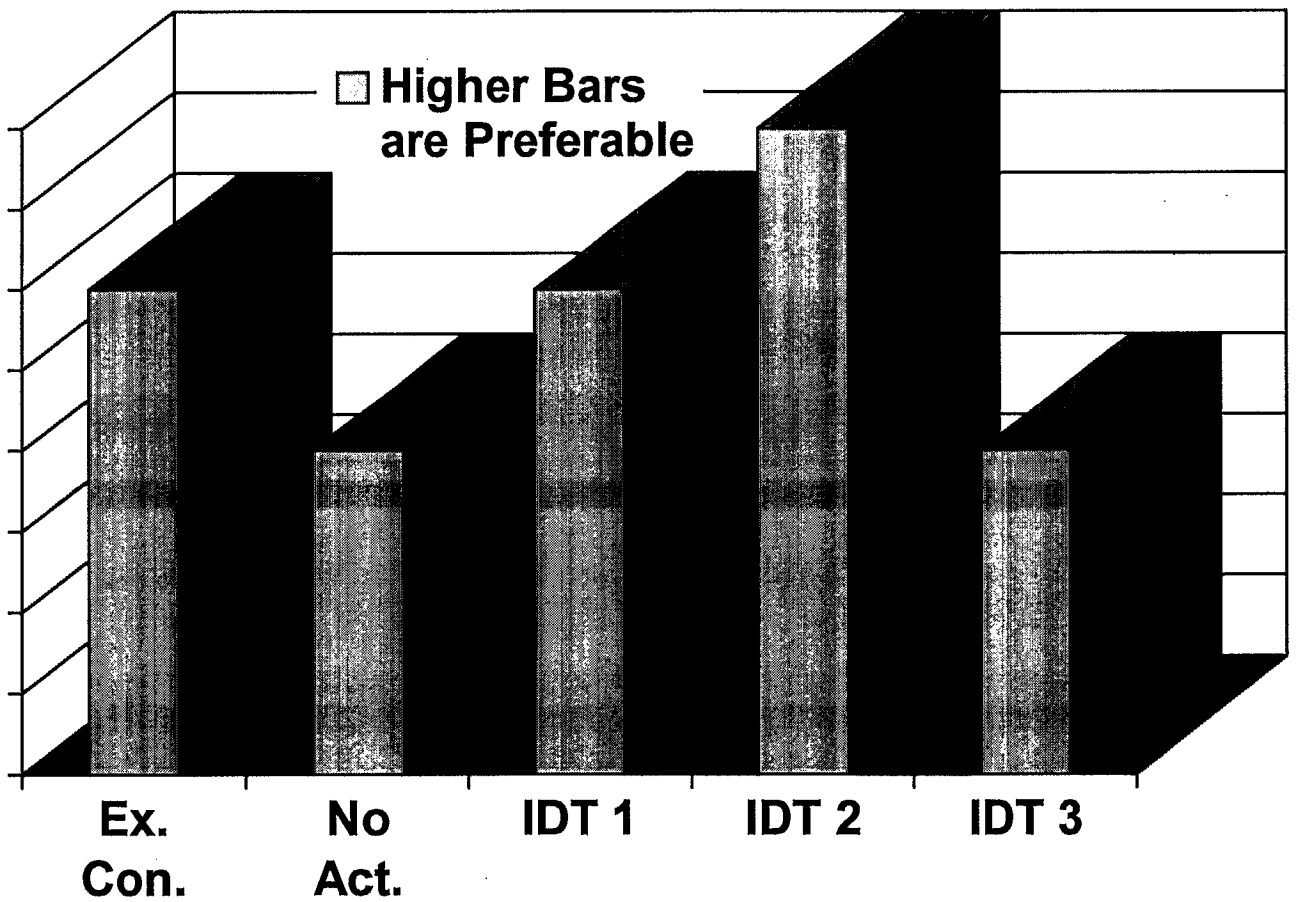
In-Delta Water Quality



In-Delta Water Quality

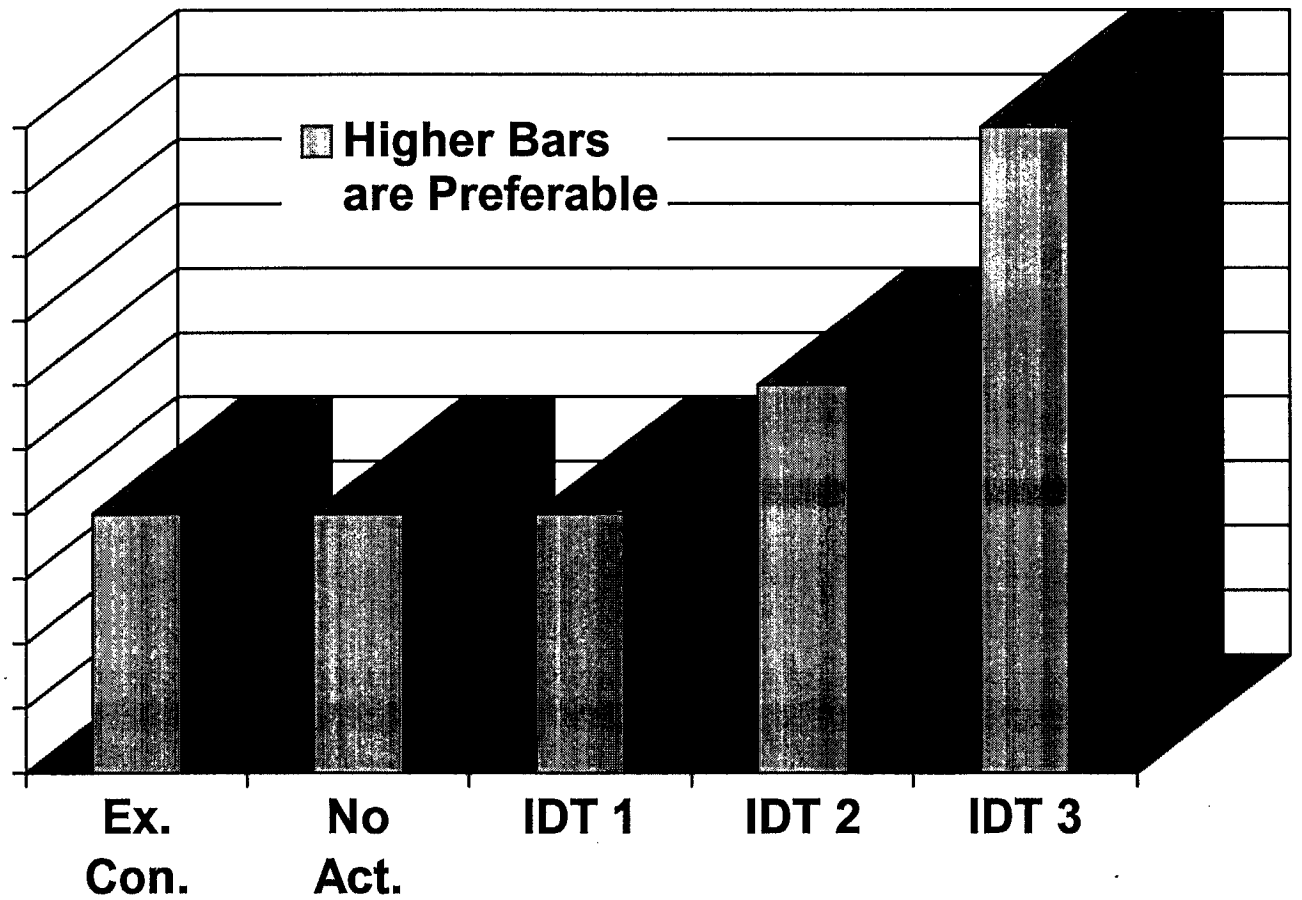
Measure of salinity and flow circulation for four areas of the Delta (West, South, Central, North) focusing on quality for in-Delta agricultural uses

- Alt. 1 - Same channel configuration as existing; salinity varies less than 10%
- Alt. 2 - More direct connection to Sacramento River generally lowers salinity 30% to 60% in Central Delta, minor So. Delta improvements
- Alt. 3 - Less cross Delta flow generally increases salinity 20% to 60% in South Delta

E-002167

Export Water Quality

SWP/CVP



E-002168

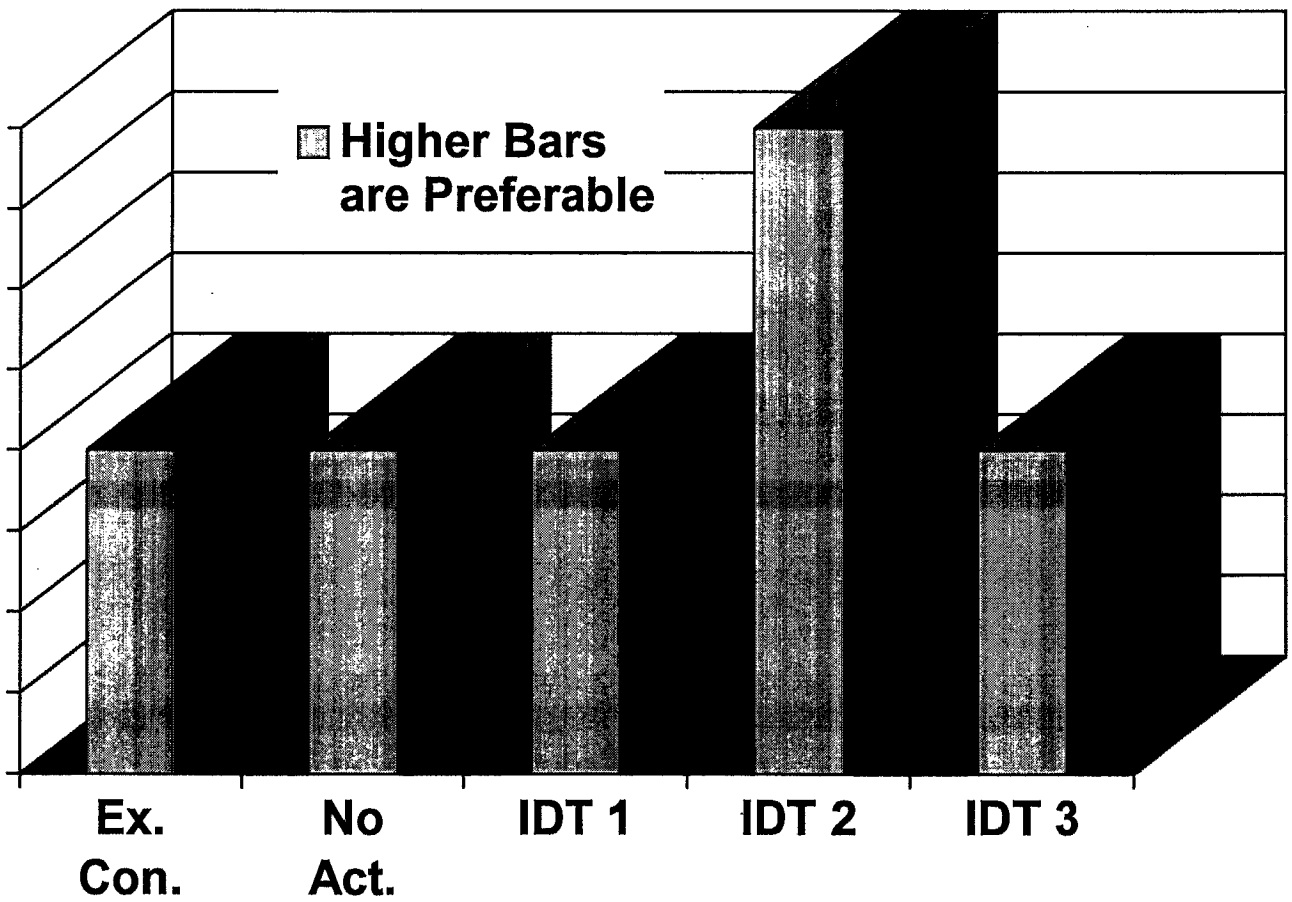
Export Water Quality (SWP/CVP)

Measure of salinity, bromide, and total organic carbon for four export diversion locations from the Delta (North Bay Aqueduct, Contra Costa Intake, SWP export, CVP export)

- Alt. 1 - Channel configuration same as existing; TDS/Bromide/TOC within about 10% of existing
- Alt. 2 - 25%-35% lower TDS/Bromide/TOC due to increased cross Delta flow from Sac. River
- Alt. 3 - 40%-60% lower TDS/Bromide/TOC with direct connection to Sac. River

Export Water Quality

Contra Costa



Export Water Quality
(Contra Costa)

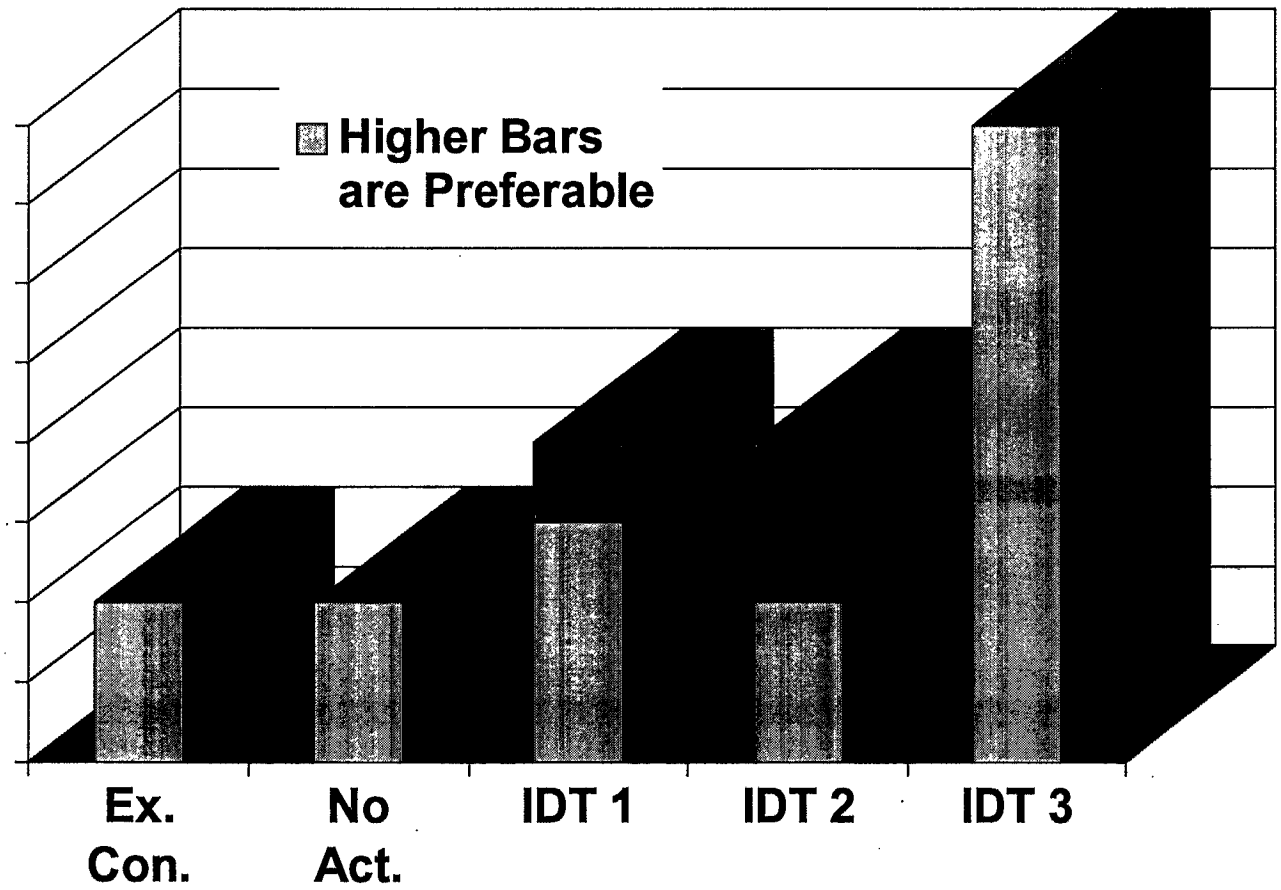
- Alt 1 - Channel configuration same as existing; TDS/Bromide/TOC within about 10% of existing
- Alt 2 - TDS/Bromide/TOC approx. 45% lower (at Rock Slough) than existing due to increased cross Delta flow from Sac. River
- Alt 3 - Little difference from existing condition; lower quality than Alt. 2 due to decrease in cross Delta flow from Sac. River

E—002171

Some Other Improvements for Water Quality

- Toxic Reduction and other Source Controls; (urban, ag., mine drainage)
- Timing of Discharges
- Watershed Coordination
- Water Use Efficiency; (water & water quality)

Diversion Effects on Fisheries *(minimize entrainment)*



Diversion Effects on Fisheries

(minimize entrainment)

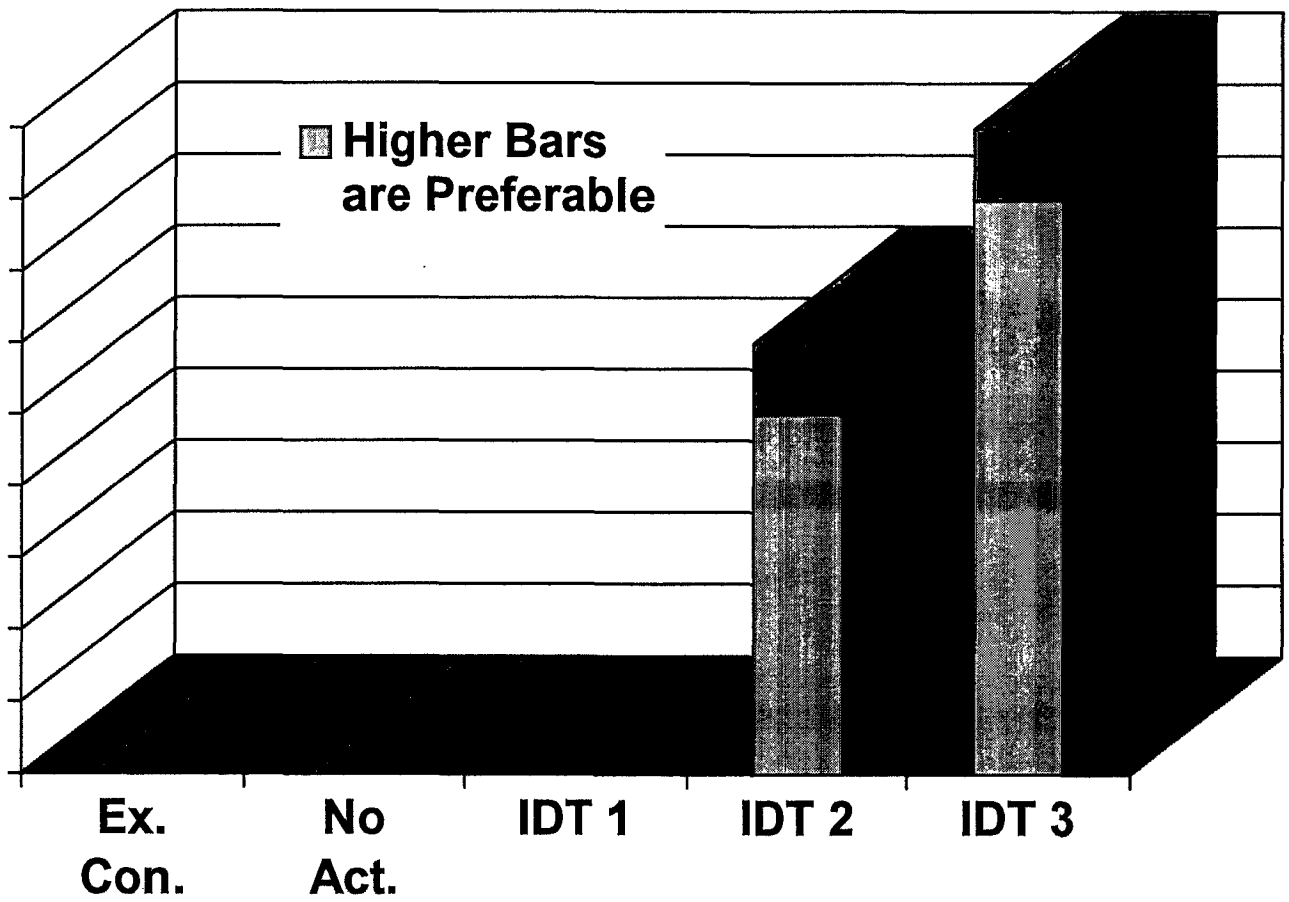
Direct effects on fisheries due to the export diversion intake and associated fish facilities (Location, Size, etc.)

- Alt. 1 - Slight improved from existing; consolidated fish screens but somewhat offset by higher diversions
- Alt. 2 - Similar to Alt. 1; somewhat less certain since Hood diversion is better for d/s fish but poorer for u/s fish
- Alt. 3 -Consolidated screens and about 80% reduction in So. Delta exports significantly reduces fish entrainment

Some Other Improvements for Fish

- Tidal wetlands
- Shaded Riverine Habitat
- Fish Flows
- Fish Structures and
- Toxic Reduction
- Levee Setbacks (meaner zones)
- Levee Associated Habitat
- Water Use Efficiency; (water & water quality)

Delta Flow Circulation



E-002176

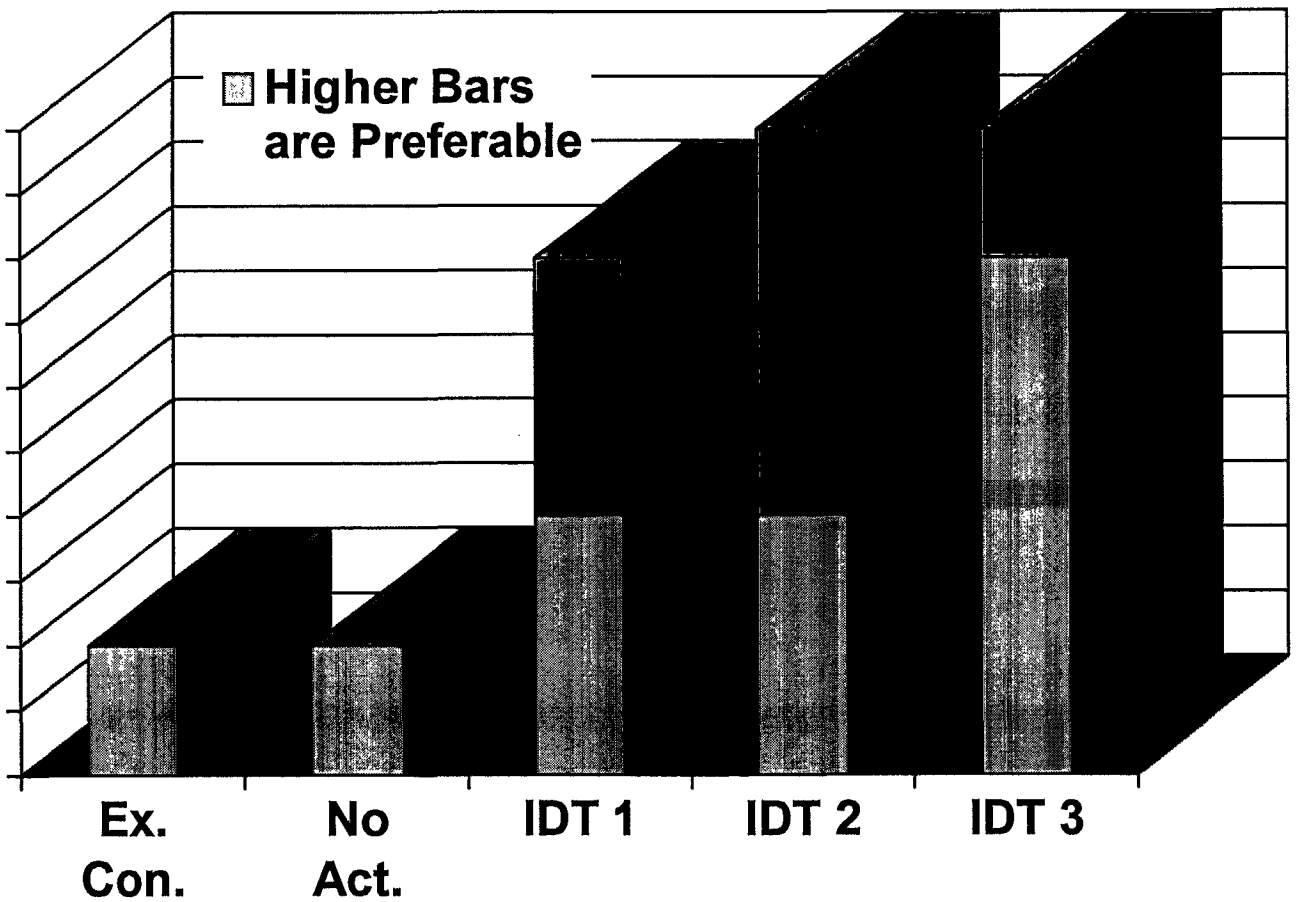
Delta Flow Circulation

Direct and indirect effects of water flow circulation on fisheries due to export diversions and changes in cross-Delta water conveyance facilities

- Alt. 1 - Similar to existing due to channel config. ;slightly worse due to larger diversions
- Alt. 2 - Greatly improved due to net increase in Delta flow out of SJ River and cross Delta flow from Sac. River
- Alt. 3 - Most natural flow conditions; net flow out of SJ River and reduced cross Delta flow compared with Alt. 2

E—002177

Water Supply Opportunities



E-002178

Water Supply Opportunities

Measure of the change provided by the alternatives for water supply for environment, agriculture, and urbanand

Storage plays major role in determining opportunities for each alt.:

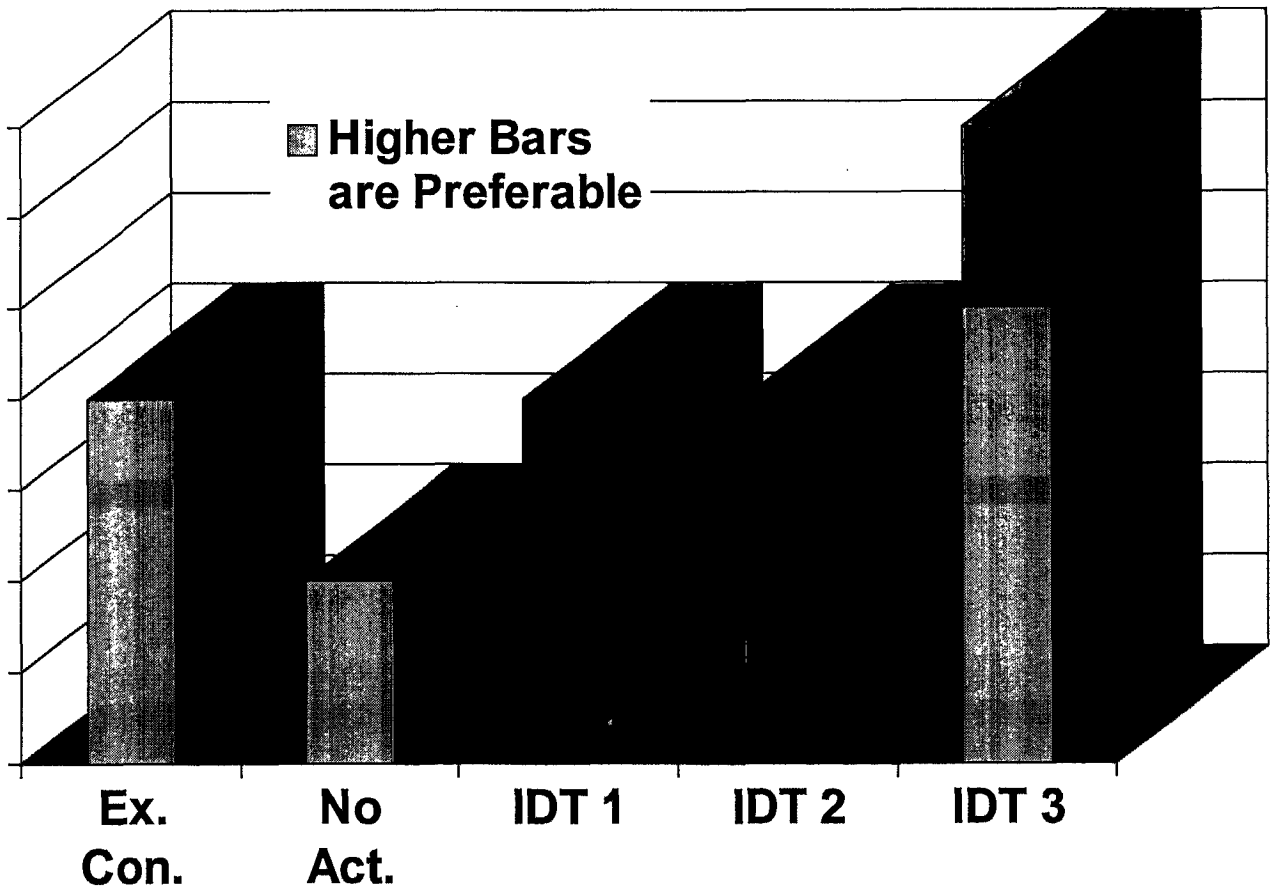
- Alt. 1 - Highly dependent on operational assumptions (more subject to E/I ratio)
- Alt. 2 - Highly dependent on operational assumptions (more subject to E/I ratio)
- Alt. 3 - Less dependent on operational assumptions (less subject to E/I ratio)

Some Other Improvements Water Supply Reliability

- Improved environmental conditions and reduced conflict with fisheries
- Improved water quality
- Improved transfer capability

E—002180

Water Transfer Opportunities

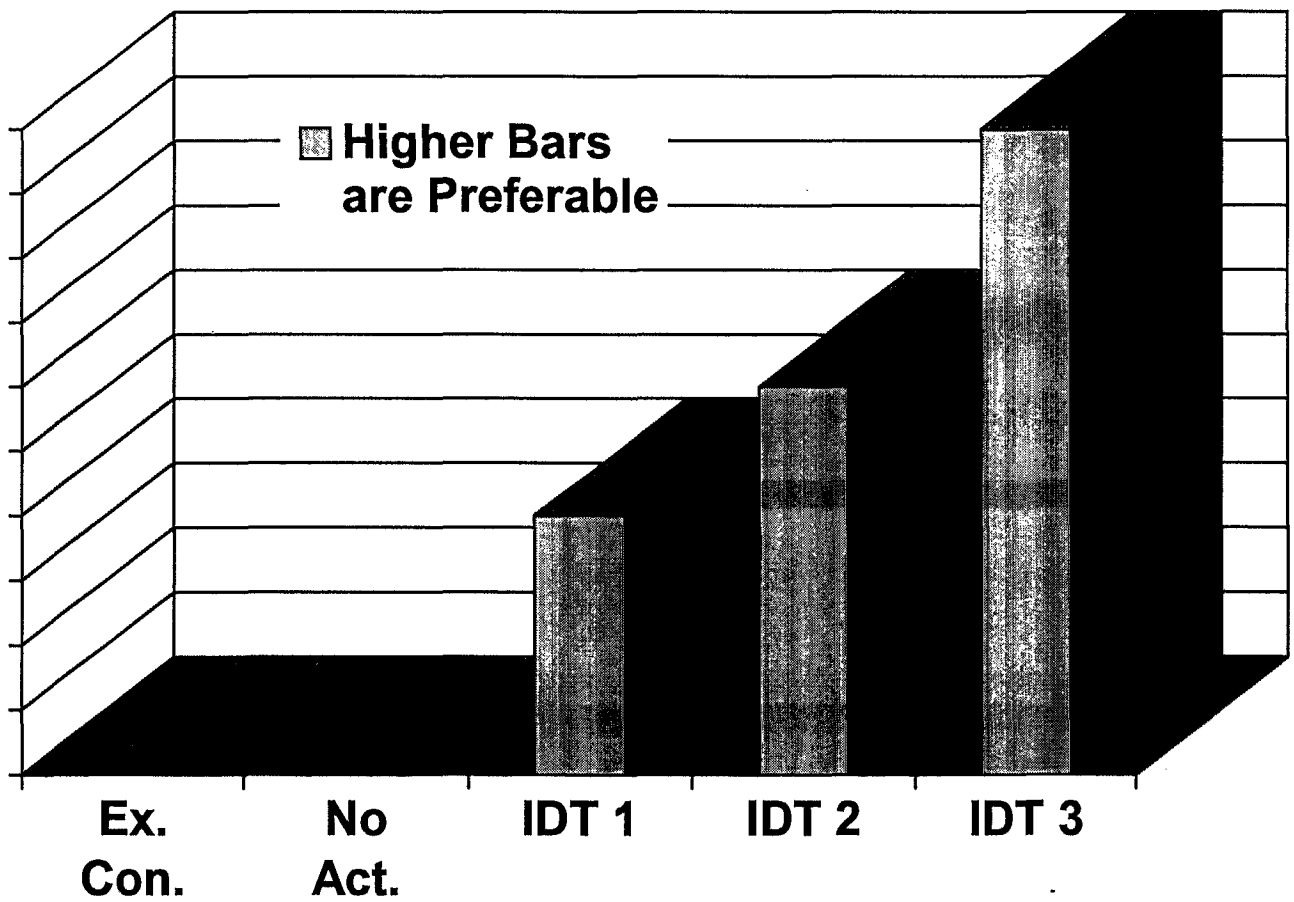


Water Transfer Opportunities

How well each alternative can carry water that may be generated through market sales or trades at different locations in the system

- Alt. 1 - Similar to existing condition; diversions still subject to E/I ratio
- Alt. 2 - similar to existing conditions and Alt. 1
- Alt. 3 - Much greater capacity to move water (especially in dry periods) since diversions are free of E/I ratio

Operational Flexibility



Operational Flexibility

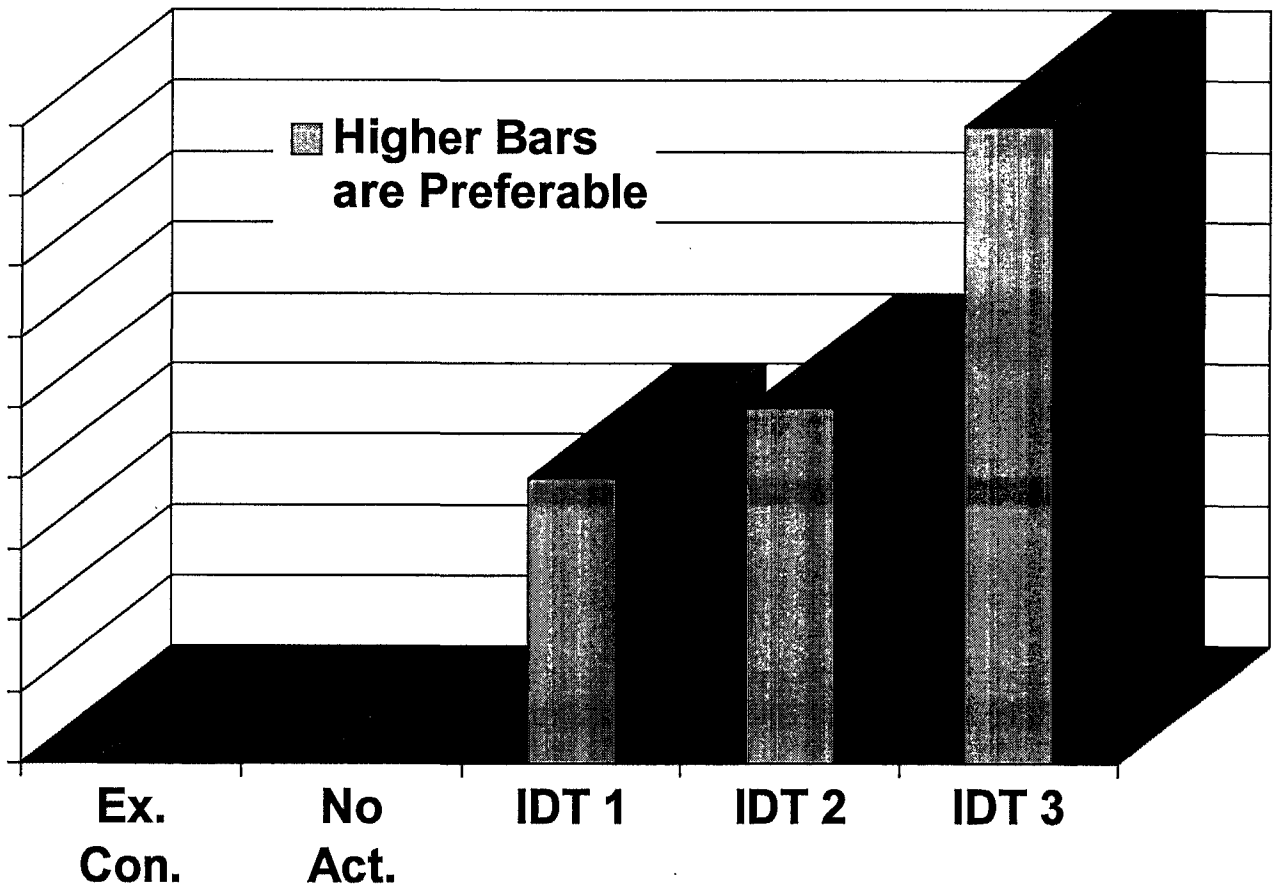
How well each alternative can shift operations as needed from time to time to provide the greatest benefits to ecosystem, water quality, and water supply reliability

- Alt. 1 - Increased storage and improvements in So. Delta = better flexibility over existing
- Alt. 2 - Channel improvements allow additional timing of diversions and increased flexibility over Alt. 1
- Alt. 3 - Direct diversion from Hood is less constrained by conditions in Delta = increased flexibility over Alt. 2

E-002184

Risk to Export Water Supply

(Minimize)



Risk to Export Water Supplies

Measure of which alternatives best reduce the risk to export water supplies from a catastrophic earthquake

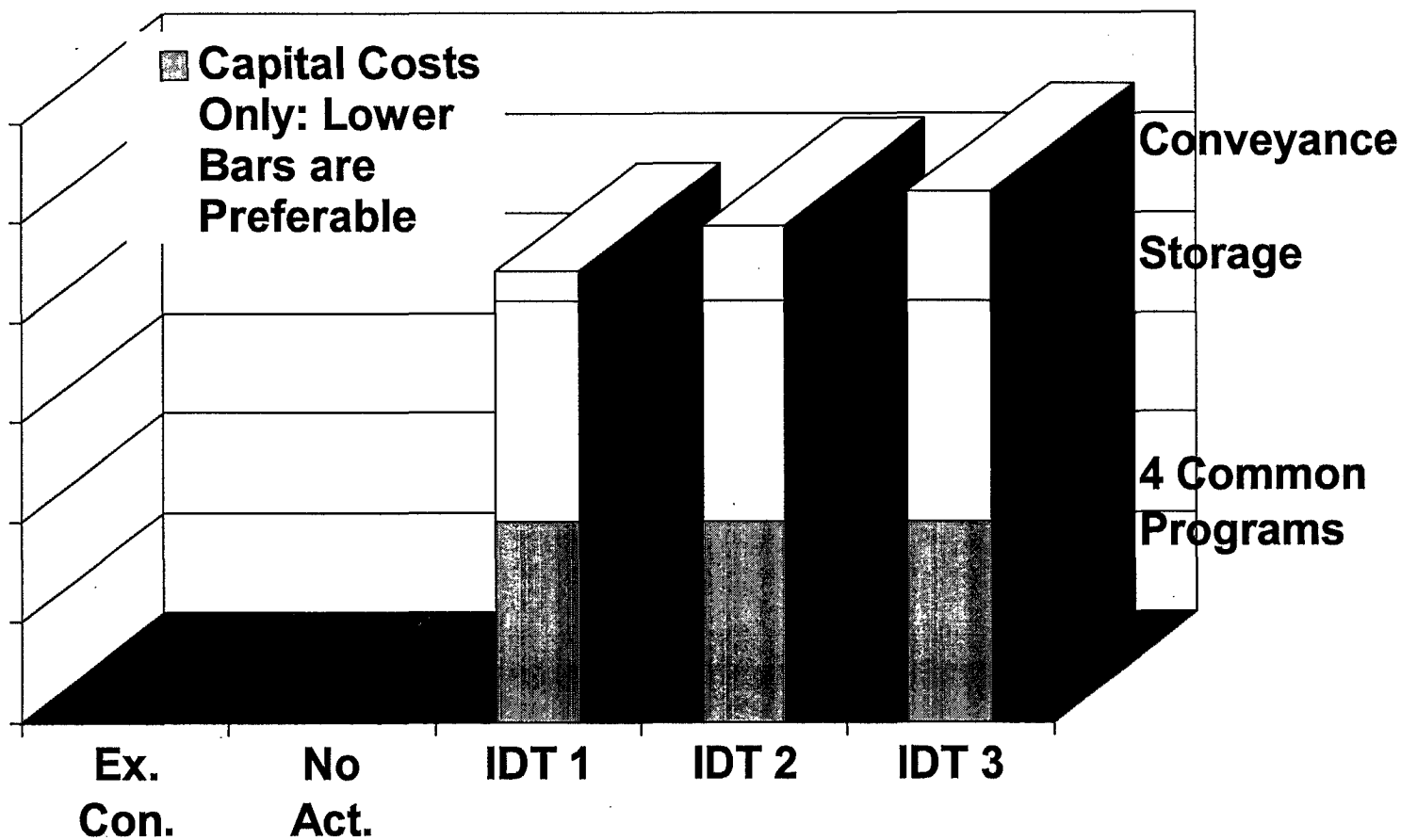
- Alt. 1 - Significantly lower risk than existing due to levee improvements and increased storage
- Alt. 2 - Somewhat lower risk than Alt. 1 due to major channel improvements that help diversion timing
- Alt. 3 - Significantly lower risk than Alt. 2 since diversion and conveyance from Hood is much less subject to levee failure

Some Other Improvements for Flexibility and Redcued Risk

- Improved environmental conditions and reduced conflict with fisheries
- Improved water quality
- Improved levee conditions and emergency response
- Improved water use efficiency

E—002187

Total Cost



*Total Costs**

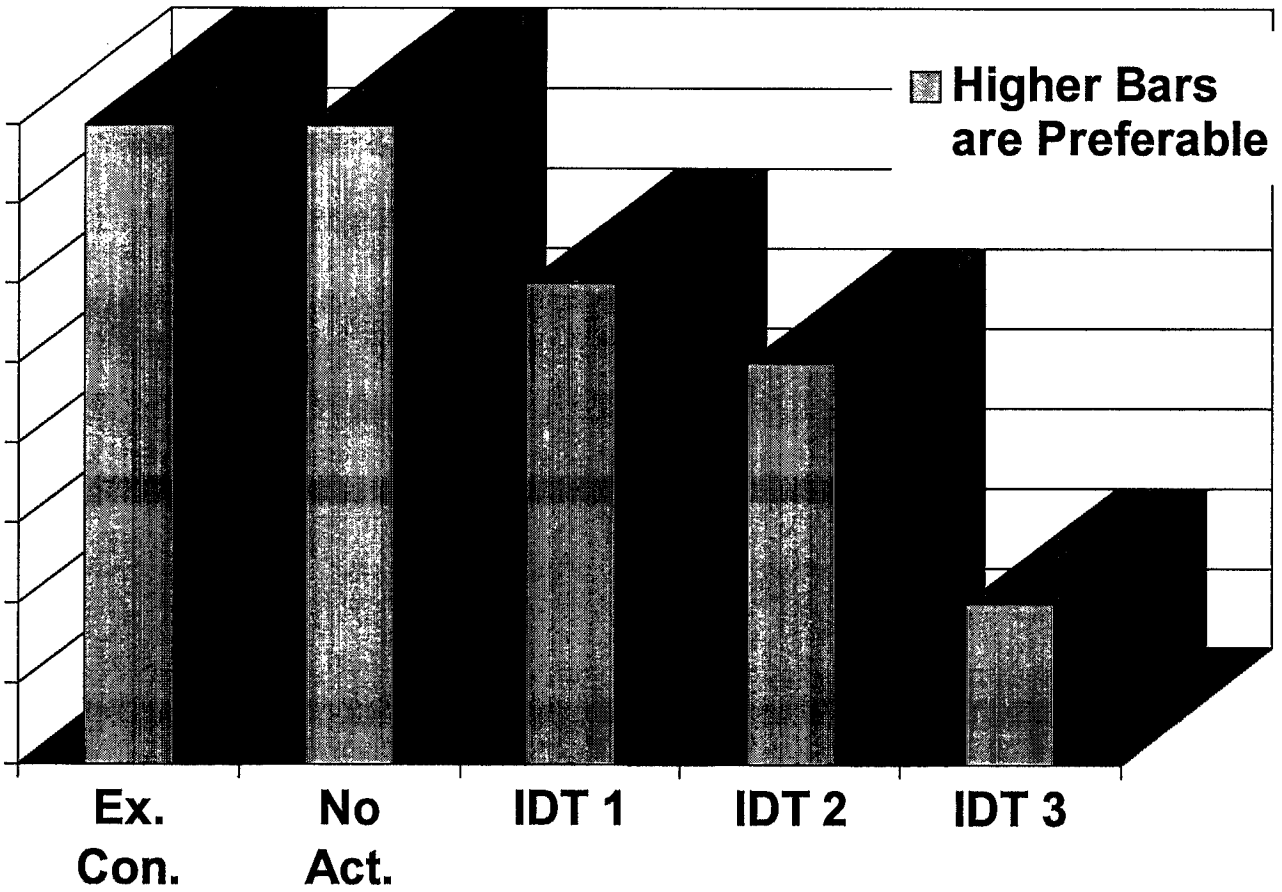
Includes capital cost and reoccurring annual costs to the Program:

- *Study, design, permitting*
- *Construction*
- *Mitigation and acquisition*
- *Operation and maintenance*
- *Monitoring*
- *Other first costs and annual costs*

* Social costs addressed elsewhere

E—002189

Assurances Difficulty



Assurances Difficulty

An estimate of how hard an assurance package will be to formulate and get consensus among agencies and stakeholders

E—002191