

Screening Level Assessment Tool Development

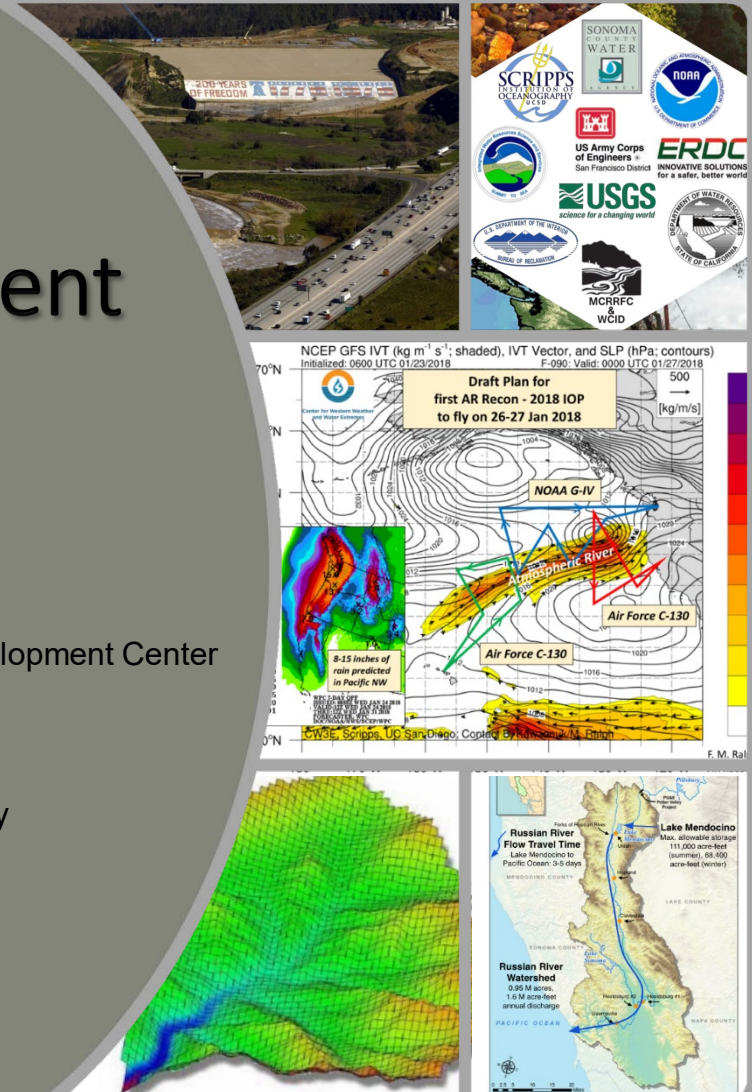
Cary Talbot

FIRO Program Manager, US Army Engineer Research and Development Center

Elissa Yeates

Research Hydraulic Engineer, Coastal and Hydraulics Laboratory

5 August 2020 – FIRO Annual Workshop



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Screening Level Assessment Tool

- **Purpose:** Develop a broadly usable tool for water management agencies in applying FIRO to determine sites where FIRO is appropriate, including evaluating entire portfolios of reservoirs.
- **Goal:** Produce an adaptable, easy-to-use tool that empowers more local ownership over the FIRO implementation process, while maintaining the same level of rigor and quality to the process as demonstrated at the original pilot sites.
- This approach will systematically grow the scientific and engineering knowledge base needed to perform well-founded future assessments of FIRO applicability across a broader range of conditions than has been explored in the initial pilots.

Why develop a Screening Level Assessment tool?

- Demand to expand the FIRO Viability Assessment process to more sites than the team can handle with the same level of involvement
- Need to assess and rank entire portfolios of reservoirs

Project	Gross Pool (ac-ft)	Modernization Action Potential							Notes
		Drought Contingency Plan Update	Seasonal Frequency Analysis	Forecast-Based Operations Assessment	PMF/PMF Update	Climate Change Assessment	Level of Protection Assessment	Variable Flood Control Space Assessment	
SACRAMENTO RIVER BASIN									
Shasta	4,552,100								Possible dam raise
Oroville	3,538,000								Interested in Forecast-Based Ops
Folsom	977,000								
New Bullards Bar	966,000								Interested in Forecast-Based Ops; Possible new low outlet
Indian Valley	300,600								
Black Butte	136,200								
Englebright	70,000								
SAN JOAQUIN RIVER BASIN									
New Melones	2,420,000								
Don Pedro	2,030,000								Interested in changing WCD draw down
New Exchequer/ McClure	1,024,000								Possible raise to ungated and gated spillway
Friant/Millerton	520,500								New reservoir upstream will change WCD
Camanche	417,100								
New Hogan	317,100								
Buchanan/Eastman	150,000								
Hidden/Hensley	90,000								
Tulloch	67,000								
Farmington	52,000								
Los Banos	34,600								
Big Dry Creek	30,200								Interested
Mariposa	15,000								
Bear	7,700								
Burns	6,800								
Owens	3,600								
TULARE LAKEBED BASIN									
Pine Flat	1,000,000								
Isabella	568,100								Dam being raised; new spillway
Terminus/Kaweah	185,600								
Success	82,300								Possible dam raise
TRUCKEE RIVER BASIN									
Marysville Creek	20,400								
Boca	41,100								
Stampede	226,500								Possible restriction due to dam safety; Construction starting 2017
Prosser	29,800								Dam Safety Construction beginning in 2016
RUSSIAN RIVER BASIN									
Coyote	116,470								
Warm Springs	381,000								
CENTRAL COAST BASIN									
Del Valle	63,000								

“The Matrix” Courtesy of Joe Forbis, Sacramento District

LEGEND	
No need to act	
Action - Easy to implement	
Action - Medium Difficulty to implement	
Action - High Difficulty to implement	



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Potential dimensions of the FIRO Screening Level Assessment

Atmospheric	Hydrologic	Hydraulic	Environmental	Benefit	Cooperation	Policy
How variable is precipitation in the watershed?	What is the watershed response to precipitation?	Does this dam have a controlled outlet?	Are there environmental limits to inundation in the reservoir area (e.g., vireo nesting dates)?	How are the reservoir functions (drinking water, hydropower) affected by FIRO operations?	Are there interested parties willing to agree on a set of goals and metrics at the site?	Who has jurisdiction over the reservoir operations?
How predictable is precipitation? With what lead times and reliability?	How predictable or well-modeled is the hydrologic response of the watershed?	What is the downstream channel capacity flow rate?	Are there sensitive species in the downstream channel which require certain release flows?	Is there community use of the reservoir that might be impacted by changing pool elevation (e.g., campgrounds)?	Can the stakeholder organizations dedicate staff to participate in the Viability Assessment process?	Is there potential for a Water Control Manual update for the site?

Next steps for developing the SLA:

- Develop a committee representing a wide range of FIRO experience and stakeholder types
- Determine what kind of final output would be most useful
- Determine which questions are “weed-out” questions and which are useful for ranking eligible sites
- Iterate over the tool with the next phase of FIRO pilot sites
- Consider how to maintain the rigor of the current FIRO sites as the process is adopted by more users

