Looking east across the farm with Mulkey Creek running through the middle. (c) Philip Bayles

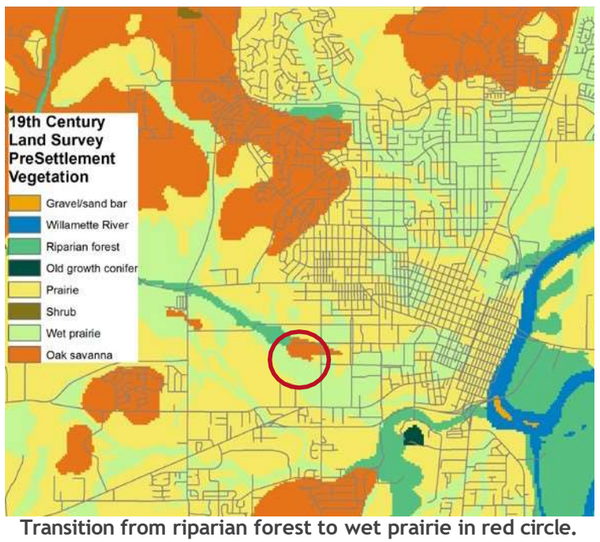
white oaks. Greenbelt Land Trust purchased the 588 acre farm in 2013.

The Future: Greenbelt Land Trust will manage Bald Hill as a multi-use natural area for wildlife habitat, local food production, recreational trails, and education. Plans for Bald Hill Farm focus on protecting and enhancing functioning habitats like Mulkey Creek and restoring degraded prairies and savannas.

Stop 3: OSU Oak Creek Center for Urban Horticulture (OCCUH)

The Place: The Oak Creek Center for Urban Horticulture is a learning laboratory for exploring ways to mitigate negative interactions between our urban spaces and their waterways.

The Past: 35th Street historically marked Oak Creek's transition from a singular channel lined by riparian forest to a system of braided channels meandering through low-lying wet prairie.



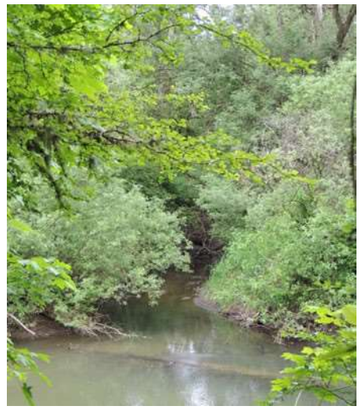
Transition from riparian forest to wet prairie in red circle. Map (c) Denis White [5]

The Present: Urban stressors, such as roadways, development, landscaping and bank rip-rap, have contributed to Oak Creek's channelization and loss of braids. The current vegetation is a mix of native and invasive species. The tree canopy is a narrow strip along the creek banks. The riparian area adjacent to the OCCUH is being restored through management of invasive Himalayan blackberry, English ivy and false brome.

The Future: Future restoration plans call for planting native riparian vegetation and restoring a small area of native prairie. In addition, there are possibilities for expanding the restored area through collaboration with other OSU departments that manage nearby stretches of Oak Creek.

Stop 4: Marys River Confluence

The Place: Just east of 26th St. and north of Avery Park, Oak Creek empties into the Marys River. Oak Creek is the first significant tributary to the Marys that provides overwintering habitat for juvenile spring Chinook and year-round habitat for cutthroat trout.



The confluence: viewed from Avery Park

The Past: Until 2006, the large culvert passing beneath Highway 20/34 posed an obstacle for spawning Pacific lamprey and other fish migrating from Marys River upstream into Oak Creek. Oregon Department of Transportation addressed the problem by building a roughened chute of rock that raised the streambed to meet the concrete apron. The boulder chute was designed to withstand peak flood flows without moving downstream, while providing slow-water pockets for migrating fish.

The Present: Eight years later, the man-made stream bed has withstood several floods and provides fish passage in all but the lowest summer flows. The site's proximity to the Marys River has helped maintain the stability of the rock chute by replenishing the fine silts and sands holding the boulders in place.

The Future: A riparian revegetation project at this site that includes willow staking and invasives treatment could improve it. In the long term, the confluence will either continue to be controlled by human management or revert to the wet, marshy pre-pioneer condition.

Thank you for touring Oak Creek with us. Now that you have become familiar with Oak Creek's dynamic story, you are charged with the task of making thoughtful and informed decisions about how this watershed continues to be developed and managed.

Points of Interest

A) Hesthavn Nature Center located at 8590 NW Oak Creek Drive. Alan and Helen Berg donated the 5.75 acre parcel to the Audubon Society of Corvallis in 1993. Riparian restoration efforts are underway. Hesthavn is open to the public during daylight hours.

B) OSU Sheep Center on NW Oak Creek Drive has enrolled land adjacent to Oak Creek into the Conservation Reserve Enhancement Program to restore the riparian area and improve water quality. Private tours are available by appointment. Contact OSU Animal & Rangeland Sci. Dept.

C) OSU Bioswale is west of Reser Stadium along 30th. As part of the 2002 Reser Stadium expansion, OSU constructed this bioswale to compensate for increased stormwater runoff and pollution in Oak Creek. In the swale's gently sloping vegetated ditch, runoff is slowed and cleaned by biological methods, and silt settles out. More swale info is available online in the OSU Self-Guided Sustainability Tour available at https://fa.oregonstate.edu/sites/fa.oregonstate.edu/files/sustainability/docs/sustainability_tour.pdf

For More Information

1.OSU Oak Creek Website Archive ir.library.oregonstate.edu/concern/defaults/ws859k30s?locale=en

2.City of Corvallis Stormwater Master Plan, Ch. 11: Watershed Planning and Analysis: Oak Creek

3.Benner, Patricia. The Historical Record of Oak Creek Benton County, Oregon. 1984. Search for it on Oregon Explorer Natural Resources Digital Library

4.Fagan, David D. *History of Benton County, Oregon, including Its Geology, Topography, Soil and Productions...* Portland, OR.: A.G. Walling, 1885. Print.

5.Christy, John A., and Edward R. Alverson. "Historical Vegetation of the Willamette Valley, Oregon, circa 1850." Northwest Science 85.2 (2011): 93-107. Web.

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Oak Creek

A Bridge Through Time
2014 Urban Stream Tour

Discover what Oak Creek was, is, and might become to meet the needs of an ever-changing population.

Sponsored by:

BENTON SOIL AND WATER CONSERVATION DISTRICT

CORVALLIS sustainability COALITION

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Marys Peak Group of the SIERRA CLUB FOUNDED 1892

Oak Creek: A Bridge Through Time

The Place:
Oak Creek serves as a bridge through time, carrying a vital resource through an ever-changing landscape. The Oak Creek watershed covers 8,300 acres and a 1,915 foot change in elevation between its headwaters in the McDonald Forest to its confluence with the Marys River. Oak Creek watershed makes up about four per cent of the Marys River Basin. Journey with us on the Oak Creek Tour and catch a glimpse of the past, present and future of this glittering gem.

The Past:
Survey notes from the 1850s indicate that a riparian forest of ash, maple, alder, and cottonwood lined the stream from the headwaters almost to 35th Street, at which point the braided stream flowed on through wet prairie habitat. The surrounding prairies and oak savannas had been maintained with periodic burning by the Kalapuya Indians, which diversified habitats and concentrated game. Around 1850, numerous Donation Land Claim homesteads were established in the area upstream of Harrison Blvd. In the early part of the 20th Century, log mills existed in the upper reaches of the Creek, and a wooden log flume ran from the creek's west branch in McDonald Forest all the way to 53rd Street.

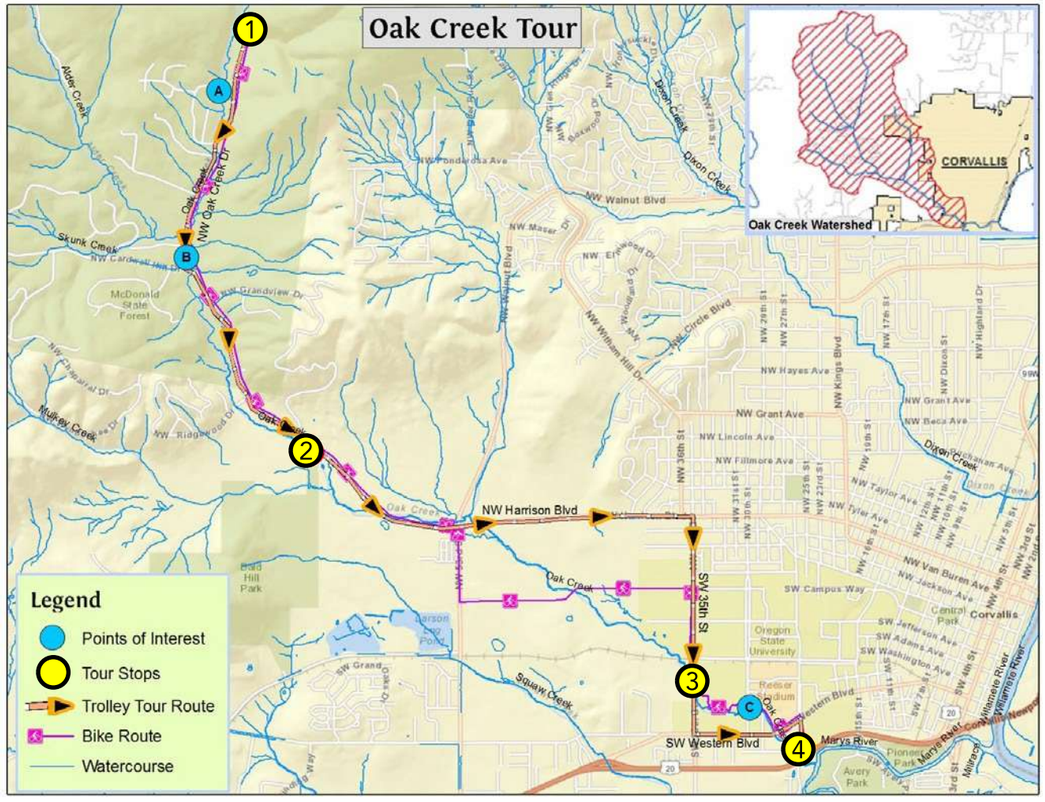
The Present:
The main stem of Oak Creek is 3.5 miles long. Including the length of its tributaries (Alder, Skunk and Mulkey Creeks) increases that figure to eight miles. One seasonal dam, owned by OSU, is located on the main stem of Oak Creek, near the intersection of Harrison and 53rd, and a second dam structure is located up in the Forest. Oregon State University manages roughly 40% of the entire Oak Creek basin, with private lands interspersed in the middle and lower portions of the basin. About 450 acres or 5.5% of the watershed is paved - mostly within the City boundary.

The Future:

The portion of Oak Creek that flows through the Urban Growth Boundary (UGB) will be highly impacted by urban development, such as an increased need for housing for OSU students and Corvallis residents.

Outside the UGB, only 18% of the area is in Rural Residential zoning (RR-2 and RR-5). This zoning restricts development to two to five acre lots. Another 258 acres of the watershed is zoned for agriculture. The remaining area is in Forest Conservation, where little, if any development will occur. The future is always around the corner, so informed and concerned citizens like you can help shape this watershed's destiny.

(Info from: Patricia Benner; Marys River Watershed Council; DEQ)



Stop 1: Oak Creek Trailhead

The Place: The upland headwaters and ridges stretch from Bald Hill and Mulkey Ridge in the southwest, north to McCulloch Peak east to Dimple Hill. Many springs and ground seeps create small, unnamed tributaries that converge in the forested uplands into Mulkey Creek, Alder Creek, Skunk Creek and Oak Creek. These upland Oak Creek streams sustain the lowland flow in Oak Creek throughout the year as the uplands receive twice as much precipitation as Corvallis lowlands. Oak Creek flows southward out of its forested headwater zone, leaving the Forest at about 500 feet above sea level.

The headwater zone is relatively unaltered second-growth forest land. Red Alder, Big leaf Maple and various shrubs are present along the stream network. The mid slopes and ridge tops are dominated by Douglas-fir, Grand fir and in some spots Oaks, Madrone, and Pacific Yew.

The trailhead to McDonald Forest at the north end of Oak Creek Drive provides the easiest public access to the highest elevations in the watershed.

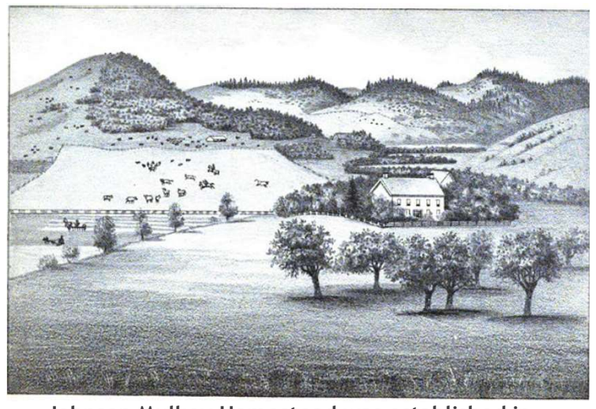
Historic sawmill in upper Oak Creek watershed

The Past: Prior to European settlement, gallery forests were confined to riparian corridors that would have been less than a mile in width along Oak Creek. By the 1840s-50s, the Kalapuyan people, as well as the beaver population, had significantly diminished in numbers. One carding mill (1870s) and three lumber mills (1910s-20s) were located along the upper reaches of Oak Creek. Many kinds of research have benefitted from the presence of Oak Creek and McDonald Forest so close to the OSU campus. For example, 40 years of sediment transport research have occurred at various times between 1968 and 2008.

The Present: The forest offers roads and trails that are heavily used by hikers and bikers at all times of year. Wildlife is abundant but usually hidden. Beaver ponds occur, deer are plentiful, and on rare occasions a bear or cougar may be sighted. The terrain typically has a thin soil layer underlain by weathered basalt formation. The Forest is used for teaching and research. For example, understory vegetation within the College Forests are being burned to study the effects that fire has on the invasive grass species False Brome.

The Future: What is the future of the Oak Creek Watershed on the OSU College Forests? The College Forests are actively managed for teaching, research, demonstration and recreation. Management activities from road maintenance, trail maintenance, research, class use, and harvesting will all occur over the next several decades.

Stop 2: Bald Hill Natural Area



Johnson Mulkey Homestead was established in 1845 and purchased by John Osburn in 1866.[4]

The Place: Bald Hill Farm is located along Oak Creek and adjacent to Bald Hill. Mulkey Creek originates to the northwest of Bald Hill Farm, flows across the farm and joins Oak Creek just east of the entrance to the Natural Area. Oak Creek is incised in this reach but Mulkey Creek is not. Mulkey flows through braided channels and beaver ponds within a wet forest.

The Past: The Kalapuya Indians created prairies and savannas along this reach of Oak Creek. Homesteads were established along the woodland-grassland interface along this stretch of the creek, where the land was less marshy. Bald Hill Farm and the surrounding land was homesteaded by the Mulkey brothers in 1845 and subsequently converted to farm uses. Farming persisted in this area for 150 years.

The Present: Bald Hill Farm still retains significant habitat components that support native plants, fish, and wildlife. The pastures along Mulkey Creek are very wet in the rainy season and contain remnants of wet prairies that once dominated much of the Willamette Valley. The hill slopes are characterized by large old Oregon