

BDCP Costs and Economic Evaluation

California Water Law Conference

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THE **Brattle** GROUP

Agenda

Cost to Public Water Agencies

Benefits of BDCP

Cost-Benefit Comparisons

BDCP and Water Supply Alternatives

Cost to Public Water Agencies

BDCP will be paid for by state and federal contractors, federal government and State of California

- Contractors will pay 68.4% of total project costs
- 100% of conveyance facility costs

At this stage, the BDCP is generally silent about the allocation of costs among contractors

- Financing plan is under development
- Essential to understanding the “business case” for individual agencies

Incremental Cost of BDCP

	Total Delta Exports (MAF)		
	SWP	CVP	Total
ECHO	1.87	1.58	3.45
ECLO	2.17	1.72	3.89
PA HOS	2.60	2.11	4.71
PA LOS	3.32	2.27	5.59

PA HOS increases mean deliveries by 1.3 MAF relative to ECHO

PA LOS increases mean deliveries by 1.7 MAF relative to ECLO

With a present value cost of \$13.4 billion, the implicit water supply cost of the BDCP ranges from ~\$300 to ~\$400 per acre-foot at the Delta

Then add costs of conveyance and treatment.

Cost-Benefit Comparisons

Scenario Description				Total Benefits and Costs (\$millions)			
Scenario	Relative To	Facility Size (cfs)	Deliveries (maf)	Total Benefits	Total Costs	Net Benefits	Benefit-Cost Ratio
PA HOS	ECHO	9000	4.705	\$18,011	\$13,425	\$4,587	1.34
PA LOS	ECLO	9000	5.591	\$18,826	\$13,440	\$5,385	1.40
ECHO			3.446				
ECLO			3.889				

Benefits:

- Water supply
- Improved water quality (reduced salinity)
- Reduced seismic risk
- Improved water supply reliability

Take Alternatives Considered

Scenario Description				Total Benefits and Costs (\$millions)			
Scenario	Relative To	Facility Size (cfs)	Deliveries (maf)	Total Benefits	Total Costs	Net Benefits	Benefit-Cost Ratio
A	ECHO	15,000	5.009	\$23,187	\$11,110	\$12,076	2.09
D	ECHO	3,000	4.188	\$8,923	\$10,119	-\$1,196	0.88
E	ECHO	15,000	3.399	-\$8,697	\$15,711	-\$24,407	-0.55

Alternatives differ by size of conveyance facility, amount of restoration, and operating criteria

BDCP and Water Supply Alternatives

With BDCP, So Cal to invest in ~500,000 af of alternatives

- State/federal deliveries between 4.7 - 5.6 MAF

Without BDCP, So Cal would need to invest in ~800,000 af of additional alternatives

- Deliveries between 3.5 – 3.9 MAF
- Best projects have been used up to meet growth needs
- Forced to turn to the most expensive, most speculative projects

Alternative Supply Project Costs

Representative Alternative Supply Projects

- Recycling:
 - Yield: 1,200 – 72,000 AF/yr
 - Cost: \$850 - \$8,200/AF
- Seawater Desalination
 - Yield: 20,000 – 56,000 AF/yr
 - Cost: \$1,750 - \$2,300/AF
- Groundwater Desalination
 - Yield: 1,500 – 3,500 AF/yr
 - Cost: \$750 - \$1,250/AF

Without BDCP, MWD would have to spend about \$13.9 billion in alternative supply projects (3x more than with BDCP).

BDCP and Water Supply Alternatives

Ratepayers benefit when all potential water supply investments are subjected to cost-benefit analysis

- Additional investments in water supply alternatives will be required to satisfy future demands
- If the BDCP is not implemented and SWP deliveries are reduced, these agencies will need to spend about \$20 billion to achieve the same level of reliability
- If cost benefit principles are evenly applied, few water supply alternatives would “crowd out” the BDCP
- Rather, the BDCP is a foundational investment to shore up SWP deliveries. Many alternative investments will be needed on top of the BDCP to meet growth needs.