Program Preferences

Table 12-1 provides an overview of the Program Preferences that the Proposal is assisting in meeting and **Table 12-2** quantifies the Proposal benefits by Program Preference. Program preferences are numbered as follows:

- 1. Include integrated projects with multiple benefits.
- 2. Support and improve local and regional water supply reliability.
- 3. Contribute expeditiously and measurably to the long-term attainment and maintenance of water quality standards.
- **4.** Eliminate or significantly reduce pollution in impaired waters and sensitive habitat areas, including areas of special biological significance.
- 5. Include safe drinking water and water quality projects that serve disadvantaged communities.
- 6. Include groundwater management and recharge projects that are located 1) in San Bernardino or Riverside counties; 2) outside the service area of MWD; and 3) within one mile of established residential and commercial development.

Table 12-1 Proposal Contribution to Program Preferences

Program Preferences 1					
1	2	3	4	5	6
✓	✓			✓	
✓		✓	✓		
✓	✓	✓	✓	✓	
✓		✓	✓		
✓	✓	✓	✓		
✓	✓	✓			
✓		✓	✓	✓	
✓		✓	✓	✓	
✓		✓			
✓		✓			
✓		✓	✓	✓	
✓	✓			✓	
✓		✓	✓	✓	
	✓ ✓ ✓ ✓ ✓	1 2	1 2 3	1 2 3 4	1 2 3 4 5 V V V V V V V V V V V V V V V V V V V V V V V V V

Table 12-2 Summary of Proposal Program Preferences

Program Preference	Proposal Description
Integrated Projects With Multiple Benefits	All projects provide multiple benefits, particularly water quality and habitat restoration.
2. Water Supply Reliability	5 projects reduce reliance on imported water by up to 31,070 afy and the remaining 8 projects achieve slight water supply increases through incidental groundwater recharge.
3. Water Quality Standards	All projects provide water quality benefits throughout the Region, including for TMDL and non-TMDL constituents.
4. Pollution Reduction in Impaired Waters and Sensitive Habitat Areas	All projects contribute to reducing pollution to water bodies in the region, although none of the projects eliminates pollution to water bodies; one project (Large Landscape Conservation Project) improves water quality to an ASBS.
5. Projects Serving Disadvantaged Communities	10 projects provide water benefits to over 20 disadvantaged communities in the region
Groundwater Management and Recharge Projects	None of the projects meet this Program Preference

The following sections more specifically discuss the magnitude of the benefits of the Proposal relative to each Program Preference at a statewide and large-regional level. The sections provide relevant references to supporting documentation listed in Attachment 8 either in the text or in the summary tables.

Projects with engineered solutions and controls generally present the highest level of certainty that the proposed project will achieve its program preferences, although other factors when combined can also result in an increased probability for program success. Six of the 13 proposed projects are classified as having a high level of certainty of meeting their claimed benefits:

- 1. Central Basin SWRP
- 3. Large Landscape Conservation
- 5. Malibu Creek Water Conservation
- 6. Morris Dam Water Supply
- 8. Pacoima Wash/8th Street Park
- 12. Whittier Narrows WRP UV

The remaining projects are considered to have a medium level of certainty of meeting their claimed benefits due to the variability in performance of natural systems and variability in establishment of habitat restoration.

1. Include integrated projects with multiple benefits

All projects demonstrate benefits in multiple areas, such as water supply, water quality, flood control, habitat restoration, recreation, and public education of water issues. **Table 12-3** summarizes benefit areas for each project. The basis for project benefits is briefly provided below – but Attachments 10 and 11 provide a more comprehensive discussion.

Project Benefits Restoration Recreation Education **Project Short Name** Water Quality Control 1. Central Basin SWRP 2. JWPCP Marshland Enhancement ✓ 3. Large Landscape Conservation **√** 4. Las Virgenes Creek Restoration **√** 5. Malibu Creek Watershed Conservation 6. Morris Dam Water Supply 7. North Atwater Creek Restoration **√** 8. Pacoima Wash/: 8th Street Park 9. San Gabriel Valley Arundo Removal 10. Solstice Creek Restoration 11. South Los Angeles Wetlands Park 12. Whittier Narrows WRP UV 13. Wilmington Drain Restoration

Table 12-3: Projects with Multiple Benefits

- 1. Central Basin SWRP Project will provide the capacity to deliver 16,000 afy of recycled water, improving the region's water supply reliability and decrease the potential for algae growth in the San Gabriel River.
- **2. JWPCP Marshland Enhancement Project** will restore 17 acres of marshland. Project benefits include improved water quality, habitat restoration, wildlife protection, flood protection, educational area, and passive recreation opportunities.
- **3. Large Landscape Conservation Project** will create positive benefits for the watershed including conserving potable water supplies, reducing runoff, and educating the public about wise use of the limited water supply. Use of weather-based irrigation controllers will reduce the amount of runoff that contributes to pollutant loading in the creeks and rivers and thereby reducing the amount that flows to the ocean
- 4. Las Virgenes Creek Restoration Project will provide the Malibu Creek watershed's greatest need, an example of a successfully restored urbanized creek segment to native conditions. The restoration will create healthy stream and riparian habitat as well as improve water quality through restoration to natural conditions and public education components. The restoration would also reestablish direct connectivity between two existing riparian communities to the north and south of the concrete segment.
- **5. Malibu Creek Watershed Conservation Project** will reduce the amount of water imports by 350 afy through irrigation reductions and will increase water quality by reducing urban runoff by 90 afy.
- **6. Morris Dam Water Supply Project** will increase the capture of 5,720 afy of local stormwater runoff for groundwater recharge, flood protection and improved water quality. The increased groundwater recharge will meet Main San Gabriel Basin Watermaster goal of maximizing local water

sources and reducing dependency on imported water. Flood protection is improved by increased ability to capture storm water during peak flows and water quality is improved when sediment is allowed to settle out of the storm water.

- **7. North Atwater Creek Restoration Project** will reduce pollutant loading in waterways located downstream of the project while providing recreation opportunities and aesthetic benefits.
- 8. Pacoima Wash / 8th Street Park Project addresses multiple needs within the project area on both a local and region scale. The project provides public access to new recreational opportunities and open space, in an under-served community, and address TMDL for storm water by capturing, treating, and restoring runoff from surrounding communities. Also, this project is the first and most important step to implement the Pacoima Greenway Master Plan.
- **9. San Gabriel Valley** *Arundo* **Removal Project** will remove 24 net acres of *Arundo*, a non-native invasive plant, to preserve and restore rare native riparian habitat, prevent obstruction of flood control channels, reduce fire hazard, preserve recreational trails, prevent expansion of this species throughout the Whittier Narrows basin, increase surface water flow, and increase groundwater recharge downstream at the Rio Hondo Percolation Basins.
- 10. Solstice Creek Restoration Project was undertaken in order to remove barriers to steelhead migration within the creek (1.5 miles), restore riparian habitat (16 acres), and improve water quality in the Solstice Creek watershed. The Solstice Creek Steelhead Habitat Restoration Project will complete the final three of eight phases of the restoration plan for endangered southern steelhead.
- 11. South Los Angeles Wetlands Park Project will reduce pollutant loading in waterways located downstream of the project, and ultimately the LA River, under both dry and wet weather conditions providing recreation opportunities and aesthetic benefits.
- 12. Whittier Narrows WRP UV Project will address elevated N-Nitrosodimethylamine (NDMA) concentrations in tertiary effluent to allow continued groundwater recharge of up to 10,000 afy for indirect potable reuse. Also, the project will impact NDMA strategies and research for groundwater injection of up to 50,000 afy from LACSD facilities as well as national implementation.
- 13. Wilmington Drain Restoration Project is part of the Machado Lake Integrated Water Quality Habitat Improvement Program. The project will capture and treat an estimated 4,800 afy of stormwater runoff while providing recreation opportunities and aesthetic benefits.

2. Support and improve local and regional water supply reliability

The Proposal improves local and regional water supply reliability by reducing the Region's dependency on imported water. Imported water supplies can be highly variable are not subject to local control. The need for imported water is reduced by better utilizing local storm water, increasing groundwater recharge, increasing recycled water use, and emphasizing conservation.

Improved water supply reliability is the primary objectives of five projects included in the Proposal and a secondary benefit of the remaining eight projects. The secondary benefits are relatively small and are generally derived from slight increases in incidental groundwater recharge for wetland and creek restoration projects. Quantification of the increase in incidental groundwater recharge is difficult for many projects and, in fact, only one (San Gabriel Valley *Arundo* Removal Project) quantified the water supply increase. **Table 12-4** lists those projects for which improved water supply reliability could be quantified. The basis for the magnitude in water supply reliability benefits is briefly provided below – but Attachment 10 provides a more comprehensive discussion.

Magnitude Attachment 8 Avoided Need for **Project Short Name** Certainty Avoided Need for Reference(s) 3 **Imported Water from Imported Water** Bay Delta 1,2,3 1. Central Basin SWRP up to 16,000 afy up to 8,800 afy High Reference 1-1 3. Large Landscape Conservation Reference 3-1 & 3-2 up to 2,000 afy up to 1,100 afy High 5. Malibu Creek Watershed I VMWD staff 350 afy 190 afy High Conservation estimate 6. Morris Dam Water Supply 5,720 afy 3,150 afy Reference 6-2 High 12. Whittier Narrows WRP UV average of 7,000 afy average of 3,850 afy High Reference 12-11 Total up to 31,160 afy up to 17,100 afy NA NA

Table 12-4: Proposal Contribution to Water Supply Reliability

- 1. Amount re-introduced in the Bay Delta is not relevant to Southern California projects. Only amount not withdrawn from the Bay Delta is considered herein.
- 2. Imported water from Bay Delta constitutes 55% of imported water supply of MWD.
- 3. See discussion of water supply benefits in Attachment 10.

NA: Not Applicable

- 1. Central Basin SWRP Project will provide the capacity to deliver 20,000 afy of recycled water from two LACSD facilities. Of the 20,000 afy of capacity, 4,000 afy is currently used by existing customers so the proposed project will contribute to 16,000 afy of new recycled water use. Of this 16,000 afy, 13,500 afy is designated for the City of Vernon.
- 3. Large Landscape Conservation Project will install weather-based irrigation controllers that will reduce landscape water use of 2 af per acre by 20 to 50 percent, based on Hydroearth's experience at other similar sites. The total water use reduction is estimated to range between 1,250 to 2,000 afy (20 to 50 percent reduction) based on 2,000 acres of implementation.
- **5. Malibu Creek Watershed Conservation Project** will conserve approximately 350 afy of water used for both indoor and outdoor purposes.
- 6. Morris Dam Water Supply Project will improve conjunctive use of 5,720 afy of local runoff by capturing storm water and then releasing for downstream recharge. Consequently, potable groundwater supply within the Main San Gabriel Groundwater Basin will increase by 5,720 afy, which would alternatively be supplied by imported water.
- 12. Whittier Narrows WRP UV Project The project will preserve up to 10,000 afy of effluent for groundwater replenishment by increasing the water quality of the tertiary treated water. The benefits will be realized as soon as the project is completed and consist mainly of preserving the existing groundwater recharge volume that is supplied by the WN WRP.

3. Contribute expeditiously and measurably to the long-term attainment and maintenance of water quality standards

All projects in the Proposal contribute to improving water quality within the Region as shown in Table 12-3. **Table 12-5** summarizes the 11 projects that contribute <u>most</u> to the long-term attainment and maintenance of water quality standards. Hence, Central Basin SWRP and Whittier Narrows WRP UV Projects are not included. The basis for the magnitude of the contribution to water quality standards presented in Table 12-5 is briefly provided below – but Attachment 10 provides a more comprehensive discussion.

Table 12-5 Proposal Contribution to Long-Term Attainment and Maintenance of Water Quality Standards

Project Short Name 1	Waterbody	Constituents ²	Magnitude ²	Certainty	Attachment 8 Reference(s) ²
2. JWPCP Marshland Enhancement	Wilmington DrainMachado Lake & Los Angeles Harbor	 TMDLs: Ammonia, Copper, Lead and Coliform Non-TMDLs: TSS, BOD, Cadmium, Chromium, Zinc, Arsenic, Nickel, Selenium, VOCs, Nitrogen & Phosphorus 	Treatment of 2 mgd / 1,700 afy20 % removal	Medium	Reference 2-5 & 2-6
3. Large Landscape Conservation	 Various ³ 	■ Various ³	■ 70 % reduction in runoff (500 afy)	High	Reference 3-1 & 3-2
4. Las Virgenes Creek Restoration	Las Virgenes CreekSanta Monica Bay	■ TMDL: Algae	■ Removal not quantified	Medium	Reference 4-1
5. Malibu Creek Watershed Conservation	Malibu CreekSanta Monica Bay	■ TMDL: Coliform, Nutrients	• 90 % reduction in runoff (90 afy)	High	Reference 5-1
6. Morris Dam Water Supply	 San Gabriel River 	Non-TMDL: Sediment	■ Removal not quantified	High	Reference 6-1
7. North Atwater Creek Restoration	North Atwater CreekLos Angeles River	TMDL: Trash, MetalsNon-TMDL: Sediments	Treatment of 44 afyRemoval not quantified	Medium	Reference 7-1
8. Pacoima Wash / 8th Street Park	■ Los Angeles River	TMDL: Trash, Metals, BacteriaNon-TMDL: Sediment, Oil and Grease	Treatment of 10 afyRemoval not quantified	High	Reference 8-2
9. San Gabriel Valley <i>Arundo</i> Removal	Rio Hondo RiverSan Gabriel River	■ Non-TMDL: Algae	 Removal not quantified (3 miles of riparian habitat restoration) 	Medium	Reference 9-2
10. Solstice Creek Restoration	Solstice CreekSanta Monica Bay	Sediment (particularly during high flow events)	 Removal not quantified (1.5 miles of riparian habitat restoration) 	Medium	Reference 10-6
11. South Los Angeles Wetlands Park	Los Angeles River	■ TMDL: Trash, Metals	Treatment of 310 afyRemoval not quantified	Medium	Reference 11-1
13.Wilmington Drain Restoration	Wilmington DrainMachado Lake & Los Angeles Harbor	■ TMDL: Trash	■ Treatment of 4,800 afy ■ 50,000 lbs of trash	Medium	Reference 13-1

^{1.} Table 12-5 summarizes the 11 projects that contribute most to the long-term attainment and maintenance of water quality standards. Hence, Central Basin SWRP and Whittier Narrows WRP UV Projects are not included although they are included in Table 12-1.

^{2.} See discussion of water quality benefits in Attachment 10.

^{3.} The project will reduce runoff in the water bodies of watersheds across the Region, including: Malibu Creek; Ballona Creek; Dominguez; Santa Monica Bay; San Gabriel River; Lower LA River. Exact locations will be determined during the final phase of the project, which will occur upon completion of the grant contract.

- 2. JWPCP Marshland Enhancement Project will reduce pollutant loading into the Wilmington Drain. TMDL constituents for the Wilmington Drain include ammonia, copper, lead, and coliform. Other constituents likely present in the Wilmington Drain that will be reduced include arsenic, cadmium, chromium, nickel, selenium, zinc, BOD, total nitrogen, total phosphorus, suspended solids, and volatile organic compounds. The approximate flow rate expected through the marshland is 2 mgd (1,700 afy). At least a 20 percent removal rate for the constituents listed above is expected based on the results published in the Assessment of BMP Effectiveness (Attachment 8, Reference 2-6).
- 3. Large Landscape Conservation Project will result in a potential 70 percent reduction in runoff volume based on Residential Runoff Reduction Study (see Attachment 8, Reference 3-1). This percent reduction in runoff volume translates into approximately 500 afy. The waterways affected include almost all waterways in the Malibu Creek watershed, Ballona Creek watershed, Dominguez watershed, Santa Monica Bay watershed and the San Gabriel River and Lower Los Angeles River watershed due to the spatial range of project implementation.
- **4. Las Virgenes Creek Restoration Project** will reduce algae blooms, for which this reach is 303(d) listed, and related impacts to the project segment and downstream reaches of the creek by removing the concrete channel and constructing ½ acre and 400 linear feet of vegetated habitat with canopy to deflect the sunlight and reduce dissolved oxygen in the daytime. Also, creek restoration will improve general creek water quality by returning the creek to its natural state.
- **5. Malibu Creek Watershed Conservation Project** will help address the Malibu Creek nutrient and bacteria TMDL by reducing the amount of runoff entering the Creek by 90 afy.
- 6. Morris Dam Water Supply Project will capture an additional 5,720 afy of local storm water runoff and sediment contained in the runoff. The project will improve water quality because the dam allows water to be temporarily stored thereby slowing the velocity of sediment-laden flows from the San Gabriel River. During periods of high flow, the storage of water allows sediments to settle and remain behind the dam as water passes through the valves of the dam. This process also re-aerates the flow as water tumbles out the valves into the plunge pool, and travels down the river providing improved water quality downstream. This is especially important after a fire when an increased amount of sediment and burned debris is collected in the reservoir. The effect of a burned watershed lasts for approximately five years after the fire occurs. For that reason, allowing sediments to drop out before the water continues down the river is especially important in preserving water quality.
- 7. North Atwater Creek Restoration Project will provide treatment of an estimated 44 afy of stormwater, thereby reducing pollutant loading in waterways located downstream of the project. Key pollutants that will be reduced or removed include trash, floatable debris, sediments, and heavy metals.
- 8. Pacoima Wash / 8th Street Park Project will provide an estimated 10 afy of storm water and urban runoff treatment annually, thereby reducing pollutant loading in the groundwater and waterways located downstream of the project including the Los Angeles River and the Pacific Ocean. Key pollutants that will be reduced include trash, sediments, and a substantial portion of grease, oils, and heavy metals. The project will therefore help address the existing trash TMDL for the Los Angeles River, as well as the bacteria and metals TMDLs, which are currently under development.
- **9.** San Gabriel Valley *Arundo* Removal Project will remove *Arundo* along the San Gabriel River at Whittier Narrows and restore the dense foliage canopy of the riparian woodland, which will in turn limit algae growth in near-shore stream areas and improve water quality (Attachment 8, Reference 2, p. 69). Whittier Narrows is within Reach 3 of the San Gabriel River. Reach 3 is currently listed under section 303(d) for toxicity. It is unknown what affect removing *Arundo* would have on toxicity.
- **10.** Solstice Creek Restoration Project will reduce sediment inputs into Solstice Creek due to the replacement of non-native plant species with native plant species. Native plants in general, and the specific shrub species to be planted, have more complex root structure and greater soil holding capacity than the non-native species to be removed.

- 11. South Los Angeles Wetlands Park Project will treat dry weather and wet weather runoff. 85% of the wet weather flows will be also rerouted to the project site and will also undergo treatment. This amount is estimated to be 310 afy.
- 13. Wilmington Drain Restoration Project will capture and treat 4,800 afy of stormwater runoff. An estimated amount of 50,000 pounds of anthropogenic trash will be captured and removed by the proposed trash capture system.

4. Eliminate or significantly reduce pollution in impaired waters and sensitive habitat areas, including areas of special biological significance

All the projects contribute to reducing pollution to water bodies in the region as discussed under Program Preference 3 above, although none of the project eliminates the pollution. One project (Large Landscape Conservation Project) improves water quality to an Area of Special Biological Significance (ASBS) in the Point Dume area within the City of Malibu.

Table 12-5 summarizes the projects in the Proposal that contribute most to reducing pollution to water bodies in the region. Reduction of pollution is one of the major focuses of the projects in the Proposal. The Proposal is therefore critical to initiate this first wave of projects that will serve as demonstration projects for future pollution reduction and TMDL-related projects throughout the region.

5. Include safe drinking water and water quality projects that serve disadvantaged communities

10 of the 13 proposed projects related to safe drinking water or water quality serve disadvantaged communities in the Region. **Table 12-6** lists each of the projects and the number of disadvantaged communities being benefited.

Project Short Name	Magnitude Magnitude		Disadvantaged Communities Impacted	
		#	Population	
1. Central Basin SWRP	Increased drinking water supply reliability (up to 16,000 afy)	16	786,200	
2. JWPCP Marshland Enhancement	Improved water quality (1,700 afy)	2	NA	
3. Large Landscape Conservation	Increased drinking water supply reliability(up to 2,000 afy)	22	1,052,000	
6. Morris Dam Water Supply	Increased drinking water supply reliability (up to 5,720 afy)	3	NA	
7. North Atwater Creek Restoration	Improved water quality (44 afy)	1	NA	
8. Pacoima Wash / 8th Street Park	Improved water quality (10 afy)	4	178,000	
9. San Gabriel Valley <i>Arundo</i> Removal	Improved water quality (volume not quantified)	2	NA	
11. South Los Angeles Wetlands Park	Improved water quality (310 afy)	1	NA	
12. Whittier Narrows WRP UV	Increased drinking water supply reliability (up to 10,080 afy)	17	NA	
13. Wilmington Drain Restoration	Improved water quality (4,800 afy)	2	NA	

Table 12-6 Proposal Contribution to Disadvantaged Communities

1. Central Basin SWRP Project will increase safe drinking water supply reliability within the Central Basin service area by up to 16,000 afy (see Program Preference 2 above). 16 communities

with the service area will benefit from the project, including the Cities of Bell, Bell Gardens, Commerce, Compton, Cudahy, Huntington Park, Lynwood, Maywood, Paramount, and South Gate and the unincorporated communities of East Compton, East Los Angeles, and Walnut Park. See Figure 5-3 in Attachment 5 for a map of the communities in the Central Basin service area that are considered disadvantaged.

- **2. JWPCP Marshland Enhancement Project** will improve the water quality in the channel and lake adjacent to the disadvantaged communities of Wilmington and Harbor City.
- **3.** Large Landscape Conservation Project will increase safe drinking water supply reliability within a service area that encompasses 22 disadvantaged communities spanning the North Santa Monica Bay, South Bay and Lower San Gabriel and Los Angeles sub-regions. See Figure 5-7 for a map of the cities in the project area that are considered disadvantaged.
- 6. Morris Dam Water Supply Project will increase safe drinking water supply reliability within a service area that encompasses the disadvantaged communities of El Monte, South El Monte and Rosemead.
- 7. North Atwater Creek Restoration Project, 9. San Gabriel Valley Arundo Removal Project, 11. South Los Angeles Wetlands Park Project & 13. Wilmington Drain Restoration Project will improve the water quality in various local channels and creeks through the disadvantaged communities of City of Atwater Village, Rosemead, South El Monte, South Los Angeles, Harbor City and Wilmington.
- 8. Pacoima Wash / 8th Street Park Pacoima Wash flows through the communities of San Fernando, Pacoima, Sylmar and Arleta. Currently the public perception of Pacoima Wash is of an unsafe, neglected place frequented by homeless, and the site of illegal activities (Attachment 8, Reference 8-1; p.7). The project will improve water quality and provide new open space that will benefit these communities.
- **12. Whittier Narrows WRP UV Project** will improve the water quality of reclaimed water used to replenish the Central Groundwater Basin and guarantee the durability of the recharge project. This project thereby will improve the safe drinking water supply reliability for 1.6 million people in 68 communities, 17 of which are considered disadvantaged.

6. Include groundwater management and recharge projects that are located 1) in San Bernardino or Riverside counties; 2) outside the service area of the Metropolitan Water District of Southern California; and 3) within one mile of established residential and commercial development

The Proposal does not contain a project that is within San Bernardino or Riverside counties.