

DELTA TUNNEL ECONOMICS

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Building the Tunnels Can Increase the Conflict Between Water Exports and Threatened Fish

Annualized Cost for BDCP Water (untreated in Tracy, skewed to wet years) Source: Dr. Rodney Smith, Stratecon Inc.

Annual Yield (maf)	Cost per acre foot (inflation adjusted, 1% risk premium)	Annual Yield (maf)	Cost per acre foot (inflation adjusted, 1% risk premium)
0.1	\$9,196	1.1	\$836
0.3	\$3,065	1.3	\$707
0.5	\$1,839	1.5	\$613
0.7	\$1,314	1.7	\$541
0.9	\$1,022		

Benefit-Cost Analysis of Tunnels

- Michael (June 2012, July 2012)
 - ▣ Independent statewide assessment based on BDCP costs, valuation of benefits from previous reports by Sunding
 - ▣ Goal: motivate state to stop avoiding real B-C analysis
- BDCP chapter 9 appendix A (May 2013)
 - ▣ Evaluates benefits and costs from water agency perspective
 - ▣ Uses new no-tunnel alt (exports drop below 4 maf by 2025)
- BDCP Statewide Economic Impact Report (August 2013)
 - ▣ Adds some environmental, in-Delta and economic impact analysis to chapter 9
 - ▣ But environmental analysis uses different no-tunnel baseline

Benefit-Cost Fundamentals

- Tunnels must be justified independent of habitat
 - ESA compliance and HCP does not require the tunnels.
 - Many BDCP habitat projects will occur without BDCP
- Tunnels project must be compared to the best and most likely alternatives
- Valuing the Environment
 - Alternatives can be designed for comparable environmental outcomes
 - If not, must estimate environmental effects of tunnels with the same operational baseline as water supply analysis.

Comparing Estimates of Benefits and Costs of the Tunnels

	Michael (7/2012)	BDCP (5/2013)	Difference
Export Water Supply	3,916	15,722 to 16,642	11,806 to 12,726
Export Water Quality	2,328	1,819 to 1,789	-509 to -539
Earthquake Risk Reduction	866	470 to 364	-396 to -502
Environmental Benefits/Costs	0	Not Estimated*	NA (0)
Tunnel Costs (Capital, O&M)	-12,310	-13,328 to -13,343	1,018 to 1,033
In-Delta and Upstream Impacts	-1,173	Not Estimated*	NA (-1,173)
Net Benefits (\$ millions)	-6,374	4,684 to 5,452	11,058 to 11,826
Benefit-Cost Ratio	0.53	1.35 to 1.41	

Why the huge difference in water supply benefits?

- The studies assume dramatically different water exports for the no-tunnel scenario.
- Michael: Extension of current restrictions as described in BDCP Environmental Impact Report no-action alternative (4.7 maf)
- BDCP/Sunding: Assumes BDCP restrictions to benefit fish are placed on south Delta pumps even without introducing the fish-harming north Delta intakes.
 - ▣ Exports are 3.4 maf to 3.9 maf
 - ▣ This no-tunnel alternative is likely better for fish than the tunnels. BDCP study provides no environmental analysis.

Both Estimates Have Significant Pro-Tunnel Biases

- ❑ Assumes rapid future growth. Assumes 5 million more people in Southern California in 2050 than CA DOF forecast used for state planning.
- ❑ Assume tunnels open in 2025, no delays.
- ❑ Does not account for risk of cost escalation.
- ❑ Does not include many alternative water supply developments already in water agency plans.
- ❑ Assumes no technological improvements in alternative water supplies.

What is the break-even point?

The case for a no-tunnel BDCP

- How much more could water exports be reduced and still be less costly for water agencies than the \$15 billion tunnels?
- Based on Dr. Sunding's results, the break-even or tunnel indifference level of exports appears to be an average of 3.85 to 4.45 maf.
- A no-tunnel BDCP with water exports near 4 maf could be better than the current tunnel-based BDCP.

Two Final Issues

- HCP Regulatory Assurances are not guarantees.
 - ▣ Regulatory risk reduction benefits are overstated.
 - ▣ BDCP economic study does not assess regulatory risks that are transferred to others (Delta, upstream, environment, taxpayers) through BDCP
- Financial feasibility requires benefits exceed allocated costs for all agencies. BDCP analysis only shows totals.
 - ▣ Large reallocation of costs from agricultural contractors to urban ratepayers or general taxpayers is likely.



Thank you.



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