

SECTION 5 – WATER SUPPLY RELIABILITY

As stated in the Act, every urban water supplier shall include, as part of its plan, an assessment of the reliability of its water supply. The water supply and demand assessment must compare the total projected water use with the expected water supply over the next 20 years in five-year increments. The Act also requires an assessment for a single dry year and multiple dry water years. This section presents a summary of the water demands and supplies within the Authority's service area along with the reliability assessment.

5.1 DEVELOPMENT OF PROJECTED WATER RESOURCES MIX

In summary, development of the projected mix of resources to meet future supplies was based on the following factors:

- Update of the Authority's 1997 Water Resources Plan to reflect current conditions
- Local agency input into future projected water recycling and groundwater supplies
- Authority staff technical evaluations of potential new supplies (i.e., seawater desalination)
- Previous actions taken by the Board of Directors regarding imported supplies (discussed in **Section 3**):
 - Authority/IID Conservation and Transfer Agreement
 - Authority/Metropolitan Exchange Agreement
 - Direction to diversify supplies
 - Direction to address Metropolitan issues discussed in **Section 3.1.4**
 - Framework of Key Contract Terms Authority/Metropolitan

Refer to previous sections in this plan for detailed information on derivation of the projected local and imported water supplies contained in the proposed resource mix.

The Act requires that for any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climactic factors, that the agency describe plans to replace that source with alternative sources or water demand management measures. The Authority recognizes the uncertainties regarding imported water supplies from Metropolitan (**Section 3.1.4**) and as stated throughout the 2000 Plan, the Authority is taking steps to reduce dependence on this supply through water transfers and development of local projects (including demand management). The Authority's success in achieving imported water supply reliability depends, in part, on the implementation of the California Colorado River Water Use Plan, legislative efforts to further facilitate water transfers, and the establishment of fair charges for the movement of water through available capacity in existing Metropolitan conveyance facilities. The Authority intends to continue to



actively implement water conservation BMPs within its service area and to pursue other opportunities to secure reliable imported water supplies.

5.2 AVERAGE/NORMAL WATER YEAR ASSESSMENT

Table 5-1 shows the average/normal year assessment, summarizing the total water demands for the Authority through the year 2020 along with the supplies to meet demands. If projected imported and local supplies are developed as indicated, no shortages are anticipated within the Authority's service area in an average year through 2020. The average year demands within the Authority's service area are discussed in **Section 2**. Imported supplies and local supplies are described in **Section 3** and **Section 4**, respectively.

**TABLE 5-1
AVERAGE/NORMAL WATER YEAR SUPPLY
AND DEMAND ASSESSMENT
(AF/YR)**

LOCAL SUPPLIES	2005	2010	2015	2020
Surface Water	85,600	85,600	85,600	85,600
Water Recycling	33,400	45,100	51,800	53,400
Groundwater	31,100	53,500	57,500	59,500
Seawater Desalination	0	0	0	25,000
IMPORTED SUPPLIES				
IID Water Transfer	80,000	180,000	200,000	200,000
Firm Supply from Metropolitan ¹	303,630	303,630	303,630	303,630
Other Competitive Imported Sources	172,370	65,470	73,470	85,870
TOTAL PROJECTED SUPPLIES	706,100	733,300	772,000	813,000
TOTAL ESTIMATED DEMANDS	706,100	733,300	772,000	813,000
DIFFERENCE	0	0	0	0

¹ Firm supply from Metropolitan is based on the Authority's existing preferential right at Metropolitan.

5.3 DRY WATER YEAR ASSESSMENT

The dry year assessment is shown in **Table 5-2** and includes demands and supplies during a single and multiple dry water years. The Act requires an estimate of the minimum water supply available during each of the next three water years. Therefore the estimated demands and supplies for multiple dry years are reflective of years 2001, 2002 and 2003. The anticipated dry-year projected demands and supplies in year 2010 were utilized for the single dry-year analysis. The year 2010 is being utilized in order to show the results of local and imported water supply development over the next ten years.

**TABLE 5-2
DRY WATER YEAR SUPPLY AND DEMAND ASSESSMENT
(AF/YR)**

	Single Dry Water Year (2010)	Multiple Dry Years		
		Year 1 2001	Year 2 2002	Year 3 2003
LOCAL SUPPLIES				
Surface Water and Groundwater	38,100	40,100	38,100	53,500
Water Recycling	45,100	14,300	19,200	25,200
Groundwater Recovery	34,900	6,900	10,500	10,500
Seawater Desalination	0	0	0	0
IMPORTED SUPPLIES				
IID Water Transfer	180,000	0	20,000	40,000
Firm Supply from Metropolitan	303,630	303,630	303,630	303,630
Other Competitive Imported Sources *	185,870	341,870	328,270	299,870
TOTAL PROJECTED SUPPLIES	787,600	706,800	719,700	732,700
TOTAL ESTIMATED DRY YEAR DEMANDS	787,600	706,800	719,700	732,700
DIFFERENCE	0	0	0	0

*Metropolitan projects that it will have at least 2.1 MAF/YR of available dry-year supplies during this next 3-year period.

If projected imported and local supplies are developed as indicated, no shortages are anticipated within the Authority's service area in the dry-year scenarios analyzed. A more detailed discussion on the issues facing implementation of local supplies is contained in **Section 4**. The factors effecting reliability of imported supplies from Metropolitan and the Authority's efforts at securing other reliable sources of imported water through transfers is addressed in **Section 3**. The Authority's objective is to secure firm supplies to meet dry year demands. At this time we rely on a supply from Metropolitan which, for quantities above our preferential right, is not considered reliable. The Authority's planning direction is to work with our member agencies to increase reliable local supplies and to secure additional cost-competitive and reliable sources of imported supplies.

Studies have shown that hot, dry weather may generate urban water demands that are about 7 percent greater than normal and agricultural demands that are about 9 percent greater than normal. These percentages were utilized to generate the dry year demands shown in **Table 5-2**. No extraordinary conservation measures, beyond BMP implementation, are reflected in the demand projections.

The surface and groundwater supplies shown in **Table 5-2** are reflective of supplies available during the 1987-92 drought in years 1990, 1991 and 1992. The supplies available from recycling and groundwater recovery projects are assumed to experience little, if any, reduction in a dry-year. Therefore, estimated normal supply yields are included in the analysis.

As discussed in **Section 6.2.2**, the IID transfer supply is highly reliable in a dry-year scenario and therefore full deliveries are expected as shown in **Table 5-2**. The firm supply from Metropolitan is fixed at 303,630 AF, based on the Authority's existing preferential right to water from Metropolitan (Refer to **Section 3.1.4**).

The additional supplies necessary to meet future demands in dry-years will be obtained through development of additional transfers and purchase of other supplies from Metropolitan. Metropolitan projects that they will have at least 2.1 MAF/YR of dry-year supplies during the 3-year period analyzed in **Table 5-2**. This is contingent upon successful completion of California's Colorado Water Use Plan, as discussed in **Section 3.1.1**, which will enable Metropolitan to maintain a full CRA. However, the California Colorado Water Use Plan is not yet completed or fully funded; similarly, the outcome of the CALFED Framework remains uncertain (**Section 3.1.2**). Moreover, Metropolitan has not addressed key issues raised by the Authority, or produced a strategic plan or rate structure that would allow for a meaningful analysis of proposed Metropolitan water resources planning initiatives. The Authority is actively participating in each of these arenas and will make recommendations to the Authority Board of Directors when and as information is available to achieve the Authority's objective of reliability and cost certainty.