

### **3. CONDITIONS IN THE OWENS VALLEY**

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Figure 11 provides a summary of Owens Valley Conditions. Winter of 2005-06 was an above-normal season for both the snow fall on the eastern Sierra Nevada Mountains and the rainfall on the valley floor. The forecast of Owens Valley runoff had to be revised because the Eastern Sierra Nevada mountains received far more than average snowfall after April 1. Based on the revised April 1 snow survey, the forecasted runoff for 2006-07 runoff year is 556,100 acre-feet or approximately 135% of normal. Similarly, precipitation of the valley floor throughout the valley has been above normal with a runoff year average of 7.02 inches compared to the long-term average of 5.9 inches (Table 11). Overall vegetation cover in the Owens Valley is comparable to the mid-1980's baseline conditions.

#### **3.1 Well On/Off Status**

The Water Agreement has provisions to ensure wells linked to specified monitoring sites without sufficiently available soil moisture to meet the needs of vegetation within those monitoring sites are turned off. LADWP may turn on the wells linked to a monitoring site once the soil water in the area of the monitoring site has recovered to the level where it can meet the estimated water needs of the vegetation as of the time that the wells were turned off. Table 9 provides a listing of April 2006 Owens Valley well ON/OFF status, the monitoring wells associated with each monitoring site, and the groundwater wells linked to each monitoring site.

Certain wells are exempt from the ON/OFF provisions of the Water Agreement usually because the well is in an area that can not cause an adverse impact to the surrounding vegetation or because the well is a required source of water. Table 10 is a list of the Owens Valley wells that are exempt from the ON/OFF provisions of the Water Agreement.

#### **3.2 Wellfield Hydrographs**

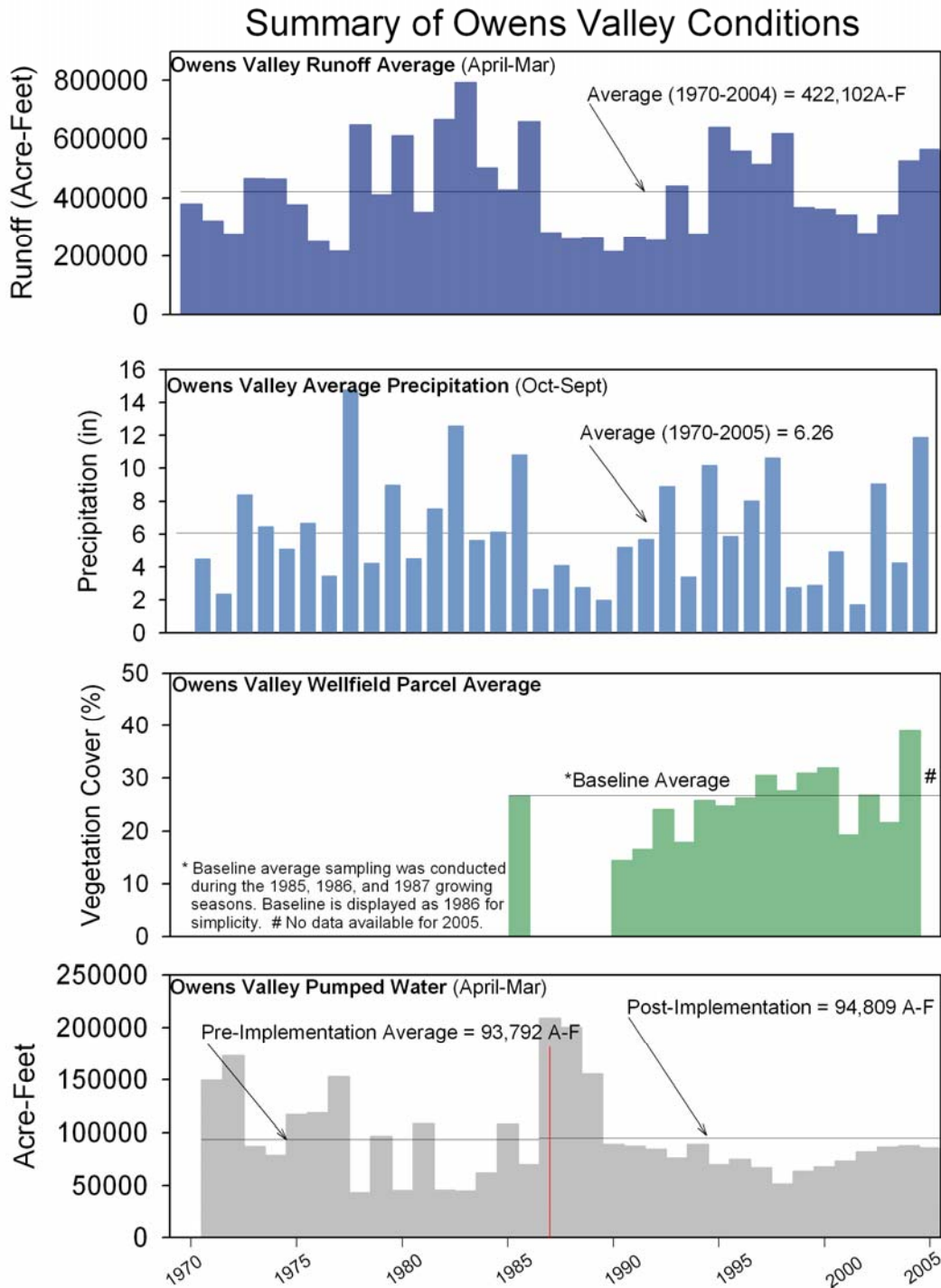
LADWP hydrographers monitor groundwater levels in over 700 monitoring wells throughout the Owens Valley. Groundwater levels are considered when evaluating the overall condition of the groundwater basin and calibrating groundwater models. Hydrographs are used to observe the changes in groundwater levels over time. Figure 12 illustrates the hydrographs of key Owens Valley wellfield monitoring wells. As shown in Figure 12, groundwater levels are generally high throughout the valley considering that the runoff during the previous five years was below normal. With the forecasted high runoff for the 2005-06 and water spreading activities, water levels are expected to rise throughout Owens Valley.

#### **3.3 Precipitation Record and Runoff Forecast**

Owens Valley-floor precipitation during the 2005-06 runoff year ranged from 3.93 inches at Lone Pine to 10.54 inches at Tinemaha Reservoir (Table 11). The valley floor receives 5.9 inches per year on the average.

The forecasted Owens Valley runoff for 2006-07 runoff year is 556,100 acre-feet or 135% of normal valley-wide (Table 1). Figure 13 shows how the forecasted runoff for the 2006-07 year compares to past years since 1940.

FIGURE 11



**Table 9 -Owens Valley Monitoring Site Status (ON/OFF) as of April 2006**

| Wellfield        | Monitoring Site | Monitoring Well | Pumping Wells                     | E/M Wells     | ON/OFF Status |
|------------------|-----------------|-----------------|-----------------------------------|---------------|---------------|
| Laws             | L1              | 795T            | 247, 248, 249, 398                |               | ON            |
|                  | L2              | USGS 1          | 236*, 239, 243, 244               |               | ON            |
|                  | L3              |                 | 240, 241, 242                     | 376, 377      | ON            |
|                  | L4a, L4b        |                 |                                   | 385, 386      |               |
|                  | L5**            |                 | 245                               | 387, 388      |               |
|                  | Exempt          |                 | 236*, 354, 365, 413               |               | na            |
| Bishop           | All wells       |                 | 140, 411, 410, 371                |               | na            |
|                  |                 |                 | 406, 407, 408, 412                |               | na            |
| Big Pine         | BP1             | 798T            | 210, 352                          | 378, 379, 389 | OFF           |
|                  | BP2             | 799T            | 220, 229, 374                     | 375           | OFF           |
|                  | BP3             | 567T            | 222, 223, 231, 232                |               | ON            |
|                  | BP4             | 800T            | 331                               |               | ON            |
|                  | Exempt          |                 | 218, 219, 330, 332, 341, 352, 415 |               | na            |
|                  |                 |                 |                                   |               |               |
| Taboose-Aberdeen | TA3             | 505T            | 106, 110, 111, 114                |               | OFF           |
|                  | TA4             | 586T            | 342, 347                          |               | OFF           |
|                  | TA5             | 801T            | 349                               |               | ON            |
|                  | TA6             | 803T            | 109, 370                          |               | OFF           |
|                  | Exempt          |                 | 118                               |               | na            |
| Thibaut-Sawmill  | TS1             | 807T            | 159                               |               | OFF           |
|                  | TS2             | T806            | 155                               |               | OFF           |
|                  | TS3             | 454T            | 103, 104                          | 382           | ON            |
|                  | TS4             | 804T            |                                   | 380, 381      | OFF           |
|                  | Exempt          |                 | 351, 356                          |               | na            |
| Independence-Oak | IO1             | 809T            | 77, 391                           |               | OFF           |
|                  | IO2             | 548T            | 63                                |               | OFF           |
|                  | Exempt          |                 | 59, 60, 61, 65, 401, 357, 384*    | 383, 384      | na            |
| Symmes-Shepherd  | SS1             | USGS 9G         | 69, 392, 393                      |               | OFF           |
|                  | SS2             | 646T            | 74, 394, 395                      |               | OFF           |
|                  | SS3             | 561T            | 92, 396                           |               | OFF           |
|                  | SS4             | 811T            | 75, 345                           |               | OFF           |
|                  | Exempt          |                 |                                   | 402           | na            |
| Bairs-Georges    | BG2             | 812T            | 76, 343*, 348, 403                |               | OFF           |
|                  | Exempt          |                 | 343*                              |               | na            |
| Lone Pine        | Exempt          |                 | 344, 346                          | 390           | na            |
|                  | Other           |                 | 416                               |               |               |

\*dual use

\*\* Monitoring site has not yet been located.

**Table 10 - List of Exempt Wells in the Owens Valley**

*LADWP Wells not subject to the ON/OFF provisions of the Agreement*

| WELL NUMBER | WELL FIELD       | DURATION  | REASON   |
|-------------|------------------|---|--|
| 354p        | Laws             | Annual  | Sole Source-Town Supply  |
| 413b        | Laws             | Annual  | Town Supply and Laws Museum E/M Project Irrigation Well                                    |
| 236         | Laws             | Annual  | Sole Source-irrigation   |
| 341p        | Big Pine         | Annual  | Sole Source-Town Supply  |
| 352b        | Big Pine         | Annual  | Sole Source-Town Supply  |
| 415b        | Big Pine         | Annual  | Sole Source-Town Supply  |
| 357p        | Independence-Oak | Annual  | Sole Source-Town Supply  |
| 384b        | Independence-Oak | Annual  | Sole Source-Town Supply  |
| 344p        | Lone Pine        | Annual  | Sole Source-Town Supply  |
| 346b        | Lone Pine        | Annual  | Sole Source-Town Supply  |
| 330         | Big Pine         | Annual  | Sole Source-Fish Hatcheries  |
| 332         | Big Pine         | Annual  | Sole Source-Fish Hatcheries  |
| 351         | Thibaut-Sawmill  | Annual  | Sole Source-Fish Hatcheries  |
| 356         | Thibaut-Sawmill  | Annual  | Sole Source-Fish Hatcheries  |
| 218         | Big Pine         | Annual  | No Impact on Areas With Groundwater Dependent Vegetation                                   |
| 219         | Big Pine         | Annual  | "  |
| 118         | Taboose-Aberdeen | Annual  | "  |
| 401         | Independence-Oak | Annual  | "  |
| 59          | Independence-Oak | Annual  | "  |
| 60          | Independence-Oak | Annual  | "  |
| 65          | Independence-Oak | Annual  | "  |
| 383E/M      | Independence-Oak | Annual  | "  |
| 384E/M      | Independence-Oak | Annual  | "  |
| 61          | Independence-Oak | Irrigation Season                               | Sole Source-Irrigation Water   |
| 365         | Laws             | Annual  | Sole Source-Irrigation Water and No Impact on Areas With Groundwater Dependent Vegetation. |
| 402E/M      | Symmies-Shepherd | Irrigation Season                               | "  |
| 390E/M      | Lone Pine        | Irrigation Season                               | "  |
| 343         | Bairs-Georges    | Irrigation Season in Below Average Runoff Years | Sole Source-Irrigation Water in Below Average Runoff Years                                 |

p:primary town supply well

b: backup town supply well

FIGURE 12a

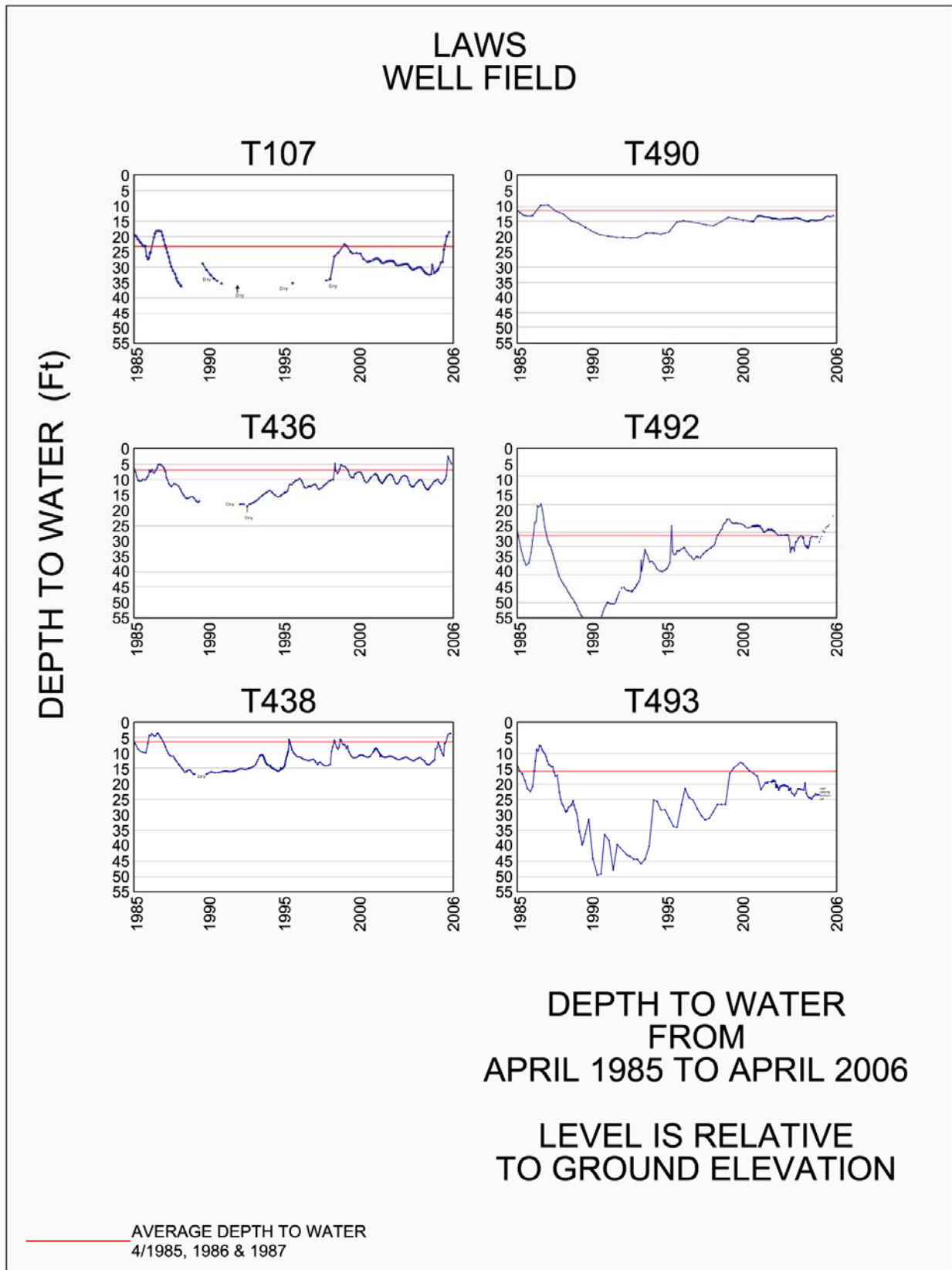


FIGURE 12b

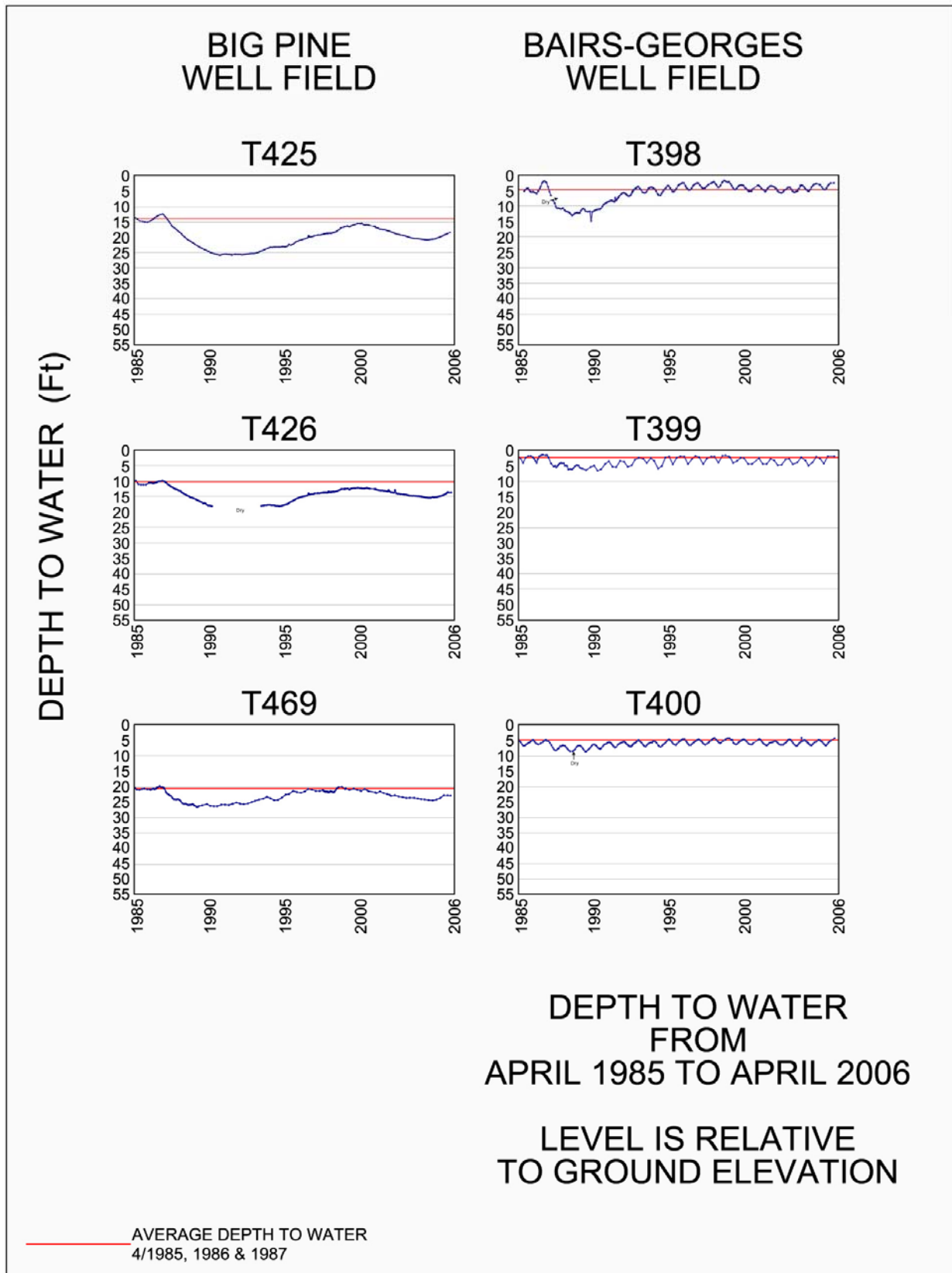




FIGURE 12c

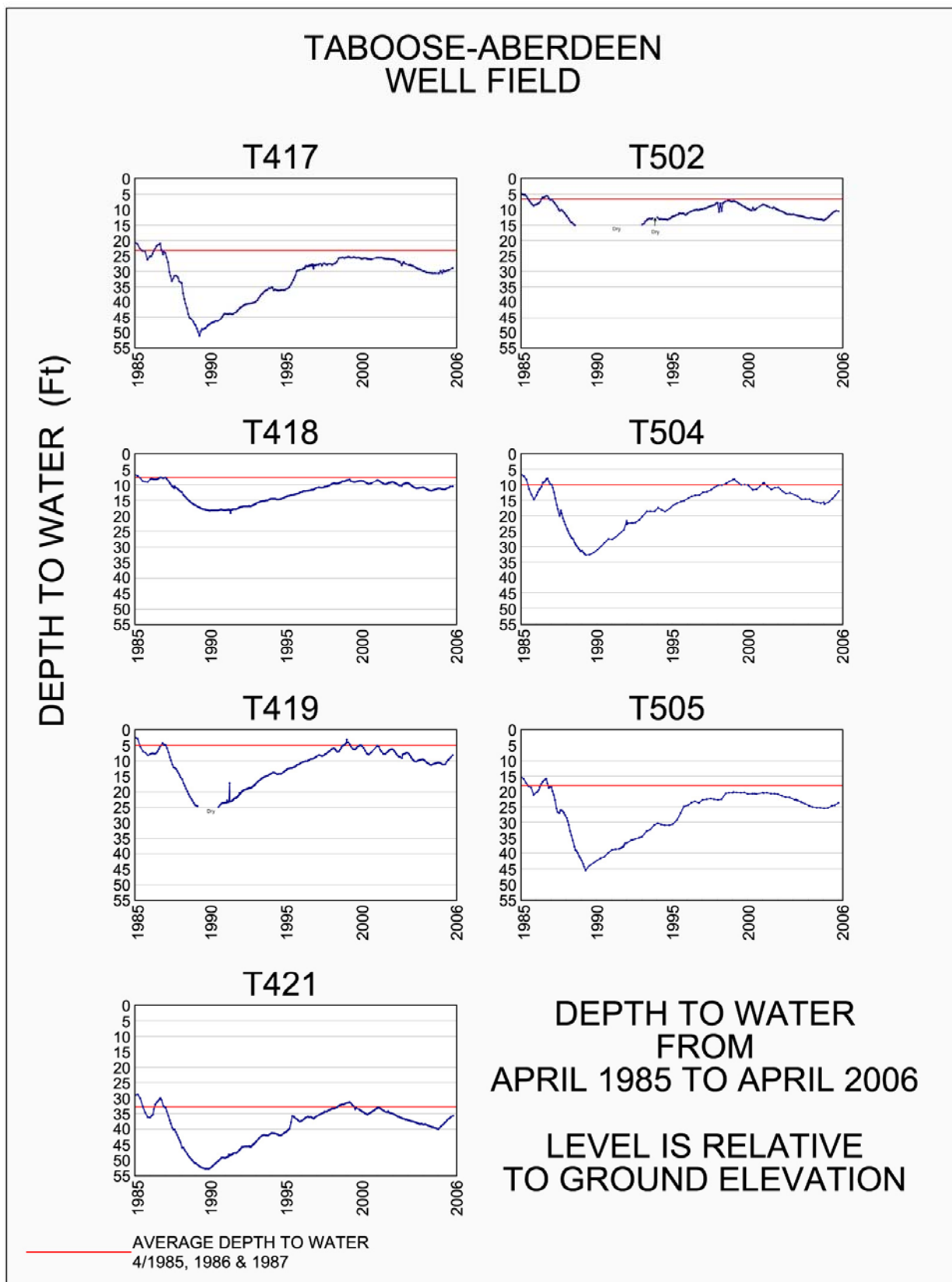


FIGURE 12d

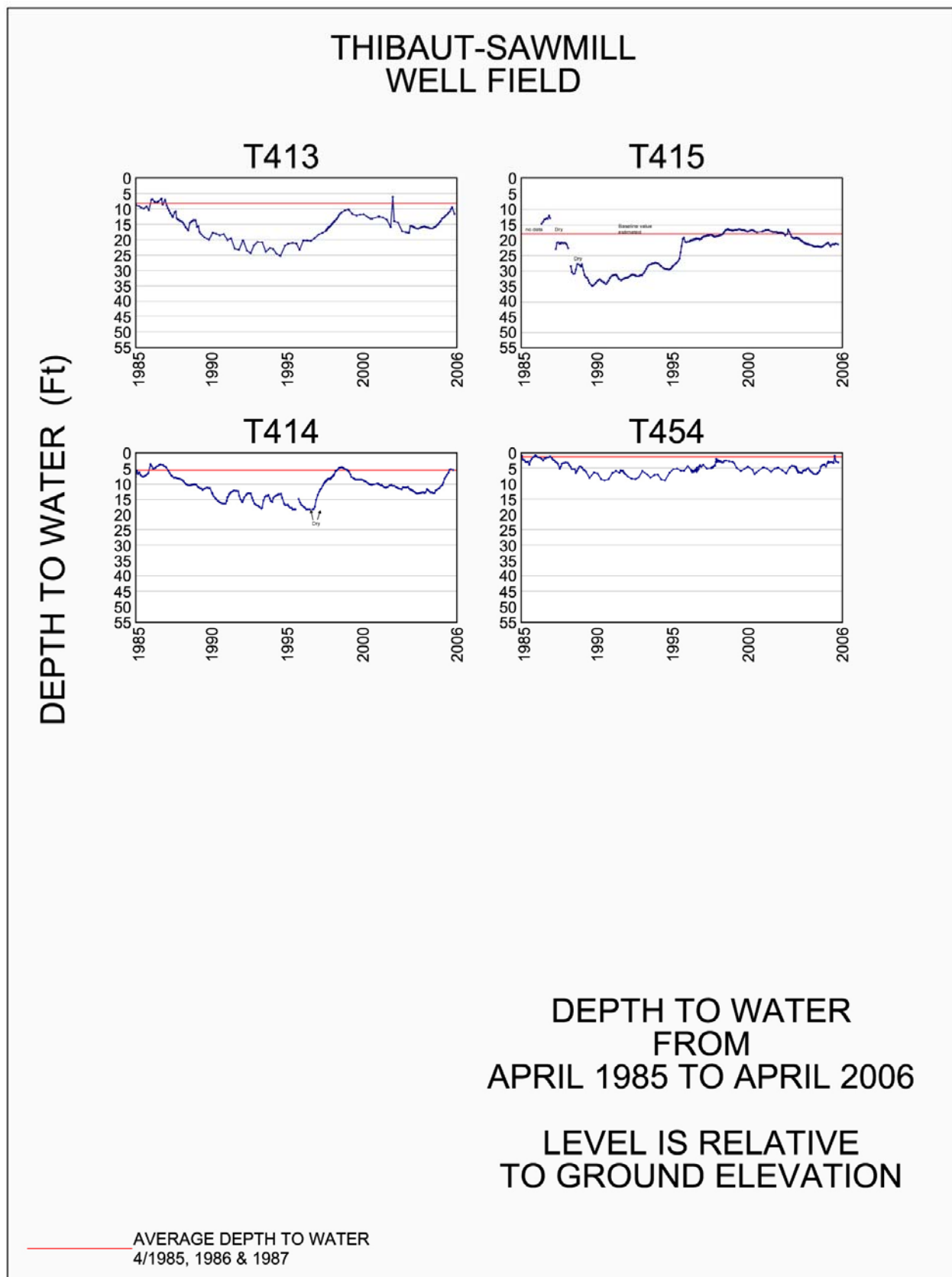


FIGURE 12e

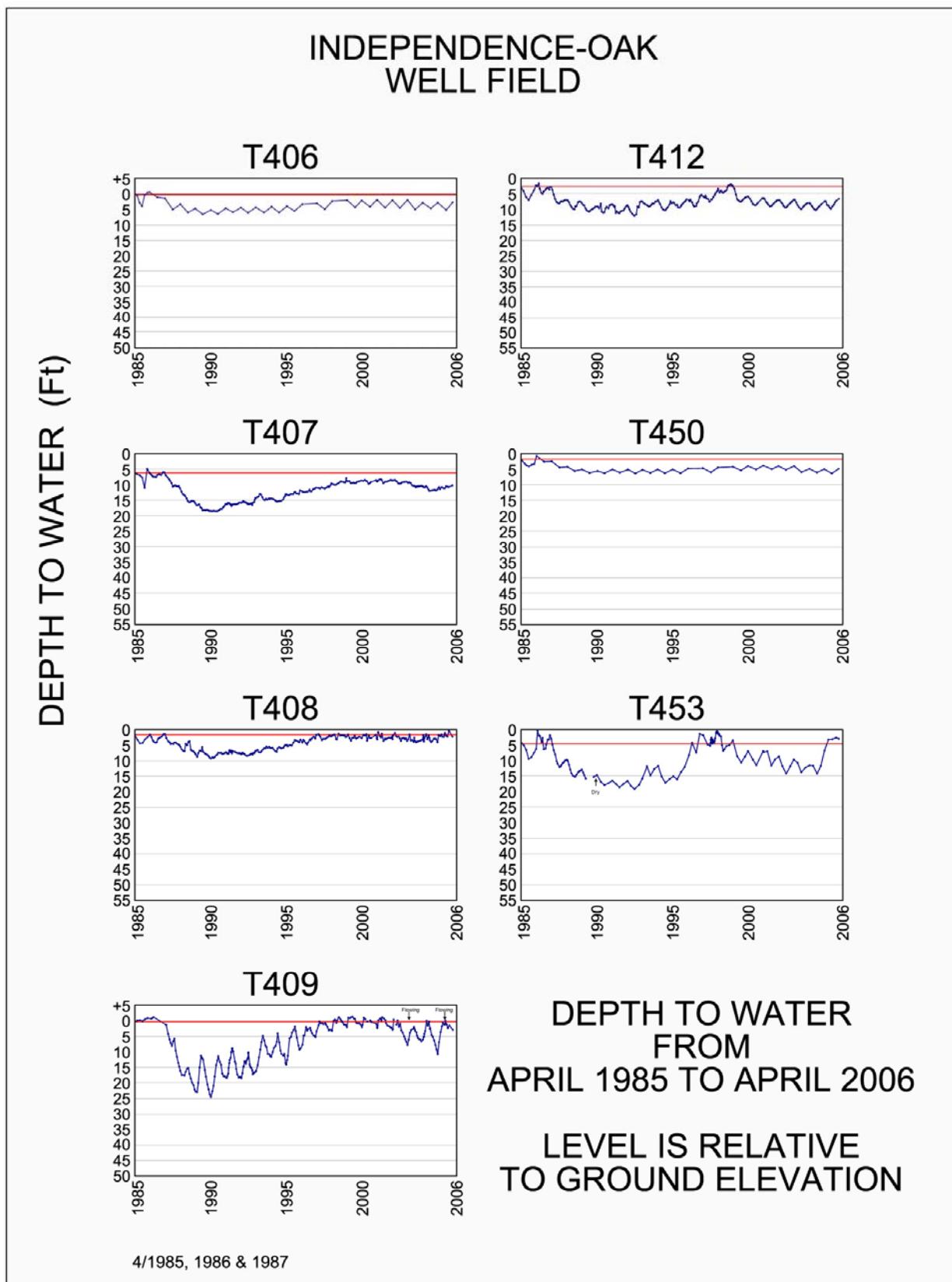


FIGURE 12f

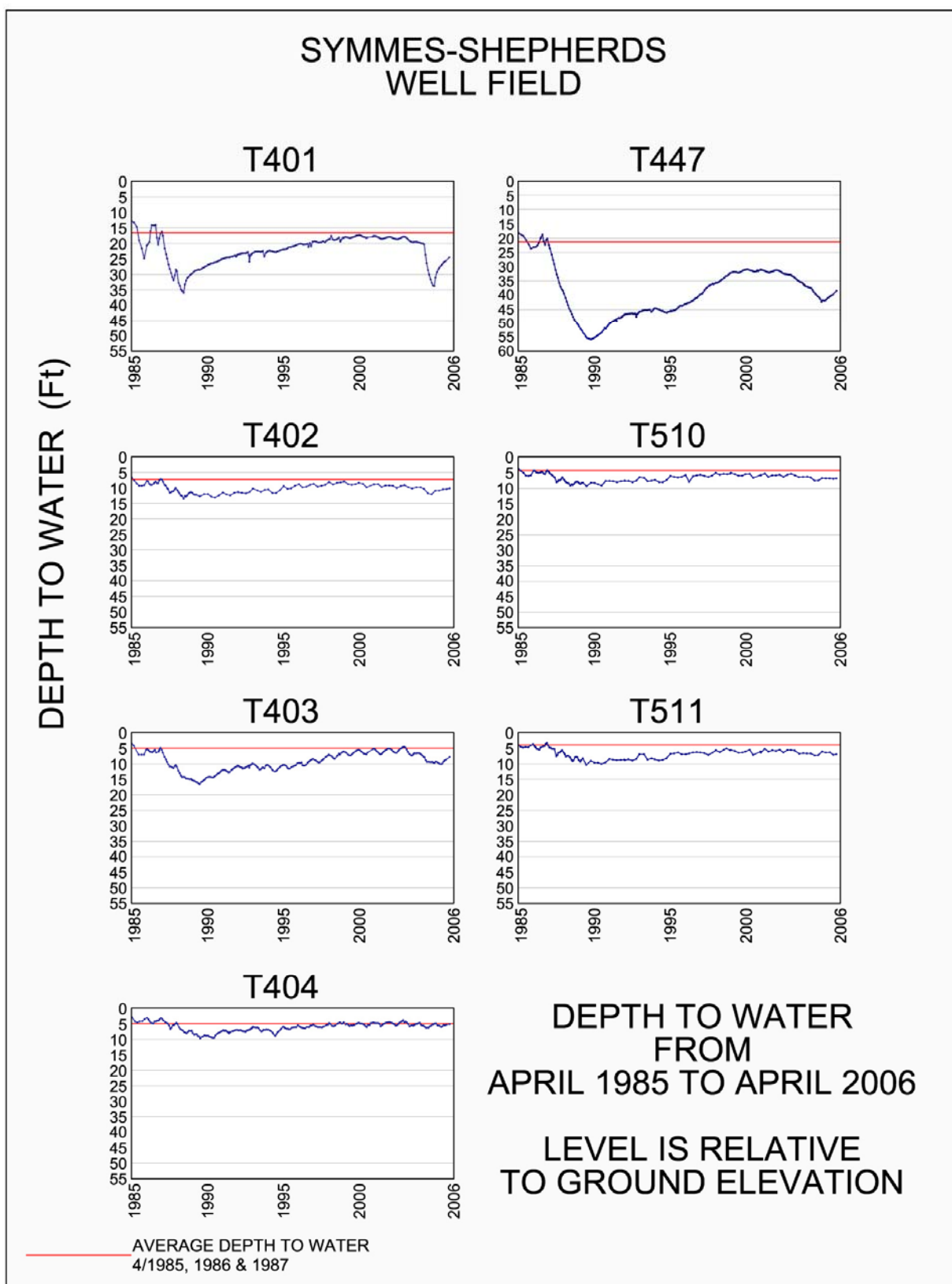
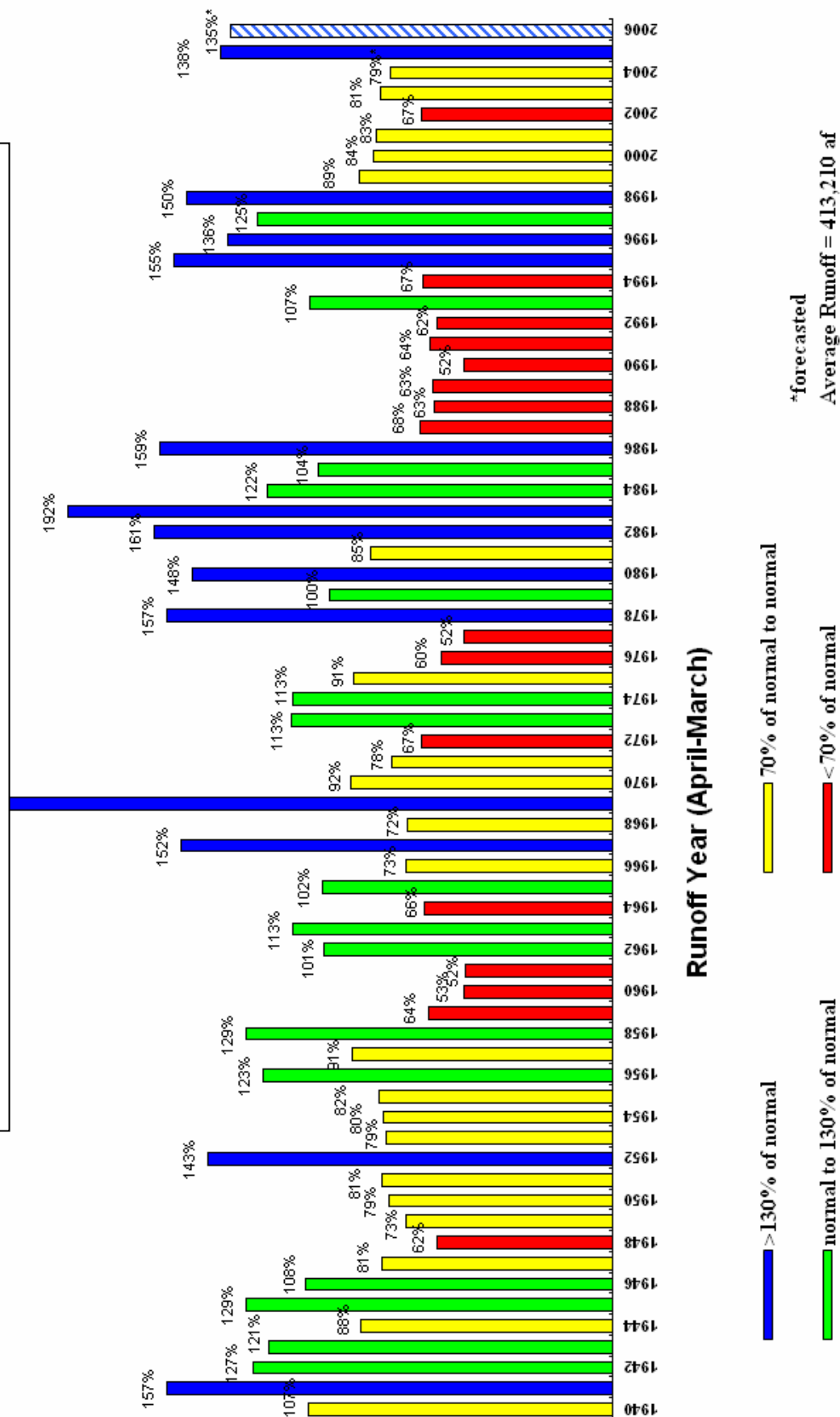


Table 11 - Owens Valley Precipitation during Runoff Year 2005-06

| Month         | Bishop      | Big Pine    | Tinemaha Reservoir | LAA Intake  | Independ. Yard | Alabama Gates | Lone Pine   | Cotton-wood | S. Haiwee   |
|---------------|-------------|-------------|--------------------|-------------|----------------|---------------|-------------|-------------|-------------|
| April, 2005   | 0.00        | 0.00        | 0.00               | 0.00        | 0.07           | 0.03          | 0.06        | 0.12        | 0.36        |
| May           | 0.09        | 0.08        | 0.07               | 0.00        | 0.00           | 0.14          | 0.02        | 0.10        | 0.03        |
| June          | 0.00        | 0.00        | 0.00               | 0.00        | 0.00           | 0.00          | 0.00        | 0.00        | 0.00        |
| July          | 0.01        | 0.01        | 0.03               | 0.04        | 0.03           | 0.01          | 0.00        | 0.00        | 0.00        |
| August        | 0.54        | 0.36        | 0.07               | 0.08        | 0.21           | 0.16          | 0.17        | 0.29        | 0.53        |
| September     | 0.31        | 0.48        | 0.57               | 0.47        | 0.64           | 0.83          | 0.80        | 1.03        | 1.12        |
| October       | 0.12        | 0.25        | 0.34               | 0.02        | 0.27           | 0.26          | 0.30        | 0.34        | 1.16        |
| November      | 0.02        | 0.10        | 0.05               | 0.00        | 0.02           | 0.08          | 0.08        | 0.24        | 0.00        |
| December      | 1.28        | 2.37        | 2.53               | 0.09        | 2.01           | 0.94          | 0.57        | 1.79        | 0.75        |
| January, 2005 | 4.95        | 2.37        | 5.94               | 3.49        | 3.69           | 2.29          | 1.81        | 3.26        | 1.65        |
| February      | 0.66        | 0.62        | 0.71               | 0.50        | 0.19           | 0.19          | 0.12        | 1.17        | 0.79        |
| March         | 0.58        | 0.32        | 0.23               | 0.16        | 0.13           | 0.06          | 0.00        | 0.59        | 0.78        |
| <b>TOTAL</b>  | <b>8.56</b> | <b>6.96</b> | <b>10.54</b>       | <b>4.85</b> | <b>7.26</b>    | <b>4.99</b>   | <b>3.93</b> | <b>8.93</b> | <b>7.17</b> |

Average Owens Valley Precipitation for 2005-06 Runoff Year = 7.02 inches

**Figure 13- Owens Valley Runoff - Percent of Normal**



### **3.4 Owens Valley Water Supply and Use**

Table 12 provides an overview of Owens Valley water supply in the Owens Valley, in-valley uses, and LAA export for the 2005-06 runoff year as compared to the average pre-Water Agreement and projected water supply and uses based on Water Agreement and 1997 Memorandum of Understanding. The in-valley uses are consistent with the estimated values however the difference is because unanticipated diversions to Owens Lake have offset delays in bringing the LORP project online. The Owens Valley water supply to LAA flow is reflection of well above normal runoff year, despite Court Order mandated limit on pumping, reduction in diversions from Mono Basin, and releases for Owens Lake dust mitigation measures. This information is shown on a year-by-year basis in Figures 14 and 15.

Table 13 shows different components of water use in the Owens Valley from 1985-86 to the present and also the planned water use for the 2006-07 runoff year. One component of water use, E/M water supply is the water supply to specific project as specified in the Water Agreement and Memorandum and Understanding. Table 14 lists a breakdown of actual water supplied to each of the E/M projects during 2005-06 runoff year.

### **3.5 Vegetation Conditions**

With reference to LADWP's groundwater pumping operations, vegetation conditions within the Owens Valley are monitored using vegetation transects along with other methods. Vegetation transects are conducted per the Green Book, the technical appendix to the Water Agreement. The Green Book describes the methods and purposes of vegetation transects. As stated in the Green Book: "Vegetation transects are included within the Green Book to serve two purposes: 1) to estimate transpiration from a monitoring site, and 2) for use in determining whether vegetation has decreased or changed significantly from the previous cover." Reference points for the comparison of vegetation changes in order to determine significance include the 1984-87 vegetation inventory data.

The Green Book requires the 1984-87 vegetation inventory to be used as a baseline when determining whether vegetation cover and/or species composition has changed. The 1984-1987 inventory transects were chosen using aerial photos to aid in determining transect locations. Transects were located visually by choosing lines that appeared to cover the representative units of vegetation within the parcel being measured. Transects were generally run toward the center of the parcels in order to avoid transitional areas at parcel edges. A minimum of five transects were run on each parcel. If the vegetation cover was particularly heterogeneous, a qualitative method was employed in selecting additional transects. The transect data were checked visually and additional transects were run to lessen the degree of variability as necessary.

The Green Book advises that future transects should be performed in a similar manner as the initial inventory to determine whether vegetation has changed, but allows the technique to be modified to permit statistical comparison by randomly selected transects. In any case, the Green Book requires statistical analysis to be used to determine the statistical significance of vegetation changes from the 1984-87 inventory maps.

Figure 16 is a series of graphs documenting Owens Valley vegetation conditions based upon vegetation transect data gathered by the ICWD. Transect data for the 2005 growing season was not available from ICWD in time to be included in this report. As soon as the data becomes available, the analysis of vegetation conditions will be conducted. Using the attached graphs it is possible to distinguish the trend that vegetation cover has increased valley-wide since the early 1990's. It is probably not reasonable to make year to year comparisons in vegetation cover based upon the random vegetation measurement methodologies currently employed.

### **3.6 Reinhackle Spring Monitoring**

As required by the 1991 EIR, Owens Valley groundwater pumping is managed to avoid reductions in spring flows that would cause significant decreases or changes in spring associated vegetation. Additionally, groundwater pumping from wells that affect flow from Reinhackle Spring are managed so that flows from the spring are not significantly reduced compared to flows under prevailing natural conditions. Table 15 shows daily flow values for Reinhackle Spring. For the 2005-06 runoff year Reinhackle Spring had a high daily flow rate of about 2.85 cfs, a low daily flow rate of about 1.51 cfs, and average daily flow of about 2.35 cfs. A geochemistry study that included Reinhackle Spring was initiated in February 2003 and completed in December 2004. The study was conducted cooperatively by LADWP, MWH and ICWD. Three shallow testholes and one deep testhole were installed to aid in study implementation. This study analyzed water samples from Reinhackle Spring in comparison to water samples from the aqueduct, pumping wells, deep wells and shallow wells. This study concluded that the water flowing from Reinhackle Spring is similar in origin to the aqueduct and dissimilar to the deep aquifer samples and up-gradient shallow aquifer wells. An operational pumping test was started in 2005 to evaluate the effect of pumping on flow in the spring. This test was stopped because monitoring site BG2 changed to OFF status in October 2005 but will resume when this site turns back to ON status.

### **3.7 Bishop Cone Audit**

LADWP's groundwater pumping on the Bishop Cone is governed by the provisions of the Stipulation and Order filed on the 26th day of August, 1940, in Inyo County Superior Court in the case of Hillside Water Company, a corporation, et al. vs. The City of Los Angeles, a Municipal Corporation, et al., ("Hillside Decree") as well as the Water Agreement. Annual groundwater extractions from the Bishop Cone are limited to an amount not greater than the total amount of water used on Los Angeles-owned lands on the Bishop Cone during that year. Annual groundwater extractions by LADWP are limited to the total of all groundwater pumped by LADWP on the Bishop Cone, plus the amount of artesian water that flowed out of the casing of uncapped wells on the Bishop Cone during the year. Water used on Los Angeles-owned lands on the Bishop Cone, shall be the quantity of water supplied to such lands, including conveyance losses, less any return flow to the aqueduct system. An annual audit of LADWP water uses and groundwater extractions by LADWP on the Bishop Cone is performed by the ICWD. Appendix A is a copy of the most recent audit dated June 2005.

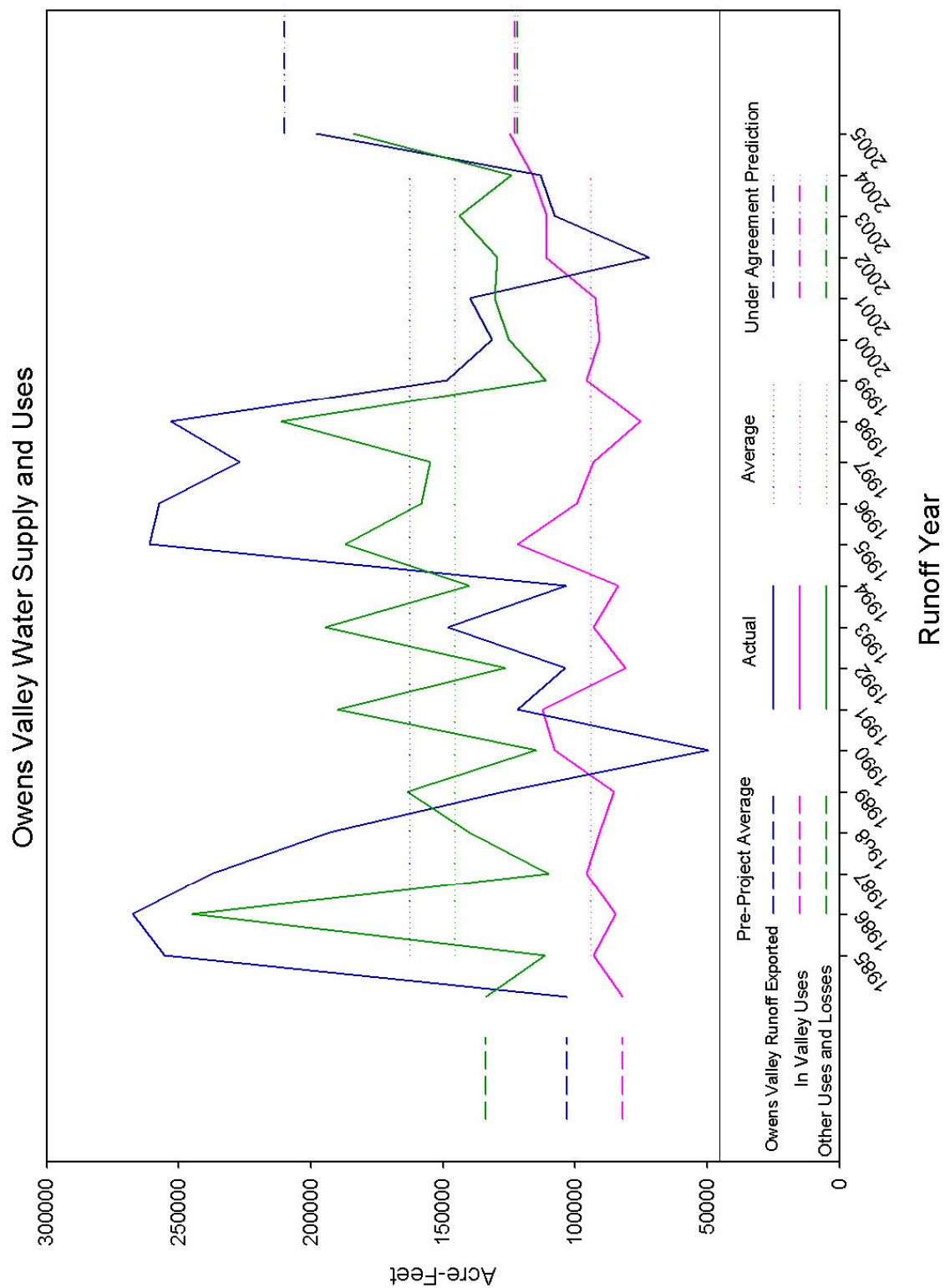


**TABLE 12**  
**Owens Valley Water Supply and Uses**  
(Amounts in Thousands of Acre-Feet/Year)

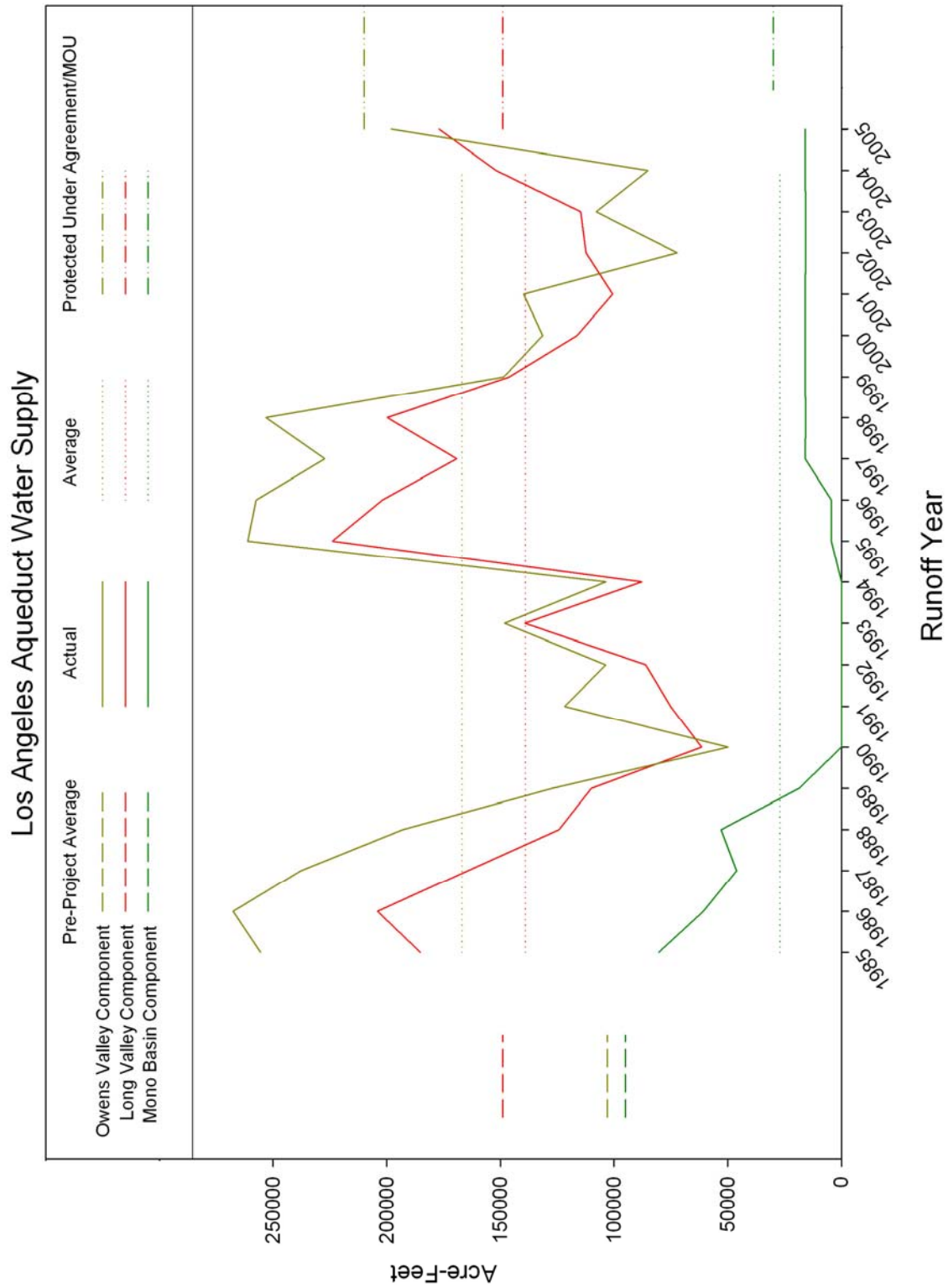
|   | Pre-Project        | Projected<br>per MOU/<br>Agreement | Actual<br>2005-06<br>Runoff Year |
|---|--------------------|------------------------------------|----------------------------------|
| <b><u>Owens Valley Water Supply</u></b>                                     |                    |                                    |                                  |
| Runoff  | 310 <sup>(1)</sup> | 310                                | 440                              |
| Flowing Wells   | 44                 | 15                                 | 10(est)                          |
| Pumped Groundwater  | 10                 | 110 <sup>(2)</sup>                 | 57                               |
| <b>Total</b>  | <b>364</b>         | <b>435</b>                         | <b>507</b>                       |
| <b><u>City Water Used in O.V.</u></b>                                       |                    |                                    |                                  |
| Irrigated Lands <sup>(3)</sup>  | 62                 | 46                                 | 54                               |
| Stockwater, Wildlife, and Rec. Uses <sup>(4)</sup>                          | 20                 | 23                                 | 19                               |
| Post 1985 E/M Projects<br>(except Lower Owens River Rewatering E/M Project) | 0                  | 12                                 | 12                               |
| Lower Owens River   | 0                  | 40 <sup>(5)</sup>                  | 8                                |
| Additional Mitigation (1,600 af from MOU)                                   | 0                  | 2                                  | 0                                |
| Owens Lake <sup>(6)</sup>   | 0                  | 0                                  | 32                               |
| <b>Total</b>  | <b>82</b>          | <b>123</b>                         | <b>125</b>                       |
| <b><u>Other O.V. Uses and Losses</u> <sup>(7)</sup></b>                     | <b>134</b>         | <b>122</b>                         | <b>184</b>                       |
| <b><u>Components of Aqueduct Export</u></b>                                 |                    |                                    |                                  |
| Owens Valley Contribution to Export   | 103                | 210                                | 198                              |
| Long Valley Contribution to Export  | 149                | 149                                | 177                              |
| Mono Basin Contribution to Export <sup>(8)</sup>                            | 95                 | 30                                 | 16                               |
| <b>Total</b>  | <b>347</b>         | <b>389</b>                         | <b>391</b>                       |

1. Average runoff for period 1935 to 1988 (Runoff Year)
2. Assumed based on 1991 O.V. Groundwater Pumping EIR
3. Does not include areas receiving water supplies non-tributary to the Owens River/Aqueduct (approx. 7,000 AFY).
4. Includes projects such as the Billy and Twin Lakes, Farmers and Lone Pine Ponds implemented after 1970 and before 1985 when E/M projects commenced.
5. Assumes: 6,500 AF year-round flow to delta, 4,000 AF to habitat flows, 3,000 AF to Blackrock, 26,500 AF for other losses.
6. Flow to Owens Lake (LAA releases for dust mitigation).
7. Includes uses on private lands, conveyance losses, recharge, and evaporation.
8. 1993 Court decision allows approximately 30,000 AFY when lake reaches elevation 6392. Prior to Court decision Mono Basin export averaged 95,000/yr.

**Figure 14**



**Figure 15**



**Table 13 - Owens Valley Water Uses for 1985-86 through 2005-06 and Planned 2006-07 Runoff Year**  
(ACRE-FEET)

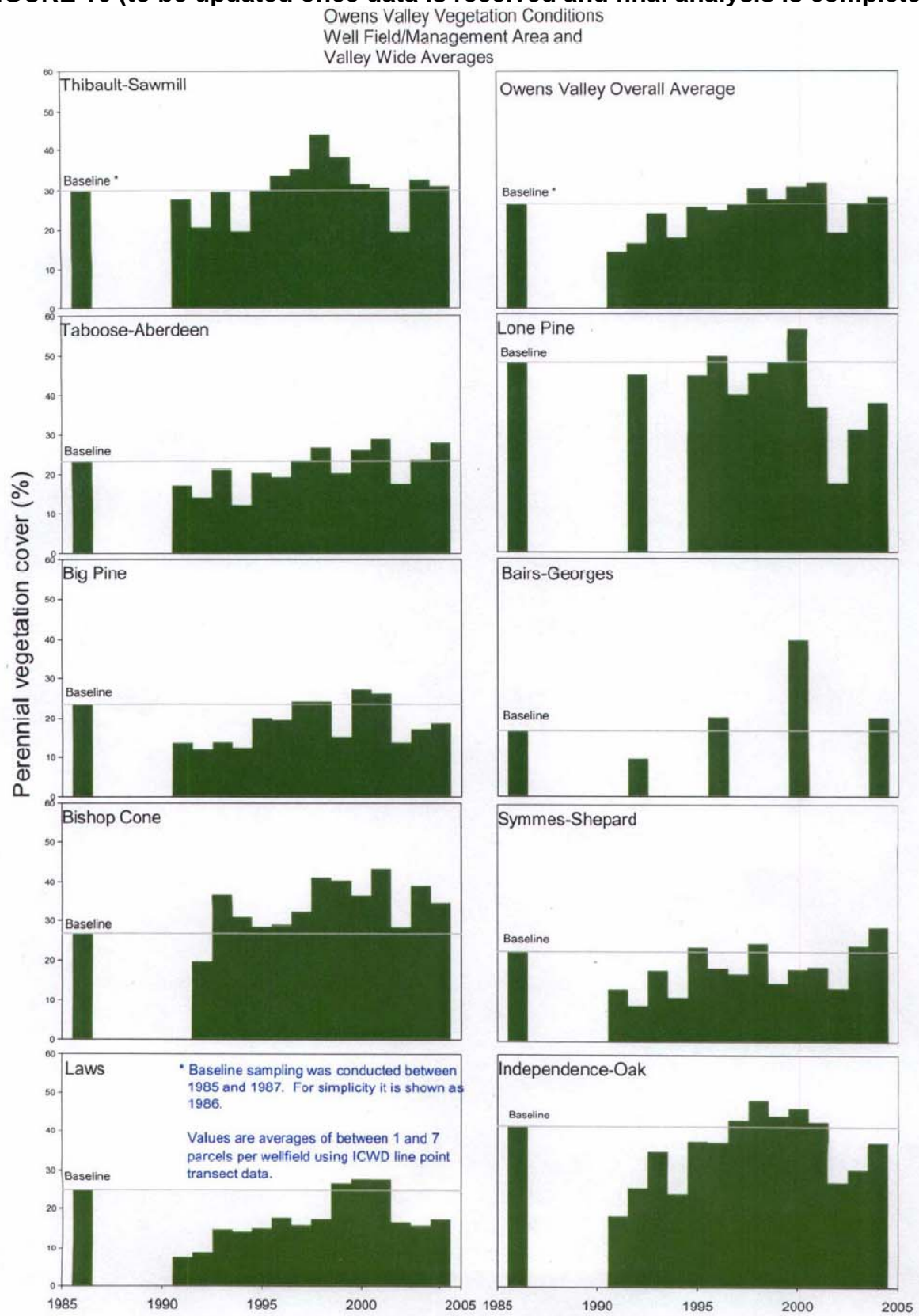
| RUNOFF<br>YEAR | %NORM.<br>RUNOFF | OV PUMPING<br>(1000 AF) | IRRIG.<br>WATER | STOCK-<br>WATER | OPS    | E/M    | GRNDWTR<br>RECHG | LAWS<br>SPREADING | REC. &<br>WILDLIFE | INDIAN | LORP  | OL<br>Release | IN-VALLEY<br>USES | ALL<br>USES |
|----------------|------------------|-------------------------|-----------------|-----------------|--------|--------|------------------|-------------------|--------------------|--------|-------|---------------|-------------------|-------------|
| 1985-86        | 104              | 108                     | 47,390          | 15,394          | 13,712 | 109    | 8,890            | 4,068             | 13,396             | 5,568  |       |               | 76,289            | 104,459     |
| 1986-87        | 159              | 70                      | 47,884          | 15,125          | 72,387 | 12,636 | 87,680           | 20,429            | 11,200             | 4,966  |       |               | 86,905            | 251,938     |
| 1987-88        | 68               | 209                     | 48,679          | 15,443          | 7,499  | 29,360 | 0                | 0                 | 6,420              | 4,621  |       |               | 99,902            | 112,022     |
| 1988-89        | 63               | 200                     | 46,463          | 14,381          | 6,705  | 30,958 | 0                | 0                 | 8,429              | 6,209  |       |               | 100,231           | 113,145     |
| 1989-90        | 63               | 156                     | 48,232          | 13,922          | 8,935  | 23,330 | 0                | 0                 | 8,669              | 6,119  |       |               | 94,153            | 109,207     |
| 1990-91        | 52               | 89                      | 46,424          | 14,360          | 5,312  | 17,899 | 0                | 0                 | 9,983              | 5,903  |       |               | 88,666            | 99,881      |
| 1991-92        | 64               | 88                      | 42,112          | 14,662          | 9,923  | 18,552 | 0                | 0                 | 9,143              | 6,775  |       |               | 84,469            | 101,167     |
| 1992-93        | 62               | 85                      | 37,131          | 17,285          | 12,182 | 18,357 | 0                | 0                 | 7,725              | 6,214  |       |               | 80,498            | 98,894      |
| 1993-94        | 107              | 76                      | 47,798          | 17,218          | 12,432 | 19,310 | 25,152           | 10,640            | 8,676              | 6,612  |       |               | 93,002            | 137,198     |
| 1994-95        | 67               | 89                      | 37,784          | 17,178          | 12,143 | 20,812 | 0                | 0                 | 8,116              | 6,392  |       |               | 83,890            | 102,425     |
| 1995-96        | 155              | 70                      | 57,489          | 20,971          | 13,335 | 22,914 | 51,274           | 21,083            | 12,479             | 6,471  |       |               | 113,853           | 184,933     |
| 1996-97        | 136              | 75                      | 46,267          | 19,724          | 21,050 | 23,949 | 4,606            | 0                 | 9,439              | 7,058  |       |               | 99,379            | 132,093     |
| 1997-98        | 125              | 67                      | 47,013          | 16,395          | 13,991 | 21,608 | 8,219            | 4,104             | 8,022              | 6,957  |       |               | 93,038            | 122,205     |
| 1998-99        | 150              | 52                      | 45,445          | 13,654          | 23,016 | 19,672 | 56,047           | 31,027            | 8,691              | 5,854  |       |               | 87,462            | 172,379     |
| 1999-00        | 89               | 64                      | 49,308          | 14,446          | 11,226 | 24,452 | 0                | 0                 | 7,470              | 5,208  |       |               | 95,676            | 112,110     |
| 2000-01        | 84               | 68                      | 49,327          | 13,442          | 12,517 | 20,782 | 790              | 790               | 7,263              | 6,760  |       |               | 90,814            | 110,881     |
| 2001-02        | 83               | 73                      | 43,329          | 12,758          | 13,097 | 21,815 | 230              | 230               | 7,504              | 5,870  |       |               | 85,406            | 104,603     |
| 2002-03        | 67               | 82                      | 43,759          | 12,318          | 8,530  | 21,394 | 0                | 0                 | 7,380              | 5,759  |       | 22,983        | 84,851            | 122,123     |
| 2003-04        | 82               | 88                      | 45,995          | 11,569          | 8,773  | 21,116 | 0                | 0                 | 6,874              | 6,270  |       | 27,049        | 85,554            | 127,646     |
| 2004-05        | 78               | 86                      | 50,309          | 11,547          | 9,535  | 18,918 | 938              | 695               | 6,866              | 5,802  |       | 28,981        | 87,640            | 132,896     |
| 2005-06        | 138              | 57                      | 53,832          | 11,355          | 14,814 | 19,356 | 40,399           | 24,187            | 7,807              | 4,538  |       | 31,643        | 92,350            | 183,744     |
| 2006-07        | 135              | 57                      | 52,600          | 12,300          | 12,000 | 29,500 | 39,000           | 16,300            | 7,800              | 4,900  | 5,450 | 53,085        | 102,200           | 216,635     |
| AVG.           | 97               | 91                      | 47,026          | 14,793          | 14,687 | 20,766 | 14,692           | 6,071             | 8,607              | 5,947  | 5,450 | 32,748        | 91,192            | 134,208     |

NOTES: PUMPING 1987 TO PRESENT INCLUDES E/M PUMPING  
IN-VALLEY USES ARE THE SUM OF IRRIGATION, STOCKWATER, E/M, AND RECREATION & WILDLIFE  
GROUNDWATER RECHARGE INCLUDES LAWS SPREADING  
VALUES FOR 2006-07 ARE FORECASTED OR PLANNED VALUES

**Table 14. Water Supplied to Enhancement/Mitigation Projects  
During 2005-2006 Runoff Year**

| <b>Project</b>                           | <b>Water Supplied<br/>(acre-feet)</b> |
|--|---------------------------------------|
| McNally Canals Conveyance Losses         | 351                                   |
| McNally/Laws/Poleta Native Pasture Lands | 1,269                                 |
| McNally Ponds                            | 1,522                                 |
| Laws Historical Museum                   | 59                                    |
| Klondike Lake                            | 1,203                                 |
| Lower Owens River                        | 7,566                                 |
| Independence Pasture Lands               | 3,330                                 |
| Independence Springfield                 | 519                                   |
| Independence Ditch System                | 356                                   |
| Independence Woodlot                     | 190                                   |
| Shepherd Creek Alfalfa Lands             | 1,152                                 |
| Lone Pine Park/Richards Field            | 1,085                                 |
| Lone Pine Woodlot                        | 100                                   |
| Lone Pine Van Norman Field               | 474                                   |
| Lone Pine Regreening                     | 180                                   |
| <b>Total E/M Uses</b>                    | <b>19,356</b>                         |

**FIGURE 16 (to be updated once data is received and final analysis is complete)**



**Table 15 - Reinhackle Spring Flow in cfs during 2005-06 Runoff Year**

| day/mo    | Apr-05 | May-05 | Jun-05 | Jul-05 | Aug-05 | Sep-05 | Oct-05 | Nov-05 | Dec-05 | Jan-06 | Feb-06 | Mar-06 | Annual |
|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1         | 1.57   | 1.74   | 2.03   | 2.27   | 2.74   | 2.74   | 2.80   | 2.79   | 2.63   | 2.31   | 2.17   | 2.19   |        |
| 2         | 1.57   | 1.74   | 2.03   | 2.27   | 2.74   | 2.74   | 2.80   | 2.77   | 2.65   | 2.34   | 2.12   | 2.12   |        |
| 3         | 1.57   | 1.75   | 2.01   | 2.27   | 2.71   | 2.74   | 2.80   | 2.74   | 2.63   | 2.27   | 2.12   | 2.12   |        |
| 4         | 1.57   | 1.77   | 1.98   | 2.32   | 2.69   | 2.72   | 2.80   | 2.74   | 2.63   | 2.27   | 2.12   | 2.12   |        |
| 5         | 1.59   | 1.78   | 2.00   | 2.33   | 2.69   | 2.74   | 2.80   | 2.74   | 2.62   | 2.27   | 2.12   | 2.12   |        |
| 6         | 1.61   | 1.79   | 2.02   | 2.37   | 2.70   | 2.74   | 2.80   | 2.74   | 2.60   | 2.26   | 2.12   | 2.12   |        |
| 7         | 1.61   | 1.79   | 2.03   | 2.37   | 2.74   | 2.74   | 2.80   | 2.74   | 2.56   | 2.22   | 2.12   | 2.12   |        |
| 8         | 1.61   | 1.79   | 2.01   | 2.37   | 2.74   | 2.74   | 2.80   | 2.74   | 2.53   | 2.22   | 2.14   | 2.12   |        |
| 9         | 1.64   | 1.80   | 2.03   | 2.37   | 2.74   | 2.78   | 2.80   | 2.74   | 2.51   | 2.22   | 2.12   | 2.12   |        |
| 10        | 1.65   | 1.84   | 2.07   | 2.42   | 2.74   | 2.80   | 2.80   | 2.73   | 2.49   | 2.22   | 2.12   | 2.12   |        |
| 11        | 1.65   | 1.84   | 2.07   | 2.43   | 2.79   | 2.80   | 2.80   | 2.73   | 2.49   | 2.22   | 2.16   | 2.12   |        |
| 12        | 1.69   | 1.88   | 2.07   | 2.47   | 2.80   | 2.80   | 2.80   | 2.70   | 2.49   | 2.22   | 2.17   | 2.12   |        |
| 13        | 1.68   | 1.89   | 2.07   | 2.48   | 2.79   | 2.80   | 2.80   | 2.70   | 2.48   | 2.22   | 2.17   | 2.12   |        |
| 14        | 1.65   | 1.93   | 2.07   | 2.48   | 2.74   | 2.77   | 2.80   | 2.69   | 2.46   | 2.22   | 2.17   | 2.13   |        |
| 15        | 1.65   | 1.93   | 2.08   | 2.53   | 2.79   | 2.74   | 2.80   | 2.71   | 2.43   | 2.23   | 2.22   | 2.12   |        |
| 16        | 1.67   | 1.89   | 2.11   | 2.57   | 2.80   | 2.74   | 2.78   | 2.69   | 2.43   | 2.27   | 2.22   | 2.12   |        |
| 17        | 1.69   | 1.88   | 2.12   | 2.58   | 2.80   | 2.74   | 2.80   | 2.69   | 2.43   | 2.27   | 2.22   | 2.12   |        |
| 18        | 1.70   | 1.92   | 2.12   | 2.58   | 2.80   | 2.74   | 2.80   | 2.69   | 2.43   | 2.27   | 2.22   | 2.12   |        |
| 19        | 1.70   | 1.93   | 2.12   | 2.58   | 2.80   | 2.74   | 2.77   | 2.69   | 2.43   | 2.27   | 2.21   | 2.12   |        |
| 20        | 1.70   | 1.93   | 2.12   | 2.58   | 2.80   | 2.74   | 2.78   | 2.69   | 2.43   | 2.27   | 2.19   | 2.12   |        |
| 21        | 1.70   | 1.97   | 2.15   | 2.63   | 2.83   | 2.74   | 2.80   | 2.69   | 2.43   | 2.27   | 2.20   | 2.12   |        |
| 22        | 1.74   | 1.98   | 2.17   | 2.63   | 2.85   | 2.74   | 2.77   | 2.69   | 2.43   | 2.27   | 2.22   | 2.12   |        |
| 23        | 1.74   | 1.98   | 2.17   | 2.68   | 2.85   | 2.74   | 2.74   | 2.66   | 2.43   | 2.27   | 2.22   | 2.12   |        |
| 24        | 1.74   | 1.98   | 2.17   | 2.69   | 2.85   | 2.78   | 2.74   | 2.63   | 2.43   | 2.27   | 2.22   | 2.12   |        |
| 25        | 1.75   | 1.96   | 2.17   | 2.68   | 2.81   | 2.80   | 2.74   | 2.64   | 2.43   | 2.27   | 2.22   | 2.12   |        |
| 26        | 1.79   | 1.98   | 2.17   | 2.65   | 2.74   | 2.80   | 2.74   | 2.66   | 2.42   | 2.27   | 2.22   | 2.11   |        |
| 27        | 1.74   | 1.98   | 2.21   | 2.65   | 2.74   | 2.80   | 2.78   | 2.66   | 2.41   | 2.27   | 2.22   | 2.11   |        |
| 28        | 1.73   | 1.98   | 2.22   | 2.66   | 2.76   | 2.80   | 2.80   | 2.65   | 2.35   | 2.27   | 2.28   | 2.12   |        |
| 29        | 1.74   | 2.00   | 2.22   | 2.69   | 2.80   | 2.80   | 2.80   | 2.64   | 2.32   | 2.25   |        | 2.12   |        |
| 30        | 1.51   | 2.03   | 2.19   | 2.69   | 2.76   | 2.65   | 2.77   | 2.79   | 2.32   | 2.23   |        | 2.12   |        |
| 31        |        | 1.81   |        | 2.83   | 2.62   |        | 2.66   |        | 2.30   | 2.42   |        | 2.32   |        |
| TOTAL AF  | 99     | 116    | 125    | 155    | 170    | 164    | 171    | 161    | 152    | 139    | 121    | 118    | 1,691  |
| AVG CFS   | 1.67   | 1.89   | 2.10   | 2.52   | 2.77   | 2.76   | 2.78   | 2.71   | 2.47   | 2.26   | 2.18   | 2.12   | 2.35   |
| Max Daily | 1.79   | 2.03   | 2.22   | 2.83   | 2.85   | 2.80   | 2.80   | 2.79   | 2.65   | 2.42   | 2.28   | 2.19   | 2.85   |
| Min Daily | 1.51   | 1.74   | 1.98   | 2.27   | 2.62   | 2.65   | 2.66   | 2.63   | 2.30   | 2.22   | 2.12   | 2.11   | 1.51   |



### 3.8 Water Spreading in the Owens Valley

Based on the April 1, 2005 snow survey, Owens Valley runoff for 2005-06 was forecasted to be 128 percent of normal. Typically in such a wet year, runoff from snowmelt during the spring and summer months exceeds the capacity of the Los Angeles aqueduct system. The LADWP spread water in Laws, Big Pine, and Independence area wellfields during months of April through August in response to high runoff or to reduce volume of flow in the LAA during the high runoff period in a manner that was also beneficial to groundwater recharge.

In July, 2005, the Superior Court of the State of California in an order resulting from the case number S1CVCV01-29768, Sierra Club and Owens Valley Committee vs. City of Los Angeles Department of Water and Power dated August 9, 2006 (Court Order) obligated LADWP to additional water spreading in the Laws Wellfield. Section 2.B. of the Court Order stated: "During the remainder of the current 2005-06 runoff year, and each runoff year thereafter until such time as the conditions are terminated by operation of this Order, the City shall supply 16,294 acre-feet of water from it's aqueduct system, or from the tributaries thereto, for recharging groundwater levels in the Laws Wellfield."

Beginning in October 2005, the LADWP spread water in the Laws Wellfield for the purpose of groundwater recharge to fulfill the Court Order. Sources of this spreading were diversions from the Owens River and Fish Slough Ditch and the total volume of spreading in response to the Court Order was 17,102 acre-feet.

Table 16 summarizes the spreading activities in each wellfield and total monthly amounts of spreading.

**Table 16 - Spreading activities in the Owens Valley for 2005-06 runoff year**

| Area/Month   | Laws          | Big Pine     | Independence  | Total         |
|--------------|---------------|--------------|---------------|---------------|
| Apr          | 2,421         | 1,216        | 0             | 3,637         |
| May          | 1,701         | 281          | 2,514         | 4,496         |
| Jun          | 1,169         | 378          | 4,493         | 6,040         |
| Jul          | 1,844         | 574          | 6,411         | 8,829         |
| Aug          | 447           | 0            | 17            | 464           |
| Sep          | 0             | 0            | 160           | 160           |
| Oct          | 2,329         | 0            | 0             | 2,329         |
| Nov          | 3,866         | 0            | 21            | 3,887         |
| Dec          | 3,558         | 0            | 0             | 3,558         |
| Jan          | 3,592         | 147          | 0             | 3,739         |
| Feb          | 3,261         | 0            | 0             | 3,261         |
| Mar          | 0             | 0            | 0             | 0             |
| <b>Total</b> | <b>24,188</b> | <b>2,596</b> | <b>13,616</b> | <b>40,400</b> |