Scott Valley Stream Depletion SMC Development

Scott Valley GSA Advisory Committee November 17, 2020



Agenda

- 1. Questions from the last meeting and responses
- 2. New bookend management scenario(s)
- 3. New metric for evaluating scenarios
- 4. New proposed MT strawman
- 5. January meeting preview
 - ➤ Paired MTs and scenarios

GSP Chapters

1. Introduction



2. Plan Area and Basin Setting



- 3. Sustainable Management Criteria
- 4. Projects and Management Actions









Questions from the last discussion, and responses

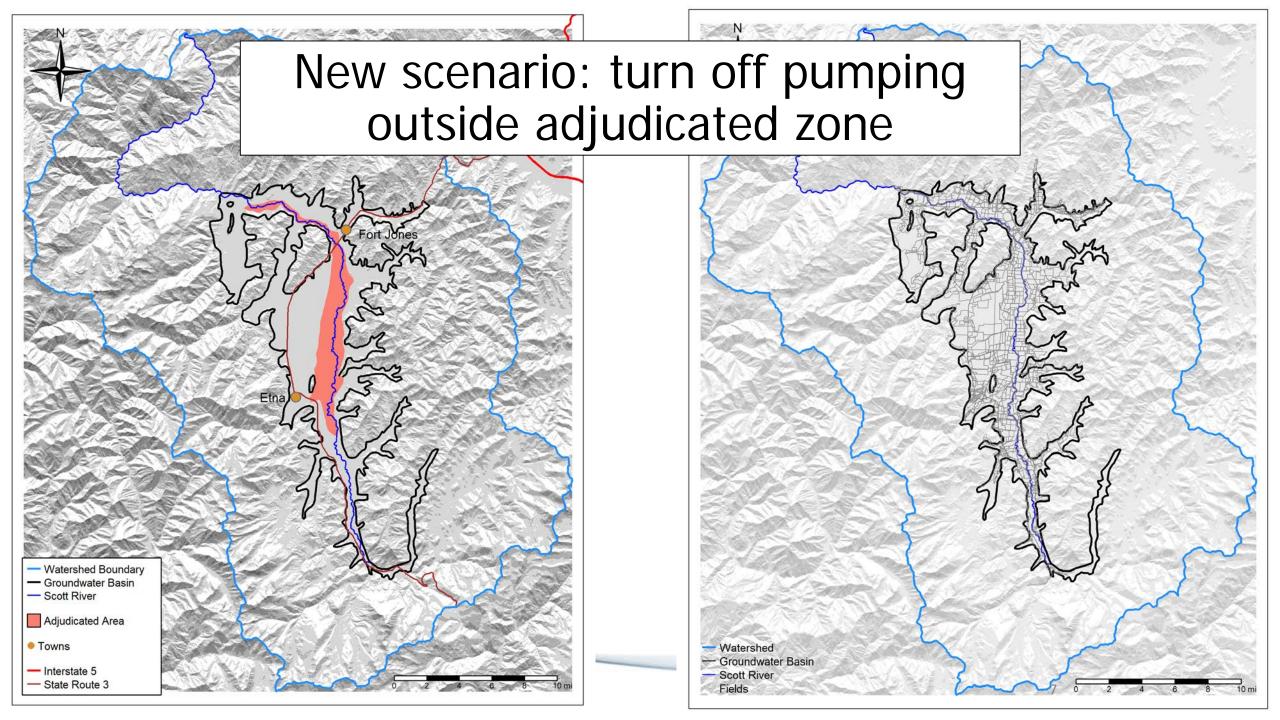
- What flowrate reduction is attributable to groundwater pumping (outside the adjudicated zone)?
 - New "bookend" scenario (preliminary)
- When do fish need the water in the fall?
 - New flow timing metric
- Legal authority questions:
 - Relation of MT to the Forest Service water right? GSA legal authority to set lower threshold?
 - What flow increases are theoretically possible under the GSA's authority?
 - New "bookend", maximum legal authority scenario (preliminary)

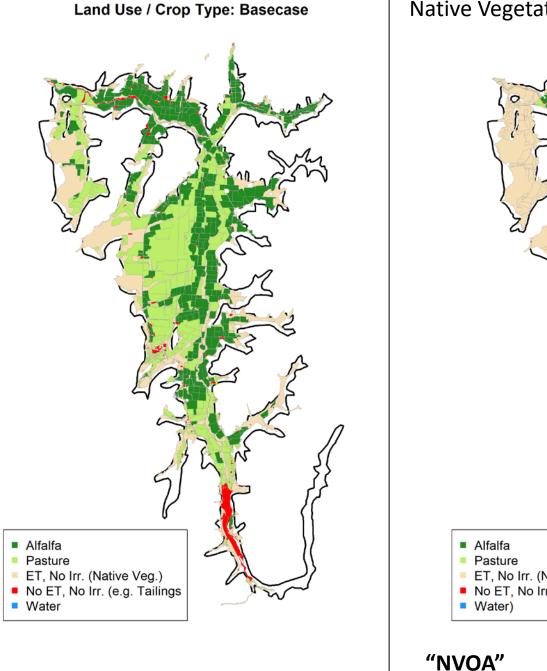
Questions from the last discussion, and responses

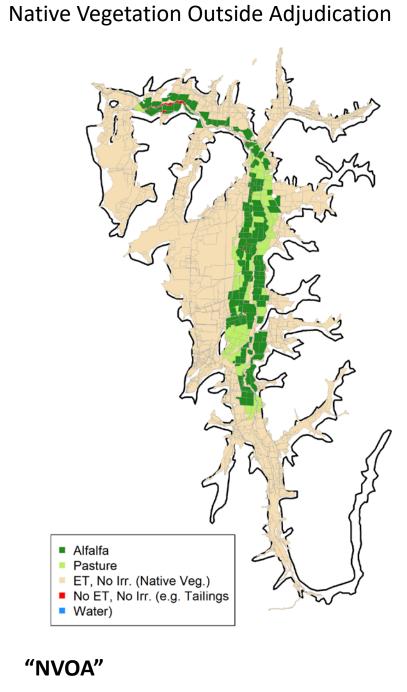
- Open questions should the MT definition be based on:
 - Water year type?
 - Streamflow? Groundwater levels?
 - Stream depletion attributable to groundwater pumping (outside the adjudicated zone)?
 - Technical team is proposing a water-year-type-modified streamflow-based MT definition (strawman) today, but this can certainly be discussed further

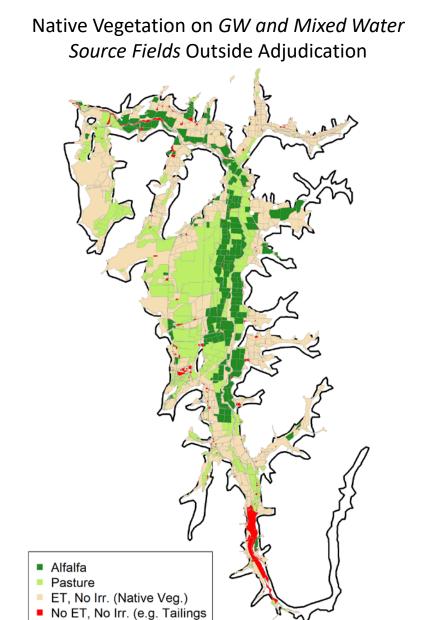
New scenario

"Bookend", maximum legal authority scenario (**preliminary**) (Not suggesting this is feasible or likely)





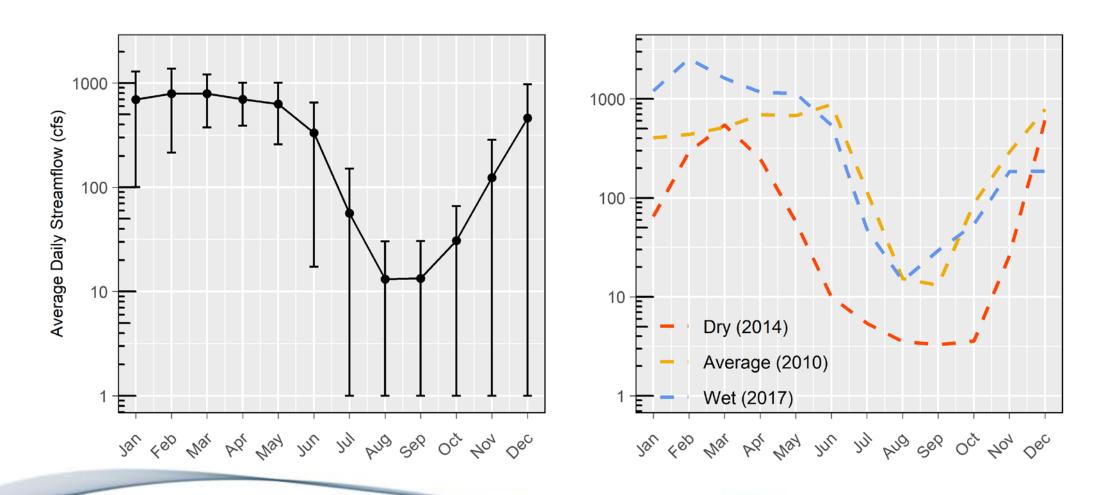




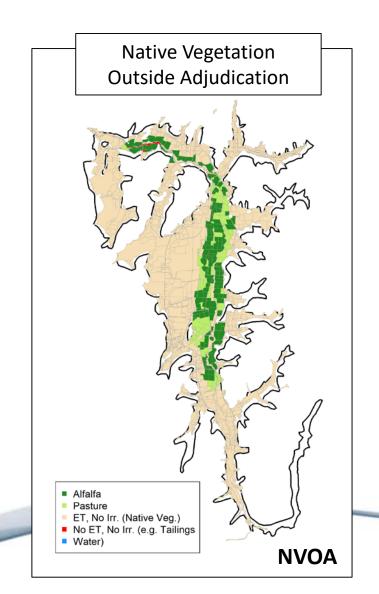
"NV-GWM-OA"

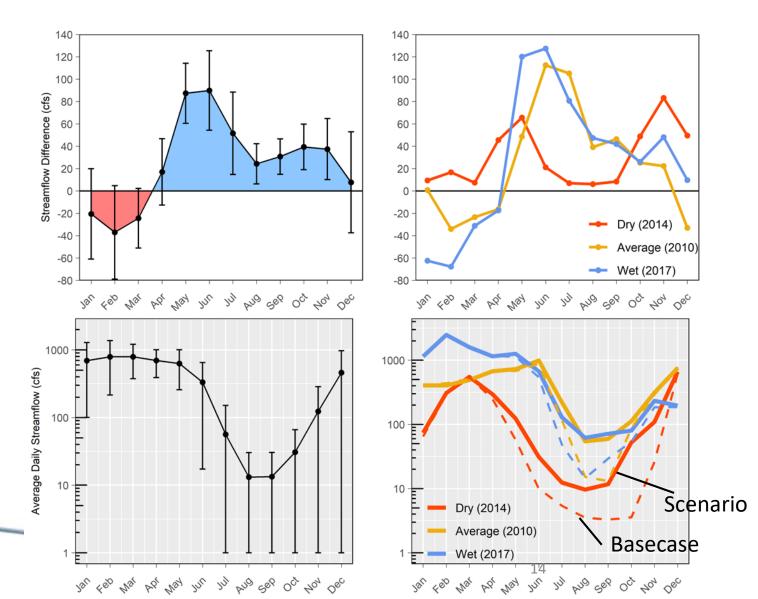
Water)

Basecase FJ flow (for comparison)

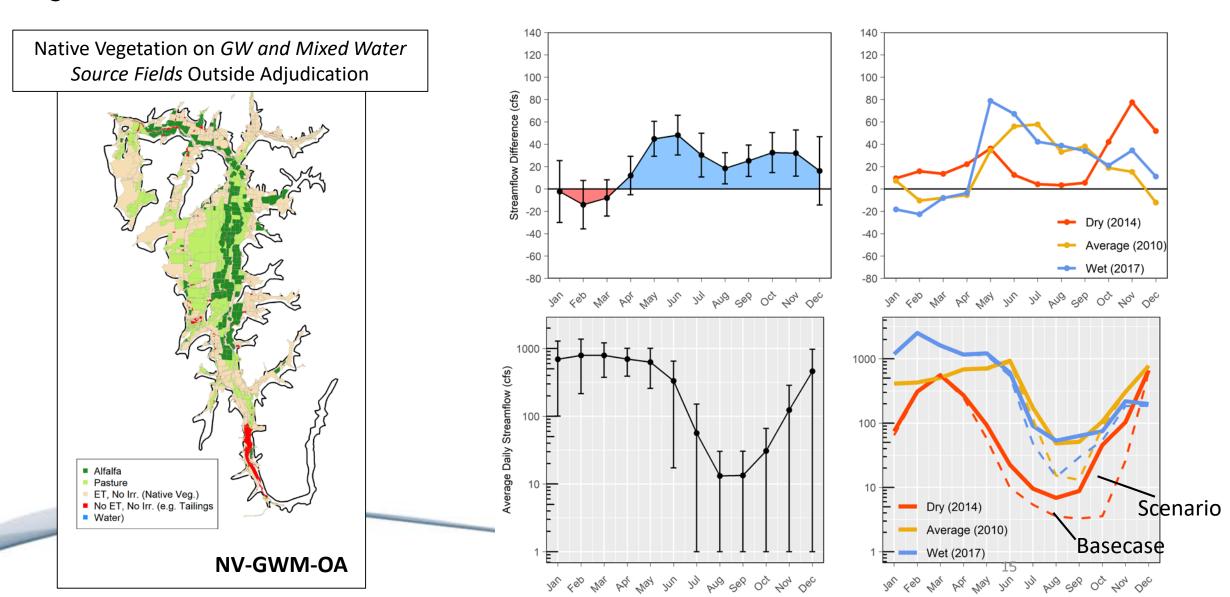


Preliminary Results – native vegetation on fields outside Adjudicated Zone





Preliminary Results – native vegetation on fields outside Adj. Zone with GW or Mixed water source



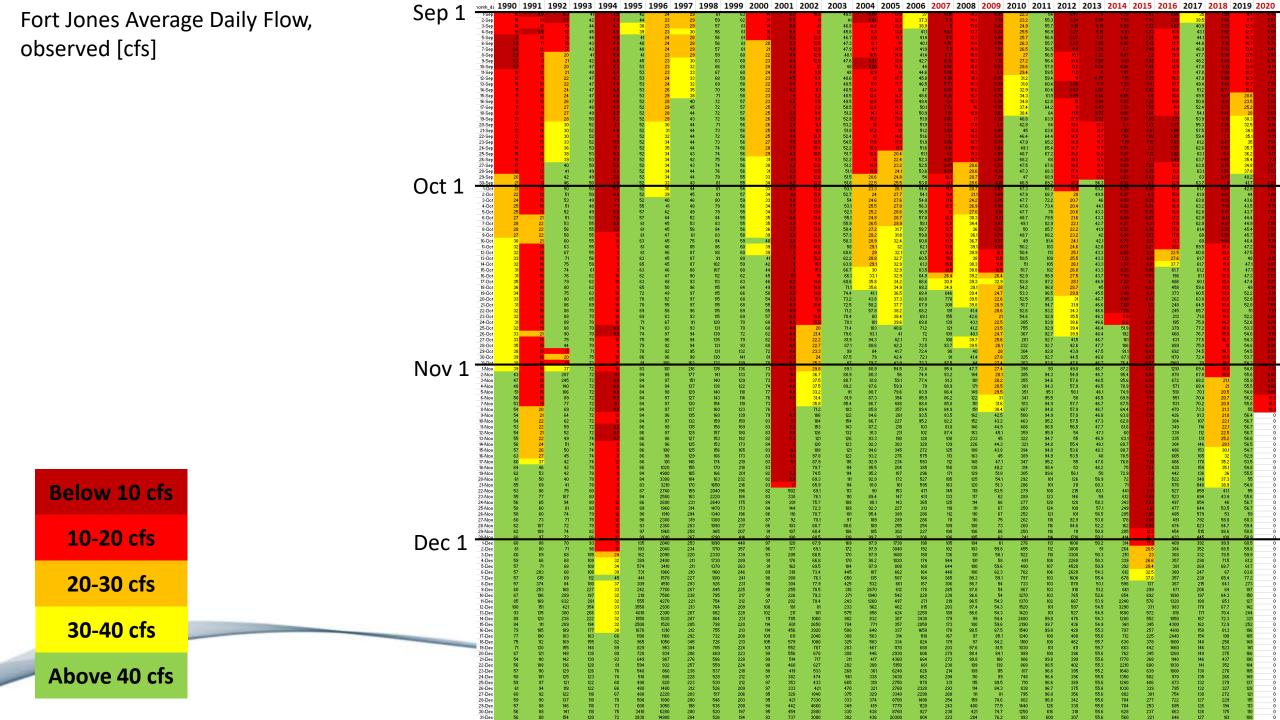
Clarifying questions on these scenarios?

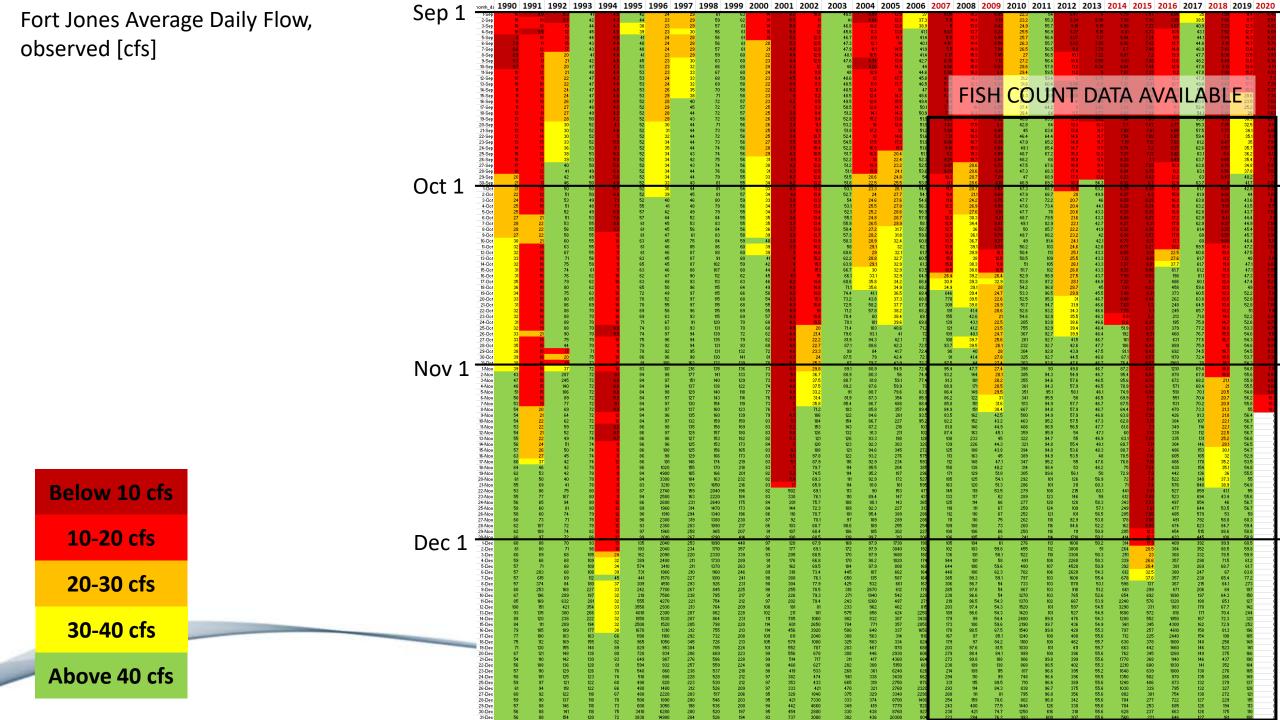
Solicited feedback

- Objective: capture all contributions to streamwater depletion from groundwater pumping outside the adjudicated zone.
 - "Maximum legal authority" endmember scenario
 - Does this scenario design accomplish that?
 - Natural Vegetation, on Groundwater and Mixed-water-source fields, Outside the Adjudicated zone
- If so, the GSA could use this to inform feasibility of MT definition options.

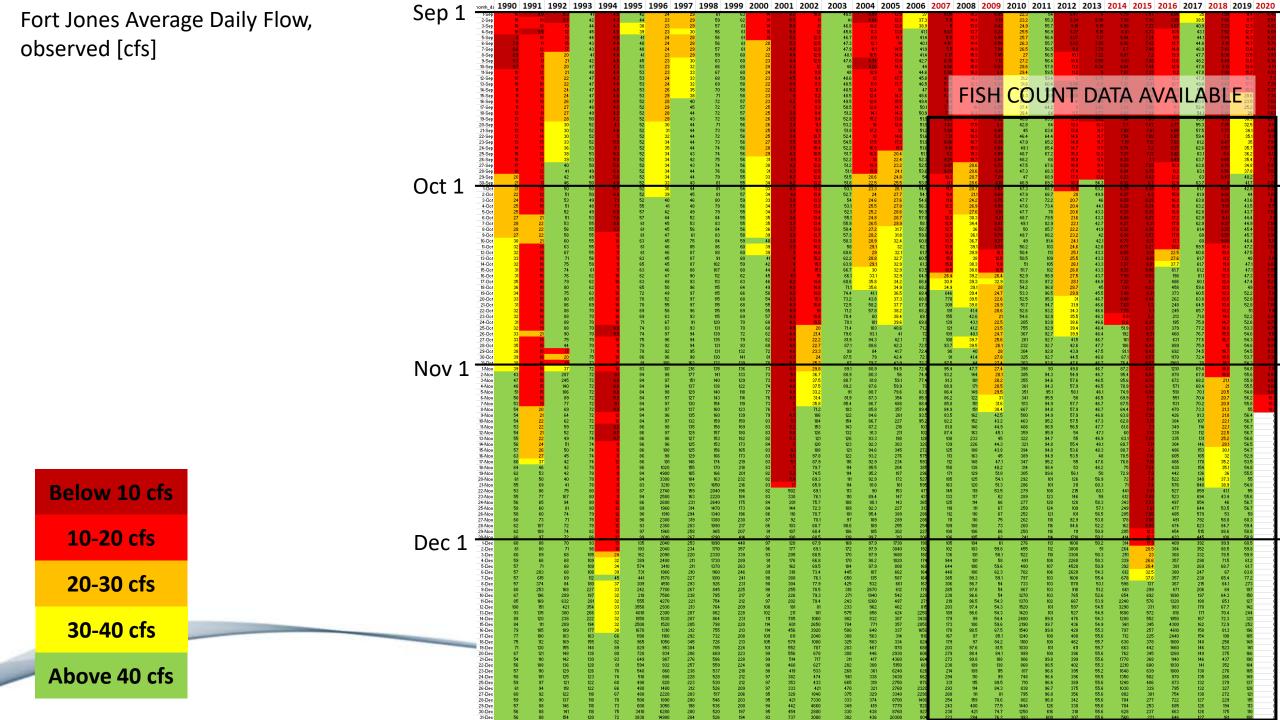
New metric

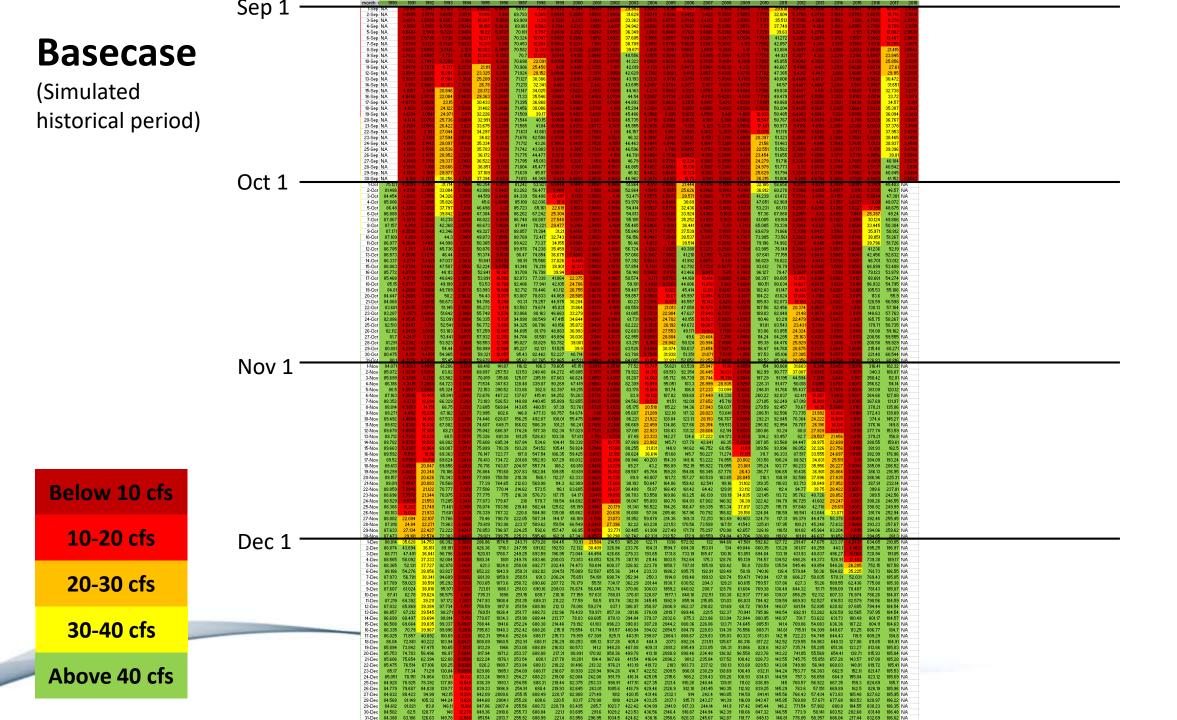
"Days gained" above threshold flowrates

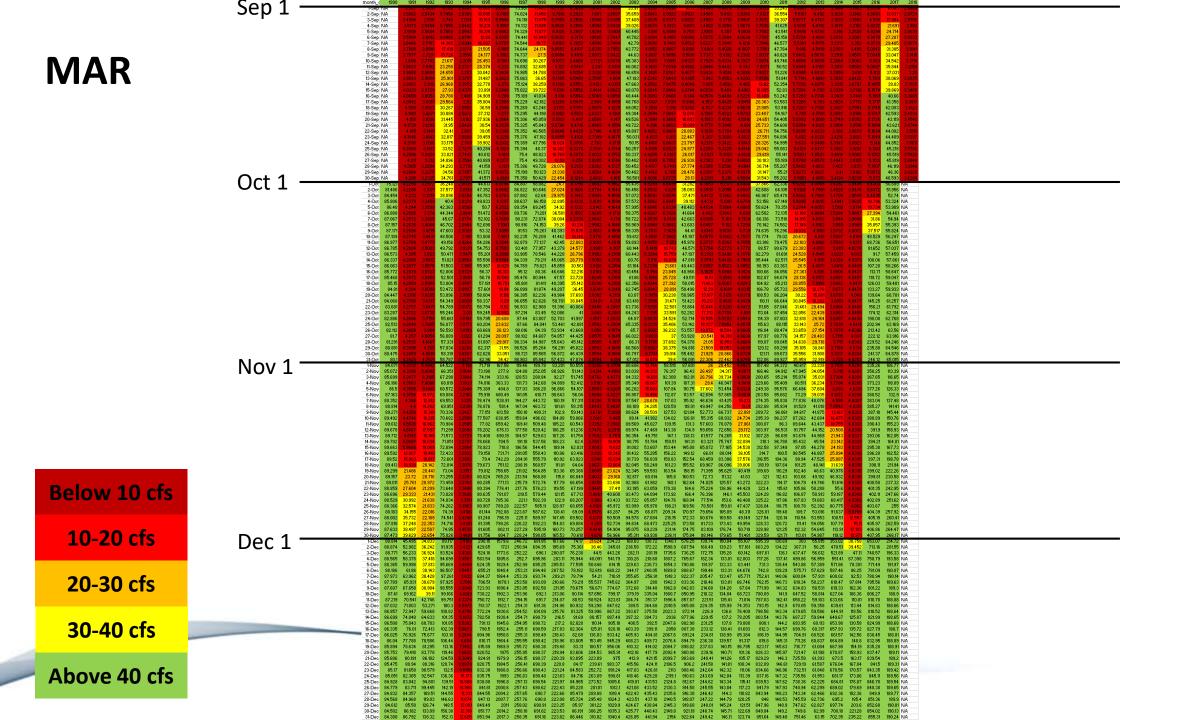


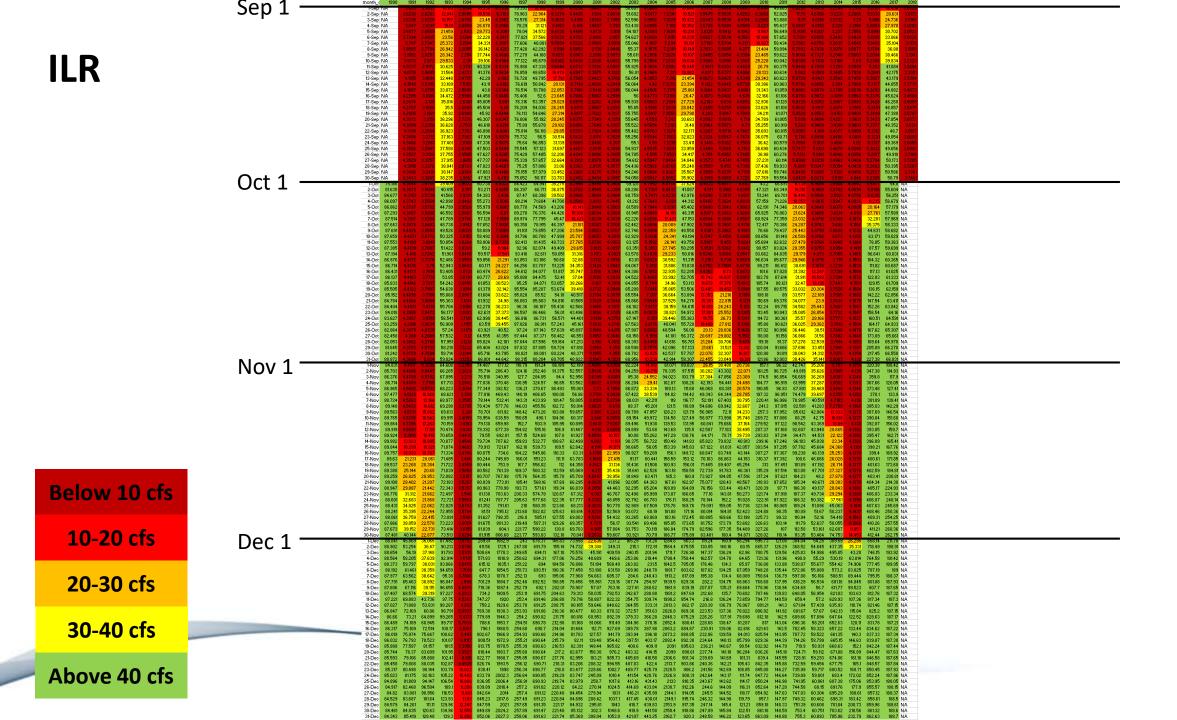


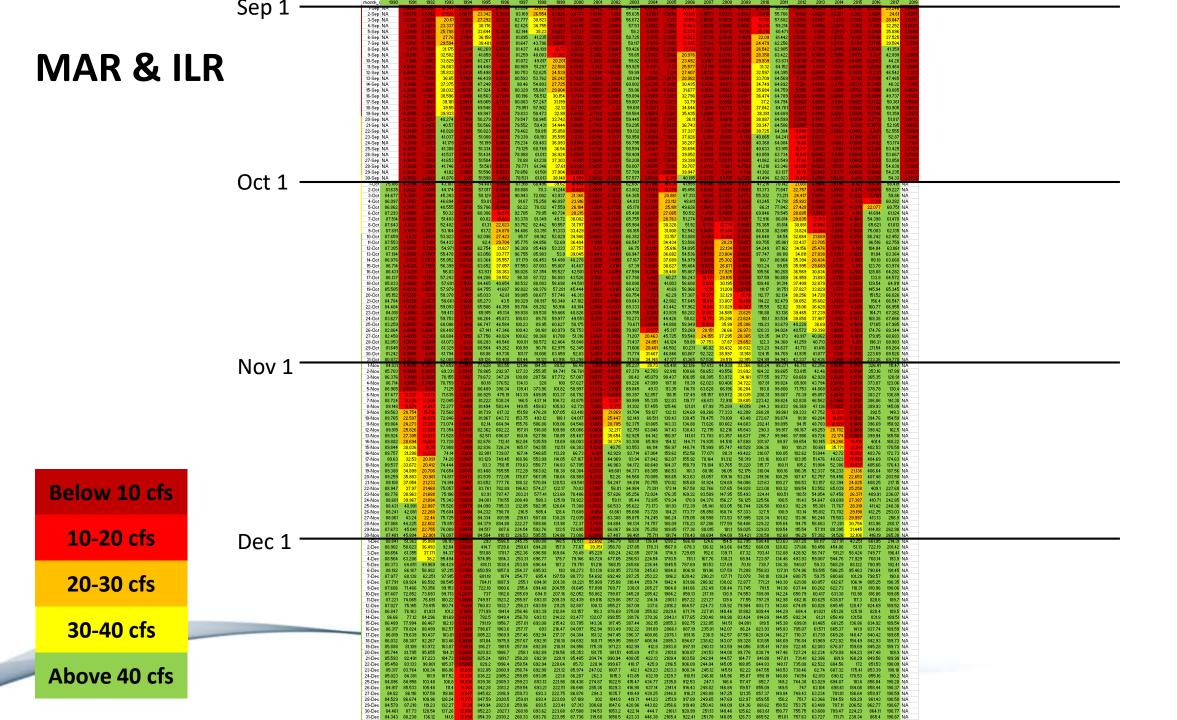
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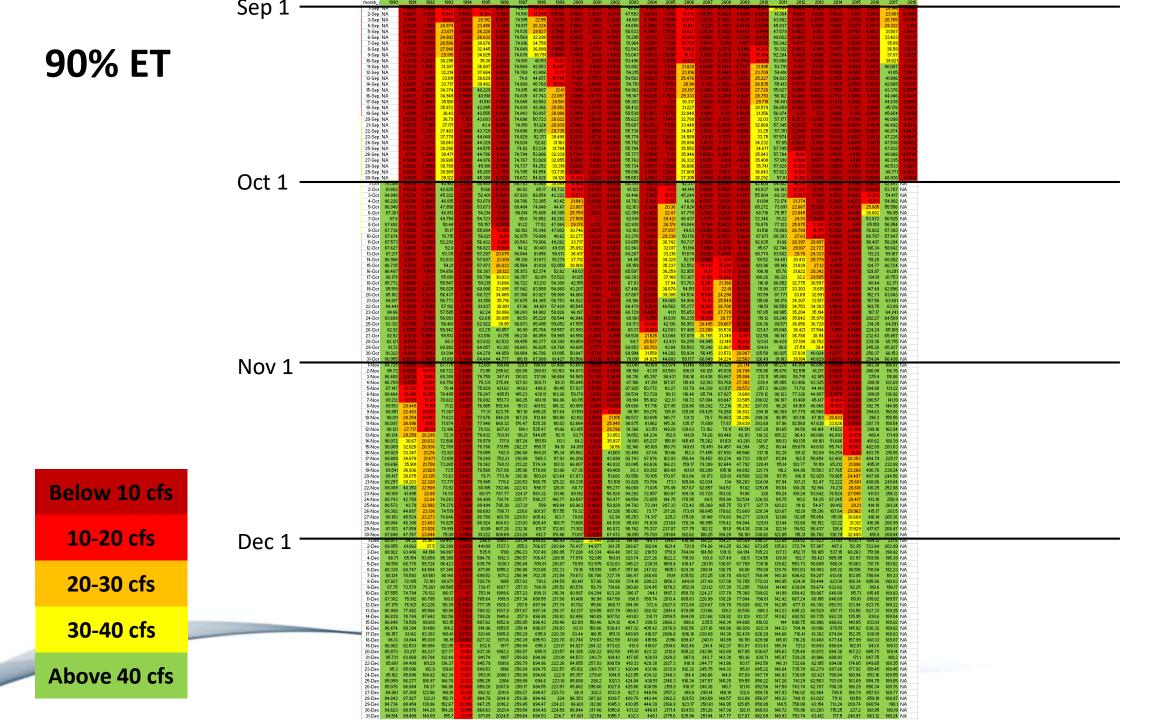


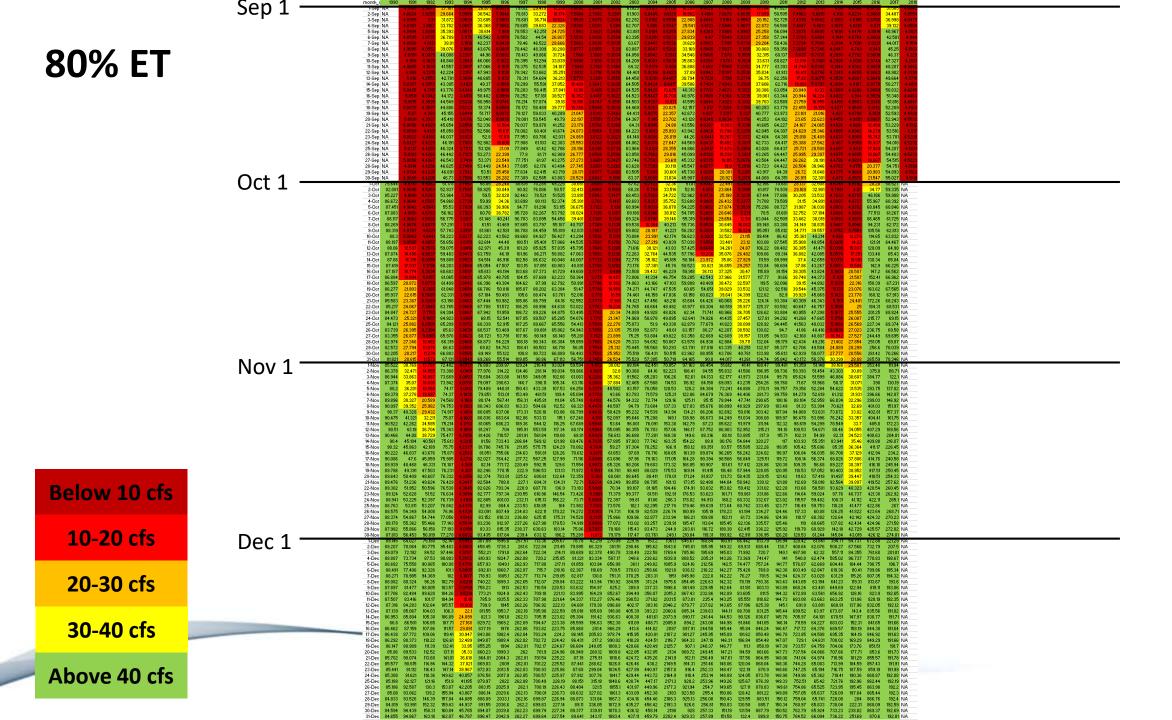


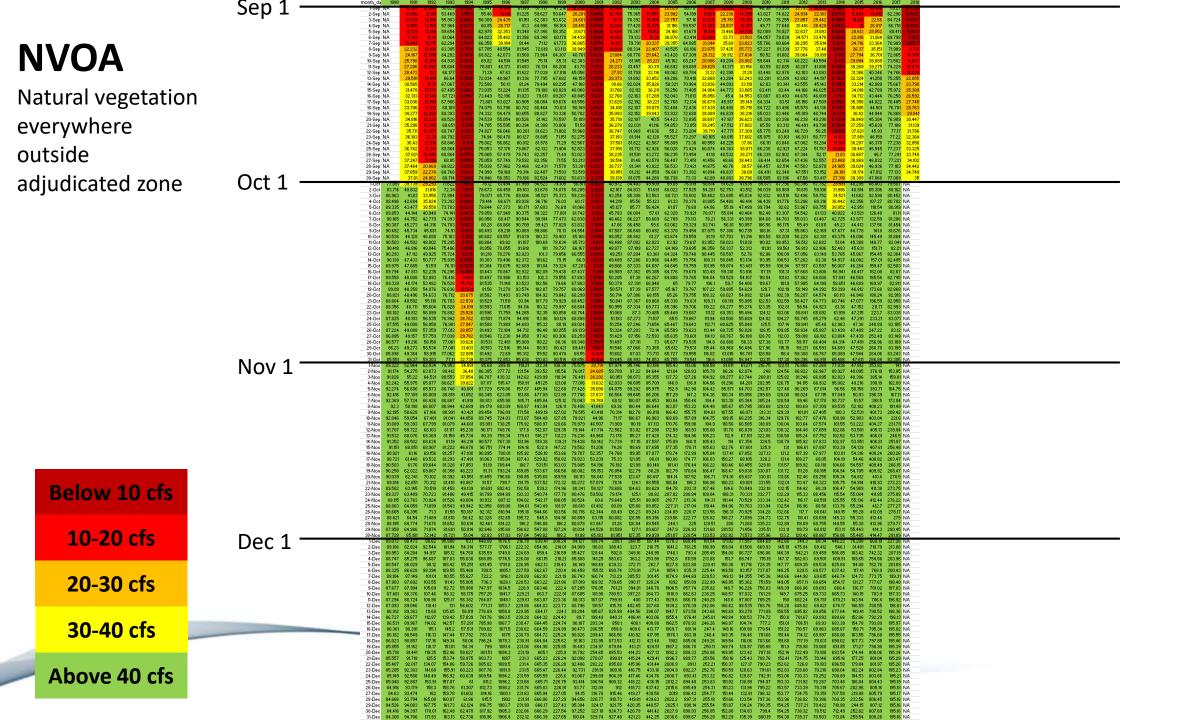


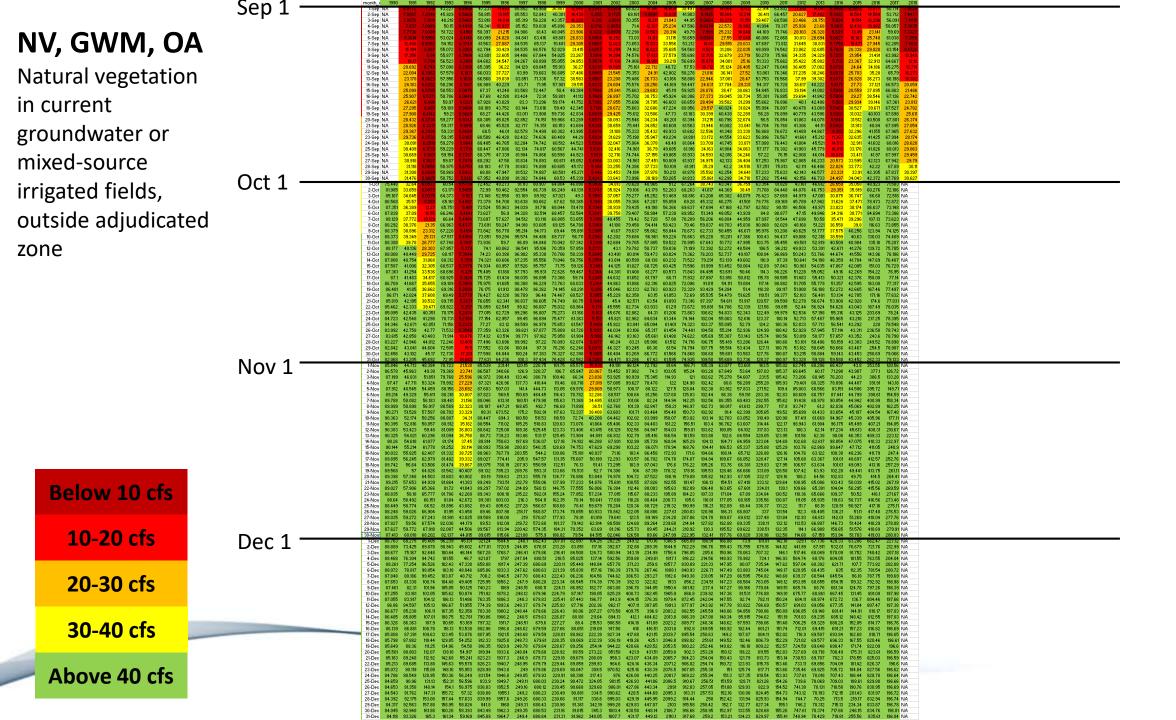


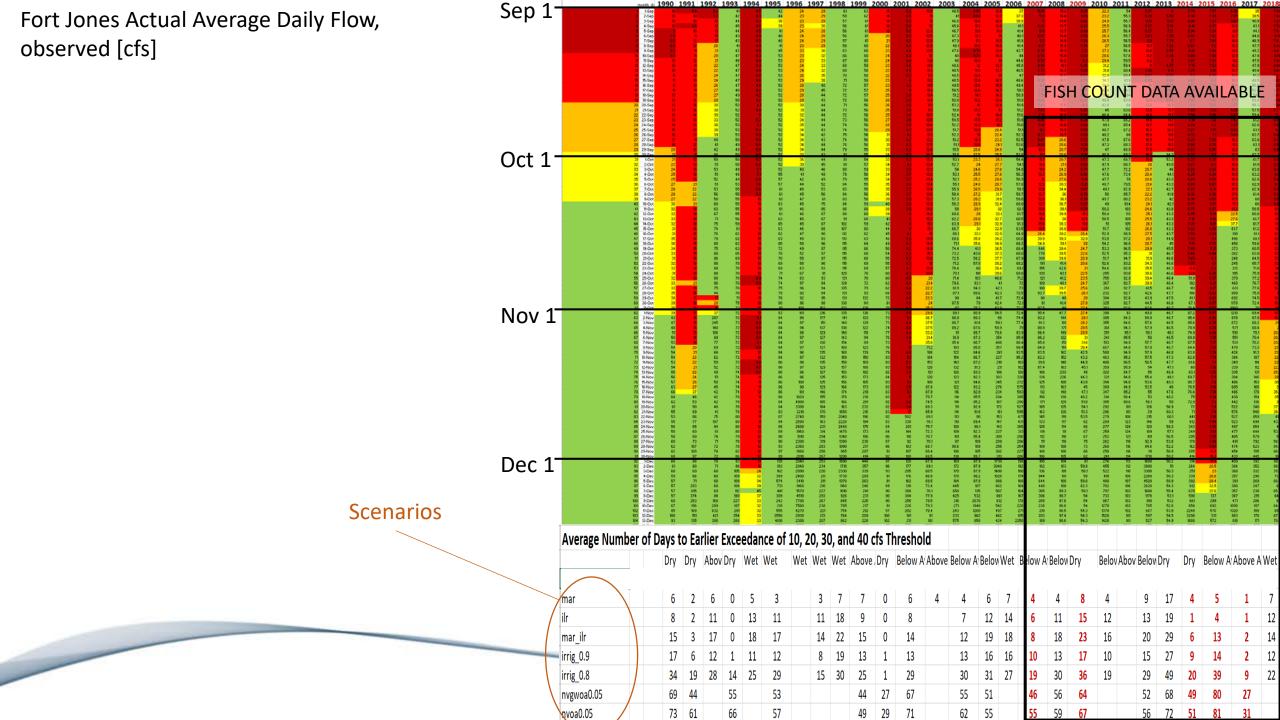












Proposed Streamflow MT

Previous UR/MT:

 Aug-Oct FJ flow dropping below 20 cfs for more than 60 days in >1 of 10 years.

New MT definition option:

 An UR will occur if the flow at FJ is below 20 cfs on Oct. 1st (with possible modifications by water year type).

FJ Gauge **Flows** Measurable Objective Management Action Trigger Minimum Threshold On Oct. 1

• In January, we'll present paired management scenarios + MT definitions that would be achievable for each one.

Solicited feedback

- Is the structure setting a date at which the MT is a flow excepting extremely dry years – an acceptable approach?
 - Is Oct. 1 the right day to set the MT?
 - Is 20 cfs the right threshold value?
 - What else should we consider when refining the date/flow threshold?
- Is the committee comfortable with no MT for summer flows?

- What would be constructive next steps for setting the MT at a level that is both physically possible and economically feasible?
 - What are the next-highest-priority management scenarios to simulate?

Solicited feedback

- Outstanding question are there more thoughts on whether the MT definition should be based on:
 - Streamflow?
 - Groundwater levels?
 - Stream depletion attributable to groundwater pumping (outside the adjudicated zone)?

Solicited feedback (cont.)

- Preferred methods for calculating "extremely dry" water years?
 - Snowpack
 - River flow
 - Oct-Mar rainfall
 - Date of determination (April 1? Oct 1?)

January meeting preview

- Propose 3 MTs, as well as:
 - Costs (the management action[s] necessary to achieve them)
 - And benefits (i.e., using metric of average # of days gained above the MT relative to the baseline scenario)
- for each MT.

Open discussion

Acronyms:

UR – Undesirable Result

 Informed by Sustainability Goal, but must be tied to metric(s)

MT – Minimum (or Maximum) Threshold.

- The MT is the boundary beyond which a UR occurs.
- Note: MT and UR definitions are linked.

MO – Measurable Objective

Ideal operating range

SMC – Sustainable Management Criteria (includes URs, MO and MTs)

RMP – Representative Monitoring Point