

Simplified Scenarios

Once the WSAC has had a chance to learn about and discuss the information generated by the Water Supply Convention, there will be an opportunity to begin to test the full range of alternatives to see how well they might meet future needs to improve water supply reliability. The “big” MCDS model is a major tool we will be using in this process, but it will be a more useful exercise if we aren’t just using one problem definition when we apply the model.

One possible approach to providing the alternative problem statements is to use the scenarios the Committee has been working on. The technical team does not recommend this approach at this stage because the information needed to do this isn’t ready yet. An alternate approach we’re recommending is to use Simplified Scenarios that we’ve created using your work from the last months. The insights we get from applying the Simplified Scenarios to the MCDS model will provide insight for the long-term task of developing the more complex scenarios.

Still, being able to view alternatives at this early stage in the context of a range of potential future demands would be valuable in considering the scale of options and how they individually could work as individual projects or strategies to address the gap between supply and demand. To support this purpose, the technical team has created a simple two-by-two matrix of simplified alternative futures for use by the Committee as part of its initial work with the outcomes of the Water Supply Convention.

This simplified approach is meant to be used only in the context of the November meeting and is meant to be a transition between a “one number” problem statement and more sophisticated scenario based problem statements.

Simplified Scenarios for 2035¹

	High Fish Flows	Low Fish Flows
High Climate Change Impact	High Fish Flows High Climate Change Impact S-D Gap = 1.84 bgy	Low Fish Flows High Climate Change Impact S-D Gap = 780 mgy
Low Climate Change Impact	High Fish Flows Low Climate Change Impact S-D Gap = 1.53 bgy	Low Fish Flows Low Climate Change Impact S-D Gap = 650 mgy

In advance of the Committee’s November meeting, the range of possible future demands presented here will be used by committee members to run the MCDS model and rate alternative within at least 2 different futures. Committee member results will be combined by Philip Murphy to explore all 4 futures, providing insight about weights and sensitivity to weights, ratings and sensitivity to uncertainty in the ratings, prioritization of research, etc.

¹ Here are the basic assumptions about this chart as it stands now :

- Simplified Scenarios are relevant to circumstances in 2035
- Demand is 3.5 bgy
- High fish flows are based on DFG-5 which produced a supply-demand gap of 1.53 bgy impact in current climate and 1977 hydrology, which is the historical “worst case year.”
- Large climate impact would potentially make circumstances such as those in 1977 more frequent, and it may be that additional, more severe droughts, or longer, multi-year droughts would occur, so the high climate change/high fish flow supply-demand gap has been increased by 20%, making it 1.84 mgy under the high fish flows/high climate impact condition.
- The low climate change impact/high fish flow condition, maintains the current estimate of the supply-demand gap in 1977 hydrological condition, so that gap is 1.53 bgy.
- Low fish flows are Tier 3/2 which produced a supply-demand gap of 650 mgy in current climate and 1977 hydrology.
- Large climate impact would potentially make circumstances such as those in 1977 more frequent, and it may be that additional, more severe droughts, or longer, multi-year droughts would occur, so the high climate change/low fish flow supply-demand gap has been increased by 20%, making it 780mgy under the low fish flows/high climate impact condition.
- The low climate change impact/low fish flow condition, maintains the current estimate of the supply-demand gap in probably wouldn’t be worse than the 1977 hydrologic condition, so that gap is 650 mgy.