

Geog 607: Reshaping the Grande Ronde River: Natural and Social Processes
Winter term 2004, Tuesdays 3:00 – 5:20 pm, 207 Condon Hall
Prof. Pat McDowell

In this graduate research seminar we will integrate physical and human geography research, focusing on river morphology and ecology, human use of rivers as a resource, and policies that shape rivers. We will take a historical, place-based approach, to understand the present condition of a river and its historical change over the last century and a half. We will practice collaborative research in which individual projects inform other projects and contribute to a larger understanding and goal. Research in this seminar will address questions that lead to understanding how the form and ecological status of the river is shaped from the interplay of natural and social processes.

The goal of the seminar is to address questions such as: When and how did Euro-Americans modify the river? Why did they modify it? What were the environmental effects of river modifications, and how did humans view and respond to the environmental effects? Who benefited from and who lost as a result of the modifications? What were the relative roles of individuals and institutions in the modifications? What principles or understandings were used in the modifications? How has the science behind river management changed since Euro-American settlement? In the early part of the seminar, we will examine some models for historical, place-based environmental research, such as Langston's *Where Land and Water Meet, A Western Landscape Transformed*, and Cioc's *The Rhine: An Eco-Biography, 1815-2000*.

The focus of the seminar will be the basin of the Grande Ronde River, a tributary of the Snake River in northeastern Oregon. The Grande Ronde has a varied landscape with public forest lands in its headwaters, agricultural land in the broad Grande Ronde Valley in the central part of the watershed, and ranching in the downstream canyon segment. In its variety, it is representative of many rivers throughout the Interior West. In the 1840s and 1850s, the Oregon Trail pioneers passing through the Grande Ronde Valley in wagon trains saw it as a rich oasis in which to recover and prepare for the arduous crossing of the Blue Mountains. Euro-American settlement began about 1869. In the late 1860s, the five-mile long State Ditch was dug to cut off the great bend of the river in the Grande Ronde Valley, to reclaim flooded land for agriculture. Reshaping of the river by timber harvest, grazing and mining in the upper watershed, and irrigation and channel engineering in the valley continued up through at least the 1970s. In the late 20th century, the inhabitants' attention turned to rehabilitation and restoration of the rivers and creeks of the Grande Ronde system.

Seminar participants will take on a project, individually or in a two-person team, on some aspect of the seminar theme. Each individual or team will conduct primary research and produce a written, publishable paper by the end of the term. As a group we will explore and learn how to use historical sources such as the original land survey records, census data, government documents, newspapers, maps, and aerial photographs. Some projects may involve GIS work or mapping river change, and others may be mainly based on documentary evidence. All participants will report on their research, and discuss and

comment on others' research weekly, so that information sources and emerging results are shared and inform other projects.

Some potential research questions are listed below.

Landscape and ecology: What was the character of the Grande Ronde Valley during the early Euro-American exploration period (1800-1860)? How was it modified by the time of agricultural settlement and the GLO surveys?

Drainage: How did the State Ditch project get started? What was the motivation for the project and who was behind it? Who benefited and who lost? What was the engineering and/or science background for the project? What was the soil quality of the drained land, and how did it compare to other lands in the valley? How did it impact fisheries and aquatic ecology? Was there awareness of potential ecological impacts as it was being planned? How does the Grande Ronde story fit into the national or regional context of drainage and reclamation?

Irrigation: When was irrigation introduced into the valley? Who developed irrigation, individuals or institutions such as irrigation districts or drainage companies? Who benefited and who lost? What was the environmental impact of irrigation, and was there awareness of the environmental impact? How did development of irrigation relate to drainage projects such as the State Ditch?

Fish: When did fisheries management start in the valley? What were seen as early threats to the fisheries?

Hydrology: How has the hydrologic regime of the Grande Ronde been modified from its natural regime? What human activities caused this modification? What was the effect of the early floods on the Grande Ronde Valley and on the inhabitants?

Dams: Where in the Grande Ronde system were dams proposed? What was motivation for dams? Who supported and who opposed dams? Was there a conflict over dam building, and why were dams not built? How does the Grande Ronde story fit into the national or regional context of dam building?

Registration is with instructor's consent. Contact Pat McDowell (pmcd@uoregon.edu) if you are interested in registering.