# MEETING MINUTES

## MIUGSA Stakeholder Guidance Committee Meeting #3

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| **Date:** | 10/12/2021 |
| **Attendees:** | Olsson: Jim Schneider, Stacey Roach, Brian Dunnigan, Mallory Morton<br>MID: Hicham ElTal, Matt Beaman<br>SGC: Galen Miyamoto, Tom Dinwoodie, Maxwell Norton, Joe Scoto, Ben Migliazzo, Todd May, Arlan Thomas, Stu Nakashima, Breanne Vandenberg, Bob Weimer<br>Online: Lacy Carothers, Lisa Kayser-Grant, Emma Reyes |
| **Project #** | 021-03426 |

## MIUGSA GSP IMPLEMENTATION – SGC MEETING #3

1. **Welcome/Introductions/"Parking Lot" [Meeting commenced at 1:00 PDT]**
   - Stacey welcomed the group and thanked them for their participation in the survey
   - "Parking Lot" (Stacey Roach/Jim Schneider)
     - Issues or questions that have been brought up in previous meetings not directly related to this project can be addressed later during the optional discussion time at the end of the meeting.
     - Our goal is to focus on the policies involved with the Merced Irrigation-Urban Groundwater Sustainability Agency (MIUGSA) Groundwater Sustainability Plan (GSP) Implementation.

2. **Presentation/Discussion**
   - SGC #2 Recap (Jim Schneider)
     - Jim reviewed the pumping depth comparison numbers between supplemental and exclusive groundwater users (average of 1.1 acre-feet per acre [AF/A] for supplemental users versus 2.97 AF/A for exclusive users)
     - Jim noted that interestingly there is general agreement amongst the stakeholders on many of the allocation plan components
     - The flexibility vs. certainty quadrant map was reviewed along with the quadrants. The group breakout discussions result in three groups favoring quadrant D (high flexibility, high certainty), and one group favoring quadrant B (low flexibility, high certainty). Taking into account the survey results as well, the stakeholder group
     - Comment from SGC member: it's easier to add flexibility as you go rather than taking it away in the future. I would recommend starting with low flexibility from the beginning.
     - Comment from SGC member: I disagree with the last statement. I would rather have high flexibility and high certainty at the beginning so I can plan ahead and grow different crop types.
     - Comment from SGC member: I agree that low flexibility at the beginning is best. I am in support of a more than moderate level of certainty. We need a certainty that you can plan around. If we believe we have a plan that meets our needs, we can always lighten up down the road. High certainty and moderate/low flexibility gives us the ability to plan.
     - Comment from Hicham: as the plan goes to higher flexibility, more monitoring needs to be in place. I am not recommending one over the other but want you to be aware.

- Comment from SGC member: who is going to sit down and write the rules for these plan components? Is there going to be a farmer participating?
- Comment from Hicham: we are going to start between us at MIUGSA and Olsson. We will make our draft recommendations available to you within a timeframe..
- Comment from Jim: that is the major reason we are having this group meet. We can provide the science and technical information, but we are asking you as stakeholders to tell us what you want.
- The allocation program component terms were reviewed.
- Survey results showing the ranking of importance for each program component were reviewed one by one.
    - Multi-year allocations: most of the group is in favor of a multi-year allocation. A three-year period may be a good place to start.
    - Borrow-ahead: not favorable
    - Carry-over: most of the group supports but noted that there should be limits.
    - Comment from SGC member: I'd like to see "borrow-ahead" factored into penalties. If a farmer has to borrow-ahead, they should be docked for the next allocation but otherwise not penalized.
    - Comment from Hicham: To clarify, borrow-ahead would apply only to native yield.
    - Comment from SGC member: Carry-over is important to me. I don't like the "use it or lose it" rules.
    - Pooling and Trading: Pooling was supported with stipulations. Trading was somewhat supported.
    - Comment from Hicham: keep in mind that at this time, all trading would be happening within the MIUGSA boundary.
    - Comment from SGC member: I think carry-over is important, but rather than considering a limit I think we should explore what would happen if everybody used their allocation to our areas that experience subsidence or other undesirable results.
    - Comment from SGC member: if everyone is staying within their allocation it should solve subsidence problems.
    - Comment from Jim: subsidence that has occurred is irreversible.
    - Wet/Dry-year considerations: both are favorable to the group.
    - Comment from SGC member: we have a good surface water year about once every four years. But our three-year allocation period we are talking about is shorter than that.
    - Comment from SGC member: the charts presented show a good time span with 5 extremely wet years, 5 extremely dry years, and 5 in between. Nature is not cyclical. If we start 100% of the growers [on the allocation program] in the same year, that will affect us, I think it's going to have to be staggered.
    - Comment from SGC member: In other states did they stagger periods?
    - Comment from Jim: I have not seen that, but maybe over time it's hypothetically possible, it becomes very difficult to track and uses a lot of resources.
    - Comment from SGC member: that would also affect trading amongst farmers
    - Penalties: very popular with stakeholders
    - Comment from Hicham: the only way to have fair penalties is to have good monitoring.

- Comment from SGC member: to me, the penalties need to be consistent with other GSA's in the entire Subbasin. For example, if other GSA's just have financial penalties, some people may just pay and continue to pump.
- Comment from SGC member: if the GSA's are not consistent, will the State come in and penalize us?
- Comment from Hicham: the State will only interfere if we hit, or show the inevitability of hitting, the triggers for undesirable results under the GSP.
- Comment from SGC member: we've been using these numbers in the presentations. For the exclusive users out there, how do we know these numbers are accurate?
- Comment from Jim/Hicham: the numbers come from modeling estimates and have been heavily researched. I think these numbers are the start, but they can be refined with flow meters. These numbers will get better as we deploy projects on the ground.

**[Break at 2:12 PDT]**

**[Meeting resumed at 2:21 PDT]**

- Technical Considerations (Jim Schneider)
  - Jim reviewed what the Merced Water Resource Model is. A water budget figure was shown and explained.
    - Matt pointed out that the water budget charts are updated in the GSP annual reports.
  - A figure showing the model area in relation to the Subbasin boundary and three GSA boundaries. The water budget graph just shown was for the entire model area. The model calculates a water budget for every model element. There are approximately 20,000 elements in the model, with an average element average size within the basin boundary of 24 acres. On an element-by-element basis, the model can be perturbed and local results are produced.
  - Geologic cross sections were shown for areas in the Subbasin. Pumping occurs at different depths in the model so that vertical hydrogeology is taken into account.
  - Jim then displayed maps showing this idea, explaining that in the southwestern part of the model pumping is much shallower, but increases in depth towards the east.
  - Charts that show an example of how water is stored and lost were shown based on distance from stream. Water is retained in storage away from the stream much better than a location that is recharged near the stream.
  - Jim introduced the aquifer retention figures and explained how simulations were completed. A random sample of model elements were chosen and a simulation was run by injecting 1 acre-foot of water and showing how much of that water is retained in storage 1 year later, 2 years later, 3 years later, etc.
  - Comment from Hicham: I don't want people to look at these maps and think they are not in an area that you should recharge. I think we could create a policy for our water to make sure we are in compliance, but we could follow special policies for carryover storage  apply a reduction or adjustment factor in carryover overtime. One of the bigger challenges with this area is that we have cones of depression.  The hope is by 2040, some of these cones will either cease or become less drastic allowing for a higher carryover storage of recharged water over a longer period.
  - Comment from Jim: A recognition needs to be made that this is the system. Over time, the data will allow accurate conclusions to be made for an area. Should the rules be different for different people because of the physical nature of the aquifer they sit on top of?

- Measurement Options (Jim Schneider)
    - There are two primary water use measurement systems that are recommended in the GSP: flow meters and evapotranspiration (ET)/consumptive use.
    - Pros for flow meters: reliable, easier to regulate and enforce penalties, isolate groundwater extraction, errors are localized. Cons for flow meters: expensive upfront and ongoing costs, constant maintenance, initial installation can be challenging on some systems
    - Pros for ET/consumptive use: relatively inexpensive, data is easy to obtain through various efforts like OpenET, ITRC-METRIC, and through companies like Formation Environmental. Cons for ET/consumptive use: it's easier to challenge, relatively difficult to use on its own for regulations (complex system of surface water, groundwater, and precipitation that must be accounted for), consumption volume varies based on source and calculation methodology, errors are broad and impact entire water budget, estimates are based on singular weather stations
    - The ITRC-METRIC model shows how complicated the calculation of consumptive use can be. The calculation hinges on precipitation, irrigation runoff, non-irrigation runoff, applied surface water, and net deep percolation estimates to be accurate.
    - Comment from SGC member: I'm interested in knowing from other agencies, what method have they been using over time?
        - Comment from Jim: In Nebraska, most allocation programs were started before ET data was available. The ET data can be very useful in finding instances where flow meters are faulty and can be a good validation dataset. Kern County is using ET data exclusively, but they do not have surface water deliveries.
        - Comment from Hicham: calibrating the ET results to meter data has not worked in most examples I've seen.
    - Comment from SGC member: how many meters need to be deployed? There are many small parcels that have their own wells.
        - Comment from Hicham: we need to have a way to measure, monitor, and enforce the regulations.
    - Comment from SGC member: If we don't have meters, we don't know who to penalize if we aren't sustainable. We know that the meters are expensive, so is there some kind of cost share?
        - Comment from Hicham: that's some of the information we need from you. A pilot project would be a good opportunity to show the State that meters are beneficial and could potentially help us get grant funding.

**3. Wrap Up**

- Olsson will be coming back and scheduling a fourth and final meeting in March. Recommendations will be presented to the SGC at that time. Jim thanked the group for their engagement.
    - Comment from SGC member: MID growers have contributed a lot to the area over the years and we need to come up with a plan that protects them and their investment.

**[Formal Meeting Ended at 3:34 PDT]**

**4. Optional Time for More Discussion**