Lesson Plan 16.
Monitoring Residual Dry Matter (RDM)

Goals/Overview:

Explain the residual dry matter management tool, as well as monitoring protocols, and discuss approaches on specific ranches.

Learning Objectives:

1. Apply the management benefits of RDM to specific ranch locations and conditions.
2. Understand purpose of RDM monitoring and guidelines.
3. Learn about approaches to rapidly monitor ranch with RDM categories and how to record data.
4. Discuss ocular RDM estimate with local rangeland experts.
5. Develop ability to determine RDM objectives for similar and dissimilar pastures.

Introduction/Hook:

- Directly tie healthy productive pastures and livestock animals to water quality through achieving RDM levels as much as possible.
- Compare usefulness and efficiency of visual estimate methods, using photo guides, for monitoring RDM across ranch versus the protocol for clipping and weighing RDM from multiple locations.

Materials/Speakers:

- Collaborate with NRCS staff regarding which landowners are already clipping and weighing and the specific protocols being followed.
- Invited speaker and facilitator of discussion would be someone with knowledge in rangeland management and monitoring experience from UCCE, NRCS, RCD, or other relevant organization.
- Instructional video: "Guidelines for Residual Dry Matter on Coastal and Foothill Rangelands in California" (22 minutes).
- Bring copies of RWQP Template with extra copies of Monitoring—Worksheet 10 for reviewing and note-taking.
- Provide attendees handouts of pertinent resources, including Photo Guides.

Time Allocated:

Allow 40 to 90 minutes (25 minutes for presentation and 20 to 70 minutes for questions/discussion).

Procedures/Activities/Strategies/Questions:

- Open with a brief story or anecdote, welcome newcomers, and ask for outstanding questions or concerns.
- Review the purpose and importance of using RDM monitoring for evaluating pasture conditions. Refer back to Lesson Plan 8 (Pasture Inventory) for information on RDM guidelines.
- Present video: "Guidelines for Residual Dry Matter on Coastal and Foothill Rangelands in California."
- Explain the need to calibrate visual estimate with clipping and weighing methods and discuss future field workshop to do this.
- Explain circumstances in which recorded RDM is below or above recommended guidelines, such as for fuel control, weed management, deferred grazing, or drought.
- Provide photos of pastures containing known RDM and ask attendees to estimate pounds per acre.
- Review and maybe conduct quantitative survey of rangeland composition to monitor trends over time using transects. Have fun discussing the importance of composition and how management alters the quality of forage available or facilitated weed invasions. Follow the interests and stories of participants.
- Complete the Session Evaluation Form (appendix A).

Conclusion/Self-assessment:

- Consider if and why low- and high-RDM locations on your ranch are consistently the same every year, or just certain years, depending on precipitation or management.
- Are low-RDM locations near or connected to waterways during storms?
- Consider if any revisions are needed to Pasture Assessment—Worksheet 4 and Stream Assessment—Worksheet 5 to accurately characterize ranch water quality challenges.

Resources:

Bartolome, J. W., W. E. Frost, N. K. McDougald, and M. Connor. 2006. California Guidelines for Residual Dry Matter (RDM) Management on Coastal and Foothill Annual Rangelands. Oakland: UC Agriculture and Natural Resources Publication 8092. http://anrcatalog.ucanr.edu/pdf/8092.pdf

Bush, L. 2006. Grazing handbook: A Guide for Resource Managers in Coastal California. Santa Rosa: Sonoma Resource Conservation District. https://carangeland.org/images/GrazingHandbook.pdf

Guenther, K., and G. Hayes. 2008. Monitoring annual grassland residual dry matter: A mulch manager's guide for monitoring success. 2nd ed. Brewster, Washington: Wildland Solutions. http://www.wildlandsolutions.com/rdm/

Next Steps/Future Lessons:

- Consider certain pasture locations on ranches that could benefit from more intensive monitoring approaches, such as riparian areas or pasture units with unstable gullies or active headcuts.
- How are low-RDM areas being included in Future Water Quality Projects—Worksheet 7 to improve conditions such as developing or relocating water sources and/or troughs, seeding, weed management, cross-fencing, and so on?