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The Economics of Public Trust

What is the Public Trust Doctrine?

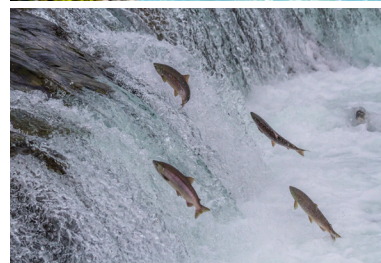
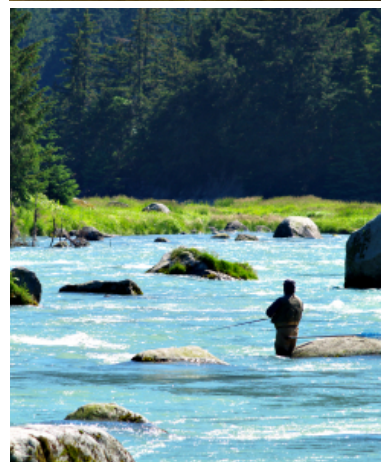
The Public Trust Doctrine (PTD) provides that government entities hold certain natural resources “in trust” to safeguard them for the longterm benefit of the general public.ⁱ In California, PTD responsibilities for water resources include protecting instream flows—and the ecological, habitat and recreational benefits these flows provide—along with municipal, industrial and agricultural water uses.ⁱⁱ

Why is the Public Trust Doctrine relevant to managing Bay Delta flows?

Water is a scarce resource. There’s not enough of it to go around. That means allocating water to one use, e.g., irrigated agriculture, will likely have negative implications for other users, e.g., instream flows. And vice versa. The PTD requires that the relevant government entities, e.g., the State Water Resources Control Board (SWRCB), take the public trust into account when balancing competing demands for water. What’s know as the Mono Lake decision is one of the most cited application of the PTD to protecting instream flows. In that case the court stated that government entities have an, “affirmative duty to take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible.”ⁱⁱⁱ According to this ruling, the SWRCB and other state agencies must take the public trust of instream flows and other water uses into account when allocating Bay Delta flows to competing uses.

What role does economics play in Public Trust deliberations?

Using the Mono Lake case as a model for how balancing decisions for Bay Delta flows may play out, the SWRCB and others will make these decision after considering the impacts of a range of allocation alternatives. This information will likely include descriptions of the consequences of alternatives on biophysical factors affected by changes in instream flows including flow volumes, water quality and temperature, status of threatened or endangered species, and riparian habitats. Other relevant factors include impacts on recreation demand, and water use by agriculture, industry and municipalities. Benefit cost analysis (BCA) is a commonly used method of evaluating the impacts of these types of allocation alternatives. BCA is simple in concept: identify the user groups affected by the water allocation alternatives; calculate the costs to each group for each alternative; calculate the benefits to each group for each alterantive; compare costs and benefits; select an anternative. Applying BCA, however, can be complex. This is especially true when some of the trust resources at issue, e.g., instream flow and



riparian habitats, are not traded in markets and so have no market prices with which to compare with other trust resources that are traded in markets, e.g., agricultural production. That is, some trust resources have values but no prices. Economists and others refer to these as non-market values. As the name implies, resources traded in markets have market values. The economic analysis in the Mono Lake case concluded that the economic benefits of preserving the public trust of instream flows for Mono Lake—the non-market values—outweighed the cost to Los Angeles of finding an alternative water source to Mono Lake—a market value—by a factor of 50.^{iv}

How do economists conduct economic analyses for Public Trust deliberations?

The economic analysis portion of a Public Trust deliberation should answer the general question: What are the costs and benefits of increasing/decreasing water allocations to instream flow, recreation, industry, municipal and agricultural water uses? The major steps in answering this question include the following.^v

Identify the full range of trust resources at issue. Instream flow resources provide a range of services that benefit society. These services, known as ecosystem services, may include: habitat for aquatic and riparian species; water-related amenities including scenic vistas and recreation; and water quality benefits. Many of these services have non-market values. Other trust resources and services at issue include water use by municipalities, businesses and irrigators. These services are traded in markets and so have market values. It's important to include all trust resources and the services they provide in the economic analysis. Failing to do so can lead to underestimating or overestimating the affected benefits and costs. Incomplete analyses typically ignore or underestimate the affected non-market values.

Develop economic measures of the relevant benefits and costs of alternative water allocations. As noted above, such a description will likely include a mix of market and non-market values. A complete analysis would include all relevant costs, prices or payments in the analysis. For example, an alternative that reduces water allocation to agricultural production may reduce agricultural jobs and incomes. It may also, however, reduce subsidy payments that would normally support the affected agricultural production. The economic analysis should count both the negative impacts on agricultural producers and the beneficial impacts of reduced subsidy payments. That is, the analysis should describe the net effect on this economic sector.

Take account of relevant trends including scarcity of resources and changing patterns of economic demand. For example, species or habitats close to the extinction tipping point will likely have greater biophysical and economic value than species or habitats in abundance. In another example, to the extent that recreation demand is projected to increase faster than other resource uses, the economic analysis should take this into account by considering the likely future consequences of decisions made today.

Identify measures that could mitigate economic costs. Economies are dynamic. Business and industries constantly adjust and react to shifting economic conditions including things like changing interest rates, competitive forces, supply and demand conditions. The BCA analysis of alternative Bay Delta allocations should acknowledge this dynamic nature. For example, the analysis could describe the extent to which water users have alternatives to Bay-Delta water, what those alternatives cost, and how these costs compare to the non-market and market values of the benefits of instream flows.

Through BCA, economists offer a rigorous, legally and academically validated set of tools to help the SWRCB adopt a plan for managing Bay-Delta flows that balances protecting instream flows with other trust resources.

Endnotes

ⁱ Frank, R. 2012. "The Public Trust Doctrine: Assessing Its Recent Past & Charting Its Future," *UC Davis Law Review*, Vol.45: 665-691.

ⁱⁱ Stevens, J. 2005. "Protecting California's Rivers: Confluence of Science, Policy and Law. University of California at Davis, June 9, 2004. Applying the Public Trust Doctrine to River Protection." *California Water Plan Update 2005* Volume 4: 393-400; Frank, 2012; Broussard, J. 1983. *National Audubon Society et al., Petitioners, v. The Superior Court of Alpine County, Respondent; Department of Water and Power of the City of Los Angeles et al., Real Parties in Interest*. 33 Cal.3d 419. S.F. No. 24368. Supreme Court of California. February 17.

ⁱⁱⁱ Stevens, 2005, page 397; California State Water Resources Control Board. 2015. *Water Rights: Public Trust Resources*. Last Updated October 28. Retrieved November 30, 2015, from http://www.swrcb.ca.gov/waterrights/water_issues/programs/public_trust_resources/#beneficial.

^{iv} Loomis, J. 1998. "Estimating The Public's Values for Instream Flow: Economic Techniques and Dollar Values," *Journal of the American Water Resources Association*. Vol. 34, No. 6: 1007 – 1014.