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Willamette Valley Voices: Connecting Generations

A publication of the Willamette Heritage Center at The Mill

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Editorial board:
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Abby Johnson, Oregon State University
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In This Issue

Willamette Valley Voices: Connecting Generations is the Willamette Heritage Center's biannual publication. Its goal is to provide a showcase for scholarly writing pertaining to history and heritage in Oregon's Willamette Valley, south of Portland. Articles are written by scholars, students, heritage professionals and historians - professional and amateur. Editions are themed to orient authors and readers to varied and important topics in Valley history.

This issue offers articles about waterways. Throughout the area's history, the Valley's waterways – rivers, streams and creeks – have been of great importance. The Valley's Native People, the Kalapuya, traversed the many tributaries of the Willamette River in canoes; traveling, fishing, gathering and trading. The waterways also played a vital role in the development of the Oregon Territory and the young state as first Euro-Canadians and then Americans settled in the area. Susan Smith's introductory article, "The Wonder of Oregon Waters," provides a succinct look at the uses and importance of water, both in the Valley specifically and in Oregon in general.

The issue is arranged largely chronologically, starting with David Lewis' article, *Amenma Dinibau* (Kalapuya Canoes) Canoe Culture of the Kalapuya Tribes. In the article, "*A Village of Some Pretention*: Rediscovering the Original Orleans, Linn County, Oregon," Paul Baxter, Patricia A. Benner and Christopher L. Ruiz look at the loss of Orleans in the flood of 1861. Ed Wilson's article, "Steamboat Travel and Disasters on Oregon Waterways," offers a glimpse into an all-too-common occurrence on the Willamette River in the late 1800s. "From Hot Springs to Heritage," by Travis Cook, is a thoughtful look at the development of Breitenbush Hot Springs.

As the issue moves more solidly into the 20th century, the Center has included a scan of the Willamette Valley Irrigated Land Company's 1911 Promotional Booklet. Damond Morris offers an analysis of the Federal Theatre Project's production *Power* in "Power and Columbia River Politics: The Theatrical Production of the Living Newspaper, *Power*, by the Oregon Unit of the Federal Theatre Project." Amy Vandegrift tackles the trials and triumphs of the building of Detroit Dam in "The Best Laid Plans." Travis Williams shares the importance of cleaning and caring for our rivers in "The Willamette River - Efforts to Improve the River's Health Keep Flowing." Finally, "Presenting Waste and Remnants," by Rosalynn Rothstein, covers the fascinating theory of waste in relation to both water and interpretation of waterways in our modern era.

In addition, Peter M. Booth has penned a review of the book W*illamette Landings: Ghost Towns of the River,* written by Howard McKinley Corning with a mew introduction by Robin Cody in the 2004 edition, and "In Their Own Words" features Clark Moor Will on the Salem Water Department History. This is our regular feature in which we provide access to short snippets of oral histories housed in the Center's collections. Preserving the Valley's heritage and sharing its stories is part of a continuing process and dialogue of which *Willamette Valley Voices: Connecting Generations* is but one vehicle.

Keni Sturgeon, Curator and Editor

Willamette Valley Voices: Connecting Generations
A Journal of Willamette Valley History

Volume II Summer 2013 Number 2

The Wonder of Oregon Waters

Susan Lea Smith, Willamette University

We are all people of the water, utterly dependent upon this gift of creation. Wherever we live, our lives are defined by our waters – whether they are crashing waves against the rocky Oregon coast, the oft-fought over rivers of Oregon's high desert country, or the ample waters of the Willamette Valley.

Our waters are home to the iconic salmon and steelhead of the Pacific Northwest. The salmon and steelhead historically provided most of the sustenance of Native American tribes in the area. As a result, many treaties with these tribes require that the United States protect the tribes' right to fish. With the development of a robust commercial and recreational fishing industry, construction of dams that turned salmon into bouillabaisse, and forestry practices that destroyed salmon habitat, many salmon and steelhead populations ended up listed under the Endangered Species Act as species in danger of extinction. For the past two decades, the question of how we can prevent their extinction has dominated public policy debate in the Pacific Northwest.

We drink the water of our rivers. We draw pristine mountain river water to slake the thirst of Portland and its suburbs, Salem and towns to the east, Eugene and Springfield. We protect those waters from industrial and agricultural pollution through especially stringent water quality regulations, including those protecting the Bull Run watershed for Portland, and the Three Basin Rule protecting the three watersheds of the Clackamas, North Santiam, and McKenzie Rivers.[1] In return, we receive the gift of water so pure that virtually no treatment is necessary to drink it.[2] We also drink the water of the Willamette River, although we have polluted it to the point that it is drinkable only after expensive, sophisticated treatment.[3]

We play in and on our waters. We joyfully float inner tubes, kayaks, rafts and boats down the rivers of Oregon just for the fun of shooting rapids. Almost 2000 miles of 58 Oregon rivers and creeks are designated as part of the National Wild and Scenic Rivers System, which is nearly 2% of all the state's rivers.[4] Oregon ranks third in total miles of Wild and Scenic rivers, after Alaska and California, but it has the highest percentage of Wild and

[1] OAR 340-041-470
[2] For example, water from the Bull Run watershed receives no treatment and water from the North Santiam River is only treated by a slow sand filter.
[3] For example, the City of Wilsonville must rely on an advanced water treatment system, providing drinking water at five times the cost of water provided by the simple, slow sand filtration system employed by the City of Salem.
[4] http://www.rivers.gov/rivers/map.php (visited June 3, 2013)

Scenic river miles in the nation.[5] Our love of fly fishing in the fast-moving waters of Oregon rivers led to the invention of the distinctive McKenzie River drift boats and Rogue River dories that can negotiate the narrow, swift-flowing rapids of our rivers.[6] We venture onto 19th century steamboats, just to relive the glory of earlier days. We wind-surf the waves of the Columbia River as it wanders through the Columbia River Gorge. We bask in the steamy hot springs of Breitenbush and Bagby. We stage rugged water polo and swimming events in mountain lakes, where the rigors of those sports are compounded by chilly waves of open water. We have floating tail-gate parties and water-ski on Detroit Lake. The lives of the people in the Pacific Northwest have in large part become defined by the ways we chose to recreate ourselves through water sports and other water-related activities.

Figure 1: The Willamette River Bike Path in Eugene. Photo taken by Don Hankins, April 27, 2008 and can be found at http://www.flickr.com/photos/23905174@N00/2446449883/.

We draw our livelihoods from our water. Without the abundant rain that graces the Cascades and Coast ranges, we would not have gorgeous temperate rainforests of Douglas fir. These forests support a plethora of recreational and tourism enterprises, and

[5] This statistic is based on a review of the data from 50 states provided by the National Wild and Scenic Rivers System website. http://www.rivers.gov/rivers/map.php (visited June 3, 2013).
[6] http://1859oregonmagazine.com/the-oregon-drift-boat (visited June 3, 2013).

attracted a robust timber industry, providing lumber, paper and other wood products to the entire nation for many decades. Other industries have flourished because of the power provided by water, as varied as paper mills, woolen mills and metal manufacturers. And our waters have grown the Silicon Forest, attracting high tech companies that make computer chips (such as Intel and smaller semiconductor manufacturers), test and measurement equipment (Techtronix), electronic displays (InFocus, Planar and Pixelworks), and printers (HP, Xerox, and Epson). These manufacturers not only have used our extremely clean rivers to make silicon chips, they have located in Oregon because their highly educated and mobile workforces cherish the lifestyle afforded to Oregonians by plentiful rafting, kayaking, fishing, and other recreational opportunities our waters provide.

Our agricultural industry also relies on our waters. Despite the abundant rain in western Oregon, Willamette Valley agriculture still uses irrigation during increasingly dry and hot summers. And agriculture in the arid areas of eastern Oregon is utterly dependent upon irrigation. But beyond irrigation, periodic flooding of the Willamette River provided the rich topsoil that makes the Willamette Valley one of the most fertile agricultural areas in the world.

Figure 2: Steamboat on the Willamette River, ca. 1910. WHC #63.1.74.9.3.

Historically we have also used our rivers to transport goods and people. Since the 1850s, steamboats have roamed up and down the Willamette River, even though they could not pass Willamette Falls. After construction of locks at Willamette Falls in 1873, river traffic connected with the rest of the Columbia River system. Without the transportation provided by the Willamette River, the infant Oregon timber industry would have been still-born: we could never have so cheaply moved logs to mills or finished products to market. Even now, barges of wheat and other goods travel up and down the Columbia River.

We still rely on our waters for electricity. Although other forms of clean energy such as wind and solar power have a strong foothold in the Pacific Northwest, the Columbia River and Willamette River dams continue to provide the bulk of our electricity.

Because of these characteristics, our waters are unique national resources. Indeed, the Willamette River is one of 14 rivers designated by President Bill Clinton as an American Heritage River in order to promote environmental restoration, economic development, and preservation of cultural and historical heritage of America's rivers and their communities. As an American Heritage River, the Willamette River has been recognized as a distinctive or unique natural resource, due to its natural, economic, agricultural, scenic, historic, cultural, and recreational characteristics and the degree of commitment of Oregon and its communities to its protection.

And yet, we end up fighting over our waters. Wherever water is scarce in the western United States, the old saying is "Whiskey is for drinkin' and water is for fightin'." In the arid portions of Oregon, water must serve triple duty, providing water for rapidly growing desert cities, for irrigation, and for fish and wildlife. Unfortunately, there is not always enough water to go around. The past decade has seen fierce legal and illegal battles over the scarce waters of the Klamath Basin, including incidents where farmers took shotgun in hand to stop state water masters from preventing irrigation diversions. Though western Oregon enjoys abundant rainfall, potential conflicts remain between municipal drinking water demands, irrigation diversions, and retaining sufficient water in-stream to allow threatened and endangered salmon and steelhead to migrate upstream for spawning.

And sadly, we do not always honor our waters. We destroy the wetlands necessary to prevent floods and filter water before it reaches our watercourses. We waste water in the cities using clean water to grow thirsty exotic plants, wash sidewalks and cars, and flush toilets. We waste water in rural areas, drilling wells for golf courses and resort homes that steal water from our rivers, and irrigating crops better grown in areas with plentiful water.

We allow the great artery of the Willamette River to remain so polluted from industrial and agricultural pollution that our children cannot swim in it and the fish we catch cannot safely be eaten. We blithely risk the very waters that have made life in Oregon so distinctive. As we decide how to use our waters and the lands that lay next to them, we are determining the ultimate fate of our waters and whether they will continue to support our lives, the lives of the fish and wildlife we adore, and our unique lifestyle. May we be wise so that the precious resource of our waters remains a source of abundant life for the seventh generation that is still to come.

Amenma Dinibau[1] (Kalapuya Canoes)
Canoe Culture of the Kalapuya Tribes

By David G. Lewis, Confederated Tribes of Grand Ronde

Figure 1. Image from the postcard from the 2011 exhibition, Grand Ronde Canoe Journey, curated by the Confederated Tribes of Grand Ronde's Cultural Resources Department at the Willamette Heritage Center. The original image is from James Swan on the Cowlitz River 1840s.

Abstract: For more than 15,000 years the Native Peoples of the Willamette Valley have canoed the waterways of the Willamette River. The Kalapuyans were the tribes that lived along the River and gathered, hunted and fished throughout the basin. Many of their favorite foods, wapato and camas, grew in the Valley near waterways. They gathered these bulbs and traded them with the Clackamas and Clowewalla (downriver) and with the Molallas and other Kalapuyan groups (upriver). Many cultural activities occurred on the rivers, from gathering plants like cattail and tule for basket weaving, to fishing for salmon and trout, to transporting goods from summer encampment to winter villages. Newcomer explorers and settlers encountered the early canoes of the Kalapuya and witnessed cultural changes as they were occurring.

[1] *Amenma* is Santiam Kalapuya for people of the Kalapuya tribe. *Dinibau* is Santiam Kalapuya for Canoe.

> I myself (Mose Hudson) saw a Kalapuya canoe long ago. We got into it when we went across the Willamette River at Salem. That sort of canoe was not large. Only three people got in it. Now one person sat in the rear of that boat, the paddler who took the canoe across, and we sat in the middle. We took care with the canoe, it is round underneath, it might tip over very readily, if one did not know how to ride in the canoe. It was not like these whites' canoe, that canoe was always easily tipped over. That is how the Kalapuya Indians' canoe was long ago. When they went across the river (the Willamette), or a large stream, they used it in such a stream always. That is how they did with their canoes. It is said that when they made it with a round log, they built a fire on top of it. So they watched it when there was fire on it, and then they made a hole in the log, and so they made their canoe.[2]

For centuries the native peoples of the Willamette Valley have used the resources of the Willamette River to live a wealthy life. The peoples of the Valley – the numerous tribes and bands of the Kalapuya, the Molalla in the Cascades and its foothills, and the Chinookan peoples of the north Valley - utilized the waterways to travel and transport their people, foods and trade goods quickly and efficiently. Tribes and bands lived in distinct villages at the junctions of the River and its tributaries where they could efficiently trade with their neighbors.

The Kalapuya tribes are the most numerous of tribes in the Valley, inhabiting the majority of its floor and foothills. Their various tribes were politically arranged so that principal chiefs at the main villages oversaw numerous offshoot bands who were led by secondary chiefs and headmen. These tribes were the Atfalati, Yamhalla, Halpam, Ahantsayuk, Chemapho, Pee-you, Winfelly, Chafan, Lakmiut, Chelamela, Santiam and Pinafu.[3] There was also the Yoncalla Kalapuya of the Umpqua Valley. Each of these tribes had numerous villages in political association such that their territories were twenty to sixty miles wide. The Santiam Kalapuya alone claimed an area from somewhere above Salem down to Eugene through the politically associated sub-tribe of the Calapooia (Kalapuya) at Brownsville. Particularly rich tribal areas, many with over a dozen villages, surrounded major resources like Wapato Lake at Gaston, where wapato was a highly prized food

[2] *Mose Hudson and the Dugout Canoe at Salem*, circa 1936, Mose Hudson is John B. Hudson Jr., an informant of Dr. Melville Jacobs in the 1920s and 1930s regarding Santiam Kalapuya language. The story is no. 33 Dugout Canoe from Kalapuya Texts, volume 2, page 38. Published by the University of Washington Press, 1945.

[3] Atfalati (Tualatin), Yamhalla (Yamhill), Halpam (Santiam), Ahantsayuk (Pudding River), Chemapho (Maddy river), Pee-you (Mohawk), Winfelly, Chafan, Lakmiut (Luckamiute), Chelamela (Long Tom), and Pinafu (Marysville).

sometimes called “Indian potato.” Other areas, like the prairies of the Valley, contained vast beds of camas that were dug annually by the tribes.

Figure 2. Two Types of camas, *Camassia Quamash* (Center) and *Camassia leichtlinii* (left and back) in a field near Hillsboro, Oregon. Photo by David Lewis.

The Molalla inhabited the Cascades and several of their tribes claimed regions that included the foothills down into the Willamette Valley near Silver Creek Falls. They were organized as a northern band of Molalla or Molel, a central band the Santiam Band of Molalla, and several southern tribes. They inhabited the headwaters of most of the tributaries of the Willamette River. The Molalla were known as great traders who transported goods from the Columbia River south to the Klamath Basin, and goods from northern California back to the Columbia. They travelled the high mountain trails at 4,000 feet and above, which formed an interconnected indigenous trail system running north-south. Other trails entered the Willamette Valley through mountain passes. Additionally, the Molalla had villages on the Molalla River and many of the rivers that originated from the western slope of the Cascades, and they were known to have participated in Columbia River trade as far away as Clatsop, where the best canoe builders were said to exist.[4]

[4] Drucker, Philip. Notes of MS 4516 (18) vol. 1, National Anthropological Archives, Smithsonian Institution, 1934.

The Chinookans of the north Valley inhabited Willamette Falls and north along the Willamette to the Columbia River and along the Clackamas and Sandy Rivers. They were the Clowewalla, Multnomah, Watlala and Clackamas.[5] They controlled trade in their area of the rivers and owned the wealthy resource of the Willamette Falls, where salmon, lamprey eel and other anadromous fish were netted, processed and traded to other tribes.

Earliest written accounts of the Willamette River, those of Captains Lewis and Clark in 1806, named the river the Multnomah, reflecting its original name from the Chinook peoples from the area. William Clark spent one day on the River, though the expedition mostly missed it (twice) along their journey. Here we get a sense of how populated the Valley was, especially on the River itself.

> I provaled [sic] on an old Indian to mark the Multnomah R down on the sand which [he did] and perfectly corisponded [sic] with the sketch given me by sundry others, with the addition of a circular mountain which passes this river at the falls and which connects with the mountains of the Seacoast. He also laid down the *Clackamos* passing a high conical mountain near its mouth on the lower side and heads in Mount Jefferson which he lais [sic] down by raising the Sand as a very high mountain and covered with eternal snow. The high mountain which this Indian lais [sic] down near the enterance [sic] of *Clarkamos* river, we have not seen as the hills in its direction from this valley is high and obscures the sight of it from us…. This Indian also informed me that Multnomah above the falls was crouded [sic] with rapids and thickly inhabited by Indians of the *Cal-leh-po-e-wah* Nation.[6]

Later, Scottish botanist and explorer David Douglas also calls the river Multnomah. It is with the influx of American settlers that the river’s name is changed to Willamette.[7]

The Willamette River is one of the great rivers of the region, emptying a lush agricultural area with many tributaries. Willamette Valley soils, brought here by the Missoula Floods

[5] Clowewalla (Oregon City), Multnomah (Wapato), Watlala (Cascades) and Clackamas.

[6] Lewis, Meriwether & William Clark, Rueben Gold Thwaites, Charles Floyd, Joseph Whitehouse. Original journals of the Lewis and Clark Expedition, 1804-1806: printed from the original manuscripts in the Library of the American Philosophical Society and by direction of its Committee on Historical Documents, together with manuscript material of Lewis and Clark from other sources, including notebooks, letters, maps, etc., and the journals of Charles Floyd and Joseph Whitehouse, now for the first time published in full and exactly as written, Antiquarian Press, New York. p. 254-255.

[7] The name “Willamette” derives from a Chinookan village on the lower river in numerous ethnographic sources. CTGR Cultural Protection Program GIS Database.

(as many as 40 of these flood events are theorized to have occurred between 13,000 and 14,500 years ago)[8], are some of the richest in the world. A combination of heavy rainfall, mild temperature and good soils, makes the Valley an ecologically complex and diverse place to live. The Native People of the Valley did not want for resources as there were plenty of vegetal foods to gather, lots of berries, and plenty of meats and fish.

The Valley sits at the center of a major trading route for the Native Peoples of the region. The Columbia River and its tributaries links hundreds of tribes in a trade network extending far into the Canadian north and to the Rocky Mountains, and down into the arid regions of the upper plateau which in Oregon is eastern Oregon. Trade goods all along this route would come down the Columbia and enrich the Chinookan tribes of the northern Willamette Valley. Wealth goods like dentalium shells, ooligan (smelt) grease, buffalo hides, canoes and whale bones would make their way into the Willamette Valley through the Multnomah and Watlala tribes. The Kalapuyans traded with prodigious amounts of wapato, camas bulbs and basketry for wealth items. In order to gain economic and political favor, Tualatin chiefs would seek to marry their daughters to Chinookan chiefs to acquire access to the best resources, especially access to fishing sites with copious amounts of salmon, sturgeon and eel.

Figure 3. Wapato, *Sagittaria latifolia*, "Indian potato." Photo courtesy of the CTGR Land and Culture Dept.

Kalapuya oral histories state that they placed a high value on their lands and their water resources. For the Santiam Kalapuya, the area between the forks of the Santiam River was the most important. There they had buried their people for many thousands of years and fully utilized all of the environments between the lowland prairies and the upland foothills of the Cascade Range. It is this area they chose as a permanent reservation while

[8] Allen, John Eliot, Marjorie Burns and Sam C. Sargent, 1986. *Cataclysms on the Columbia.* Timber Press. Portland Oregon.

negotiating the first treaty with the United States in 1851:

> We don't want any other piece of land as a reserve than that in the forks of the Santiam River. We do not wish to remove.[9]

It is where the Santiam River joins the Willamette that the Santiams had at least two towns that David Douglas encountered in 1836:

> Wednesday 15th - on arriving at Sandiam [sic] River, which falls in the Multnomah, a stream of considerable magnitude, we found the village deserted and no canoes. The men chose to swim their horses, I alone. …proceeded on and found an Indian village only two miles further on, with plenty of canoes.[10]

This account is significant because it is possible that Douglas was witness to the results of the malarial epidemics, represented by the empty village, which swept the land in the 1830s, killing up to 95% of the Native population. The remaining Kalapuya would gather, seeking out surviving people for companionship and mutual protection. The account is also interesting for the description of the volume of canoes that were indicative of the cultural lifestyle of the Santiam Kalapuya tribe.

Another early encounter with the Kalapuya was with the Applegate family in 1844. While traveling down the Willamette River to their first settlement at Salt Creek, the Applegates encountered the village at Champoeg[11]:

> We found a tribe of Kalapooyas [sic] living along the river at this place (Champoeg). They were not numerous. There were a few families of them living in miserable hovels near us, and down the river, less than a quarter of a mile, was a small village. There were a few huts at other places, but little skill was made manifest in the design or construction of their houses. These Indians were poor in every sense of the word. A few miserable ponies were all the livestock they had- except for vermin and fleas. They

[9] Beckham, Steven Dow, *Oregon Indians*, Oregon State University Press, 2006, Transcript of Chief Alquema/Joseph Hutchins from 1851, transcribed by Anson Dart, Oregon Superintendent of Indian Affairs.

[10] Douglas, David**.** Journal kept by David Douglas during his travels in North America 1823-1827, together with a particular description of thirty-three species of American oaks and eighteen species of Pinus, with appendices containing a list of the plants introduced by Douglas and an account of his death in 1834. Published under the direction of the Royal Horticultural Society, (London: 1914): 237.

[11] Zenk, Henry, Notes on Native American Place-names of the Willamette Valley Region. *Oregon Historical Quarterly* vol. 109, no. 1. The Tualatin place name Champoeg means "place of Yampah." Yampah is a Kalapuya word for wapato.

> were spiritless and sickly yet appear satisfied with a miserable existence. Many died that winter, and the hideous wail of the mourners, as they conducted the funeral services, was heard almost daily.[12]

Again we see that the Kalapuya, here a band of the Yamhill-Tualatin Kalapuyas, were river people who located their towns along the Willamette River. We also see that by the 1840s diseases were still present and affecting the tribes to the point that they were having trouble keeping the village in order.

The Willamette River system prior to American settlement was a meandering river with many marshes and wetlands throughout the Valley. The river was full of debris from the harsh winters when huge trees would be washed out of the Cascades and down the Santiam River to lodge somewhere along the main stem of the Willamette. The river ecology was incredibly diverse with an immense diversity of animals, plants, fishes, birds, reptiles and amphibians living in numerous environments.

Figure 4. Tule, *Schoenoplectus acutus* var. *occidentalis*, and wapato in the marshlands of the Willamette Valley. Photo courtesy of the CTGR Land and Culture Department.

[12] Jesse Applegate. *Recollections of my Boyhood*, Roseburg: Press of Review Publishing Company, 1914: 127.

The character of the Willamette River, and that of the Valley, has changed dramatically since the time when Kalapuya villages dotted the river banks. Back then, the braided, slow and meandering waterways had plenty of snags and were perfect for river canoes. Canoe travel was very common and all tribes had permanent towns along the major rivers. Ideal locations to have a village were at the junction of rivers where access could be had to a wide variety of environments by canoe. The falls were also good places because when salmon and other anadromous fish sought to travel upriver, Native People could catch them when they attempted to ascend the Falls.

The main canoe style of the Kalapuya was mainly a shallow river canoe. These canoes were easily made from drift logs, cedar being the best wood for canoes. The shallow nature of their canoe style made it easy to float through shallow rivers and marshes, and they could also be easily turned in a current. The western style of canoe, also called the Chinook canoe, was also common in the Valley, but was made by the Chinook peoples of the Columbia River. These canoes were made for fast travel and for travel in surf and ocean conditions where the water is deep and waves are high. Some Tribes on the coast hunted whales in these canoes. Chinook canoes were made out of cedar logs which were burned out, carved, steamed and stretched to a greater width for carrying many people. Many of these canoes could be extremely long, up to at most 60 feet. Chinook canoes were highly prized by the Kalapuya as wealth and status symbols and chiefs would normally have one.

When Americans settled the Valley, they sought to establish industries and farms. To do this, they needed to change the Willamette River to allow larger river vessels to travel with products to worldwide markets. By 1855, travel by sternwheeler steamboat was possible to Eugene from Canemah[13]above the Willamette Falls. Regular traffic necessitated that the River be cleared of debris, making it safer for daily travel. By 1878 a canal was cut through Willamette Falls to eliminate the need to portage goods around the Falls. The River channel was regularly dredged, eliminating the need for the River to meander and helping to lessen the nearly annual flooding. Later reservoirs were cut into the upper reaches of most of the Willamette River's tributaries and dams were built to better control the River's flow, to preserve water for year round use, and to generate hydropower. American agriculture and ranching in the Valley caused changes in nutrient levels of water runoff. Mills in towns like Eugene, Salem and Oregon City utilized millraces of diverted river water to run their waterwheels or canals to get around the falls.

[13] Canemah was a town above Willamette Falls on the east side of the river. This is the original site of an Indian village. Kanim is the Chinuk Wawa word for canoe. There is a possible linkage to the Chinuk Wawa word Ikanum, meaning myth stories, as well.

Salmon wheels were built that harvested salmon by the thousands. These fish were sent to be canned at commercial canneries, and canoes became unnecessary and inefficient for commerce or travel on the River.

In 1856, the tribes were removed from their ancestral lands after ceding their territories to the United States under the ratified Kalapuya Etc. Treaty and six other treaties (1853-1855). The tribes ceased to need canoes as they were kept at the reservations and were not allowed to leave, except to take agricultural work in the Valley. Canoe culture stopped being supported having been overcome by the horse, larger boats/ships, trains and eventually the automobile for travel and commerce.

Figure 5. Grand Ronde canoe (Stankiya) and tribal members in Willamette River near Salem, Oregon in 2012. Photo courtesy of the CTGR Land and Culture Department.

For more than 100 years, the descendants of more than 30 tribes at the Grand Ronde Indian Reservation were forced to turn away from their canoe culture. In the 21st century, tribal people began working to re-establish their connection to the canoe culture by joining Northwest Tribal Canoe Journeys. For the past decade the Grand Ronde Tribe has engaged in a Canoe Family project which sends a crew of adults, elders and youth into Washington State to take part in the journeys. Each summer more than 100 canoes travel together for two weeks for mutual kinship and cultural restoration. The project has

inspired development of tribal language immersion programs, the building of plankhouses, the exploration of traditional dances and songs, and the institution of renewed tribal cultural life-ways in the whole region.

Canoe culture has returned to Grand Ronde as Kalapuya and Chinook descendants now participate in canoe journeys throughout the region. Locally, the Canoe Family annually floats the Willamette River, from Independence to Portland. The tribe's vision is to return canoe culture to all tribal people in the area so that we again travel the indigenous waterways named after the Valley's tribes, the Luckiamute, Santiam, Long Tom, Yamhill, the Calapooia, Clackamas and the Tualatin, all tributaries to the Willamette River.

"A Village of some Pretention"[1]: Rediscovering the Original Orleans, Linn County, Oregon

Paul Baxter and Christopher L. Ruiz - University of Oregon,
Patricia A. Benner - Stream ecologist, river historian

Figure 1. The Sternwheeler *Onward* photographed in 1861 in flood ravaged Salem (note the washed out Commercial Street Bridge), after having saved flooded Willamette Valley settlers from trees and roofs (Green 2010). [2]

Abstract: The devastating flood of December 1861 had a profound impact on the communities situated along the Willamette River. The effect of the flood played a role in shaping which communities prospered and which faded into history. Orleans, in western Linn County, sited opposite Corvallis, was one community that faded. Although Orleans ceased to be competitive with Corvallis, the town continued to have a phantom-like existence for decades following the flood, albeit largely as speculative real estate. A survey map of the Orleans townsite dated between the 1870s to 1890s hints that some still held out hope that it would once again be the focus of river commerce. The advent of the railroad, however, appears to have curtailed any future prospects for the community.

[1] The title excerpted from a quote which appeared in a 1903 retrospective in the *Corvallis Times* about the 1861 flood, "At that time on the east side of the river there was a village of some pretention[sic] to which had been given the name Orleans by its founder, Isaac Moore." *Corvallis Times*, January 31, 1903.
[2] Green, Virginia. 2010. Salem Heritage Network (Shine), http://salem-heritage-network.blogspot.com/2010_01_01_archive.html.

Introduction

The Willamette River has played a powerful role in shaping land-use history in the central Willamette Valley. At the beginning of settlement, the river was the main commercial and travel artery of the valley, with the mills, warehouses, granaries and business districts of many towns built as near to the landings as possible. However beneficial to travel and commerce the river may have been, its annual floods also left their mark on settlement in the valley. The Willamette River flood of 1861, one of the largest floods recorded in the region, was a pivotal event for burgeoning villages and towns along its banks. Preceded by a month of heavy rain on the valley floor and heavy snow in the Western Cascades, a late November depression suddenly brought warm southerly winds. At Fort Vancouver, the normal December temperature shot up from 30° F to a balmy 59° F, accompanied by extremely heavy rain and melting snow.[3] Severe flooding occurred throughout Oregon, Idaho and California. The river crested at Albany on December 8, with out-of-bank waters so extensive that the riverboat *Onward* left the channel to collect refugees from the roofs of their houses.[4]

Figure 2. This 1939 air photo captures an oblique view to the east with Corvallis in the foreground, bounded by the Willamette River, and entered via the Van Buren Bridge. Beyond, roughly 78 years earlier, stood as a Corvallis newspaper would refer to it in later years, "a village of some pretention[sic] to which had been given the name Orleans."

[3] Wells, Edward Lansing, "Notes on the Winter of 1861-1862 in the Pacific Northwest" *Northwest Science* 21, no. 2 (1947): 76-82.
[4] Corning, Howard McKinley, *Willamette Landings* (Portland, OR: Oregon Historical Society, 2004).

Beyond causing significant damage to property, the Great Flood had far-reaching implications for settlement patterns in the region. Entire communities, such as venerable Champoeg, were swept away, or at least drowned, by floodwaters. The once thriving town of Orleans, vying with Corvallis as the regional market town, was wiped off the map. Decades elapsed before the area was redeveloped. The history of Orleans, including its exact location, was lost or forgotten, effectively reducing the town to a historical footnote. During a recent archaeological excavation in the OR-34 corridor, a previously overlooked survey map was identified. This document not only allowed investigators to identify the location of the Orleans townsite, but also provided clues indicating that although Orleans' prospects as a viable community ended in the floodwaters of 1861, land speculators held out hope that the community might be rejuvenated.

Landscape History of Western Linn County

The Willamette Valley stretches north 118 miles, from the headwaters of the Willamette River Coast Fork, to its confluence with the Columbia River. Across that length, the valley is an average of 25 miles wide, with a floor characterized by broad, pool table-flat, alluvial plains interspersed with small groups of low-lying basalt hills.[5] Forest stands, tree groves, as well as oak savanna and grasslands, form a heterogeneous mosaic across its surface.[6]

At the opening of the nineteenth century, Kalapuyan speakers occupied all of the Willamette Valley, with the Mary's River and Santiam Kalapuya bands residing in the area of modern-day Corvallis and Albany. Plant resources were a staple of the Kalapuya diet. Chief among these was camas (*Camassia* sp.), a bulb in the lily family that commonly occurs in wet meadows. Other important plant resources include the tuber Wapato and seeds of tarweed, annual grasses and forbs, hazel nuts, acorns, and various types of berries.[7] Annual field burning in the Valley by the Indians kept the grasslands open and free of dense undergrowth. This promoted the growth of valuable food plants (especially annual seed-bearers), made the harvesting of seed plants easier, provided open grazing, and created concentrated cover areas for deer and elk to facilitate hunting. The fall to spring flooding of the burned-over prairies also created expansive foraging for sky-blackening hordes of waterfowl.[8]

[4] Christy, John A. and Edward R. Alverson, "Historical Vegetation of the Willamette Valley, Oregon, Circa 1850." *Northwest Science* 85, no. 2 (2011): 93-107.
[5] Zenk, Henry B., "Contributions to Tualatin Ethnography: Subsistence and Ethnobiology," (master's thesis, Department of Anthropology, Portland State University), 1976.
[8] Taft, Oriane W. and Susan M. Haig, "Historical Wetlands in Oregon's Willamette Valley: Implications for Restoration of Winter Waterbird Habitat." *Wetlands* 23, no. 1 (2003): 51-64.

In the 1830s, an intermittent fever broke out, which today is thought to have been malaria, and by 1840 over 90% of the Kalapuya had perished. These now virtually deserted open prairies, maintained, perhaps created, by millennia of Kalapuya field burning, were particularly attractive to Euro-American settlers who, beginning in the early 1840s, migrated west on the Oregon Trail. By 1851 an editorial noted, "from Linn City out to the Plains, the land, we have been informed, is nearly all claimed, hills and all. The claims in the timber are pretty generally backward in improvements . . . the labor of making farms in the timber so much greater . . ."[9]

Among the earliest Euro-American settlers in the area that became Corvallis was Joseph C. Avery, who arrived in 1845. Avery settled on a land claim located on the west side of the Willamette at the mouth of Mary's River and began to develop the land.[10] He formally platted the town of Marysville in 1851. William Dixon claimed the land just north of Avery's in 1846, and following Avery in 1851, platted Dixon's Addition to the north of Marysville. The name of this developing community was changed in 1853 from Marysville to Corvallis, which means "the heart of the valley."

At this point on the river, the west bank is only slightly higher than the east, but the relatively small difference of about 10 feet in elevation is critical during exceptional flood events. Of course, pioneers arriving after 1851 were faced with valley lands being "nearly all claimed, hills and all,"[11] and it may be that such topographic facts were discounted, as less desirable lands were all that remained. But geography was a significant factor in the 19th century settlement of the valley, a fact that became dramatically obvious during the Great Flood of 1861,[12] and which continues to be of note to this day.

Across the river from Marysville, Isaac Moore[13] staked out a 322-acre donation land claim in 1848. In 1851, following the lead of his neighbors, Moore surveyed the east side of the river for the community he named Orleans.[14] That same year, the voting precinct of Orleans was organized and served as a polling place for the area. Orleans' Main Street

[9] Schnebly, David J., "Editorial Correspondence," *Oregon Spectator,* July 29, 1851.
[10] Martin, Bruce, "History of Corvallis, 1846-1900," (master's thesis, University of Oregon), 1938.
[11] Schnebly, 1851.
[12] Langridge, Russel W., "Soil Survey of Linn County Area, Oregon." USDA Soil Conservation Service, in cooperation with USDI Bureau of Land Management and Oregon Agricultural Experiment Station. U.S. Government Printing Office, Washington, D.C., 1987, www.or.nrcs.usda.gov/pnw_soil/or_data.html. (accessed November 15, 2012).
[13] Moore was a carpenter by trade and originally hailed from Connecticut.
[14] Chappel, Jill A., et al., "Cultural Resource Survey and Evaluation of The Proposed AT&T Fiber Optic Cable Route, Linn and Benton Counties" (Heritage Research Associates Report No. 128, on file at the Oregon State Historic Preservation Office, Salem. 1992), 54.

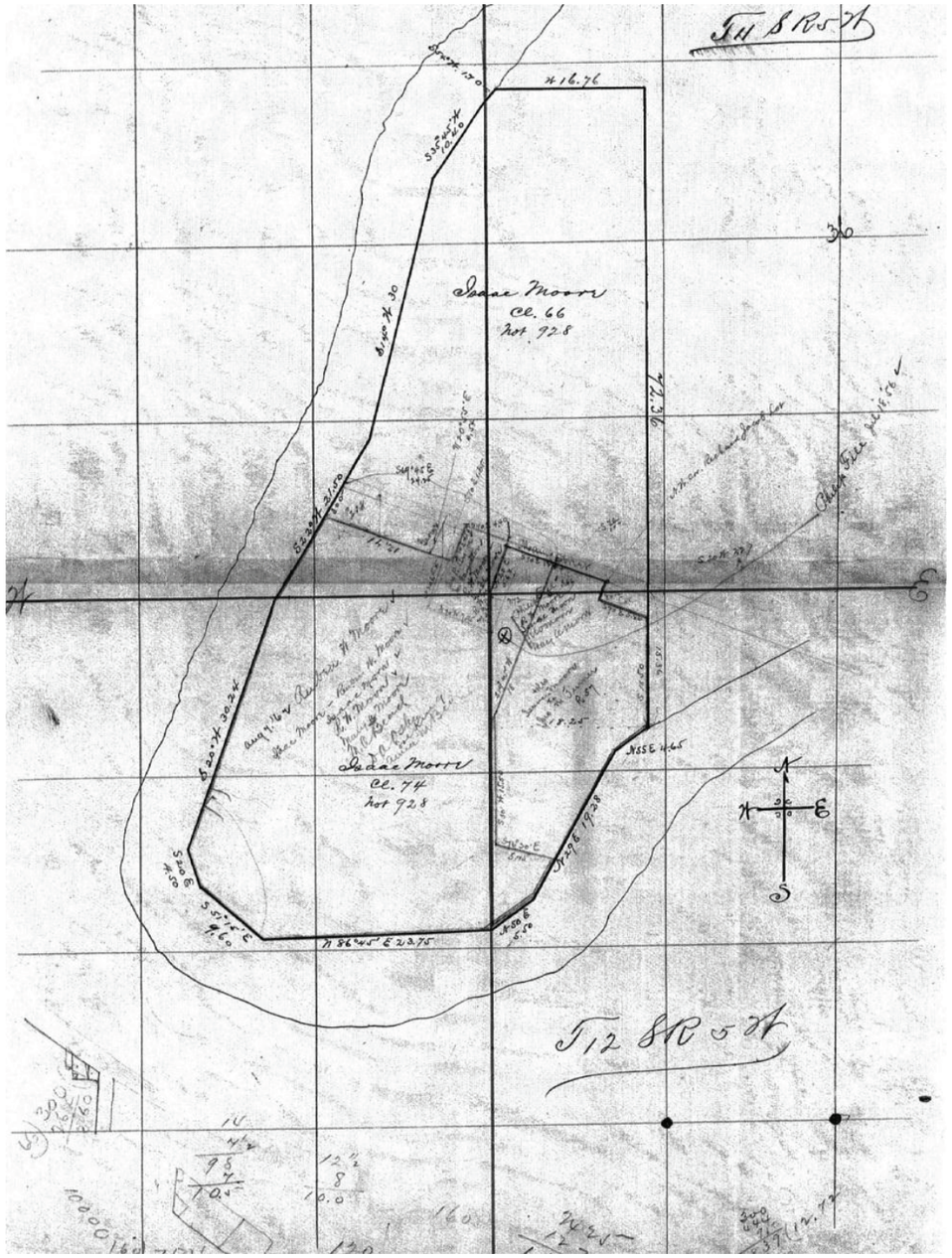


Figure 3. Working Survey map (1862) of Main Street Orleans. This map was made well after the 1861 flood. Names on this map appear on the county deed records. Main Street (OR34) is clearly marked, as is the original location of the Philip File (Phile) lot marked with an X.

was the county road extending east from the ferry landing which offered passage between Orleans and Corvallis.[15] [16] The land which Isaac Moore claimed and upon which Orleans was built, was not open prairie, but was in fact, riverine forest, comprising willow, maple, cottonwoods and ash. This may well suggest that Moore had river business in mind, rather than simply establishing a farm.[17]

Dixon's initial 1848 ferry service across the Willamette River may have been like that provided by Avery across the Mary's River: the free use of a canoe. But in 1850, Isaac Moore and Wayman St. Clare built a decked ferry boat capable of carrying cargo and established a commercial ferry operation at about the location of the modern Van Buren Bridge, hiring Philip Phile as the ferryman.[18]

During the 1850s, Corvallis and Orleans were major supply centers and staging points for miners headed to the gold fields of southern Oregon and California.[19] In correspondence to General Joseph Lane, Edward Shiel, a 40-year-old Corvallis physician from Ireland,[20] noted that the village of Orleans was "as near as may be in the center of the [Oregon] Territory" with "many facilities for the public."[21] The 1860 census notes a population of 40, about half of them European emigrants from Germany, England and Ireland, and the other half, American emigrants. Many were craftsmen of one kind or another, looking for work or a business venture in town, rather than a farm.[22] [23]

[15] The present location of Van Buren Bridge essentially follows the path of the current Oregon Highway 34
[16] Gallagher, Mary K., "Staff Report (February 18, 1993): HR-1-87/88; Placement of the site of the town of Orleans on the Linn County Register of Historic Resources" (On file at Linn County Planning and Building Department, Albany. 1993), 3. Gallagher's report was instrumental in calling attention to the importance of the Orleans townsite.
[17] Examination of the 1850s General Land Office survey maps and their accompanying survey notes, as well as other contemporary documents, has allowed the mapping of the distribution of the valley's vegetation in the mid-19th century.
[18] Corning, 161-162.
[19] Gallagher, "Staff Report," 4.
[20] According to the 1860 U.S. census, Shiel was a Corvallis resident.
[21] Corning, 162.
[22] Included are German emigrants Joseph Gearhart (blacksmith), Joseph Sage (carpenter), Frederick Sage (cooper), Charles Clemen (brewer), John Brown (brewer), Philip Phile (ferryman), Andrew Schoner (butcher), and Gustavas Hodes (gunsmith), who established the Hodes Brewery in 1857 (*Corvallis Times*, 1903). According to the 1860 census other residents included Isaac Moore (carpenter), Moore's servant Joe, Charles and William Splawn (day laborers), Robert Baldwin (harness maker) and his wife Martha, Sanford White (warehouse owner) and his wife Clairisa, Thomas Barnes, John Hug, John Rexford, Jesse Hapkinstall (blacksmith), Morgan Lilliard (laborer) and his wife, as well as William Watson, and Wyman St. Clair. The names penciled in on the Orleans survey map are difficult to read. The names Philip Phile ("File" on the map), Isaac Moore (carpenter), Joe King (is this Moore's servant Joe, enumerated in the 1860 census), John Brown (brewer), Richard Jacob (tailor), Maria Beach (Merchant Dennis or Demis Beach's wife) also appear in the 1860 census.
[23] Benner, Patricia A. and J.R. Sedell, "Upper Willamette River landscape: A Historic Perspective." In *River Quality: Dynamics and Restoration*, Antonius Laenen and David A. Dunnette, editors, Lewis Publishers/CRC Press, Boca Raton, FL. 1997.

The town of Orleans prospered as a popular riverboat landing, ferry crossing, and local trade center during the 1850s. Although no one knows how many buildings were actually built, or the exact layout of the town, deed records on file with the county indicate at least

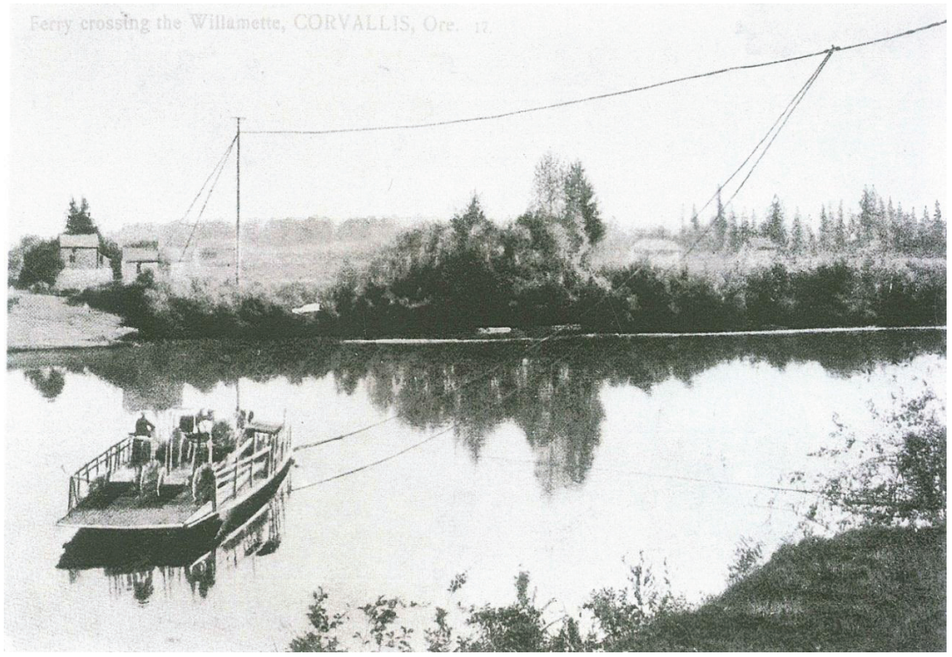


Figure 4. The Corvallis ferry at Van Buren Street, ca. 1880-1895. This view to the east shows a number of structures in the old Orleans townsite. Benton County Historical Society and Museum collection, #1994.38.49.

15 blocks existed in the nine years that Orleans prospered.[24] [25] It seems likely that Block 2 was on the River, as a warehouse was built in Lot 1. The flood of 1861 carried Philip Phile's house away from his Lot 6 in Block 3. The 1903 flood carried away the Jeptha Parrot home, or as the *Corvallis Times* phrased it, "The rushing waters labored unremittingly to undermine his home and sweep the family into eternity."[26] While the house was lost, the paper congratulates Parrot's family for "escaping the terrors of the flood." The Parrot house was reported to have been located at the same location that Phile's house had occupied in 1861, when the "unremitting waters" swept it

[24] Gallagher, Staff Report," 1.
[25] Existing records, including the original town plat, are very limited because a fire in 1861 destroyed the Linn County Courthouse where they were kept.
[26] *Corvallis Times,* January 31, 1903.

downstream.[27] The article locates the Parrot house to the immediate east of the present Van Buren Bridge, near the northern swing of the oxbow of the Willamette River. If that is the case, then Block 2 and Block 3 may have been separated by as much as a thousand feet. How the blocks were platted remains a mystery which may never be solved and it may not be a question of logic. The blocks at Boston Mills, a contemporary town a few miles to the southeast for example, were laid out in a spiral.

Whatever the scale of development, it reportedly all came to an end with the great flood which began on the night of December 1, 1861. It announced itself to the unsuspecting valley residents by knocking on the sides of their houses with floating logs.[28] A retrospective published 16 years later in 1888 stated:

> [The] village of Orleans which stood on the east bank of the Willamette opposite Corvallis, was almost entirely swept away. The river at that place makes a big bend, and Orleans, happening to stand on the concave side, was directly in the pathway of the 'short-cut.' For several miles the river cut a deep wide channel, undermining and sweeping away whatever obstacle opposed the force.[29]

Although reported as such in subsequent retrospectives, the heavily damaged town was, in fact, not "almost entirely swept away." Years later, Orleans buildings are remembered

as still being present.[30] However, several buildings, including Philip Phile's house, Gustavas Hode's brewery, and some warehouses, were washed downstream or collapsed by the rushing waters. Phile's house was reportedly hauled back [31] and reestablished on the banks of the Willamette River, near the Van Buren Bridge location. The salvage reportedly cost $1000, equivalent to more than $20,000 today.

Simple dollar equivalents are a poor measure of the devastation. Replacing capital was almost impossible, and whether buildings were lost or not, the contents, particularly of warehouses, were ruined. As Corning writes, "losses were too great for a pioneer age when even the most meager assets were almost irreplaceable."[32] Nevertheless, river traffic continued and money was there to be made. Over the next 15 to 20 years, deed

[27] *Corvallis Times,* January 31, 1903.
[28] Miller, George R., "The Great Willamette River Flood of 1861, *Oregon Historical Quarterly* 100, no.2 (1999): 200.
[29] "The Winter of '62: The most severe in the history of Oregon," *Sunday Oregonian,* February 12, 1888.
[30] Corning, Howard McKinley, "Ghost Towns on the Willamette of the Riverboat Period," *Oregon Historical Quarterly* 48, no. 2 (1947): 55-67.
[31] Corning, 65.
[32] Corning, 166.

records show new investors in the lots and blocks of Orleans. Consequently, although Orleans never recovered to become a viable community again, the town land partitions of blocks and lots continued to be bought and sold for years after the 1861 flood.

Figure 5. An almost annual flooding event captured in a photograph, ca.1900. The view is west towards Corvallis across the Corps of Engineers revetment from the eastern curve of the great S-meander (see page 10). The 1906 channel cut-off abandoned this channel. The house and barn may be those of J. M. Turner, as noted on the 1878 Marion and Linn Counties Atlas Map. Photo from the National Archives & Records Administration-Pacific Region (Seattle), Historical Photographs.

Of course, the town of Orleans did not recover and by 1878, Isaac and Reuben Moore had bought much of the land back.[33] Only two houses were recorded on the Linn County Atlas map where the thriving nascent town of Orleans had once stood.[34] "Completely swept away" is a better story than crippled and dying, and the winners, represented here by the Corvallis newspaper, always get to write the history. What really vanished in the rushing waters of the great flood were Orleans' chances of competing with Corvallis.

[33] Linn County Deed Volumes show transactions of Orleans designated blocks and lots being sold throughout the rest of the 19th century.

[34] Based on the results of a surface reconnaissance (Gallagher 1993; Figure 3.7), portions of the former town site, bordering the south side of Highway OR 34 between the Willamette River and SE Ireland Lane, have been listed on the Linn County Register of Historic Resources. Noting the previous impacts, and the "very incomplete" written record of this early settlement, the Linn County Planning and Building Department has recognized that "information provided by the archaeological record could be significant."

In the late 1860s, the Oregon and California Railroad began to push south from Portland, while in the 1870s, the Willamette Valley and Coast Railroad was built from Corvallis to Yaquina. Clearly the days of river traffic, the driving force behind the establishment and hoped-for re-establishment of Orleans, were numbered. The various citizens of Orleans had dispersed to the surrounding towns of Corvallis, Albany, Brownsville and beyond. By the late 1870s, as stated previously, deed records show that the Moore brothers had reacquired most of the land that had been the town of Orleans.

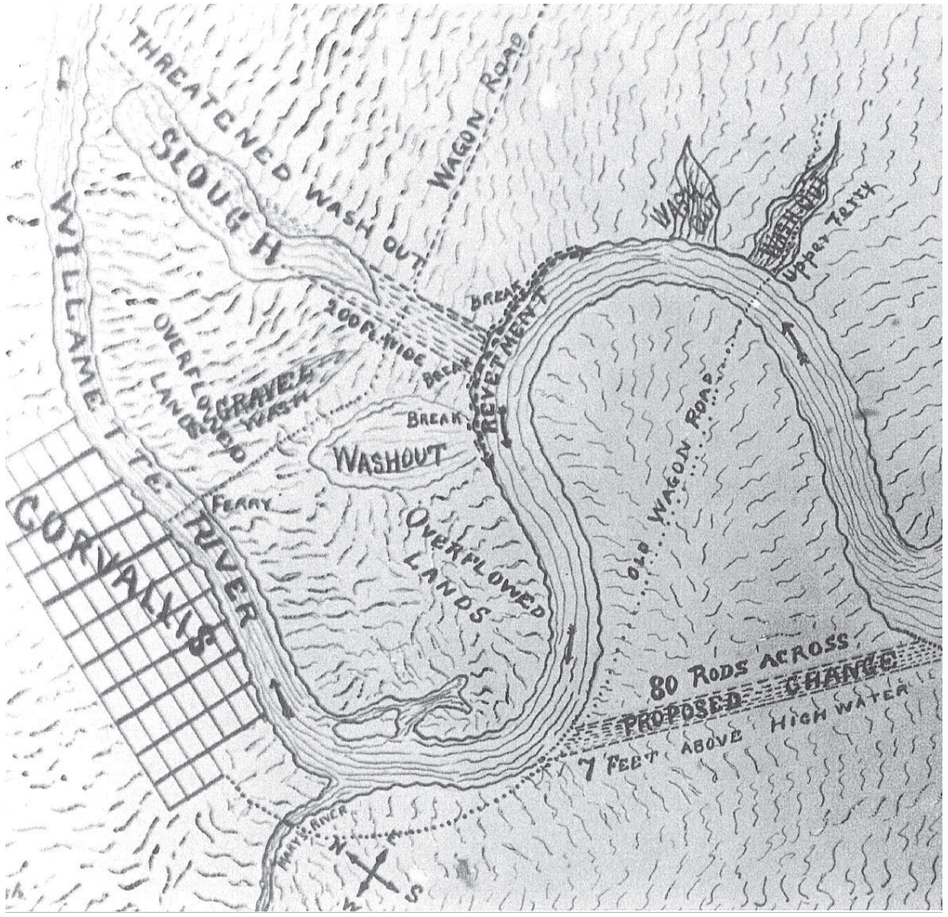


Figure 6. March 23, 1894 sketch map from the *Corvallis Gazette* newspaper illustrating both the "THREATENED WASH OUT" which might have moved the main Willamette River channel away from Corvallis, as well as the proposed change, which became the new channel in 1906. The "SLOUGH," "Overflowed Lands" and "Washout" are within the Orleans townsite. The ferry was about where Van Buren Bridge now stands. Benton County Historical Society and Museum collection, #1994-38.294.

As time passed, more houses were built so that parts of the Orleans townsite continued to be occupied throughout the rest of the 19th and for most of the 20th centuries. A series of maps and air photos document those structures. Interestingly enough, the photos of floodwaters look east from the higher and drier city of Corvallis. The 1878 Linn County Atlas map records the Reuben W. Moore and the J. M. Turner houses. The 1912 USGS Corvallis 15' quadrangle shows six structures within the area, while a 1936 air photo documents at least 15 structures. A 1964 air photo taken during a flood event reveals four structures which were still present on the 1986 USGS quadrangle, but by the late 1980s, the highway bypass project around Corvallis completed the River's work and removed the rest of the houses.

The wheels of government turn slowly and some lessons of the Great Flood were not forgotten. The specific flooding of Orleans had occurred east of the town at a break in the upper curve of a large S-bend meander of the River, the bottom curve of which passes by Corvallis.

In 1887, the slackening need for navigation of the river notwithstanding, a Corps of Engineers report stated:

> It is alleged that the Willamette River near the City of Corvallis, is about to cut a new channel by which said city will be left at a considerable distance from the river, the navigation of the river destroyed or greatly impaired, and much damage done to adjacent land.[35]

Subsequently, a large, three-phase bank stabilization/revetment project was undertaken, which lasted into the early 1900s. By 1890, however, an overflow channel had begun to cut across the neck of the peninsula formed by the upper bend of the S-curve and by 1906, an estimated one-quarter of the river flowed through the cut-off. And then, as is the way of the river, a flood drove through the cut-off, shifting the river flow to its present location, creating Fisher Island in the crook of the abandoned S-bend and saving Corvallis from a dry land existence, thus making the decade of revetment work meaningless.[36] As the brutally honest *Corvallis Times* phrased it, "the new channel does more to save the low lying farms across the river than all the government work has done. Along the revetment now the water is fast becoming stagnant."[37]

[35] 1887 *Report of the Chief of Engineers,* US Army, to the Senate.
[36] Benner, Patricia A., *The Willamette River near Corvallis, River History & Ecology.* Manuscript in the possession of the author (2012), 21.
[37] "Main River Now," *The Corvallis Times*, February 13, 1906.

Archaeological Investigation

Beginning in 2004 and stretching to 2012, highway construction resulted in a series of archaeological projects which investigated within the Orleans townsite. Excavations were confined to the highway right-of-way on both sides of the OR 34 highway, the route of Main Street through Orleans, and on both sides of the Philomath Bypass Highway. Excavations exposed concentrations of several thousand fragmentary artifacts, ranging in age from the mid-19th century to modern road trash.

While human decisions and their impacts on the land are detailed in historic documents, there is a point at which existing documents have been plumbed for all that can be ascertained. In the case of Orleans, flood, fire and time have left very limited archives. Archaeology may be able to answer some questions about the vibrancy of the town before the flood and the level of resiliency in post-flood domestic or commercial life. For example, how was the town of Orleans laid out? Records document the owners of lots by block, but the loss of the plat map in the 1861 Albany Court House fire (truly an unlucky year for Linn County) left no record of how the blocks were laid out. The 1860 U.S. Census, however, records the residents and their professions. Those professions may have left distinctive traces on the land. For instance, Joseph Gearhart, a blacksmith, bought lots 6, 7, 8 and 9 in Block 9. Blacksmithing creates a distinct kind of debris, and if he set up shop, there should be recognizable evidence of it. Robert Baldwin, a harness maker, bought all of Blocks 11, 12 and 15. That much land in town, together with his harness maker profession, suggests he may have opened a livery stable, which may also have left identifiable artifact types and distributions.

The very limited excavations recovered assemblages, including fragments of a slate writing board, an ink bottle, a porcelain doll's leg, locally-produced redware pottery, and a diverse selection of mid-19th century ceramics, such as vessels with hand-painted, sponged and dot designs, as well as a range of construction materials that include cut nails and hand-made bricks.[38]

Notable within the collection was the redware pottery – see Figure 7. A number of early Oregon potters produced inexpensive low-fired, and consequently fragile, redware pottery to replace all the shattered bowls, pots and dishes left to litter the Oregon Trail. In 1861, Barnet Ramsay produced distinctive redware pottery from a kiln northwest of Lebanon

[38] Chapman, Judith Sanders, *French Prairie Ceramics: The Harriet D. Munnick Archaeological Collection Circa 1820-1860*. Anthropology Northwest: Number 8 (Corvallis: Department of Anthropology, Oregon State University, 1993).

and in 1862 from a kiln near Halsey.[39] While the recovered artifacts are clearly Ramsay redware, the production pottery of the two kilns cannot yet be discerned from one another. The 1861 pottery may be associated with pre-flood Orleans, while the 1862 pottery may be evidence of continued domestic life in a post-flood Orleans.

Figure 7. Barnett Ramsay redware, a fragile crockery, produced locally in 1861 and 1862 from different kilns is identified by distinctive interior finger-indent ripples. The twelve recovered fragments do not conjoin but are probably from the same vessel.

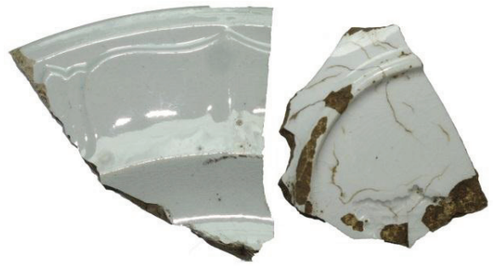


Figure 8.
Left: President Design, Edwards & Son, as early as 1855.
Right: Challinor and Co. impressed maker's mark, 1853-1860.

Several molded relief whiteware fragments were collected that exhibit the *President* design by James Edwards & Son, which dates to as early as 1855.[40] A fragment of white improved earthenware exhibits the Challinor and Co. maker's mark[41] which dates to between 1853 and 1860. Several fragments of Ironstone marked by the J&G Meakin Company of Hanley, England were manufactured between 1850 and 1890 – see Figure 8. Other ceramics, window glass, machine-cut nails and hand-made bricks are indicative of material remains also likely associated with a 19th century occupation, some, perhaps associated with the initial settlement – see Figure 9.

Dateable artifacts were clustered into three occupation periods. The first, based on ceramics, suggests a beginning as early as the 1840s and extending into the 1860s. The second, based mainly on structural materials (window glass), began in the 1880s and extended into the early 20th century, while a later 20th century occupation, marked by various items, including wire nails and a flashlight bulb, was also present. The numerous

[39] Schmeer, Blaine A., *Cold Kilns, Oregon Potters in the 19th Century* (West Linn, Oregon: Family Graphics and Publishing, 2010).
[40] Chapman, 196-7.
[41] Chapman, 204-5.

cut nails found across the site were used in all the 19th century constructions until wire nails replaced them in the 1890s and early 1900s. Unfortunately, no intact features, such as foundations, root cellars or privies, were located by the excavations, but they may still exist in the area.

Figure 9. Construction materials diagnostic of the last half of the19th century include hand-made bricks and 4d to 50d (penny) cut-nails.

Conclusion

Orleans is a fascinating example of just what was involved in the settling of Oregon by emigrants who were filled with hope, courage and determination. The oral history of Orleans is that it was washed away in one horrible night of Biblical-scale flooding, but the rest of the story suggests a tougher, resilient set of people, who collected their remaining, soggy material goods and, in the tradition of Oregon Trail pioneers, simply carried on. The limited archaeological excavations are tantalizing. While not disclosing the whole story, they have revealed the potential that still exists, just beneath the surface, to flesh-out the story of this "pretentious little village."

This article was made possible by a larger Oregon Department of Transportation project accomplished by the Research Division of the Museum of Natural and Cultural History, University of Oregon. Thanks to Diane Baxter and our colleagues at the museum for reviewing this article.

Steamboat Travel and Disasters on Oregon Waterways
Stories of Untimely Death and Survival

Ed Wilson, Oregon Maritime Museum

Figure. 1 The wreckage of *Sarah Dixon* after being brought ashore after the boiler exploded, January 18, 1912. The explosion killed Captain Fred Steenson, First Mate Arthur Monical, and Fireman Silas Knowles. Captain Steenson's body was not found until June 3rd, over 20 miles downriver. Photo: OHS Collection.

Abstract: As the rain-saturated dirt roads of 19th century Oregon were virtually impassable for the wagons of commerce several months of each year, rivers became the "highways of commerce." Although any travel in this era could be perilous in the best of times, river travel had its own set of hazards. In Oregon, these included rapids, waterfalls, rocks, shoals, and on one occasion, attack by Indians. But with the convenience afforded by steamboats came the added risks of fire and boiler explosions. Thus, there were deaths, survivors, and even some heroes. Although steamboats in the Northwest did not suffer casualties of the magnitude reached by vessels on the Mississippi and Ohio rivers[1], tragedy did indeed occur. This article will explore a few of these incidents.

[1] The explosion on *Moselle* in 1838 killed 160 and on *Lucy Walker* in 1844 over 100 were killed, but the granddaddy of them all was *Sultana* in 1865 which killed an estimated 1800 (mostly Union Soldiers), the worst maritime disaster in U.S. history.

Swept Away

The first recorded accident on Oregon's rivers occurred at Willamette Falls in early February 1843, when Nathaniel Crocker, Cornelius Rodgers; his wife and her young sister; the daughters of Rev. David Leslie; along with two Indians, were swept over the falls with their large Chinook canoe. W. W. Raymond of the Methodist Mission and two of the Indians were leading the canoe to a landing on the bank, and when another passenger, Dr. White, stepped from the canoe. The stern was launched into the strong current, and the rope was pulled from the grasp of the three men. "The canoe was dashed into a thousand fragments, and, with its living freight, swallowed up in the whirlpool below."[2] This tragedy was a big blow to the community, as there were only a handful of settlers at the time.

The Need for Transportation Becomes Acute

With the arrival of livestock and settlers in the summer of 1843, followed by the first wave of hundreds of settlers via the Oregon Trail that fall, there was suddenly a demand for a reliable transportation network. That need was at first, filled by pole-driven "flatboats" on the upper Willamette and "keelboats" on the lower Willamette. One of the creators of such a service was Captain J. D. Miller, who ran a 65-foot flatboat powered by "four Indians" who were paid $16 each for a round trip from Canemah to Dayton and Lafayette. Captain George Pease ran a keelboat on the lower river and an even more powerful flatboat on the upper river–powered by six Indians.[3] But then the steamboats came and these men were temporarily out of business–until such time as they both got a steamboat of their own.[4]

Lot Whitcomb of Oregon – A tragedy mars the launching

The first steamboat-related tragedy in Oregon occurred during the launching of the steamer, *Lot Whitcomb*, in Milwaukie. The eponymous vessel was named for her builder, who was also the founder of Milwaukie. The name was not an act of arrogance on his part, but was selected in his honor by a committee, which met at the state legislature building (then in Oregon City) on the evening of December 6, 1850. The committee was comprised of Captain William K. Kilbourne (mayor of Milwaukie), Asahel Bush, General A. L. Lovejoy, H. Campbell, and Governor John P. Gaines. They selected *"Lot Whitcomb of Oregon"* as the name.[5]

[2] Compiled by North Pacific History Co., *History of the Pacific Northwest: Oregon and Washington* (Portland: North Pacific History Company, 1889), 242.
[3] Wright E. W. (ed)., *Lewis & Dryden's Marine History of the Northwest* (Portland: Lewis & Dryden 1895), 27-28.
[4] Both men commanded many steam vessels; Miller a total of thirty-six and Pease well over a dozen.
[5] Olson, Charles Oluf, "*History of Milwaukie,*" prepared for the Federal Writer's Project, of the Works Progress Administration (Milwaukie: Milwaukie Historical Society, 1965), 15.

Lot Whitcomb (the man) arrived in the territory in 1847, serving as the captain of a wagon train, and bringing seven wagon loads of supplies and equipment of his own, including machinery for a sawmill. In 1848, he invested in the *Brig Forrest*, a ship sailing between Portland and San Francisco. He then decided to venture into the steamboat business and traveled to California to obtain machinery for the vessel. There, he also found and hired John. C. Ainsworth to serve as the vessel's captain; and Jacob Kamm, to install the machinery and serve as the vessel's engineer.

The launching of the *Lot Whitcomb* on December 25, 1850 was a momentous event. Notables on hand included Governor Gaines, who christened the vessel. Not far away, the schooner *Merchantman* was tied-up at the wharf, loading lumber from Whitcomb's sawmill. Her captain, Frederick Morse, thought it would serve well to fire a salute from the *Merchantman's* cannon at 3 p.m., as the *Lot Whitcomb* slid down the building ways. When Captain Morse fired the salute, however, the infrequently-used cannon exploded and a shard of iron shrapnel struck him in the neck, nearly decapitating him. But the "territory folk" were not ones to let such a grisly event put a damper on their plans, and the celebration continued "per schedule."[6]

Elk – The explosion of the boiler got them up in the air

That phrase, from the lyrics of the folk song, *Steamboat Bill,*[7] held true on a crisp November morning in 1857, at a point on the Willamette River one mile below the mouth of the Yamhill, near Davidson's Landing. The boiler aboard the little sternwheeler *Elk* suddenly exploded, reportedly sending Captain George Jerome vertically to such a great height that he landed in a cottonwood tree alongside the river. Allegedly, he stated that on his way down, he was able to look through the smokestack and see the boat's pilot, Sebastian "Bas" Miller, sitting on the riverbank. It is said that for the next 20 years or so, pilots traveling the Willamette would point out this cottonwood tree to their passengers and relate this story.[8]

Engineer William Smith and several other passengers received minor injuries. Others were more fortunate. Dr. James R. Cardwell and Berryman Jennings were both sitting next to a stove directly over the vessel's boiler, staying warm. The explosion shattered the stove, but both men miraculously escaped injury. It is fortunate, indeed, that these men were spared, as they both made significant contributions to Oregon.

[6] Olson, 17.
[7] Words by Len Shields. Music by Leighton Bros. (New York: F. A. Mills Music, 1910).
[8] Wright, 64-65.

Dr. James R. Cardwell was the first dentist to set up a practice in the Oregon Territory. He had come to Oregon in 1852, from Decatur, Illinois, which was then a town of about 500 residents. Shortly after he opened an office there, his uncle, J. R. Biddle, convinced him to abandon dentistry and emigrate with him to Oregon to establish orchards and a nursery business. However, as fate would have it, the wagon with all of their nursery stock overturned as they were starting to traverse the Snake River, and all of their grafts, set in fine Illinois soil, were washed away, save for one Chinese Daily Rose, which survived to grow in Portland.

Thus, Dr. Cardwell returned to dentistry, opening his new practice in Portland in November 1852. At the time, there were not enough residents in Portland (nor in any other town in Oregon) to sustain a single practice, so he established a route along the Willamette to Eugene, and then south to Roseburg. He built a home and an 80-acre orchard in Corvallis. In 1872, he became a charter member of the Oregon State Dental Society, serving first as its secretary, then two terms as its president. That same year, he was one of the founders of the Oregon Humane Society and served as one of its vice presidents. He was one of the founders of the Oregon College of Dentistry in 1898, of which he served as vice president and trustee. The college merged with the Tacoma Dental College of Dental Surgery in 1900 and became the Northwest College of Dentistry. We now know this institution as the Oregon Health Sciences University School of Dentistry. Dr. Cardwell also served there as Professor of Jurisprudence, Ethics and Dental History.[9]

His love of horticulture never faded and in January 1889, he became one of the co-founders of the Oregon Horticulture Society, serving as the group's first president. OHS organized Portland's first Rose Show in 1893. That same year, he served as the Horticulture Commissioner from Oregon to the World's Columbian Exposition in Chicago, from which he came back with 17 prizes, returning several thousand dollars in awards to the state.

An accomplished musician, he co-founded the Philharmonic Club of Portland and played both flute and piccolo in the group for a number of years. He also excelled at taxidermy and created a display of every bird in the state of Oregon. Other animals in his vast collection found their way to notable museums, including the San Francisco Museum of Natural History and the Smithsonian.[9] Dr. Cardwell died November 15, 1916 and is buried in Portland's Lone Fir Cemetery.

[9] Gaston, Joseph, *Portland Oregon, its History and Builders, Volume III* (Portland, OR: S. J. Clarke Publishing, 1911), 387-392.

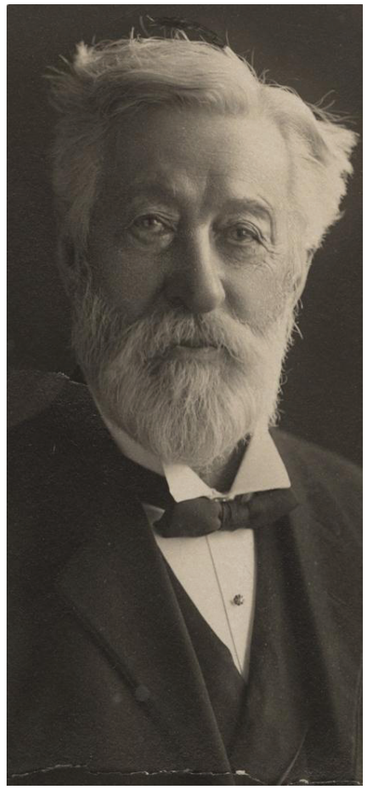


Figure 2. Dr. James R. Cardwell (1830 – 1916) Dentist, horticulturist, taxidermist, and musician. He was sitting directly over the boiler of the *Elk* when it exploded, but escaped without injury. Photo: OHSU Historical Collections and Archives.

Berryman Jennings came to Oregon from Iowa, where he had served as that territory's first schoolmaster near Keokuk in 1830. He came to Oregon in the wagon train led by Lot Whitcomb in 1847 and became a partner in the building of the namesake steamer, *Lot Whitcomb*.

He was elected to the Oregon State Legislature in 1860 and served as the Registrar for the Oregon City land office. He was very prominent in the Masonic Order and during the short time he was in California, was sent to the convention to establish the Grand Lodge of California. During this time, the name of the Sacramento Lodge was changed in his honor from the New Jersey Lodge to "Berryman Lodge No. 4" and subsequently to "Jennings Lodge No. 4", of which Jennings was installed as Grand Treasurer on April 19, 1850. But that lodge was not to last. After Jennings returned to Oregon, interest in the

lodge faded, and it ceased to be in 1853.[10] Back in Oregon, in August 1851, Berryman Jennings, John. C. Ainsworth, (who had also emigrated from Keokuk) and others formed the Grand Lodge of Oregon, of which Jennings was elected Grand Master. The unincorporated town of Jennings Lodge, between Gladstone and Milwaukie, still carries the name.

Sebastian "Bas" Miller, in spite of his respite on the riverbank, became one of the iconic steamboatmen of the territory, and commanded many vessels during his career. He is best remembered for his exploits in bringing the vessel, *Shoshone*, down through Hell's Canyon in the spring of 1870. During this adventure, he was nearly killed while felling a tree for fuel, but was soon back at the helm, after resting for only a day.[11]

Gazelle

I first became curious about the number of these catastrophes in the Oregon Territory after I heard Gordy Euler and Jonathan Lay, who comprise the musical duo "Shanghaied on the Willamette", perform a song called *Steamboatin' Jamiesons*.[12] This song was written by Bruce Coughlan, a well-known musician and composer out of British Columbia. It recounts the deaths of five brothers, all killed in steamboat-related disasters over the short period of seven years, starting with the explosion of the *Gazelle* on April 8, 1854—certainly the best-known of the disasters, due the large number of lives lost. Bruce told me his song was inspired by a chapter he had read in a book.[13]

Gazelle was built and owned by the firm of Page, Bacon and Company of San Francisco. This company was a large financial house and had started the Willamette Falls Locks Canal, Milling & Transportation Company in Linn City, located on the west bank opposite Oregon City. The company's first construction attempt ended badly—the vessel caught fire and burned on the building ways, a total loss. *Gazelle* was then laid down and when completed, it was "roped up" above the falls, for service on the upper Willamette.

As *Gazelle* steamed south on her maiden voyage, she encountered the steamer *Oregon*, which had hit a snag and was taking on water. Cargo was offloaded to *Gazelle* to lighten the load, but then *Oregon* broke free of the snag and sank so deeply that only a portion of

[10] Sherman, Edwin A., *Fifty Years of Masonry in California, Vol 1* (San Francisco: George Spalding & Co., 1911), 106-108.
[11] Wright, 182.
[12] Shanghaied on the Willamette, "*Steamboatin' Jamiesons*" is on the CD *Two-man Crew* (Portland: Fresh Tracks Studio, 2004), available at the Oregon Maritime Museum.
[13] Patterson, T. W., "Death Stalked the Steamboating Jamiesons," *British Columbia Shipwrecks* (Langley, B.C.: Stagecoach Publishing, 1976, 1983), chap. 20.

her upper works was visible. *Oregon* was a total loss and a source of considerable financial loss to her investors, which included the WFTC.

Of *Gazelle's* maiden voyage on March 18, 1854, the *Oregon Statesman* wrote:

> The *Gazelle* is of beautiful model and of the right size and draught to be a successful boat on the upper river. She sits like a duck on the water and moves like "a thing of life." She belongs to the river transportation line established by the Willamette Falls Transportation Company, who have established their business on liberal terms, meriting public patronage.[14]

That last line turned out to be a very poor financial advice, as the company continued to be fraught with disaster. First, a fire largely destroyed the company's yard in April 1861, along with the granary works and the steamer *James Clinton*, and then, only months later, the whole facility was swept away in the flood of November 1861, which also spelled the demise of Linn City.[15]

Also that day, a wedding took place aboard *Gazelle*:

> Not the least interesting incident of the excursion was the marriage of Dr. E. C. Adair, of Polk County, to Miss Martha Kemp, of Takenah.[16] The ceremony was performed by Judge Terry of Salem, who reflected much credit upon the whole bachelor fraternity by the circumspect manner in which he saluted the fair bride after having securely tied the mystic knot.[17]

Less than a month after this bittersweet beginning, disaster would befall the vessel.

Early in the morning of April 8, 1854, *Gazelle* was moored alongside the steamer, *Wallamette*, at Canemah, to take on passengers and cargo. A few minutes later, witnesses reported seeing the *Gazelle's* engineer, a man named Moses Toner (some accounts cite Tonie as the name), leaving the vessel at quite a brisk clip. Shortly thereafter, at 6:40 a.m., the *Gazelle* exploded violently, with gruesome consequences. Two dozen hapless souls, on and around the boat, were lost immediately, including the vessel's captain, J. M. Fudge; the pilot of the *Wallamette*; and David Page, the superintendent of the company,

[14] *Oregon Statesman*, March 28, 1854, 2.
[15] Corning, Howard McKinley, *Willamette Landings -- Ghost Towns of the River* (Portland: Oregon Historical Society), 42-43.
[16] Takenah was combined with Albany by an act of the Oregon Territorial Legislature in 1855. http://www.oregonencyclopedia.org/entry/view/albany/, (accessed June 1, 2013).
[17] *Oregon Statesman*, March 28, 1854, 2.

who had previously lost his wife and daughter when the steamer *Jenny Lind* exploded in San Francisco on April 11, 1853. Several others died later of their injuries, including passenger **Crawford M. Dobbins**.

Mr. Dobbins was a business partner of Colburn Barrell, who had just purchased the Stevens farmstead in Portland, which included the Stevens family plot (cemetery). Mr. Barrell had two of the *Gazelle* victims laid to rest there. First was his friend, David P. Fuller, who died instantly in the explosion. The second was Mr. Dobbins, who succumbed to infection two weeks later, brought on by the amputation of his shattered leg. What started out as the Stevens family plot, was at first called the Mt. Crawford Cemetery and then evolved into Portland's Lone Fir Cemetery.[18] The gravesites of Fuller and Dobbins are a few feet south of the resting place of Dr. James Cardwell, who survived the explosion of the *Elk*.

Reverend James Patterson Millar (incorrectly spelled as "Miller" in all articles I have found relating to the *Gazelle* explosion) was also killed in the blast. Rev. Millar's wife was injured as well, but recovered. His six-year-old daughter, Ella, survived unscathed, living a long life until she passed away in Vevay, Switzerland on July 3, 1929—the last surviving member of the *Gazelle* disaster.[19]

Rev. Millar was a notable figure in Oregon history, being the founding pastor of the "very first" First United Presbyterian Church, which united the Associate and the Reformed Associate Branches of the church on October 20, 1852. The church building was dedicated on October 11, 1853.[20] This particular unification occurred seven years prior to the better-known unification of the same branches in Pennsylvania (for which full credit is claimed), and the Oregon unification remains rather forgotten.

Rev. Millar also built the once-famed "Octagon House" in 1851, the plan of which was used for the original Linn County Courthouse. The "Octagon House" served as a residence and school, and later the home of the Thompson family of Albany. The house was built from the plans of an identical home on the Hudson River near Argyle, New York, from where the Millar family migrated. That home belonged to a close friend who

[18] Friends of Lone Fir Cemetery, http://www.friendsoflonefircemetery.org/history.html, (Accessed June 1, 2013).
[19] "Mrs. Ella Millar Grover," *Oregonian*, July 10, 1929, 12.
[20] "First United Presbyterian Church Formed at Albany. Fifty Fifth Anniversary. Denomination Started by Union of Two Willamette Valley Churches in 1853. First Building Used is Still Standing." *Oregonian*, October 11, 1908, 8.

presented Rev. Millar with a copy of the plans as a parting gift when he left for the Oregon Territory.[21]

Robert Shortess was injured in the explosion, but recovered. A man of education, he was one of the 52 men who served on the legislation committee and voted for the formation of a provisional government at the Champoeg Meeting on May 2, 1843. He was a contributor to the Oregon Institute in 1842 and a proprietor of the Multnomah Circulating Library in 1843. Although his injuries were fairly minor, the event was "an experience that saddened the rest of his life."[22]

Figure 3. David Fuller and Crawford Dobbins were the first two interments outside of the Stevens family in what is now Lone Fir Cemetery. Crawford Dobbins died from his wounds three weeks after the explosion. Reverend Millar was interred in Riverview Cemetery in Albany, as was Samuel Hill. Photos: By the author.

Blame Fixed

A coroner's inquest into the cause of the explosion was held, and the remains of the boiler were inspected by Jacob Kamm, the engineer hired by Lot Whitcomb for his namesake vessel. Kamm had excellent credentials, having been certified as a Chief Engineer by the St. Louis Association of Steamboat Engineers. In his testimony, he stated that the boiler was constructed of "poor iron" and that possibly a defective feedwater pump had aided the disaster. The coroner's jury wrote that the explosion "was caused by the gross and culpable negligence of Moses Tonie, in carrying more steam that was safe, and neglecting to keep sufficient water in the boilers."[23]

[21] Mays, Genevieve Wilson, "Origin of Octagon House Plan, Builder Copied New York Residence," *Oregonian*, July 10, 1922, 6.
[22] Dobbs, Caroline C., *Men of Champoeg* (Portland, OR: Metropolitan Press, 1932), 107-110.
[23] Corning, 64-65.

Accounts state Moses Toner disappeared and was never heard from again. But the long arm of the law was pretty short in those days, as Moses G. Toner soon set up shop in Port Ludlow, Washington in 1855, and built a schooner—38 feet in length, with a 10-foot beam—and engaged in lucrative trade on the Puget Sound. He was arrogant enough to name the vessel "*Moses Toner,*" but was never called into account for his role in the *Gazelle* disaster.[24]

Jacob Kamm had only a peripheral role with the *Gazelle* affair, but eventually became one of the leading citizens of Portland and also one of its most wealthy. He was born in Glarus, Switzerland, and trained as a steamboat engineer on the Ohio and Mississippi Rivers. Kamm proved his capabilities when he and a worker assembled the boilers for the *Lot Whitcomb*, which arrived from San Francisco in twenty-one pieces. This required them to make their own tools for the task, as there were no boilermakers in the territory at the time.

Kamm was later the founder of the Oregon Steam Navigation Company and became one of Portland's first self-made millionaires. The residence he had built in 1871 still stands as a fine example of French Second Empire architecture. Designed by Justus F. Krumbein, co-architect of the Oregon State Capital (the building of 1876-1935), the home was one of Portland's first mansions and was equipped with steam central heating, provided by a steamboat's boiler. The house, now located at 1425 SW 20th Avenue, was moved from its original location in late 1950 to make room for Lincoln High School's third location.

Unfortunately, Kamm was left an invalid after being "run down by a reckless bicycle rider"[25] in 1907, and spent the last years of his life traveling in search of treatments to ease his suffering.

Canemah

Gazelle was not the "first to burst" in the Oregon Territory. That distinction goes to the *Canemah*, which suffered an "exploded flue"[26] on August 3, 1853, killing a passenger named Marion Holcroft. *Canemah* was subsequently repaired and operated until dismantled in 1858.

[24] Wright, 58.
[25] "City News In Brief, Mr. Kamm Confined To Bed," *Oregonian*, December 21, 1907, 9.
[26] Flues are the tubes running through the boiler which carry the hot gasses of combustion, and transfer the heat of those gasses to the water contained in the boiler. As boiler casualties go, a collapsed flue (collapsed is the correct term for fire tube boilers) tends to be less severe than a rupture of the outer pressure shell, which sends shrapnel in all directions. A collapsed flue will likely blow superheated steam and hot coals and ash out of the firebox, but is significantly less catastrophic than a rupture of the shell, which often destroys the vessel.

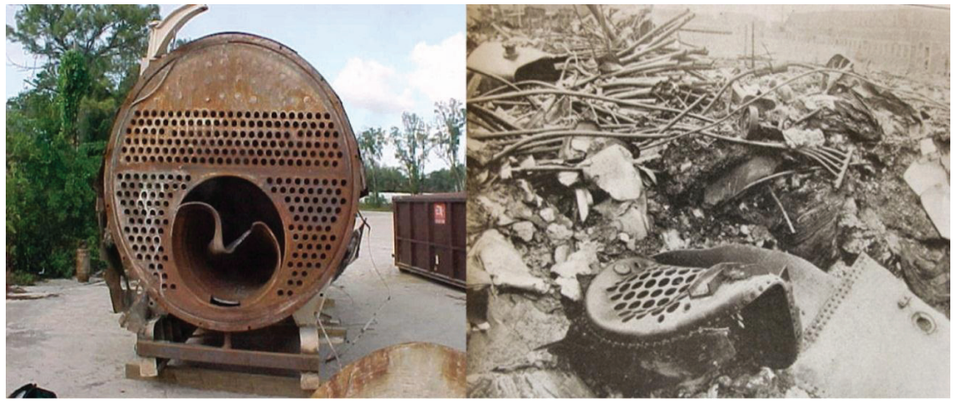


Figure 4. An "exploded" or more correctly, collapsed flue (left) is a less severe casualty than a complete failure of the pressure shell (right). Photos:
http://www.ais-forensic-engineering.com/casefiles.asp (left)
http://www.nautiluslosscontrol.com/boilerandmachinery.html (right)

Shoalwater

Captain Leonard White built the *Shoalwater* in 1852. He was introduced to the boating business while operating a rope ferry in Salem as a teenager. *Shoalwater* was so named due to her shallow draft, which allowed her to not only operate farther south on the Willamette, but to also continue operations during periods of lower water, when the river was inaccessible to other vessels.

Shoalwater experienced a collapsed flue on April 30, 1853 near Butteville, just downstream from Champoeg. It was reported that the cause was having "run up the steam too fast."[27] There were no fatalities, but several people were severely scalded. Passenger H. V. N. Holmes, a prominent resident of Polk County, jumped overboard and swam to the eastern shore before he knew he was hurt.

The vessel's purser, Joseph Buchtel, later became Portland's Fire Chief. Almost a year after the *Shoalwater* accident, he was working as ship's steward aboard the steamer *Wallamette*, when the *Gazelle* exploded, killing the *Wallamette*'s pilot. Possibly it was events such as these that led Mr. Buchtel to take up a "safe" profession, such as entering burning buildings.

[27] Since the typical boiler was constructed of a 1/4" thick wrought iron shell, thicker cast iron end bells, and anywhere from two to twenty or so thin wrought iron flues, these components expanded at different rates. It was important to heat and cool down the boiler at a reasonably slow rate so that the flues would not loosen from the end bells.

Shoalwater proved too expensive for her investors to repair, so she was sold, repaired and subsequently renamed *Fenix* (after the Phoenix, the mythical bird which rose from the ashes). The phonetic spelling allowed for larger lettering to be used on the vessel's pilothouse nameboards.

Captain Leonard White was known as a fearless steamboatman. He became the first person to pilot a steamboat to Corvallis, when he ran the resurrected *Fenix* to that town in 1854. This was such a momentous event, that the town awarded him a block of land. In 1855, he brought *Fenix* down to Harrisburg. Ironically, Captain White's father, James, was killed less than a year later in the explosion of *Gazelle*. Leonard did not achieve such a long life either, succumbing to "rheumatism and heart trouble"[28] on April 10, 1870 at the relatively young age of 43.

Portland

This accident took the life of Captain Robert Jamieson[29] and a deckhand named Bell, on March 17, 1857. The *Portland*, a large sidewheeler, was to have made a short move from the Canemah dock to the basin above Oregon City. Captain Jamieson believed that there was enough steam in the boiler to make the move. The regular engineer, cited only as "a brother of Captain Jamieson," remained on the dock. However, the vessel swung wide and got caught in the swift spring current and there was not enough steam pressure to overcome nature's course. Captain George Pease was on the dock and threw a line, while shouting for all to jump and grab the rope, but only the fireman, Peter Anderson, heeded the warning and jumped to catch the line. Captain Jamieson and Mr. Bell hesitated and jumped too late. Along with the vessel, they were swept over the falls to their deaths. Their bodies were never recovered.

The Jamieson brothers had interests in several steamboat ventures, and as stated earlier, all met with disaster, save for a sixth brother, who stayed in Scotland and entered the clergy.[30] *Enterprise* was the first sternwheeler in the territory and was built specifically for the upper Willamette in 1855 by Archibald Jamieson, A. S. Murray, Amory Holbrook, and John Torrence. Archibald served as her first captain.

[28] Lewis, David. The Oregon Encyclopedia, "White, Capt. Leonard (1827-1870)." Accessed July 17, 2013. http://www.oregonencyclopedia.org/entry/view/white_capt_leonard_1827_1870_/.
[29] Some sources say Archibald Jamieson was the one killed in this incident, but that is certainly incorrect, as Archibald was killed in the explosion of the *Cariboo* in Victoria Harbor on August 2, 1861, and is interred in the Old Burying Grounds Cemetery on Quadra Street, Victoria, B.C., as new articles and his headstone attest. Other references state a brother named Arthur was piloting *Portland*.
[30] Higgins, David W., "An Ill-fated Family," *The Mystic Spring and Other Tales of Western Life* (Toronto: William. Biggs, 1904), 171-185.

Smith Jamieson had interest in and was Captain of the *Fort Yale*; he was killed April 14, 1861 when that vessel's boiler exploded at Union Bar on the Frasier River in British Columbia. His body was never found. Archibald built the *Cariboo* in Victoria, B.C. in 1860. That vessel exploded at the outset of her second voyage, in the wee morning hours of August 2, 1861, killing Archibald and the youngest of the brothers, James, the assistant engineer. James had just arrived from Scotland, after training at the company in Scotland that built the engines and boilers for the vessel.

Several references state that a fifth brother was killed on the dock when *Gazelle* exploded, but his name is not on any casualty list that I have ever found. Other references to him say that he "died of a quick consumption from a cold he caught on the river."[31]

Senator

The explosion of *Senator* in 1875 is an excellent case study of how authorities lacked understanding about the causes of boiler explosions, and also of how the justice system of the era functioned.

Senator was built in 1863 by Captain Joseph Kellog and made her trial run on January 22, 1864. Her boiler exploded at the foot of Alder Street in Portland on May 6, 1875, just as she was swinging into the dock to take on passengers. The explosion killed Captain Daniel McGill; J.D. Locey, the purser; George Warner, the fireman; and James Smith, John Cosgrove, and John Crowley.[32] Felix Evans, a well-known marine engineer, was standing next to Captain McGill and escaped death, but lost a leg to the disaster. Grif Jones, the steward, was crippled for the rest of his life. Six other crewmen were seriously injured. The pilothouse was blown 100 feet skyward and all of the cabin works forward of the kingposts were reduced to splinters. The front end of the firebox was all that remained of the boiler.[33] The explosion was blamed on the engineer for letting the boiler water get too low. However, the fusible plug[34] was later found intact, so this could not have been the cause.

The fusible plug is a simple device containing a metal with a very low melting point, typically a mixture of tin and lead (i.e., plumbers "60/40" solder, melting point 370F), or pure tin (melting point 450F), which was later specified by a 1913 revision to the

[31] Bancroft, Hubert "The Works of Hubert Howe Bancroft Vol. XXX," *History of Oregon Vol. II, 1848-1888* (San Francisco: The History Company, 1888), 340.
[32] "A Terrible Explosion – Bursting of the Boiler on the Steamer Senator." *Oregonian*, May 7, 1875, 3.
[33] Wright, 228.
[34] The fusible plug invented by Richard Trevithick, and soon became an essential element in all steamboat boilers, as specified by federal law (Steamboat Act of 1852).

Steamboat Act of 1852. It is threaded into the crown sheet (the ceiling of the firebox) of a boiler, at a point above the flues. With normal water level covering the plug, and with boiler pressure at say, 100 pounds per square inch, the temperature of the plug will match the water temperature—about 337 degrees F. If the water level drops below the level of the plug, then heat transfer to the water-side will essentially cease and the temperature of the plug will quickly rise to the fireside temperature—about 1,400 degrees F. The metal in the plug will quickly melt, allowing steam to blow into the firebox, venting the pressure and extinguishing the fire.

The fusible plug in *Senator's* boiler, however, was intact, not melted out. This indicates that the vessel was not a low boiler water casualty. However, as was done time and time again, it was easiest to blame an explosion on personnel error, so that the steamboat company could not be blamed, the boiler manufacturer could not be blamed, the government boiler inspectors could not be blamed, and so forth. It was purely expedient to call it "low water" and get back to the economics of business.

Passenger Klaus Beckman's story gives perspective to the magnitude of this tragedy. Klaus, his wife and his daughter, were on board the *Senator*, but Klaus went missing. His body was not found until May 23, 1875. Beckman's wife was left quite destitute, so she and her daughter sought the help of the German Aid Society in the Aurora Colony. These kind folks arranged to have Klaus's remains interred in the Fields Cemetery (the Fields family plot) in West Linn, and a simple stone marker was placed there. In the 1930s, the cemetery was moved (or I should say the "residents" were), and the plot and its history were forgotten for many years. Then in 1993, a car's parking brake failed and the vehicle careened over the barrier guarding the bottom of Dollar Street. As the wrecker was extracting the car from the brambles, the long-overlooked marker of Beckman's grave was found.[35]

The stone is inscribed:

"Klaus Beckman, Killed 3 P.M. 6 May 1875
Explosion Str Senator buried 133 ft. N. May 25, 1875
wife Kate and son Fred survived. 7 crewmen died 12 mi. N Willamette R."

[35] Wallis, Alison Miller and Bosky Dell (Salem, OR: Salem Printing & Blueprint, 2010), 97-101.

Figure 5. The "Beckman Stone" at the bottom of Dollar Street in West Linn. Photo: By the author.

Sarah Dixon

The once-lovely steamer, *Sarah Dixon*, was built in 1892 by the Shaver Transportation Company and named in honor of co-founder George Shaver's wife, Sarah. She exploded her boiler at 11:45 p.m. on January 18, 1912. The 20-year-old steamer had passed her "glory days" by then and was in service as a freight and towing vessel. Fortunately, this meant that no passengers were on board or the consequences would have been much worse. Three were killed in the disaster: Captain Fred R. Steenson (incorrectly spelled in the news articles as Stinson), First Mate Arthur Monical, and Fireman Silas Knowles.

Arthur Monical's brother, Captain Walter C. Monical, was also a steamboatman and led the Veteran Steamboatman's Association for a number of years.[36] Fireman Knowles' body was recovered on January 24, 1912, but Captain Steenson's body was not recovered until early June, 20 miles downriver.[37] Arthur Monical's body was never found.

[36] "Veteran Steamboatman, 74, dies After Long Illness," *Oregonian*, November 1, 1951, 19.
[37] "Captain's Body Found," *Oregonian*, June 4, 1912, 16.

Captain Steenson's remains were brought to Portland and the steamer *Shaver* led the funeral procession down the Willamette and across the Columbia to Camas, Washington. The morning of the funeral, the *Oregonian* newspaper announced:

> The *Shaver* will be a boat of mourning and masters of this harbor have been selected to be pall bearers, they being, Captain James W. Shaver, Captain George Shaver, Captain Dan Conway, Captain O. W. Hosford, Captain L. P. Hosford, and Captain W. C. Monicle [*sic*]. [38]

The next day, the event was recorded:

> Carrying the body of Captain Fred Stinson, [*sic*] who was killed when the boiler of the steamer *Sarah Dixon* exploded January 18, the steamer *Shaver* left the foot of Couch Street at 9 o'clock yesterday morning for La Camas[39] Wash., where the funeral was held. Many vessels on the river flew their flags at half-mast during the day.[40]

All claims in the case were settled in early October of that year, with the families receiving a total of $3,000 among them.[41]

This case is interesting, as the engineer, Chester L. Lewis, was quickly found guilty of negligence and his license revoked. Assistant Engineer Stephen J. Meany was also charged and tried for negligence[42]and found guilty as well. The swift adjudication of the case appears questionable; less than a month elapsed from the explosion to the conclusion of Lewis' hearing and within six weeks of the incident, Meany's hearing was also concluded.

Inspections and expert testimony were provided by members of the Shaver family, and although their testimony supported the innocence of the engineers, there was an obvious conflict of interest in the way their investigation was conducted. There was no independent outside agency to perform an unbiased investigation (such as would be done

[38] "Shaver Is Funeral Steamer," *Oregonian*, June 5, 1912, 18.
[39] Camas at the time was called La Camas and often Lacamas. The name changed about 1930 to "Camas" to aid postal delivery, as there is the small community of "Lacamas" about fifty miles north. Captain Steenson is interred in Camas Cemetery in Clark County.
[40] "Marine Notes," *Oregonian*, June 6, 1912, 16.
[41] "All Claims Settled," *Oregonian*, October 5, 1912, 18.
[42] These were not "trials" in the conventional sense, but rather closed-door hearings conducted solely by the steamboat inspectors of the Steamboat Inspection Service (SIS), who served as the investigators, judges and jury.

Figure 6. The *Sarah Dixon* in better times. Sarah Dixon Shaver, George Shaver, Mrs. Nellie I. (Walter) Monical Homer Shaver (front). Mrs. Monical's brother-in-law was killed in the explosion and her husband served as pallbearer at Capt. Steenson's funeral. Photo: OHS Collection.

by the National Transportation Safety Board today). At the time of the hearings, only the boiler's crown sheet with the fusible plug had been recovered and the fusible plug was found to be intact.[43]

Also, the water level was witnessed by Captain James Shaver to have been "within two inches of the top" (of the boiler sight glass), just 20 minutes before the explosion, and the vessel was only making moderate headway. In spite of this, the cause of the explosion was determined by the SIS inspectors to be "low water" in the boiler. By mid-February, Engineer Chester L. Lewis' license was forever revoked,[44] and Assistant Engineer Steven J. Meany received a 30-day license suspension,[45] although the boiler (the evidence) was not even recovered until mid-March, following an unsuccessful attempt on March 14, 1912.[46] Following its recovery, it was turned over to the Shaver Company to determine "whether the boiler can be used again."[47] The boiler was offered for sale on May 3, 1912.[48]

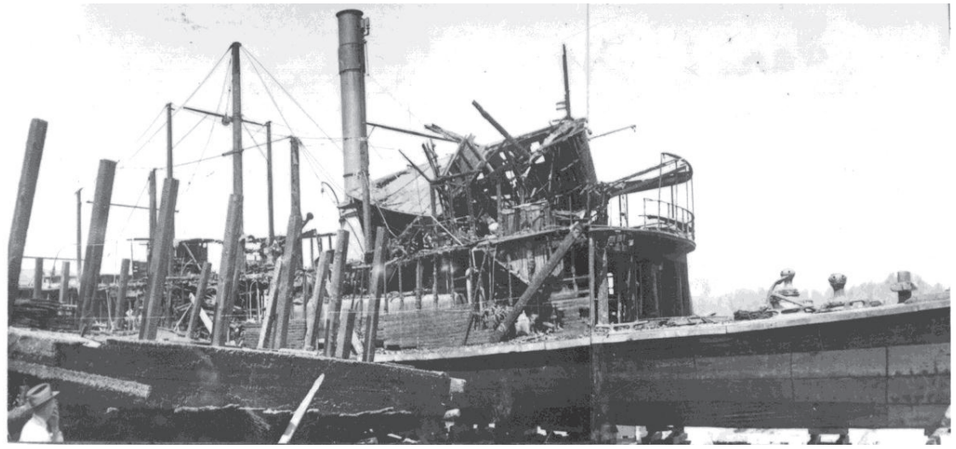


Figure 7. *Sarah Dixon* "on the hard" (seafarer's term for being on blocks or in drydock) in the summer of 1912. Cleanup and rebuilding is in progress. Her final years were served out as a floating machine shop for the Shaver Transportation Company. Photo: OHS Collection.

[43] This would tend to support the theory that a low water level condition had not occurred.
[44] "Lewis Loses Post – License of Dixon's Engineer Revoked," *Oregonian,* February 15, 1912, 18.
[45] "Marine Notes," *Oregonian*, February 29, 1912, 16.
[46] "Marine Notes" *Oregonian*, March 15, 1912, 22.
[47] "Dixon's Boiler Recovered – Captain Shaver Says Most Serious Injury is Loss of Fittings," *Oregonian*, March 17, 1912, 8.
[48] "Marine Notes," *Oregonian*, May 3, 1912, 20.

There were a few other boiler explosions in the waters of Oregon (ironically, both *Washington* and *State of Washington* exploded), and certainly plenty of fires, collisions, sinkings and groundings thereafter. Despite the risks and these tragic events, tapping the productivity of the Willamette Valley could not have happened without bold mariners and their marvelous vessels. Lives lost on the waterways were soon replaced by lives lost on the highways as automobiles and freight trucks took to paved roads. The river steamers quickly disappeared as traffic shifted to rail and barges propelled by diesel-powered internal combustion engines instead of steam. These glory days of the rivers are now but a mere memory.

From Hot Springs to Heritage: A Cultural History of the Breitenbush Hot Springs

Travis J. Cook, Western Oregon University

Figure 1. Group of men, women and children near a small log building at Breitenbush Hot Springs in August 1900. WHC #2007.1.1243a.

Abstract: This article looks at the competing conceptions of water and land use of the Breitenbush Hot Springs and the adjacent area within the Willamette National Forest and how that has developed over time. This includes exploring conceptions of land and water use by Native Americans, developers, loggers, the Forest Service, homesteaders and current residents of the area whose interactions with the water and surrounding terrain are informed by principles of sustainable human-environment relations. Furthermore, it explores the ways that the recreational and healing aspects of the hot springs have attracted urban residents of the mid-Willamette Valley into the Breitenbush landscape throughout the 20th century. It also demonstrates the ways that this interest among mid-Valley residents provides the human curiosity and capital for a contemporary worker-owned resort that is powered by the Breitenbush River and geothermal energy. Ultimately, the article focuses on the ways that changing conceptions of the use of the hot springs over time have allowed the current stewards of the landscape to put forward an alternative model of human-nature relations based on sustainability.

Prior to becoming an Oregon Supreme Court judge, on July 27, 1878, John B. Waldo wrote a letter to his future wife, Clara, explaining that, "[w]e [had] reached Independence Valley, and the mineral springs near Mt. Jefferson on the 14th."[1] The mineral springs that Waldo was referring to were what would be known for the next one hundred and thirty-five years as the Breitenbush Hot Springs. By the time of his arrival Native Americans had frequented the springs for thousands of years. However, Waldo could not have known that the springs would be a contested landscape in the years to come as Native Americans, Anglo-American settlers, railroad developers, miners, loggers, sportsmen, doctors, resort developers, medical patients, and tourists all pursued their own interest with the waters and surrounding landscape. Although the specific reasons why people have been attracted to the Hot Springs and surrounding landscape vary, the draw of its medicinal and recreational properties for urban residents of the mid-Willamette Valley has directed the development of the Breitenbush Hot Springs throughout its history.

General histories of the mid-Willamette Valley and what is now the Willamette National Forest often overlook the Breitenbush Hot Springs.[2] For that reason this study will place the Hot Springs within a broad historical context in order to explore its regional significance over time. The Hot Springs have undergone numerous stages of development that reflect different anthropogenic land and water use. This process involves humans that

[1] John B. Waldo to Clara, Summer 1878, in *Judge John B. Waldo: Letters and Journals from the High Cascades of Oregon, 1877-1907*, ed. Gerald W. Williams (USDA, 1992), ix.

[2] There are a number of authors that have inspired my research and helped provide the context for the history of the Breitenbush Hot Springs in this article. I was inspired by the methodological framework and concepts of conflictive landscapes in Nancy Langston's, *Where Land and Water Meet: A Western Landscape Transformed* (Seattle: University of Washington Press, 2009). My understanding of timber and railway industries have been influenced by William G. Robbins', *Hard Times in Paradise: Coos Bay, Oregon* (Seattle: University of Washington Press, 1998). Two works in particular helped provide the context for Oregon history throughout my period of focus. They were David Peterson del Mar's *Oregon's Promise: An Interpretive History* (Corvallis: Oregon State University Press, 2003), and Carlos A. Schwantes, *The Pacific Northwest: An Interpretive History* (Lincoln: University of Nebraska, 1989). Understanding Breitenbush within a broad history of the Willamette National Forest would have been impossible without relying on Lawrence and Mary Rakestraw's *History of the Willamette National Forest* (Eugene: USDA Forest Service, 1991). Lawrence M. Lipin's, *Workers in the Wild: Conservation, Consumerism, and Labor in Oregon, 1910-30* (Chicago: University of Illinois Press, 2007), served as my framework for exploring gender and class relations as it related to Oregon's wilderness in the early twentieth century. My understanding of the countercultural period in Oregon has largely been informed by James J. Kopp's, *Eden Within Eden: Oregon's Utopian Heritage* (Corvallis: Oregon State University Press, 2009). The research presented in Martha E. Geores, "How 'Health = Hot Springs' Created and Sustained a Town," in *Putting Health into Place: Landscape, Identity, and Well-being,* ed. Robin A. Kerns and Wilbert M. Gesler (Syracuse: Syracuse University Press, 1998) has helped me explore the perceived value of the healing potential of various hot springs throughout time. Many environmental histories of Oregon up until this point have misrepresented or under-represented Native Americans and other minorities, as well as the role of women in the human-environment relations of the past. For that reason I relied on Andrew H. Fisher's, *Shadow Tribe: The Making of Columbia River Indian Identity* (Seattle: University of Washington Press, 2010) to explore the ways tribal identities were often externally imposed on Native Americans by colonial powers, with little regard for pre-existing systems of identity. In an attempt to locate women within this history I have used Maureen A. Flanagan's, *America Reformed: Progressives and Progressivisms, 1890-1920s* (New York: Oxford University Press, 2007). Other than Native Americans, people of non-Anglo ethnic and racial heritage are largely absent from sources regarding the Breitenbush Hot Springs. However, that does not mean that these groups did not play a role in its history.

have frequented the Hot Springs from pre-historic times through the twentieth century and into the twenty-first. Although the reasons people visit the Hot Springs are varied, each stage of anthropogenic use reflects Breitenbush's particular cultural significance for the denizens of the adjacent mid-Willamette Valley.

Besides being a focus of anthropogenic land and water use throughout human habitation of the mid-Willamette Valley and the Cascade Mountain Range, the Breitenbush Hot Springs are also one of Oregon's most magnificent natural wonders. The Breitenbush Hot Springs consist of 40 hot springs that discharge water as hot as 180 degrees Fahrenheit. A volcanic zone that makes up the Cascade Mountain Range generates the heat as thermal groundwater reaches the surface along a fault line that also contains the Breitenbush River.[3] The Breitenbush Hot Springs are located ten miles north of Detroit and are clustered mainly along the south bank of the Breitenbush River.

Figure 2. Photograph of steam rising from the Breitenbush Hot Springs. WHC #2007.1.1245.

[3] Orr, Elizabeth L., William N. Orr and Ewart M. Baldwin, *Geology of Oregon,* fourth edition (Dubuque, Iowa: Kendall/Hunt Publishing Company, 1999), 153.

The first known humans to utilize the Breitenbush Hot Springs and adjacent landscape were Native Americans.[4] The Molalla are often credited with being the Native American group who most frequented the bubbling waters at Breitenbush.[5] Other groups that likely visited the Hot Springs include the Kalapuya to the west and Tenino and Northern Paiute to the east. [6]

Numerous artifacts have been excavated at the Breitenbush Hot Springs, which date human occupation of the site to between 200 and 2000 years ago. However, collections of artifacts held by former inhabitants of the springs indicate that occupation of the area could date back to as early as 3000-7000 years BP.[7] Anthropologists Rick Minor and Audrey Pecor discuss the subsistence strategy of the Molalla as involving a seasonal round where they would spend the winter in the lowland streams west of the Cascade Mountains and travel to the highlands for fish, game, roots, and berries in the warmer seasons.[8] The Native American use of the Hot Springs can largely be seen within this culture of seasonal migration. Anthropologist Dennis G. Griffin identifies Breitenbush as being a favored site for hunting (the salt deposits from the springs would attract game), spiritual and medicinal purposes.[9] Although much of what scholars know about the pre-historic use of the Hot Springs are largely the product of deductive reasoning, these three uses are seen by many as being the primary draw for Native Americans to the Breitenbush Hot Springs.

[4] The history of the Native inhabitants and visitors of the area is the hardest to discern. One must rely on non-site specific reports of archaeological finds, ethnographic materials from the nineteenth century discussing the Native American inhabitants, and secondary literature to construct the pre-history of the region. Nevertheless, these sources do provide a snapshot into who could have used the Hot Springs and for how long.
[5] Who specifically inhabited the region surrounding the Breitenbush Hot Springs has been a contentious point in anthropological research. Relying on works from American ethnographer Albert S. Gatschet in the early nineteenth century, Joel Berreman developed the thesis that the Molalla were relative newcomers to the west side of the Cascades and were driven there from Northern Paiute raids in the late eighteenth century. More recent scholarship by anthropologist Bruce Rigsby argues that the research conducted by previous anthropologists was unfounded and proposes that the Molalla and their ancestors had been the original inhabitants of the western slopes of the high Cascades. The Rigsby thesis has become dominant in discourse on Molalla history, but historians Robert H. Ruby and John A. Brown still subscribe to the Berreman hypothesis. To further explore this historical break see: Joel V. Berreman, "Memoirs of the American Anthropological Association: Tribal Distribution in Oregon" *American Anthropological Association* 47 (New York: Kraus Reprint Co., 1969): 44-45; Henry B. Zink and Bruce Rigsby, "Molalla," in *Handbook of North American Indians,* ed. William C. Sturtevant (Washington: Smithsonian Institution, 1998), 439; and Robert H. Ruby and John A. Brown, *A Guide to the Indian Tribes of the Pacific Northwest,* rev. ed. (Norman: University of Oklahoma Press, 1992), 137-139.
[6] Griffin, Dennis G., "Prehistoric Utilization of Thermal Springs in the Pacific Northwest" (Master's Diss., Oregon State University, 1985), 105.
[7] Griffin, 105.
[8] Minor, Rick and Audrey Frances Pecor, *Cultural Resource Overview of the Willamette National Forest* (University of Oregon Anthropological Papers No. 12, 1977), 81.
[9] Griffin, 26, 36-37. Although not discussed by the anthropologists listed above, Native Americans could have also frequented the Breitenbush Hot Springs for recreational or aesthetic purposes.

The greatest challenge to Native American hegemony in the region surrounding the springs involved the influx of Anglo settlers in the early to mid-nineteenth century. The year 1812 marked the time of the first Anglo-settlement near present day Salem. The settlement served as a trading post for fur trappers who often explored the tributaries of the Willamette Valley and may have been amongst the first white people to view the Hot Springs.[10] As the century progressed, Anglo-American settlement increased due to the recognition of Oregon as an official territory of the United States in 1848; legislation that included the Donation Land Claim Act of 1850, which promoted homesteading in the Oregon territory; and the transportation route of the Oregon Trail.

This period of Anglo settlement also coincided with the decimation and relocation of the native inhabitants of the Willamette Valley and surrounding mountains. Early settlements of largely male Anglo settlers, who traded with and often married Native American women contributed to the spread of disease. Horatio Hale, an American ethnologist and philologist, discussed his encounter with the Molalla in 1841 when he stated that "[t]hey were never very numerous, and have suffered much of late from various diseases, particularly the ague-fever…the tribe is probably, at present, nearly or quite extinct."[11] Hale's observations were not completely accurate as a number of Molalla were killed in a conflict with Anglo settlers near Abiqua Creek in 1848.[12] The dual pressures on the Molalla population brought by disease and violence led them to sign the Dayton Treaty of 1855 where they, and a number of other tribes, were relocated to the Grand Ronde Indian Reservation.

The dispossession of Native American lands and increased Anglo-American settlement also created an interest among residents of the mid-Willamette Valley to explore routes for crossing the Cascade Mountains to the east. Oregon pioneer John Minto took up the task of discovering a pass in the region of the North Santiam Valley. During his search for a mountain pass in 1873, Minto laid claim to discovering the Breitenbush River area,

[10] Minor and Pecor, 13.
[11] Minor and Pecor, 80.
[12] Zink, Henry B. and Bruce Rigsby, "Molalla," in *Handbook of North American Indians,* ed. William C. Sturtevant (Washington: Smithsonian Institution, 1998), 444. What would later be termed the "Battle of Abiqua" by Anglo historians was described as a massacre by Molalla witnesses. What is known is that on March 5-6, 1848 a group of Anglo settlers attacked a camp comprised of Molalla and Klamath peoples killing most of the men and many women and children. The justification for the raid was framed in the context of increasing Indian-Anglo tensions immediately following the massacre at the Whitman Mission. Claiming that the Molalla were in the region to collude with the Klamath and to attack Anglo settlements, the Abiqua raid was framed by Anglo settlers as a preemptive strike against warring peoples. Furthermore, Anglo accounts argued that the women were indistinguishable from the men as aggressive parties.

which he named after John Breitenbush, a one-armed Dutch hunter who resided on the confluence of the North Santiam and Breitenbush Rivers.[13]

Many sources claim that John Breitenbush originally settled the area surrounding the Breitenbush Hot Springs as early as the 1840s. This point was contested in a letter to the editor of an Oregon newspaper on April 29, 1922. In it David B. Smith argued that, "[m]y father Don A. Smith, a pioneer of the North Santiam country, calls my attention to the fact that several white men had visited the hot springs before the advent of the one-armed Dutchman."[14] Smith also conveyed stories his father told of taking Waldo and others up to the Hot Springs in the early 1870s[15] where "Warm Springs Indians [stated] that aside from the French trappers of an early day, only three white men, so far as they knew, had visited the springs before the Waldo party. These three men, the Indians said, had come in with the Indians about 1860. Two of the men were from the Dalles."[16] Far from a concrete source on the early Anglo exploration of the springs, Smith's discussion of his father's exploits does complicate the oft-repeated founding myth regarding the Breitenbush Hot Springs.

Whether or not John Breitenbush was the first to settle the area and whether or not the Hot Springs had been 'discovered' in the 1840s or 1860s does not detract from the draw the area had for the residents of the mid-Willamette Valley by the 1870s. John B. Waldo provides much of the earliest writings on the Hot Springs themselves in his journals recording observations of his trips from Salem to the high Cascades. In the 1870s and 1880s he accessed the Hot Springs by way of traveling down "the Breitenbucher river [Breitenbush river] to the Minto Trail."[17] Waldo's original writings only discussed the springs in passing as an area to camp while exploring the surrounding mountains.

[13] Lowe, Beverly Elizabeth, *A Biography of an Oregon Pioneer: John Minto man of Courage, 1822-1915* (Salem: Kingston Price and Company, 1980), 78. It is likely that John Minto did not discover a pass over the mountains in 1873, but rather followed trails first used by the Molalla. For further discussion of this issue see: Bobbie Snead, *Judge John B. Waldo: Oregon's John Muir* (Bend: Maverick Publications, 2006), 31.
[14] Smith, David B., "Early Trip to Hot Springs," unnamed newspaper, April 29, 1922, Folder 1, VF Breitenbush, Oregon Historical Society, Portland.
[15] The editor of a compilation of Waldo's journals and letters discusses finding a passage which stated that John B. Waldo first saw the Hot Springs in 1878. To complicate things further, the Oregon Historical Society has a telegram referencing a trip to the Hot Springs made by former Governor Oswald West where he claims to have seen an inscription on a tree made by Waldo with the date of June, 1862. Waldo would have been 18 years old at the time and certainly could have made that trip. For reference see: Williams, "Letters and Journals," 207; and Mrs. J. H. Porter to Geo H. Himes, October 11, 1939, Folder 1, VF Breitenbush, Oregon Historical Society, Portland. The date of the telegram is questionable. A records keeper marked the date of the telegram as February 14, 1921. However, the date contained within the telegram was October 11, 1939.
[16] Smith, David B., "Early Trip to Hot Springs."
[17] John B. Waldo Journal Entry, September 2, 1882, in *Judge John B. Waldo: Letters and Journals from the High Cascades of Oregon, 1877-1907*, ed. Gerald W. Williams (USDA, 1992), 31. Gerald Williams inserted the date 1884 indicating that the dates of the journal had been confused.

However, as his experiences with the environment changed, so did his descriptions of the Breitenbush Hot Springs.

In a journal entry on July 27, 1887, Waldo discussed a new perceived utility of the waters at Breitenbush. He wrote that, "[t]he water is helping me and [I] could not well do otherwise."[18] Waldo was referencing the effect the waters had on easing his asthma, which enabled him to travel further into the wilderness. This interest in the healing aspects of the water would persist amongst visitors and developers of the Hot Springs throughout the twentieth century and into the twenty-first.

In the same journal entry, Waldo described having an awakening to the beauty of the Hot Springs and surrounding area while camping at Breitenbush. He wrote that, "I have read [Henry David] Thoreau's *Maine Woods* through at this camp and gone and am going over some of it a second time. He reads well far off in this boughy and aromatic forest of the Cascade Mountains."[19] These writings were a precursor to his legislative efforts in the 1880s and 1890s to place the area of the high Cascades under Federal protection with the creation of the Cascade Range Forest Reserve.[20] A newspaper article published in the *Oregonian* on November 27, 1893 credited John B. Waldo with promoting its eventual passage. The article stated that Waldo "made the first move toward this end when he was a member of the legislature, about six years ago (actually in 1889)."[21] The Breitenbush Hot Springs was just one of many scenic wonders that Waldo sought to preserve, but it is clear in his writings that the hot waters of Breitenbush did play a large role in his interest in the Oregon wilderness.

The same year that the forest reserve was created, Waldo recorded changes in the Hot Springs that reflected a growing interest among denizens of the mid-Willamette Valley in Breitenbush and the surrounding wilderness. In 1893 Waldo lamented that, "we reached the [Breitenbush] Hot Springs--my first visit since 1887. Then the spot was in its primeval wilderness--a lovely opening in the forest above the river and fragrant with incense cedar. Now it shows the hand of progress and development--handsome cedars cut down and logs lying about. The effect was disfigurement which was only not greater

[18] John B. Waldo Journal Entry, July 20, 1887, in *Judge John B. Waldo: Letters and Journals from the High Cascades of Oregon, 1877-1907*, ed. Gerald W. Williams (USDA, 1992), 51.
[19] John B. Waldo Journal Entry, July 20, 1887, in *Judge John B. Waldo: Letters and Journals from the High Cascades of Oregon, 1877-1907*, ed. Gerald W. Williams (USDA, 1992), 51.
[20] Rakestraw, Lawrence, "Sheep Grazing in the Cascade Range: John Minto vs. John Muir," *Pacific Historical Review* 27, no. 4 (Nov. 1958): 371, http://www.jstor.org/stable/3636813 (accessed May 19, 2013).
[21] Snead, Bobbie, *Judge John B. Waldo: Oregon's John Muir* (Bend: Maverick Publications, 2006), 81.

because the improvement had not extended very far."[22] He goes on to describe using a bathhouse that was built over a spring and leaving the Hot Springs by way of a trail to old Detroit where he and his party caught a train back to the mid-Willamette Valley.[23] What was clear to Waldo at the time was that different models of development were being implemented at the Hot Springs and throughout the North Santiam Valley by the late nineteenth century.

A report by the United States Department of the Interior (USDI) in 1903 describing settlement in the region noted that "[p]rospectors, land claimants, and trappers have built many of the cabins in isolated places reached only by trails, and occupy them only a few months of the year. The sentiment of the people, so far as learned, was in favor of the forest reserve policy."[24] The report by the USDI discussed a number of different interests converging on the land of the North Santiam Valley. Prospectors, loggers and railroad developers saw value in pushing up the North Santiam Valley in search of ever growing reserves of extractive resources. There had also been a longstanding tradition of trappers settling in the region. Finally, the report indicated that the local people's support for the forest reserve displayed that many people were not interested in homesteading the region due to the inhospitable seasons.

The Breitenbush Hot Springs, however, proved the exception as people from the mid-Willamette Valley did homestead the area surrounding the springs. Claude A. Mansfield claimed that he had settled the area since 1888 and had a right to a 160-acre parcel of land surrounding the Hot Springs under the Homestead Act of 1862, which granted land to settlers who proved that they had settled and developed it for agricultural or other productive purposes. [25] In 1901 an official of the Cascade Range Forest Reserve, O. S. Ormsby, filed a suit trying to contest Mansfield's claim on the basis that he had not settled the land prior to the creation of the Cascade Forest Reserve. An October 21, 1901 article in the *Morning Oregonian* discussed the reasons why the General Land Office chose to uphold Mansfield's claim on the land, namely that "[t]he evidence covering the thirteen years that have elapsed since he first settled on the claim shows in the aggregate much more in the way of residence and cultivation than is shown by the majority of homestead entry men making proof on the public lands."[26] Mansfield's early success in

[22] John B. Waldo Journal Entry, August 4, 1882, in *Judge John B. Waldo: Letters and Journals from the High Cascades of Oregon, 1877-1907*, ed. Gerald W. Williams (USDA, 1992), 139.
[23] Ibid.
[24] Minor and Pecor, 22.
[25] Gates, Paul W., *History of Public Land Law Development* (Washington D.C.: Library of Congress, 1968), 394-395.
[26] "Important Land Office Decision," *Morning Oregonian,* October 21, 1901, 9, http://oregonnews.uoregon.edu/lccn/sn83025138/1901-10-21/ed-1/seq-9/ (accessed May 15, 2013).

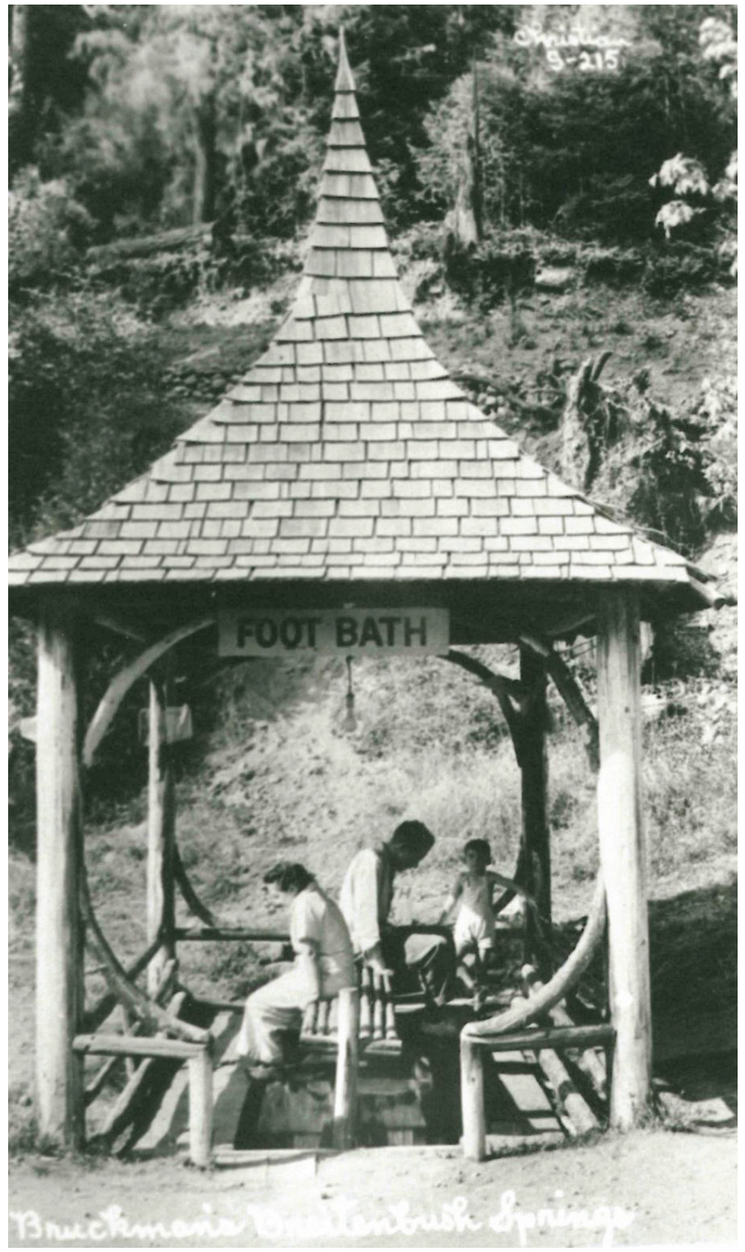


Figure 3. Early photograph of a footbath at the Breitenbush Hot Springs. WHC #2007.1.1244.

gaining recognition from the administrative apparatus responsible for granting land claims under the Homestead Act marked the first time the Breitenbush Hot Springs would fall under private ownership.

Mansfield's legal ownership of the land surrounding the Hot Springs was again called into question as railroad interests supported efforts to keep the land surrounding the Hot Springs in the public domain. The Corvallis and Eastern Railroad Company felt that private ownership would threaten their use of the land surrounding the springs by limiting access. In 1903, with support from the railroad, Ormsby again challenged Mansfield's right to the land. This time the General Land Office ruled in favor of Ormsby. A newspaper article detailing the events of the case recorded the reasons for the reversal of the original General Land Office decision as dependent on witnesses who claimed that "the land was regarded as vacant, un-appropriated public lands, and under such belief certain named persons built bath houses, and built trails and cleared and cultivated portions of the land."[27]

The land claim remained in limbo throughout 1903, which allowed the Corvallis and Eastern Railroad Company to pursue its own interest in the region. The railroad had been expanding up the North Santiam Valley largely to facilitate lumber interests, but began placing advertisements in local newspapers promoting tourism to the Hot Springs in 1903. One such advertisement in the Salem *Daily Capital Journal* emphasized that "[t]rain No. 3 for Detroit, Breitenbush and other mountain resorts leaves Albany at 7 a.m., reaching Detroit about noon giving ample time to reach the Springs the same day."[28] The Corvallis and Eastern Railroad perceived an increased accessibility for people from the mid-Willamette Valley to experience the Hot Springs due to its passage from the private to the public sphere. Although lumber companies originally provided the capital to develop rail lines along the North Santiam River, the company saw tourism promotion as a potential to diversify the types of people interested in the railroad. In addition to increasing revenue by attracting more passengers, the railroad sought to demonstrate a diversified public interest in the railroad to attract would-be investors who could potentially provide capital for completing a pass over the Cascade Mountains to eastern markets.

[27] "Mansfield Has Lost His Land," Salem *Daily Capital Journal*, May 15, 1903, 6, http://oregonnews.uoregon.edu/lccn/sn99063956/1903-05-15/ed-1/seq-7/ (accessed May 19, 2013).
[28] "Corvallis and Eastern Railroad," Salem *Daily Capital Journal*, September 17, 1903, 6, http://oregonnews.uoregon.edu/lccn/sn99063956/1903-09-17/ed-1/seq-6/ (accessed May 19, 2013).

Eventually the land office decision would be reversed yet again and Mansfield was awarded the homestead in 1904.[29] The result of the final land office decision was that Mansfield gained private ownership of nearly all of the hot springs, the surrounding 160-acres of land and the ownership of buildings that had been constructed surrounding the Breitenbush Hot Springs. Mansfield's partner, Hattie E. Ross, was prolific in promoting the early development of amenities around the Hot Springs. In 1902 an advertisement placed in the Salem *Daily Capital Journal* by an F. W. Ross, possibly a relative of Hattie, proclaimed that "[a] [r]egular pack train makes daily trip[s] from Detroit to the springs. Tenting privileges [are] free. All camp supplies can be purchased at the springs. Excellent fishing and hunting. Rates [for a hotel built on-site by Mansfield and Ross] are very reasonable."[30] Mansfield and Ross' development of the land and establishment of private ownership of the area did little to interrupt the advertisements by the Corvallis and Eastern Railroad. Although the railroad advertisements originated at a time when Mansfield lost his claim, the return of the land to a private party promoting tourism did not discourage visitors enough to diminish the railway's advertising campaign.

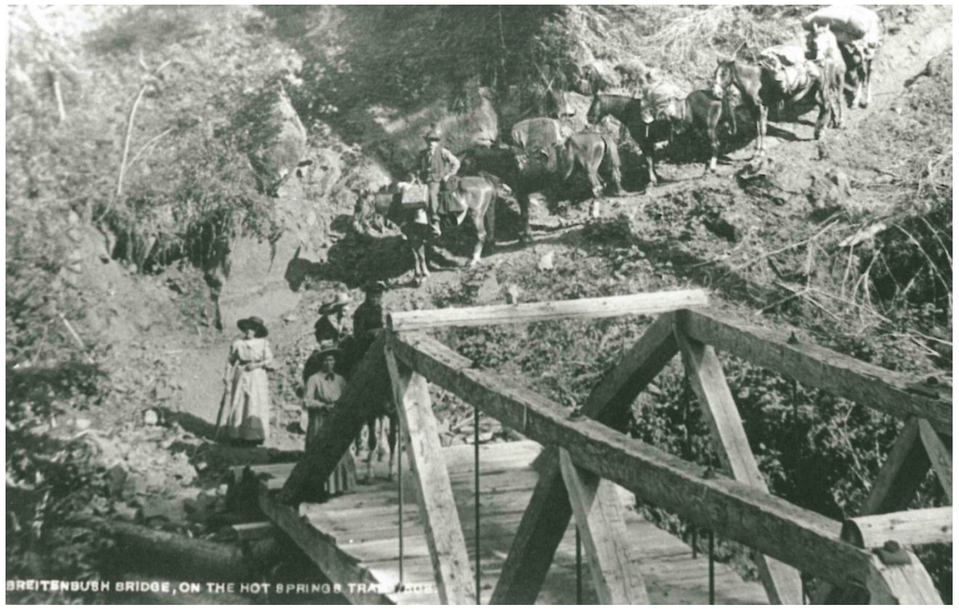


Figure 4. Early photograph of a pack train on the Breitenbush Hot Springs Trail. WHC #2007.1.1247.

[29] Tim McDevitt & Michael Donnelly, "A Natural History of Breitenbush," *Breitenbush Hot Springs Retreat and Conference Center,* http://breitenbush.com/about/history.html (accessed May 19, 2013).
[30] F. W. Ross, "Breitenbush Hot Springs: First Class Hotel," Salem *Daily Capital Journal,* August 22, 1902, 3, http://oregonnews.uoregon.edu/lccn/sn99063956/1902-08-22/ed-1/seq-3/ (accessed May 19, 2013).

In an article on Hot Springs, South Dakota historian Martha A. Geores explores the ways that "entrepreneurs, beginning in the late nineteenth century, used a combination of Native American legends, a public relations effort, the newly emerging railroad system, ideas about the healing powers of mineral springs, and the legitimacy bestowed by biomedicine to aggressively sell their healing place."[31] With few exceptions the processes outlined by Geores are reflected throughout the early development of Breitenbush Hot Springs. Originally the healing aspects of the water were not promoted in the newspapers of the mid-Willamette Valley. However, a family history compiled by the great-granddaughter of Claude Mansfield and Hattie Ross, Patricia Mansfield-Harris, in 2004 claimed that, "their young son Lorenzo (my grandfather) contracted polio leaving him paralyzed and unable to walk…so she [Hattie] and Claude built a pool for him." [32] Mansfield-Harris goes on to state that the water greatly assisted Lorenzo in being able to walk again. This early interest by the owners of the Hot Springs in the medical aspects of the waters fits within the previously mentioned history of the mineral waters as being perceived as medically useful by Native Americans and early Anglo settlers.

In a departure from the case of South Dakota, the healing properties of the Breitenbush Hot Springs were left out of the advertisements in the opening years of the twentieth century. However, popular media sources did discuss the healing properties of the waters in different ways. In a 1905 school newsletter for Salem High School, Bertha Allen, a female contributor, wrote that "[a]mong the many beautiful and healthful summer resorts to be found in Western Oregon, the hot springs, situated near the northern base of Mount Jefferson in Marion county, are the most interesting."[33] Furthermore, many residents must have known about the medicinal value of the Breitenbush Hot Springs because local blurbs in the "Personals" section discussed trips to the area, such as one taken by W. T. Bennett, who in June of 1904 was "at the Breitenbush hot springs for a few weeks' stay for the benefit of his health."[34] With a focus on the scenic beauty, but also the healing aspects of the water, Allen had begun to describe the resort in a way that later developers incorporated into their own advertising and promotion of the region and W.T. Bennett embodied the type of person who would be targeted by such advertisements.

[31] Kearns, Robin A., and Wilbert M. Gesler, introduction to *Putting Health into Place: Landscape, Identity, and Well-being,* ed. Robin A. Kerns and Wilbert M. Gesler (Syracuse: Syracuse University Press, 1998), 12.
[32] Mansfield-Harris, Patricia, "A Family History of the Homesteading of Breitenbush" (February 15, 2004), 1. nwreikigathering.com/DocStor/HattiesStory.doc.
[33] Allen, Bertha, "Breitenbush Springs," *The Clarion* 1, no. 7 (May, 1905): 7, folder 1, Breitenbush, Mission Mill Museum, Salem. Bertha Allen provides the characters '08 after her name on the article. Presumably this is an indication of 1908 and a reference to an upcoming graduation year. Since the article was published in a 1905 newsletter I have assumed that it is not a reference to the date the article was written.
[34] "Personals," Salem *Daily Capital Journal*, June 30, 1904, 5, http://oregonnews.uoregon.-edu/lccn/sn99063957/1904-06-30/ed-1/seq-5/ (accessed May 19, 2013).

Another way that the Breitenbush Hot Springs differed from the South Dakota example discussed by Geores is that promoters of the resort did not rely on Native American mythology to increase interest in the healing powers of the Hot Springs. Due to this lack of a discussion of Native Americans in the literature referencing the Breitenbush Hot Springs, historians have often overlooked their presence in the area around the turn of the twentieth century. However, anthropologist Dennis Griffin compiled accounts of visitors to Breitenbush who recalled that "[d]uring a small pox epidemic in the early 1900's, the Indians packed mud on the[ir] lesions in an attempt to cure them."[35] At this time the place of origin for Native Americans traveling to the Breitenbush Hot Springs was largely from east of the Cascades at the Warm Springs Reservation, but that did not exclude Native Americans who still lived nearby or who would travel from the mid-Willamette Valley to frequent the waters at Breitenbush. Furthermore, the existence of small pox and the use of the Hot Springs as a possible cure reveal the continued problems with disease experienced by Native Americans as late as the 1900s. It also reflects Native Americans' continued interest in the healing properties of the water well beyond their placement on reservations. All of this contributed to continued use of the Breitenbush Hot Springs by Native Americans, despite its private ownership, into the early twentieth century.

Geores and other scholars also downplay the appeal of hot spring resorts at the turn of the twentieth century for people from both genders. As is shown with the involvement of Hattie Ross in the operation and promotion of the first hotel at Breitenbush and in the account by Bertha Allen of her trip to the Hot Springs, Breitenbush drew people from both genders out of the urban landscapes of the mid-Willamette Valley to experience the waters in their rural surroundings. This mixed gender use and operation of the Hot Springs coincided with broader social changes occurring in Oregon at the turn of the century. Historian David Peterson del Mar argues that "[w]omen were more active outside their families by the turn of the twentieth century… Economic changes freed married and single women alike…[due to these changes] Wives' [and single women's] social and cultural roles expanded as their economic ones shrank." [36] Within this framework of expanding economic and social opportunities women became more active participants in the recreation, medical and employment opportunities at Breitenbush.

This prevalence of urban women experiencing the wilderness has also been overlooked by many scholars that discuss the use of rural areas for recreation by a new urban elite. This gender bias is reflected in early advertisements that emphasized the appeal of the

[35] Griffin, 101.
[36] Peterson del Mar, David, *Oregon's Promise: An Interpretive History* (Corvallis: Oregon State University Press, 2003), 113-115.

Breitenbush Hot Springs for sportsmen. Historian Lawrence Lipin argues that during this time in Oregon History "[o]utdoor sports such as hunting and fishing gained increasing cultural importance as elite men worried about the increasing feminization of bourgeois manhood, and they concluded that overly civilized urban sedentary lives were weakening the bodies if not the bloodlines of America's best men."[37] As elite men sought to reclaim lost manliness by partaking in hunting and fishing in the rural areas of Oregon, women were often left out. However, the healing and aesthetic properties of the Breitenbush Hot Springs challenged this male-oriented use of rural wilderness areas. In spite of the gender biased advertising, the accounts of women visiting the Hot Springs in the early 1900s reveal the way that the area offered an alternative wilderness space that had utility beyond sport hunting and fishing.

Following Claude Mansfield's death in 1906, a Portland corporation that saw potential in promoting the recreational and medicinal properties of the Hot Springs to urbanites in the mid-Willamette Valley began to seek out investors. The Breitenbush Hot Springs Company published a business proposal sometime before 1925. In addition to emphasizing the recreation and medical potentials of the site, they made plans to develop gender specific bathhouses, which would accommodate equal numbers of patrons. [38] Reflecting the potential for women patrons at the Hot Springs, this appeal to gender specific bathhouses also fit within the social realities of Progressive Era America. Historian Maureen A. Flanagan emphasizes that the expanding freedom women experienced during the Progressive Era led many reformers to consider the mixing of men and women in leisure activities as a morally corrupting endeavor for women. [39] The solutions to these morally corrupting behaviors often involved attempts to control women's activities, which, in the case of the Breitenbush Hot Springs, manifested in dividing the sexes into different bathhouses.

These ideas of gender difference at the Hot Springs were also reflected in accounts of Native American peoples who still frequented Breitenbush throughout the early nineteenth century. Anthropologist Dennis Griffin compiled accounts of Native Americans crossing "over from the eastern side of the Cascades along the Lemati and old Rapadan trail and often camp[ing] near the springs during the summer…The men dug out pools in the rocks for use as bathing areas while women apparently spent at least part of

[37] Lipin, Lawrence M., *Workers in the Wild: Conservation, Consumerism, and Labor in Oregon, 1910-30* (Chicago: University of Illinois Press, 2007), 51.
[38] Breitenbush Hot Springs Company, date unknown, folder 1, Breitenbush, North Santiam Historical Society, Mill City, OR, 10.
[39] Flanagan, Maureen A., *America Reformed: Progressives and Progressivisms, 1890-1920s* (New York: Oxford University Press, 2007), 193.

the season on the slopes of Mansfield ridge."[40] Whether the Native American visitors of the Hot Springs truly segregated the use of the pools along gender lines is hard to discern due to the lack of unbiased evidence.[41] However, just as the Breitenbush Hot Springs continued to be a draw for Anglo visitors in the 1910s and 1920s, it also remained appealing for Native Americans.

The policy of the Breitenbush Hot Springs Company towards the poor also reflected the Progressive Era social changes occurring in Oregon and throughout the United States during the early twentieth century. Flanagan argues that many Progressive Era reformers "began to reject the earlier assumption that the poor, the unemployed, or certain ethnic groups were to blame for their own conditions."[42] The Breitenbush Hot Springs Company reflected these sentiments when they proclaimed that:

> [i]n consonance with the spirit in which this project, from its incipiency, was undertaken, it has been the united belief of the organizers, that in light of the fact there are a great many people of the poorer classes afflicted with ailments which these Breitenbush waters can cure, they have decided to apportion one part of the grounds for the care and maintenance of these indigent people free of cost as regards drinking water and baths. The only condition which the company will exact from them being that they furnish a certificate from a properly accredited authority to the effect that they are afflicted and are unable financially to meet the expense required of the regular patrons. Feeding and housing of these people will be supplied, when requested of the company, at actual cost prices.[43]

The social responsibility exhibited by the Breitenbush Hot Springs Company would be some of the last appeals of the private owners to provide free access to poor patrons. Although it may have been a hollow guarantee because most impoverished people would not have been able to afford the trip up to the Hot Springs at that time, it did reveal an attempt to provide useful medical alternatives to those who could not afford it.

[40] Griffin, 101.
[41] Zenk and Rigsby discuss the use of sweathouses as being specifically reserved for men in Molalla culture. This tradition may have been used by different Native American groups frequenting the Breitenbush Hot Springs in the early twentieth century and could provide an explanation for why Native American women were not witnessed using the Hot Springs.
[42] Flanagan, 33.
[43] Breitenbush Hot Springs Company, date unknown, folder 1, Breitenbush, North Santiam Historical Society, Mill City, OR.

The Breitenbush Hot Springs Company's appeal to the impoverished classes also reveals a faith in bureaucratic management of the poor and ailing classes. This confidence in centralized authority by Progressive Era policy makers would also greatly influence the landscape surrounding the Hot Springs during the early 1900s. Historian Robert H. Wiebe states that Progressive Era governance "stressed techniques of constant watchfulness and mechanisms of continuous management."[44] This belief in bureaucratic centralism was born out of the ideas that benevolent technocratic experts vested with far reaching powers could promote the greatest social good. These ideas coincided with the growing attempts of many reformers "to challenge unregulated development, especially to consider how to conserve the natural environment."[45] The combination of faith in bureaucratic centralism and acknowledgement of the need to conserve the environment would correspond with a different conception of land management that went with the passing of jurisdiction over the Cascade National Forest Reserve to the U.S. Forest Service in 1905.

For the owners of the Breitenbush Hot Springs this meant that the surrounding landscape would be compromised as the government sought to promote multiple land use over preservation. Historian William Robbins argues that this shift in land management philosophy benefited "[l]arge companies with connections in the federal government, and especially in Congress."[46] As much as conservation-minded managers of the forest sought to preserve regions for recreation they also provided access to timber for those large companies. This brought timber around the Breitenbush Hot Springs into the market in a big way. Historian John Scott notes that "the first really large lumber sales on the northern end of the Big Green (then the Santiam National Forest), however, occurred in 1924 along the Breitenbush River close to where it debouches into the Santiam River. The Humbug Creek sale exceeded seventy million board feet."[47] The Humbug Creek sale brought the railroad up the Breitenbush River to Humbug Flats and came very close to the timber stands directly surrounding the Breitenbush Hot Springs. Ultimately, this was the furthest the railroad would extend up the North Santiam Valley and Breitenbush River.

The extension of the railroad up the Breitenbush River and the changing conceptions of land use by federal managers altered the landscape around the Breitenbush Hot Springs, but the resorts in the region were changing as well. One of the early impediments to bringing people from the mid-Willamette Valley up to Breitenbush was transportation.

[44] Wiebe, Robert H., *The Search for Order 1877-1920* (New York: Hill and Wang, 1967), 145.
[45] Flanagan, 162.
[46] Robbins, William, "The Early Conservation Movement in Oregon, 1890-1910," *Man and his Activities as Related to Environmental Quality* 7 (Corvallis: Oregon State University Press, 1975), 3.
[47] Scott, John, "The Big Green: Historical Perspectives on the Willamette National Forest, 1893-1993," *Willamette Valley Voices: Connecting Generations, Public Spaces* 1, No. 1 (Salem: Willamette Heritage Center, 2012), 50.

Soon after the Humbug Creek timber sale, a road was constructed that followed the path cut by the railroad company and continued up the Breitenbush River to the original Mansfield claim. Historian Lloyd Chapman notes that "the state highway map for 1930 showed a gravel road to [old] Detroit…a similar road went up the Breitenbush to the hot springs."[48] The completion of the road coincided with a dramatic increase in automobile ownership among Oregonians. Historian Carlos A. Schwantes estimates that the number of people per automobile in 1910 Oregon was one hundred and twenty-seven to one and by 1930 that ratio was three to one.[49] In his research on the class make-up of urban visitors to the rural areas surrounding the Willamette Valley, historian Lawrence Lipin writes that "[w]hether cars were rented or owned, whether they conveyed families or groups of male workers, they provided workers with the ability to take greater advantage of nature and the opportunities for leisure that engagement with it offered."[50] The increased availability of automobiles and accessibility of the area for residents close enough to drive dramatically increased the amount of people who would frequent the Breitenbush Hot Springs.

By 1930, newspapers emphasized the proximity of urban centers in the mid-Willamette Valley to the Hot Springs. That same year an issue of the *Morning Oregonian* ran an article proclaiming that "[t]he trip to Breitenbush can be made from Albany or Salem in 2½ hours, easy driving."[51] This improved access to the Hot Springs was also discussed in an article published by the Oregon State University press in 1930. An unnamed visitor to the Hot Springs lamented that "[i]n 1925 the only means of reaching 'the springs' from Detroit, terminus of the highway from the Valley that had just been completed, was over a narrow mountain trail."[52] The unnamed author also goes on to describe an increase of visitors from Corvallis due to the newly created road. This further highlights the improved access that a road provided for urban residents of the mid-Willamette Valley to experience the medicinal and recreational potentials of the Hot Springs and surrounding area.

Development of the resorts around the Hot Springs also reflected this increased interest by residents of the mid-Willamette Valley. Travelling along the new road one would encounter three different resorts or areas of development. The first would be a health

[48] Chapman, Lloyd, "The Forest Service Summer Homes at Breitenbush," (1997): 10, folder 1, Breitenbush, Mission Mill Museum, Salem.
[49] Schwantes, Carlos A., *The Pacific Northwest: An Interpretive History* (Lincoln: University of Nebraska, 1989), 293.
[50] Lipin, 88.
[51] "New Breitenbush Resort Available," *The Sunday Oregonian,* August 10, 1930, 1.
[52] "Detroit-Breitenbush Road," *The Office of University Publications and OSU Press*, July 10, 1930, Coll. #: RG 018, reel 1, folder 233, Oregon State University, Corvallis.

resort operated by Dr. Mark Skiff and his wife, Ada. This resort was built on land that was leased to Dr. Mark Skiff by the Forest Service. These claims were contested by J. L. Hill and E. O'Harra who "filed on two mine claims, the Ironside and El Dorado…The Forest Service mineral examiner…found no mineral on the proposed claims…[and] concluded that 'It is apparent that the claims abutted on public land and cause F. W. Ross and M. Skiff trouble.'"[53] After overcoming the contestation of the land by would-be prospectors in the 1910s, Dr. Skiff and his wife developed a health resort. The development of Dr. and Mrs. Skiff's resort was a long process and was not completed until the late 1920s and early 1930s. Architectural records show the Skiffs contracting

Figure 5. Photograph of the Breitenbush Hot Springs office, ca. 1950. Large sign says "Store – Café – Hotel – Cabins – Baths." A large sign in the left foreground advertises Skiff's. WHC #2012.49.46.

[53] Lawrence and Mary Rakestraw's *History of the Willamette National Forest* (Eugene: USDA Forest Service, 1991), 47. F.W. Ross shows up again as laying claim to land surrounding one of the hot springs that did not fall under the original Mansfield homestead lot. His early involvement with the Mansfield resort also highlights the interconnectivity of Skiff's claim and what would become Merle Bruckman's resort.

with two prominent female Salem area garden architects, Elizabeth Lord and Edith Shryver, to plan a landscape in 1929.[54] Once the landscape designs were completed and a hotel was built Dr. Skiff released his own advertising brochure calling on residents of the mid-Willamette Valley to frequent his lodge as "primarily a health resort."[55] The development of Dr. Skiff's resort also continued the long tradition of women being active in the operation of the resorts surrounding the Breitenbush Hot Springs.

Continuing down the road towards the east, the next resort that a visitor would come upon would have been Merle Bruckman's. Bruckman had acquired the original Mansfield claim through his family connections. Patricia Mansfield-Harris' family history reveals that Frederick Bruckman, Merle Bruckman's father and inventor of the first ice cream cone machine, married Hattie Ross some time after the passing of Claude Mansfield in 1906.[56] Acquiring ownership of the Breitenbush Hot Springs in 1925, by the 1930s Merle Bruckman had built cabins, a log dam and powerhouse, large hotel/lodge with a dance floor, a gasoline pump station and many other buildings.[57] Bruckman advertised his resort as a family attraction where fishing, hiking and dancing could coincide with utilizing the health benefits of the springs for neuromuscular disorders, skin diseases, addictions and a variety of other ailments.[58] Bruckman had fulfilled the aim of the original Breitenbush Hot Springs Company and turned the area into a tourist destination where visitors from the mid-Willamette Valley could experience the Hot Springs while still enjoying the comfort of a cabin or tent site close to amenities.

Throughout Bruckman's development of the lodge and the increase in tourist accessibility, Native Americans still frequented the Hot Springs. Mansfield-Harris' family history recounts an incident where "the daughter of one of the guests, fell into a hot spring and sustained severe burns. Hattie sought help from a friend, a local Native American woman, who made a salve of herbs. The burns healed beautifully, without scarring."[59] Mansfield-Harris' recollection of this story told by her aunt who frequented

[54] Ada V. Skiff to Elizabeth and Edith Schryver, August 12, 1929, Call Number 98, box 4, folder 7, Lord-Schryver Correspondence, University of Oregon, Eugene.
[55] Skiff Jr., Mark (Dr.), "The Breitenbush Hot Springs, Inc.: Health Resort," unknown date, folder 1, VF Breitenbush, Oregon Historical Society, Portland.
[56] Mansfield-Harris, Patricia, "A Family History of the Homesteading of Breitenbush" (February 15, 2004): 1, nwreikigathering.com/DocStor/HattiesStory.doc (accessed May 19, 2013).
[57] Chapman, 8-9. Chapman discusses a Howard Bruckman as building the resort. However, Bruckman's name appears as Merle on all the resort literature.
[58] Bruckman, M. D., "Breitenbush Mineral Springs," unknown date, folder 1, VF Breitenbush, Oregon Historical Society, Portland.
[59] Mansfield-Harris, 2.

Figure 6. Bruckman's Resort Breitenbush Springs. Photo from the Gerald W. Williams Collection, OSU Special Collections & Archives Research Center.

the Hot Springs in the 1930s stresses the continued habitation of the landscape surrounding Breitenbush by Native Americans well into the twentieth century.

Moving beyond Bruckman's resort towards the east, there stand a number of forest cabin summer homes near the Hot Springs. The land was first surveyed in 1929 by Forest Service officials Fred W. Cleator and C. J. Buck. In a 1932 publication detailing the process of obtaining a summer home in the Willamette National Forest, Fred Cleator described a process where a permit would be granted from the Forest Service and then "[t]he recipient of the permit must construct at his own expense the buildings he wants."[60] The summer home cabins promoted by the Forest Service would be built in an area just beyond Devil's Creek where the Breitenbush River forks. These homes, built on leased land, were much less oriented towards health and were more focused on recreation.

The economic realities of the time hindered the initial phase of summer home development in the early 1930s and impacted a number of hot springs resorts as well. Just as the development of roads and increased ownership of automobiles swelled the amount of people visiting hot springs from the mid-Willamette Valley, these developments also altered the way people would interact with them. Historians Lawrence and Mary Rakestraw note that:

> [t]he period from the 1930s to the 1960s was an interesting one, and can best be studied as a whole. Hot and mineral springs had played an important part in the recreational development of the Willamette National Forest. They became less important during the 1930s and after World War II. The old leisurely pattern of recreation, in which people moved to gracious hotels for a week or a month, tended to disappear with building of roads and the popularity of the automobile.[61]

The automobile and improvement of roads, which had benefited the developers of the Breitenbush Hot Springs in the late 1920s and early 1930s also disrupted its appeal as a place for lengthy excursions away from urban centers. Coupled with the economic hardships of the depression, many hot springs resorts closed down.

This was not true of the resorts around the Breitenbush Hot Springs as they continued to draw people from the mid-Willamette Valley into the 1960s. However, it did stop any further development at the resorts. The hardships experienced by many of the hot springs

[60] Cleator, Fred W., "Summer Homes in the National Forests of Oregon and Washington" (USDA, 1932), 3.
[61] Lawrence and Mary Rakestraw, 107.

resorts were not reflected in the summer cabins upriver, which experienced their heyday of construction and use in the late 1950s, 1960s and 1970s.[62] Fran O'Dell, a visitor to the summer cabins, recalled that "[d]uring the 60s there was still a pool at Breitenbush that members could swim in and attend dances at Upper Camp [the former Bruckman resort]. At that time the current resort was referred to as the Upper Camp and a Lower Camp [formerly Dr. and Mrs. Skiffs resort] existed a quarter mile downstream. There was a store at each of the camps."[63] The continual operation of the resorts at Breitenbush masked the trouble that their owners and operators were experiencing with maintaining the public's interest.

Figure 7. A child interacts with nature near the Hot Springs. Photo from the Gerald W. Williams Collection, OSU Special Collections & Archives Research Center.

A proposal to purchase the original Mansfield claim in 1968 stated that it had been "operated continually on a seasonal basis by Mr. Bruckman until 1956…since that time the property has fallen into disrepair and will require extensive clean-up work, modernization and redevelopment in keeping with the desires of the modern vacationist."[64] The 1968 business prospectus also highlighted the potential of the Hot

[62] Chapman, 14.
[63] Chapman, 15.
[64] Phillips, Kent, "Prospectus: Breitenbush Hot Springs Inc." April 23, 1968, Series A, box 1, folder 2, Prospectuses, 1964-1987, Oregon Historical Society, Portland.

Springs to draw tourists from the mid-Willamette Valley. The Salem-based company stressed the accessibility of the resort from Salem along the North Santiam Highway as a major asset.

The Salem-based company, however, differed from earlier developers in one major aspect. The company was attempting to buy the original Mansfield homestead claim not because of the healing waters of the springs, but in order to promote hiking, camping and horseback riding.[65] This emphasis on outdoor recreation coincided with larger social shifts following the Second World War. Peterson del Mar notes that "[b]arely two million tourists visited Oregon in 1950. More than nine million did two decades later…The well to do enjoyed weekends and second homes at central Oregon's Sunriver or Salishan, on the coast. Their working-class counterparts were more apt to rent a motel room in Seaside or camp in one of the state's hundreds of parks."[66] In an attempt to capitalize on the boom of recreation seekers from the mid-Willamette Valley and beyond, the Salem-based company chose to overlook the perceived medicinal properties of the Hot Springs. The attempt made sense as the resort's rustic, yet furnished lodges and cabins would offer both upper- and working-class people an opportunity to interface with the wilderness in a way that still provided comfort.

This devaluing of the medicinal properties of mineral and hot springs was not unique among hot spring resort promoters in the post-war period. In her look at the decline of interest in Hot Springs, historian Martha E. Geores notes that "[s]ince the 1960s it has lost its vigor, and the package of attractions no longer finds a market among health 'consumers.'"[67] However, Breitenbush would experience another age of revival that ran counter to the fate of other hot springs resorts and towns.

Recognizing the potential of continuing to promote the healing properties of the water along with recreational aspects, Alex Beamer bought the property in 1977. [68] The purchase saved the original Bruckman structures from the fate of Dr. Skiff's resort, which fell into disrepair and was eventually removed. Beamer's success in reviving Breitenbush as a healthy retreat from urban life was reflected in a 1987 article that ran in *The Oregonian*. The article stressed that "[t]he therapy is both external from the dozen

[65] Phillips, Kent, "Prospectus: Breitenbush Hot Springs Inc." April 23, 1968, Series A, box 1, folder 2, Prospectuses, 1964-1987, Oregon Historical Society, Portland.
[66] Peterson del Mar, 221.
[67] Geores, Martha E., "How 'Health = Hot Springs' Created and Sustained a Town," in *Putting Health into Place: Landscape, Identity, and Well-being,* ed. Robin A. Kerns and Wilbert M. Gesler (Syracuse: Syracuse University Press, 1998), 52.
[68] McDevitt & Donnelly.

mineral hot springs that bubble to the surface and internal from the vegetarian meals served three times daily."[69] Beamer was able to successfully restore interest in the Hot Springs through re-introducing a healing aspect, but the success of this venture also depended on the unique social and cultural realities of Oregon at the time.

Figure 8. Photo of Breitenbush Hot Springs main lodge. Photo at http://www.hotwaterslaughter.com/hotspring/breitenbush-hot-springs.

Historian James J. Kopp discusses the unique ownership model of Breitenbush Hot Springs when he writes that "[t]he retreat and conference center operates as a worker-owned cooperative, as it has from the beginning, and the worker-owners live at the community."[70] Kopp has argued that the current owner/operators of the Hot Springs fit within a broader influx of utopian communities that sprang up in Oregon in the 1960s and 1970s. However, both Kopp and historian David Johnson stress that a history of utopian movements in Oregon dates back to the mid-nineteenth century where, along with

[69] "It'll be a hot time in the hot springs tonight," *Oregonian,* December 31, 1987, sec. C8, folder 1, VF Hot Springs, Oregon Historical Society, Portland.
[70] Kopp, James J., *Eden Within Eden: Oregon's Utopian Heritage* (Corvallis: Oregon State University Press, 2009), 163.

pioneers, "'new utopians' saw in Oregon the anticipated site of Paradise Found." [71] Nevertheless, the Breitenbush community reflected the egalitarian ideals of the countercultural movement of the 1960s and 1970s.

This heritage has also led the current owner/operators of the resort to focus on preserving the landscape that surrounds the Hot Springs. One of the original goals of the Breitenbush community as expressed in their *Credo* states that, "[w]e see ourselves as guardians of Breitenbush Hot Springs, safeguarding the Earth and healing water, assuring their continued availability to all beings who respect them."[72] The community at Breitenbush has attempted to accomplish that by generating their own power, heat and water systems to cut down on their impact on the natural resources of the area. This relative self-sufficiency has been facilitated by the abundance of resources in the region, which paradoxically also threatens their stewardship of the land to this day. One of the earliest challenges to maintaining the wilderness, as it existed when the Breitenbush community inherited it, surrounded the development of geothermal energy production sites around the Breitenbush Hot Springs. In the context of the energy shortages of the 1970s this seemed like a real possibility when the Forest Service identified the Breitenbush Hot Springs as "having high potential for geothermal resource development."[73] During this time the resort developed its own small-scale geothermal heating system while the Forest Service lost interest in developing the region for geothermal energy extraction.

Another challenge of preserving the landscape surrounding the Hot Springs from the 1980s to the present involves timber sales. Dinah 'Mo' Ross, an original member of the Breitenbush collective, began forest advocacy in the region in 1979 when she discovered that "[t]he Bathhouse Timber Sale clear cut boundary included the entire area from Cleator Bend Bridge up to the Breitenbush parking lot."[74] Dinah filed appeals to stop the Old Growth logging and was partially successful. Tragically Dinah died in a car wreck in 1983, but her legacy lives on as the Breitenbush community continues to advocate for the preservation of the forests surrounding the resort. The preservation efforts also reflect the desires of many of the new visitors of the Hot Springs. As transportation methods continue to be improved upon people from all over Oregon, the Pacific Northwest and the world have been able to experience the Breitenbush Hot Springs. However, much of the

[71] Johnson, David, "Greener Grass: A Short History of Oregon' Utopian Tradition," *Oregon Heritage* (Winter/Spring 1995): 14, folder 1, VF Collective Settlements, Oregon Historical Society, Portland.
[72] "The Breitenbush Credo," *The Breitenbush Newsletter & Catalog* (autumn, 1993): 15, folder 1, Breitenbush, Mission Mill Museum, Salem.
[73] Forest Service, "Geothermal Development: Draft Environmental Statement: Breitenbush Area," (USDA, 1977): 1.
[74] Donnelly, Michael, "Standing for the Forest: How Activism Came to Breitenbush," *Breitenbush.com* (Fall, 2001), http://breitenbush.com/community/advocacy.html.

interest of this new type of visitor rests not only on the healing properties of the water, but on the perception of a pristine landscape that accompanies it.

The efforts of Dinah 'Mo' Ross also continued a tradition of women being integral to the development, preservation and operation of the resorts at the Hot Springs. The gender relations among the contemporary cooperative settlement at Breitenbush also reflect a broader theme in the utopian movements in Oregon during the 1960s and 1970s. Kopp discusses the emergence of a particular gender consciousness that emerged in the 1960s when he writes that "[t]he back-to-the-land movement that served as the basis for much of the communal activity and the broader countercultural movement in general set the larger context. Building on this was the women's liberation movement in the late 1960s and early 1970s."[75] Long removed are the plans for gender specific bathhouses of the 1910s and 1920s, replaced by a gender consciousness at the Hot Springs, nourished by the countercultural movement of the 1960s and 1970s, that lends itself to gender equality (with the exception of women's only days that occur periodically throughout the year).

The current owner/operators of the resort have also been sympathetic to the traditions and cultures of Native Americans. Hosting Native American guests and participating in sweat lodge ceremonies are a few of the ways that Native Americans interact with the Hot Springs and surrounding area to this day. The current residents have also introduced Native American mythology in their representations of the Breitenbush Hot Springs and themselves to the public. In the most recent edition of their bi-annual newspaper, which is distributed around the mid-Willamette Valley, Breitenbush resident Dav'id Rath writes that, "[w]e continue the tradition of no one claiming exclusive ownership of these springs, with each of the Breitenbush owner/members holding title collectively, equally, and for only as long as they continue to live and work there."[76] By relating themselves to the Native Americans that came before them the owner-operators of the resort have appropriated Native American culture to justify their own existence on the land. This practice departs from earlier owners of the resort who overlooked Native American history. However, this appropriation of Native American history still threatens to obscure the cultures of the people who have utilized the Hot Springs for thousands of years.

One of the social realities of the resort at the Breitenbush Hot Springs that has persisted to the present day involves the inaccessibility of the area for people of lower socio-economic classes. After quoting the Breitenbush community's *Credo* in a 1996 New York

[75] Kopp, 150.
[76] Rath, Dav'id, "Breitenbush History: Human Roots," *Breitenbush Hot Springs* (Spring/Summer, 2013): 31.

Times article, Denise Fainberg emphasized that the Breitenbush community's commitment to accessibility "did not prevent them…from charging me $55 for a shared rustic cabin without a toilet."[77] The commitment to some aspect of drawing people from all economic classes is reflected in sliding scales for day use fees. However, the operation of a private resort has never lent itself to accommodating people from the lowest rungs of the social ladder.

In 1948 former Progressive Era Oregon Governor Oswald West lamented that "[t]he following springs, each with 3840 acres of surrounding land, form our lost heritage: Wilholt, Waterloo, Sodaville, Upper Soda, McCredie, Belknap, Foley, McKenzie, Breitenbush, and others. These were lost to the State through lack of action by certain early Oregon officials."[78] West was referring to the private ownership of these hot springs and surrounding landscapes as making up a lost heritage. What West overlooked was the multiple, and sometimes conflictive, heritages that have and continue to be represented at the Breitenbush Hot Springs. The private ownership of the Breitenbush Hot Springs has provided a space where resort developers, tourists, sportsmen, women, doctors, medical patients, preservationists and a multiplicity of people from the urban landscapes of the mid-Willamette Valley have been able to interact with the rural landscape in unique and varying ways. However, private ownership of the area has excluded people from low socio-economic classes, those who rely on extractive industries, and various other Oregonians from different backgrounds. It has also pushed Native Americans to the periphery of its medicinal and recreational use. Nevertheless, the continued use of the Hot Springs by Native Americans reflects the ways that myriad heritages have and continue to be represented in the use and preservation of the bubbling waters and surrounding wilderness at the Breitenbush Hot Springs.

[77] Fainberg, Denise, "Restored, Naturally," *The New York Times,* October 20, 1996, http://www.nytimes.com/1996/10/20/travel/restored-naturally.html?pagewanted=all (accessed May 19, 2013).
[78] West, Oswald, "Our Lost Heritage," Salem *Daily Capital Journal*, February, 18, 1948, folder 1, VF Breitenbush, Oregon Historical Society, Portland.

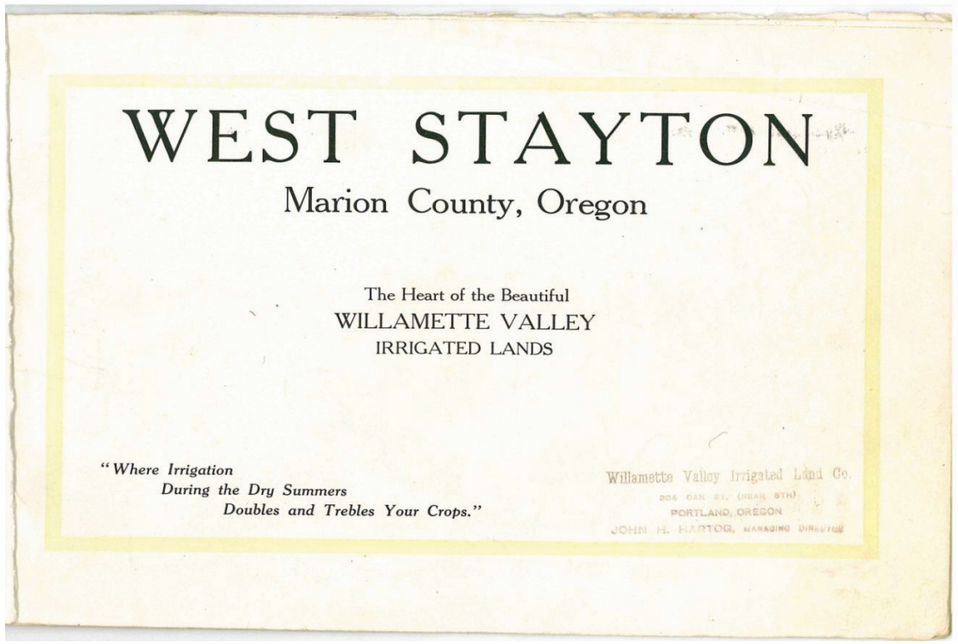
Willamette Valley Irrigated Land Company
1911 Promotional Booklet

The Willamette Heritage Center has reproduced a1911 promotional booklet generated by the Willamette Valley Irrigated Land Company. According to Special Report 197, *Trends and Anticipated Changes in Water-Use Practices for Irrigation in the Willamette Valley* (November 1965), published by Oregon State University's Cooperative Extension Service, "The rate of irrigation development in the Willamette Valley followed concentrated promotional efforts rather than simply documented evidence that crops responded favorably to irrigation."[1] The booklet that follows is one of those promotional tools.

Developing irrigation ditches and water access is a relatively new concept in the Willamette Valley. Though the Valley's Native People, the Kalapuya, practiced land and food resource management, their preferred method was management through annual burns. When American settlers began arriving in the mid-1800s, they brought with them land and food management practices from their homelands, mainly the planting of selected crops, mostly grain. It was not until the early 1900s that interest began to develop in irrigating lands that would otherwise not be as productive for grain agriculture; that is land not near a running water source such as a stream, creek or river.

In 1911, the Willamette Valley Irrigated Land Company, in collaboration with the town of Stayton, initiated irrigation experiments in West Stayton.[2] This company, along with the Molalla Irrigation Company and the Eugene Land and Water Company, was the first to develop and implement multiple-farm irrigation projects in the Valley. The Company used the following booklet to promote its irrigation efforts to a wide audience in the hopes of drawing people to less desirable Valley lands.

[1] Shearer, Marvin N and Arthur S. King. Trends and Anticipated Changes in Water-Use Practices for Irrigation in the Willamette Valley. Special Report 197 (Cooperative Extension Service, Oregon State University1965), 1.
[2] Powers, Wilbur Louis. Irrigation and Soil-moisture Investigations in Western Oregon. Volume 122 (Oregon Agricultural College Experiment Station, 1915), 93.

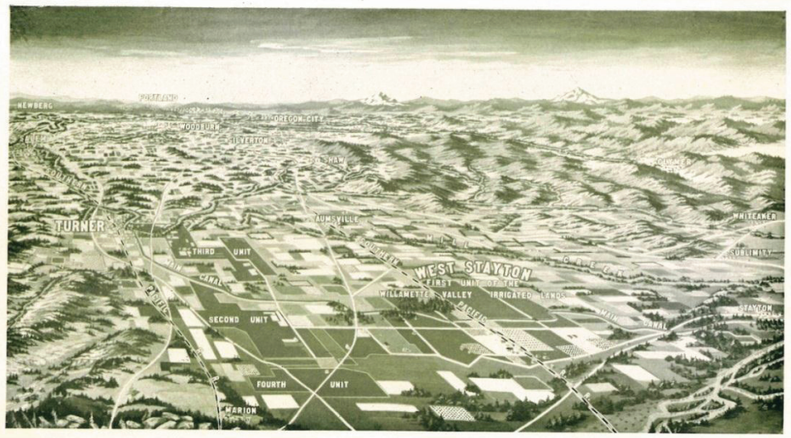

WEST STAYTON

Marion County, Oregon

The Heart of the Beautiful
WILLAMETTE VALLEY
IRRIGATED LANDS

"Where Irrigation
During the Dry Summers
Doubles and Trebles Your Crops."

Willamette Valley Irrigated Land Co.
PORTLAND, OREGON



PANORAMA SHOWING THE LOCATION OF WEST STAYTON, OREGON

2

Apropos of Life in the Willamette Valley

"MY GARDEN, with its silence and the pulses of fragrance that come and go on the airy undulations, affects me like sweet music. Care stops at the gates, and gazes at me wistfully through the bars. Among my flowers and trees, Nature takes me into her hands, and I breathe freely as the first man."—*Alexander Smith.*

"Human beings, for whom was made this beautiful earth, with its trees and sunshine and cloud, are huddling in narrow, stony, sunless streets. In New York City five millions of human beings are gathered, living under false conditions. Their city is almost at the edge of the water and more than half of them have never seen the ocean. A beautiful river flows on one side of the city, the magnificent Hudson—and the majority of those who live in the huge city know as little about the Hudson as they do about the Orinoco.

As it is in New York City—the worst American example of human crowding—so it is to a lesser degree in Boston, Chicago and other great cities of the world.

Men gather together like swarming gnats. They look upon the faces of other men—worried, anxious, hurried, tired, bound to brick and stone and iron.

The sun rises and sets and, unless by accident, the city people see neither the rising sun nor the setting. They have forgotten that there is a moon and do not distinguish its light from the dull blue electric lamps swinging shadows above the street.

At whatever cost, by whatever sacrifice, take your children, take yourself into the country. Get away from the noise, the stones, the microbes, the dullness. Let your children see the sky—that wonderful, ever changing picture that Nature spreads before her children."—*A. Brisbane.*

West Stayton, on the Woodburn-Springfield line of the S. P. R. R., seven miles east of Turner, 14 miles southeast of Salem, is the center of as pretty a garden spot as you can find. Rainfall about 38 inches; summers never very hot and nights always cool; winters mild; snow, severe storms and thunder hardly known—where can you find a more delightful place to live?

3

CONSTRUCTING THE WEST STAYTON IRRIGATION CANAL (April, 1911)

4

PLOWING THROUGH A BIT OF TIMBER TO CONSTRUCT CANAL

5

POWER CANAL NEAR WEST STAYTON, OREGON

6

CONSTRUCTING HEADGATE FOR WEST STAYTON IRRIGATION CANAL (April, 1911)

7

THE previous pages show construction work on the Irrigation Canal, which brings the water from the Santiam River to West Stayton, an old settled community on the Woodburn-Springfield line of the Southern Pacific Company. Thence it flows west towards the towns of Turner and Marion on the Southern Pacific main line.

Every buyer of West Stayton irrigated land has the perpetual water right deeded to him with the land. The costly system eventually becomes the property of the owners of the irrigated tracts. Up to that time the maintenance of the system costs each user $1.50 per acre per year. As more land comes under irrigation, the maintenance cost will gradually become less. Irrigation water is supplied from May to October.

The pictures show the nature of the soil and subsoil. The Government expert, A. P. Stover, pronounced it "admirably adapted to irrigation." The Supervising Engineer of the U. S. Reclamation Bureau examined it and reported it as "particularly adapted for the easy application of irrigation water and good drainage."

Write us for Mr. Stover's intensely interesting booklet on "Irrigation in the Willamette Valley." We will send you or your friends a copy postpaid, without charge.

The discharge of the Santiam River, North Fork, is 2,830,000 acre feet, an average of 3,930 cubic feet per second and this Fork has a drainage area of 740 square miles.

Salmon and trout are found here and in the Stayton Canal, so that lovers of fishing do not have to travel very far for a day's sport.

The best kind of drinking water is found within 15 feet of the surface.

The Santiam River is 1¼ miles south of West Stayton, while the Willamette River runs down to Portland, so that one can drive to Salem and take the boat from there to Oregon's metropolis. About 60 miles west is the Pacific Ocean with its many bathing beaches, within easy distance for a few day's recreation.

8

MILL POND AT STAYTON, OREGON. HEADGATE IN THE DISTANCE

9

HERE is shown an orchard view at West Stayton. It is a prune orchard, which, although consisting of only 16 acres, will give a family independence for life. The loose soil is admirably adapted for fruit. Prunes, plums, cherries, apples, etc., do splendidly here. Adjoining this orchard are several ten acre tracts all of which are delightful home sites.

Some small apple orchards have been recently set out by the Willamette Valley Irrigated Land Company on 10 acre tracts, ready for the newcomer. Between the rows of two year old trees, beans have been planted, providing an immediate income for the buyer.

Living is not only attractive among such delightful surroundings, but is cheap. The mild winters make fuel less of a question. Fire wood is $3.00 a full cord. Many of the irrigated tracts have a little patch of timber at one end.

Note this: that while it may be right that everybody should own a city home, yet such a home is an expense and not an income creator. For the same money that you buy a home in town, you can buy here a home and a tract of land and besides owning a roof over your head, you have the farm or orchard which provides you an income. That indeed is true sagacity for the man of family who looks ahead and wants to provide for their future.

Here, one can have green pasture all the year around, can raise two crops of white potatoes and three or four of alfalfa per year. Or if one is inclined to fruit growing, prunes, apples, plums, etc., do fine and are sure moneymakers. Oregon is becoming famous for its walnuts and pears. Peaches are a quick bearer and can be set out as fillers between the other rows of trees. Anyone acquainted with West Stayton district knows that it is ideal for strawberries, blackberries, raspberries, loganberries, etc., while one must not forget that cantaloupes and watermelons often pay wonderful returns on such soil as is found here.

Why not invest your money on a sure dividend payer, where water insures your crop and everything is green when unirrigated lands lie parched and brown?

A PRUNE ORCHARD IN BLOOM AT WEST STAYTON, OREGON (April 20, 1911)

CLOSE proximity to a railroad station (not only to a railroad, but to a depot) is an important factor. The picture opposite shows the West Stayton depot, right in the center of the irrigated lands. And a new passenger station is among the improvements applied for.

Only 65 miles to Portland! One can leave West Stayton in the morning for Portland (via Woodburn), spend the greater part of the day in the metropolis and be back for supper.

The freight and express rates to Portland are:

EXPRESS

Merchandise ..... 60c a 100 lbs. Butter, eggs, cheese, poultry, garden truck, etc. 50c a 100 lbs.

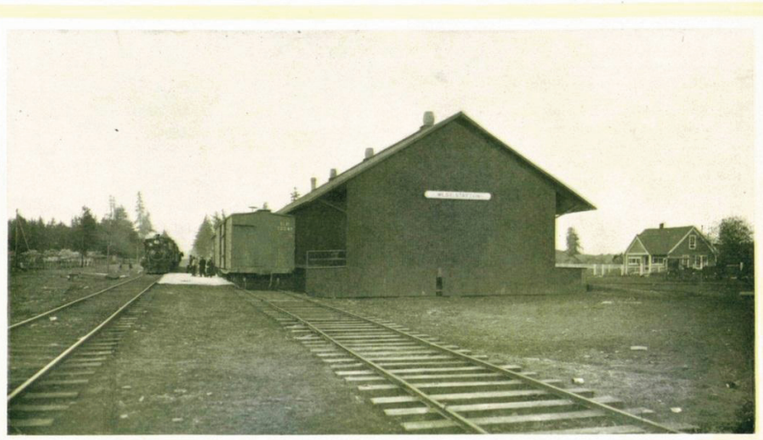
FREIGHT RATES

West Stayton to Portland

	Car Load	*Less than Car Load*		*Car Load*	*Less than Car Load*
Lumber	8c		Horses and mules	$27	
Household goods	13c	31c	Fresh vegetables, garden truck, peaches, etc.		31c
Apples	16c	22c	Hay and straw	8c	
Poultry, dressed, 31c or live, double		62c	Grain, flour, mill feed, potatoes, onions	10c	
Eggs, butter and cheese		26c	Prunes. dried	19c	22c
Groceries, first class		31c	Prunes, fresh, strawberries, etc	22c	31c
Hogs, sheep and cattle	$24				

The fare to Portland is $1.95, or on Saturdays, good until Monday, $2.75 for a return ticket.

There are creameries and canneries at Salem and Portland to take your product. There is a gristmill within four miles, sawmills and planing mills nearby, while at the store of D. M. McInnis you get cash for your produce, and can buy the finest line of groceries at less than city prices.



WEST STAYTON FREIGHT DEPOT; OFFICE OF WILLAMETTE VALLEY IRRIGATED LAND CO. TO THE RIGHT

THE new fencing, as shown here in course of construction, taking the place of the old fence rails, has given the irrigated lands around West Stayton a distinct character of their own, an up-to-dateness and progressiveness, aiding the natural beauty of this lovely part of the Willamette Valley.

The charming evergreen trees dotted here and there make life attractive even in the heart of December.

And speaking of December, the Climatological Service of the U. S. Weather Bureau reports for December, 1910, gives the temperature as follows:

Salem, Marion County, Oregon, highest 56 degrees on December 2nd. Lowest, 30 degrees on December 20th. Average, 43.2 degrees, or 1.3 degrees over normal. (Salem is quoted, that being the nearest observation point, Salem being 14 miles N. W. of West Stayton.)

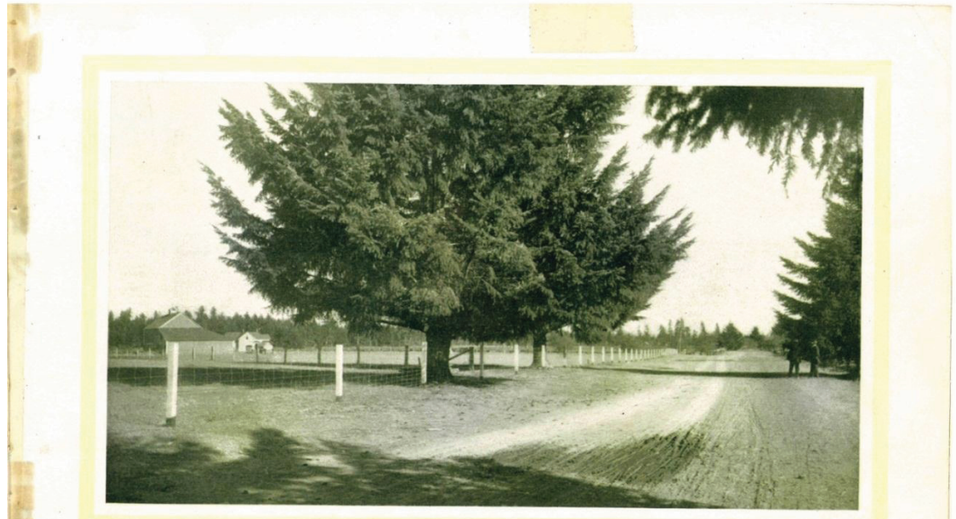
And speaking of weather, reminds one of the oft-asked query: "Does it rain all winter?" No, a thousand times No. We get less rain than does New York, and a little over half what New Orleans gets. It does not come down in floods, but as a rule gently, and most rainy days have some sunshine between showers. The above quoted authority gives:

Number of rainy days in Salem, Marion County, Oregon: December, 1910, 19; January, 1911, 15; February, 1911, 13.

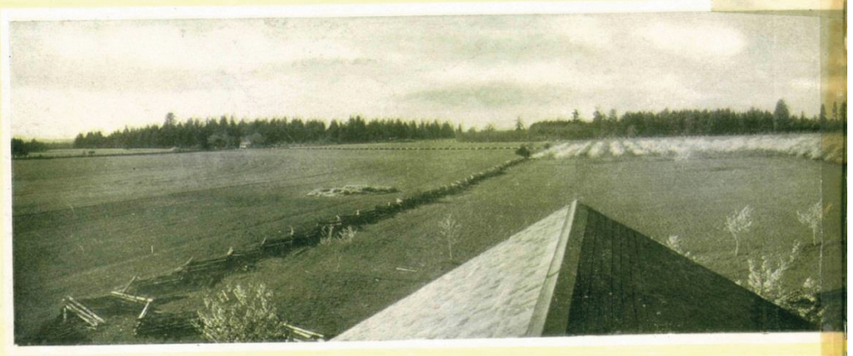
A "Rainy Day" in the Weather Bureau reports means a day when one-hundreth of an inch falls. That may mean clear all day and a shower at night.

The Oregon Agricultural College is less than a score of miles away, being located at Corvallis, southwest of West Stayton.

Salem, the State's capital, 14 miles northwest of West Stayton, is one of the most important fruit centers of Oregon, and one of the only two United States pre-cooling stations in existence. Its Cherry Fair is an annual event of importance. Most of the State's institutions are located in or near Salem.



A COUNTY ROAD AT WEST STAYTON, OREGON



PANORAMIC VIEW OF LANDS TO BE

IRRIGATED AT WEST STAYTON, OREGON

WEST STAYTON SCHOOL ON THE LAND OF THE WILLAMETTE VALLEY IRRIGATED LAND CO. (April, 1911)

18

CHURCH AT WEST STAYTON, OREGON

19

THE previous pages show the West Stayton school on a "rainy day." The next picture shows the "little church around the corner," but more especially the delightful winter foliage. Here again you notice the parklike evergreens spoken of before, planted here for man's use and delight by the world's allwise Gardener.

The picture opposite shows a newly-set apple orchard and one of the new roads laid out and fenced by the Willamette Valley Irrigated Land Company, which roads have been graded since this picture was taken. You will notice the Company's standard style of fencing.

One of the promising industries is dairying. The State Dairy Commissioner's report of 1911 gives on page 41 a test of 20 cows. Monthly income of highest producer is $13.65; lowest, $1.58; average, $6.51. Deducting cost of feed, net profit per cow, $5.06 per month. Page 42 shows test of nine cows. Highest monthly return, $23.76; lowest, $8.76; average, $16.02. Net profit per cow, $8.07 per month. Page 43, test of 17 cows. Highest monthly return, $21.24; lowest, $5.64; average, $13.44. Net profit per cow, $7.50 per month. Page 64 states that one Portland firm alone imported in 1910, 500,000 pounds of butter.

Oregon's dairy output value for 1910 is put at:

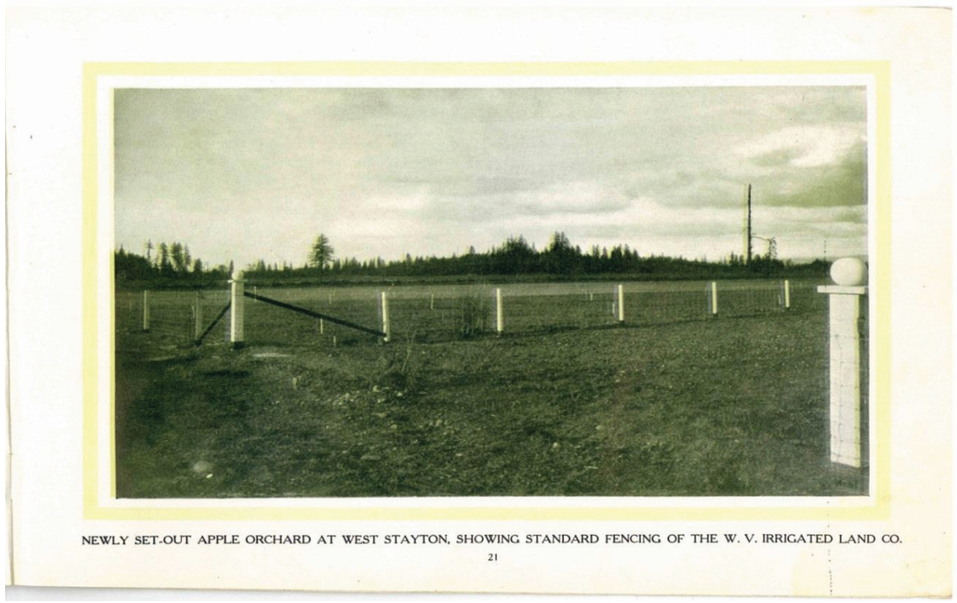
Butter	$4,500,000.00	Ice Cream	$1,000,000.00
Milk and cream	3,575,000.00	Cheese	1,000,000.00
Condensed Milk	2,000,000.00	Total	$12,075,000.00

Irrigation, making possible green feed during the summer, would add millions to this aggregate.

The above are facts in common cases. To mention the record of that famous Oregon cow, Adelaide of Beechlands, would show a net yearly profit of $267.98.

Figuring the price of butter here and in Illinois this Oregon cow will net $62.83 per year more here than in Illinois and smaller producers in proportion. (Taken from Circular 5, "Dairying & Stock Raising," issued by Portland Chamber of Commerce.)

20



NEWLY SET-OUT APPLE ORCHARD AT WEST STAYTON, SHOWING STANDARD FENCING OF THE W. V. IRRIGATED LAND CO.

21

WHEN, instead of slaving on a large grain farm, you are making a small irrigated tract provide you a living, there will be many a day when you can take a few hours pleasure near by, as you see the man doing in the picture opposite.

As to whether a 10-acre irrigated farm will really furnish you a living, we quote from the Portland Chamber of Commerce Circular No. 3, just a few items: Onions yield from 350 to 800 bushels per acre. Cabbage, from 24,000 to 40,000 pounds. Cauliflower, from $350.00 to $400.00 per acre gross. Asparagus, from $500 to $1000 gross per annum. Eggs average from 25c to 55c per dozen (says the phamphlet. I would qualify this and say from 15c to 55c per dozen). In few places can eggs be produced at as low a food cost as here. Many chicken raisers report from 125 to 150 eggs per fowl per year, which is decidedly over the average for the United States.

M. C. Looney sold $200 worth of poultry and eggs from 73 hens and had 100 chickens left.

C. J. Krause sold $295 worth of pork in 30 months besides supplying two families from one 50-cent pig and had 6 brood sows and 34 shoats left.

Dueist Bros. realized $30 in wool and lambs per ewe from 40 ewes.

R. Y. Porter got $105 worth of mohair from 100 Angora goats.

Thos. Holman made the cost price, $13,000, from 40 acres of hops in the first year.

Lyman Damon got 3000 pounds of hops per acre from 20 acres. At 14 cents this would mean $8400, at 20 cents, $12,000.

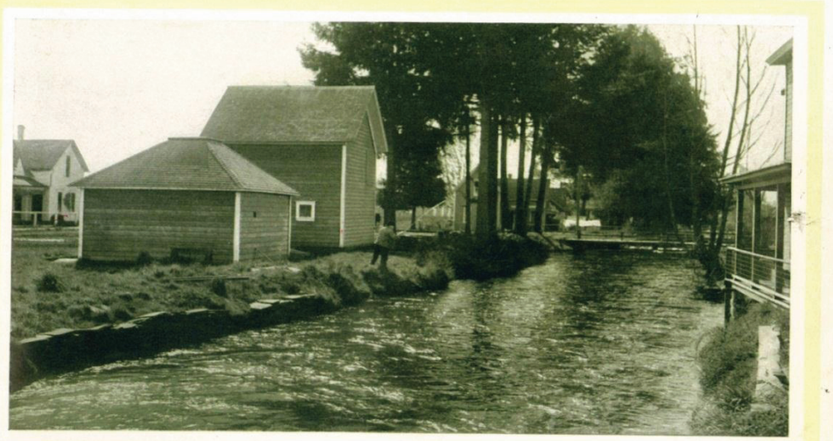
Frank Diem sold $54 worth of English walnuts from one tree.

Thos. Prince got 18,000 pounds of English walnuts from 1500 nine-year-old trees.

L. T. Reynolds reported 13,000 pounds of strawberries from one acre, and 9000 pounds the following year.

All these people are Marion County producers—within a few miles of our lands.

One of the usual drawbacks of country life is its lonesomeness, caused by the distances between homes, the bigness of the ranches. But intensive farming under irrigation means homes close together, means sociability and neighborly intercourse.



FISHING FOR TROUT IN STAYTON CANAL (April, 1911)

AS you descend from the train at West Stayton, you see right at the depot the scene here shown. It is the entrance to the Demonstration Farm of the Willamette Valley Irrigated Land Company, just started where single and half acres are being sown to different crops. Adjoining this is the O. A. C. Experiment Station, handled by the same Company, but under direction of the Oregon Agricultural College and consisting of tenth and twentieth acres, some with, others without irrigation, some with and others without fertilizer, to determine the best way to make intensive farming pay. That's what this station is for. And you, once located among us, get the benefit of it, without having to travel to see it. Small farms are after all the coming thing. To show you what others are doing, we cite some results obtained by people in the Willamette Valley.

F. A Bennett, of Forest Grove, Ore., last year realized $1762.54 from 13 cows, or $135.58 per animal.

S. E. McBee, of Springfield, Ore., grew 80 tons of carrots to the acre and sold them for $7.50 a ton, or $600 an acre.

A. Heise, of Salem, Ore., conducts a truck garden of 40 acres and averages $2500 profit per year.

J. H. Staines got 225 bushels of potatoes to the acre. At the price prevailing in June, 1911, this would mean $6000 from his 20 acres.

Geo. A Dorris, of Springfield, Ore., is said to make about $500 an acre from asparagus.

Mrs. W. T. Simmons, of Junction City, Ore., has 40 acres, of which 25 are devoted to garden truck. Her income is about $4000 a year.

A Washington County, Oregon, farm near Portland, produced 60,000 pounds of onions per acre. They sold at 2c a pound, giving an income of $6000 for the five acres.

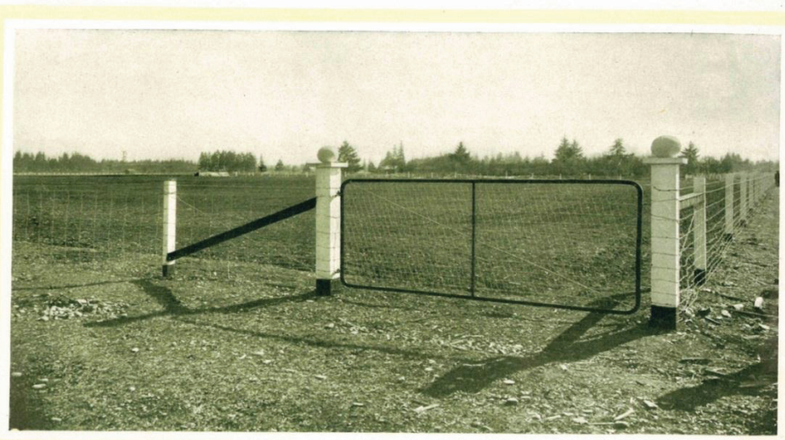
C. J. Kurtz, of Salem, realized over $6000 from 30 acres of prunes.

Rev. F. N. George sold cherries amounting to $640 an acre.

D. A. White of Salem, Ore., sold 800 pound of cherries at 5c a pound from one tree, $40 worth.

B. I. Ferguson of Salem, Ore., 14 tons of cherries at $100 a ton, or $1400 worth from 143 trees.

Geo. Hall of Oakland, Ore., started last spring with 30 turkey hens and 2 gobblers, value $80. He sold for the holidays, 255 birds at $803.75 and still has 55 birds left, worth $164.60, total $968.35.



ENTRANCE TO WEST STAYTON EXPERIMENT STATION OF THE OREGON AGRICULTURAL COLLEGE

ON the opposite page you see one of the West Stayton residences, 10 rooms complete, worth about $3000. A four room bungalow can be built from $500 and up. Lumber is very cheap; $10 per M for rough lumber, while partition lumber, dressed, can be had at $13 per M delivered.

The bare maples in this photo, taken in February, show that spring has not yet arrived, and yet see how attractive the evergreen trees look.

Now let us see what you need to start anew in this country.

You buy 10 acres of irrigated land, including a perpetual water-right, and your first payment is, say...	$500.00
If you have no children, a four room bungalow would do very nicely, say	600.00
If you are going in for fruit, one cow will probably do you, say	40.00
Team of horses, harness and wagon, say	280.00
A sow and a few young pigs, say	30.00
Two dozen chickens, say	12.00
Plow, harrow and tools, say	28.00
Poultry houses, small barn, etc., say	100.00
Total	$1590.00

So a man is reasonably safe even if he has only $2,000, for his living will cost him but little: he can raise most of his own stuff and his crops ought to take care of the further payments.

These are estimates based on truth. Think them over and act. Buy your ticket via the Southern Pacific Co. to West Stayton and be your own boss! Happy and independent! A producer, leading a life that is worth while!

Marion County prides itself on its many good roads. Those around West Stayton clear up to Turner have just been put in excellent condition.

Besides the fruit mentioned, we should not forget pears. Comice pears shipped from Salem brought $7.10 per box in New York in 1910.

L. T. Reynolds of Salem harvested 90,000 pounds of Bartlett Pears from 5 acres.

WEST STAYTON RESIDENCE OF THE MANAGING DIRECTOR OF THE WILLAMETTE VALLEY IRRIGATED LAND CO.
(New Fencing in Course of Construction, April, 1911)

THE water in the canal shown here is used for power, creating wealth and employment for capital and labor. Having finished this task, the same water is used for irrigation, again being a blessing to man, and, seeping away, finds its way back into the river to be once more, farther down, used to set factory wheels a-going.

A country with ample water is therefore a blessed country, provided there is no danger from overflow or levees breaking.

As you see from the picture, these canals are but shallow. The irrigation canal is from 5 to 7 feet deep, with about 3 feet of water in it. The country is level with a general slope of 10 to 14 feet to the mile.

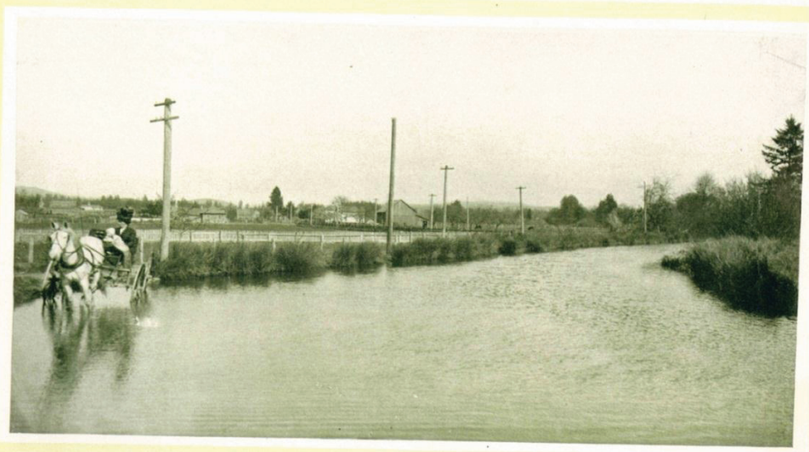
No difficult problems of leveling stare you in the face. No danger of alkali. The subsoil is gravelly and porous, ideal for irrigation. Read in our "Irrigation Booklet" what experts say about our soil. Write for a free copy.

On the next page you will find a newly started poultry business, the West Stayton Poultry Farm, in the course of construction. While on a previous page mention was made of eggs ranging from 15c to 55c per dozen, eggs from full-bred fowls will bring $2 to $3 per setting, which is quite a different story.

There's money in poultry here. The city is crying out for more eggs and poultry. The city dweller has to put up with store eggs at big prices the greater part of the year. Look into the poultry business. It is one of the most promising industries open to you.

The next picture shows the road to Turner, the next unit of the Willamette Valley Irrigated Land Co. On both sides of this road are their lands. The two tracts shown here comprise some 775 acres, occupied by two families! Imagine the change when on this 775 acres, from 50 to 75 families make a living by intensive farming, made possible by irrigation. It means a tremendous enhancement in values of which you can have your share if you are wise and locate with us and get in on the ground floor.

For orchard results we might state that M. N. Bouman and L. S. Fuller cleared $140 per acre on 16 acres of prunes; C. J. Kurtz, $6000 from 30 acres; and Bruce Cunningham in a light year sold $4000 worth of prunes off 3000 trees. All these are Marion County facts, which you can duplicate.



CANAL ALONG THE ROAD TO WEST STAYTON, OREGON

A NEWCOMER FROM NORTH DAKOTA CONSTRUCTING THE "WEST STAYTON POULTRY FARM" (April, 1911)

30

ROAD TO TURNER, ORE., SHOWING ON BOTH SIDES THE LAND TO BE IRRIGATED BY THE W. V. IRRIGATED LAND CO.

31

In Retrospect

HAVING shown you a few views around West Stayton, we bid you not goodbye, but Au Revoir. In spirit you have traveled with us among the charming scenery. We have tried to condense the matter for you but omitted to say that C. A. Park of Salem sold 15,000 boxes of apples off 45 acres or 333 boxes per acre. L. T. Reynolds, 3300 boxes from 8 acres. So besides a beautiful country we have one that is prolific to an amazing degree.

You may admire the picture opposite, showing early spring along the canal, with the many flowers native here, the lovely verdure and the rippling water. But you cannot form any idea of its true beauty, for the human artist at his best is absurdly impotent compared with the handiwork of God.

Study this picture and tell us: Would you not like to live amidst such surroundings?

A glorious climate, cool while the East is sweltering, mild while the East is freezing; in summer the nights cooled by the eternal snow on the distant mountain tops; in winter, the mild air purified by showers; a soil that responds to your touch, a community of law-abiding progressive citizens — an ideal project, no shacks, no paupers, no nabobs. In short, no false vanity, but the real life!

A man reckoned by his intrinsic worth, not by his dollars! No man bending the knee to anyone, but each one independent and prosperous according to his own efforts!

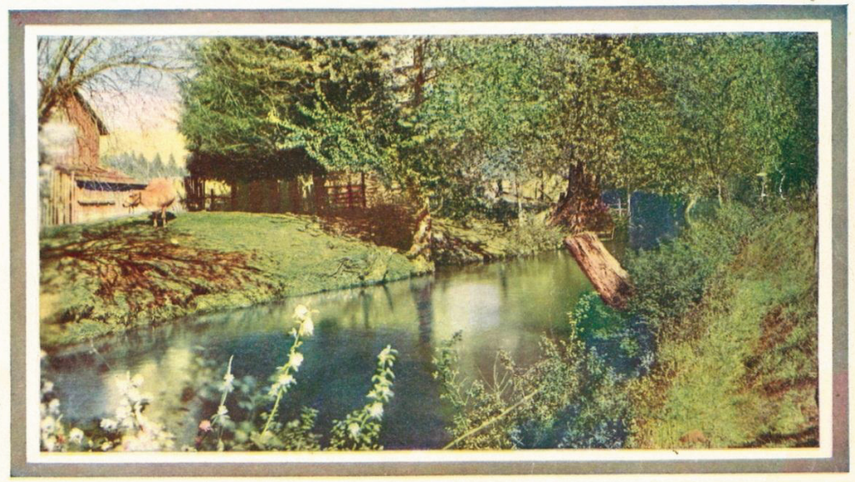
If your conscience tells you you ought to come among us and start anew, don't still the call of the land, the voice that calls you back to the soil, but heed it, and you'll exclaim on arriving in this glorious country, "Verily, not half has been told."

Sincerely yours,

WEST STAYTON COMMERCIAL CLUB.

Com. 49A (7-30-11) 10M

32



SPRINGTIME ALONG THE STAYTON CANAL (April 19, 1911)

Power and Columbia River Politics: The Theatrical Production of the Living Newspaper, *Power,* by the Oregon Unit of the Federal Theatre Project

Damond Morris, University of Oregon

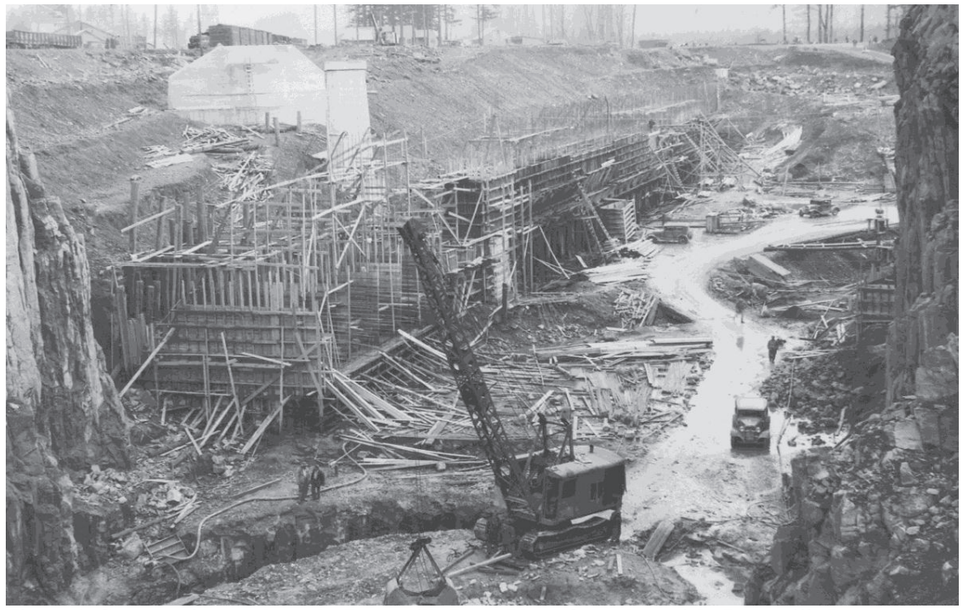


Figure 1. Construction work on the Bonneville Dam. Photo from the article *Bonneville Power Turns 75* by Elisabeth Kramer, http://www.westoregon.org/news/article/bonneville-power-turns-75.

Abstract: The debate between private or public distribution of electric power was a thorny subject during the construction of the Bonneville Dam during the Great Depression. In March 1938, one year after the opening of the Dam, the Living Newspaper play, *Power*, produced by the Oregon Unit of the Federal Theatre Project, opened and engaged in the national and regional debate. Over the course of the two-act play, playwright Arthur Arent made the case for public ownership, using the Tennessee Valley Authority as a model for the creation of the Columbia River Authority. Set in Oregon, following the creation of the Bonneville Power Authority in Congress in 1937, the play pushed against firmly entrenched private utility interests. The President's dedication of the Dam in September 1937 followed the passing of the Bonneville Power Act by Congress. The bill intended to use the low cost and ample distribution of public power as a catalyst for electrification of rural area of Oregon and Washington, still living without electricity in 1938. This article places the production of *Power* t in the regional debate of public/private ownership of power in Oregon.

> As I look upon Bonneville Dam today, I cannot help the thought that instead of spending, as some nations do, half their national income in piling up armaments and more armaments for purposes of war, we in America are wiser in using our wealth on projects like this which will give us more wealth, better living and greater happiness for our children.
>
> *President Franklin Delano Roosevelt, The dedication of the Bonneville Dam, September 1937.*

It is hard to fathom a world without electricity. We are immersed in an electrified world. Electric gadgets have advanced and become obsolete so quickly, that it seems like we have always had them with us, but the world without electricity was not so long ago. In Oregon, as late as 1937, when the Bonneville Dam came into operation and began generating power, many people in rural areas of Oregon were living without power. They lived much as their parents had in the late 19th century. Population densities in urban areas made the setting of power poles and transmission lines financially viable, but farmers and ranchers in rural areas of the Willamette Valley struggled to have private electric companies run lines to their homes. The politics surrounding the electrification of rural Oregon in 1937 were a part of a larger national debate over public versus private power distribution, which was intensified in Oregon and Washington State as the Bonneville Dam began producing vast amounts of cheap electricity.

In the middle of the power distribution debate, the Oregon Unit of the Federal Theatre Project produced a play titled *Power*, which highlighted the benefits of public power distribution, as well as the struggle of rural farmers fighting to have electricity delivered to their farms in Oregon's largely-private power market.

The Federal Theatre Project was formed under the Emergency Relief Appropriations Act of 1935, which set out to rebuild the country and preserve "not only the bodies of the unemployed from destitution but also their self-respect, their self-reliance and courage and determination."[1] The bill brought about President Franklin Delano Roosevelt's relief efforts under the auspices of the Works Progress Administration (WPA). WPA Director, Harry Hopkins, included the arts as part of the WPA plan to revitalize the economy, forming the Federal Theatre Project (FTP) in 1935 to lift spirits, educate, entertain, and most importantly, put unemployed theatre artists and technicians to work. Started in

[1] Roosevelt, Franklin Delano, "Annual Message to Congress (1/4/1935)," *The American Presidency Project*, accessed February 16, 2013. http://www.presidency.ucsb.edu/ws/index.php?pid=14890.

August of that year, the FTP was the first and only federally–organized, funded and executed theatre in the history of the United States. The FTP was unique among national theatres, such as those found in the capitols of Europe, because it did not consist of a central theater building. It was instead, a regionally-based group of federally-funded theatres, operated and administered at the state level. This structure led to a great deal of autonomy for state FTP directors, such as state Federal Theatre director Bess Whitcomb in Oregon, who worked under a branch of the WPA known as Federal Project Number One, or "Federal One." Federal Theatres were organized in 23 states, primarily in metropolitan areas, with the Oregon Unit of the Federal Theatre based in Portland.

Electric power and its distribution in rural areas of Oregon, was a thorny subject during the construction of the Bonneville Dam, the building of which was the fulfillment of a 1932 campaign promise made by FDR while visiting Portland that, "the next hydroelectric development to be undertaken by the Federal Government must be on the Columbia River."[2] The President's dedication of Bonneville Dam five years later, on September 28, 1937, followed the passing of the Bonneville Power Act by Congress, which was signed into law on August 20 of that year. Within the Act, a "preference clause" was included, which ordered the Bonneville administrator to give preference to "public bodies and cooperatives." This clause forced power to be distributed to the public before private companies to ensure that the facilities for the generation of electric energy at the Bonneville project "…be operated for the benefit of the general public, and particularly of domestic and rural consumers." [3] The bill intended to use low cost and ample distribution of public power as a catalyst for the electrification of rural areas of Oregon and Washington.

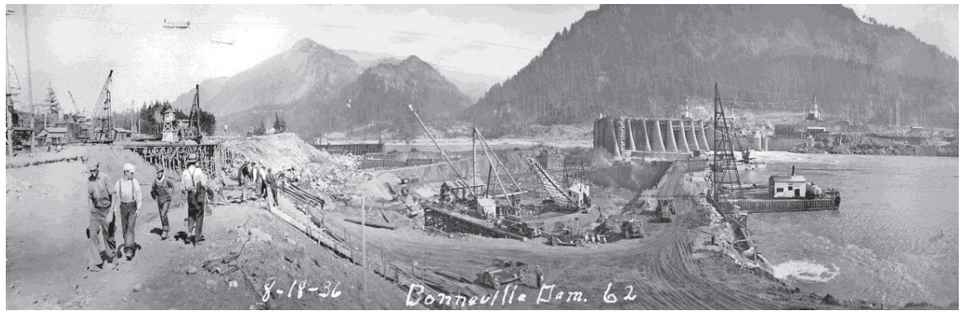


Figure 2. Bonneville Dam, August 18, 1936. Photo from the Bonneville Power Authority.

[2] Oregon Encyclopedia, "Bonneville Dam," accessed February 16, 2013, http://www.oregonencyclopedia.org/entry/view/bonneville_dam/.
[3] U.S. Department of Interior, Bureau of Reclamation, "Bonneville Project," accessed February 16, 2013, http://www.usbr.gov/power/legislation/bonnevil.pdf.

The new bill proved to rise in prominence in other areas of Oregon public life—such as entertainment. The Oregon Unit's production of the play, *Power,* supported New Deal programs and was blatant propaganda promoting the WPA, major projects like the Bonneville Dam and with them, the taming of natural resources, such as the Columbia River. Written by playwright Arthur Arent, *Power* was a "Living Newspaper"; a documentary style of theatre made popular in the 1930s by the Federal Theatre, with scenes in the play ripped directly out of newspaper headlines, congressional records and real-life stories. The play was a runaway hit on Broadway in New York, selling-out for weeks before the official opening. *Power* was fast-paced and innovative, incorporating projected images and vaudeville techniques to tell the story of electricity.

Figure 3. A scene from the play *Power* with men installing power poles/lines. Photo from the Federal Theatre production notebook, http://memory.loc.gov/ammem/fedtp/ftpwr7.html.

Through a series of scenes, the play argues for the distribution of power through publicly-owned and operated electric utilities. Cheap power, it assumes, would allow for the increased distribution of electricity throughout the nation and push public utilities to distribute electricity into rural areas, where the population density normally made the cost of setting power poles and electric cable less viable. The antagonist in the play was corporate greed, while the heroes were the people robbed every month by their electric company. Arent's work in *Power* is often radical, calling for audience members to take action, with scene structure pulled from such propaganda plays as *Waiting for Lefty,* by contemporary playwright Clifford Odets. An example of this kind of work is found in Scene 15-A, in which a farmer and his wife, Nora, are reading by the light of a kerosene lamp and the wife demands that her husband do more than just turn up the kerosene wick:

> Farmer: What you want me to do, Nora? The wick's up as high as it'll go.
>
> Wife: Never mind the wick! How about a couple of nice little electric lights around here?
>
> Farmer: Now, we been all over that before. And there ain't nothin' I can do about it.
>
> Wife: Ain't there?
>
> Farmer: You heard what Joe Frank said. His farm's bigger'n mine. He can use more lights, and the company told him, nothin' doin'.
>
> Wife: So, you and Joe are getting' up a little club to read in the daytime, eh? (*She rises*) Suppose they told you couldn't have any air, would you stop breathin'?[4]

Power not only equates the rural condition to the lack of electrification, but also asserts that because of a lack of assistance, rural populations suffer from "poor land, limited diet, insufficient schooling, inadequate medical care, no plumbing, industry, [or] agriculture...!"[5] The farmer in the argument is powerless to get the power company to run a transmission line to his farm.

> Farmer: Nora, if they don't want to string lights out to my farm I can't make 'em. (Farmer *rises*.)
>
> Wife: Who said you can't? Who says you can't go up there and raise holy blazes until they give 'em to you! Tell 'em you're an American citizen! Tell 'em you're sick and tired of lookin' at fans and heaters and vacuums and dish-washin' machines in catalogues, that you'd like to *use* 'em for a change! Tell 'em… (*she stops*)… What the hell do you think Andy Jackson you're always talkin' about would do in a case like this! (*As he stands, convinced, she claps his hat on his head, and gives him a push*) Now go on out and tell 'em somethin'! (Farmer *exits*.)[6]

The wife demanding that her husband get up, get out and make his voice heard, echoes the characters, Joe and Edna, in a scene from Odets' *Waiting for Lefty,* produced by the Group Theatre. In the scene Joe has just returned home from work as an ununionized taxi driver to find the furniture in his apartment repossessed. With no food or furnishings in the apartment his wife Edna, put the children to bed without supper and threatens to leave Joe if he doesn't get the taxi drivers together and unionize.

> Joe: Don't change the subject!
>
> Edna: This is the subject, the exact subject! Your boss makes this subject. I never saw in my life, but he's putting ideas in my head a mile a minute. He's giving your kids that fancy disease called the rickets. He's making a jellyfish outa you and putting wrinkles in my lace. This is the subject every inch of the way! He's throwing me into Bud Haas' lap. When in hell will you get wise –
>
> Joe: I'm not so dumb as you think! But you are talking like a red.
>
> Edna: I don't know what that means. But when a man knocks you down you get up and kiss his fist! You gutless piece of baloney.
>
> Joe: One man can't –
>
> Edna: (*with great joy)* I don't say one man! I say a hundred, a thousand, a whole million, I say. But start in your own union. Get those hack boys together! Sweep out those racketeers like a pile of dirt! Stand up like men and fight for the crying kids and wives. God-damnit! I'm tired of slavery and sleepless nights.
>
> Joe: *(with her)* Sure, sure!...
>
> Edna: Yes. Get brass toes on your shoes and know where to kick!
>
> Joe: *(suddenly jumping up and kissing his wife full on the mouth)* Listen, Edna, I'm goin' down to 174th Street to look up Lefty Costell. Lefty was saying the other day… (*He suddenly stops)* How about this Haas guy?
>
> Edna: Get out of here!
>
> Joe: I'll be back! *(Runs out. For a moment Edna stands triumphant.)*[7]

[4] Arent, Arthur, Arnold Sundgaard and Pierre de Rohan, *Federal Theatre Plays. 1. Triple-A Plowed Under* (New York: Random House, 1938), 62-63.
[5] Arent, Sundgaard and Rohan, 61.
[6] Arent, Sundgaard and Rohan, 63.
[7] Odets, Clifford, *Waiting for Lefty & Other Plays* (New York: Grove Press, 1993), 12-13.

Figure 4. Advertisement for the opening of *Waiting for Lefty*. BC Workers' News, 25 October 1935.

The call to action by the Group Theatre brought the audience into the streets, chanting "Strike! Strike!" at the end of *Waiting for Lefty's* first performance in 1935 and with *Power*, Arent was capturing the same leftist emotional message, giving voice to the powerless to rise up together.[8]

By emphasizing the need for public ownership of power distribution, the Oregon Unit of the Federal Theatre Project became the voice of the people against the corporations, as well as state and local politicians who did not back New Deal programs. Because the play was propaganda for New Deal positions on the power debate, when it opened on Broadway in New York, members of the press and politicians who supported the side of private distribution, condemned the play. WPA Director Harry Hopkins' response to the New York production of *Power* brought him backstage to tell the company:

> I want this play and plays like it done from one end of the country to the other… Now let's get one thing clear: you will take a lot of criticism on this play. People will say it's propaganda. Well, I say what of it? It's propaganda to educate the consumer who's paying for power. It's about time someone had some propaganda for him. The big power companies have spent millions on propaganda for the utilities. It's about time that the consumer had a mouthpiece. I say more plays like *Power* and more power to you.[9]

[8] Denning, Michael, *The Cultural Front: The Laboring of American Culture in the Twentieth Century* (London: Verso, 1998), xiv.
[9] Flanagan, Hallie. 1940. *Arena: the history of the Federal Theatre*. New York: Duell, Sloan and Pearce., 185

Figure 5. A scene from *Power*. Photo from LOC, from the Federal Theatre production notebook http://memory.loc.gov/ammem/fedtp/ftpwr7.html.

The play was clearly propaganda supporting FDR's Tennessee Valley Authority (TVA), and in the Oregon Unit production, supporting the proposed creation of a Columbia Valley Authority across the region of Washington, Oregon, Idaho and Western Montana, which the FDR administration, working from the success of the TVA, tried without success, to create for the Pacific Northwest.[10] In addition to the play *Power,* the Roosevelt administration also used the power of propaganda to heighten awareness and public opinion about the TVA in films like *The River* by Pare Lorentz in 1938. Lorentz had previously directed *The Plow That Broke the Plains* in 1936, to sell the American public on FDR's Agricultural Adjustment Act, which looked to help farmers suffering from the effects of the Dust Bowl. Together, *Power,* which played in Federal Theatre companies

[10] Within the "Bonneville Project Act" signed into law in 1937, the department of the Interior would sell power from the Bonneville Dam until such time as a "Columbia Valley Authority" was formed. FDR abandoned the idea of a Columbia Valley Authority following the signing of legislation creating the Bonneville Power Administration, which was much narrower in scope, in 1940. In 1949 President Truman's Administration tried to move a Columbia Valley Authority bill through Congress, supported by Senators of Washington and Oregon, but it died in committee after being deliberated on the floor of the Senate in 1950. (Gerald Robinson, "The Columbia Valley Administration Bill." *The Western Political Quarterly*3.4 (1950): 607-614).

across America, and *The River,* playing in movie houses worldwide, represent early attempts by the executive branch to sway the will of the American people and push Congress to act.

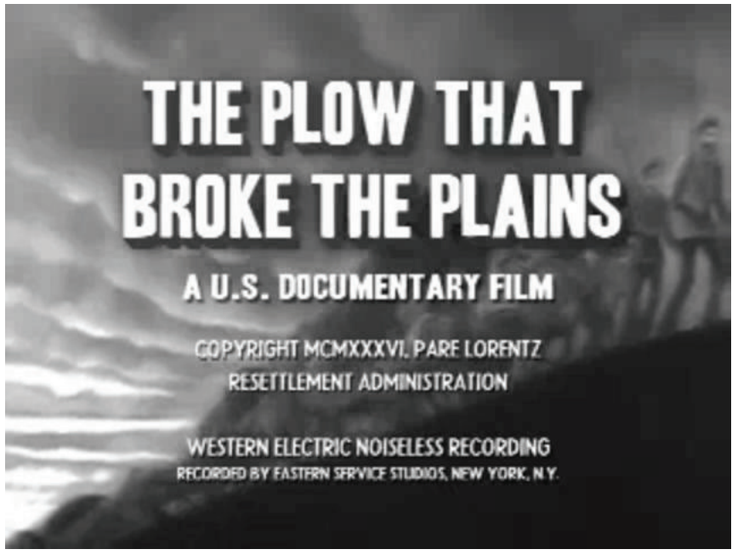


Figure 6. Title screen shot for *The Plow that Broke the Plains*.

Powerful politicians in Oregon, backed by private power companies, meanwhile, pushed for the privatization of Bonneville's electricity distribution to large industrial plants. Rural electrification, a primary concern of the FDR administration, was a secondary concern next to those of the private power lobbyists, who actively worked to oppose municipal power in Oregon by financing campaigns for anti-New Deal Democrats.[11] The debate between private or public distribution of electric power following the completion of the Bonneville Dam was a subject that ripped apart the Democratic Party in Oregon. Historian E. Kimbark MacColl who wrote several books on the political and social history of the City of Portland, Oregon states:

> More than any other issue, strong differences of opinion over public power prevented the Democratic Party from creating the type of coalition that would have allowed it to challenge effectively the Republican Party's traditional dominance of the state legislature.[12]

[11] MacColl, E. Kimbark, *The growth of a city: power and politics in Portland, Oregon, 1915-1950* (Portland, Or: Georgian Press, 1979), 444.
[12] MacColl, 443-444.

The public distribution of power was vilified by Portland's Democratic Mayor, Joseph K. Carson, and opposed by Oregon's Democratic governor, Charles H. Martin. Like the power lobbyists, they supported the sale of Bonneville Dam power to private industry, which they envisioned as large corporations on the banks of the Columbia River. These binary politics, with Democrats in Oregon opposing New Deal programs publicly, while simultaneously accepting economic help through large public works projects, were a product of the rugged independence found in Oregonian politicians. Carson and Martin believed that the welfare state created under the New Deal, with the federal government being the employer of last resort, would ultimately make the state of Oregon subsidy-dependent. This sense of independence filtered through legislation around the sale of electricity by the BPA to private utilities, rather than to state, county or city-run electric boards. Throughout the 1930s, with a lack of support for public power utilities, electricity in Oregon primarily remained in the hands of private industry (with the exception of the public utility district in Eugene), and because of the preference clause, Oregon paid a higher price for power than other public utilities supplied by the BPA in Washington State. The failed promise of cheap and affordable power from the Bonneville Dam for the citizens of Oregon caused Whitcomb to realize that the time was ripe for the Oregon Unit to produce *Power*. Private utilities, as represented in the play, were out to cheat the ratepayer, and they controlled Oregon state electricity.

The Oregon Unit's production of *Power* had a very short one-weekend run in March of 1938, with a cast of 55 actors, at the Benson Polytechnic School auditorium on Portland's East Side. The brevity of the play's run speaks to its politically charged content at a time when Oregon WPA director, E. J. Griffith, was attempting to give the Oregon Unit a permanent home. The controversy surrounding public versus private ownership of utilities was played out in Oregon's press, which overwhelmingly supported private power distribution, and on the stage in the production of the play by the Oregon Unit, which used the example of the Tennessee Valley Authority to support public distribution.

The completion of the Bonneville Dam, and the ensuing debate over the distribution of power in the halls of the State Legislature and Governor's office in Salem and the Portland City Council chambers and Mayor's office, was set against FDR's commitment to the formation of the Pacific Northwest Regional Planning Commission, which championed the creation of the proposed Columbia Valley Authority (CVA), patterned after the Tennessee Valley Authority (TVA).[13] *Power* dramatized the FDR administration's support of public distribution of power with the construction and

[13] MacColl, 447.

regional planning of the TVA and was written as a response to several cases heard by the Supreme Court against the TVA. In particular, it highlights the case brought by the Tennessee Electric Power Company (TEPCO), which argued against the TVA's constitutional right to sell cheap power and undercut the market rate to create, what TEPCO argued, was unfair competition.[14] As Barry Witham writes in his history of the Seattle Federal Theatre Project:

> …[*Power*] was a response to the alarms raised in the private sector over the whole WPA agenda: that the government meddling would lead to inefficiency, undermine the free enterprise system, and ultimately create a nationalized network of public utilities and industry.[15]

FDR's position, supported in the play, was that affordable power was in the interest of the people of the Tennessee Valley. With injunctions looming against the TVA, the president pushed for the passage of the Judiciary Act of 1937 in Congress, which required a three-judge panel to rule on injunction cases like TEPCO, with the agreement of two of the three judges needed to place an injunction on government branches like the TVA.[16] FDR's passage of the Judiciary Act was viewed by many in the Democratic Party as a move towards the socialization of private industry, and the controversy split the Democratic majority in Washington D.C.

Portland's debate to create a public utility began in the fall of 1935, as the Bonneville Dam was taking shape. The Portland metro area, at the time, received its power through the privately-owned Northwestern Electric Company, which held a franchise to distribute power to the city through October 1937. The City Council began looking into the possibility of the city acquiring the company outright. They were largely inactive on the idea until the Commissioner of Public Utilities, Ralph C. Clyde, presented a formal proposal to the City Council in December 1936, stating the absolute necessity that a publicly-owned distribution system be provided:

> While we are all rejoicing in the fact that the Bonneville Power development has become a reality, in fact is nearing completion, it is the desire of your Commissioner of Public Utilities to again call to the attention of the Council that if the City of Portland is to reap any real benefit from this development, it must immediately take the necessary steps to provide the means of transmitting this electrical energy to the homes, merchants and manufactures of our city.[17]

[14] Witham, Barry, *The Federal Theatre Project: A Case Study* (Cambridge, UK: Cambridge University Press, 2003), 79.
[15] Witham, Barry, 87.
[16] The Harvard Law Review Association, "The Judiciary Act of 1937," *Harvard Law Review 51.4 (1937): 148-49.*

Figure 7. A scene from *Power*. Photo from the Federal Theatre production notebook http://memory.loc.gov/ammem/fedtp/ftpwr7.html.

Clyde argued that private utility rates were always going to the higher than public rates, because privately-held power companies paid dividends on bonds and to their stockholders, while passing the extra cost onto the ratepayer. A municipally-owned structure, he contended, did not have such expenses. *Power* dramatically portrays how private utilities pass expenses onto the customer to manipulate their rate base. A meeting with a Board of Directors in scene six is an example of how *Power* portrays private utility businessmen, and argues Clyde's point made to the Portland City Council:

> Chairman: Gentlemen, our properties have been appraised at four million dollars.
>
> First Director (*chuckling*): Well, we haven't depreciated much.

[17] MacColl, 449.

Chairman: Do you realize this may mean a rate cut? (*The Directors look disturbed.*)

Chairman: Now I have a proposal… We must hire another firm of appraisers.

Second Director: And pay another half-million-dollar fee?

Chairman: Certainly—and more if we have to! Are your forgetting, gentlemen, that our rates are based on what we spend, on our capital account? (*He raps his knuckles on the table. A pause.*)

Third Director (*who has been thinking, his chin in his hand*): Say, what about those old trucks we've got piled up at Plant 16?

Fourth Director: They won't run anymore!

Chairman (*suavely*): Gentlemen, they have all been included in the rate base—at the price we paid for them.

Third Director: It seems to me we ought to have some more old junk lying around some place… (*Blackout*)[18]

Clyde's argument for municipal power was not popular with Portland's Mayor Carson, who openly rejected the proposal. Carson, like many state politicians–most notably Governor Martin–had financed his campaign with the help of lobbyist and former Oregon Governor, Oswald West, of the privately-held Pacific Power & Light Company. Rather than voting up or down on the measure, Carson instead convinced the council to transfer the decision to the voting public. At a time of high unemployment and economic uncertainty, the public was asked to vote in a special election on a tax levy of $50,000 for the appraisal of the Northwestern Electric Company properties. If the voters approved the measure, then another special election to vote on municipal power would be scheduled.[19]

The argument seen on the floor of the Portland City Council chambers was repeated in the Oregon Unit's production of *Power*. Senator George Norris, an outspoken supporter of public power, was quoted in the play:

Loudspeaker: Senator Norris
(*Lights come up on Norris, center. Behind him is projected a view of the Senate.*)

Senator Norris: They have undertaken to control legislatures, public service commissions, members of Congress, school boards, municipal authorities, commercial clubs, secret societies, women's clubs—even Boy Scout organizations… No one would fault if these influences were operating in public—

[18] Arent, Sundgaard and Rohan, 57.
[19] MacColl, 451-52.

out in the open! But these emissaries were not known by the people who heard them—or read them… [20]

The tax levy was soundly defeated in February 1937, with the Mayor and Governor silent on the issue, and private utilities publicly campaigning against the tax. The Northwestern Electric Company franchise was renewed in August 1937 [21] and Portlanders never had the opportunity to vote for municipal power.[22] By the time the Bonneville Power Act was in place, electric rates increased, just as Commissioner Clyde had suggested they would. In the wake of this failed bid for public power and with no relief from the high cost of electricity in Oregon in sight, the Oregon Unit began to work on their production of *Power*, which had just come off a successful run in New York from February to July 1937.[23] *Power* had nationwide popularity and the topic, so near the completion of the Bonneville Dam and the enactment of the Bonneville Power Act, made it a natural choice for the first Oregon Unit Living Newspaper production. The timing of its production in Portland was not a celebration of public power distribution, but rather a reaction to the inability of the State to access the benefits of public utility ownership.

By producing *Power*, Federal Theatre director Bess Whitcomb tapped into the center of Oregon's debate over the distribution of electricity while simultaneously creating a production that would not upset Oregon politicians. In 1938 when the standard run of an Oregon Unit production, including other Living Newspapers, such as *One-Third of a Nation*, was at least two weeks, *Power* was given a run of only one weekend. The answer to why the run was short lay in Whitcomb's need to justify her play selection to the FTP and concerns that the play's socialist sentiment about the hot-button issue would potentially anger Oregon politicians, and members of the public opposed to municipal power. As MacColl writes, for Oregon politicians "the thought of a government corporation assuming control over the marketing of federally generated power was nothing short of socialism."[24] By keeping the run short and having little pre-publicity, Whitcomb managed to walk the fine line between pleasing FTP administrators through the production of the popular play, and not angering Oregon politicians and a Portland public largely opposed to municipal power.[25] To justify her play selection, and stress the Oregon Unit's work, Whitcomb increased her cast to 55 actors, and highlighted the show with a Production Book for *Power*, which was sent to the FTP Administration in

[20] Arent, Sundgaard and Rohan, 53-54.
[21] MacColl, 452.
[22] MacColl, 451-52.
[23] Flanagan, Hallie. Arena: The History of the Federal Theatre (New York: Duell, Sloan and Pearce,1940).
[24] MacColl, 447.
[25] While Oregon Unit production announcements were often weeks in advance, the first announcement for *Power* came the Monday before opening (*News Telegram*. "New Techniques used in 'Power' by Federal Theatre," 3/21/1938, 6).

Washington D.C.[26] The Production Book featured favorable reviews, despite the chorus of public opinion in Portland being heavily in favor of private, rather than public control. In his review of the play, for example, Harold Hunt of the *Oregon Daily Journal* suggested:

> Naturally there will be many who do not agree with the stand the author, Arthur Arent, has taken. They will find in the production propaganda. But they will find, too, mass of information, from newspapers and records, dealing with a subject that is, at the moment, one of the biggest in interest of any in the Pacific Northwest, the subject of distribution of power produced at Bonneville….[27]

While production notebooks (featuring reports, photos and reviews) were a common way for state units to inform the FTP administration in Washington about their activity, one of the only Oregon Unit production notebooks in the National Archive is *Power*. Whitcomb financially justifies the limited run in the production notebook by claiming

> "Power" was produced before the project was in its own theatre and the complications of light cues, scene changes and doubling of roles were all intensified by the fact that the project was paying rental for every rehearsal in the auditorium where it was produced; therefore, the company was under the constant strain of working against time. [28]

The large Benson Polytechnic School auditorium on Portland's East Side, had also been used by the Unit to produce the costume drama, *The Pursuit of Happiness*, in February 1938. In stark contrast, it had many more performances than *Power*, with period costumes, and extensive pre-publicity.

Power used propaganda to raise awareness of the benefits of public power for an audience who, according to the press, did not like the idea. While the politics were dicey, Whitcomb was able to demonstrate how the Oregon Unit was utilizing her retrained vaudeville talent, while producing topical FTP Living Newspaper productions in the shadow of the Bonneville Dam. At the same time, she received favorable reviews while

[26] LOC. "New Deal Stage: Production Notebook from Portland production of Power". Box 1057, accessed March 29, 2013. http://memory.loc.gov/cgi-bin/ampage?collId=ftp&fileName=fprpt/1057/10570011/ftp10570011page.db&recNum=0.
[27] Hunt, Harold, *Oregon Daily Journal,* "'Power' Is Called Food For Thought". 3/26/1938, 5.
[28] LOC. "New Deal Stage: Production Notebook from Portland production of Power," Box 1057, accessed March 29, 2013. http://memory.loc.gov/cgibin/ampage?collId=ftp&fileName=fprpt/1057/10570011/ftp10570011page.db&recNum=0.

avoiding potential controversy that may have grown against the Oregon Unit if the play had been given an extended run.

The Oregon Unit decided to produce the play supporting the New Deal public power position, despite overwhelming support for private power distribution by politicians, press, and the voting public. In 1938, when the Oregon Unit produced *Power,* the regional idea of the Columbia Valley Authority, based on the TVA, was a possibility. Had the Oregon Unit production somehow convinced those against public power to change their mind, the entire Columbia River watershed from Canada to the Pacific Ocean would have followed the TVA model to aggressively distribute power into rural areas of Oregon and Washington State, while lowering the cost of power regionally.

The eventual Bonneville Power Administration that emerged, incorporated some of the ideas of the abortive Columbia Valley Authority, but lacked the sweeping regulatory control of the TVA. As Director of the Oregon Unit, Whitcomb faced a Sisyphean job, and yet was still able to present her work in the form of an FTP production notebook, demonstrating her attempt to convince the audience that public power was a good idea. At the same time, with a keen understanding of the political and financial power in Oregon behind the debate, she drastically reduced the length of the play's run and used minimal advertising for the event. The Oregon Unit was jousting windmills, but had the production successfully rekindled the public's will to demand municipal power and managed to overcome opposition to the proposed Columbia Valley Authority, opposition that came primarily from Oregon's private power lobby, it would have transformed the face of electric power distribution in the Pacific Northwest.

The Best Laid Plans:
A History of the Planning and building of Detroit Dam

Amy Vandegrift, Willamette Heritage Center

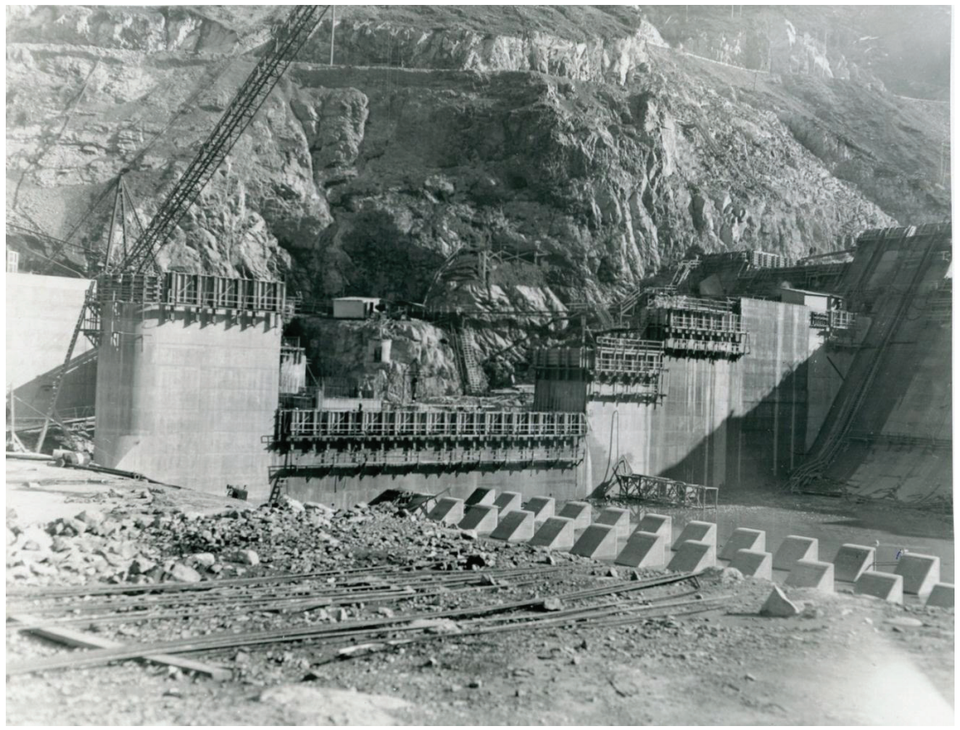


Figure 1. The downstream side of the Detroit Dam under construction. Hwy 22 is in the background. Photo from the Mary Lou Green collection, WHC #1998.24.24.

Abstract: This article addresses the history of the building of the Detroit Dam, the reasons for the project, and how it was managed by the Army Corps of Engineers. It was part of a larger project for flood control in the Willamette Valley with added benefits of a large recreational lake area, electrical power generation, irrigation and stabilization of downstream navigation. The project also created many jobs for returning GIs after World War II. It also looks at prevailing thoughts and attitudes about the Dam at the time it was planned and built both in support and opposition. After 60 years some thoughts and attitudes about major dam projects have changed. With the aid of 20-20 hind-sight, what are some of the consequences both positive and negative of Detroit Dam?

Introduction

At the dedication ceremony of Detroit Dam, U. S. Secretary of the Interior and former Oregon Governor, Douglas McKay, pressed the button to start the first generator. Nothing happened. The generator failed to turn on.[1] It was not an auspicious start to the culmination of more than 20 years of planning and building on the project. Later it was discovered that while conducting preliminary testing, a bearing had been damaged.

The Detroit Dam became operational on June 10, 1953. It is located about 45 miles southeast of Salem on the North Santiam River between Linn and Marion Counties. Its height from the foundation to the deck is 463 feet and length is 1,580 feet, making it the largest in the system of seven dams built by the United States Army Corps of Engineers during the 1940s and 1950s for flood control in the Willamette Valley Basin. Over the years, Detroit Dam has reduced winter flooding in downstream communities and also along the Willamette River which connects with the Santiam, north of Albany. Its generators produce up to 100,000 kilowatts of electrical power for the Pacific Northwest. The nine mile long reservoir created behind the dam, Detroit Lake, is a popular recreation site that provides opportunities for boating, fishing, camping and hiking, not just for Salem residents, but also for visitors from afar. The irrigation water it provides during the dry summer months has helped Valley farmers expand their crop yields and set the stage for expansion of agricultural food processing industries in the Valley. In addition, with careful monitoring of the release of water from the dam, a minimum flow is maintained on the Willamette River for navigation and to wash away pollution. The total water storage capacity is 455,000 acre feet.

One lone voice of apprehension about the effects of the dam on the environment came from William L. Finley, a naturalist and wildlife photographer who had served on the Oregon Fish and Game Commission. He raised concerns for the fish and insect life on the rivers that would be adversely impacted by the dam.[2]

History of Flooding in the Valley

The issue of flooding in the Willamette Valley was perhaps addressed most eloquently and succinctly during testimony before the Public Works Committee House of Representatives on Friday, May 20, 1949 by Colonel O. E. Walsh, Division Engineer, Army Corps of Engineers, Northwest Division:

[1] "Detroit Dam Dedicated, Generator Remains Idle," *The Oregonian,* June 11, 1953, 1.
[2] Oregon History Project, "News Editorial, *Other Side of Basin Argument,"* Accessed June 10, 2013. http://ohs.org/education/oregonhistory/historical_records/dspDocument.cfm?doc_ID=B1EF6F91-D714-B827-8D5E304C1D809718.

> Included in the Columbia River report, the Willamette is added in addition to the present authorization. We have increased the scope of that project very materially due to the great development that has occurred throughout that portion of our section in the last 9 years. There has been an increase in population of about 49 percent throughout the Willamette Valley. They have suffered very severe floods during the winters of 1943, 1945, 1946, 1947, and 1948. Total damage from those floods has amounted to about $49,000,000 in that one valley in that brief period.
>
> Since the greatest flood of record in 1861, there have been 16 floods greater than any of those that have occurred in the last 6 years. So the potential damage to the valley is tremendous. We feel that a repetition of the great flood of 1861 would do damage of about $40,000,000 under the present (1949) development in the Willamette Valley.[3]

Some of the floods to which Colonel Walsh referred and some of current memory, to use as comparison, include:

1861: There was heavy snow in November and heavy rainfall in December of 1861. The Willamette River was estimated to be at a crest of 47 feet in Salem. Champoeg was swept away.

1881: In January, the Willamette River crested at 36.3 feet in Salem, reaching downtown.

1890: In February, floodwaters swept away the Marion-Polk County Bridge. The Willamette River crested at 45 feet.

1943: January floods did considerable damage following 60 days of heavy precipitation and 26 inches of snow. The Willamette crested at 38.6 feet.

1964-1965: Flooding did $244.4 million worth of damage in Salem during the Christmas week of 1964, reaching a level of 45.3 feet. . . . snowfall of 12.4 inches was recorded in mid-December. . . . For the November – January period, there was a total of 23.58 inches of rainfall, compared with an annual total of 36.44 inches.

[3] Oakes, Ivan E., "Bulletin Willamette Valley Project," Willamette River Basin Commission and Willamette Valley Project Committee, no 33 1949.

1996: February weather was a combination of a four-day cold spell with 17° F lows and a high of 35° F, followed by five days of temperatures in the 50s and continual rain totaling 7.58 inches. The Willamette River crested at 35.09 feet.[4]

Flood stage on the Willamette River at Salem is 28 feet, according to the National Oceanic and Atmospheric Administration (NOAA).[5]

Part of the National Story

Detroit Dam, part of the Willamette River Basin Project, is one piece of a larger national story that was born out of the many devastating floods along waterways throughout the United States. The impact on our population through loss of life and personal property, and the financial toll on commerce, industry and transportation, was tremendous. Looking for ways to control and alleviate the effect of raging floods around the nation, Congress authorized the Flood Control Act, 1936. It stated that the federal government, along with its responsibility to protect the navigation of rivers and reclamation of water, also has the responsibility for flood control. The War Department (now the Department of Defense), through its Army Corps of Engineers, was to add flood control to its official duties and responsibilities, in addition to those of navigation (1824) and reclamation (1902).

Flood Control Act, 1936

> Authorizing the construction of certain public works on rivers and harbors for flood control, and for other purposes.

Declaration of Policy

> Section 1. It is hereby recognized that destructive floods upon the rivers of the United States, upsetting orderly processes and causing loss of life and property, including the erosion of lands, and impairing and obstructing navigation, highways, railroads and other channels of commerce between the states, constitute a menace to national welfare: that it is the sense of Congress that flood control on navigable waters or their tributaries is a proper activity of the Federal Government in cooperation with States, their political subdivision, and localities thereof; that investigations and improvements of rivers and other waterways, including watersheds

[4] Hanson, Reid, "Salem Weather," *Marion County History Volume XV*, 105-06.
[5] http://water.weather.gov/ahps2/hydrograph.php?wfo=pqr&gage=slmo3.

thereof, for flood-control purposes are in the interest of the general welfare; that the Federal Government should improve or participate in the improvement of navigable waters or their tributaries, including watersheds thereof, for flood-control purposes if the benefits to whomsoever they may accrue are in excess of the estimated costs, and if the lives and social security of people are otherwise adversely affected.

Jurisdiction of Federal Activities

Sec. 2. That, hereafter, Federal investigations and improvements of rivers and other waterways for flood control and allied purposes shall be under the jurisdiction of and shall be prosecuted by the War Department under the direction of the Secretary of War and supervision of the Chief of Engineers, and Federal investigations of watersheds and measures for run-off and water flow retardation and soil erosion prevention on watersheds shall be under the jurisdiction of and shall be prosecuted by the Department of Agriculture under the direction of the Secretary of Agriculture except as otherwise provide by Act of Congress and that in their reports upon examinations and surveys, the Secretary of War and the Secretary of Agriculture shall be guided as to flood-control measures by the principles set forth in Section 1 in the determination of Federal interests involved: *Provided,* that the foregoing grants of authority shall not interfere with investigations and river improvements incident to reclamation projects that may now be in progress or may be hereafter undertaken by the Bureau of Reclamation of the Interior Department pursuant to any general or specific authorization of law.[6]

Included in the legislation was the requirement of necessary cooperation with the States to assist with the projects, language addressing how payments and liability would be handled and the additional provision that all dams had to be built to generate electric power. The Willamette River (and its tributaries) was listed in the legislation as one of the rivers of concern. Congress approved $2,430,000 to be used for "bank protection, channel clearing, preventing losses by erosion, and a special report in the Office of the Chief of Engineers."[7]

An influential group of people in Oregon understood that flood control was an important issue for the state. In 1937, at the prompting of Governor Charles Martin, the state

[6] 74th Congress Session II, Ch. 688, June 22, 1936, 1570-71, June 22, 1936 HR 8455 Public, No. 738.
[7] 74th Congress Session II, Ch. 688, June 22, 1936, 1591.

legislature established the Willamette Valley Project Commission, chaired by Ronald Jones, and the Willamette River Basin Committee, chaired by State Senator Douglas McKay. The Committee was charged "To conduct necessary investigations, surveys and research, and, from data obtained thereby, recommend to federal and other governmental agencies, a program for projects of public improvement . . . To assist in the formation of flood control, drainage, irrigation and improvement districts . . ."[8]

For much of his career, Douglas McKay would legislate, testify, and lobby for flood control in the Willamette Valley. He understood that the scope of flood control in the Valley was beyond the ability of either private or state interests alone to carry out and maintain; the overarching support and resources of the federal government were needed to complete it. He would later say that there was "nothing in the world he had enjoyed more than being chairman of the Willamette Basin Commission."[9]

In 1937, Colonel Thomas Robins, Division Engineer of the Army Corps in Portland, reevaluated the data from previous studies of the Willamette Basin from the prospective of the new authority in flood control assigned to Corps, rather than just navigation and reclamation of the Willamette River. He reported that the Willamette Basin needed controls put in place to relieve the potential of regular and catastrophic flooding along the river and its tributaries. Because of the heavy winter rain patterns in the Pacific Northwest, dams were preferable to levees built along the river. Flooding tends to occur from November through February, when the ground is frozen or saturated with water, followed by heavy rains on top of melting snows. His report also recommended that the stored water at the dam could be used to keep the summer river flow high enough for navigation and to move some of the pollution that currently stagnated in the low summer river levels downstream. Reliable irrigation and generation of power were also resources that the system of dams would provide for the region. Robins' report also made recommendations on the siting of dams and suggested that the costs and continued maintenance of the projects should be borne by the federal government. The Board of Army Engineers turned down the recommendations. To convince the Board of the need for the project, the Willamette Valley Project Committee provided the Board's members with a personal three-day tour of the Willamette Basin. It worked. In March of 1938, the Board approved the proposal and it was submitted to Congress.

The Oregon Congressional Delegation continued to lobby for funding for the Willamette Basin Project. As a result, the Flood Control Act of 1938 was passed, which included

[8] *The Oregon Blue Book*, (Salem, OR: State Printing Department, 1937), 30.
[9] *The Oregon Blue Book,* 1.

funding of the Willamette River Basin Project and set in motion the creation of seven dams, including Detroit Dam, for flood control in the Valley. Although part of the project was begun in 1939, the actual construction of Detroit Dam itself would ultimately be delayed until after World War II.

Figure 2. The Santiam River canyon at the site of the Detroit Dam, Photo from the US Army Corps of Engineers. WHC #1998.25.4.

On the state level, the Willamette River Basin Commission and Willamette Valley Project Committee continued to lay additional groundwork in Oregon for the project to move forward. It took care of land acquisitions, secured right-of-ways, worked to have necessary roads improved, and worked with area farmers to establish both irrigation districts and drainage districts, which were both important to the total flood control in the Valley. When two state hearings regarding drainage of farm fields, one in Salem and the other in Eugene, did not generate adequate interest and action, the Committee redoubled its efforts and held additional meetings with all of the counties involved in the flood mitigation plan.

Drainage of areas prone to standing water was especially important to the project's success. Tilled and drained fields could be prepared and planted earlier in the season. When irrigation was used during the summer, these areas would continue to drain, rather than accumulate standing water that would otherwise damage a growing crop. Some of the drainage projects required cooperation among a group of neighboring farms, and thus drainage and irrigation districts needed to be established to assure support. Under federal legislation the Department of the Interior was responsible for reclamation and use of the stored water for irrigation. The irrigation districts could apply for the water held in the Detroit reservoir for irrigation. Without this grassroots community's support, the project could have been stalled.

Building the Detroit Dam

Figure 3. Highway relocation project by Kuckenberg Construction Company. Photo by Don Hill. WHC #1998.24.8.

The building of the Detroit dam required a remarkable amount of planning, organization, and controlling of resources, including people, supplies and equipment. Today we would call it "project management." This was the responsibility of the Army Corps of Engineers, Portland District. They designed and engineered the plans for the dam and all

related steps needed to complete the dam and related projects on time. Lieutenant Colonel John W. Miles was assigned the duty of overseeing the project. He and his staff lived and worked at the site. The Corps secured bids for work to be done and hired the contractors. The Engineers monitored and inspected every part of the construction and other associated work as it was being done by contractors and also paid the contractors for their work. The general contractor for the project was Consolidated Builders INC. (CBI), owned by Henry Kaiser. CBI's general superintendent was Russell Hoffman, who had worked at both the Boulder and Bonneville dam projects.

Before the first bucket of concrete could be poured for the dam, the canyon needed to be transformed into a construction area with a solid highway to transport the essential supplies, equipment and people into the area. An existing 16-mile stretch of road between the communities of Niagara and Detroit was described as a "tortuous, often one-way road which has been a bottleneck on the North Santiam route between Salem and Central Oregon."[10] At several places along the road, it was only one car-width wide.

Figure 4. The road over the Santiam River (lower left) and the road going up to the rock crusher is being built. Photo from the US Army Corps of Engineers. WHC #1998.25.26.

[10] *The Oregonian,* April 6, 1946.

As written in the Sunday *Statesman* newspaper, August 14, 1949, the road building project was described as "one of the toughest in engineering history mile-for-mile," due to the thick forest and steep slopes of the canyon. Along with the new road, new bridges were also built over the rivers that fed into the Santiam. In addition to funding secured from the Corps, the Oregon State Highway Commission transferred money that had been designated for the Port Orford section of the Oregon Coast Highway, to the more pressing, time-sensitive Detroit project.[11] Started in May 1947 and completed by March 1949 the Public Roads Administration job's contractor was the Kuckenberg Construction Company. It was reported that during the construction, three miles of Southern Pacific railroad track in the area were rebuilt to accommodate cars and trucks, with a pilot car being used to control traffic until that stretch of roadway could be completed. This was easily done, because the train only ran twice a day.[12]

Figure 5. Housing for engineers and supervisors. Photo from the US Army Corps of Engineers. WHC #1998.25.1.

[11] "State to Push Road to Dam," *The Oregonian*, April 6, 1946.
[12] Chapman, Lloyd, "The Forest Service Summer Homes at Breitenbush," *Historic Marion* Vol 37 (Spring 1999), 6.

The road improvement cost $400,000 per mile to complete.[13] Roadways were also built in and around the construction site, on both sides of the canyon, to move equipment, supplies, and men around the area, in addition to 12 miles of new logging roads to replace the ones that would soon be submerged by the new reservoir. While the roadwork was underway, a construction camp, Camp Mongold, was built to serve as a base of operations for the Army Corps of Engineers staff, Consolidated Builders site headquarters, and to provide facilities for the construction workers. This project included water supply and sewage treatment plants. CBI decided to have their employees live in Mill City and built accommodations for them there. Some workers who lived in Salem, however, preferred to commute the two hours each way, making it a long 12-hour day, from start to finish, while many others chose to live in the small communities downstream from the construction site.

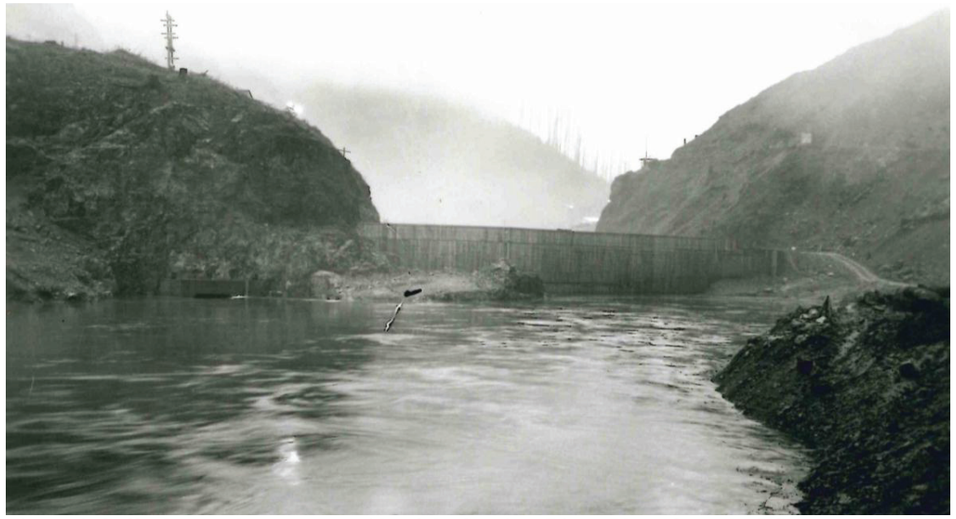


Figure 6. Cofferdam at the upstream side of the Santiam River. Photo from the US Army Corps of Engineers. WHC #1998.25.25.

The cold, swift-flowing water of the North Santiam River had to be rerouted until the construction was complete, so a cofferdam was built across the river. From there, the water was diverted through a 1,360-foot-long diversion tunnel, 25 feet in diameter, which brought water around the construction site and channeled it safely downstream. The upstream intake of the tunnel was located below Cumley Creek. The diversion tunnel was

[13] Jones, Alfred C., "Detroit Dam has a birthday," *Capital Journal,* June 12, 1978.

completed in September 1949 and was eventually sealed-off with concrete at the end of 1952, when it was no longer needed.

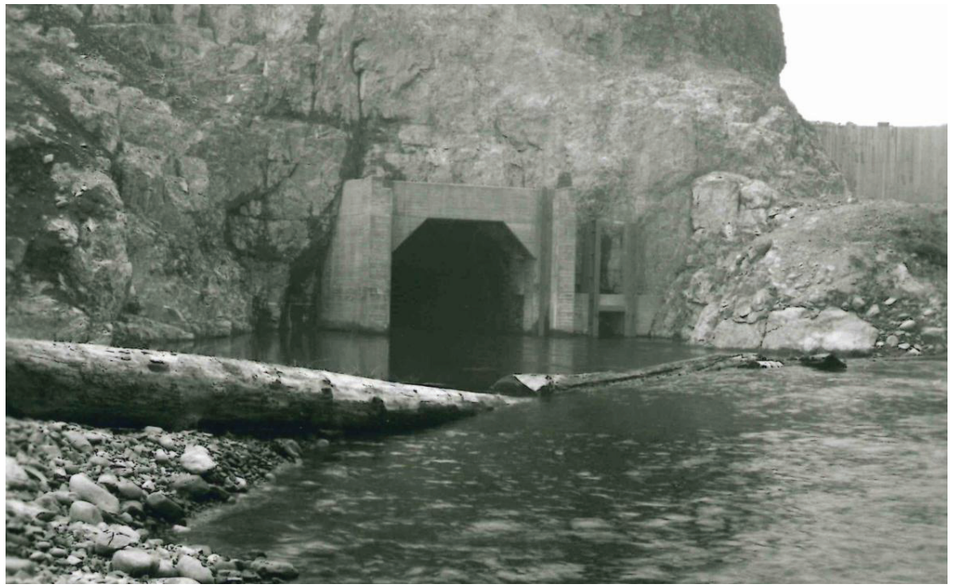


Figure 7. The downstream side of the diversion tunnel, July 1948. Photo from the US Army Corps of Engineers. WHC #1998.25.24.

An industrial plant consisting of several buildings was built to house and move the supplies and equipment needed to construct the dam. These included machine shops, air compressor plants, garages, rock crushers, conveyor belts, and concrete mixers, along with additional miles of roadways to serve these buildings. As one looked across the construction site, it was possible to see the whole construction process: the operation was set up so that one step easily moved to the next, until a bucket of concrete could be emptied at its proper location or a piece of steel set in place.

The sand and gravel aggregates used for the project were created at the site. Rock (diorite rock) came from the Cumley Creek quarry on the east side of the canyon. The rock was crushed in a Birdsboro-Buchanan jaw crusher to no larger than 12-inches in size and then transported on a 48-inch conveyor belt. Anything smaller than 6-inches or greater was divided-out and transported by another conveyor belt across Cumley Creek to a screening plant, where it was screened, separated into five different sizes of coarseness (6" to 3"; 3" to 1 ½"; 1 ½" to ¾"; ¾" to $^{3}/_{8}$") and stored in individual wooden cribs that held up to 2,000 pounds of rock each.

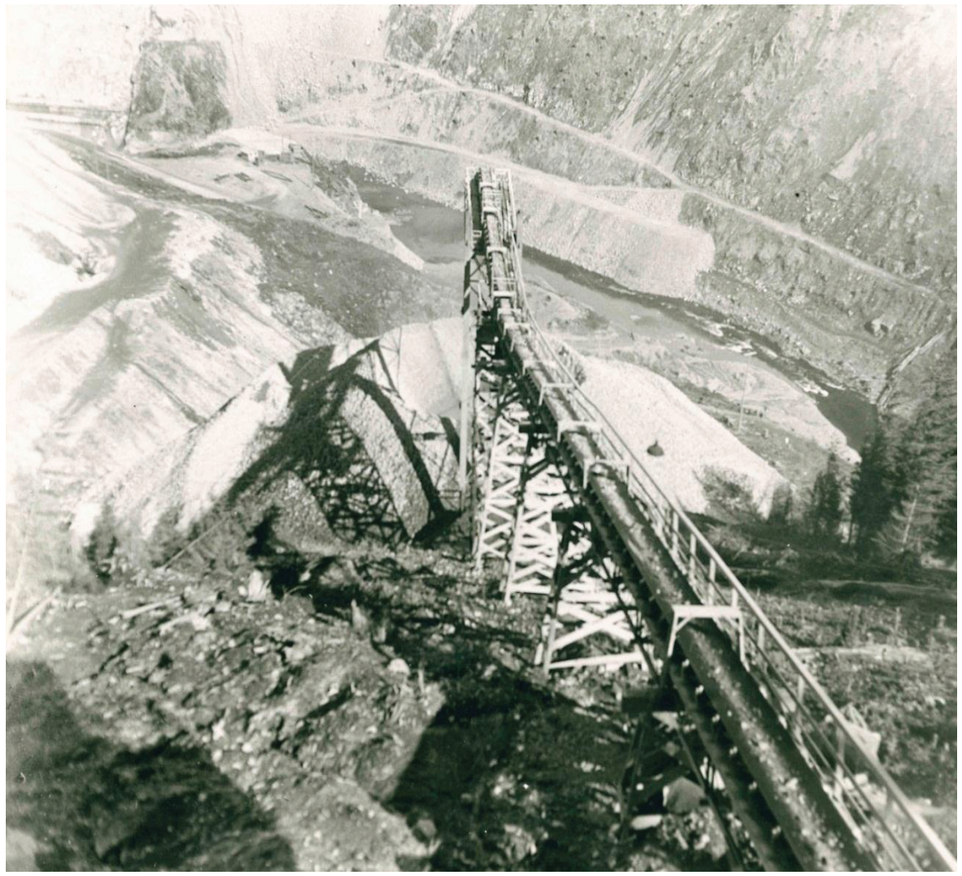


Figure 8. Aggregate conveyer on the south side of the Detroit Dam site. Photo from the US Army Corps of Engineers. WHC #1998.24.16.

Pieces that were greater than 6-inches were fed into a Superior-McCully gyratory crusher and made into 6-inch or less aggregate. This rock was then also transported to the screening plant and then sized and stored for future use, like the others. What was not used in the dam itself was used for roadwork or any other work needed, including gravel on snowy roads. Nothing was wasted. A secondary crushing plant using two standard Symons cone crushers and a short-head Symons cone crusher, would re-crush any of the first four larger sizes of aggregate. This ensured that the correct amount and size of aggregate was available at all times for the concrete mix. A sand-manufacturing plant on the site converted any crushed rock that was less than $^{3}/_{8}$-inch in size to the fine aggregate needed for concrete and stored it separately in its own green steel silo.

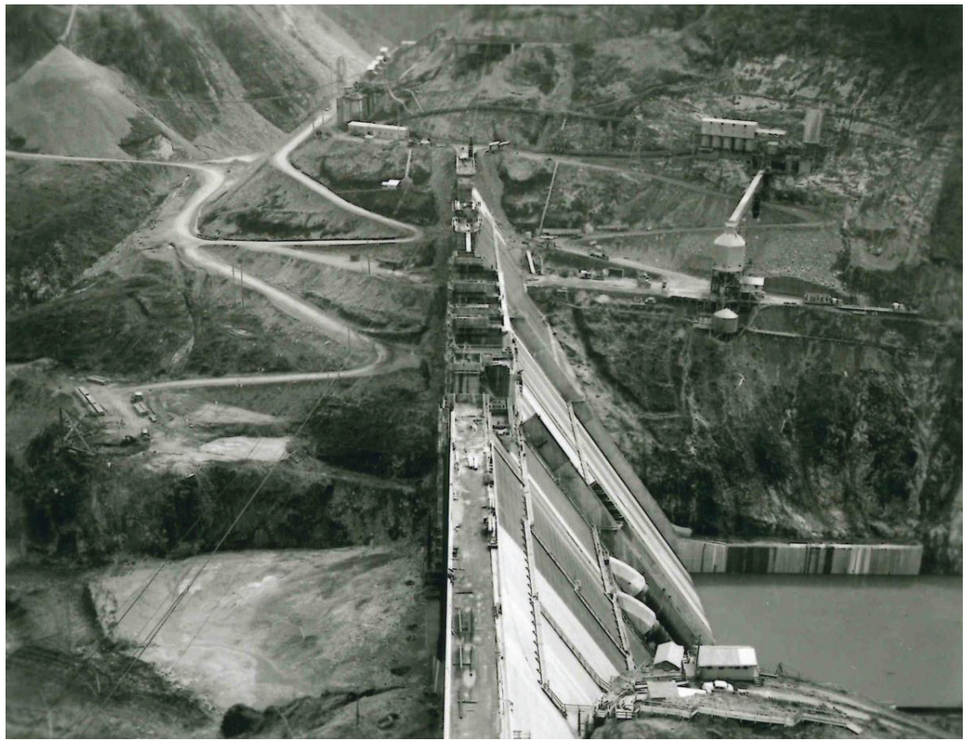


Figure 9. Top view of the Dam, April 16, 1952. Right is the cement mixing plant and rock storage tanks. Left top shows cement storage tanks and supply. Left center shows the warehouse and storage yards. Photo from the US Army Corps of Engineers. WHC #1998.25.49.

A compressor building housed seven Frick ammonia compressors and two Chicago Pneumatic stationary air compressors that were used to cool river water from its normal temperature of about 60° F down to 34° F. The chilled water from this cooling plant was then used to cool the sand, water and concrete so that when it left the plant, it was between 40° F to 50° F, as required by the engineer's specifications. A conveyor belt moved the aggregated rock to the cooling plant.

Concrete for the dam was transported from Portland by rail and unloaded into two portable Fuller-Kinyon cement unloaders. A conveyor system located inside a closed bridge sent the correct sized aggregate, sand, concrete and water to the mixing plant. Located on the south bank just downstream from the dam was a C. S. Johnson fully automatic batching plant, which was equipped with a quartet of 4-cubic-yard Koehring tilting concrete mixers. The batching plant produced 2,500 cubic yards of concrete per 8-hour shift. The mixed concrete from it was poured into massive 8-cubic-yard steel

concrete buckets that were loaded onto railroad flat cars and then pulled by a small diesel locomotive to the dam site. Located there, on each side of the river canyon, were two orange steel towers embedded into strong foundations. Two cables, capable of lifting up to 25 tons, were strung between them, by which the buckets of concrete and any other building materials were picked up off the flat car and moved to wherever they were needed in the dam.[14]

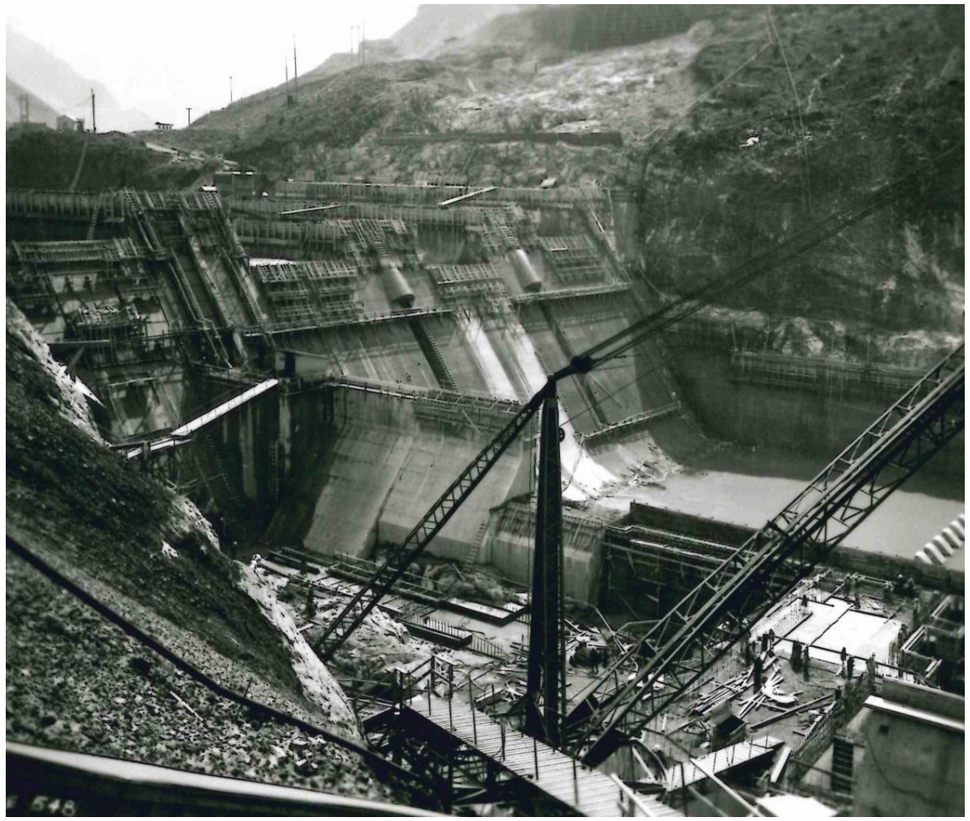


Figure 10. Looking upstream at Detroit Dam showing rebar and the powerhouse in the lower left. Photo by the US Army Corps of Engineers. WHC #1998.25.37.

Deep in the canyon, the foundation for the dam was constructed. Once that was completed, the concrete monoliths were raised.

[14] Corps of Engineers, U. S. Army, Portland District, Office of Resident Engineer, "Information for Roadside Superintendents Detroit Dam Project."

> The dam is constructed in 31 separate monoliths with no transverse construction joints. Monolith No. 1, at the left or south abutment, will be 20 feet wide. No. 2 will be 50.5 feet wide. Monoliths No. 3 through 14 are each 50 feet wide. The next six monoliths comprising the spillway section (No. 15 to 21) are each 50.5 feet wide, Monoliths No. 22 and 23, through which the 15-foot diameter penstocks will pass, are each 54 feet wide. Monoliths No. 24 to 30 are each 50 feet wide. Monolith No. 31 at the right or north abutment will be 50 feet wide.[15]
>
> The concrete mix consisting of 2 ½ bags of cement per cubic yard of concrete is used for all interior mass concrete. Exterior mass concrete, placed in the zone from 4 feet to 8 feet adjacent to the exterior surfaces, contains 4 bags of cement per cubic yard of concrete. Type II Portland Cement is used from 1 November to 15 April. Type IV Portland Cement is used the remainder of the year.[16]

The five-story Detroit Powerhouse, an indoor-type used to generate electricity, is located on the right (the right or left side of a river is determined by facing downstream) side of the river, below the dam. It houses two 70,000 horsepower hydraulic turbines directly connected to a pair of 55,000 kVA (Kilo Volt Ampere) generators. Two 15-foot- diameter welded steel penstocks, controlled by gates, operated by fixed hoists, supply the water to the turbines.[17]

The canyon area upstream of the proposed dam site was filled with harvestable timber and contained the town of Detroit, along with the remains of old railroad tracks from the long-defunct Oregon Pacific and Corvallis & Eastern railroads that were constructed through the area by Colonel Thomas Egenton Hogg during the late 19th century. This all needed to be cleared away before the dam was completed and the reservoir filled with water. Contracts for the harvest of timber were made. The tree stumps were to be no more than 5-feet-high. However, the Corps also left 50 acres of second-growth timber standing, most of it about 80 feet in height. This was burned and left in place on the future lakebed to act as a natural catch basin and filter for water-logged drift and sediment when the reservoir was filled, keeping the debris away from the dam.[18] Even today, during low water, it is possible to see some of these trees in the lake.

[15] Corps of Engineers, "Detroit Dam Project," 14.
[16] Corps of Engineers, "Detroit Dam Project," 14.
[17] Corps of Engineers, "Detroit Dam Project," 14.
[18] "Inundated Forest to Be Comb for Dam Reservoir," *Capital Journal*, September 24, 1952.

Figure 11. Powerhouse construction. Photo by the US Army Corps of Engineers. WHC #1998.25.42.

The town of Detroit and surrounding areas were given an order prohibiting the construction of new private buildings when the project started in 1948. It was decided, as part of the project, that the town would be moved to the former site of Hammond Lumber Company's Logging Camp No. 17, one mile north and just to the west of where the Breitenbush River flows into the North Santiam. By March 1952, all 25 businesses were closed and they, along with 65 houses, were removed from what would soon be the lakebed and taken to the new site. The resettled community filed for incorporation and became a city later that year.

The Willamette and its tributaries carry large amounts of migrating salmon and steelhead each year. Because the dam would block the fishes' ancient migration paths to their spawning grounds high in the Cascade Mountains, plans were made to catch the fish before the dam and transport them to a new fish hatchery to be built at Marion Forks, where the eggs of Chinook salmon and winter steelhead would be extracted, incubated, reared at the site, and to be released later. The Oregon Fish Department (now the Oregon Department of Fish and Wildlife) would operate the new hatchery. The Marion Forks

Salmon Hatchery, located about 17 miles east of Detroit Dam along Marion and Horn Creeks on Highway 222 and the Minto Egg Collecting Station seven miles downstream from the dam, were built by the Army Corps of Engineers. They were completed in July 1950.

Figure 12. Old Detroit with the C&E Railroad. Courtesy of the Salem Public Library, #T2011.1.12a.

Another part of the Detroit Project was the Big Cliff Reregulating Dam and Reservoir, constructed on the North Santiam River about three miles below Detroit. Big Cliff is responsible for reregulating the fluctuating water discharge from the Detroit power plant to maintain a consistent flow downstream and generates 18,000 kilowatts of electricity that is fed into the Bonneville Power Administration system. It does not have a flood control function. Completed in 1953, it took 80,000 cubic yards of concrete and 1,500,000 pounds of steel to build.

As the work progressed, the Army Corps and CBI offered the public times to come and see the progress of the job for themselves. On May 2, 1950, an Open House was held.

> Preliminary work at the Detroit Dam site was nearly completed. Speaking that day, Colonel Donald S. Burns, Portland District Engineer, said that the

project would be completed by July 1953. U.S. Senator Wayne Morse spoke about the economic and human value of the project. Others present for the program were Harry E. Polk, president of the National Reclamation Association, Governor Douglas McKay, Colonel Walsh, Salem Cherrians Queen Nancy Miller and her four princesses and Parrish (North) High School band from Salem.[19]

Another big public ceremony was held on August 5, 1950, with the start of construction on the dam itself. All the preliminary work had been completed.

> With a twist of a lever, Governor Douglas McKay, Saturday, emptied the first bucket of concrete of the $70,000,000 Detroit power and flood control dam, starting a night and day project which will continue two years. As the huge bucket holding eight cubic yards of concrete moved slowly from the mixing plant on the south side of the North Santiam River along a high cable way 2000 feet long, a crowd of more than 200 persons watched from a view point on the opposite side of the river. The bucket was lowered into the canyon just below the cofferdam and workmen hooked up an airline for its release. Then, when the bucket was in position, Governor McKay, standing with other officials on a catwalk above the canyon, pulled the lever and the concrete dumped to its final resting place.[20]

That first bucket of concrete was poured at Monolith No. 19, at the deepest part of the old riverbed. Over the next several years, much of the construction on the dam progressed smoothly, with only minor glitches. However, unexpected difficulties occasionally arose that abruptly halted the construction work. Such was the case in August 1951. On August 10 about 9,000 pounds of ammonia gas was discharged into the river from the Frick ammonia compressors used in the cooling plant. It was in high enough concentrations to poison the water, resulting in the death of over 2,000 salmon and likely all other fish for a several-mile stretch of the North Santiam. Before the disaster, the Oregon Fish Department had collected fish and was holding them downstream in preparation for transporting them to the new Marion Forks Fish Hatchery to be stripped of eggs. They had expected to harvest an estimated 4,000,000 fertilized eggs from the fish. Carried to the holding area by the river, the toxic discharge almost completely wiped out the river's yearly salmon run.

[19] "Detroit Dam Progress Told In 'Open House' at Site," *The Oregonian,* May 22, 1950, 9.
[20] "First Bucket of Concrete 'Puddled Down' During Public Ceremony at Detroit Dam," *The Oregonian,* August 5, 1950.

Following the disaster, some Consolidated Builders workers were reassigned to assist with the cleanup of dead fish downstream.[21] Not long after this, a major forest fire at the end of August burned on both sides of the Santiam River Canyon. Flames threatened the construction buildings on the south side of the river and some residents of Detroit were evacuated as ash rained down on their city. There was also a major concern that piles of dry brush and timber, cleared from what would become the lake bottom, would catch fire. Workers on the dam project instantly became firefighters and Camp Mongold became the headquarters for the firefighting activity. Once the blaze was under control, everyone returned to their jobs and construction work resumed.[22]

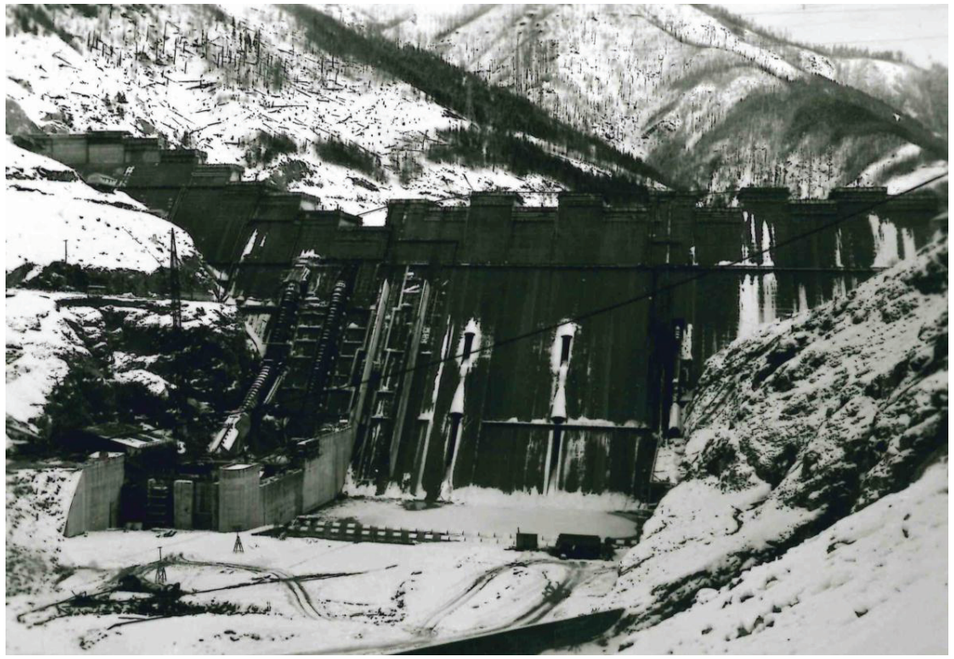


Figure 13. The downstream face of the Dam, January 16, 1952. Photo by the US Army Corps of Engineers. WHC #1998.25.47.

Everything is Not Rosy

The Detroit Dam Project has not been without its problems and controversies. The dam changed the environment of the canyon in enormous ways. There was concern, for example, that the water from the dam would be too warm an environment for the river

[21] "Santiam Fish Killed," *The Oregonian*, August 11, 1951, 1.
[22] "Santiam Fire Sweeps Ahead, Spot Flares Inch Close to Detroit," *The Sunday Oregonian,* August 26, 1951.

wildlife downstream. This did not happen. The water discharged over the spillway of the dam does not come from the top of the lake, which can be warm in the summer. Rather, it is pulled from the deepest part of the reservoir, where it has an average temperature of just 55° F. With the reregulating of the stream flow by Big Cliff Dam and the relatively cool temperature of the water from Detroit, the North Santiam below has an ideal environment for river wildlife.[23] There is continued concern for the river's Chinook salmon and steelhead populations, however, whose numbers have been substantially reduced in the time since the Willamette River Basin Project was completed. They have also been blocked from over 400 miles of their traditional spawning grounds by the dams, which some contend may be a contributing factor to their decline. Solutions continue to be discussed and reviewed by all the stakeholders.

Figure 14. Water spilling from the upper and lower face of the Dam and powerhouse area. Photo by the US Army Corps of Engineers. WHC #1998.25.61.

[23] Leona Stool and Greg Walsh, *The North Santiam & Detroit Dam Project Studies as an Ecosystem,* December 2, 1971.

When the Flood Control Act of 1938 authorized the building of dams in the Willamette Basin, municipal water supply was not part of the authorization. Although the Oregon Congressional Delegation was actively involved in the passage of flood legislation, their focus had not included city water supplies for Valley communities. The City of Salem's municipal water comes from the North Santiam River at a point above Stayton. There was real concern that both the quality and quantity of the water discharged from the dam could impact Salem's water. Because the Corps must maintain a certain minimum stream flow, however, Salem has been able to maintain its needed supply. Starting in 1947, and for the next twenty years, the City of Salem attempted to negotiate with the Corps of Engineers to also have a supply of water from the Detroit reservoir for municipal use. The city had previously been assured that such water would be available, but upon making a request for it in 1957, was told that municipal water had not been a part of the congressional legislation for the project:

> Since receipt of application by the City of Salem for 12,000 acre feet of stored water annually from Detroit Reservoir for domestic use, considerable study has been given the matter, both in this office and by higher authority. It has been determined that in the absence of specific authorization for such used stored water in Corps of Engineers reservoirs, when surplus to project requirement for other authorized purposed, may be sold for domestic use.
>
> If it is determined that there will be no stored water surplus to needs for specifically authorized project purpose, existing laws would not permit a final agreement to be entered into by the Corps [. . .]
>
> Congressional legislation was passed in 1958 to allow the sale of reservoir water to municipalities. The City of Salem tried several more times to get water from Detroit Dam, but the cost was too great[24]

Over the course of the year, the Corps of Engineers continually regulates the water in Detroit Lake. Because most of the region's rainfall comes from November to February, the water level is lowered at the end of the summer tourist season in preparation for the winter rain and snow melt. By May, the water level usually returns to its highest levels. As predicted, a healthy recreation industry grew in Detroit as a result of the lake. People come to the lake from all over to enjoy camping, boating, sailing, fishing, and a host of other activities. However, 2001 brought one of the lowest winter snowpacks and rainfall

[24] Frank Mauldin, *"Sweet Mountain Water,"* (Oak Savanna Publishing, 2004), 75.

in history and the lake did not refill as it traditionally had. Federal law required that the water collected behind the dam be released to maintain the level of water in the Willamette River for the protection of fish, maintenance of water quality, navigation, and irrigation.

Recreational use is a lower priority and because of this, the tourist industry in the area was seriously affected by the very low level of water in the lake that summer and fall. Boat docks were well above the waterline and many tourists cancelled their reservations. As reported in the *Statesman Journal,* February 18, 2003, the low water in the lake also forced the community to cancel their annual fireworks show and several businesses closed because of low tourist traffic. Many local residents argued that this did not happen with previous droughts in the 1970s and did not understand why 2001 was different. As it turned out, the Corps, who continues to manage Detroit Dam, had predicted that the reservoir would not get enough water during the 2001 spring/summer months to float the docks, and therefore, made the decision to use the water from Detroit Dam rather than from other dams in the system, as done in the past, to maintain stream and river levels.

Conclusion

At the time Detroit Dam was completed, it was the eighth highest in the United States, although it no long holds that title. It contained 1,345,000 cubic yards of concrete and 7,300,000 pounds of steel. It cost $63,000,000 to build—$7,000,000 less than estimated—and was completed ahead of schedule by at least a month, or possibly as much as six months, depending on which report is used. Many returning World War II veterans were employed on the project. Although downstream communities are still not completely free of major flooding, the dam has all but eliminated "regular" flooding and minimized destruction from "catastrophic" flooding, as determined by the Corps' "Estimated Damages Prevented" table. The electricity generated is part of the Bonneville Power Administration system, from which both Salem Electric and Portland General Electric get their power. The Santiam Water Control District also gets part of its irrigation water from Detroit Dam. The Army Corps of Engineers maintains a steady flow of water for navigation, which can flush some pollution down river, although improvements in community sanitation and regulation to limit the effluences dumped in the rivers have helped too. Recreation thrives in the area. Since the Detroit Dam began operation in 1953, it has fulfilled the goals set out by the Army Corps of Engineers. Today, a portion of the dam's surface is covered with moss. A view of the dam from the highway is partially blocked by towering, 60-year-old pine trees. Its deck is a good place from which to fish and enjoy the beauty of the lake and forests surrounding it.

Figure 15. Looking northeast at the downstream face of the Dam and powerhouse. Photo by the US Army Corps of Engineers. WHC #1998.25.58.

Additional Sources Consulted:

William F. Willingham, *Army Engineers and the Development of Oregon: A History of the Portland District U. S. Army Corps of Engineers,* (Portland, OR, U.S. Army Engineer District, 1983), 106-116 & 166-178.

Ivan E. Oakes, "Bulletin Willamette Valley Project," Willamette River Basin Commission and Willamette Valley Project Committee, April 1947, Marion County, April 1951.

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The Willamette River - Efforts to Improve the River's Health Keep Flowing

Travis Williams, Willamette Riverkeeper

Figure 1. Willamette Falls on the lower Willamette. Here Native Peoples gathered to trade and fish. It was also the site of some of the first major industrial facilities on the river. Photo by the author.

Abstract: Looking back some 100 years, the Willamette River was a different river. Back then, the river was not impeded by dams. Its natural current and flow fluctuated, from a low in summer to massive floods in winter/spring. In some areas, the river became miles wide. It is not hard to imagine this dynamic river system of interconnecting channels and quiet backwaters; with raging channels and meandering ones. This river of old has changed drastically. Today, dams control the river's flow, and vast stretches of the riverside have been channelized. Since the 1800s, the river has been dredged in places to support commercial river traffic, but destroying riverbeds and habitat in the process. In combination with the transformation of natural habitat, the river's once clean waters have been polluted over time as well. Today, in places, one can get a sense of the natural river, especially in those areas where the river moves and deposits its gravel bars. This kind of natural river action provides a sense of what is needed throughout the Willamette River. Founded in 1996, Willamette Riverkeeper is the only organization dedicated solely to the protection and restoration of the Willamette River. It is a non-profit organization, whose sole mission is to protect and restore the river, believing that a river with good water quality and abundant natural habitat is a basic public right.

Rivers have always been connected to people. They act as sources of food and water, providing rich soil for agriculture, serving as blue highways connecting destinations near and far, and as places of contemplation and solitude. There is often a deep connection between people and their local rivers. In the case of the Willamette River, this notion holds especially true. Today there is a vigorous effort to continue to improve the overall health of the river system from the quality of the water to restoration the river's often degraded habitat.

Local organizations, municipalities and others are working on a host of projects to improve the river's health. Their efforts are beginning to pay off. Today's effort is not new but it is building and becoming more effective. It all seems to come back to that basic notion of *connection* to the river—whether one appreciates the aesthetic beauty of the Willamette or feels strongly that the river's water should be purer—it is about that local connection. This connection may be from a history of fishing, one's family using the river for generations, using the river for drinking water, or perhaps simply walking at the rivers' edge and listening to the water flow downstream. A basic affinity for the Willamette has been a powerful tool in the improvement of its health over the decades.

In looking at early peoples along the Willamette, the people who lived here for thousands of years, whether at Willamette Falls in today's Oregon City, or people living far up the Willamette Valley, the river was used for fishing and transportation. These were obvious literal connections to the river. Early depictions of Willamette Falls show Native People fishing from platforms overlooking the raging current as was done for countless generations at Celilo Falls on the Columbia River. It is also clear that Native People had a wider connection to the river as well, given their reliance on the waterway for food that extended for generations.

Native People were also said to harvest salmon in the Mid-Valley area; taking fish in an organized effort by wading across gravel bars to catch the unwary fish swimming upstream. They lived along the river's banks, and traveled its waters by canoe. One can imagine their canoes traveling the Lower Willamette heading upstream against the strong spring current and meeting members of other tribes from far up the Willamette Valley. This may have been a collection of Chinook, Clackamas, and Kalapuyans visiting and trading along the Willamette. The connection was clear as we look back at what is known of Native American history along the river.

As Euro American settlement began to occur in the region, the banks of the Willamette in some cases were the logical place for people to settle. Oregon City was one of the earliest

Figure 2. "Indians taking Salmon on the Wallamet." Sketch by George Gibbs, June 1851. Peabody Museum of Archaeology and Ethnology, #41-72-10/291.

established towns in the region and the one that represented the goal of many of those migrating from the east to this new seemingly fertile country. Oregon City was, and is today, situated along the Willamette River, and the river provided a ready resource for transportation. Later, Oregon City became a prominent example of the nexus between industrial development and the river, with two large mills on both sides of the river, and a hydropower facility situated between them.

Early on, the river was harnessed for industrial purposes and people began to manipulate the Willamette to meet their needs. As cities grew and riverboats traveled up and down the river, snags were removed and dredging occurred to aid navigation.

The river provided the raw energy needed for mills, such as the woolen mills at Oregon City and Salem, and later the many pulp and paper mills that arose along the Willamette's banks. For these facilities, the river provided a ready source of water and an easy way to carry waste downstream. These were the early days of "the solution to pollution is

dilution."[1] The phrase, to some degree, was a commonly held belief by some who believe that our rivers are simply "conveyances for waste,"[2] as one industry representative held as late as 2003.

Figure 3. Oregon City Flour and Woolen Mills in 1867. Photo courtesy of the Museum of Modern Art, #894.2010.

As time wore on, people began to modify the river to meet their needs. In the Willamette Valley, side channels and floodplains were cut off from the main river.[3] This type of activity helped keep the river from spreading across some agricultural lands during the annual high-water events. Unfortunately, such obstructions deprived the river of its usual pattern that benefits a range of native species. The Willamette River, like many others, inundated riverside lands naturally and this inundation provided key habitat where native animals could take refuge and grow. Species such as the western pond turtle, beaver, Great Egret, and myriad other native species could flourish.

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[1] Carter, Glen, "Pioneering Water Pollution Control in Oregon," *Oregon Historical Quarterly*, summer 2006, 256.
[2] Personal communication with the author during a meeting, 2003.
[3] Hulse, David, Stan Gregory and Joan Baker, *Willamette River Basin: Willamette River Basin Planning Atlas: Trajectories of Environmental and Ecological Change,*" (Corvallis: Oregon State University Press, 2002).

As with other areas of the river in towns along the Willamette, municipal waste was discharged with very little treatment in the early days. In the case of Portland, an often-viewed photo shows Mayor Joseph Carson in 1938 standing with a group of kids with a sign that reads "Demand Clean Rivers." Early on, people felt this sentiment in relation to the Willamette and in some cases drinking water was taken in upstream, and wastes discharged downstream.

By the 1920s it was clear that the Willamette River had become highly polluted and that something needed to be done.[4] The general recognition that the river was polluted in many areas was growing and it seems there was a notion that such a polluted river was somehow expected. Yet it seems people always objected to pollution, even if they had no ready answer about how to make a bad situation better.

In the 1930s while little had changed in terms of water treatment, politicians were taking notice. In 1938 a measure to require cities to build sewage treatment plants passed and soon cities began construction of treatment facilities. The same measure, as passed by the voters, created the Oregon State Sanitary Authority (OSSA) which would enforce the new regulations. The Authority had a seven member Commission who oversaw its efforts.

Glen Carter, the first Aquatic Biologist hired by the OSSA, wrote in a great account of his experience working for the OSSA that they were encouraged by the Commission to "go after polluters as if they owed us money."[5] This mindset helped begin the process of decreasing pollution as OSSA employees inspected many dischargers and worked with them to improve what they discharged to the river.

People like David Charlton of Charlton Labs chronicled the water quality situation for decades starting in the 1930s. His work showed a very long pattern of pollution in the river continuing into the 1960s. Charlton was vocal in his efforts to alert policy makers and the general public about what was happening on *their* river. His contribution was of hundreds of hours of testing and analyzing, and coming to an understanding that there was significant work to do to improve the condition of the Willamette.

Others such as Secretary of State, Bob Straub, spoke out on behalf of cleaning up the Willamette River and providing recreational opportunities to the public. He voiced the

[4] Marshall, Penny. "Whatever Happened to the Willamette River?" in *Open Spaces Magazine*. Volume 3, Issue 3, 2000; Hulse, et al., *Willamette River Basin Planning Atlas*.
[5] Carter, 257.

need for the State Sanitary Authority to stand up to those polluting Oregon's waters.[6] Historian William Robbins has written extensively on this period in Oregon history stretching from the early realization that there was a major pollution issue in the state of Oregon to the work of the citizen activists and politicians of the 1960s to implement a solution.

In 1961, journalist Tom McCall did an extensive piece for the local NBC television affiliate. The story, entitled "Pollution in Paradise,"[7] chronicled the sorry state of the Willamette River and other pollution issues in Oregon. McCall's work helped gain him popularity which later, in part, helped him win the governorship. More importantly, his work in television journalism helped people realize what was at stake and reconnect to the health of the Willamette River.

"Pollution in Paradise" provided vivid visuals of pollution in the Willamette and other parts of Oregon. It showed various mills and the impact they had, and in some cases where efforts to curb pollution were being made. It showed the OSSA working on key issues and it also reflected on what a long road it was to reduce the negative impacts that were seen at the time. At one point, the narrator McCall asks, "Who grants the privilege of polluting our air and water?" Ultimately, his work and the endless effort of many other citizen activists helped bring stricter regulations to what waste was allowed to be discharged to the river.

The late 1960s brought more progress for the Willamette. In 1969, the Oregon Legislature created the Oregon Department of Environmental Quality. At this point the OSSA was phased out and incorporated into this new, larger agency that worked on water quality, air quality and other pollution issues.

The work done on behalf of the Willamette River up to 1972 was chronicled in a classic cover feature in the June 1972 *National Geographic,* penned by Ethel Starbird. Starbird's article paints a vivid picture of the river's long decades of poor water quality, early citizen activism, the rise of Tom McCall's effort on the Willamette, and the plans for the future. There is a seeming suggestion that no problem is insurmountable. The piece highlights the notion of civic activism and the kind of vigorous effort and interest that resulted in

[6] Johnson, Charles, *Standing at the Water's Edge: Bob Straub's Battle for the Soul of Oregon,* (Corvallis: OSU Press, 2012).
[7] McCall, Tom, *Pollution in Paradise*, television documentary, 1962 KGW Newschannel 8, Portland, Oregon.

specific efforts to improve water quality along the Willamette. It summarized the results of the work of many citizens as well as political leaders.[8]

All of this came as the nation realized the need for significant water quality improvements which brought about the Clean Water Act that was signed into law by President Nixon in October of 1972. The work of Oregonians on the Willamette River had helped to lead a national trend, and to show what improvement was possible.

Much of the imagery associated with the *National Geographic* article rests on the connection of people to the Willamette River. The magazine cover is the photo of a family traveling from Independence to Salem on their homemade raft, depicting a strong and visceral connection to the Willamette's well-being. Salmon fishermen are highlighted at Willamette Falls hoisting a massive fish upward for the camera. The connection could not be clearer.

Figure 4. Some paddlers near Corvallis take a few minutes to swim in a side channel of the Willamette River. Photo by the author.

[8] Starbird, Ethel, "A River Restored: Oregon's Willamette," in *National Geographic*, June 1972.

After the much-celebrated success of the approach to the Willamette led by Governor McCall and others, the river's improvement captivated the public's imagination for years. With basic water quality having been improved and clear indicators such as oxygen levels up toward normal levels, the progression of the river's improvement, or at least the idea of it, traveled well into the next decade.

Over time, additional issues came to the forefront in relation to the Willamette River's health. The persistence of sewer leaks and spills, especially in Portland, gave river users something significant to consider. Too often raw sewage could be seen regularly in the Willamette. With regular overflows in the Portland area, people began attributing a general sense of uncleanliness to the river.

The impact of habitat degradation also became better understood. Instead of having a wide-open channel that included side-channels and backwaters, over the past 100-plus years, the river has been consistently and methodically separated from its floodplain. Early farmers and those in cities sought to keep the river at bay. They hardened the river's banks with rip rap (large rocks) or by placing pilings and small dams at the openings of side channels that otherwise naturally wove their way into the floodplain lands along the river for miles. In the spring and early summer it was natural for the Willamette to spread its floodwaters for miles from the mainstem river. This very natural aspect of the river's function threatened people and they sought to keep the river in place. This line of thinking soon incorporated dams.

Flooding for towns in the Willamette had been a big issue over time, and the idea of controlling the Willamette's flow with dams became more popular. Eventually a plan was hatched to build dams on the major tributaries to the Willamette to control the flow of the mainstream river. Building dams was not a universally accepted idea, but it gained enough support over time. As the idea was considered, some railed against the idea, forecasting the negative impact on the native spring Chinook salmon that had traveled the Willamette and its tributaries for thousands of years. William Finley, the eminent conservationist, wrote an editorial in the Oregon Journal in 1940 decrying the folly of such a plan to dam the major tributaries. He forecasted the ruin of both the fishery and some of the towns found in the river valleys.

How right he turned out to be. The naturally reproducing populations of Spring Chinook plummeted, and today these fish are listed as threatened under the Endangered Species Act. The dams blocked the downward migrating juvenile fish from reaching the mainstem

river, and the upward migrating adult fish who seek to reproduce in their native streams, the tributaries to the main line of the Willamette River.

Today federal and state agencies are investing a significant amount of time working in the Willamette Basin to decrease the negative impact of dams. Time will tell if these efforts are enough to enable native fish to naturally reproduce by allowing downstream and upstream migration around the operations of these dams.

Figure 5. A portion of Portland Harbor. The area is designated a Federal Superfund site. Photo by the author.

The stretch of river known as Portland Harbor stands out and is linked to the river's industrial history. Over many years, the floodplain was filled in the harbor area, and the river was dredged in order to maintain an artificially deep channel for ships. Over the decades, pollutants that were commonly used, such as PCBs, heavy metals, and oil-based products contaminated many of the riverside lands, and made their way to the river itself. At one location DDT used to be manufactured, and even today, the breakdown product of DDT contaminates both the upland area and the near shore of the river. In most cases the river's rich sediments have some level of contamination. After enough study by the State of Oregon in the 1990s, a multi-mile stretch of river was listed under Federal law as a Superfund Site. Today, about 9-miles of the Willamette, starting just downstream of

downtown Portland, and extending nearly to the Columbia River, is undergoing the cleanup process. In the next year or two, major decisions about how to cleanup the river will be made.

Pollution remains an issue for the Willamette, with both traditional pollutants coming off of our streets and farm fields that may carry too much oil, silt, or agrochemicals. However, there is also the specter of emerging contaminants, such as Polybrominated Diphenyl Ethers, with which we are just beginning to grapple.

While the degradation of habitat and the blockage of the tributaries to the Willamette are significant, if you add the new forms of pollution to the Willamette and the massive industrial complex of Portland Harbor, you find a river that is still in need of significant improvement.

Willamette Riverkeeper (WR) is a nonprofit organization founded in 1996. Its mission is to better protect and restore the Willamette River's water quality and habitat. WR is affiliated with about 140 other Riverkeeper organizations worldwide. When it started it was the 13th Riverkeeper organization, with the concept being adopted in many places since that time.

The original Riverkeeper organization was the Hudson Riverkeeper, which still exists today. Hudson Riverkeeper was asked by another organization if they could use a similar name and approach to water quality issues back in the 1980s. This request led to an organized structure known as the Waterkeeper Alliance. The Alliance manages license agreements for organizations to use the Riverkeeper name. While the Riverkeeper organizations are unique to their stretch of river or watershed, they all have a baseline of being willing to protect water quality by using the legal remedy of the Clean Water Act's Citizen Suit provision. This enables any person or organization to file a lawsuit if they think the Clean Water Act is being violated.

This type of work stems from the Public Trust Doctrine. In general this doctrine holds that the rivers and other waterways are public resources and should be protected as such. Today, federal laws like the Clean Water Act help to uphold this doctrine, and to remind people that the Willamette and our other rivers belong to all of us, and are not the private domain of powerful interests.

Willamette Riverkeeper has instituted a variety of programs and projects to protect water quality, restore habitat, and to cleanup Portland Harbor's Superfund site. WR has also

conducted a vigorous education program called River Discovery that gets people on the Willamette River to see it and experience it up close.

Even in 2012, all kinds of river issues arose in locations like Eugene, Portland and beyond. Given that the main channel of the Willamette is 187 miles in length, with about 70% of Oregon's overall population living within 20 minutes of the river, our job is a big one. While some aspects of river health have improved - there is far less sewage, more oxygen in the water, and less industrial waste, there is still a lot to grapple with.

Every year Willamette Riverkeeper receives numerous calls and tips from the general public seeking our involvement and leadership in resolving issues. The issues represent a wide spectrum from municipal waste discharges that are unusual, facilities operating without a permit under the Clean Water Act (administered by the State of Oregon's Department of Environmental Quality), to landowners cutting down riverside vegetation. As an example, last summer WR staff uncovered a large waste plume coming from an industrial facility in the Upper Willamette. WR took action under the Clean Water Act, which resulted in quicker action by the facility to correct the problem, and more rapid action by the State and Federal agencies to help correct the issue.

In another case, WR received a tip from several members of the public about a landowner who cut down a great many trees and bushes along the river in 2012. In this case we first sought to address the problem with the local county. When that was ineffective, the State of Oregon's Agriculture Department processed more than one complaint from the public—as of the publication of this article there has been no corrective action.

Whether it is an overflow from a sewer, industrial or municipal waste, or high levels of waste coming from an agricultural facility, WR seeks to address these issues quickly. Even today, there is much to do on the water quality front. WR engages volunteers in water quality monitoring on a regular basis, and engages the general public in restoration work parties.

Getting people on the water has also been a priority, as it helps to expand the understanding of what the river is and fosters additional connection. WR actively works with the Oregon Parks and Recreation Department and other key partners on the Willamette Water Trail. The Water Trail is a collection of parks and other access points along the river, as well as campsites and day use areas. Taken together, these properties along the Willamette form an impressive collection of recreational sites that can facilitate

an afternoon paddling the Willamette from Salem to Willamette Mission State Park, or days of paddling from Eugene to Portland.

The Water Trail has a website (www.willamettewatertrail.org) that provides a host of images of the Willamette River along with its campsites and access points. There are also two river guides published by Willamette Riverkeeper that provide an abundance of details about how to safely travel the river. One of the greatest things about the Willamette in terms of recreation is that the river is relatively approachable for paddlers of a wide range of skill levels. If people have some basic skills in a boat, and wear their lifejackets, they are typically able to paddle the Willamette. Of course like all rivers the Willamette does present hazards, especially with high river flows, and the ability of the river to move around large woody debris.

Figure 6. A beautiful Willamette Water Trail campsite near St. Paul. Photo by the author.

The recognition and understanding of what the Willamette River needs to improve its health is far greater than what was focused on historically. Water quality is indeed a very important issue. Yet, on par with water quality is habitat degradation and fish passage at the dams.

WR also engages on the Superfund issue. The long process associated with the cleanup has been daunting, but we have been at it for 15 years. The role of WR is to be an advocate for the river's health and to uphold the Public Trust.

Willamette Riverkeeper staff and volunteers also engage in habitat restoration. Multiple sites along the river gain from WR's work in the removing of invasive plant species and the planting of native species. We work on projects up and down the river and this effort is growing.

In recent times some people have asked, "I thought the Willamette was cleaned up back in the 1970s and late 1960s, so what happened since then to make it dirty again?" Well, the answer is pretty straight forward - we have learned to better understand what the Willamette needs and have better understanding of the host of issues that affect river health. Just as a person would not go into their physician's office and expect the same approach and technology that was used in the 1970s to be applied to their medical condition, we have also better learned what rivers need to be healthy.

There is a new understanding of the need to have healthy floodplain habitat along the Willamette. There is a recognition that we need to restore fish passage at the dams in order to make our investments in habitat restoration reach their desired outcomes. There is also an understanding of emerging contaminants, such as flame retardants, that have a very wide and growing presence in the Willamette and many other rivers and waterways around the United States.

As an organization, Willamette Riverkeeper, is pushing on all of those fronts with our partners, all of us are doing our part to improve the river's condition. There is some good progress being made from one end of the Willamette Basin to the other.

One thing that is important to remember in all of this is that it took a long time for people to tune into the river for progress to be made. While the river is by no means in perfect condition in 2013, the trend may be described as moving in a positive direction whether that measure is water quality, the amount of habitat being restored, or the number of people utilizing the Willamette for canoeing, kayaking and fishing. The connection seems to be growing and good things are happening.

Figure 7. Paddle Oregon participants take a break to swim in a Willamette alcove on a hot afternoon. Photo by the author.

What Mel Jackson, an outdoorsman and naturalist, said in the June 1972 *National Geographic* article on the Willamette rings true today: "The old abuses will come creeping back if we don't maintain a careful, constant watch over these waters."

If we maintain our connection to the river, we hopefully can prevent further abuses, and continue to make progress for the river's health. Over time we will likely see a healthier river that benefits from the deepened connection that communities along its length have to their river.

Presenting Waste and Remnants: Informing and Visualizing the Preservation of a Hidden History of the Willamette River

Rosalynn Rothstein, Folklorist

Figure 1. Willamette Falls with man-made waste in 2012. Photo courtesy of the Oregon Department of Fish and Wildlife.

Abstract: This article examines waterways in the context of the waste, detritus or remnants left behind or created, either naturally or by man-made forces. This includes possible interpretations of waste in the context of specific preservation sites including the Erratic Rock Natural Site, the banks of the Molalla River and Willamette Falls. Starting with a broad definition of sites that interpret waterways, the more general question of the circumstances under which waste, detritus or remnants are considered significant for preservation and interpretation is examined. The dynamic between waste, detritus and remnants and cultural, historic and geological preservation using the lens of waterways in the Willamette Valley notes a perceptual imbalance, in which certain elements of this relationship between waterways and waste are recognized at one particular interpretative site or in one particular medium, but the entire use and interpretation of the waterway is not fully presented.

Natural Waterways

The impacts of the physical characteristics of the Willamette River are not lost to most residents, inhabitants of surrounding areas, or visitors to the Willamette Valley. But knowledge of the Valley could vary. Some might understand the impact the geography had on patterns of pioneer settlement in Oregon, or they might know the Willamette River's reputation as a polluted waterway, or have other impressions of the river's significance. The river has shaped the way the land is used and the resources produced in the Valley, from winemaking to tourism. The impact of the river, and the ways humans have used the river, is not always apparent. The facts and history about the Willamette River that we have access to shapes the understandings Valley residents specifically, and Oregonians in general, have of the river's impact on the culture of Oregon before and after European settlement.

In addition to their useful value, visual and scenic impact, and general impressions waterways leave on a visitor, they can also have cultural implications in less visible or tangible ways. There is a delicate interaction between impressions of the "natural river" and the process of development and industrial utilization, and subsequent environmental consequences of this development. On the Willamette River, this leads to a perceptual imbalance, in which certain elements of this relationship are recognized at one particular interpretative site or in one particular medium, but not the entire relationship.

The website of the Willamette Riverkeeper, a non-profit organization dedicated to the protection and restoration of the Willamette River, contains the following description of the history of the river. "Today, in places, one can get a sense of the natural river, especially in those areas where the river moves and deposits its gravel bars. In these areas, one may find cool water being transported from upland areas of percolating through gravel beds providing essential habitat for native fish. This kind of natural river action provides a sense of what is needed throughout the Willamette River."[1] As with many other natural resources, the concept and idealization of the "natural" river competes with the reality of the effect human alteration has had, and continues to have, on the river. Residents of and visitors to the Willamette Valley have impressions and preconceived notions of the river that shapes the Valley. These impressions include understandings of how the river has been used, developed and managed historically and in contemporary times. Often preservation is linked to the concept of the "natural" river and does not include all facets of the river's use and history.

[1] "Willamette Riverkeeper Official Website," accessed May 12, 2013, www.willamettriverkeeper.org/WRK/riverhistory.html

Figure 2. Willamette Falls Viewed from Wayside Area. Photo by Adam Rothstein.

The "natural" Willamette River is at odds with other presentations of the river's history, current uses of the river and the history of residents using the river as a depository for waste in a variety of forms. While literature and information about preserving the river often incorporates a discourse about the river's natural history and natural state, information about other historical uses of the river is often not included in these discussions. The "natural" state of the river is often in contrast with the type of presentation of information about waste I am encouraging in this article. There is a disconnect between established representations of the Willamette River, which often privilege one narrative such as the "natural river," and do not include multiple presentations which all might be correct. An accurate presentation might include oral histories from those who have worked on the river, contemporary Native American perspectives on the use of recourses in and around the river, a history of the pollution that occurred at one site and several other perspectives in one discourse.

In *Toxic Tourism,* Phaedra Pezzullo analyzes tours given at toxic sites by incorporating a discussion of tourism in general and methods used to communicate about environmental issues in communities experiencing the repercussions of these issues. She examines tours that bring visitors into specific communities affected by toxicity, the goal of these tours is

to make visible the effects of toxicity on community members and point out sites that are problematic even though it might not be visibility apparent. The author notes there are two characteristics addressed in toxic tours "visibility and banality."[2] Pezzullo argues against privileging the visual in the context of tourism.

> When touring toxins, the limits of the visual become all the more apparent. In fact, one of the primary constraints for anti-toxic activists is a lack of visual evidence. . .compounding the frequent invisibility of toxins is the troubling fact that the visibility of this pollution and its environmentally unjust effects often are excluded from elite sight due to racial and economic residential segregation. Limiting our epistemologies of travel and tourism to what we can see exacerbates these power differentials.[3]

In the framework of this article this statement problematizes making certain histories invisible, either by erasing them or not highlighting their existence. In this article I will examine three sites, the Erratic Rock Natural Site, Willamette Falls and the Willamette Riverbank at Molalla River State Park to better understand how the lack of incorporation of a visual representation of waste, or an incorporation of a narrative about waste into exhibits about the river, are detrimental to understanding the heritage of the river in a more general sense and understanding the circumstances under which waste, detritus or remnants are considered significant for preservation.

Based on my experiences as a visitor and the interpretive materials available at the three sites, it is clear the current presentation of the Willamette River's history is lacking a discussion of waste, waste management and industrial development. Examining how waste is presented at the Erratic Rock Natural Site demonstrates the difference in how that specific site is theorized in the context of waste. Including information about this topic would help introduce visitors to the concept of waste and develop more fully the narrative about the history of uses of the Willamette River.

For the Willamette River and other watersheds, the cultural history of waste management in the context of the watershed is often left out of the discussion of heritage and preservation, both environmentally and historically. Although rivers often have organizations devoted to their preservation and enhancement, these might not include the cultural implications of waste management and more contemporary human uses of the

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[2] Pezzullo, Phaedra, *Toxic Tourism: Rhetorics of Pollution, Travel, and Environmental Justice* (Tuscaloosa, Alabama: The University of Alabama Press, 2007), 53.
[3] Pezzullo, 29.

watershed. Although written accounts include a discussion of the effects waste management has had on the river, and citizen-led movements to clean up the river, at sites with physical proximity to the river this information is often not present.

For example, an in-depth exhibit from the Center for Columbia River History on the community history of Cottage Grove includes a discussion of the effects and history of pollution in the Willamette River in subsections of the larger online presentation about the community. The online exhibit includes three sections on a history of attempts to clean up the Willamette River, which includes the following descriptions: "The Oregon State Sanitary Authority proposed dilution as the strategy for dealing with water pollution and avoided the politically explosive issue of industrial waste. . . this solution justified dams and the human-directed regulation of the Willamette."[4] In the context of a watershed, culture interacts with geologic factors and these forces inform and develop human interactions with the watershed. I will make a distinction between the way waste, in a geologic context at the Erratic Rock Natural Site, is contextualized. Waste is an important element to be included in these discussions and the inclusion of this topic would develop a fuller discussion of human interactions with the river. Waste, rather than being simply a specific object which is designated as "waste," is categorized by complex social processes. Gay Hawkins, a scholar of waste whose work will be discussed further later in this article states:

> The creativity of material practices, the constant reincorporation of objects into new classes and systems of exchange and use, makes any essentialist claims about the identity and fixed life cycle of things difficult to sustain. Accounts of the history of things, of their social lives, show that games of value are hard to finish, many things just want to keep on playing. This means that waste, as a point of absolute separation and dematerialization, is often a radical conversion process.[5]

Specific objects can cross boundaries of classification. An object such as a metal bottle cap can be considered waste, but also be transformed through the process of recycling or through the re-use of the bottle cap in an art project. Throughout this article it is important to categorize objects as waste through the social processes that designate them as such and not through any quality inherent to the object.

[4] "Center for Columbia River History," accessed May 27, 2013, http://www.ccrh.org/comm/cottage/change.php
[5] Hawkins, Gay, *The Ethics of Waste: How We Relate to Rubbish* (Lanham, Maryland: Rowman and Littlefield Publishers, 2006), 77.

This article examines waterways in the context of the delicate relationship of waste, detritus or remnants left behind or created, either naturally or by man-made forces, by the impact of a waterway. The presentation of waste, in the context of the Willamette River, becomes the main focus of this article when the discussion of waste at sites where it is invisible is developed.

The Remains of Interaction

For the purposes of the first section of analysis I have defined waterways broadly, since one space of interest to me is Erratic Rock State Natural Site, a 90-ton boulder deposited outside of McMinnville during the last Ice Age. In the case of the Erratic Rock Natural Site, the protection of this detritus, and the resulting creation of a space of preservation, creates a focal point for heritage that notes the significance of waterways but does so in the absence of a physical representation of the waterway. I will contrast the significance of this site with two other sites, Willamette Falls and the Willamette Riverbank at the Molalla River State Park. The Willamette Falls is a visually compelling example of human interactions and manipulations of the Willamette River. The riverbank at the Molalla River State Park has been altered through the placement of large tires. Seemingly they serve the use of fortifying the riverbank and have vernacular uses for visitors to the park. The analysis of these sites is based on information available at the time of my visit and some research into the conditions of the sites. I am basing my analysis on the interpretive materials a visitor to the sites would encounter and my subjective impressions as a visitor.

Figure 3. View from the Erratic Rock Natural Site. Photo by the author.

In this examination, the remnant of an Ice Age flood is characterized in a geological context at the Erratic Rock Natural Site in contrast with sites where waste and re-use of products is not included in the discussion of human interaction with the Willamette River. I am starting with this broad comparison with the hopes of addressing the more general question of the circumstances under which waste, detritus or remnants are considered significant for preservation and what means would be best to present this discussion. Using the lens of waterways in the Willamette Valley, I examine the dynamic between waste, detritus and remnants and cultural, historic and geological preservation. After discussing the Erratic Rock Natural Site, I discuss the perception of waste in the context of the Willamette River at sites where the river is present but where discussion or representations of how waste has been managed in the context of the river are not.

A brief description of the Willamette River from an encyclopedia of rivers calls attention to a broad and general description of the space the river occupies. "The river meanders widely across a floodplain whose main floor lies slightly to the west of center, and the channel, carrying a heavy load of sediments with little gradient is braided. The floodplain includes characteristic feature of a mature valley: sloughs, abandoned channels, and oxbow lakes."[6] In the context of European settlement of the Willamette Valley, flooding has had a significant impact on the management of the river and alteration of the river's path. "In the twentieth century the lead agency of the federal government for rivers, the Army Corps of Engineers, emphasized flood control more than navigation. The valley is particularly vulnerable to flooding, with disastrous floods occurring about every twenty to thirty years (1861, 1881, 1890, 1927, 1964). The clayey soils of the floodplain are prone to inundation because they impede drainage."[7] This brief overview of the Willamette River highlights the river's importance in a developed river valley. The flooding of the Valley during the Ice Age, the same flood which deposited the erratic rock, helped to create the fertile soil which drives agricultural pursuits in the Valley. This description also imparts some of the ways in which the Willamette River has been dammed, channeled and otherwise modified to support habitation and development. Throughout these processes, the geological "waste" has been a significant factor in understanding human use and interaction with the river during the twentieth and twenty-first centuries.

The Willamette River is also a significant factor in the accumulation of cultural heritage of the Willamette Valley. In her article in the second edition of *Willamette Valley Voices*, Jennifer Huang explores the significance of river celebrations in the Willamette Valley. She notes a connection between bioregions, which are often defined by the boundaries of

[6] Penn, James, *Rivers of the World* (Santa Barbara: ABC Clio, 2001), 301.
[7] Penn, 303.

watersheds, in forming the basis and structure of regional celebrations.[8] She concludes her article with the following statement: "although former relationships with the Willamette River have largely been conditioned by industrial and economic advantages, a renewed connection, based on civic engagement, can protect important ecological resources from future erosion by once again integrating them into our celebrations."[9] Huang addresses the historical significance of river celebrations, and the connection they provided between residents of Willamette Valley and the watershed, in order to suggest the possibilities community celebrations have for connecting residents with natural resources. These celebrations, including The Canoe Fete in Eugene and the Fern Ridge Thistle Regatta, are examples of cultural connections formed between residents of the Valley and the river and its associated waterways. This brief discussion of the physical characteristics and social importance of the Willamette River provide some perspectives an individual might bring to the river. An individual might understand the river's geologic and cultural significance. However, there are also visual representations of waste in the context of the waterway, and previously existing waterways, but this is often left out of formal discussion of the heritage and significance of human interaction with the waterway.

Waste

To understand the significance of introducing waste into the discussion of heritage, and to incorporate a discussion of waste into preservation sites, we can begin with a brief analysis of how waste has been theorized as a general topic. Michael Thompson, who suggests a dynamic model of theorizing waste, suggests that "the discarded but still visible, because it still intrudes, forms a genuine cultural category of a special type - a rubbish category. That which is discarded but not visible, because it does not intrude, is not a cultural category at all, it is simply *residual* to the entire category system."[10] Rubbish and waste can be visible and so can systems of waste management, such as pipes and containers, and waste can also be invisible. By making waste, and management of waste, invisible it exists outside of a system of ordering used to understand objects. Thompson uses the example of "dog faeces on the drawing room carpet"[11] to illustrate waste, or rubbish as he terms it, that is often only noticed when it is out of place. He continues in his discussion "the sociological implications of rubbish are apparent, for only with its help can we make this connection between the micro and macro levels of social

[8] Huang, Jennifer, "Celebrating our River Heritage," in *Willamette Valley Voices: Connecting Generations,* vol. II, no. 1 (winter 2013), 97.
[9] Penn, 104.
[10] Thompson, Michael, *Rubbish Theory: The Creation and Destruction of Value* (Oxford: Oxford University Press, 1979), 92.
[11] Thompson, 92.

life. An understanding of rubbish is essential if we are to uncover the mechanics of this sliding scale that relates to private and public, informality and formality, expediency and principle."[12] Waste and its categories are representative of overarching social processes that move specific objects in and out of specific categories.

In an article entitled "Junk Mail Cyborgs: Preliminary Investigations into a Praxis of Waste," I, along with co-author Adam Rothstein, examine the development of waste management in urban settings.

> Biological functions, in the urbanized context of structurally regulated production and distribution, were thereby reduced to an attitude by which the rest of society's infrastructure was already apprehended: replacing the specific by the generic, and letting the difficult dynamics fall away from view under soft focus. The biological is a personal issue of health and the body, but the bio-social is a matter of convenience and aestheticized beautification of sanitized public space. Whereas the daily body movements are part of a person's most internal cycles and balances, the sanctity of the bio-social is more equivalent to the honor and duty of promptly delivering the daily mail.[13]

Making a discussion of waste visible re-incorporates waste into the overall discussion of how society orders and treats objects within its categorization system.

Gay Hawkins also suggests there is a moral dimension to waste management which supplements categorization of waste within social systems. "In constituting waste as a domain of moral concern, as a field of personal responsibility and careful domestic disciplines, we can see how everyday conducts were problematized and subjected to questioning - and how they were made a target of moral reflection."[14] She continues by reflecting on how this moral dimension impacts an individual's relationship with waste. "Waste is now a field of activity structured by legislated and normative moralities, by disciplinary codes that order conduct in the interests of wider objectives: from reduction of landfill to global ecological survival. It is a domain in which we have come to experience a sense of duty and responsibility for protecting the purity and otherness of the environment."[15] In this brief look of the theorization of waste, we see how the individual

[12] Thompson, 93.
[13] Rothstein, Adam and Rosalynn Rothstein, "Junk Mail Cyborgs: Preliminary Investigations into a Praxis of Waste," in *The Non-human in Anthropology*. Manuscript.
[14] Hawkins, 31.
[15] Hawkins, 31.

moral perceptions of waste, and an overall societal categorization of waste, manage the classification of waste objects and overall impressions concerning the function of waste. Understanding how individuals, as well as society at large, interacts with and perceives waste is instrumental in understanding the history and cultural implications of human interactions with a waterway like the Willamette River.

Figure 4. View of Pipes Just North of Willamette Falls. Photo by the author.

Interpreting Willamette River Sites

With this theorization of waste in mind, the discussion of the three points of interest in the Willamette Valley reveals the ways in which waste is left out of the dialogue concerning preservation. The Erratic Rock Natural Site, a small park dedicated to the preservation of 90-ton rock deposited by an iceberg carried in a flood during the last Ice Age, is the largest known example of an erratic rock in the Willamette Valley, although there are many others. Lake Missoula was created by a 2,000-foot ice dam during the last Ice Age (13,000 to 15,000 years ago) and was located in what is today Western Montana. Periodically the ice dam would break, creating a flood in the Columbia River drainage and backing up into the Willamette Valley. "When Glacial Lake Missoula burst through the ice dam and exploded downstream, it did so at a rate 10 times the combined flow of all the rivers of the world."[16] These floodwaters are responsible for carving the landscape and transporting icebergs with erratic rocks contained within them.[17] These floods are also are responsible is part for the fertility of the Willamette Valley, thereby creating Oregon's agricultural viability.

This geologic information is presented online on the Oregon State Parks website and at the Erratic Rock Natural Site in interpretive materials at the start of a ¼ mile trail up to the site. At the actual site where the rock is located there is no interpretive material. The interpretive sign also contains the following message: "This large glacial erratic, composed of a metamorphic rock called argillite, was once much larger! Geologists estimate that the boulder originally weighed about 160 tons—visitors have removed over 70 tons. Please respect this vestige of Oregon's remarkable geologic history—take photos only!"[18] Historically, interaction with this site has included removing pieces of the rock and visitors carving their names onto the rock itself. Neither of these practices are an uncommon problem at heritage or preservation sites.

During my visit to the site on May 13, 2013 to conduct research for this article, visitors climbed on the rock, took photos of one another with the rock and photographed the surrounding countryside and vineyards on the unusually sunny day for the season. The rock is viewed as a geologic feature and a touchstone for discussion of the surrounding valley and the geography of the area. Visitors were pointing out nearby towns and explaining what could be reached using various roads in certain directions. I overheard one visitor comment, "I have lived here for how long and I never knew this rock was

[16] "USGS Entry on Glacial Lake Missoula," access May 13, 2013, http://vulcan.wr.usgs.gov/Glossary/Glaciers/IceSheets/description_lake_missoula.html
[17] "USGS Entry on Glacial Lake Missoula."
[18] "Interpretive Sign at Trailhead to Erratic Rock Natural Site," accessed May 13, 2013.

here." The rock itself and the site were a discovery for this visitor and this statement elicited other comments about the beauty of the surrounding area. The rock stands without interpretive materials allowing visitors to wonder about the rock's history and pose their own questions about its origins. Discussion of the site might include information offered on the interpretive sign at the start of the trail, but visitors marvel at the size of the object rather than attempting to classify its impact more generally. Preservation of the object is taken for granted but visitors also recognize its intrusive geological nature in the Valley. Visitors are given enough information to interpret the object but also are allowed to interact with it on its own terms.

Figure 5. Visitors Standing on the Erratic Rock. Photo by the author.

In the absence of a waterway, the erratic rock serves as a focal point for discussion of the object itself and the surrounding area. As for the Willamette River itself, orientation materials, containing a discussion of historic events and heritage, exist alongside the river. Using the analysis of visitor interaction with the erratic rock as geologic focal point, I wonder how discussion of preservation and heritage alongside a waterway can also

incorporate a similar conversation of waste, in order to further discourse of waste as a theoretical topic and encompass the range of historic and contemporary uses of the waterway.

Figure 6. Willamette Falls with a View of the Locks and Surrounding Factories. Photo by the author.

Willamette Falls is a horseshoe shaped waterfall located in Oregon City. Visitors to the Falls can access a viewing area from a turnout off of highway 99E. The Falls are visible in conjunction with industrial development along the riverbanks, including paper factories and locks which made navigation of the entire Willamette River possible. During my visit to the site on May 15, 2013 I noticed the interpretive sign at the turnout for viewing contains the following description: "Oregon City – supply point for pioneer emigrants was first located as a claim by Dr. John McLoughlin in 1829. The first provisional legislature of the Oregon Country was held here in 1843 and land and tax laws formulated."[19] The sign continues with more information about Oregon City's role in the development of the Oregon Territory. There is also a signpost where visitors to the site can call and listen to a narrative about fossil discovery in nearby Tualatin. These are the interpretive materials available to a visitor who views the site from alongside 99E.

[19] "Interpretive Sign at Willamette Falls viewing turn out off of 99E," accessed May 15, 2013.

Interpretive materials are not present at other sites where a visitor can view or access the waterfall.

A visitor to Willamette Falls experiences the visual impression of the industrial alteration of the surrounding landscape from all possible views of the waterfall. Another viewpoint is from the recently restored Oregon City Arch Bridge crossing over the Willamette River, just north of the Falls. From this overlook visitors can see factories and piping, depositing what appears to be water into the Willamette River. There is no interpretive material on the bridge to explain the industrial scene. The visitor is left with the image of the factories alongside the river and is open to questioning how the area has been managed in this context both historically and in contemporary times. While I am not arguing a visitor requires interpretive materials, such as written signs, to draw conclusions about the space they are visiting, these kinds of materials can help people draw larger conclusions and gain a better understanding of what they see. One visitor might imagine the significance waste has at the site while another visitor might miss this significance altogether.

Local celebrations, such as the Willamette Falls Festival presented by the Willamette Falls Heritage Area Coalition, seek "to protect, enhance and share the unique cultural heritage of the Willamette Falls region between the Tualatin and Clackamas Rivers, and envisions federal designation as a National Heritage Area and/or State Heritage Area."[20] The Falls are a focal point for the development of local heritage preservation and celebration. Some interpretive material discussing the waste management techniques utilized in the area would enhance a visitor's understanding of the space, as a key component of the Willamette Falls' role as a focal point for heritage.

Molalla River State Park, outside of Canby, Oregon is a day use park at the confluence of the Willamette, Molalla and Pudding rivers. The park has a short trail, an open field for exercising pets and a boat ramp. By the parking area there is access to the riverbank. Alongside the riverbank there are large stacks of rock grip excavator tires, a model produced by the Bridgestone corporation. The visitor to the park sees some of the current uses of the tires, such as visitors using them to jump into the river and carving their names into them. From these carvings, one can discern the tires might have been placed along the riverbank in the late 1970s; an assertion supported by the presence of a large tree, possibly thirty years old, which is growing out of the center of one of the tires. In the case of this site, the visitor is left to wonder if these tires were placed along the bank to control the levels of the river at this specific site, or whether the tires were re-used after a

[20] "Willamette Falls Festival," accessed May 27, 2013, http://www.willamettefallsfestival.com/

construction project to allow better access to the river. In the context of this site, the state park has been set-aside as a recreation area. However, as a recreation area there are also possibilities to discuss the use of the area. The tires, and the vernacular uses of them, can be focal points for visitors wondering what the presence of these tires means.

Figure 7. Tires on the Bank of the Molalla River. Photo by the author.

An examination of these three separate sites illustrates significant differences in visitor experience. Each site represents a different level and form of management, but nonetheless each site has some oversight from a preservation or state administrative perspective. There are a variety of methods to incorporate a conversation about these factors and elements related to waste into preservation efforts and discussions of heritage in the context of the Willamette River.

Possibilities for Additional Interpretation

Barbara Kirshenblatt-Gimblett discusses the Abbey Church of Saint Peter and Saint Paul in Cluny, France. After the church was no longer in use, the stones were sold and used to build other structures leaving only the transept and a bell tower in place. There is also a museum at the site, which at the time of Kirshenblatt-Gimblett's writing contained a virtual representation of the church. Kirshenblatt-Gimblett states "the museum is an integral part of the site. The museum does for the site what it cannot do for itself. It is not a substitute for the site but part of it, for the interpretive interface shows what cannot otherwise be seen. It offers virtualities in the absence of actualities."[21] Kirshenblatt-Gimblett continues her discussion and problematizes some of the ways in which virtual representations negatively impact displays of heritage and encourages a tourism industry in which "increasingly we travel to actual destinations to experience virtual places."[22] However, in the case mentioned above, virtual representation allows visitors to imagine a structure which is no longer standing due to a what is now considered a questionable decision made hundreds of years ago to destroy a church after it was no longer in use.

In the case of the Willamette River, virtual representations would give visitors perspectives on manmade uses of the river that are no longer actually present at its banks. Similar to the Erratic Rock Natural Site, these virtual representations can present focal points that open larger discussions about waste management. In the spaces examined, we see the most interpretive material dedicated to an object categorized as waste, or a remnant, occurs in the case of the Erratic Rock Natural Site. The social processes that categorize the erratic rock as waste are much different than the social processes that categorize other waste, since the rock is viewed as detritus from a geologic process. When I presented a brief history of the Willamette River and its characteristics at the start of this article I made it clear there are many different ways to view the river and its history and current conditions in the context of waste are just one element. Consequently by leaving

[21] Kirshenblatt-Gimblett, Barbara, *Destination Culture: Tourism, Museums, and Heritage* (Berkeley: University of California Press, 1998), 169.
[22] Kirshenblatt-Gimblett, 171.

waste out of the discussion, representation and preservation history of the river, the full impact of the river's history and significance is not displayed. Especially given the broad spectrum of materials available to present the interpretive information about a site; it would be easy to present interpretive materials to visitors of a site using relatively easy to produce and unobtrusive means such as QR codes.

In a 1985 article entitled "A Case for Folklife and the Local Historical Society" Patricia Hall, a folklorist, confronts the resistance historical societies have had to incorporating folklife into programing at local historical agencies, including archives, regional museums and other institutions. "Such institutions document the history of a community and tend to have a *local* perspective; that is, they are as oriented to personal, cultural, and social history, as they are to formal political history."[23] Interpretations of waste and detritus, whether they are not perceived as such as in the case of the erratic rock, or are conceptualized as waste by visitors like at Willamette Falls, can be points of focus in incorporating folklife into local institutions.

Although folklife has been increasingly incorporated into local historical agencies and cultural institutions, especially in institutions which seek to include active participation of visitors, visitors' conceptualizations of local history and heritage often have not. These conceptions and the expression of them can be developed as a focal point of discussion about preservation in general and in the case of specific sites and artifacts. In the case of waste and its role in the Willamette River, current understandings of the river and its history can be incorporated into exhibits and other content in order to better facilitate a discussion of all facets of the river's history. Incorporating this discussion broadens the visibility of thoughts about waste in general and highlights the importance of preservation efforts for water resources. Even without having a specific goal, such as encouraging recycling and stewardship of watersheds, increasing the visibility of the roll and impact of waste introduces the importance of considering waste management in broader context and as a part of the full history of objects and resources.

Online resources can also draw visitors, both virtual and physical, into a dialogue about historic and cultural interactions with the Willamette River. Projects such as the WATERSHED+ Tumblr blog connect visualizations of water, from Low Temperature Scanning Electron Microscope images of snow crystals to aerial images of the shrinking Aral Sea. The Tumblr defines the focus and goal of the site as follows:

[23] Hall, Patricia, "A Case for Folklife and the Local Historical Society" in *American Material Culture and Folklife: A Prologue and Dialogue,* ed. Simon J. Bronner (Ann Arbor, MI: UMI Research Press, 1985), 205.

> This visual blog presents images and projects related to the WATERSHED+ art program. WATERSHED+ is a public art program hosted by City of Calgary's department of Utilities and Environment Protection. WATERSHED+ aims to develop awareness and pleasure in the environment, not by changing water management practice, nor developing a uniform visual language, but rather by creating a climate of opportunity for water initiatives to build an emotional connection between people and the watershed. WATERSHED+ presents a unique approach to public art by embedding artists and artistic practices within UEP core activities, participating as members on infrastructure design teams, contributing to project design, development of events, community education, etc.[24]

The Tumblr displays images that visualize pollution left in waterways and also presents images not always clearly defined as waste, such as the steeples of churches in small towns visible over the waterline of reservoirs.

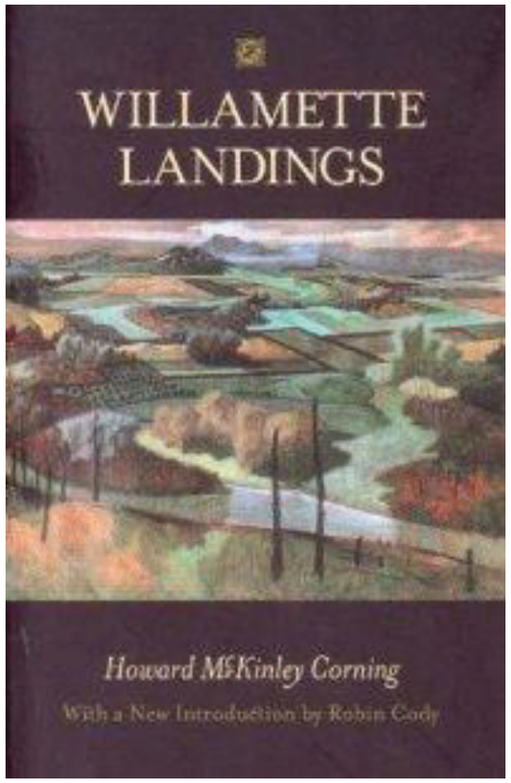
Conclusion

The three examples and accompanying suggestions I have offered provide some thoughts on how to anticipate visitor reactions and perspectives on waste and waste management and weave those into discussions about the historic and cultural significance of the Willamette River. By using three separate and very different sites to discuss the preservation, interaction and display of waterways and waste in the Willamette Valley we see there are multiple ways visitors can engage with the Willamette River and other preservation sites. Based on my experiences as a visitor and the interpretive materials available at the three sites, it is clear there is a lack of incorporation of any discussion of waste, and waste management and development of the Willamette River in the dialogue about the river's history. Including information about this topic would help introduce visitors to the theory and ideas of waste and help develop more fully the narrative about the history of uses of the Willamette River.

[24] "Watershed+," accessed May 13, 2013, http://watershedplus.tumblr.com/.

Willamette Landings: Ghost Towns of the River

Written by Howard McKinley Corning
with a New Introduction by Robin Cody
Oregon Historical Society Press, 2004



For the discerning student of western Oregon heritage, the recently reprinted addition of *Willamette Landings: Ghost Towns of the River* by Howard McKinley Corning holds a wealth of stories, legends and history. Some are on the surface and some run a little deeper. However, they all deserve the attention of anyone interested in the course and current of settlement in the Willamette Valley.

On the simplest level, this is a history of the communities along the banks of the Willamette River. Corning chronicles how they were born, thrived and, in most cases, died, only to fade into memory. Utilizing the technology of the day and capitalizing on river boating skills developed on eastern waterways, early pioneers utilized the Willamette River as the most practical thoroughfare in western Oregon. They were following in the wake of Native Peoples who had for centuries used the Willamette River and its tributaries as the Valley's highway system.

After introducing the River and its wilderness origins, the book winds upriver, exploring the life of various communities along the banks, some of which are now forgotten. It starts with competition between Portland and Milwaukie to become the dominate port at the mouth of the River. Following is Corning's narrative about riverboats both below and above Oregon City's Willamette Falls. Next comes the biographies of those towns that struggled to capture the trade going around the Falls. Driving this trade was the agricultural empire (especially the exportation of wheat) that developed in the lower

Willamette Valley, much of it shipped out of river ports like Butteville. The story continues upriver to the trade towns and landings on the middle and upper Willamette, some of which survive today as major towns and cities; many others have dissolved into obscurity. Inherent to this story is the paddle wheelers and the men who piloted them as they plied the River during the second half of the 19th and the very early 20th centuries. Some of these river communities like Portland and Salem are now metropolises; others like Canemeh and Eola are mere memories.

Another intriguing aspect of *Willamette Landings* is the book itself. This version is a 2004 reprint of a Work Projects Administration (WPA) Oregon Writers Project manuscript compiled in the 1930s. First published in 1947, it was reprinted in 1973 with an additional chapter. Each printing reflects an aspect of the time period in which the book was researched, written, revised, added to, reinterpreted and published. The original manuscript was compiled by a team of out-of-work writers, led by poet Howard McKinley Corning, who were employed by the WPA to interview "old-timers" and record their stories about early Willamette River communities. Though not historians, and maybe because they weren't historians, this group created a beautiful narrative that brought humanity to the story. For example, the book chronicles the struggles of the "irascible, opinionated and domineering" Major Robert Moore with his "rotund stomach, florid face and bald head" (p. 36). Near the end of his life, Moore fought to create the industrious community of Linn City, which for a time, rivaled Oregon City. His dream, though, was obliterated in the December 1861 flood, which the book describes in riveting detail. Much of this may be hard to document today, yet the stories have become legend and in Corning's words, "Facts must be honored, but legend too is history" (p. xxv). Another community to be destroyed in that 1861 flood was Orleans, situated across the River from modern-day Corvallis. Stories from this hamlet relay examples of the poor treatment the former land owners, the Kalapuya, suffered at the hands of the settlers.

The manuscript went unpublished until 1947 when the Oregon Historical Society (OHS) recognized its value to the Beaver State's history. By reflecting on the "Men of the Western Waters," the introduction of the 1947 edition harkens to the near-heroic Western migration image that was prevalent in the late 40s and early 50s. However, the 1973 edition, with an added chapter "As the Years Turn: A Look Back" written by Corning, is much more introspective about a faded history along a nearly forgotten waterway. In it he asks "what now can we do to define what formerly we were, what our early lives actually were at these locations, and what our endeavors, great or small, have meant? And perhaps to ask for a last time: What have we lost?" (p. 220).

Finally, the introduction to the 2004 edition, written by accomplished Northwest author Robin Cody, expertly identifies how this manuscript has evolved. Cody recognizes that the book's shortcomings—its lack of women, its near-embarrassing ethnocentrism and its ignoring of the environmental damage—were a product of the times. He argues that in some ways the wilderness is reclaiming its own as civilization retreats from the River's edge. He reflects on how "the Willamette smells like a river" (p. xxv). The River is slowly recovering from years of abuse -an abuse that is behind the stories in this book.

Cody makes an interesting recommendation. He suggests that the reader should get a canoe and take this book along as a companion as they paddle down the river. Along the way, they would see miles of peaceful scenery that belies the fact that the River was once the main transportation artery for western Oregon. With this book one may be able to "find" what is now lost. In Corning's words, the stories in this book "may be the only way our early simple greatness can be recalled at all – the history and legend that is Oregon" (p. 239).

Peter MacMillan Booth, PhD.
Museum of Western Colorado

In Their Own Words:

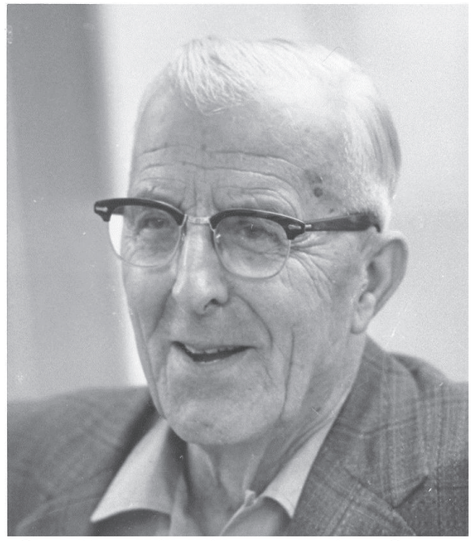
Clark Moor Will on the Salem Water Department History

The following is an excerpt from an interview with Clark Moor Will, then Maintenance Chief of the Salem Water Department (X2011.012). The interview was conducted by John Geren, Manager of the Salem Water Department in March1957. The interview was done as part of a series of radio programs sponsored by the Marion County Historical Society and broadcast by the K.O.A.C. radio station focusing on local history. Today, K.O.A.C. is a member station of Oregon Public Broadcasting, but in the 1950s it was administered by the General Extension Division of the Oregon State System of Higher Education.

Clark Moor Will worked in Salem's water industry since 1929 and developed a keen interest in its history. He did extensive research, conducted interviews and collected original documents related to the early systems. His article How Salem Got its Water [1] *has become the cannon of early Salem water history. While many parts of this interview appear word-for-word in Will's finished product, the context provides some additional clues to the source materials he was using in his un-cited article.*

John Geren: Old-timers, now gone, frequently spoke of "an enormous well" which supplied Salem's water during the early 70s. What do you know about this, Clark?

Clark Moor Will: Yes, such a well did exist. I first saw it some weeks after I started working for the Oregon-Washington Water, Light and Power Company in 1929. It was early summer when foreman Albert Thomas and I changed a meter at the Clifford Brown Mohair Warehouse, 171 Front Street. As I placed the meter in the pick-up Mr. Thomas said, "Come with me, Will, I'll



Clark Moor Will. Willamette Heritage Center. Al Jones Collection, 2007.001.1944.

[1] See: Will, Clark Moor. "How Salem Got Its Water." Marion County History. Volume 4. Salem, Oregon: Marion County Historical Society, 1958.

show you something." Going straight back from the covered receiving dock into the dimly-lighted warehouse, Thomas came upon a heavy plank trapdoor which opened into the unexcavated ground floor of this huge warehouse. There was approximately 4 ½ - 5 ½ feet head clearance under the platform and in placed more. We made our way over junk and dry lumber some yards when we came upon what Thomas told me was the beginning of the Salem Water Works - a 12-foot-in-diameter cistern, well walled up, but full of rubbish. Thomas did not know the depth of it; neither did the caretaker of the warehouse. From this cistern or well, Thomas said, water was pumped into a wooden tank set on a "not very high" scaffold near the cistern. This tank supplied the growing village with water. The pump was steam operated…

John Geren: There is some memory of a pump and water tank at about Front and Chemeketa Streets in the early days. What do you know about this, Clark?

Clark Moor Will: The records say, yes, to that, Mr. Geren, but it is my conviction that Salem's first piped domestic supply was pumped direct from the cistern into the main for some months. Thus from the point on the river on Front Street between Court and State water mains of goodly proportion for a village started reaching out for the finer homes, hotels and business buildings. It was a costly undertaking. The streets were wide, the settlement scattered.

John Geren: The coming of piped water into Salem homes must have created some excitement, didn't it?

Clark Moor Will: Indeed it did. Old 'timers say many large wood and tin tubs made their last trip to the center of the kitchen floor the winter and spring of 1871. Small bedrooms and large closets became bathrooms and few homes without bathrooms were found in the social registry. It was the dawn of a new day for many Salem housewives.

John Geren: Some people tell me that Salem's first water came from the millrace. Some early accounts appear conflicting. Can you add anything to clear the matter?

Clark Moor Will: That is true, Mr. Geren. Some early accounts are conflicting. For instance the 1881 Directory says: "At the west end of the building is an enclosed trestle works supporting a large tank 80 feet from the ground. This is the main city water supply. They have an enormous well costing $800 and installed water mains costing in excess of $5,000."

The illustration accompanying the description shows the building to be the Pacific Agricultural Works and shows no water tower. Part of this building, many years later known as the Paulus Cannery, was then a flouring mills operated by a Pelton wheel by millrace water. To the west of this substantial brick building was a pond, and what many people today find hard to believe is that most buildings and sidewalks from this millrace to points north and east toward the courthouse stood on piling. "Following spring rains water ran like a river to that pond from as far north as Court Street beyond the court house," said my friend, Judge McMahon.

The 1881 Directory account lists by description and cost the "enormous well" of Martin & Allen and there is a picture showing a water tower there. But let us turn to an early employee of the Wallace Water Works for personal viewpoints on the matter. Ninety-one year old Dave Cooley was hoeing in his garden the day of this contact 21 May 1954. "Yes, I helped lay the suction pipe into the river and over to the old crib near the east end of Minto's Island late in 1884. Mozey, an early Salem plumber, was boss of the pipe laying." "Do you remember the old water works set up started by Martin &Allen near the iron foundry?" I asked. "Yes," continued Mr. Cooley, "Martin & Allen run a grocery store on Commercial Street north of State. They started off the water works business in Salem. The water tower on the river bank near the foundry was a landmark while it lasted. Hunter Forsythe, son of the old man that run the institution, was engineer there." "Was there ever a second water works in Salem?" was my next question. "Why, yes, there was," answered Dave, "on the Griswold property at the Agricultural Buildings. It didn't last long. I believe Martin & Allen and their group took over, just what year I don't remember." Mr. Geren, my records show that is exactly what happened.

Author Biographies

Paul W. Baxter has been active in Oregon Archaeology for over 30 years, Paul Baxter earned a Doctorate in Anthropology from the University of Oregon with a dissertation on the human occupation of the Oregon Cascades. Today he is a Research Archeologist at the Museum of Natural and Cultural History at the University of Oregon, where he conducts prehistoric and historical archaeological projects throughout Oregon.

Patricia Benner is a stream ecologist and river historian who has spent over 30 years studying the historical ecology of western Oregon rivers. Currently retired, she taught biology and environmental studies at Hood College, and now focuses on river system research and employing alternative methods of teaching, including leading interpretive Willamette River raft trips.

Peter MacMillan Booth comes from a fifth-generation Western family. He was born in Denver, grew up in south Texas, spent much of his adult career in Arizona and Oregon and now lives in Grand Junction, Colorado. Peter graduated with his B.A. from the University of Texas, his M.A. from the University of Arizona, and his Ph.D. from Purdue University, all in history. His focus has been late 19th- and early 20th-century United States, American West, and Native American history. Peter has served as Assistant Director of Education at the Arizona Historical Society in Tucson, Education Director at the Desert Caballeros Western Museum in Wickenburg, Arizona, Senior Research Associate with the educational assessment group ATI, and Executive Director at the Willamette Heritage Center at The Mill. He currently is Executive Director of the Museum of Western Colorado in Grand Junction.

Travis Cook is currently a M. A. History candidate at Western Oregon University. His areas of focus include nineteenth and twentieth century Eastern European and North American social, political and environmental history. He completed his undergraduate study at Oregon State University with Bachelor's degrees in History, Political Science and Liberal Arts with a minor in Art History, all Summa Cum Laude.

David G. Lewis David G. Lewis, is a member of the Grand Ronde tribe, descended from treaty signer Alquema of the Santiam Kalapuya. His other Native ancestry is Takelma, Chinook, and Yoncalla Kalapuya. He is the Tribal Historian for the Grand Ronde tribe. David holds a PhD in Anthropology from the University of Oregon, and lives in Salem with his wife Donna, and sons Inatye and Saghaley. David is a long term inhabitant of Salem, having attended Douglas McKay High in the graduating class of 1983.

Damond Morris is a scholar of the Great Depression and recently taught a literary summer course, Theatre of the Great Depression, which helped guide his theatre direction of the play Awake and Sing by Clifford Odets, set in the Great Depression. He is currently PhD ABD and a Graduate Teaching Fellow in the Theatre Arts Department at the University of Oregon (UO), with an emphasis on theatre history. His dissertation looks at the formative forces of the Oregon Unit of the Federal Theatre Project, under the WPA, including the Little Theatre Movement, West Coast Vaudeville and the Oregon State Mythos. He holds an MA from Western Washington University and a Masters in Sustainability Leadership (Oregon Leadership in Sustainability) through the PPPM program at the UO. Damond has been an instructor at Seattle University, Western Washington University and Skagit Valley College.

Rosalynn Rothstein graduated at the end of 2012 with an M.A. in Folklore from the University of Oregon. She received her B.A. from Grinnell College in Comparative Literature. Her thesis examined the storytelling practices of 9-1-1 dispatchers and call takers at the Bureau of Emergency Communications in Portland, Oregon where she is employed as a Senior Dispatcher. Rosalynn studies multi-modal storytelling practices, issues of authenticity in various contexts, and expression of belief in online forums.

Christopher Ruiz has been a staff archaeologist at the University of Oregon-Museum of Natural and Cultural History since 2005. His research interests include historical archaeology, vernacular architecture, and the Oregon settlement-era. He has participated in archaeological and historic preservation projects in Oregon, Washington, California, New Mexico, Arizona, and Croatia. He is currently serving as an adjunct instructor in the Historic Preservation program where he teaches approaches to historic site analysis. Chris Ruiz holds a MA in Anthropology from California State University-Chico and a MS in Historic Preservation from the University of Oregon.

Susan Smith teaches environmental and sustainable natural resources law at Willamette University. Her legal scholarship currently focuses on community-based water management, natural resources governance, water allocation and quality, and the human right to water and sanitation. Over the past 25 years, she has litigated several cases on behalf of Oregon Watersheds and other environmental groups to protect Oregon waters. She is Executive Director of JUST Water, a non-profit organization working with Haitian peasant organizations to undertake water, sanitation, and health promotion education projects. She also advocates at local, national, and international levels on behalf of the Ecumenical Water Network of the World Council of Churches concerning the human

right to water and sanitation as well as adoption by the United Nations of ambitious post-2015 global development goals to supersede the Millennium Development Goals.

Amy Vandegrift was the Executive Director of the Marion County Historical Society until its merger with the Mission Mill Museum created the Willamette Heritage Center in January 2010 where she now serves as the Development Director. Previously, she was the Director of Volunteers at the A.C. Gilbert's Discovery Village. Before serving two years with the United States Peace Corps in Lesotho (Southern Africa), during which time in addition to her regular assignment she chaired the Volunteer Liaison Committee, she was the Director of Volunteers and Interns at the McLean County Museum of History in Bloomington, Illinois. She earned a Bachelor of Art degree in History from Miami University in Oxford, Ohio and is a Certified Volunteer Administrator (CVA), currently serving as National Chair of the Portfolio Review and Credentialing Committee. While growing up in Cleveland, Ohio, she developed her love of museums by visiting the Cleveland Museum of Natural History and the Cleveland Art Museum. During college she volunteered at the Dayton Museum of Natural History.

Travis Williams is the Executive Director of Willamette Riverkeeper. He has worked in river conservation since the 1990s and since 2000 has led Willamette Riverkeeper (WR). In addition to directing WR's operations, he serves as Riverkeeper, making regular patrols of the river from Eugene to Portland and seeking to uphold the Clean Water Act through Advocacy and legal action. Earlier, he worked for American Rivers and Conservation International in Washington DC. He holds a B.A. in International Studies from Portland State University and an M.S. in Environmental Science from The Johns Hopkins University. A fifth-generation Oregonian who grew up in Milwaukie, Oregon, he was on the Willamette River with friends at a young age. In March of 2009, his book *The Willamette River Field Guide*, was published. He received the Skidmore Prize in 2004 for his leadership, and was awarded the Columbia River Hero Award by the Columbia Basin Toxics Reduction Workgroup for his work on reducing toxics in the Willamette.

Ed Wilson is the Librarian at the Oregon Maritime Museum in Portland. He is a retired Navy Commander, having served over 24 years, most on submarines. This included tours as the Engineer Officer on USS Pargo (SSN 650), as an inspector for the Nuclear Propulsion Examining Board, and as an instructor at the Naval Nuclear Power Training Unit, Idaho Falls, ID. He taught Marine Engineering and Naval Architecture at the University of California and is an experienced ocean sailor. He conducts speaking engagements on subjects of maritime history, and includes selections from a large repertoire of nautical music and poetry.

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