluated the new data and determined the fish advisories based on DDT levels are no longer needed. The declining levels of DDT in resident bottom fish from the river, along with proper cleaning and cooking, allow people to eat them safely without limits.

More information:

http://www.ecy.wa.gov/programs/wq/tmdl/yakima_wq/LowerYakTMDL.html

http://www.doh.wa.gov/Publicat/2009_news/09-075.htm