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State Water Resources Control Board
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Subject: 2/18/15 Board Meeting Agenda Item 10: Drought Contingency Planning and TUCP Impacts to Trinity and Klamath Rivers

Approval of the TUCP to increase Delta exports in 2015 will increase the risk to the Trinity River and lower Klamath rivers from catastrophic fish kills fish kills similar to 2002¹ and 1977² from warm water, low flows and crowded conditions for returning adult salmon and steelhead as well as rearing hatchery juveniles. Despite increases in storage in other major reservoirs, Trinity Reservoir holds no more water than it did a year ago and the risk of depleting the cold-water pool is high, especially with increased Delta export capability requested in the TUCP. C-WIN requests that the SWRCB condition Reclamation's Trinity River water permits to protect beneficial uses in the Trinity River basin prior to allowing any export of Trinity River water to the CVP.

There is no assurance in the TUCP that the Trinity River and its beneficial uses will be protected from CVP operations because Reclamation's eight Trinity River water permits are not consistent with North Coast Basin Plan temperature objectives and instream flows. The minimum cold water carryover storage requirement in the NMFS Biological for the Trinity River is also inadequate to prevent temperature induced mortality in the Trinity River.

The TUCP does nothing to mitigate or prevent catastrophic loss of cold-water storage and basic flows to keep fish in good condition below Trinity and Lewiston Dams. It appears that Reclamation is not content with killing salmon in the Sacramento River, but also wants to kill the salmon in the Trinity River.

Continued drought increases the risk to the Trinity and Lower Klamath rivers of losing the cold water stored in Trinity Reservoir to out of basin export. It is

¹ For information on the historic and unprecedented 2002 salmon fish kill in the lower Klamath River, see reports by the US Fish and Wildlife Service, California Department of Fish and Game and the Yurok Tribe respectively at http://www.fws.gov/arcata/fisheries/reports/technical/Klamath_River_Dieoff_Mortality_Report_AFWO_01_03.pdf and <http://www.pcfa.org/KlamFishKillFactorsDFGRReport.pdf> and <http://www.yuroktribe.org/departments/fisheries/documents/FINAL2002FISHKILLREPORTYT FP.pdf>

² For a description of the loss of 500,000 yearling salmon and 200,000 advanced steelhead fingerlings at the Trinity River Hatchery during the 1977 drought see http://www.c-win.org/webfm_send/406

essential to note that Trinity River water provides beneficial uses for Coho and Chinook salmon, as well as steelhead, Pacific Lamprey, green sturgeon and other species important to Tribal, recreational and commercial fishing communities.

The Trinity Record of Decision fishery flows and the 50,000 AF Humboldt County area of origin reservation of water are components of the 1955 Trinity River Division (TRD) federal legislative authorization (PL 84-386) as amended by the 1992 Central Valley Project Improvement Act (PL 102-575, Section 3406(b)(23)). A recent Interior Solicitor's Opinion found that Humboldt County's 50,000 AF is in addition to fishery flows under the 2000 Trinity River Record of Decision.³

Trinity River temperature objectives to protect salmon and steelhead have been adopted by the North Coast Regional Water Quality Control Board⁴, the State Water Resources Control Board and USEPA⁵, but have not been put into water permit requirements for the Bureau of Reclamation.

In 1958, the Bureau of Reclamation, pursuant to section 8 of the 1902 Reclamation Act applied to the state for water rights to operate the TRD, but those water rights contain minimum fishery flows of only 120,500 AF. Trinity ROD flows and Humboldt County's 50,000 AF amount to a weighted annual average of 644,000 AF.

Reclamation has admitted that it does not operate to any specific carryover storage requirement and does not consider water quality objectives⁶ contained in the "Water Quality Control Plan for the North Coast Region" (Basin Plan) as water permit terms and conditions.

Reclamation does consider Water Right Order 90-05 (WRO 90-05) to be a permit term and condition but it is not consistent with North Coast Basin Plan Temperature objectives for the Trinity River. WRO 90-05⁷ includes Trinity

³ See https://www.c-win.org/webfm_send/458

⁴ "Water Quality Control Plan for the North Coast Region" Footnote 5, Table 3-1, page 3-8.00: Accessed at http://www.waterboards.ca.gov/northcoast/water_issues/programs/basin_plan/083105-bp/04_water_quality_objectives.pdf

Daily Average Not to Exceed	Period	River Reach
60°F	July 1- Sept 15	Lewiston to Douglas City Bridge
56°F	Sept 15-Oct 1	Lewiston to Douglas City Bridge
56°F	Oct 1- Dec 31	Lewiston to North Fork Confluence

⁵ See letter from USEPA Region IX Administrator to Chairman of California SWRCB approving Trinity River Basin Plan temperature objectives, March 13, 1992. Accessed at http://www.c-win.org/webfm_send/416

⁶ See 2/23/11 letter from Paul Fujitani, Chief of CVP Ops to Brian Person, Chairman Trinity Management Council; accessed at: http://www.c-win.org/webfm_send/141

⁷ http://www.waterboards.ca.gov/waterrights/board_decisions/adopted_orders/orders/1990/wro90-05.pdf

River North Coast Basin Plan temperature requirements for the September 15- December 31 period but omits the Basin Plan temperature objective for the Trinity River July 1- September 15 period. Additionally, the WRO 90-05 September 15 through December temperature requirement only applies to transfers of Trinity River water to the Sacramento River for temperature control. All other uses of Trinity River water sent to the Sacramento River are not covered by the temperature requirements of WRO 90-05. Reclamation refuses to acknowledge that North Coast Basin Plan requirements are Clean Water Act Section 313 standards that they must comply with because they are not water permit terms and conditions.⁸ Thus, comprehensive Trinity River Basin Plan temperature objectives should be included in Reclamation's water permits.

The NMFS 2000 Biological Opinion⁹ for the Trinity River, includes a minimum carryover storage on September 30 of 600,000 AF and requires reconsultation if storage falls below that level, which it did in 2014. However, other analyses have found that a 600,000 AF minimum carryover storage is inadequate. A 2012 report by Reclamation found that September 30 carryover storage requirement of less than 750,000 AF is "problematic" in meeting state and federal Trinity River temperature objectives protective of the fishery.¹⁰

In 1992 Balance Hydrologics found that a minimum carryover storage of 900,000 AF was necessary to meet Basin Plan temperature objectives.¹¹

Analyses completed for Trinity County for the Trinity Record of Decision by Kamman Hydrologics indicated that September 30 carryover storage of at least 1.2 million AF on September 30 is necessary at the beginning of a simulated 1928-1934 drought in order to meet Basin Plan temperature objectives.¹² We are now into a fourth year of drought and Trinity Reservoir storage is below levels necessary to survive a historic multi-year drought such as 1928-1934.

Furthermore, Reclamation's Mid-Pacific office also produced a preliminary technical memorandum on the problem of excessive heating of Trinity Dam

⁸ Ibid http://www.c-win.org/webfm_send/416

⁹ National Marine Fisheries Service (2000), Biological Opinion for the Trinity River Record of Decision, accessed at: http://www.fws.gov/arcata/fisheries/reports/technical/TREIS_BO_NMFS.pdf

¹⁰ See Bender MD (2012) Trinity Reservoir Carryover Storage Cold Water Pool Sensitivity Analysis. Technical Memorandum No. 86-68220-12-06, U.S. Bureau of Reclamation, Technical Service Center, Denver, CO. Accessed at <http://odp.trrp.net/Data/Documents/Details.aspx?document=1813>

¹¹ See Balance Hydrologics (6/26/1992) "The Need for Standards for Minimum Carryover Storage in Trinity Reservoir" Accessed at <http://tcrd.net/trl-stor.htm>

¹² Memorandum from Greg Kamman to Tom Stokely and Mike Deas on Carryover Storage Analysis Simulated (1928-34) Period, 5/22/1998. Accessed at http://www.c-win.org/webfm_send/414

releases¹³ when they pass through the shallow 7-mile long Lewiston Reservoir. While Trinity Dam releases are normally 43-44°F, summer heating in Lewiston Reservoir can be severe unless approximately 1,800 cfs is being released from Trinity Dam. Given that Trinity River summer base flows are only 450 cfs, water must be diverted to the Sacramento River to keep the Trinity River cold enough to meet Basin Plan temperature objectives. However, during severe drought or under certain operational circumstances, there may not be adequate water to provide base fishery flows and to divert water to the Sacramento River to keep the Trinity River cold. Several structural solutions have been identified in Reclamation's preliminary technical memorandum; however, a full feasibility study and environmental document would need to be prepared to select a solution and no such plans exist at this time.

Additionally, the delivery of CVP water to Sacramento River Settlement Contractors who are post-1914 diverters when other post-1914 diverters are enjoined from diversions unlawfully depletes storage in Trinity Reservoir and deprives the Trinity River basin area of origin from needed cold water, while also bypassing the priority of water rights in the Sacramento Valley.

Therefore, in order for the Trinity River to be protected, the TUCP should include the following terms and conditions in Reclamation's Trinity River water permits, as directed in SWRCB Water Quality Order 89-18.¹⁴ The conditions for Reclamation's eight Trinity River water permits are as follows:

1. Conformance with the instream fishery flows contained in the Trinity River Record of Decision.
2. Provision for release of Humboldt County's 50,000 AF in addition to fishery flows per the 1955 Trinity River Act.
3. Inclusion of permit terms and conditions to require Reclamation to comply with the Trinity River temperature objectives contained in the Water Quality Control Plan for the North Coast Region (NCRWQCB) for all relevant time periods and for all uses of Trinity water diverted to the Sacramento River.
4. A requirement for a minimum cold water in Trinity Reservoir adequate to preserve and propagate all runs of salmon and steelhead in the Trinity River below Lewiston Dam during multi-year drought.

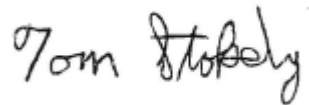
¹³ See USBR (2012) Lewiston Temperature Management Intermediate Technical Memorandum, Lewiston Reservoir, Trinity County, California. Report by U. S. Bureau of Reclamation, Mid-Pacific Region, Sacramento, CA. accessed at <http://odp.trrp.net/Data/Documents/Details.aspx?document=1814>

¹⁴ See SWRCB Water Quality Order 89-18 (pages 18 and 19) at http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/1989/wq1989_18.pdf

5. Require Reclamation to solve the temperature issue in Lewiston Reservoir through a feasibility study and environmental document to follow up on the 2012 preliminary technical memorandum by Reclamation.

If you or your staff has any questions, please contact me at 530-926-9727.

Sincerely,

A handwritten signature in black ink that reads "Tom Stokely". The signature is written in a cursive, slightly slanted style.

Tom Stokely
Water Policy Analyst