

# State Water Resource Control Board Grazing Guidance

Jessica Leonard, Environmental Scientist

Jeanie Mascia, Senior Environmental Scientist

State Water Resources Control Board, Division of Water Quality

# Agenda and Introductions

1. Background and History
2. Goals of the Grazing Guidance
3. Management Practices and Measures to reduce water quality impacts
4. Questions and Discussion

# History

**1995**

Developed Rangeland Water Quality Management Plan (RWQMP)

**1999**

Developed Plan for California's Nonpoint Source Pollution Control Program (NPS Program Plan)

**2014**

Grazing Regulatory Action Project (GRAP) to develop strategy for water quality impacts related to grazing

University of California Cooperative Extension (UCCE) starts short course education program to help ranchers complete water quality plans and meet RWQMP objectives

Adopted Policy for Implementation and Enforcement of the Nonpoint Source Program (California Code of Regulations, Title 23, section 2915)

Discontinued GRAP

**1995–1996**

**2004**

**2015**

# 2015: Discontinued GRAP

## **Resolution 2015-0062**

1. Discontinued statewide approach to grazing
2. Directed Regional Water Board staff to work with stakeholders on best approach for addressing water quality impacts
3. Directed State Water Board staff to work to update the 1995 RWQMP



# Current Efforts

- April 2020: Contacted a focused group of stakeholders to introduce the project
- July 7, 2020: Conducted a virtual meeting to present the background, context, and goals for the project
- July-August 2020: Asked stakeholders to complete a survey to provide background information for the guidance. Seventy-nine responses received.
- Now: Engaging stakeholders on management practices and ways to promote implementation

# Goals of the Grazing Guidance

Promote	Promote effective grazing management practices through a non-regulatory approach to reduce or eliminate impacts to water quality
Educate	Educate on potential impacts to water quality from grazing and the roles and requirements of the Water Boards in addressing water quality
Update	Update the 25-year-old Rangeland Water Quality Management Plan

# Grazing in California

California's farmers and ranchers have an intimate relationship with the land on which they depend

All are stewards of land and water, and all must play a key role in protecting the state's natural resources for current and future generations

Of California's 105 million acres, over 40 million are public and private range and pasture lands used for grazing

These lands help support a commercial livestock industry that has an annual gross value that exceeds \$3 billion

# Rangeland Science Today

- The problems, uses, and societal demands placed on rangelands are different today
- Rangelands are complex, adaptive systems that cannot be fully understood by the simple frameworks used over the past century
- A single set of principles that can be employed on all rangelands does not exist
- New tools, techniques, and long-term commitment to evaluate conservation practices have been developed

# Potential Water Quality Impacts from Grazing

Microbes	Nutrients	Sediment	Riparian zone damage
<ul style="list-style-type: none"><li>• Examples: Cryptosporidium parvum and E. coli</li><li>• Potentially pathogenic and can create illness in humans</li></ul>	<ul style="list-style-type: none"><li>• Excess nitrogen and phosphorus</li><li>• Causes dense growth of plant life and harmful algal blooms</li><li>• Limits oxygen to support fish and other species</li></ul>	<ul style="list-style-type: none"><li>• Excessive erosion may be driven by livestock grazing management</li><li>• Causes lost productivity and land</li><li>• Degrades habitat</li></ul>	<ul style="list-style-type: none"><li>• Physical trampling by livestock</li><li>• Causes loss of vegetation and degraded habitat</li><li>• Erodes banks</li><li>• Increases water temperature</li></ul>

# How can we address this?

- The slides that follow present management practices and management measures appropriate for addressing water quality
- At the end of the list of practices, we have a series of questions to help us evaluate the list



# 1. Ranch Water Quality Plan

The goal of maintaining or improving the quality of water should be included in ranch management plans for livestock operations. Ranch water quality goals need to be linked to water quality problems (impaired beneficial uses) identified by the Regional Water Quality Control Boards for the local basin or sub-basin. Ranch plans may follow several formats.

- Natural Resources Conservation Service Conservation Planning.
- UCCE Ranch Water Quality Planning Instructor's Guide and Lesson Plan
- Any organized planning process conducted by the landowners, agencies, or private consultants.

## 2. Grazing Management Practices

Grazing management is the planning, implementation, and monitoring of animal grazing to promote and maintain adequate vegetative cover to protect water quality.

### Grazing management Strategy/ System

- Controlling season of use
- Timing and duration
- Grazing intensity
- Grazing frequency
- Livestock stocking rates
- Livestock distribution
- Forage use allocation
- Prescribed grazing
- Access Control

### 3. Structural Range Improvements

Structural range improvements may be used to facilitate proper grazing use. These practices should be planned, constructed, and utilized in manner to enhance or maintain water quality. These management practices should be linked in the ranch plan to proper grazing use, and to other ranch water quality goals.

- Access Roads
- Fence
- Livestock Pipelines
- Ponds (off channel)
- Sediment Basins
- Spring Development
- Trails and Walkways
- Streambank and Shoreline Protection
- Watering Facility
- Grazing Land Mechanical Treatment
- Land Reclamation, Landslide Treatment
- Water Well
- Stream Crossing

## 4. Riparian Zone/ Streamside Vegetation

Agricultural activities must allow the establishment and development of the vegetation expected to grow along the stream naturally, given the soil type, elevation and climate. Plants need a chance to establish and grow to maturity. Healthy streamside vegetation provides shade, stabilizes banks, filters nutrients and sediment, and provides fish and wildlife habitat.

- Riparian forest buffer
- Riparian herbaceous cover
- Stream habitat improvement and management
- Critical Area Planting
- Stream Corridor Improvement
- Wetland Wildlife Habitat Management
- Channel bank Vegetation
- Filter Strip
- Watering Facility
- Access Control
- Stream crossings

## 5. Uplands And Erosion Control

A protective cover of crops and crop residue, grass, shrubs, or trees will capture, store, and safely release precipitation, thereby reducing the potential runoff of soil or pollutants.

- Brush Management
- Range Planting
- Tree/shrub establishment
- Residual Dry Matter (RDM)

## 6. Livestock management practices

Livestock management practices such as animal health, feeding and salting should be done in a manner to protect water quality

- Livestock Parasite Control
- Supplement Feeding and Salting

## 7. Federal Utilization Standards

On public lands, natural resource managers with the United States Forest Service and Bureau of Land Management apply annual grazing utilization standards intended to benefit riparian resources by limiting grazing pressure.

- Stubble height
- Percent stream bank trampling by livestock
- Percent utilization of woody riparian plants by livestock
- Percent utilization of herbaceous biomass

**Question 1:**  
Are we missing any  
management practices?  
Is this a thorough list?

**Question 2:**  
What management  
practices are most  
effective, and which are  
the easiest to  
implement?

**Question 3:**  
What are the main  
challenges to  
implementing  
management practices?

**Question 4:**  
How do more frequent  
drought conditions  
affect management  
decisions?

**Question 5:**  
How could the Water  
Boards be allies in  
protecting water  
quality?