California Water Plan Update 2009
Resource Management Strategy Workshops: Salinity Management
August 26, 2008

Salinity Management/Salinity Management in California

- Gerald Horner, SWRCB, offered to help with the next draft
- **clarify**: distinction between salinity and salt management – is this strategy really about managing the concentration of water at any point in time, or the salt load, the movement of salt throughout the environment?
    - management actions taken to manage a load of salt are different from managing the concentration – need to be clear in the text, adding loads or concentration, also in ground or surface water but also in the soil profile
    - **recommendation**: as talk about one or the other in text, need to explain this to the reader, and prefatory text to explain this to the reader
    - **structural comment**: salt management discussion begins on p3, but the context earlier is about salinity, not salt, so it's not clear how the issue arises – so additional items on page 3 (after dilution and displacement) can be moved to intro
- **clarify**: some explanation of where you use TDS where you use EC, and what those units mean
    - **clarify**: table 1: could explain this right before the table
    - **clarify**: there should be a table that correlated EC with TDS because there's a variation of the conversion of the formula depending on the concentration of the salts, so the conversion needs insertion
        - Gail notes: this will be a rule of thumb, areas will vary
        - this could also go as a break-out box
- **clarify**: figures 1 and 2: sources of information and how the numbers calculated, sources and assumptions – and add to references
- **clarify**: intent of last sentence in very first paragraph is unclear – can explain that means fertilizers, shampoos and detergents
- **clarify**: page 1 bottom of page should also mention Salton Sea, the regional report has a good description
- **clarify**: first paragraph transitions from salinity to salts without an explanation
- **add**: stats on acreage threatened or timeline of threats and water bodies threatened
    - in general, this piece is quite technical now and can be softened for a general readership
- **clarify**: explain that many farmland areas are dry and hence irrigated, which creates the issue – this is important contextual information
    - can also add that waterlogging contributes to high salinity – clay layers in the San Joaquin, for example
- **add**: there are environmental benefits of salinity management, like for migratory birds or native fish
- **add**: high salinity, soil, groundwater or ***a water body*** should be added in Salt Dilution and Displacement

- **add**: some discussion of how human activities influence salt circulation – agriculture, water softeners, shampoos – which is important to distinguish from water that comes to us salty, and this raises the question of the purpose of management
- **add**: p1 talks about coastal salinity as affects aquifers and this needs to be carried through – we should not just focus on the Central Valley activities, because sea level rise will cause salinity intrusion and accumulation in many areas, and desalination plants are also oftentimes in the coastal zone
- **add**: importance of managing salts to past societies and sustainability

Potential Benefits of Salinity Management

- **add**: called out various water basins, but not clear where the paragraph is going, and other examples beyond just Southern California benefits could help
    - generally the text originally focused on Central Valley to exclusion of other areas and the coastal zone, and should be expanded
- **add**: mention San Joaquin watershed response to management, but agriculture water use efficiency will push toward less responsiveness – should flag this as a potential tradeoff
- **add**: importance of nitrates is left out – the domestic wastewater and dairies and nitrate loading into a basin itself
    - this needs to be identified as mechanism of salt loading to groundwater, and in benefits section we don't talk about how this would improve groundwater and also provide ecological benefits
    - nitrates are somewhat different than other salts, has a placeholder in here and would require a lot more discussion in this strategy to bring this in, and perhaps can be dealt with through Pollution Prevention RMS – can be flagged in the introduction as a salt, but control of nitrates moved to Pollution Prevention
- **add**: with climate change, water treatment is a huge energy demand so there's a benefit of avoiding salinity in the first place
- **add**: need statement about agriculture and environmental sustainability
    - **clarify**: are there portions of the state where we do not have adequate flushing, and would that be a problem? e.g., Tulare Basin – which does not flush, and is not sustainable
- **add**: not drawing down water banks

Potential Costs of Salinity Management

- **add**: the water that needs to be sent to the Salton Sea
- **add**: explain where costs are cheaper and more effective
- **add**: land dedication for treatment
- **add**: Inland Empire is doing desal on their groundwater to use it
- **add**: (when final) Howitt study on trends in San Joaquin and Tulare

Major Issues and Considerations Facing Salinity Management

- **clarify**: in 1-2, clarify that reused sources – not initial sources – become more contaminated
- **add**: for reclamation water, water needs to be applied for this purpose
- **structural reorganization**: 1-3 is more background for the purpose of the strategy, and should be moved up – it's not something that would arise *from* doing this
    - similarly, page 7 bullets – Urgent Needs – should go up from – they're what we face today
        - under bullets, Salton Sea is only an environmental issue (an example of the earlier benefit)
- **add**: 1-2 should include healthy soils for agriculture, not just supply
- **add**: pointer connection to desalination RMS
- **add**: bullets could include CID and IID (Coachella and Imperial)

Recommendations to Promote and Facilitate Salinity Management

- **add**: create transition plans for lands that need to be retired (if this is caused by salt issues)
- **add**: bring better sources of water into valleys like San Joaquin – less salt will accumulate to begin with, text could be "reduce salinity of water that enters the San Joaquin Valley" or system – recommendation should be about what the desired outcome is, not how it is achieved
    - Justin Frederickson also submitted written recommendation
    - **add**: re-watering of the San Joaquin – may be a how, but it's a big potential area equal to alternative conveyance
    - **add**: third option is finding a better way to drain the Valley
- **add**: recommendation about funding from the state, link to Prop 84 that has funds for managing salt laods – so when those funds become available, can be used in this context
- **add**: Salton Sea restoration is under Ecosystem Management rather than Salinity Management, so can just be noted here and a pointer to Ecosystem Management added
- **add**: IFDM and building a market for salt products – research to build and promote these
- **add**: long-term 2050 strategy to just use less salt in the things we do – maybe nitrates aren't the best fertilizers, for example, or water softener systems – avoidance, limit inputs into the system to begin with
- **add**: nitrate management needs calling out, many farmers over-apply – so recommendation around education about application
- **structural organization**: recommendation is often last sentence but should be moved up to first and supporting text after this

Attendance

In Room:
Lisa Beutler, CCP
Gail Cismowski, CVRWQCB
Philip Erro, West Side RCD
Megan Fidell, DWR
Dorian Fougeres, CCP
Justin Frederickson, CFBF
Kamyar Guivetchi, DWR
Bruce Gwynne, DOC
Ray Hoagland, DWR
Gerald Horner, SWRCB
Jennifer Kofoid, DWR
Bob Languell, SWRCB
Lorraine Marsh, DWR
Lew Moeller, DWR
Fran Spivy-Weber, SWRCB
Ken Trott, CDFA
Betty Yee, CVRWQCB

On Phone/GoToMeeting:
Lisa Babcock, SWRCB
Anisa Divine, Imperial Irrigation District
Jose Faria, DWR
Fred Lee, Fred Lee & Associates
Rafael Maestu, CEC
Melanie Powers, CABY
Lorraine White, CEC