

Reservoir Committee and Authority Board Meeting

Agenda Item 3.2: Winter-run Chinook Salmon
Life Cycle Model Results

March 17, 2023



Model Background

- Evaluates the effects of water operations on the population dynamics of Sacramento River winter-run Chinook salmon
 - Integrate effects across entire life-cycle and multiple environmental conditions
 - Evaluates effects to the abundance, distribution and survival of specific life stages in the river system, and ultimately to predict the effects at a population level
 - Requested by NMFS and CDFW for Federal and State ESA consultation

Summary of WRLCM Key Results

- The Project has a slightly positive effect on winter-run with the potential to increase the overall population
- Benefits to winter-run are associated with periodic reductions in late summer water temperatures in critical water years that decreases salmon egg mortality
- Alternative 3A (Reclamation investment at 25%) has slightly greater benefits than Alternative 3B (16% investment)
 - May be able to create same benefits with more exchanges

Summary of WRLCM Key Results (cont)

- Model accounts for diversion of water but applies parameters on the effect of diversions that may be overly conservative
- Project results in a slightly positive mean change in abundance of in-river spawners when averaged across all years of the model
- Average number of future spawning fish produced by each spawning adult is slightly higher with the Project (i.e., more offspring live to reproduce per spawning fish)

Next Steps

- Continue discussions with agencies on interpretation of effects
- Incorporate results into Biological Opinion and Operations ITP application

Questions?