

History and Mission of the Squaw Butte Experiment Station

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At its inception, our facility was called the Squaw Butte Range Experiment Station. The station is located about 40 miles west of Burns, and is about 16,000 acres in size. The idea for the Experiment Station was officially conceived in Vale, Oregon on December 15, 1934, at the first meeting to set up grazing districts for Oregon (Klemme 1984). Such meetings were held in most western states after passage of the Taylor Grazing Act. In his book on the early days of the Grazing Service in Oregon, Klemme (1984) summed up the push for the Squaw Butte Range Experiment Station as follows:

"The people at Oregon State Agricultural College at Corvallis had long been looking for an opportunity to get hold of a sizeable block of semidesert rangeland somewhere in eastern Oregon where they could carry on range experiments. They already had stations where research was being carried on in animal husbandry, agronomy, and irrigation from wells, but nothing pertaining to the grazing of livestock on wild sagebrush lands. Consequently, when the Taylor Grazing Act was passed, in June of 1934, these people thought they saw their chance".

A committee was formed to select a site and develop a plan of research. Since there were twelve million acres of public land in Oregon, F.R. Carpenter, the head of the Grazing Service, assumed that setting aside a few thousand for research would not cause any major problems. However, as it turned out, selection of the site "stirred up a real hornet's nest on the part of cattlemen on the one side and sheepmen on the other (Klemme 1984)". Apparently, the area had been used primarily by sheep because larkspur infestations were high enough to make cattle grazing risky (larkspur is more toxic to cattle than to sheep). The sheep producers felt that the location of the Experiment Station was part of a plot by the cattlemen to remove sheep from the range.

Despite the controversy over site selection, a formal agreement between the Secretary of the Interior and the School of Agriculture was signed on October 22, 1935. Under the agreement, the Division of Grazing would do the necessary construction (roads, buildings, wells, fences, etc.) and the School of Agriculture would furnish the livestock and provide the personnel to operate the facility. The Grazing Service (Dept. of Interior) contribution was to consist primarily of funds and personnel routed through the Civilian Conservation Corp. (C.C.C.). In an attempt to deal with unemployed youths, Congress passed legislation authorizing the Civilian Conservation Service program in 1934. As fate would have it, the C.C.C. was being planned about the time the Taylor Grazing Act was passed. The decision was made to allow a given number of C.C.C. camps to operate in each of the western states. The goal was to use the labor to help meet the objectives of the Taylor Grazing Act. Across the west the C.C.C. was active in reseeding, fencing, water development, etc. In eastern Oregon, one of the camps was devoted to building the Experimental Station. Most of the buildings at the present day Experimental Range were originally built by the C.C.C., and many of the original pastures and fencelines have been maintained.

Initially, the College of Agriculture purchased sheep to use on the larkspur-infected portion of the station. However, after two years, the sheep were sold because they were considered economically impractical (Klemme 1984). It seems unclear as to whether economics or politics influenced the selection of livestock. Once the station converted entirely to cattle, it became necessary to find a means of maintaining the cattle during the five months they were not on rangeland. Again quoting from Klemme (1984):

"Cattlemen in this area were required to produce enough hay, and have enough private pasture, to take care of their animals five months. If range was available, they could run the other seven months on public lands. Therefore, in order to make the Squaw Butte setup a practical demonstration, it was merged with the Harney Branch Experiment Station, which was located a few miles east of Burns. This station, which had been operating for a number of years, put up enough hay and grain to take care of the Squaw Butte cattle through the five winter months. The two stations complemented each other, one serving as Public Domain range and the other as the required commensurate private property."

The Harney Branch Experiment Station, located six miles east of Burns, was established in 1911 to determine which crops were suited to the high desert. Sawyer (1980) lists three distinct phases of the units' research program: 1) dryland farming, 2) pump irrigation, and 3) livestock and feed production (as part of the Squaw Butte Experiment Station). The crops research was terminated in 1944; the unit's focus was then directed toward livestock and forage work, until the Station was closed in 1954.

During the late 1930s, ranchers from Harney County made a case for conducting research on the native flood-irrigated meadows (Sawyer 1980). At that time, the meadows provided 90 percent of the winter feed used in southeastern Oregon. Quoting from Sawyer (1980), "The Section 5 meadow unit of the Squaw Butte Experiment Station had its beginning with a survey conducted in the summer of 1940 when a site for the meadow unit of the station was located". Section 5 was leased with an option to buy beginning June 1, 1941. In 1948, the State exercised the option to buy and the land became part of the Squaw Butte Experiment Station. The Harney Branch, Squaw Butte, and Section 5 were operated as a single unit up until the closure of the Harney Branch Experiment Station in 1954. The Station was closed because the prevailing opinion was that the Harney Branch could not adequately contribute to solving the agricultural problems of southeastern Oregon, and funds could be better used at the other two sites.

During the first twenty years of operation there were relatively frequent changes in jurisdiction over the Squaw Butte Experiment Station. Sawyer (1980) gives the following chronology of organizations responsible for operating Squaw Butte: Grazing Service, 1935 to June 30, 1946; Oregon State University, July 1 to August 15, 1946; U.S. Forest Service, Forest and Range Experiment Station, August 16 to October 9, 1946; Bureau of Land Management, October 10, 1946 to June 30, 1956; and Agricultural Research Service, July 1, 1956 to the present. Since 1956, the Agricultural Research Service (ARS) and Oregon State University (OSU) have managed Squaw Butte and Section 5 as a self-contained ranch unit.

Prior to 1944, there were separate offices at Squaw Butte and Harney Branch, and each unit had a superintendent. When the two land units were merged, the decision was made to appoint one superintendent, and move the offices to the old Post Office Building in Burns. Office headquarters remained in Burns until the construction of an office complex at Section 5 in 1980. The number of state and federal scientists has fluctuated over the years; at the present there are three state and three federal scientists assigned to the unit.

To keep the general public sufficiently confused, several name changes have been adopted over the years. In 1974, the Squaw Butte Experiment Station, which consisted of the Squaw Butte Experimental Range and Section 5, was renamed the Eastern Oregon Agricultural Research Center (EOARC). This title applies to the whole unit, including both the state and federal programs. A more recent change occurred in 1992, when the Squaw Butte Experimental Range was renamed the Northern Great Basin Experimental Range. The change was precipitated by the renaming of the "Squaw Butte" landmark. The name was offensive to some. We decided not to use the name of a landmark in the title (since landmark names can be changed), but rather chose to name the experimental range after the region it represents.

PAST MISSION AND RESEARCH

The historic mission of the Experiment Station was to increase production and economic return of range livestock and related industries. The research could be more-or-less separated into range, meadow, and livestock research, although there were many overlapping studies. Much of the range work focused on control of weeds and woody plants, evaluation of forage plants and seeding techniques, and grazing management. The development of 2,4-D during WWII, advances in machinery, and impact of new plant species provided new tools for managing rangelands during the early stages of the research program.

As Section 5 became a more integral part of the program, a good deal of research was conducted on quality and production of meadow hay. Studies were conducted on fertility, cutting height, cutting time, irrigation management, tillage, and hay storage. The quality of meadow hay was evaluated for micronutrients, as well as the more routine forage quality parameters.

Much of the range and meadow research was geared toward livestock management. But there was also a distinct livestock research component that included studies on various supplements, winter management of cows and calves, weaning times, micronutrient problems, heifer management, dystocia, and animal health.

PRESENT AND FUTURE MISSION AND RESEARCH

The mission of EOARC has become much broader in recent years. Issues such as public land grazing, endangered species, and water quality often receive more attention than

commodity production. Thus, the research has expanded to include studies addressing water issues, biodiversity, ecosystem function, riparian management, wildlife/livestock interactions, in addition to the more traditional range/meadow/livestock studies. From the commodity standpoint, there is more emphasis on efficiency and integration, and less on increasing production per acre or per animal unit.

Several years ago, the mission of EOARC was revised and we worked on developing a framework for integrating our diverse research programs. The results of that planning effort appear in Figure 1. The top row of boxes represent the diversity of projects. The forage/livestock research may be integrated with environmentally compatible range livestock research, or the range livestock research may be used in restoration of wildlife systems. For example, research on spring/early summer grazing of meadows (alternative livestock system) might be combined with research on winter grazing (environmentally compatible range livestock system) to provide a nontraditional management system that is both economically and environmentally sound. Or, short periods of grazing might be used in an attempt to reduce competition of a weedy species on a desirable species. Under such a scenario, livestock would be used as tools to manipulate rangeland. The goal of the whole program is to improve or maintain ecosystems, whether they be agricultural or native.

This field day report will provide a good indication of recent research, and the direction of the EOARC. We welcome input from interested individuals on the direction of the program and anticipated needs in the future.

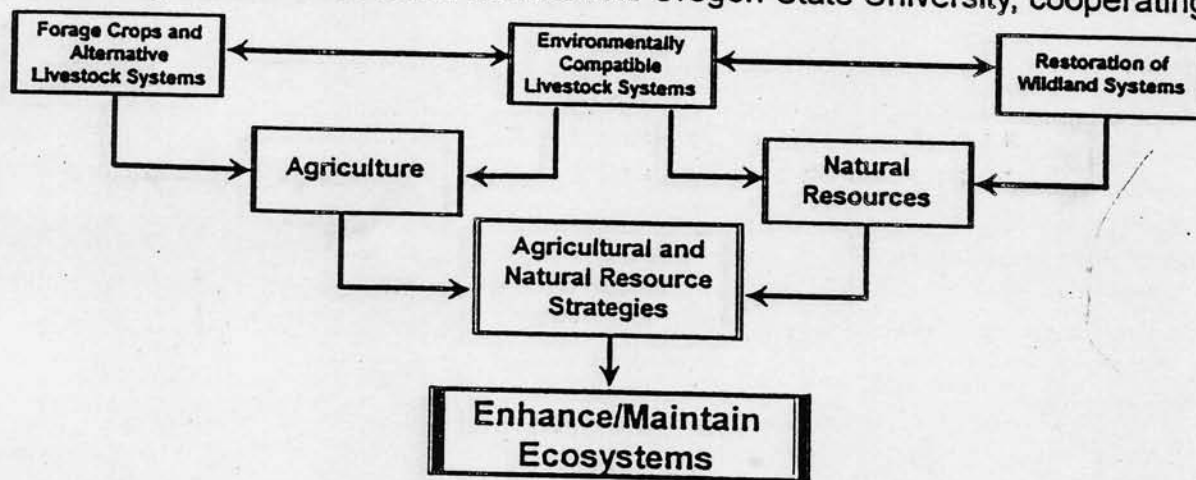
Acknowledgements

In writing the historical part of this report I drew heavily from the following publications:

Klemme, M. 1984. Home rule on the range. Early days of the grazing service. Vantage Press, Inc. 516 West 34th Street, New York, NY 10001.

Sawyer, W.A. 1980. The Squaw Butte Experiment Station: its development, program, and accomplishments 1935-1969. Oregon State Univ. Agric. Experiment Station, Special Report 599.

EASTERN OREGON AGRICULTURAL RESEARCH CENTER
USDA - Agricultural Research Service and Oregon State University, cooperating



Mission: To develop agricultural and natural resource strategies that maintain or enhance intermountain forest and shrub steppe ecosystems for the benefit of present and future generations.

Figure 1. Current mission statement and research thrusts for the Eastern Oregon Agricultural Research Center, Burns, Oregon, 1994.