



Lower Owyhee Watershed Assessment

XVII. Monitoring Plan

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The lower Owyhee subbasin occupies a large, sparsely populated area. There is a paucity of data about many aspects of the region, both as it may have existed before Euro-American entry into the region and as it exists now.

There is no existing comprehensive monitoring plan for the lower Owyhee subbasin. If a comprehensive plan were to be developed, it would need to be a cooperative endeavor between the multiple agencies involved such as the Department of Fish and Wildlife, Malheur County Soil and Water Conservation District, Bureau of Reclamation, Bureau of Land Management, Owyhee Irrigation District, Natural Resource Conservation Service, Farm Services Agency, OSU Malheur County Cooperative Extension Service, Oregon Watershed Enhancement Board, Oregon Department of Agriculture, and Oregon Department of Environmental Quality with the participation of ranchers, producer associations, growers, and other members of the community. This would be a daunting task.

Instead, the Owyhee Watershed Council can act as an advocate for areas where monitoring is needed. However, the monitoring in most instances will need to be carried out by other entities.

A. Essential conditions to begin monitoring

Usually a small scientific conclusion is the result of a colossal amount of information. Scientifically, it is inappropriate to use a few bits of information to extrapolate to a whole region.

To begin monitoring, it is necessary to know what is being monitored. It is essential to know the condition when the monitoring began. Data should be in

reproducible units. In other words, the data recorded by different observers without reference to each other would be similar.

Discovering the initial condition of an area which needs to be monitored may present a considerable challenge.

B. Priority areas for monitoring

There is insufficient knowledge about many of the conditions that could be monitored. The geographic area occupied by the lower Owyhee subbasin is immense. Lacking funding, there needs to be some idea of the areas where monitoring would provide a real trend analysis of the most important problems or potential problems. Cooperative endeavors and funding should be directed at initial scientific studies in each of these areas. There are also needs to develop site specific information of ecological processes. This is a more complex problem than monitoring the current condition and the condition at some future time.

The major monitoring needs in the lower Owyhee subbasin are weed encroachment, water quality, riparian conditions, pasture conditions, and recreational use. Initial studies are needed to provide the base lines for future monitoring.

C. Priority studies

Initial studies of weed encroachment should map where the major weeds exist, particularly medusahead rye and tamarisk. The locations of all invasive species need to be mapped in every area of environmental concern.

To identify riparian conditions, it is necessary to first identify those perennial and intermittent (as opposed to ephemeral) streams which might support riparian vegetation. Then a survey is needed of the existing vegetation. A similar survey needs to be made before any water developments which would remove cattle from a stream reach. This way a subsequent survey can determine how the riparian vegetation has changed.

Data needs to be collected and synthesized to develop objective water temperature standards based on the thermal potential of the lower Owyhee subbasin.

Past studies have positively identified the Silver City area as a source of mercury. Follow up studies are needed to characterize mercury sources, concentrations and distribution in the Silver City area. Delineating the distribution and concentration of mercury is essential if action to remediate at these sites is to be taken. Site characterization would establish a baseline for comparison with future monitoring efforts, both in the Silver City area and in downstream areas.

We do not know how long it would take for the mercury from Silver City that is already in the river system of the basin to dissipate if the Silver City site were cleaned.

To better understand mercury in the Owyhee River ecosystem, there need to be studies of the mixing and transport hydrodynamics of Lake Owyhee, and stratification of the reservoir during autumn, winter, and mid-summer.⁹ Remobilization of mercury and phosphorus to water from lake bottom sediment has not been studied.

In addition to other parameters of water quality, water availability may be compromised if the Quagga mussel has been introduced into Wild Horse Reservoir. It is essential to accompany monitoring that is done by Idaho or Nevada.

The BLM needs to make the raw pasture data including all photo points for conditions and corresponding photos available. Similarly all range condition transects and historical transect data need to be available.

The data on recreational use is harder to quantify or make reproducible. This becomes a more subjective monitoring. Are there more off-road vehicle tracks? Is trash accumulating? Etc.

Where other agencies are monitoring items of concern to the Owyhee Watershed Council, the council should request frequent updates, with data, from these agencies.

D. Data gaps

Within every component of this assessment data gaps and unknowns are discussed. These data gaps are also summarized or listed in Appendix J.