

Suggested Framework for Organizing Delta Flow Criteria Proceeding

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Summary of Remarks at the Pre-Proceeding Conference- January 7, 2010

We are suggesting a general framework for organizing the Delta Flow Criteria Informational Proceeding. The framework builds on your normal business of determining Delta objectives that are protective of the Delta fish and wildlife, salinity, and water supply (i.e., beneficial uses). Because water temperatures, flows, and species-life histories are seasonal, the Delta flow criteria should be evaluated for each month. This is generally what you have already developed in D-1641, because most objectives apply to specific months. This Proceeding can therefore be described as a technical review of the flow, salinity, and biological data and relationships that have been used to develop the D-1641 objectives.

- (1) Because Delta inflows are seasonal, the range of Delta flows that should be considered are the full range (i.e., probability distribution) of historical inflows. Figure 1 shows the distribution (10% increments) of Delta inflows for each month, based on 1967-2007 historical inflows. You should ask the scientific experts and presentation panels to provide evidence for specific public trust values as flow-benefit relationships (i.e., “benefit curves”) within the range of possible flows, for each month or season. This would provide a unifying format for comparing and combining individual relationships into an aggregate public trust value curve for each month.

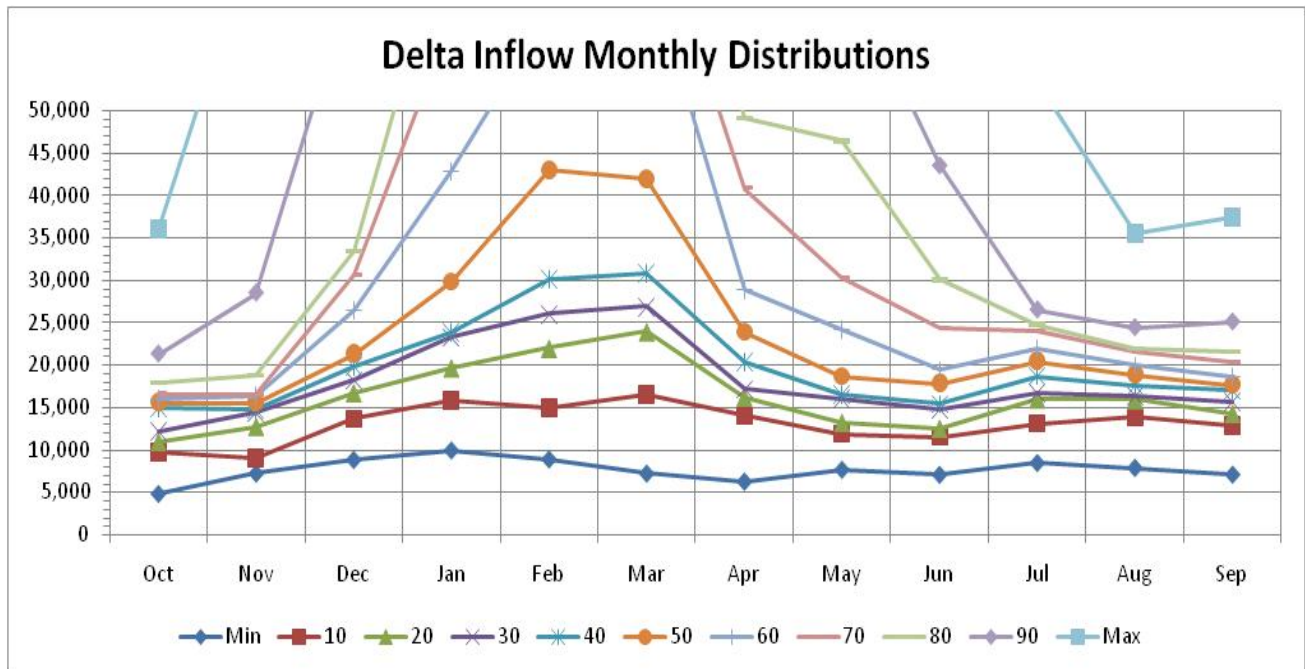


Figure 1. Monthly Cumulative Distributions of Historical Delta Inflows for 1967-2007.

(2) You should ask the experts and panels to evaluate the resulting flow-benefit curves within the context of your general Delta water management responsibilities, expressed as monthly Delta water allocation diagrams. Figure 2 shows the existing D-1641 water allocation diagram for January. This diagram shows Delta inflows from 0 to 50,000 cfs, although average January flows are greater than 50,000 cfs in about 35% of the years. There are two basic D-1641 objectives in January; a minimum outflow of 4,500 cfs and a maximum export/inflow ratio of 65%. The diagram indicates that with a Delta inflow of 10,000 cfs, for example, about half of the flow would be required as outflow (4,500 cfs) to protect public trust values, and about half would be allocated for in-Delta diversions (1,000 cfs assumed) or exports (4,500 cfs). The outflow allocation curve (public trust benefits) is shown as red boxes, and water allocated for exports is shown as the green triangles. The maximum E/I of 65% would control exports when inflows are between 15,000 cfs and 23,000 cfs, when full capacity exports of about 15,000 cfs would be possible. The E/I ratio will be lower at higher inflows. The experts and panels should describe how public trust values may increase with increasing outflow, from 0 cfs to 50,000 cfs. What public trust benefits are protected with the existing minimum January outflow of 4,500 cfs? What additional public trust benefits would be achieved with higher outflows? How much would be lost with lower outflows?

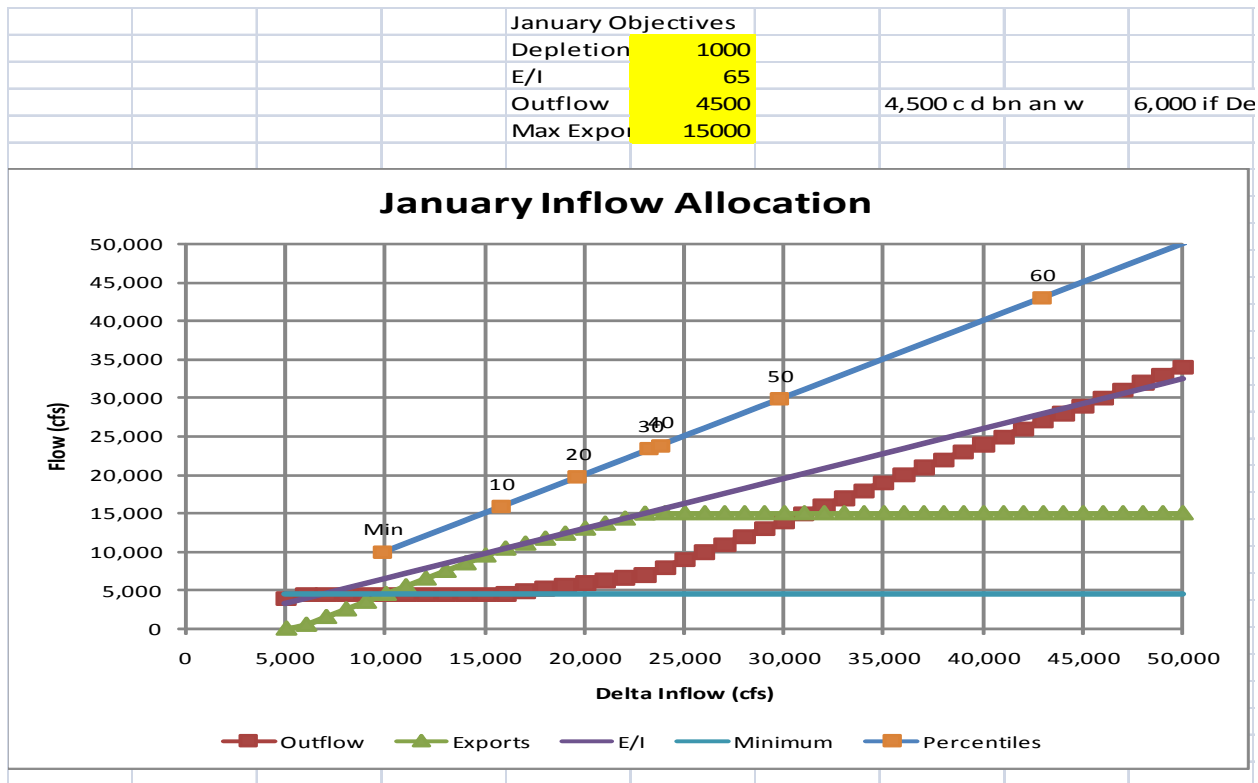


Figure 2. January Water Allocation Curves for minimum outflow of 4,500 cfs and maximum export capacity of 15,000 cfs with maximum Export/Inflow ratio of 65%.

- (3) The experts and panels should provide information about public trust flow-benefit relationships for each of the four major Delta inflows (i.e., Sacramento River, Yolo Bypass, Mokelumne-Cosumnes River and the San Joaquin River), in addition to the Delta outflow-benefit relationships. Expert presentations about the export-impact relationships should also be requested for the existing Delta configuration (e.g., impact relationships with exports, E/I or OMR flow). This would allow the total Delta public trust values associated with inflows, outflow, and exports to be evaluated for the range of monthly Delta flows as:

$$\text{Total Benefits} = \text{Inflow Benefits} + \text{Outflow Benefits} - \text{Export Impacts}.$$

Experts and panels could therefore be organized by location in the Bay-Delta or by physical and biological processes within the Delta, or by organisms or habitats within the Delta, as long as they focus on the relationships between flows and habitat features or species life-stage requirements and survival or abundance. Only those aspects of the Delta ecosystem which are somehow influenced by Delta inflows, outflow, or exports should be presented at this Proceeding. If testimony or exhibits do not introduce or confirm a Delta flow-relationship, or evaluate the possibility of flow effects within the Delta ecosystem, they should not be considered in the development of Delta flow criteria.

Future Delta configurations, such as new diversion locations (e.g., PC) or through Delta corridors (e.g., DC Plan) would likely change the inflow-benefit relationships and the export-impact relationships. These future changes in benefits and impacts associated with modified Delta configurations could be evaluated by modifying the existing relationships between Delta flows and public trust benefits and/or impacts that will be developed from the expert presentations at the Proceedings.