

Environmental Planning and Permitting Work Group

October 12, 2022



Agenda

- BA & Operations ITP Adaptive Management Plan Overview
- Environmental Changes with Moving to a 60 TAF Operational Dead Pool
- Environmental Permitting and Planning Manager Report
 - Key Planning Activities Report
- Upcoming Meetings

BA and Operations ITP Adaptive Management Plan

John Spranza

Adaptive Management

- “A framework and flexible decision-making process for ongoing knowledge acquisition, monitoring, and evaluation leading to continuous improvement in management planning and implementation of a project to achieve specified objectives” CWC Section § 85052
 - Provides for making management decisions under uncertain conditions using the best available science
 - Allows for continuous learning resulting in management decisions based on what is learned

Goals

1. Continue the long-term operation of the Project in a manner that maintains and, if possible, increases supply reliability, ecosystem benefits and drought resiliency
2. Address scientific uncertainties related to the Sacramento River and Delta ecosystems as they relate to the effects of the Project's operations on listed species
3. Use the knowledge gained from the Program to refine Project operations to continue to avoid, minimize, and mitigate effects on listed species and water quality
4. Refine the AMP through the Project's BiOp(s) and ITP consultation

Management and Governance

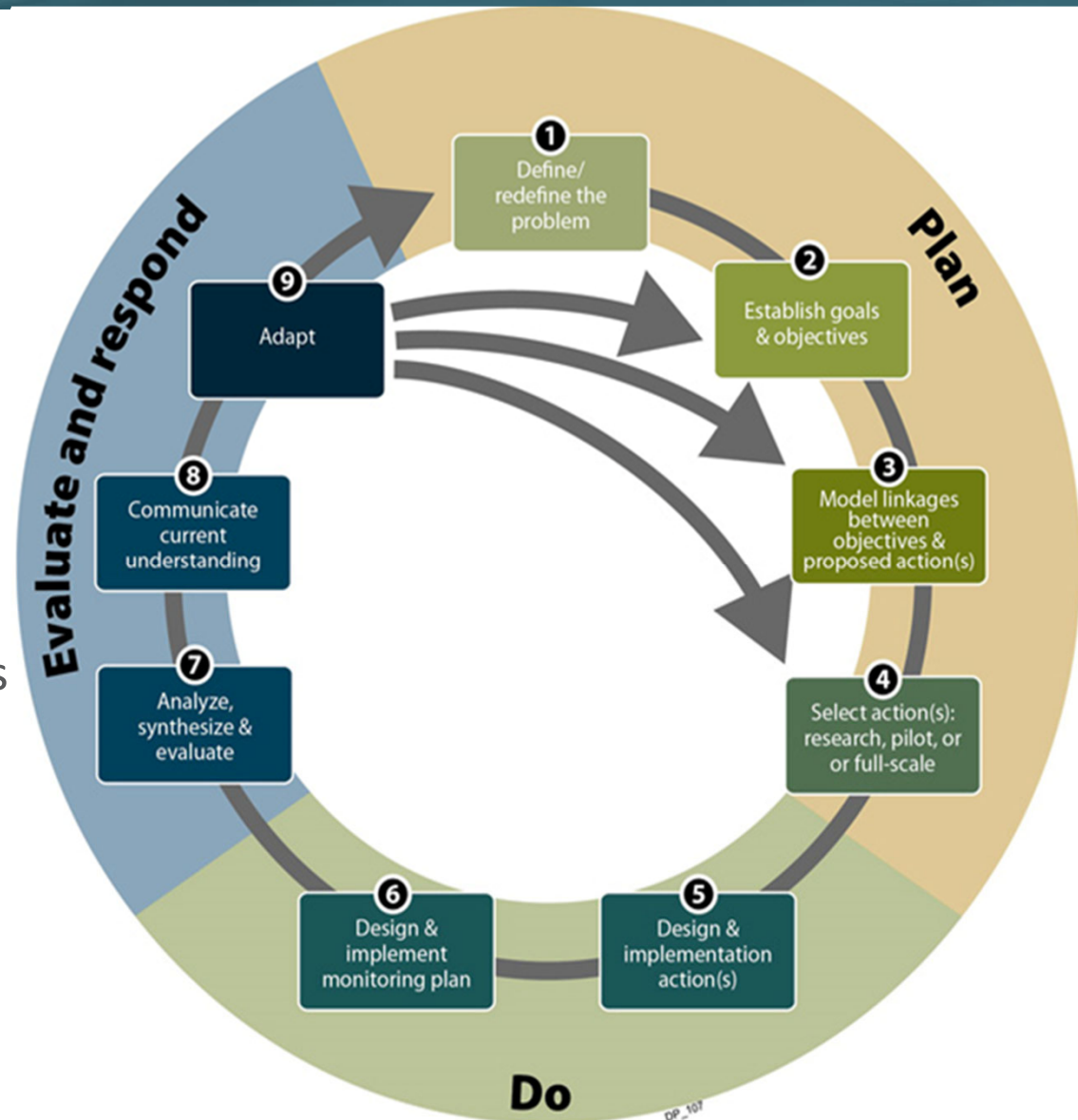
- Adaptive Management Committee (AMC)
 - EPP Manager, Reclamation, TCCA, GCID, DWR, a representative from each resource agency, and the lead of the AMS Team
 - Responsible for vetting recommendations from the AMS Team and forwarding recommendations to the Authority regarding approval of studies and investigations that address uncertainties and/or relate to modifications to operations or facilities that will be evaluated in the adaptive management process
- Adaptive Management Science Team (AMS Team)
 - Staffed by Authority and/or contractors with appropriate expertise
 - Responsible for developing and recommending to the Authority a course of studies to address the uncertainties
 - Collaborate with other regional science programs and experts
 - Optimize reliance on ongoing science and monitoring programs

Tools

- Establish a Science Program
 - Address uncertainties and ensures safeguards in the Project's operational criteria are effective at protecting aquatic resources, environmental and water supply goals
 - Collaborate with other science programs in the watershed and Delta (e.g., Sacramento River Science Partnership, Delta Science Program, Interagency Ecological Program, etc.)
 - Prioritizing ongoing and planned monitoring and investigations over creating duplicative programs
- Perform Monitoring and Investigations
 - Independent and coordinated efforts for Authority collaboration with ongoing monitoring efforts in the region
 - Focused on Project-related issues and uncertainties
 - Results used in the Project's AMP and operations

Process

- Phase 1: Planning
 - Identify issue, goals and objectives
 - Define and recommend a study plan/investigation
- Phase 2: Doing
 - Design and implement study/investigation
- Phase 3: Evaluate and Respond
 - Analyze and synthesize results
 - Collaborate with permitting agencies and research peers
 - Communicate the current understanding to research peers and obtain comments
 - Recommend AMP actions to Authority



Next Steps and Funding

- Share draft AMP with agencies, refine based on input
- Develop specific triggers and thresholds
 - Starting now, likely take into 2023
 - Engage with agencies once have framework
- Costs of implementing
 - Not yet determined

Environmental Changes with Moving to a 60 TAF Operational Dead Pool

John Spranza

Refinements to Water Quality and Fisheries Effects

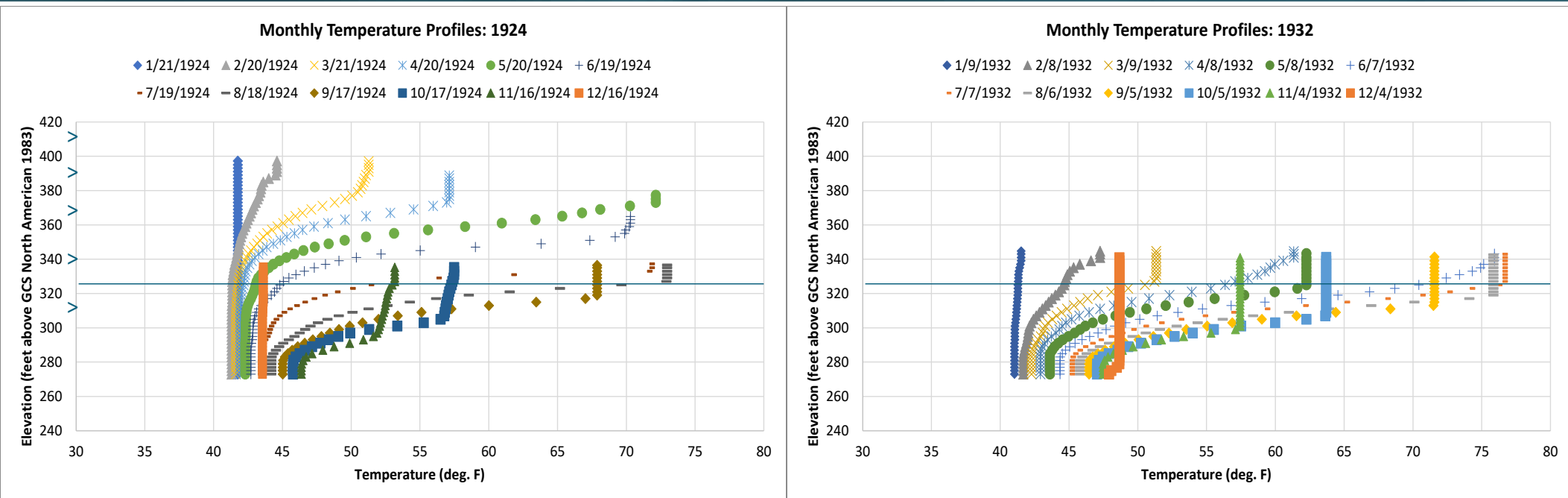
- Changes in key components:
 - Water surface elevation
 - Temperature
 - Thermal stratification
 - Evapoconcentration
 - Metals
 - Harmful Algae Blooms (HABs)

NOTE – All of the operational dead pool assessments do not account for inflows from Funks and Stone Corral creeks and thus, present a more conservative assessment

Key Takeaways

- Results in occasional periods of lower storage and increased evapoconcentration of metals
 - 46 out of 984 (4.7%) months 60 TAF dead pool is reached
 - Effect of evapoconcentration highest when no Sacramento River water is added when operational dead pool level is approached
- Negligible change in temperature of receiving waters and release of metals to receiving waters
- When near or at operational dead pool, increased likelihood that releases, if needed, into Stone Corral and Funks Creeks:
 - Could have higher concentrations cyanobacteria and cyanotoxins (HABs) than with the 120 TAF dead pool
 - Could have higher metal concentrations than with the 120 TAF dead pool

Reservoir Temperature Releases Can Generally be Managed to 65°F Objective



- Reservoir release temperature objective of 65°F during the rice growing season
- Water available to blend to meet this requirement even in extreme years should releases occur
 - 1924: Storage change from Jan 500 TAF to Oct 79 TAF
 - 1932: Storage change from Jan 62 TAF to Oct 52 TAF

Water Temperature of Releases to the Sacramento River Continue to be Slightly Reduced

Month	Mean Estimated Change in Water Temperature (°F) from Sites Reservoir Releases in the Sacramento River	Median Estimated Change in Water Temperature (°F) from Sites Reservoir Releases in the Sacramento River
January	--	--
February	--	--
March	--	--
April	-0.21	0
May	-0.26	-0.11
June	-0.12	-0.07
July	-0.12	-0.11
August	-0.28	-0.28
September	-0.12	-0.08
October	-0.15	0
November	-0.24	-0.08
December	-0.13	-0.12

- Range of temperature change in river:
 - low of -1.1 and a high 0.0 degrees F

Metals Concentrations Slightly Increased, But Follow Same Trends as 120,000 AF Operational Dead Pool

Metal	Median Estimated Sites Reservoir Concentration* Alternative 3 w/60 TAF Op Dead Pool	Median Concentration in Colusa Basin Drain**	Maximum Estimated Concentration in Sacramento River when Sites Discharge is Mixed**	95th Percentile of Concentrations in Sacramento River***
Total Aluminum	614	~140% higher than Sites	~ 80% higher than median river levels	~ 320% higher than Sites
Total Copper	4.24	~120% higher than Sites	~ 45% higher than median river levels	~ 50% higher than Sites
Total Iron	605	~200% higher than Sites	~ 100% higher than median river levels	~ 320% higher than Sites
Total Lead	0.28	~240% higher than Sites	~ 60% higher than median river levels	~ 320% higher than Sites

*Assuming Some Settling of Suspended Sediment

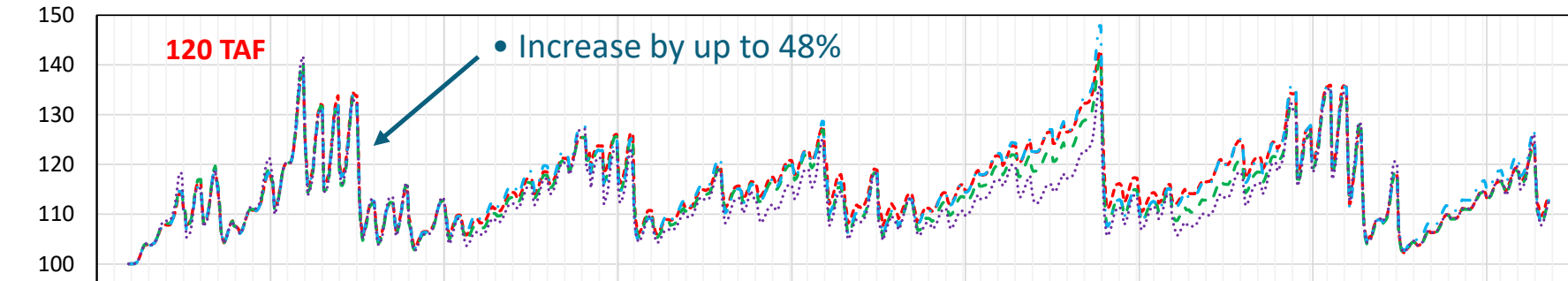
**During the Primary Sites Discharge Season (May–September)

*** 95% of the measured concentration values are estimated to be smaller

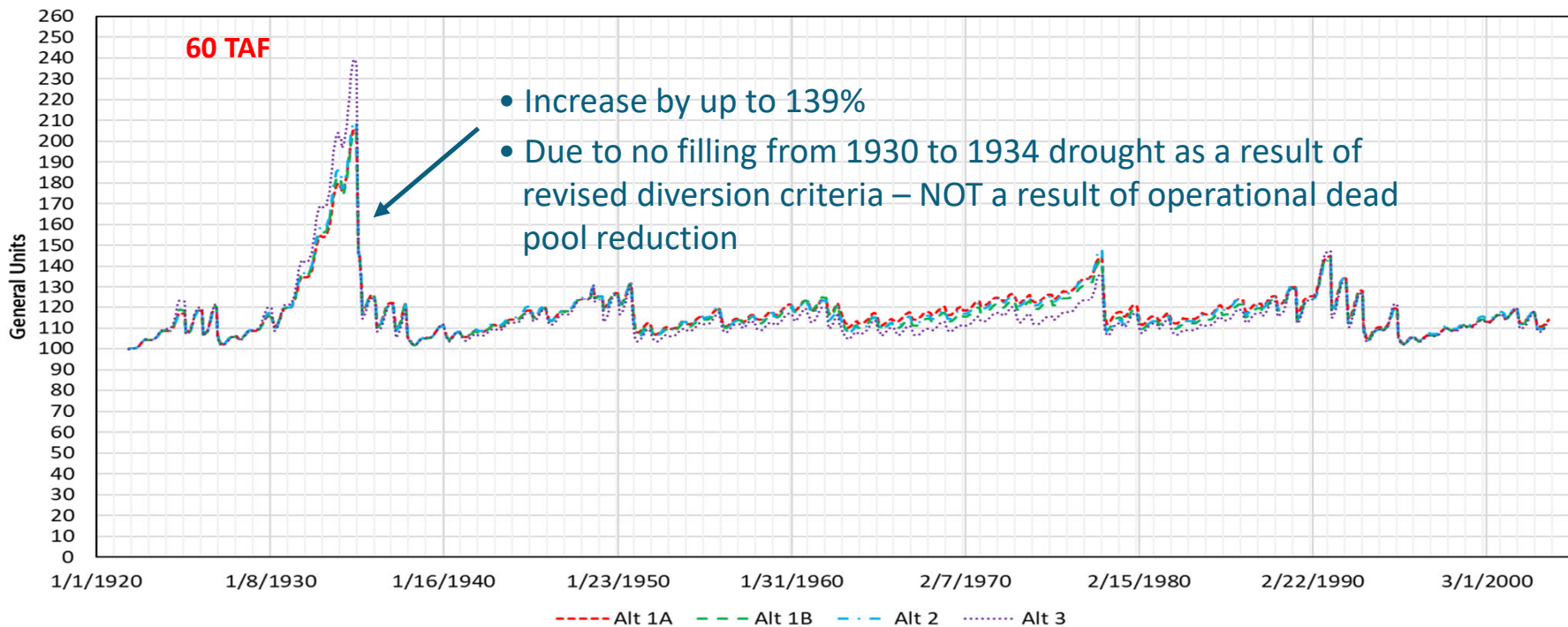
- Nominal change from 120,000 AF operational dead pool
- Median modeled concentration in reservoir with some sediment settling:
 - Lower than median concentration in the Colusa Basin Drain
 - Higher than median concentration in the Sacramento River
 - Lower than the measured high concentrations (95% percentile) in the Sacramento River
- Methylmercury still significant and unavoidable in Stone Corral Creek

Evapoconcentration Increase in Final EIR/EIS BUT from Revised Wilkins Slough Criteria

Concentration of Hypothetical Constituent



Concentration of Hypothetical Constituent



What Does All This Mean for Members?

- 60 TAF operational dead pool results in changes, but trends are similar to the 120 TAF operational dead pool and changes are relatively minor
- Continue to implement a robust water quality monitoring program once the Project is operational
- Approach operational dead pool elevations in Project operations with continuous assessment of real-time monitoring data and be ready to adjust if needed






Questions



Environmental Planning and Permitting Manager Report








Ali Forsythe

Dashboard Update

Deliverable	Finish	Status	Notes, New or Potential Issues
Water Right Application			
• Submit to State Board	May-22		Application Submitted May
• Complete Protest Resolution Period	Aug-23		Date adjusted to incorporate time for information request from State Board
• Receive Water Right Permit	Jul-24	N/S	
Federal ESA			
• Submit BA to Reclamation	Nov-22		Date adjusted
• Receive BiOps	Aug-23	N/S	Date adjusted
State ITPs			
• Receive Construction ITP	Jun-23		
• Submit Operations ITP to CDFW	Nov-22		Draft application being prepared
• Receive Operations ITP	Jun-23	N/S	

N/S = Not Started;  = On track;  = Area of Potential Concern;  = Delayed;  = Completed

Dashboard Update

Deliverable	Finish	Status	Notes, New or Potential Issues
Section 106 – Cultural Resources			
• Final Programmatic Agreement	Aug-23		Date adjusted
• Programmatic Historic Properties Management Plan	Apr-23		Ongoing meetings and coordination
Clean Water Act 404/401			
• Submit Final Permit Applications	Nov-22		Preliminary drafts submitted to agencies
• Receive 404 and 401 Permits	Jun-23		Will come shortly after Final EIR/EIS
Streambed Alteration Agreement			
• Prepare and Submit Application	Dec-22		Master Agreement
• Receive Master Agreement	Jun-23		Will come shortly after Final EIR/EIS
Eagle Permit			
• Short-Term and Nest Take Permits Issued	Feb-23		
• Long-Term Permit Issued	Mar-24		

N/S = Not Started; Green = On track; Yellow = Area of Potential Concern; Red = Delayed; Blue = Completed

Dashboard Update

Deliverable	Finish	Status	Notes, New or Potential Issues
Final EIR/EIS			
• Complete Final EIR/EIS	May-23	●	Date adjusted
• Certify Final EIR/EIS and approve preferred project and MMRP	May-23	●	Date adjusted

N/S = Not Started; **Green** = On track; **Yellow** = Area of Potential Concern; **Red** = Delayed; **Blue** = Completed

Next Meeting

- Next Meeting – December 7, 2022, 10 to 11 AM
- Topics –
 - Permitting
 - Water Right status briefing

Thank you!

