

Addendum to the

Warren Valley Basin Management Plan

Warren Valley Basin Watermaster
Yucca Valley, California

Revised: November, 1996

Addendum to the Warren Valley Basin Management Plan

CHAPTER 1 - EXECUTIVE SUMMARY

Since the adjudication of the Warren Valley Basin in 1977, the safe yield of the basin has always been estimated to be 200 acre feet per year. However, in 1992, the Court determined that the revised safe yield of the Basin is 900 acre feet based on studies conducted by two engineering firms; Robert Fox in conjunction with John Egan & Associates and Krieger & Stewart. The Judge ruled that the safe yield would remain at 900 acre feet per year until such time future studies prove otherwise. (para 1, page 1.1)

In 1995 the Watermaster Board of Directors was restructured and approved by the Court. The Board is currently comprised of five voting directors, which also serve as the Board of Directors of the Hi-Desert Water District; one representative from Blue Skies Country Club; one representative from the Institute of Mental Physics; and one individual representing the 16 minimal producers. (para 2, page 1.1)

The original Warren Valley Basin Management Plan (WVBMP) was adopted in January 1991. Many activities have transpired since adoption of the Plan. These activities include the following: (para 3, page 1.1)

1. In June 1990, voter-approval of the Morongo Basin Pipeline (MBP) where importation of State Project Water commenced in January, 1995.
2. Development of recharge basins to be used for recharging the WVB with State Project Water and conjunctive use water.
3. Ongoing cooperation with the San Bernardino County Flood Control District and the Town of Yucca Valley for storm water conservation concepts.
4. Restructuring of the Watermaster Board in 1995 by including representation from the 16 minimal producers. Representation of Blue Skies Country Club and the Institute of Mental Physics was restructured to include one representative of each.
5. Acquisition of supplemental water from the Bighorn-Desert View Water Agency over a five year period ending September 3, 1996.
6. Execution of a conjunctive use agreement with Mojave Water Agency for the storage of additional water into the WVB.

7. The Watermaster Board adopted Rules & Regulations outlining procedures for the Watermaster to comply with in order to perform Court directives and administer the management plan. The Rules & Regulations are updated on an as-needed basis.

A summary of management objectives, recommended program elements, implementation responsibility, and implementation schedule was developed in the WVBMP and presented as Table 1-1. Table 1-1 has been revised and attached to reflect recent activities of the Watermaster and Hi-Desert Water District. (para 2, page 1.2)

In 1991, the Court adopted the WVBMP with a 2% growth rate scenario based on water demand. This growth rate, also referred to as GA-2, was developed by evaluating the balance between water supply and demand over a 50 year period and the effect it would have on the Basin. The results of this water supply/demand balance for GA-2 have been revised and attached as Table 1-2. (para 4, page 1.2)

To implement the ongoing activities of the Watermaster, the Watermaster Board adopts and files with the court an annual budget. To support the annual budget, funds are generated by a three-tiered production assessment which applies to both HDWD and Blue Skies Country Club. The three-tiered production was approved by the Court in 1995. (para 2, page 1.3)

CHAPTER 2 - INTRODUCTION

As mentioned in Chapter 1, the safe yield of the basin has always been estimated to be 200 acre feet per year and subsequently revised to 900 acre feet per year by the Court in 1992. Currently extractions from the Basin are made by Hi-Desert Water District, Blue Skies Country Club, Institute of Mental Physics, and up to 16 minimal producers which were allotted 1 acre-foot per year. Yucca Water Company no longer produces water from the Basin since Hi-Desert Water District acquired the privately owned utility in 1990. (para 5, page 2.1)

Subsequent to the Watermaster Board being restructured in 1990, the Board has been restructured once more in 1995. The Watermaster Board is now comprised of five voting directors, which also serve as the Board of Directors of the Hi-Desert Water District; one representative from Blue Skies Country Club; one representative from the Institute of Mental Physics; and one individual representing the 16 minimal producers. (para 4, page 2.2)

CHAPTER 3 - GOALS AND OBJECTIVES

At the time the WVBMP was adopted in 1991, previous studies were conducted to evaluate the hydrogeologic condition of the Warren Valley Basin. Subsequently, two additional studies were conducted to determine the perennial yield of the Basin. These studies are referred to as the “Perennial Yield Study of the Warren Valley Basin” by Robert Fox and John Egan & Associates, completed in 1991 and the “Warren Valley Basin Safe Yield Study” by Krieger & Stewart, completed in 1991. (para 1, page 3.1)

Although the 1977 adjudication judgement declared the safe yield of the Basin to be 200 acre-feet per year from precipitation and runoff, the Judge determined that the safe yield was 900 acre feet per year. His judgement was based on more recent studies conducted by Robert Fox and John Egan & Associates and Krieger & Stewart. (para 2, page 3.2)

The collection of water level and water extraction data on a basin wide basis is a continuing task of the Watermaster. In the perennial study conducted by Robert Fox and John Egan & Associates, it was estimated that the Warren Valley Basin contained approximately 53,000 acre-feet of remaining extractable water in 1992. (para 3, page 3.2)

CHAPTER 4 - WATER REQUIREMENTS

In recent years the total demand on the WVB has been approximately 3,500 acre-feet, of which 2,812 AF is produced by HDWD, 585 AF by BSCC, 80 AF by IMP, and up to 16 AF by 16 minimal producers authorized by the court to extract 1 acre-foot per year. (para 2, page 4.1)

Due to conservation efforts first implemented in 1989 by HDWD, water production per connection and water use per capita has decreased from 1986 through 1990. According to the most recent Water Supply Master Plan prepared by Egan (1995), the current HDWD per capita use is 0.15 acre feet per year (AFY). The total current population HDWD serves is 24,342. There are currently 8,437 service connections in the HDWD service area which equates to 9,546 residential and commercial units. One service connection is capable of providing water service to an excess of one residential unit (i.e. an apartment building). (para 3, page 4.1)

Existing Water Sources

Currently, a major source of water for the Greater Yucca Valley area is the WVB which has a court determined annual recharge of 900 acre-feet per year. The apparent source of the WVB recharge is precipitation; runoff from its limited watershed, and artificial recharge of State Project Water (SWP). (para 2, page 4.2)

The HDWD service area is currently served by 15 operating wells within the WVB. Water storage is accomplished by 16 above-ground welded steel reservoirs with a total usable capacity of

12.66 million gallons. In addition, BSCC, IMP, and the minimal producers have their respective wells which produce water from the WVB. (para 4, page 4.2)

Mainstream Well

In 1987, HDWD contracted with the Mainstream Water Development Company to locate and develop a well outside the WVB that is capable of producing 800 GPM. Subsequently, the proposed well site was placed within the Sphere of Influence of the Desert View Water Agency, one of the predecessor agencies to the Bighorn-Desert View Water Agency (BDVWA). This well was successfully drilled on Bureau of Land Management property. By pumping 330 days per year and 18 hours per day, the well can produce 850 AF from the Means Valley Basin, which much of HDWD's service area overlies. (para 3, page 4.3)

State Water Project

SPW water is an additional source of water for the greater Yucca Valley area. The service area of HDWD is located within Division 2 of the Mojave Water Agency (MWA). Division 2 (Improvement District M) has an entitlement of 7,257 AFY of SPW or 1/7 of MWA's allocation. HDWD has an entitlement to 59% (4,282 AF) of the amount allocated to Division 2. The other participating agencies within Division 2 include Joshua Basin Water District, Bighorn-Desert View Water Agency, and the County of San Bernardino. MWA is currently negotiating the purchase of additional State Project allotment with Berrenda Mesa Water District of 25,000 AF. When completed, HDWD will be entitled to an additional 2,107 AFY. SPW is being imported to the area via the Morongo Basin Pipeline, a \$52 million project consisting of approximately 71 mile, 36 and 30 inch pipeline beginning at the California Aqueduct in Hesperia and terminating at a regulatory reservoir located at Warren Vista Avenue and Aberdeen Drive in Yucca Valley. The capacity of the pipeline is nearly 11,000 AFY allowing for delivery of excess water when available. In June 1990 more than a two-thirds of the voters approved the financing plan for the Morongo Basin Pipeline. (para 4, page 4.3)

SPW entitlements are subject to water availability and susceptible to delivery reductions during drought years and thus, are not completely reliable sources. For planning purposes, it is estimated that overall deliveries of SPW will vary from 75% to 80% of water ordered on a year to year basis.(para 5, page 4.3)

In January 1995, HDWD started receiving SPW via the Morongo Basin Pipeline and the 24 inch Hi-Desert Pipeline Extension from the terminating reservoir on Warren Vista and Aberdeen to Yucca Valley . Two percolation ponds were constructed to recharge this water into the WVB. The first percolation site (Site No. 7) is located on Crestview Drive and Old Woman Springs Road containing approximately 6 acres of recharge area. The second site (Site No. 6), with approximately 4 acres, is located on Sunnyslope Drive between Sage Avenue and Old Woman Springs Road. Since the percolation ponds are relatively new, the maximum recharge capability remains undetermined.

It is also anticipated that these sites may provide future opportunity to recharge storm water runoff. (para 5, page 4.4)

Water Supply Planning

For planning purposes, this WVB management plan shall be based on 50 year planning horizon. A comparison of projected supplies and demands for a 2% growth scenario is shown in Table 1-2. In 1992, water stored in the WVB was conservatively assumed to be 53,500 AF. The negative values in the “supply less demand” column represent WVB overdraft while the positive values represent the amount of excess water available for recharge. (para 4, page 4.5)

Water demands will be maintained within the amounts described in the 2% growth scenario. Lower growth rates would allow additional WVB recharge; however, increased groundwater levels could also be achieved by the interagency conjunctive use such as the HDWD and MWA conjunctive use agreement. It should also be noted that these growth evaluation could accommodate more rapid building construction if the existing water users reduced their consumption voluntarily or through HDWD’s plumbing retrofit program. (para 4, page 4.6)

CHAPTER 5 - IMPORTED WATER

State Project Water started flowing into Yucca Valley in January of 1995 through the Morongo Basin Pipeline. In order to utilize the State Project Water, HDWD constructed two percolation ponds to recharge this water into the WVB. The first percolation site (Site No. 7) is located on Crestview Drive and Old Woman Springs Road with an approximate recharge area of 6 acres. The second site (Site No. 6), with approximately 4 acres, is located on Sunnyslope Drive between Sage Avenue and Old Woman Springs Road. Since the percolation ponds are relatively new, the maximum recharge capability remains undetermined pending more well data. (para 4, page 5.1)

HDWD has a yearly State Project Water entitlement of 4,282 acre-feet per year. MWA is currently negotiating for the purchase of additional State Project allotment from the Berranda Mesa Water District of 25,000 AF. When completed, HDWD will be entitled to an additional 2,107 AFY. In addition, HDWD has executed a conjunctive use agreement with MWA. This agreement provides the opportunity to import an additional 10,000 acre feet of SWP water through the Morongo Basin Pipeline for recharge into the Warren Valley Basin over a period of time. Although MWA is storing this water into the basin, only HDWD may extract it for its use in the future during times of drought and a shortage of SWP availability. (para 5, page 5.2)

State Project Water is being imported to the area via the Morongo Basin Pipeline, a \$52 million project consisting of approximately 71 mile, 36 and 30 inch pipeline beginning at the California Aqueduct in Hesperia and terminating at a regulating reservoir located at Warren Vista Avenue and

Aberdeen Drive in Yucca Valley. The capacity of the pipeline is nearly 11,000 AFY allowing for delivery of excess water when available. (para 2, page 5.3)

CHAPTER 6 - WATER RECLAMATION

Because the Yucca Valley area is un-sewered and on septic systems, a complete wastewater collection, treatment and reclamation system would be necessary to utilize this water source. To evaluate the feasibility of this potential program element, HDWD has contracted the engineering firm of Montgomery Watson to prepare a master plan for wastewater collection, treatment and reclamation. In 1993, Montgomery Watson completed Phase 1 of the wastewater master plan. By the first quarter of 1997, it is anticipated that Phase 2 will be completed. It should be noted, however, that sewerage facilities not only provide water supply benefits but also reduce current wastewater disposal costs (i.e. seepage pumping) and protect groundwater quality. (para 2, page 6.4)

Recently, Hi-Desert Water District was included in a bill passed by the U.S. House of Representatives for providing partial funding of the wastewater system. Grant funds in the amount of \$3,750,000 were included in the bill. Other funding sources are also being evaluated such as the State of California's Revolving Fund Program. (para 2, page 6.5)

CHAPTER 7 - GROUNDWATER RECHARGE/BANKING

Availability of Stormwater

The court determined that the natural recharge of the Warren Valley Basin is 900 acre-feet per year. Because rainfall in the Yucca Valley area is infrequent but occasionally of high intensity, the most feasible approach to capture and recharge of stormwater appears to be the construction of small temporary earth dikes within existing drainage courses. During low intensity storms, runoff would be retained behind these small dams and recharge the groundwater basin. During higher intensity storms, these small dams would wash away, thereby not impeding the flood control purposes of the drainage courses. This water conservation approach is used commonly throughout Southern California. Currently the Hi-Desert Water District is working jointly with the Town of Yucca Valley and the County of San Bernardino Flood Control District to utilize these methods for capturing stormwater runoff. One project currently in progress is the installation of an outlet by the County of San Bernardino at the Old Woman Springs Creek Channel. With the installation of the outlet, the District will be able to install a pipeline from the outlet to the percolation site no. 6 and capture a portion of the storm water for recharge into the basin. (para 3, page 7.2)

State Water Entitlement

Hi-Desert Water District is entitled to 4,270 acre-feet per year of State Project Water. In January 1995, HDWD started receiving SPW via the Morongo Basin Pipeline. Two percolation ponds were constructed to recharge this water into the WVB. The first percolation site (Site No. 7) is located on Crestview Drive and Old Woman Springs Road containing approximately 6 acres of recharge area. The second site (Site No. 6), with approximately 4 acres, is located on Sunnyslope Drive between Sage Avenue and Old Woman Springs Road. In addition, MWA is currently negotiating for the purchase of additional State Project allotment from the Berrenda Mesa Water District of 25,000 AF. When completed, HDWD will be entitled to an additional 2,107 AFY. (para 2, page 7.4)

Interagency Conjunctive Use

In 1994 HDWD executed a conjunctive use agreement with MWA. This agreement provides the opportunity to import additional SWP water through the MBP for recharge into the Warren Valley Basin. Although MWA is storing this water into the basin, only HDWD may extract it for its use in the future during times of drought and a shortage of SWP availability. As a result of the agreement, it is anticipated that 10,000 acre-feet of water will be recharged over a period of time in addition to the District's yearly allotment. (para 4, page 7.6)

CHAPTER 8 - WATER CONSERVATION

One of the primary goals of the Hi-Desert Water District is to actively pursue a conservation program that ultimately reduces current extractions from the Warren Valley Basin and minimizes the need for additional imported water supplies. The following conservation programs have been implemented since the Warren Valley Basin Management Plan was adopted in 1991: (para 3, page 8.1)

1. Household Water Awareness Program - In 1995, the Hi-Desert Water District adopted this program to provide conservation information to customers at their home. By making an appointment, a District representative visits with customers and instructs them how to read their meter, how to check for leaks, and much more. Each session normally consumes an average of one hour. Upon completion, the customer is provided with a pamphlet with conservation information.
2. Adoption of a Landscape Ordinance - In 1995, The District adopted a landscape ordinance which applies to all new and rehabilitated landscape areas greater than 500 square feet for industrial, commercial, recreational projects, and developer installed landscaping. The ordinance establishes water budgets and requires water audits to assure that the irrigation system is operating efficiently. The water budget is allotted based on water tolerant plants and turf. If the budget is exceeded in any given year, then a penalty water rate is applied which is under consideration.

3. Installation of a CIMIS Station - In 1996, Hi-Desert Water District jointly with Mojave Water Agency and the Town of Yucca Valley installed a weather station in Yucca Valley to assist organizations with high landscape water needs. The weather station will provide evapotranspiration data to their irrigation systems and control the amount of watering on an as-needed basis, thus conserving water.

CHAPTER 9 - BASIN OPERATING PLAN

Recommended Role of the Watermaster

As an entity established by the Superior Court of San Bernardino County, the Watermaster is responsible for formulating a plan and program for a physical solution to the Basin. According to this judgement, the overdraft plan must also include provisions for the administration of the program. A summary of management objectives, recommended program elements, implementation responsibility, and implementation schedule was developed in the WVBMP and presented as Table 1-1. (para 2, page 9.2)

Projected Water Requirements

For the recommended 50 year planning period, the balance between current and anticipated water supplies and various scenarios of projected demands is presented in Table 1-2. This evaluation is based on existing water supplies as well as the current activities to obtain additional water supplies or to reduce water demands through conservation. (para 3, page 9.4)

CHAPTER 10 - PUBLIC EDUCATION

Educating the public on District and Watermaster activities remains a priority for the Hi-Desert Water District. For fiscal year 1996-97, The District allocated approximately \$20,000 for public education. Recent activities implemented by the District include the following: (para 4, page 10.1)

1. Century Cable television commercials emphasizing the amount of State Project Water the District is purchasing, the District's Household Water Awareness Program, and drought tolerant planting.
2. Internet service where information about the District is available to computer users all around the world.
3. Cinema slides where the public is informed of the District's purchase of State Project Water and other activities.

4. Water conservation signs placed at each entry to the Town of Yucca Valley to emphasize the importance of water conservation in the community.
5. Museum exhibit to display useful information of Hi-Desert Water District including the purchase of State Project Water, water quality, water conservation, etc.

CHAPTER 11 - REVENUE PROGRAM

To effectively implement the activities outlined in the WVBMP, the Watermaster must have sufficient funding. Currently all funding for the Watermaster is derived by a three tiered production assessment. Both Hi-Desert Water District and Blue Skies Country Club are obligated for the first two tiers up to their respective production allotments as provided for in the 1977 Judgment. The third tier primarily applies to Hi-Desert Water District in order to supplement any shortfall of revenues derived from the first two tiers. (para 2, page 11.1)

Activities included in the 1996-97 budget include administration, secretarial, accounting, meter reading, engineering, legal, directors fees, audit report and miscellaneous expenses.

CHAPTER 12 - IMPLEMENTATION PLAN

A summary of management objectives, recommended program elements, implementation responsibility, and implementation schedule was developed in the WVBMP and presented as Table 1-1. Table 1-1 has been revised and attached to reflect recent activities of the Watermaster and Hi-Desert Water District.

Table 1-1

Summary of the Recommended Management Plan

Recommend Program Element	Implementation Responsibility	Implementation Schedule
Goal 1. Manage extractions from the Basin to provide a dependable and cost effective long-term water supply for the Yucca Valley area.		
1.1 Develop groundwater resources on the Mesa	HDWD	Ongoing
1.2 Import State Project Water through the MBP	HDWD	Ongoing
1.3 Maintain annual water demand growth below or at 2% (GA-2)	HDWD	Ongoing
1.4 Evaluate opportunities to obtain groundwater along the MBP	Watermaster	Ongoing
1.5 Evaluate opportunities to obtain additional SWP entitlements or develop water supplies in other areas	Watermaster/HDWD	Ongoing
1.6 Develop a computerized groundwater flow model	Watermaster/HDWD	Intermediate-term
1.7 Evaluate opportunities for interagency conjunctive use of the Basin	Watermaster/HDWD	Ongoing
Goal 2. Equitably distribute available groundwater and imported water supplies.		
2.1 Restrict the drilling of new wells unless water service cannot be provided	Watermaster	Ongoing
2.2 Establish a water shortage contingency plan	HDWD	Ongoing

Short-term (1-2 years)

Intermediate-term (3-5 years)

Long-term (beyond 5 years)

Table 1-1

Summary of the Recommended Management Plan

Recommend Program Element	<u>Implementation Responsibility</u>	<u>Implementation Schedule</u>
Goal 3. Conserve storm waters tributary to the Basin.		
3.1 Construct retention ponds in Yucca Creek, flood control channel and its tributaries	HDWD	Long-term
3.2 Evaluate additional recharge basins	Watermaster/HDWD	Intermediate
Goal 4. Encourage and promote water conservation and water reclamation.		
4.1 Water conservation programs	HDWD	Ongoing
4.2 Complete wastewater master plan	HDWD	Short-term
Goal 5. Manage and protect groundwater quality for potable uses.		
5.1 Water quality monitoring program	HDWD	Ongoing
5.2 Identify potential sources of contamination	HDWD	Ongoing
5.3 Prepare a groundwater quality protection plan	HDWD	Intermediate-term

Short-term (1-2 years)

Intermediate-term (3-5 years)

Long-term (beyond 5 years)

Table 1-1**Summary of The Recommended Management Plan**

Recommend Program Element	Implementation Responsibility	Implementation Schedule
Goal 6. Monitor activities affecting the Basin.		
6.1 Basin monitoring plan	Watermaster	Ongoing
6.2 Prepare a groundwater quality protection plan	HDWD	Intermediate-term
6.3 Prepare an annual report of Basin condition and implementation plan status	Watermaster	Ongoing
Goal 7. Conduct public education and information programs.		
7.1 Expand the current public information program	HDWD	Ongoing
7.2 Develop an educational resource center	HDWD	Short-term
7.3 Participate in special events	HDWD	Ongoing
7.4 Establish a conservation awards program with the schools	Watermaster/HDWD	Short-term
Goal 8. Generate sufficient revenues to achieve the objectives of the Watermaster.		
8.1 Establish production and special assessments to recover the cost of Watermaster activities	Watermaster	Ongoing

Short-term (1-2 years)

Intermediate-term (3-5 years)

Long-term (beyond 5 years)

Table 1-1

Summary of the Recommended Management Plan

Recommend Program Element	Implementation Responsibility	Implementation Schedule
Goal 9. Perform court-mandated directives.		
A. Develop physical solution		
9.1 Develop groundwater resources on the Mesa	HDWD	Ongoing
9.2 Continue State Water Project (SWP) importation	HDWD	Ongoing
9.3 Evaluate opportunities to obtain groundwater along the MBP	HDWD	Ongoing
9.4 Evaluate opportunities to obtain additional SWP entitlements or develop water supplies in other areas	HDWD	Ongoing
B. Report progress to the Court		
9.5 Prepare an annual report of Basin conditions	Watermaster	Ongoing

Short-term (1-2 years)

Intermediate-term (3-5 years)

Long-term (beyond 5 years)

TABLE 1-2

PROJECTED WATER SUPPLY AND DEMAND (Acre Feet)

(GROWTH SCENARIO 2%)

YEAR	SAFE YIELD	SWP	M.S. WELL	INTERTIE	STORM WATER	C.U. WATER	TOTAL SUPPLY	DEMAND* 2%	SUPPLY LESS DEMAND	EST. BASIN STORAGE
1992	900	0	0	77	0	0	977	3279	-2302	53500
1993	900	0	85	512	0	0	1497	3509	-2012	49186
1994	900	0	408	573	0	0	1881	3644	-1763	47423
1995	900	2885	450	659	0	0	4894	3438	1456	48879
1996	900	5127	454	679	0	0	7160	3493	3667	52546
1997	900	6390	800	0	0	0	8090	3549	4541	57087
1998	900	5112	801	0	0	1000	7813	3607	4206	61293
1999	900	4793	802	0	0	1000	7495	3665	3830	65123
2000	900	4793	803	0	0	1000	7496	3725	3771	68894
2001	900	4793	804	0	105	1000	7602	3786	3816	72711
2002	900	4793	805	0	105	1000	7603	3848	3755	76466
2003	900	4793	806	0	105	1000	7604	3911	3693	80159
2004	900	4793	807	0	105	0	6605	3976	2629	82788
2005	900	4793	808	0	105	0	6606	4042	2564	85352
2006	900	4793	809	0	105	0	6607	4109	2498	87851
2007	900	4793	810	0	105	0	6608	4177	2431	90281
2008	900	4793	811	0	105	0	6609	4247	2362	92643
2009	900	4793	812	0	105	0	6610	4319	2291	94934
2010	900	4793	813	0	105	1000	7611	4391	3220	98154
2011	900	4793	814	0	105	1000	7612	4466	3146	101300
2012	900	4793	815	0	105	1000	7613	4541	3072	104372
2013	900	4793	816	0	105	1000	7614	4618	2996	107368
2014	900	4793	817	0	105	0	6615	4697	1918	109285
2015	900	4793	818	0	105	0	6616	4778	1838	111124
2016	900	4793	819	0	105	0	6617	4859	1758	112881
2017	900	4793	820	0	105	0	6618	4943	1675	114556
2018	900	4793	821	0	105	0	6619	5028	1591	116147
2019	900	4793	822	0	105	0	6620	5115	1505	117652
2020	900	4793	823	0	105	0	6621	5204	1417	119069
2021	900	4793	824	0	105	0	6622	5294	1328	120396
2022	900	4793	825	0	105	0	6623	5387	1236	121633
2023	900	4793	826	0	105	0	6624	5481	1143	122776
2024	900	4793	827	0	105	0	6625	5577	1048	123824
2025	900	4793	828	0	105	0	6626	5675	951	124776
2026	900	4793	829	0	105	0	6627	5775	852	125628
2027	900	4793	830	0	105	0	6628	5876	752	126380
2028	900	4793	831	0	105	0	6629	5980	649	127028
2029	900	4793	832	0	105	0	6630	6086	544	127572
2030	900	4793	833	0	105	0	6631	6194	437	128009
2031	900	4793	834	0	105	0	6632	6305	327	128336
2032	900	4793	835	0	105	0	6633	6417	216	128552
2033	900	4793	836	0	105	0	6634	6532	102	128654
2034	900	4793	837	0	105	0	6635	6649	-14	128640
2035	900	4793	838	0	105	0	6636	6768	-132	128508
2036	900	4793	839	0	105	0	6637	6890	-253	128255
2037	900	4793	840	0	105	0	6638	7014	-376	127878
2038	900	4793	841	0	105	0	6639	7141	-502	127377
2039	900	4793	842	0	105	0	6640	7270	-630	126747
2040	900	4793	843	0	105	0	6641	7402	-761	125986
2041	900	4793	844	0	105	0	6642	7536	-894	125091
2042	900	4793	845	0	105	0	6643	7673	-1030	124061
2043	900	4793	846	0	105	0	6644	7813	-1169	122892
2044	900	4793	847	0	105	0	6645	7956	-1311	121581
2045	900	4793	848	0	105	0	6646	8101	-1455	120126
2046	900	4793	849	0	105	0	6647	8250	-1603	118523

* Demand includes the following:
 HDWD Production
 Blues Skies 585 AF
 Institute of Mental Physics 80 AF
 Minimal Producers 16 AF