Academia Stakeholders, by invitation only (1:00 P.M. – 4 P.M.)

Introduction (Esther Tracy, State Board)

- Introduced herself to session as FLS facilitator

Introduction (Patty Kouyoumdjian, RB6)

- Brief explanation of the reasons behind GRAP (context)
- The FLSs are the "beginning of the journey" and there will be many more opportunities for input
- The GRAP group has no preconceived notions
- Disclosure of previous FLSs

GRAP PowerPoint Presentation (Cindy Wise, RB6)

- Covered purpose and overview of the session and background of who, what, when, why, how
- Included GRAP goals, schedule, charge, available regulatory tools, and public input opportunities
- Mentioned consideration of California Rangeland Management Plan (1995) and Proposed Statewide Waiver for National Forests (2011)
- Encouraged sharing of current science and information on GRAP website (www.waterboards.ca.gov/water_issues/programs/nps/grap.shtml) and online portal

Note: The following bullet points summarize the range of opinions and concerns expressed by the invited stakeholders, and are not intended to reflect the position of the Water Boards or staff on any issue. Because they summarize all responses, any individual bullet point is not intended to reflect the opinions of any one stakeholder(s). The bullet points are not presented in any particular order.

FLS Questions, Group Discussion (FLS participants, Regional and State Water Board staff) *Green font color represents Water Board's staff response to a question or comment made by stakeholder participants (black font color) unless otherwise specified.*

- **Question #1: How should we define grazing (e.g. herd size, range size, duration/intensity, water source, type of animal, open range, irrigated pasture)?**

- Why do you use the term "grazing?" That term relates to herbivory, which would include caterpillars. Do you mean livestock cattle? What about horse facilities, confined animal facilities? Livestock that use natural forage for a major source of food could be a definition and that differs in drought years. I have an example of biomedical goats that were producing antibodies. It was argued that this was a rangeland operation, but, really, this was a feedlot where the goats got blood drawn.
- Footprint (should be) a major factor. Sheep have a much, much smaller footprint than cattle.
- Grazing (in my experience) is defined as cattle. Elevation differences may be considered as part of the definition (possibly). If 1,000 cattle are present up and down the Sacramento River, do we regulate that?
  Maybe; that is what we are exploring. Anything that pollutes or has the potential to pollute (should be considered).

- Do we need a study to say the number or distribution of livestock that is appropriate or will it just be an arbitrary number in the waiver?
- We want to focus on where the impacts are.
- A few animals close to the water or many animals farther away can cause the same impact. Regulation should be different based on risk factors.
- High alpine areas are at higher risk. This area is pristine and provides drinking water for much of California. There are more streams, which makes it harder to fence them off.
- Temporary operations of animals to manage vegetation should be considered. Should they be regulated if they get in and around a stream? Open space management, CEQA, BMPs (should be part of the definition).
- Cows in the water (can be) a beneficial practice (e.g. vernal pools). Categorize by herd size, animal type, intensity, duration.
  We want a reasonable plan that can go along with CEQA…we understand the benefits of grazing.
- Do we have information of the type of grazing operations that are linked to the impaired water bodies on the 303(d) list?
  There is limited information. It could be based on a small set of samples and best professional judgment, knowing there is grazing upstream of an impairment.
  Each region assesses and reports impaired water bodies and river miles affected differently.
- You need a link between impairments and grazing operations.
- You have the nation's expert on livestock pathogens right here (Ed Atwall), it might be useful to check and make sure your impairments are due to grazing.
- Grazing waivers from Region 2 include (operations with) 100+ cattle. Considering regulating cattle and not horses when horses are seen as a bigger problem (doesn't make sense). We shouldn't give horses a free ride.
- Exporting human sewage and eliminating grazing were two important factors in Lake Tahoe. A good compromise would be to restrict grazing to below 1,000 feet (elevation). Some issues we are facing include trampling, destroyed vegetation, and the need to preserve snowpack especially with prolonged droughts. Climate change (and the lack of available freshwater) is the greatest threat to humanity since the atomic bomb.
- Can you regulate based on beneficial uses? You said you don't want to regulate based on impairments (solely)?
  Staff explanation of NPS Policy allowing flexibility to regulate outside of Section 303(d) list of impaired water bodies followed.
- The same practices that improve riparian vegetation also typically indicate (a lack of) water quality impairments. Outreach and implementation is important. Who will be the regulated community? It the program is too broad, with no overlapping networks, it will be too difficult to administer education or regulatory programs. Beef cattle are a much larger issue than sheep. How do we consider integrated crop and livestock systems (e.g. sheep on alfalfa in the Central Valley, irrigated pasture in meadow)? It would help to know the clientele (regulated community) especially if the UC is to help with education. Six horses on 15 acres of land is an issue, should it be in this program?

- **Question #2: What would a successful regulatory program look like to you? In your experience, what types of management practices have been effective in protection or improving water quality? How can we incentivize use of effective management practices?**

- The Kroeger Report discusses riparian fencing, re-vegetation, changing grass types and managing/incentivizing those will benefit water quality….but you need money. Livestock operations in the state are relatively marginal. (Ranchers) need incentives; they want to protect water quality, but can't afford it.
- The CEAP Program (NRCS) has a pretty complete portfolio of options and is based on strong science. This Program can help funding. It would be helpful to build off of that. All tools work somewhere and fail somewhere else. We can build components of what a water quality plan should look like and develop education tools/materials. How will the Water Boards interface with ranching and a ranching plan that the cooperative extension (UCD) helps to educate the regulated community on? We can easily amend existing education tools to incorporate a new plan (the GRAP). People (ranchers) want water quality short courses. Water quality will incentivize rancher interest (if we keep going with the effort). It is important to incentivize ranchers/the regulated community to come to and stay at the table.
- Are there any suggestions on how to audit (the potential) plan?
- I (representing the UC Davis Cooperative Extension) am happy to be part of the conversation. Watershed groups and/or coalitions can have rules for members and provide auditing access. The Clean Water Act is not voluntary.
  A tiered approach would have some aspect of voluntary, which would incentivize ranchers to stay at lower risk tiers.
- Farmers/ranchers don't like to fill out paper work.
- One example I have (from an experience) is looking at the high Sierra in the summer with two USFS tracts of land. One tract of land has grazing while the otherwise similar tract of land does not have grazing. This led to us eliminating cattle grazing in open areas with unrestricted access to water (because the tract of land with grazing had water quality issues). (My suggestion is) to pick an elevation and then prohibit grazing above that elevation.
  You mentioned cattle grazing with unrestricted access to water. Can cowboys be ok to solve that issue and restrict cattle access? Is it still restricted access if someone is out there with the cattle?
- Is that economically feasible? You will need a lot of cowboys…
- It makes sense to include public lands (as part of the GRAP), but BLM and USFS lands are very different than each other/private lands. Also, there are lands with a mix of both as (some) owners have both public and private lands.
- Clearly identify and target real water quality problems.
- Flexibility is required for operators to make adjustments and fix problems. Key problems are poorly maintained/functioning roads and drainage of sediment. Trails and locations of facilities are also an issue.

- Critical management practices are to define special management areas and non-problem areas (auxiliary/flexible-use fields). Areas can be limited by season according to a definition. Ranchers are our "stewardship practicioners" and we need grazing for the conservation of landscapes. Habitat quality decreases if acres are not grazed. Identify problems and give ranchers a chance to fix them; we need grazing.
- Fish Friendly Ranches gives ranchers opportunities to improve practices (which include water quality problem minimization), when they would not otherwise be able to afford them.
- It is important for the Water Boards to provide training and assistance to ranchers to meet and comply with the GRAP.
- Grasslands are a hotspot for species diversity in a Mediterranean climate (such as California) and can include special-status species such as the Tiger Salamander.
- The latest issue of "Rangelands" talks about California rangelands as hotpots of diversity.

➢ **Question #3: In your experience, what types of monitoring have been effective in assessing water quality?**

- E. coli attached to algae (periphyton). E. coli survives and feeds on algae and algae becomes slick from the biofilm of bacteria. A sample of the water column would likely be devoid of bacteria on algae so (sampling) bacteria from algae (could provide new information). There is a study comparing a site with cattle with a site without cattle and all algae where contaminated in the cattle site and not the non-cattle site. With global warming (upon us), we need to consider algae.
- Blue green algae and cyanobacteria are increasing with global warming. The eutrophication of lakes and streams, cyanobacteria producing neurotoxins, microcystins from microcystin (are increasing). Groundwater losses are terrifying right now.
- One that has clear objectives. What knowledge gap are you trying/do you need to fill? This question is not useful; the Water Boards need to analyze the data they already have or get. Measure success/program effectiveness by reductions and improvements in trends.
- Sampling enough to document success is a challenge.
- Money spent on required monitoring is less money available for implementing BMPs. If practices are implemented with technical training and guidance, we know water quality will be improved.
- No required water quality monitoring if (ranchers are) implementing BMPs and allowing audits could be an incentive.
- Weighing storm events versus a baseline is an issue, especially if it hasn't rained in a while.
- It depends what you want to know.
- Most of the flush from a storm is in the first or first couple storms.
- Pay cattlemen not to graze at higher elevations.
- Keep a caveat (in the GRAP) to always have the ability to request monitoring. BMP monitoring has precedence.
- Monitoring quickly moves into the category of research. RDM is the most important parameter to monitor for. It is the absolute least cost, but it is still expensive (relatively). No monitoring is

the only feasible option. Visual monitoring of BMPs is probably the best you can get. If (the GRAP) requires monitoring, be sure to be explicit in the methodology you desire.

- **Question #4: What are the unusual or extreme circumstances that GRAP should consider as part of its regulatory program (e.g. weather, market conditions, wildfire, livestock diseases)?**

- Loading of pollutants is a good estimate of total pollutants, but for recreational uses, no one swims in a thunderstorm. Consideration of beneficial uses and water uses for monitoring (needs to be done).
- In a drought, it is harder to keep cattle away from water with limited water. Also with drought comes wildfire. You need to create flexibility for dealing with extreme situations.
- You have to be more careful in drought years because it becomes harder to dilute pollution.
- We have no clear understanding of what wildfire impacts are on water quality. We just know it is bad without having knowledge of the magnitude of the impacts.

- **Question #5: How can we best collaborate with all stakeholders regarding grazing and water quality?**

- Align with existing organizations mentioned: wool growers, Cattlemen's, California Rangeland Conservation, Rangeland Trust, RMAC.
- Inform them early and often and have good communication.
- Once a month let people know where you are at in the process. It can be just a couples sentences (of text).
- The California Rangeland Trust has money and power.
- What is the development of proposal?
  There will be many opportunities for input. We don't know what IT will be, but once we have IT we will solicit feedback on IT and then we will have to go through the CEQA process.
- Consider other water users: municipal, fisherman, hikers.

- **Question #6: Who else should we be talking with? Are there other key stakeholders with whom we should coordinate?**

- Open space districts, land trusts, nature conservancy…the diversity of stakeholders interested in rangelands has greatly increases since 1995.
- Karen Buhr –RCD
- 100 signatories on California Rangeland Conservation.
- California Native Plants, Audubon Society, land trusts.
  We can contact all of these groups, but not all (have been) responsive.
- Nothing beats a barbeque for ranchers.
- RCDs are a good avenue for getting folks to adopt successful management practices.
- A social component is important just to introduce ideas and work with communities.
  How do we explain our mandate?
- We can help get the conversation off on the right foot (UCD Cooperative Extension)
  Please share and encourage others to share science on our website.

- Create categories of grazing science on the website. Possible categories can include BMP effectiveness, environmental benefits, and water quality impacts. A comment box from the author or uploader on why they are sharing a particular work would be helpful. Knowing the take home message and importance to this process would be useful.
- Does the Water Boards have any insulation to lobbying?
  Not really if it becomes a permit, but otherwise there are ex-parte communications
  We are used to dealing with stakeholders and being sued. We are trying to do our best and are hopeful in this process.