

**SAN FRANCISCO PUBLIC UTILITIES COMMISSION**  
City and County of San Francisco

**London N. Breed**  
Mayor

**SPECIAL MEETING MINUTES**  
**Friday, February 5, 2021**  
**2:00 P.M.**  
**(Approved February 23, 2021)**

This Special Meeting was held by Teleconference Pursuant to the Governor's Executive Order N-29-20 and the Twelfth Supplement to Mayoral Proclamation Declaring the Existence of a Local Emergency Dated February 25, 2020

**Commissioners**

Sophie Maxwell, President  
Anson Moran, Vice President  
Tim Paulson  
Ed Harrington  
Newsha Ajami

**Michael Carlin**  
Acting General Manager

**Donna Hood**  
Secretary



1. Call to Order  
*President Maxwell called the meeting to order at 2:01 PM.*

2. Roll Call  
*Present: Maxwell, Moran, Paulson, Harrington, and Ajami*

*President Maxwell turned the gavel over to Commissioner Harrington who served as Chair. Commissioner Harrington briefly discussed the objectives of the workshops.*

*Michael Carlin, Acting General Manager (GM), offered introductory comments and thanked the participants for their attendance. He introduced Steve Ritchie, Assistant General Manager (AGM) Water, who announced those SFPUC staff who would be presenting Ellen Levin, Deputy Manager, Water; Tim Ramirez, Natural Resources and Lands Management Division Manager; Matt Moses, Water Resources Engineer; and Bill Sears, SFPUC Science and Policy Analyst. He welcomed additional invited experts: Ron Yoshiyama, Noah Hume, John Devine, and Andrea Fuller.*

3. SFPUC Presentation on the Scientific Basis for the Proposed Tuolumne River Voluntary Agreement

a) Introduction

*AGM Ritchie reviewed SFPUC and stewardship: (1) Watershed Environmental Improvement Program (2005), (2) Water Enterprise Environmental Stewardship Policy (2006), (3) Don Pedro Relicensing and Bay Delta Water Quality Control Plan, (4) Difference between the Lower Tuolumne River and Upper Tuolumne River and Bay Area creeks, and (5) SFPUC approach to working on the Lower Tuolumne River. He finished with an outline of key conclusions.*

b) Regulatory Context for In-stream Flows and Habitat Restoration on the Lower Tuolumne River (Ellen Levin, SFPUC Deputy Manager, Water Enterprise)

- *History of Federal Energy Regulatory Commission (FERC) instream flow requirements.*
- *Don Pedro Relicensing Process – scientific studies.*
- *200 scientific studies over a 45-year period (1971 – 2016).*
- *Don Pedro relicensing settlement group.*
- *Voluntary Agreement and FERC.*

c) Lower Tuolumne River Environmental Setting (Tim Ramirez, SFPUC Natural Resources and Lands Management Division Manager)

- *Tuolumne River fall-run Chinook salmon and steelhead migration.*
- *Tuolumne River Watershed (Lower Tuolumne River and Upper Tuolumne River).*
- *LaGrange Dam (1883).*
- *Don Pedro (1923) and “New” Don Pedro (1971).*
- *Tuolumne fall-run Chinook escapement (1952-2020).*
- *Lower Tuolumne River – four restoration projects:*
  - *Bobcat Flat (impact of dredging and floodplain gravel mining – 1937, 1950 and 2019).*
  - *SRP 9/10 (impact of instream and floodplain gravel mining – 1937, 2000*

and 2019).

- Grayson River Ranch (impact of floodway narrowing – 1937, 2000 and 2019).
- Dos Rios Ranch – 2010 Commission action (\$2M); 1600 acres, 6 miles of river frontage; and restored floodplain habitat.

d) Hydrology of the Lower Tuolumne River (Matt Moses, SFPUC Water Resources Engineer)

- *United States Geological Survey (USGS) gages in the Tuolumne River Watershed (Modesto, below LaGrange, and on the San Joaquin River near Vernalis).*
- *Water diversions in the Tuolumne River Watershed.*
- *Unimpaired flow at La Grange (averages by San Joaquin Index Water Year Type, Water Years 1901-2020).*
- *Unimpaired flow at La Grange (total annual volume by Water Year Type, color coded by San Joaquin Index Water Year type).*
- *Measured Flow at LaGrange (total annual volume by water year – color coded by San Joaquin Index Water year type).*
- *Annual Averages (water years 1972-2014) – unimpaired Delta inflow; unimpaired flow on Tuolumne River; and SFPUC diversions to storage and Bay Area.*

e) Scientific Basis for Development of the Tuolumne River Voluntary Agreement (Bill Sears, SFPUC Science and Policy Analyst)

- *Note of terminology and definitions.*
- *Work of rivers (watershed inputs, process, attributes, habitat and biology).*
- *Two main species of interest to stakeholders on the Lower Tuolumne River (1) *Oncorhynchus tshawytscha* (Fall-run Chinook salmon); (2) *Oncorhynchus mykiss* (*O. mykiss*) – Steelhead and Rainbow Trout.*
- *Fall-run Chinook Salmon and *O. mykiss* life history.*
- *Basic needs of salmon (stream flow and physical habitat).*
- *Reasons why Salmonids aren't doing well.*
- *Pattern of escapement over time.*
- *Tuolumne data confirm similar pattern to the San Joaquin.*
- *Flow/escapement relationship has been declining over time.*
- *Flow and escapement are not trending in similar directions.*
- *Nearby hatchery releases may be strongly related to the relationship between flow and escapement.*
- *Knowledge gained from initial analysis.*
- *Care needed in interpreting analyses based on Mills and Fisher data.*

Key studies from FERC relicensing, limiting factors and Tuolumne River Voluntary Agreement (TRVA)

- *Even in natural settings, something is always limiting productivity of salmonid populations.*

- *TRVA approach uses flow and habitat improvements to address limiting factors. Flow measures include three basic release categories (1) baseflows, (2) pulse flows, and (3) spill management.*
- *Information the FERC effort produced.*
- *Long-term flow and temperature monitoring provide the basis for understanding relationships with the reservoir operations.*
- *Long-term monitoring provides data on population response to management (adult counting weir, rotary screw traps (RST)).*
- *Key studies and TRVA measures.*
- *Spawning and egg incubation.*
- *Spawning gravel study and instream flow study (suggest spawning habitat isn't limiting under existing conditions).*
- *TRVA includes gravel augmentation to maintain, improve and expand spawning habitat.*
- *Spawning barriers to discourage Chinook redd superimposition and maximize spawning habitat.*
- *TRVA includes release to maintain and optimize suitable spawning habitat.*
- *Environmental gravel cleaning is proposed to improve gravel quality.*
- *Rearing.*
- *Larger Chinook outmigrants represent the majority of subsequent adult escapement.*
- *TRVA Chinook fry and juvenile rearing baseflows.*
- *Floodplain inundation can increase rearing capacity and reduce predation risk.*
- *TRVA floodplain pulse flow will expand juvenile rearing habitat and reduce predation risk.*
- *Floodplain restoration will expand available fry and juvenile rearing habitat for salmonids.*
- *Large wood installation will improve in-channel juvenile rearing habitat*
- *Outmigration.*
- *Juvenile Chinook mortality is very high between the RSTs.*
- *Predation is hypothesized to be a significant source of mortality.*
- *Significant and positive relationship between smolt outmigration and survival flow.*
- *TRVA outmigration baseflows (based on the Instream Flow Study and Lower Tuolumne River Temperature Model).*
- *O. mykiss summer/fall rearing.*
- *Robust disagreement around water temperature sustainability for salmonids.*
- *Tuolumne River O. mykiss are likely locally adjusted to warmer temperatures compared to more northern populations.*
- *Infiltration galleries will provide more suitable summertime rearing temperatures for O. mykiss.*
- *Infiltration gallery example.*

### Examples of TRVA Implementation

- *Overview of wetter year flow measures; drier year flow measures; and non-flow measures.*

### Anticipated Outcomes

- *Five predictive models were used to evaluate alternative management scenarios (operations model, reservoir water temperature model, river water temperature model, O. mykiss population model (and results), and Chinook population model and results).*
- *Thoughts that the Tuolumne salmonid population models have been a source of concern for the National Marine Fisheries Service and the NGO's.*

- f) Commissioner Questions for SFPUC Staff and the Following Panelists: Ronald M. Yoshiyama, Consulting Fisheries and Marine Biologist, Independent Consultant; Noah Hume, Aquatic Ecologist and Senior Scientist, Stillwater Sciences; John Devine, Independent Consultant to Modesto and Turlock Irrigations Districts/HDR's Project Lead for the FERC relicensing process (2010 to 2019); Andrea Fuller, Senior Biologist, FishBio.
- g) Panel Wrap up

*Commissioner Harrington thanked staff for their presentations.*

*Mr. Sears responded to a question from Commissioner Ajami regarding statements in his presentation that there is no relationship between flow and the number of spawning fish. He responded to a follow-up question as to when the model was used.*

*Commissioner Paulson thanked the Commission for the workshop and recognized the talented staff who work on these issues.*

*Mr. Sears responded to a question from President Maxwell as to reasons that with less water we will have a better outcome; and to a question regarding the movement of gravel.*

*Commissioner Moran noted the main differences are that there are a lot of non-flow measures contained in the Voluntary Agreement (VA), and a finer calibration of flows to the physical conditions of the river.*

### Public Comment

- *Gail (inaudible) said theoretical assumptions are unlikely to work and that the California Department of Fish and Wildlife indicated 50-60% of unimpaired flow must remain in-stream to protect the salmon. She discussed various studies.*
- *Francisco DaCosta stated the workshop should have been conducted 20 years ago. He questioned who speaks for the salmon. He said the First People need to be invited to the discussion.*

- *Charles Rockwell commented on the “predator section” of the presentation, specifically focused on striped bass, noting striped bass have been in the system since the 1870’s and vary in population congruent with salmon population. He indicated killing predators is not doable and that habitat and flow improvements are needed.*
- *Denise Louie, Center for Biological Diversity, stated the presentation was shabby. She asked that salmon not be denied clear natural flow. She asked that half-truths be rejected.*
- *John McManus, Golden Gate Salmon Association, discussed the slides pointing to hatchery fish being a problem on the river while others slides point to massive losses of juvenile salmon due to RSTs. He indicated that it is not true, noting reasons. He discussed the Steelhead model.*
- *Nicole Sandkulla, BAWSCA, thanked the Commission for the workshop. She noted BAWSCA’s concerns and discussed the impacts on their customers to the implementation of the Bay Delta Plan.*
- *Steve Rosenblum, Palo Alto, discussed the Tuolumne River population estimates for fall-run Chinook as presented on slide 18.*
- *Mike Horvath, retired SFPUC Biologist, asked if there is a numerical goal for increasing; if there is data to support the floodplain inundation period; and does the 40% unimpaired flow include non-flow improvements.*
- *Peter Drekmeier, Tuolumne River Trust, said the presentation indicated the TRVA is the most effective way to address the issues but he contended it is the most convenient for water agencies. He discussed the graph showing salmon productivity. He stated it is time to move on with the Bay Delta Plan.*
- *Cedric (inaudible), Palo Alto, stated that science and evidence indicate that the salmon population is in decline and it is time to protect the salmon with increased flows and restoration.*
- *Adrienne Covert, Bay Area Council, thanked the Commission for work to create the TRVA. He indicated the workshop was compelling and reassuring. He noted their concern with the State’s update of the water quality control plan. He discussed the TRVA.*
- *Chris (inaudible), Silicon Valley Leadership Group, discussed their membership. He noted the need for a robust and reliable water supply. He requested that the Commission continue to work on the TRVA process.*
- *Tammy Rudock, General Manager, Mid-Peninsula Water District, expressed thanks for the informative presentation. She noted their customers’ reliance on the regional water system. She urged the Commission to push forward with the TRVA.*
- *Elizabeth Saigon, Water Resources Manager, City of Mountain View, concurred with comments by Nicole Sandkulla. She expressed concern for potential supply impacts due to the Bay Delta, especially during dry years. She noted support for the TRVA.*
- *Mark Gonzales indicate we can have a better environment with less water. He discussed flow impact to the entire river system, not just to the fish.*

4. Response by Non-Governmental Organizations to the SFPUC’s Scientific Basis for the Proposed Tuolumne River Voluntary Agreement

- a. Doug Obegi, Natural Resources Defense Council; Jon Rosenfield, San Francisco Baykeeper; Jeanette Howard, The Nature Conservancy; Barry Nelson, Golden State Salmon Association
- b. Commissioner Questions

*Barry Nelson, Golden State Salmon Association, introduced the panel: Doug Obegi, Natural Resources Defense Council; Jon Rosenfield, San Francisco Baykeeper; and Jeanette Howard, The Nature Conservancy. He turned the presentation to Mr. Obegi.*

*Mr. Obegi expressed appreciation for the workshop and indicated that he will follow-up in writing. He stated a goal is to narrow the range of disagreements and misunderstandings to make sure everyone is on the same page. He said a starting point is to discuss how much water is available under the VA proposal and how much is diverted by the irrigation districts and the city. He discussed the VA and asked that staff show graphs as to how much flow is required by water years. He discussed slide #85 and spill in wet years and asked how much is required.*

*AGM Ritchie responded noting the emphasis on “required flows”. He noted that will be discussed more at the next workshop on water supply. He indicated he would get more information on the “factual basis” of required flow.*

*Mr. Rosenfield questioned Mr. Ramirez’s position on SRP 9 as an area where there are habitat issues and asked if it was worth it to do the habitat restoration project without changing flows. Mr. Ramirez provided response noting that the work was done and that it was expensive to fill an instream pit. He noted the desire for SRP 10, which never happened due to lack of funding. He indicated he will provide information on the implications on the biology. Brief discussion ensued on the effects of habitat restoration. Mr. Rosenfield discussed the effects of gravel restoration.*

*Ms. Howard discussed predation in the Central valley and predator control. She questioned what the SFPUC model on predator control was based on. She asked if the SFPUC is aware of the new papers by the National Marine Fisheries Service (NMFS) that show that predation has no effect on Chinook survival and asked what the SFPUC is basing the predation variable in models on. Andrea Fuller provided response and discussed studies and work being done.*

*Noah Hume responded to a question from Ms. Howard as to whether the Chinook population models were run with or without assumption of predator control.*

*Mr. Hume responded to a question from Ms. Howard regarding the Chinook population model results and cohort replacement rates. John Devine provided additional response.*

*Mr. Rosenfield noted the agreement that flows provide many functions for fish. He discussed the discussion of flows in the SFPUC presentation and questioned the impact of temperature effects of increased flows. Mr. Hume provided response.*

*Barry Nelson provided closing comments (1) vast majority of the staff presentation was focused on the VA that he and others believe is fundamentally flawed; (2) noted connection between fish populations and hatchery releases; and (3) SFPUC model doesn't address the Delta.*

#### Public Comment

- *Les Kishler encouraged increased unimpaired flows for the Tuolumne River. He stated the SFPUC should promote economic sustainability over economic growth.*
- *Gary Welling, City of Santa Clara, thanked the Commission for the workshop. He discussed their service area's water use and . He discussed the impact of the Bay Delta Plan on their urban water management plan. He encouraged the development of an alternative water supply plan and asked that Santa Clara be made a permanent customer. He asked that the Commission support the VA.*
- *Mark Rockwell, Flyfishers International, recommended the SFPUC meet the state's 40% unimpaired flow requirement and perform habitat restoration.*

*Commissioner Harrington thanked everyone for their participation. He noted that nothing will be solved in a three hour workshop but that it is helpful to raise issues to come to an understanding.*

#### 5. Adjournment

*President Maxwell adjourned the meeting at 5:02 PM.*

