HORSE Heaven Creek — Oregon

Horse Heaven Creek is located in central Oregon. Elevations in the case study area range from about 3,600 feet to 4,500

feet. Annual precipitation ranges from nine inches in the lower areas to fifteen inches in the higher elevations.

This area has been grazed by domestic livestock for more than a century. In this case study the rancher runs a cow/calf operation on 43,000 acres of private and public land. The rancher cleared over 6,000 acres of juniper on his private land to improve upland range conditions by encouraging native grasses. Before and after studies showed treated areas improved from 19 acres per animal unit month (AUM) to 2.7 acres per AUM.

In spite of improved upland conditions, the rancher was still concerned about his livestock "... lying on the creeks and starving to death." His cattle tended to concentrate on and overgraze riparian areas and underutilize abundant upland forage.

To solve this problem, he fenced over six miles of Horse Heaven Creek into separate pastures. They were rested from grazing for a three-year recovery period, then grazed under a high intensity short-duration spring grazing system. At the rancher's request, the U.S. Forest Service also fenced the riparian area on his allotment upstream, which is grazed in the same manner.

The rancher's cattle now graze the uplands more, and more uniformly. The riparian areas and creek have improved dramatically.

The combination of improved upland and riparian vegetation has reduced erosion and improved streamflows. Streams that used to go dry in some years now flow in years with half as much precipitation.

Summer of 1988 after the riparian pasture had been rested from grazing for three growing seasons (1983-85), followed by high intensity short duration spring grazing 1986-88. Willows grew profusely and stabilized the stream channel above the reservoir. As the result of reduced sediment loads and generally improved habitat conditions, trout now spawn in the stream feeding the lake.

Summer of 1984 after riparian areas were fenced into separate pasture and rested for two growing seasons. Note sediment deposited in upper end of reservoir from poor condition uplands after summer thunderstorms.