

## Summary of AGR Policy issues (J. Dickey, 1/13/2014)

Policy issues related to interpretation of narrative AGR standards have mostly to do with how to interpret standards in terms of quantitative water quality thresholds that are locally protective of the beneficial use, considering three questions:

1. What are acceptable levels of protection?
2. What are the appropriate criteria for selection of models and assumptions when estimating crop sensitivity thresholds based on their intrinsic characteristics (crop, soil, climate, irrigation system, management, etc.)?
3. Whether and how to consider the actual potential of a given discharge to influence the quality of water applied to an SMC?

Each question is briefly discussed below. Elements that seem to be emerging from discussions to date are shown in bold.

### What are acceptable levels of protection?

These policy items define the extent (in space and time) and intensity (proportion of yield retained in worst case considered) of protection afforded by the AGR narrative standard, and drive the interpretation into quantitative salinity limits in discharges.

- **Minor crops that can be ignored** when selecting SMCs. Currently either a) crops occupying <5% of the irrigated area in a “zone”, or b) crops not comprising the shortest crop list whose acreage exceeds 95% of the irrigated area in a “zone”.
- **The tolerable level of yield reduction** for an SMC. Currently 5%.
- The **driest year in which the specified yield reduction limit should apply**. Currently discussed as 1 in 20 years.

### What are the appropriate criteria for selection of models and assumptions when estimating crop sensitivity thresholds based on their intrinsic characteristics (crop, soil, climate, irrigation system, management, etc.)?

This boils down to a question of conservatism, usually an expression of uncertainty and acceptability of risk.

If the comments on the LSJR report are to be considered seriously, then that direction might be more oriented **to estimating an average threshold**, rather than a very conservative one, and would tend to employ methods to achieve this goal based on **documentation in current scientific literature**. Methods selection would also be flexible at the local level, employing the type of **hierarchical approach proposed by Tim Moore**. In Tim's approach, the models come into play where simpler approaches do not yield a satisfactory result.

Strict adherence to the Hoffman Model (and no other), with conservative assumptions incorporated, is the major alternative to this approach.

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### Whether and how to consider the actual potential of a given discharge to influence the quality of water applied to an SMC?

There is a need for a method to identify water bodies to which AGR thresholds would apply. General guidance was provided by Ag Stakeholders to CV-SALTS, requesting further development of the general approach described in the draft GIS Task 5.1 and 5.2 report. Conceptually, the consensus was as follows:

1. A priori, set “zone” boundaries are not desirable. Rather, a **statistical approach to calculating crop frequency** to define SMCs should be developed. Items 2 and 3 (below) perform the remaining functions previously assumed to be served by static zones with fixed boundaries.
2. **Recharge areas for applied water (whether surface water or groundwater) are the waters that require protection**, and to which AGR thresholds should apply.
3. When applying thresholds, **mixing and dilution in the watershed should be considered**, perhaps by considering the area of influence of discharges.

Alternative approaches would define areas in which to apply AGR criteria on some basis other than their hydrographic and water quality relationship to irrigation water supplies employed to irrigate SMCs.