

Salinity Management Action Plan

From the 1999 Salinity Management Study Final Report

Action Plan Categories:

- Imported Water Source Control and Salinity Reduction Actions.
- Distribution System Salinity Management Actions.
- Collaborative Actions with Other Agencies.
- Local Salinity Management including Actions to Protect Groundwater and Recycled Water Supplies.

IMPORTED WATER SOURCE CONTROL AND SALINITY REDUCTION ACTIONS

(Action Item No. 1) Colorado River

Metropolitan will diligently support funding for the Colorado River Salinity Control Program. Added emphasis will be given to accelerating implementation of program measures. This will entail coordination with the Colorado River Board of California, the Colorado River Basin Salinity Control Forum, participating federal agencies, the proposed Southern California Salinity Coalition, and other interested parties.

Metropolitan will provide the U.S. Bureau of Reclamation (Reclamation) with its updated salinity impacts model for Reclamation's use to help develop economic justification for new salinity control measures and funding.

(Action Item No. 2) State Water Project

Metropolitan will work with other State Water Project (SWP) Contractors and the California Urban Water Agencies to encourage the Department of Water Resources (DWR) to engage in operational and management practices that support Metropolitan's salinity management objectives, including:

- DWR to provide timely water quality information to aid Metropolitan's operational decisions.
- DWR to develop a TDS assessment methodology to provide routine salinity forecasts and to assess actions that may affect source or delivered water quality.
- DWR and Metropolitan to seek mitigation offsets for proposed projects that have the potential to significantly degrade source or delivered water quality.
- Metropolitan and DWR to assess the tradeoffs of projects affecting SWP salinity, including economic impacts.
- Metropolitan to promote inclusion of salinity control and reduction as a major objective for Delta exports as part of CALFED's long-term Bay-Delta solution.
- DWR to conduct water cycling and flow-through operations in its reservoirs to lower salinity levels without impairing water supply reliability.
- CALFED to adopt watershed management activities and water quality programs that reduce salinity to municipal water supplies.

DISTRIBUTION SYSTEM SALINITY MANAGEMENT ACTIONS

(Action Item No. 3) Blending

Metropolitan will operate its system with the objective to maintain an average salinity concentration equal to the secondary State and federal drinking water standard of 500 mg/L in its blended water at its Weymouth, Diemer, and Skinner filtration plants, the untreated San Diego pipelines, and the Eastside Reservoir subject to the following:

- Compliance with all water quality standards and aesthetic parameters.
- Availability of sufficient State Project water to accomplish the blend without using drought supplies from special transfer or storage accounts.
- Adequate distribution system delivery capacity.
- An annually budgeted amount to cover operational cost.

Actual system concentrations will vary by time and location in response to routine operational constraints and practices. The blending objective is estimated to be achievable in 7 out of 10 years on average, hindered primarily by periodic episodes of high salinity in Metropolitan's imported water sources caused by drought conditions. Staff will inform Metropolitan's Board whenever constraints will prevent achievement of the objective. Staff will also provide reports to the Board of the cost incurred and the amount of salinity reduction achieved at the end of each year.

Duration of blending operations:

- Interim: Through 2004, Metropolitan will plan its operations to meet a 500 mg/L objective in a two stage process:
 1. April-September will be the primary time window when water resources are limited.
 2. October - March will be secondary time window when water resource conditions are favorable.
- Long-term: In 2004, Metropolitan will assess changes in resource conditions and revise the blending duration to the extent that supply improvements permit to achieve the 500 mg/L objective on a year-round basis. Success in a CALFED solution; development of new storage and exchange arrangements along the Colorado River Aqueduct; and exchanges of lower salinity Sierra Nevada water into the State Water Project will be important factors in expanding the blending duration.

(Action Item No. 4) Exchange and Storage and Conveyance

Metropolitan will pursue: (1) storage and exchange arrangements along the Colorado River Aqueduct to minimize the loss of Colorado River water periodically curtailed and replaced by State Project water when blending to meet salinity targets; (2) exchanges and transfers of Sierra water that could lower State Project water salinity; and (3) conveyance of low salinity groundwater in its distribution system.

(Action Item No. 5) Integration of Water Quality and Quantity

Metropolitan will integrate water quality and quantity objectives in conducting its system overview planning studies, updating its Integrated Water Resource Plan and in negotiating resource developments. Metropolitan, in coordination with its member agencies and other concerned entities will periodically review its distribution system and assess the merit of facility improvements needed for regional salinity management for all classes of water service.

COLLABORATIVE ACTIONS WITH OTHER AGENCIES

(Action Item No. 6) Local Resources Program Support

Metropolitan will continue its financial support of local recycled water and groundwater desalination projects, including associated brine disposal through its Local Resources Program and will encourage protection and enhancement of the quality of those water resources.

(Action Item No. 7) Desalination Research and Development

Metropolitan will continue to pursue research and development partnerships to reduce the costs associated with removing TDS from the Colorado River Aqueduct and other water supplies, including brackish groundwater, recycled water, and agricultural drainage. The Desalination Research and Innovation Partnership (DRIP) is a collaborative effort that will focus on developing new and innovative technologies to reduce the cost of desalting water supplies. Practical technologies that may reduce the salinity content of the water supplied to member agencies will be evaluated. The partnership will also investigate water softener technology and its salinity impacts to the region's recycled water and groundwater resources.

(Action Item No. 8) Southern California Salinity Coalition

Metropolitan will collaborate with Association of Groundwater Agencies, Southern California Alliance of Publicly Owned Treatment Works, member agencies, and other concerned agencies in Southern California to form a coalition that will assess progress in correcting the regional salt imbalance and coordinate needed actions with key agencies that influence regional salinity, including DWR, Bureau of Reclamation, State Water Resources Control Board, Regional Water Quality Control Boards, and CALFED.

Public Education: The coalition will pursue public education and awareness regarding the need to correct the region's salinity problems.

Annual Salinity Report Card: The coalition will prepare an annual report on salt balance to track key indicators of the region's success in managing salinity and assess overall implementation of this Action Plan. Metropolitan will consider revisions based on the assessment, the experience it gains and changing conditions.

Statewide Water Softener Study: The coalition will pursue passage of legislation that would fund a statewide investigation by the State Water Resources Control Board of the impacts of water softeners and other sources of salt in local wastewater affecting recycled water and groundwater resources.

Advocate Federal Funding: The coalition will support needed funding for the Colorado River Salinity Control Program.

LOCAL SALINITY MANAGEMENT ACTIONS

(Action Item No. 9) Local Wastewater Discharge Management

Discharge Permits: Local leadership is needed to reduce the amount of salts entering groundwater and recycled water resources from sewer and agricultural discharges. Opportunities for improvement include more stringent industrial permitting, controlling infiltration of brackish groundwater and seawater, as well as developing dedicated brine or interceptor lines.

Local permitting and design practices need to consider the unavoidable salinity increases that will occur in imported water in response to periodic droughts and progressive changes in the Colorado River Watershed. Normal fluctuations in imported water salinity need to be fully recognized in the design of water recycling facilities, when developing groundwater management plans, and in establishing waste discharge permit standards.

Expand Regional Brine Disposal: Local leadership is needed to develop new dedicated brine disposal facilities to protect groundwater and recycled water resources. Metropolitan is currently working with a group of local agencies, member agencies, DWR and the Bureau of Reclamation in regional water recycling planning study for Southern California. Part of that effort includes the planning of new brine disposal lines that would support water recycling and groundwater desalination developments.

Management of Water Softener Brines: Local leadership is needed to rectify existing statutes that hinder local agencies from managing salt discharges from residential water softeners. Metropolitan can help organize concerned local agencies to assess the regional scale of this issue and facilitate an effective outcome among the WaterReuse Association, the Water Quality Association, and State regulators.

(Action Item No. 10) Groundwater Management

Local leadership is needed to pursue groundwater management practices that minimize groundwater basin salt loading. Where none exist, institutional arrangements for groundwater quality management should be pursued. Some agencies have the opportunity to selectively schedule spreading, injection, or in-lieu replenishment in response to imported water salinity conditions to minimize basin salt loading. Basin managers should address salt loading from local sources with regulatory agencies and pertinent dischargers.