

## Lesson Plan 11.

# Future Water Quality Projects

### Goals/Overview:

To understand the process of identifying and prioritizing future water quality improvement projects. Explain steps to brainstorm alternative conservation practices for each site and pasture as well as to track progress toward implementing ranch stewardship efforts.

### Learning Objectives:

1. Understand how to complete Future Water Quality Projects—Worksheet 7, including conservation practices options and preliminary cost estimates.
2. Prioritize identified future projects.
3. List next steps to plan and implement identified future projects.

### Introduction/Hook:

- The process of listing and organizing future projects offers an adaptive management tool for years to come. It helps in identifying sites and projects that can be completed with existing ranch resources and also leverages technical and financial assistance for more complicated, large-scale projects.

### Materials/Speakers:

- Invited speaker and facilitator of discussion would be someone with knowledge in rangeland and watershed management from UCCE, NRCS, RCD, or other relevant organization.
- Invited speaker could be NRCS or RCD staff discussing technical and cost-share assistance options.
- Instructional video: “Future Water Quality Projects—Worksheet 7” (9 minutes).
- Have the entire *RWQP Template* available in case anyone still needs one, with extra copies of *Future Water Quality Projects—Worksheet 7*.
- Provide attendees handouts of pertinent resources.

### Time Allocated:

Allow 40 to 60 minutes (20 minutes for presentations and 20 minutes for questions/discussion).

### Procedures/Activities/Strategies/Questions:

- Open with a brief story or anecdote, welcome newcomers, and ask for outstanding questions or concerns.
- Present video: “Future Water Quality Projects—Worksheet 7.”
- Review the format of *Future Water Quality Projects—Worksheet 7* and how to list projects along roads, in pastures, or on streams that present potential water quality problems.
- Consider the pollutants that might be transported during storm events and practices that can address these water quality issues.
- List options for fixing water quality that may increase vegetation cover and/or slow runoff. Start with the least expensive and complicated projects that could be implemented in the near term by the ranchers themselves. Then move to sites and practices that may need cost-share or technical assistance from NRCS and/or RCD.
- Complete the Session Evaluation Form (appendix A).

### Conclusion/Self-assessment:

- Allow participants to discuss challenging sites where they are struggling to come up with practical actions to improve water quality. In some instances, previous unsuccessful attempts to address these sites offer important lessons to reconsider with information provided during the RWQP education program.

**Resources:**

- Larson, S., K. Smith, D. Lewis, J. Harper, and M. George. 2005. Evaluation of California's rangeland water quality education program. *Rangeland Ecology & Management* 58(5). [https://ucanr.edu/sites/UCCE\\_LR/files/180937.pdf](https://ucanr.edu/sites/UCCE_LR/files/180937.pdf)
- Lewis, D. J., K. W. Tate, J. M. Harper, and J. Price. 2001. Survey identifies sediment sources in North Coast rangelands. *California Agriculture* 55(4):32–37. <https://escholarship.org/uc/item/1nh5291b>
- Miner, J. R., J. Buckhouse, and J. Moore. 1992. Will a water trough reduce the amount of time hay-fed livestock spend in the stream (and therefore improve water quality)? *Rangelands* 14:1. <https://journals.uair.arizona.edu/index.php/rangelands/article/viewFile/11053/10326>

Natural Resources Conservation Service. 2020.

Conservation Planning. <https://www.nrcs.usda.gov/wps/portal/nrcs/main/ca/technical/cp/>

**Next Steps/Future Lessons:**

- Contemplate which sites and pastures are more important to fix—and where fixes will also benefit ranch operations, improve livestock health, or facilitate grazing management and ease animal handling.