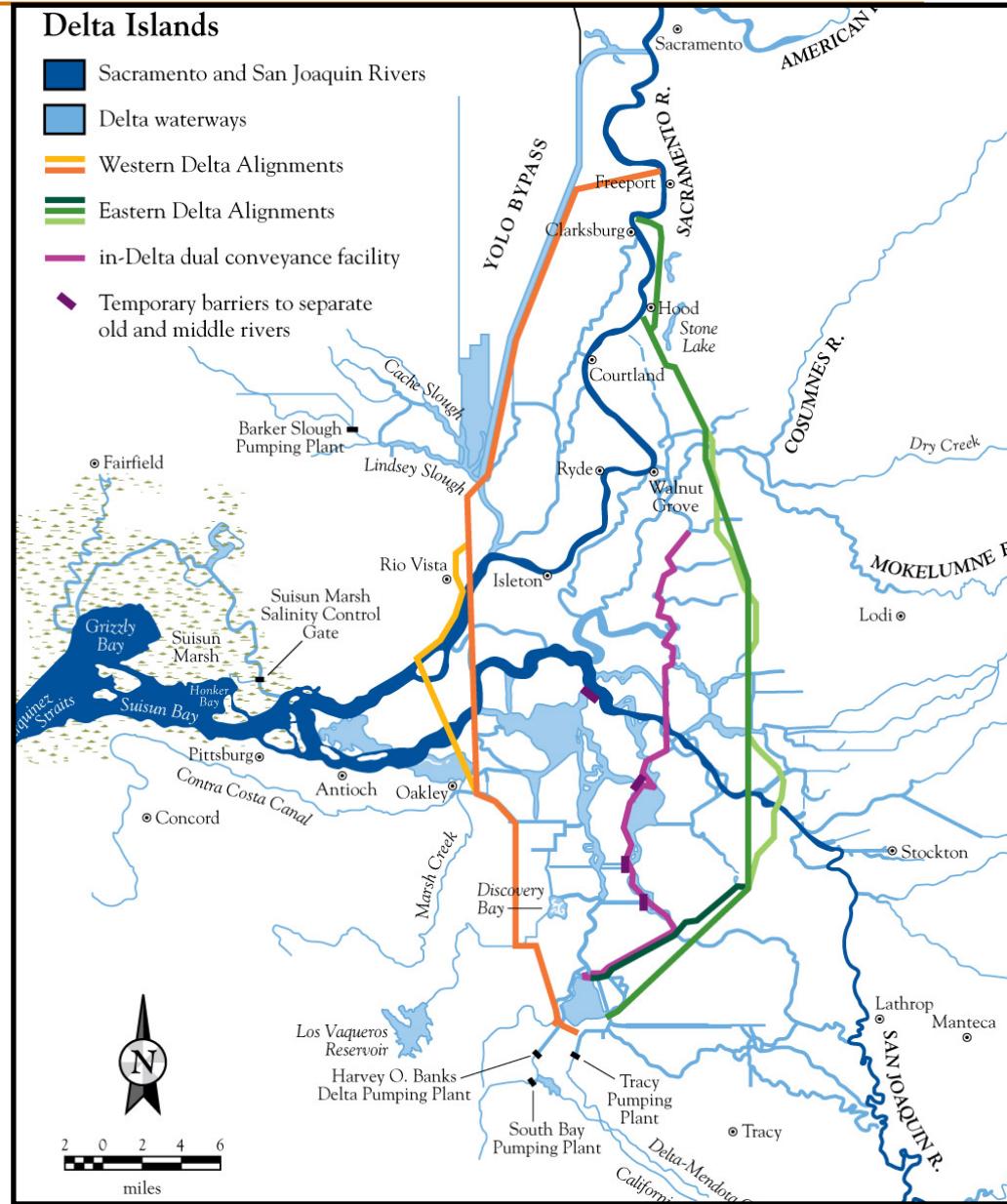


# Peripheral Canal Design and Implementation Options: Appendix G

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# Peripheral Canal Objectives

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- Reduce “take” of desirable species
- Improve in-Delta flows for ecosystem purposes
- Improve quality for urban and agricultural water users
- Improve long-term sustainability of Delta exports
- Reduce entanglement of water supply and environmental management in the Delta, improve flexibility for both
- Improve Delta region recreation opportunities
- Minimize financial costs of facility construction and operations

# Many Implementation Decisions

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- Infrastructure Design Options
- Operating Policy Options
- Environmental Management
- Ownership, Governance, Regulatory, and Finance Options
- Accompanying Delta Land and Water Management
- Major Adjustments and Mitigations

# Infrastructure Design Options

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- Intake location(s)
- Facility capacity
- Outlet location(s)
- Right-of-way
- Unlined canal vs. lined canal vs. pipeline
- Fish screens (type and fish salvage facilities)
- Use of pumps
- Ancillary storage
- Coordination with other projects and users

# Operating Policy Options

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- Constant intake, unvarying in time
- Seasonally varying intake
- Opportunistic intake operation
- Multiple intake operations
- Multiple outlet operations
- Coordinated intake and outlet operations
- Batch flow operations
- Constrained intake or outlet policies

# Environmental Management

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- Reduce fish “take” at the current in-Delta diversion location
- Reduce confusing in-Delta flow patterns for fish migration
- Improve flood-ebb tidal flows in channels desirable for Delta species
- Reduce loss of in-Delta nutrients from exports
- Improve overall Delta food-web
- Reduce interference of water supply with Delta environmental management

# Environmental Management 2

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## Potential problems

- Increased “take” from Sac River & N. Delta
- Less freshwater inflows to the Delta
- Less flushing of contaminants
- Reduced dilution of contaminants

PC design must accompany initial design for Delta ecosystem

# Ownership, Governance, Regulatory, and Finance Options

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- Ownership
- Governance
- Regulatory
- Finance

# Accompanying Delta Land and Water Management

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- Aquatic and terrestrial habitat
- Flood management
- Levees
- Agriculture
- Recreation
- Anadromous fish passage (up and down)
- Other?

# Major Adjustments and Mitigations

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- Delta farmers
- Contra Costa Water District
- North Bay Aqueduct
- Delta towns
- Recreation
- Environmental
- Others

# How to make all these decisions?

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- Implementation decisions harder than initial decision to employ a peripheral canal
- Strategic decision should be made first, along with a process for implementation
- Implementation process more important than strategic decision?
- State authority central
- Stakeholder role required
- Implementation decisions will require revision for decades after construction

# Before Construction

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- Governing institutions and finance arrangements
- Institution for designing facilities and operations
- Institution for in-Delta habitat and environment
- Funding for environmental management in Delta
- Institution for coordinating land and water management in the Delta
- Mechanism for resolving disputes expeditiously
- Funded independent scientific and technical capability.
- Suite of performance measures explicitly linked to project goals and objectives

# After Construction

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- Focused monitoring studies
- Operational studies
- Environmental management activities
- Oversight (auditing) of governing institutions and finance
- Institutional mechanism for adjusting operations and policies
- Funded effort to improve environmental management of the Delta

# Conclusions

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- Making a decision on a peripheral canal is tough
- Making needed implementation decisions is tougher
- If governing and financial arrangements are weak, neither will happen
- If beneficiary financial support is weak, neither will happen
- Alternative is to end or substantially reduce Delta exports, with little environmental funding?