

This Year's Challenge: Water ... What Else Would It Be?

Without water, we cannot grow crops nor have food for ourselves. Food grows where water flows; simple basic anatomy tells us that we must eat regularly to maintain body strength and mental capacity.

It was once said that nothing ever happens if there is no water. Early settlers to our area knew that they needed to be near a water resource to survive. Today, most turn on the tap and never think about how that water is captured, purified, and delivered.

Multiple water issues face us all these days: quality, quantity, and sustainability. In reality, not much has changed from those settlement days. The issues are just much more complex.

Dealing with Water Quality

As the Central Coast agricultural community negotiates the next iteration of the agricultural discharge order, the focus is increasingly on groundwater quality and the influences of nutrients (i.e. nitrogen) in crop production. How much of a risk are we posing to our groundwater with the application of nutrients to our crops? Granted, much of what was done in past farming practices is no longer relevant, and new and better techniques have been developed that monitor and limit the nutrient applications.

What was done in the past was done with the best knowledge and science at the time. With anything we do, technology continues to evolve and shows us pathways to improving our practices, including our impacts on the environment. The issue now being discussed, more extensively but without solid science, is what risk each crop poses to groundwater contamination. Certainly the risks are not as great as in past decades because of improved practices, but how much has the risk been reduced or mitigated?

Farming happens out in the open ... where all kinds of influences play a part in what happens ultimately with water and soils. Bad weather, pests and diseases, market demand, and labor all play into the overall yield of a crop and how it is marketable to the consumer. Many of these influences are beyond the control of the farmer, so how will an expectation for a pristine environment be managed under these influences? The next agricultural discharge order will probably have some very tough requirements for farmers to meet related to nutrient management, and probably will impact small farmers the most.

We need to find that sweet spot where risk is managed according to the needs of the crop and the necessity for domestic food resources. This will be a difficult compromise, but with each new iteration of the agricultural discharge order comes increased costs of compliance, monitoring and reporting. How much longer will farmers be able to manage *and afford* these compliance requirements?

Quantity Matters

The cycles of drought are becoming more pronounced and prolonged; with more water supply demands due to population growth and environmental flows, our water resources are challenged even when we have rainfall. We have seen what the four-year drought did to our local water storage resources, reducing our reservoirs to some of the lowest levels since they were built. We are fortunate that one refills fairly quickly when precipitation occurs, the other not as much. And we have witnessed the

influences that water releases from our reservoirs have on our groundwater basin, often raising well levels in quick reaction.

The Salinas River watershed is a highly modified system with two reservoirs that control flows in the channel year-round. As some may recall, the Salinas River was wet only a few months of the year prior to the reservoirs, truly a seasonal water system. With controlled releases we can manage the river to flow nearly year-round for multiple benefits, including flood control and groundwater recharge. Habitat enhancement is one of the benefits of having a *modified* river system flow.

Many decades ago prior generations realized that there needs to be enhanced groundwater recharge, not only against the seawater intrusion that was detected in the 1940s, but for continued irrigation and consumptive uses. Without this year-round flow of water the aquifer would be severely impacted and farming as we know it today would not be possible. Only through the foresight to build resource projects is the groundwater basin resilient for growing crops in one of the best climate and soil of the world.

There are a number of objectives now competing for reservoir waters ... and we can do better at managing the flow of that water for all beneficial uses. Can the minds involved come to a point of collaboration and compromise that meets many of the objectives of our river system? A long-term river management plan is being developed and the hope is that all stakeholders and agencies will be able to work together to craft a plan that makes sense.

This Leads to Sustainability

By now, we've all been in or read about the discussion of our water resources related to the Sustainable Groundwater Management Act (SGMA). The Salinas Valley Basin has formed their Groundwater Sustainability Agency and has engaged a consulting firm to help craft and guide the groundwater sustainability plan elements and development. Our deadline for the first plan is coming soon, January 2020.

SGMA is equated to building the airplane while we're flying it. This is a first-time regulatory process that requires thoughtful discussion amongst all stakeholders, including the agricultural community. Within this structure of discussion there must be agreement on minimum thresholds, measurable objectives, and undesirable results for each sub-basin within the Salinas Valley Basin. The six deadly sins of SGMA must be dealt with in the plan; our biggest challenge is seawater intrusion, but groundwater depletion and surface water interconnections must also be considered.

Within the past months there have been multiple meetings to discuss the plan elements and to identify the potential projects that may help lead the Salinas Valley Basin to sustainability (the balance of extractions to replenishment). The implementation period is 20 years once the groundwater sustainability plan is approved, which is not much time when considering the engineering, environmental studies, benefit assessments, and funding of any of these potential projects. Can we get this done in time?

There is some good news, though. The groundwater sustainability plan is an iterative plan, meaning it will be reviewed and updated every five years to ensure viability of the planned projects and implementation timing and elements. Also, the Salinas Valley Basin is not that far from sustainability, according to the preliminary groundwater studies done in the past few years. Sustainability could

characterized as managing the Salinas River channel better for vegetation and reclaiming the water that the exotic *Arundo* reed is sucking up annually; that's how close the sustainability number is. And stakeholders agree that this could be our first choice (and easiest choice) for implementation of the sustainability plan projects.

But this will all take a lot of collaboration on the part of agriculture and other stakeholders. SGMA requires an open and transparent process, something that has been fully supported to date and will continue to remain inclusive in the coming years.

Water is again the Issue of the Day, Month, Year

When we consider our pathway forward for water resources in the Salinas Valley, we face a lot of the same issues that were faced when the dams were built, but with much more complexity because of all the factors, knowledge, experience and hydrology involved. What influence will continued drought periods have on our water resources and our ability to store for these prolonged periods? Can we capture more water for storage, either above or below ground? What projects bring us the best bang-for-the-buck?

Stay tuned and informed ... it may be a bumpy ride getting there but we're at least on the right pathway.