

E-67 Canal Lining Simulation



Ecological Resource Consultants, Inc.

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May 27, 2016

Mike Drain, P.E.
Central Nebraska Public Power and Irrigation District
PO Box 740
Holdrege, NE 68949

Transmitted via email to: mdrain@cnppid.com

Re: COHYST 2010 E-67 Seepage Evaluation and Test Scenario – Updated Results – GUI method
ERC Project No: 1030-1501

Dear Mike:

In August 2015, I completed my manual run of the COHYST Integrated Model to evaluate the impacts of reducing the seepage in Central Nebraska Public Power and Irrigation Districts' (CNPPID) E-67 canal, caused by lining or otherwise piping the canal route (Appendix A). Since that time, I have completed an evaluation of the COHYST Integrated Model Graphical User Interface (GUI) by comparing the results of the GUI method to the manual method with respect to the E-67 scenario. The detailed results of that comparison are presented in a separate report. The purposes of this report is to update the results produced in August 2015 with values from the recently completed GUI method. This update provides a second check of the GUI vs. manual methods, but also presents values that are likely "more correct". The results presented in August 2015 were taken from Iteration A of the manual method, while these are taken from Iteration B of the GUI method. Additionally, the COHYST models have been updated since August 2015 to better model actual conditions, thus making these results "more correct". However, as presented below the main conclusions from the August 2015 report remain and only the magnitudes of the values have changed.

Updated Results

In the August 2015 report ERC separated the results into two groups, 1992 to 1996, and all other years (1985 to 1991 & 1997 to 2005). This is because the change in seepage caused a change in Lake McConaughy operating rules, which in turn caused significant changes in reservoir releases. These releases then caused significant changes in all downstream diversions and operations. The same thing occurred with the updated results. The following tables present the new results for Canal Diversions and Gage Flows for the periods outside of 1992 to 1996 as they represent the impacts caused by E-67 seepage. The delta in both tables is calculated by subtracting the "No Seepage" values from the "Seepage" values and represent the impact of the seepage out of the canal. Positive values are an increase in flow and negative values are a decrease in flow.

Table 1 – Updated Average Annual Canal Diversions for the period outside of 1992 to 1996 (ac-ft/yr)

Canal Name	No Seepage	Seepage	Delta
Keystone	685,861	687,220	1,359
Sutherland	829,080	830,412	1,332
Kieth-Lincoln	13,863	13,861	-2
North Platte	41,581	41,578	-3
Paxton Hershey	14,668	14,706	38
Suburban	18,610	18,660	51
Cody Dillon	5,415	5,415	0
Birdwood	12,233	12,233	0
Western	14,546	14,546	0
Korty	171,232	171,211	-21
Tri-County	1,087,335	1,088,647	1,312
Jeffery Return	48,748	47,819	-930
J2 Return	541,315	538,513	-2,803
Phelps Canal	108,477	108,465	-11
E65	93,997	93,997	0
E67	6,167	10,573	4,406
Gothenburg	52,188	52,165	-23
Thrity-Mile	33,305	33,257	-48
Six-Mile	2,179	2,179	0
Cozad	26,575	26,552	-23
Orchard-Alfalfa	7,685	7,685	0
Dawson	66,509	66,331	-178
Kearney	85,330	85,331	1
Sutherland Return	693,589	694,915	1,326

Table 2 – Updated Average Annual Canal Diversions for the Period Outside of 1992 to 1996 (ac-ft/yr).

Table 2 Updated - Average Annual Canal Diversions for the Period Outside of 1992 to 1996 (ac-ft/yr)			
Canal Name	No Seepage	Seepage	Delta ¹⁾
NPR at Lewellen	889,059	889,059	0
Mac\Ogal Rel to NPR	955,880	958,195	2,315
Gage NPR nr Key	270,018	270,974	956
Gage NPR nr Suth	267,736	268,657	921
Gage NPR at NP	382,806	383,701	895
Gage SPR at Jules	393,056	393,056	0
Gage SPR at Roscoe	377,664	377,664	0
Gage SPR at Paxton	214,536	214,557	20
Gage SPR at NP	290,735	290,752	18
Gage PR blw TriCo Div	303,683	304,649	966
Gage PR at Brady	341,325	342,290	965
Gage PR nr Cozad	327,319	327,594	275
Gage PR nr Overton	968,340	969,473	1,132
Gage PR nr Odessa	998,166	999,263	1,097
Gage PR nr Kearney	1,004,656	1,005,751	1,096
Gage PR nr GI	1,115,689	1,116,781	1,093
Gage PR nr Duncan	1,240,943	1,242,023	1,080

Table 2 shows an additional 2,300 ac-ft/yr of water released from Lake MaConaughy, of which 1,300 is delivered down the Keystone Canal, and through the Sutherland Canal, where it is returned to the South Platte River (Table 1). The remaining 1,000 ac-ft/yr is sent down the North Platte where it has a small impact on two North Platte Canals, Paxton Hershey and Suburban.

When this additional water reaches the Tri-County Canal Diversion, only 1,300 ac-ft is diverted with the remainder staying in the Platte River. However, because the total difference in seepage is 4,300 ac-ft/yr, less water is returned at Jeffery and J2 (900 and 2,800 ac-ft/yr, respectively). These overall results match the conclusions reached in the August 2015 report, although due to the differences between methods described above, the exact values do not match each other. Because the conclusions match, ERC believes the GUI method is correctly simulating all of the manual processes.

1992 to 1996 – Lake MaConaughy Operating Rules

As with the August 2015 results, the updated results trigger a change in operating rules for Lake MaConaughy in 1992, which in turn reverberates throughout the model results for the next 4 years. The COHYST technical team has discussed the option of forcing these rules to remain the same from run to run, thus eliminating such discrepancies. We believe this would be a worthwhile addition to the model, although, as shown above one can identify such times and exclude the results caused by this change.

Conclusions

Based on our evaluation, we have the following conclusions:

- The impacts of E-67 seepage illustrated by the GUI method match those from the manual method completed in August 2015.
- There are minimal differences in the values produced by the GUI method when compared directly to the values produced by the manual method. These differences are caused by updates to the model since August 2015 and by extracting values from Iteration B of the GUI run, compared to Iteration A of the manual run. These differences do not materially affect the impacts caused by the E-67 seepage volumes.
- Both the GUI method and manual method result in a change of operating mode for Lake McConaughy in 1992. This change in operating mode results in wide-scale changes at many locations within the model, that would not be caused by seepage at E-67, but rather by the change in operating mode.
- The COHYST technical group has investigated the possibility of allowing users to use the same operating rule flags between run, thus eliminating the results seen in 1992 to 1996. ERC believes this would be a worthwhile addition to the model.

ERC will continue to monitor the COHYST modeling process for CNPPID. In the meantime, if you have any questions, please feel free to contact us.

Sincerely,

A handwritten signature in cursive script that reads "Hayden R. Strickland".

Hayden R. Strickland, P.E.

Ecological Resource Consultants, Inc.



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Appendix A August 2015 E-67 Simulation Results Manual Method.



Ecological Resource Consultants, Inc.

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August 10, 2015

Mike Drain, P.E.
Central Nebraska Public Power and Irrigation District
PO Box 740
Holdrege, NE 68949

Transmitted via email to: mdrain@cnppid.com

Re: COHYST 2010 E-67 Seepage Evaluation and Test Scenario
ERC Project No: 1030-1501

Dear Mike:

As part of my ongoing work on and review of, the Cooperative Hydrology Study 2010 (COHYST) model for Central Nebraska Public Power and Irrigation District (CNPPID), I have prepared this letter summarizing my evaluation of E-67 seepage using the COHYST model. My work included two integrated runs of the COHSYT model using version 26 of the watershed model (run using Visual Studio 2010), version 13 of the surface water model (using Stella 9.3.1), and version 25 of the groundwater model (using MODFLOW 2005). These three models, which I obtained from the COHYST ftp site in early 2015, are collectively referred to as the COHYST model. **Appendix A** provides more information on the software used to run the integrated model, including versions, and costs.

Background

Because many different consultants developed the COHYST model and all the integrated runs of the model were completed by each consultant running the version of model they developed, one of the main goals of this work was to have someone who did not develop the models run a full integrated run of the COHYST model and provide feedback on that process. For the E-67 seepage evaluation, I completed two full runs which included:

- **No Seepage**- The model was run from 1985 to 2005 without any seepage or evaporation in the E-67 canal. In 2001, CNPPID replaced the majority of the E-67 open channel with approximately 18 miles of pipeline and lined an additional 3 miles of open channel. This run simulates this change, but for the entire modeling period. All the other model parameters were left unchanged.
- **Seepage** – The model was run from 1985 to 2005 with approximately 5,300 acre-feet per year (ac-ft/yr) of seepage and evaporation (during May – October) from the E-67 canal. The volume of loss is the same volume modeled in the calibration model from 1985 to 2001, as the ditch was lined or replaced with pipe starting in 2002. The seepage run provides 21 years of comparison between a seepage run and a no seepage run. All other model parameters were left unchanged.

In addition to the goal of reviewing and commenting on the modeling process, there were also several technical goals. These technical goals included quantifying the impacts on canal diversions, surface water gage flows, and ground water levels caused by replacing approximately 21 miles of the E-67 canal with buried pipelines and lined canal segments.

Model Changes Required

Prior to evaluating the two scenarios described above, I implemented several changes to the Stella surface water model. These changes included adding a switch to implement the two runs, changing the way seepage from E-67 occurred based on the switch selected, and changing the estimated demand for water from upstream facilities based on the switch selected. These changes were significant, and while the logic associated with the changes was straightforward, learning how the model was constructed and where to implement changes to the logic was not. **Appendix B** includes a detailed description of the changes made to the Stella model and process used to implement these two runs. While this information was presented in an appendix, it was a major component of my work and was written as a training tool and guide for future changes to the surface water model.

Because there was no change in land use or cropping patterns, there were no changes to the watershed model. While the recharge package in the ground water model is different for each run, this package is created through the integrated modeling process by the watershed model and thus no direct changes to the ground water model were required.

Scenario Results

In February 2015, I presented preliminary results of the two E-67 scenarios. At that time, the results were not what was expected and upon further review I determined the results were incorrect. While I had correctly changed the way seepage from E-67 occurred in the surface water model, I had not changed the estimated demands this seepage had on upstream facilities. Because of this, there were no changes in Lake McConaughy levels, or in Tri-County canal diversions. Since that time, I have made additional changes to the surface water model that have been verified by HDR, Inc. **Appendix B** details all of the changes made to the surface water model to correctly model each scenario.

The model was re-run with the changes described in Appendix B and revised results were also not what I expected. Overall, the change of approximately 5,300 ac-ft/yr of seepage in E-67 does not significantly impact many canals or gages, until 1992 through 1996. During these years releases from Lake McConaughy fluctuate between 212,000 ac-ft/yr more water released without canal seepage, to 430,000 ac-ft/yr less water released without canal seepage in E-67. This is due to a change a slight drop in water levels in Lake McConaughy in the years before 1992, which cause a change in the operating mode in the no seepage case for Lake Mc McConaughy in 1992. This change in operating mode then causes a significant change in operating protocols compared to the seepage case. These changes in Lake McConaughy operations cause changes in diversions for many of the downstream irrigation canals. Because of this, the results were analyzed for two different time periods, 1992 to 1996 and the periods prior to 1992 and after 1996. The sections below present each time period, starting with the periods outside of 1992 to 1996, which more closely match my expectations.

Results for 1985 to 1991 and 1997 to 2005

Table 1 presents the average annual canal diversions for Scenarios 1 and 2 and the change between scenarios for the period outside of 1992 to 1996. **Table 2** presents the average annual gage flows.

Table 1 - Average Annual Canal Diversions for the Period Outside 1992 to 1996 (ac-ft/yr)

Canal Name	No Seepage	Seepage	Delta ¹⁾	Explanation
Keystone	678,862	680,069	1,207	½ of the extra water released from Lake Mac diverted to Keystone.
Sutherland	817,759	818,959	1,201	
Keith-Lincoln	13,866	13,866	0	Little to no change in diversions by the North Platte Canals, despite there being approximately 1,000 ac-ft/yr more water in the North Platte River.
North Platte	41,682	41,682	0	
Paxton Hershey	14,848	14,850	3	
Suburban	18,651	18,655	4	
Cody Dillon	5,416	5,416	0	
Birdwood	12,235	12,235	0	
Western	14,435	14,435	0	
Korty	166,803	166,803	0	
Tri-County	1,079,466	1,080,573	1,107	
Jeffery Return	54,573	53,466	-1,107	With only 1,100 ac-ft/yr increase in diversions to Tri-County, the remainder of the seepage demand is met by reductions in return flows.
J2 Return	531,236	528,537	-2,699	
Phelps Canal	107,344	107,445	102	
E65	93,947	93,947	0	
E67	6,205	10,552	4,347	Significant increase in flow due to Seepage
Gothenburg	52,225	52,205	-20	Despite increase of approximately 1,000 ac-ft bypassing at Tri-County, the reduction in returns from Jeffery and J-2 cause reductions in diversions by downstream irrigation canals.
Thirty-Mile	33,124	33,076	-48	
Six-Mile	2,179	2,179	0	
Cozad	26,613	26,604	-8	
Orchard-Alfalfa	19,550	19,537	-13	
Dawson	66,303	66,116	-187	
Kearney	85,331	85,321	-9	
Sutherland Return	681,049	682,240	1,192	

Note: 1) Delta calculated by subtracting the “No Seepage” values from the “Seepage” values. Delta values represent the impact of seepage, with positive values being an increase in gage flows and negative values being a decrease in gage flows.

Table 2 – Average Annual Gage Flows for the Period Outside 1992 to 1996 (af-ft/yr)

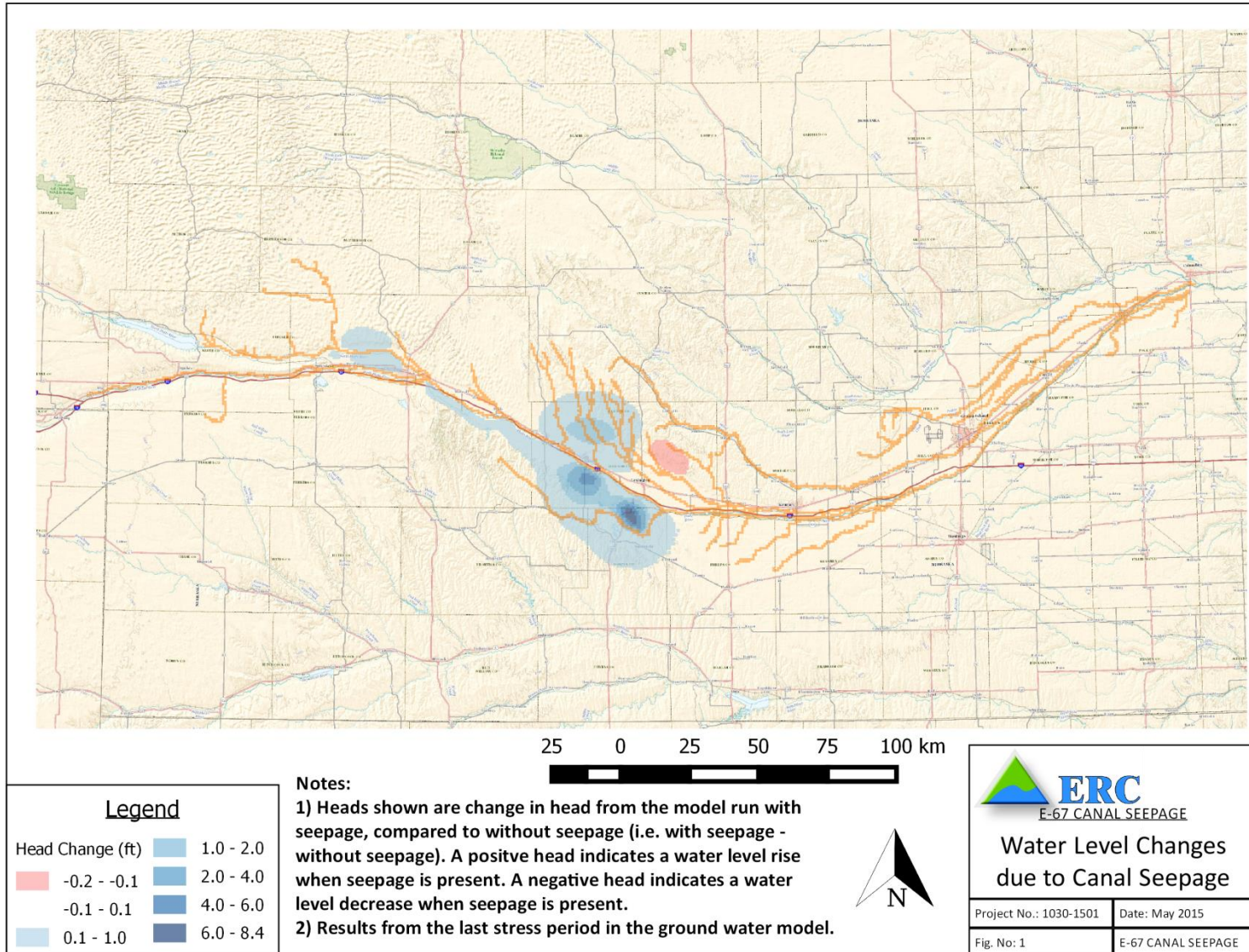
Gage	No Seepage	Seepage	Delta ¹	Explanation
NPR at Lewellen	889,071	889,071	0	
Mac\Ogal Rel to NPR	958,400	960,485	2,084	More water released from Lake Mac
Gage NPR nr Key	279,538	280,533	995	½ of extra water released stays in the N. Platte while ½ of the extra water released is diverted to Keystone.
Gage NPR nr Suth	280,552	281,545	992	
Gage NPR at NP	387,444	388,435	991	
Gage SPR at Jules	393,044	393,044	0	
Gage SPR at Roscoe	376,277	376,277	0	
Gage SPR at Paxton	217,424	217,424	0	
Gage SPR at NP	293,204	293,204	0	
Gage PR blw TriCo Div	307,548	308,579	1,031	½ of the releases re-diverted at Tri-County
Gage PR at Brady	347,745	348,776	1,031	½ of the release bypass Tri-County
Gage PR nr Cozad	380,885	381,121	236	
Gage PR nr Overton	1,014,657	1,012,237	-2,420	There is less water in the river downstream of Overton due to canal seepage demand at E-67
Gage PR nr Odessa	1,027,508	1,025,007	-2,501	
Gage PR nr Kearney	1,032,273	1,029,772	-2,501	
Gage PR nr GI	1,134,339	1,131,829	-2,511	
Gage PR nr Duncan	1,258,948	1,256,437	-2,511	

Note: 1) Delta calculated by subtracting the “No Seepage” values from the “Seepage” values. Delta values represent the impact of seepage, with positive values being an increase in gage flows and negative values being a decrease in gage flows.

As **Tables 1 and 2** show, to meet the extra seepage demand, more water is released from Lake McConaughy (approximately 2,100 ac-ft/yr) and less water is returned from Tri-County Canal back to the Platte River (approximately 3,800 ac-ft/yr between Jeffery and J2 combined). However, not all the water released from Lake McConaughy is re-diverted by Tri-County. Approximately 1,000 ac-ft/yr more water flows by the gage below Tri-County. Despite this increase, the decrease in return flows results in less water in the Platte River, and thus less diversions by downstream canals, most notably, Dawson County Canal. The diversions for this canal drop by approximately 180 ac-ft/yr when seepage at E-67 is modeled.

In addition to evaluating the surface water model results, I also compared the water levels predicted by the ground water model for each scenario. **Figure 1** shows change in water levels between the Seepage and No Seepage scenarios for December 2005.

Figure 1 - Change in Water Levels between Scenario 1 and Scenario 2



As **Figure 1** shows, when seepage is modeled, the water levels below E-67 increase due to the increased seepage. But they also increase in the area near Tri-County Canal as there is also more water being carried in this canal, and hence more seepage from this canal. The same is true of some of the North Platte Canals and Keystone canal area. Finally, the water levels in the Birdwood Canal area decrease due to a decrease in the annual diversions of approximately 180 ac-ft/yr, and thus a decrease in canal seepage in this area.

Results for the 1992 to 1996 Period

While the results presented above matched my expectations, the results from the 1992 to 1996 period are harder to understand. Due to a change in operating mode in 1992, releases from Lake McConaughy are vastly different between scenarios for this time period. This results in many changes throughout the system as shown by **Tables 3 and 4**, which present the average annual gage flows and the average annual canal diversions, respectively, for the period 1992 to 1996.

Table 3 – Average Annual Gage Flows for the Period 1992 to 1996 (ac-ft/yr)

Gage	No Seepage	Seepage	Delta ¹
NPR at Lewellen	855,614	855,614	0
Mac\Ogal Rel to NPR	720,705	718,223	-2,482
Gage NPR nr Key	109,366	115,017	5,652
Gage NPR nr Suth	129,772	135,118	5,347
Gage NPR at NP	244,936	249,866	4,930
Gage SPR at Jules	522,373	522,373	0
Gage SPR at Roscoe	505,444	505,444	0
Gage SPR at Paxton	290,331	290,422	91
Gage SPR at NP	372,165	372,256	91
Gage PR blw TriCo Div	226,530	230,539	4,008
Gage PR at Brady	275,363	279,372	4,008
Gage PR nr Cozad	365,609	365,115	-494
Gage PR nr Overton	1,079,275	1,070,465	-8,811
Gage PR nr Odessa	1,139,416	1,131,111	-8,306
Gage PR nr Kearney	1,148,217	1,139,911	-8,306
Gage PR nr GI	1,245,776	1,237,510	-8,266
Gage PR nr Duncan	1,397,873	1,389,607	-8,266

Note: 1) Delta calculated by subtracting the “No Seepage” values from the “Seepage” values. Delta values represent the impact of seepage, with positive values being an increase in gage flows and negative values being a decrease in gage flows.

Table 4 – Average Annual Canal Diversions for the Period 1992 to 1996 (ac-ft/yr)

Canal Name	No Seepage	Seepage	Delta ¹⁾
Keystone	611,339	603,205	-8,133
Sutherland	11,445	11,445	0
Keith-Lincoln	35,610	35,610	0
North Platte	13,066	13,371	304
Paxton Hershey	17,030	17,525	496
Suburban	4,440	4,440	0
Cody Dillon	9,883	9,883	0
Birdwood	15,663	15,663	0
Western	225,535	225,444	-91
Korty	806,867	798,684	-8,183
Tri-County	1,088,895	1,082,137	-6,758
Jeffery Return	43,127	43,308	180
J2 Return	28,469	29,107	638
Phelps Canal	1,705	1,705	0
E65	19,223	19,223	0
E67	14,106	14,118	12
Gothenburg	50,174	50,864	689
Thirty-Mile	83,756	87,185	3,429
Six-Mile	53,964	54,003	39
Cozad	78,875	78,969	94
Orchard-Alfalfa	3,976	8,334	4,358
Dawson	57,093	54,111	-2,982
Kearney	590,420	581,840	-8,579
Sutherland Return	669,668	661,587	-8,080

When compared to **Table 1 and 2**, **Table 3 and 4** are vastly different, with perhaps the biggest change being in the diversions to the Keystone Canal. During this 4 year period, approximately 8,100 ac-ft/yr less water is diverted to the Keystone Canal because of seepage at E-67. This results in more water in the North Platte River, which results in more diversions by North Platte irrigation canals. Additionally, the diversions at Tri-County drop significantly, leaving more water in the Platte River, which results in more diversions by downstream irrigation canals, most notably Thirty-Mile and Orchard-Alfalfa.

While these results may not match real world expectations, they do show how the model responds to a large stress at the top of the system, such as significant decreases in Keystone diversions and increased releases from Lake McConaughy.

Finally, should you want more detailed results; **Appendix C** provides tables comparing the flow at each stream gage for each scenario and the difference between these two values on a monthly basis. Similarly, **Appendix D** provides tables comparing the diversions at each canal in the surface water model for each scenario, as well the difference in diversions between the two scenarios on monthly basis.

Conclusions and Recommendations

Based on my work, I have the following conclusions and recommendations:

- **Relatively simple scenarios may require many modeling changes.** In this case, I made a total of 4 changes to the Stella Model logic. Each change required evaluating how the model was dealing with various inputs and modifying those inputs to address how seepage at E-67 was managed. Changes were made to rules that manage water in the canal, as well as rules that propagate demands back upstream. In addition to the changes, I also added results tables to the Stella model to verify that the changes I made had the desired effects.
- **The model is integrated, for better or worse.** As the results from this process show, a small change such as seepage at E-67 (approximately 5,300 ac-ft/yr) can cause significant changes in areas that are far removed from where the changes were made. While these changes can be explained, doing so requires significant review and a solid understanding of the modeling processes, logic, and construction.
- **Evaluation of results on a monthly basis is more important than average annual values.** Because of the integrated nature of the modeling, reviewing results on an average annual basis can mask impacts of various changes. In this scenario, without a review of the monthly results, the large scale changes caused by the 1992 to 1996 period would have been masked. I recommend that future modeling always start with reviewing monthly results prior to summarizing average annual values. In some cases, daily review of the surface water model may be necessary to understand what variables, such as Lake McConaughy operating mode, are driving the changes seen in the model.
- **The Lake McConaughy operating modes should be reviewed.** The results for the 1992 to 1996 period are driven by a change in Lake McConaughy operating mode in 1992. This one change is the cause of 4 years of significant changes to all areas of the model and is caused by a change in water levels of 0.5 feet prior to 1992. While this memorandum did not detail the operating modes or their direct impacts, I recommend that a review of the operating modes be conducted, with particular emphasis placed on ways to decrease the dramatic changes between each mode. For example, there may be additional modes that could be added that would make the changes more gradual, thus reducing the possibility of large scale changes due to a change in operating mode.

If the operating modes cannot be changed, I recommend evaluating the possibility of forcing the model to use the same operating modes for each scenario, thus hopefully isolating the impacts of the changes, so that they occur under upstream conditions consistent in each scenario. There has been some discussion on the bi-weekly technical phone calls of implementing this as a first step, which I think is beneficial; however, I think more work could be completed regarding the operating mode logic.

- **Running the model requires days and is complex without a user interface.** While this memorandum provides detailed information on using and modifying the Stella surface water model, it does not include directions on running the other components of the integrated model (i.e. the watershed model and the ground water model). I previously prepared a series of “how-to” videos that cover all of the steps required to run the integrated model. These videos were never reviewed by the COHYST technical team, or consultants, and work on them is no longer progressing. Because COHYST has authorized development of a graphical user interface, which is currently in testing but largely functional at the time this memo was written, understanding how to manually run each model in an integrated mode will hopefully become less important. However, these videos may yet prove useful and are available upon request.

I am hopeful that the user interface will make running the model much simpler, as this learning curve was quite steep.

I will continue to monitor the COHYST process, including reviewing the other test scenario and development of the user interface. In the meantime, if you have any questions regarding this scenario or the modeling process, please feel free to contact me.

Sincerely,



Hayden R. Strickland, P.E.

Ecological Resource Consultants, Inc.

Appendix A
Required Software

MANDATORY SOFTWARE WHEN RUNNING THE COHYST MODELS

- **Stella Version 9.1.2 or higher.** – As of June 2015, the surface water model would run on version 9.1.2, but did not run on Version 10.0. Stella is available from Isee Systems (<http://www.iseesystems.com/software/education/StellaSoftware.aspx>). The cost of a license for version 9 is \$2500 and requires an additional maintenance fee of \$499 per year to continue receiving updates for the software.
- **Microsoft Visual Studio 2010 Professional** – The watershed model codes were created using Intel Fortran and Microsoft Visual Studio 2010 and did not compile outside of this software. The software is available from Microsoft at a cost of \$1,200 but may be available through other resellers for less. The Intel Fortran compiler is also required.
- **MODFLOW 2005.** – This is available from the USGS for no cost. <http://water.usgs.gov/ogw/modflow/MODFLOW.html>
- **Microsoft Excel** – The CoHySt model relies on Excel to format and display results and to aid in transferring data from one model to another. It is available from Microsoft.
- **Lots of Hard Drive Space** - The watershed model uses approximately 50 gigabytes per run. In addition, it is useful to map a network drive to the letter N as most of the code uses this default. You can use the following DOS command to map a network drive to a local drive (in the example below the network drive is N: and the local drive is C:\Cohyst\WatershedModel\):

```
subst N:\ C:\Cohyst\WatershedModel
```

USEFUL SOFTWARE WHEN RUNNING THE COHYST MODELS

- **A high powered text editor.** – ERC recommends that you have a text editor besides notepad that quickly opens large files, displays line numbers, and allows easier navigation through large files. Some options include:
 - *VIM* – A unix based text editor similar to VI.
 - *UltraEdit* – Similar to notepad but handles large files better.
- **ArcGIS.** – While not mandatory, ArcGIS (<http://esri.com>) is useful for displaying data from the watershed model including irrigation type and land use data. It can also be used to display data from MODFLOW. A basic ArcDesktop license is approximately \$1,600 with an annual maintenance fee of \$700 per year. A free alternative is QGIS (<http://www.qgis.org/en/site/>).
- **A Ground Water Model Pre and Post Processor** – As with ArcGIS, a MODFLOW pre and post processor software is useful for displaying information from the ground water model. ERC recommends Ground Water Vistas Advanced (64 bit version). The software is available for \$2,050 from <http://groundwatermodels.com>

Appendix B

Stella Model Changes for E-67 Seepage Scenarios.

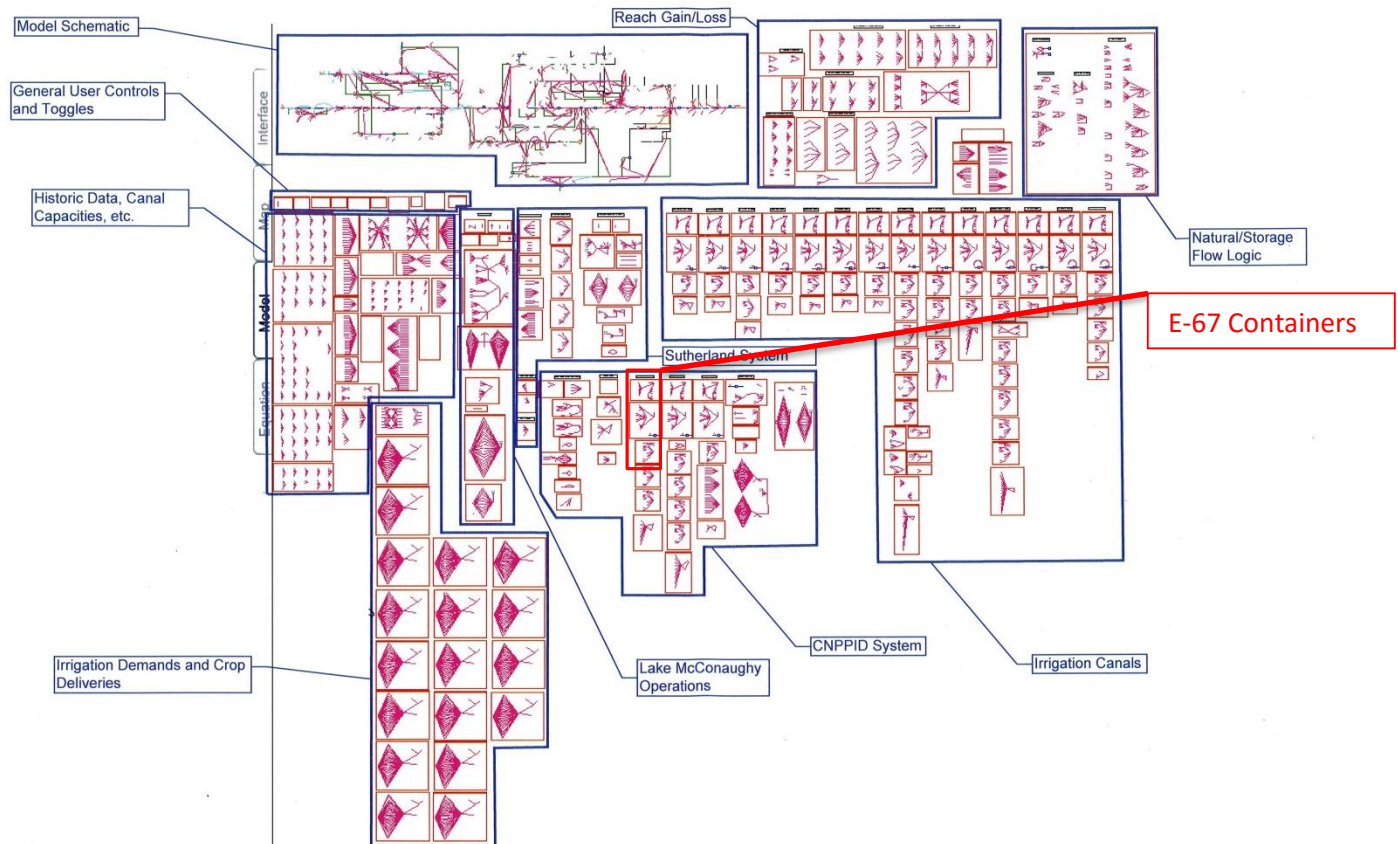
Background

This Appendix documents the changes to the Stella model that ERC made to simulate various seepage rates from E-67. It details the steps taken to implement the change, but also the mistakes made, and how they were detected and fixed.

Model Changes

The COHYST Stella Model, also known as the surface water model, is a visual network model with many containers. **Figure 1** shows the entire Stella Model and the location of the containers where the E-67 Canal is defined in the Stella Model.

Figure 1 - Stella Surface Water Model

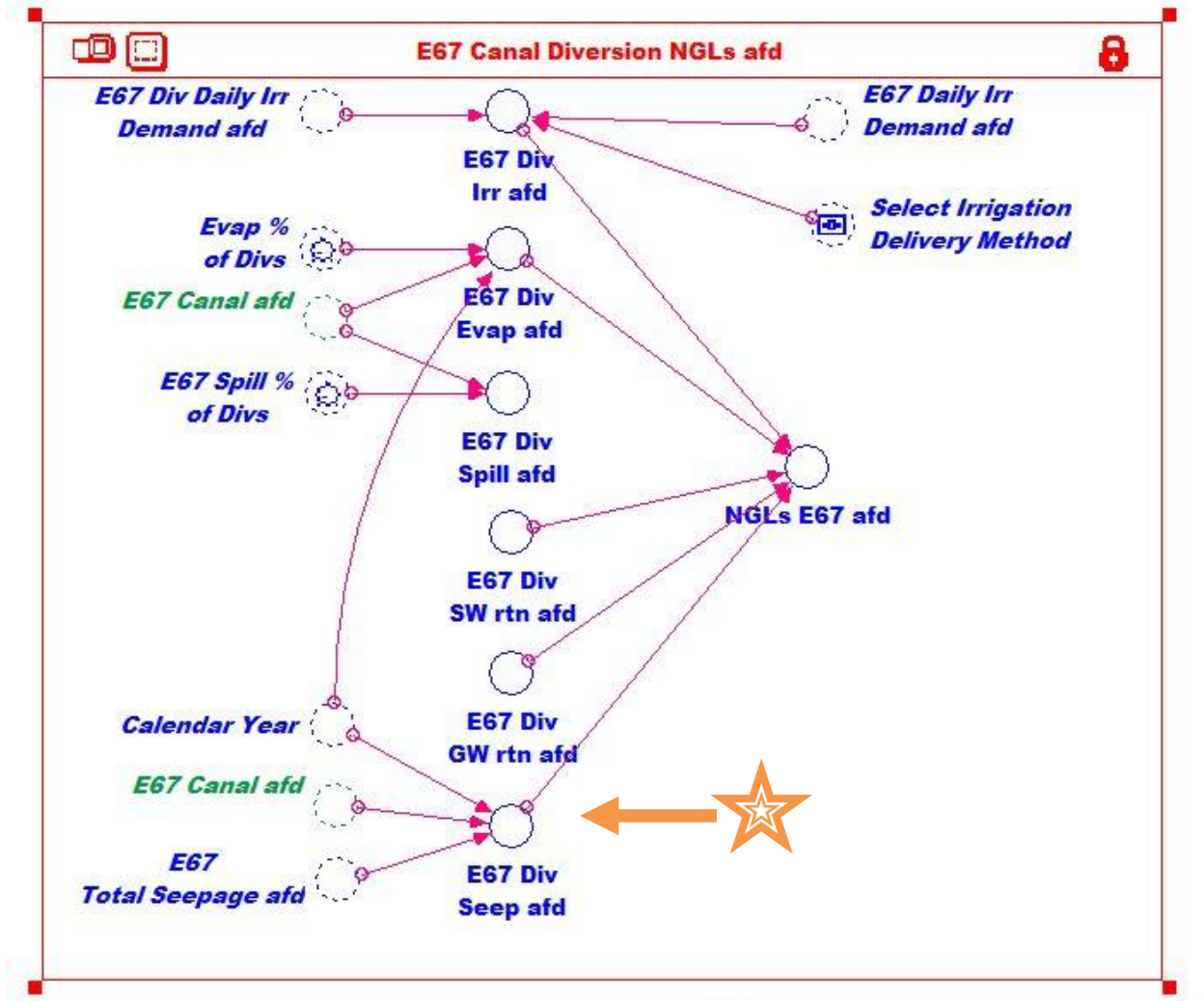


These three containers are where all the changes for the following scenarios were made, from top to bottom the containers are:

- **E67 Canal Estimated Diversions afd** – Used to estimate what canal loss might be with an assumed canal delivery.
- **E67 Canal Total Seepage afd** – Used to calculate a total seepage rate based on two options, constant rates or percentage rates.
- **E67 Canal Diversion NGLs afd** – Applies the seepage rate to the actual calculation of the reach gain loss.

Figure 2 shows the **E67 Canal Diversion NGLs afd** container.

Figure 2 - E67 Canal Diversions NGLs afd Container



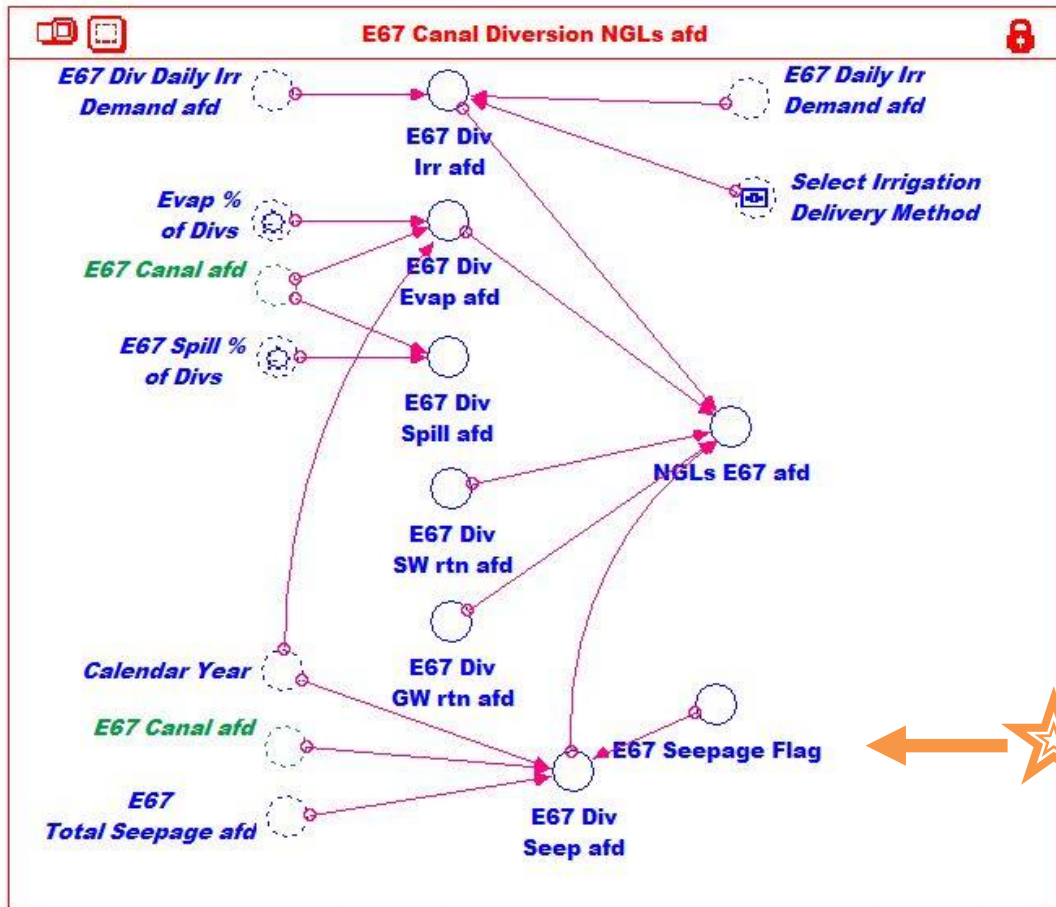
At the bottom we see the **E67_Div_Seep_afd** construct. **Table 1** shows the original logic for the **E67_Div_Seep_afd** construct.

 Table 3 - Original Logic for the **E67_Div_Seep_afd** Construct.

IF Calendar_Year > 2001 THEN 0	If the year is 2002 or later, no seepage as canal was lined
ELSE IF E67_Canal_afd = 0 THEN 0	If there is no flow in the canal, no seepage
ELSE E67_Total_Seepage_afd	Otherwise use the seepage value.

This is one place where the calibration model is limiting when seepage occurs. For future scenarios, that will need to be changed to remove the 2001 limitation. But first, let's add a construct that acts as a flag so we have a nice switch. I've called mine **E67_Seepage_Flag** as shown in **Figure 3**.

Figure 3 - Addition of Seepage Flag



This flag will allow us to toggle between seepage rates. Here are the options I used in the flag.

1. Run the model in historic calibration mode, i.e. no change.
2. Run the model without any seepage in the canal (i.e., a No Seepage Run).
3. Run the model with historic seepage for all years. (i.e., a Seepage Run). This excludes the lining which happened after 2001.

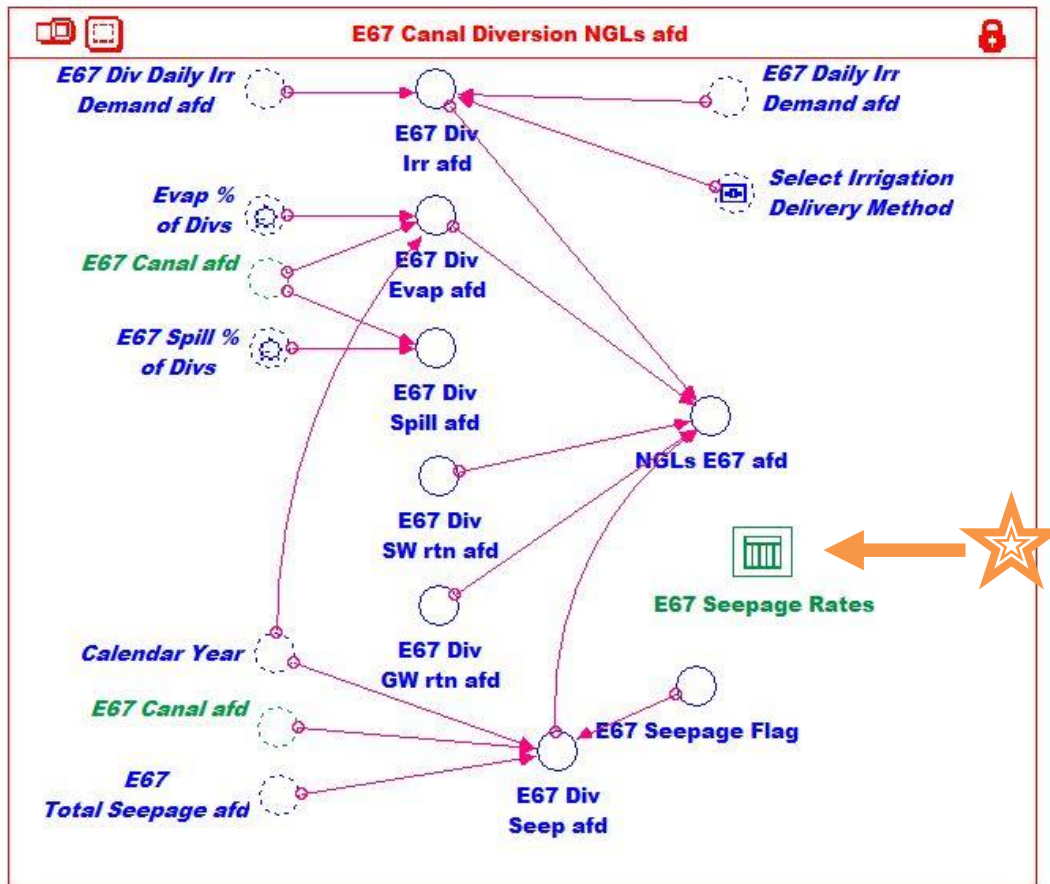
With this flag created, let's link its value to the logic for the **E67_Div_Seep_afd** construct. **Table 2** shows the new logic for the **E67_Div_Seep_afd** construct.

Table 4-New Logic for E67_Div_Seep_afd Construct.

If E67_Canal = 0 then 0	If there is no flow in the canal, no seepage.
else if E67_Seepage_Flag = 1 and Calendar_Year>2001 then 0	Flag = 1, Canal is lined starting in 2002. Check that year is 2002 or later AND that Flag is 1, if so no seepage.
else if E67_Seepage_Flag = 1 then E67_Total_Seepage_afd	Flag =1 and we are before 2002. Canal is not lined. Include seepage.
else if E67_Seepage_Flag = 2 then 0	Flag =2, No seepage at all times.
Else E67_Total_Seepage_afd	Flag = 3, Model seepage at all times.

To check the results of this change, let's add a table and put the **E67_Div_Seep_afd** construct into it. My table is called **E67 Seepage Rates** and is shown in **Figure 4**.

Figure 4 - Table to Check Results



Now we set the **E67_Seepage_Flag** equal to 1, 2 and 3. After running the model, we can export the results from **E67 Seepage Rates** to Excel, and create a table. Results for the Flag equal to 1 and 2 work as

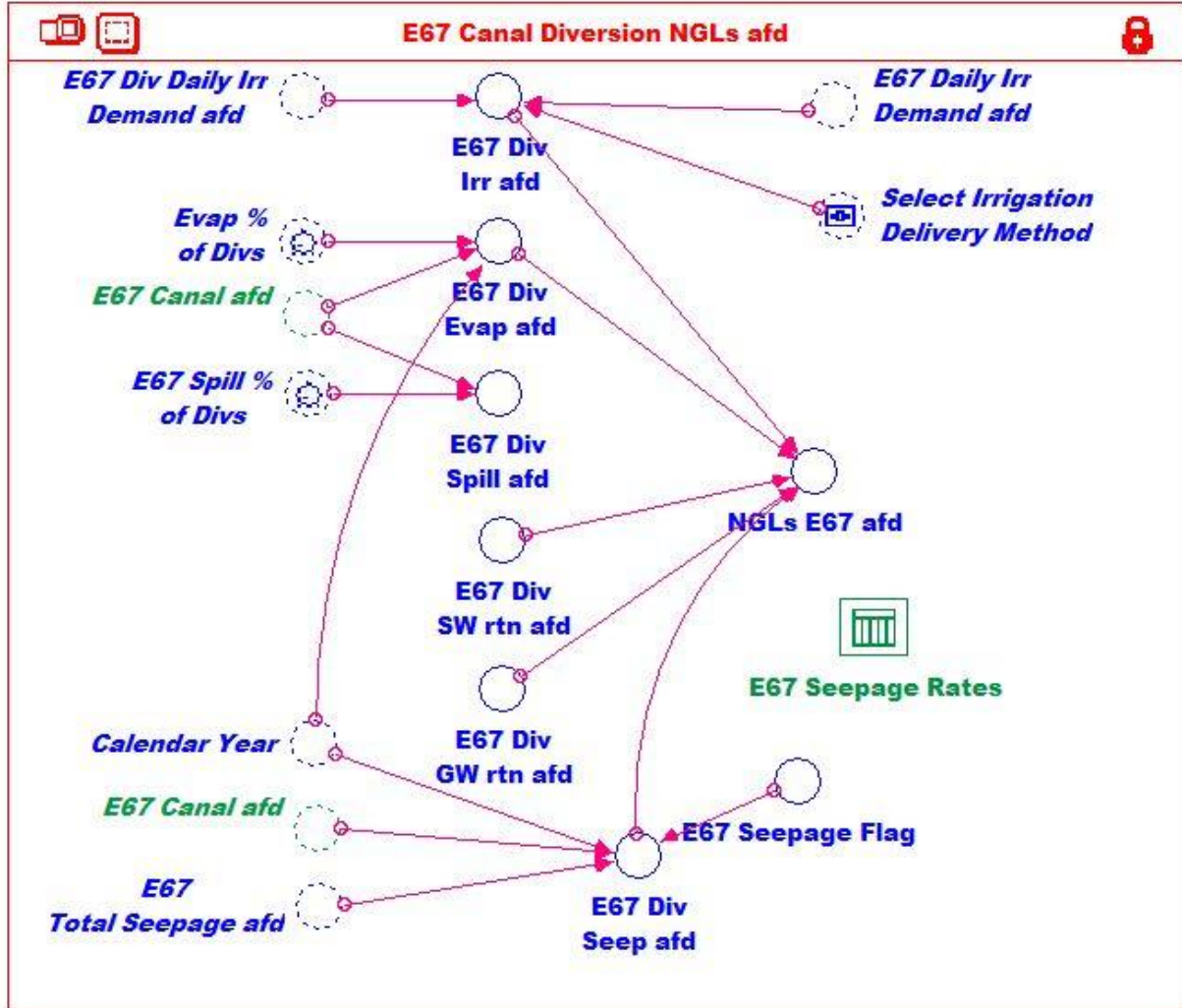
expected, but **Table 3** shows the results with the Flag set to 3 indicating historic seepage rates for all the years.

Table 5 - Flag 3 Seepage Amounts.

E-67 Seepage Amounts (ac-ft/mo) - Flag = 3 Historic Seepage for All Years													
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1986	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1987	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1988	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1989	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1990	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1991	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1992	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1993	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1994	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1995	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1996	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1997	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1998	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1999	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
2000	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
2001	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
2002	0	0	0	0	200	0	0	0	0	0	0	0	200
2003	0	0	0	0	200	0	0	0	0	0	0	0	200
2004	0	0	0	0	200	0	0	0	0	0	0	0	200
2005	0	0	0	0	200	0	0	0	0	0	0	0	200
Average	0	0	0	0	268	1,197	1,244	1,244	401	0	0	0	4,355

Notice after 2001, we now have seepage, but only in May. There is still no seepage in the other irrigation months. Let's look at the model again and see if we can figure out why. **Figure 5** shows the **E67 Canal Diversion NGLs** afd container.

Figure 5 - E67 Canal Diversion NGLs afd Container.



The **E67_Div_Seep_afd** converter is relying on data from **E67_Total_Seepage_afd** and **E67_Canal_afd** to determine what the seepage rate should be and if there is flow available. Let's look at those and see if the flow is zero, or if the seepage value is zero (Add them to your **E67 Seepage Rates** table and re-run the model). It turns out the seepage value in **E67_Total_Seepage_afd** is zero starting in June 2002. So let's figure out how this value is calculated. Because it is a ghost here (a ghost is indicated by the dashed lines), we need to find the original. Once we do that, we can look at the logic. After using the find command, we locate the original **E67_Total_Seepage_afd** converter in the **E67 Canal Total Seepage afd** container, which is located just above the current container and shown in Figure 6 below:

Figure 6 - E67 Canal Total Seepage afd Container.

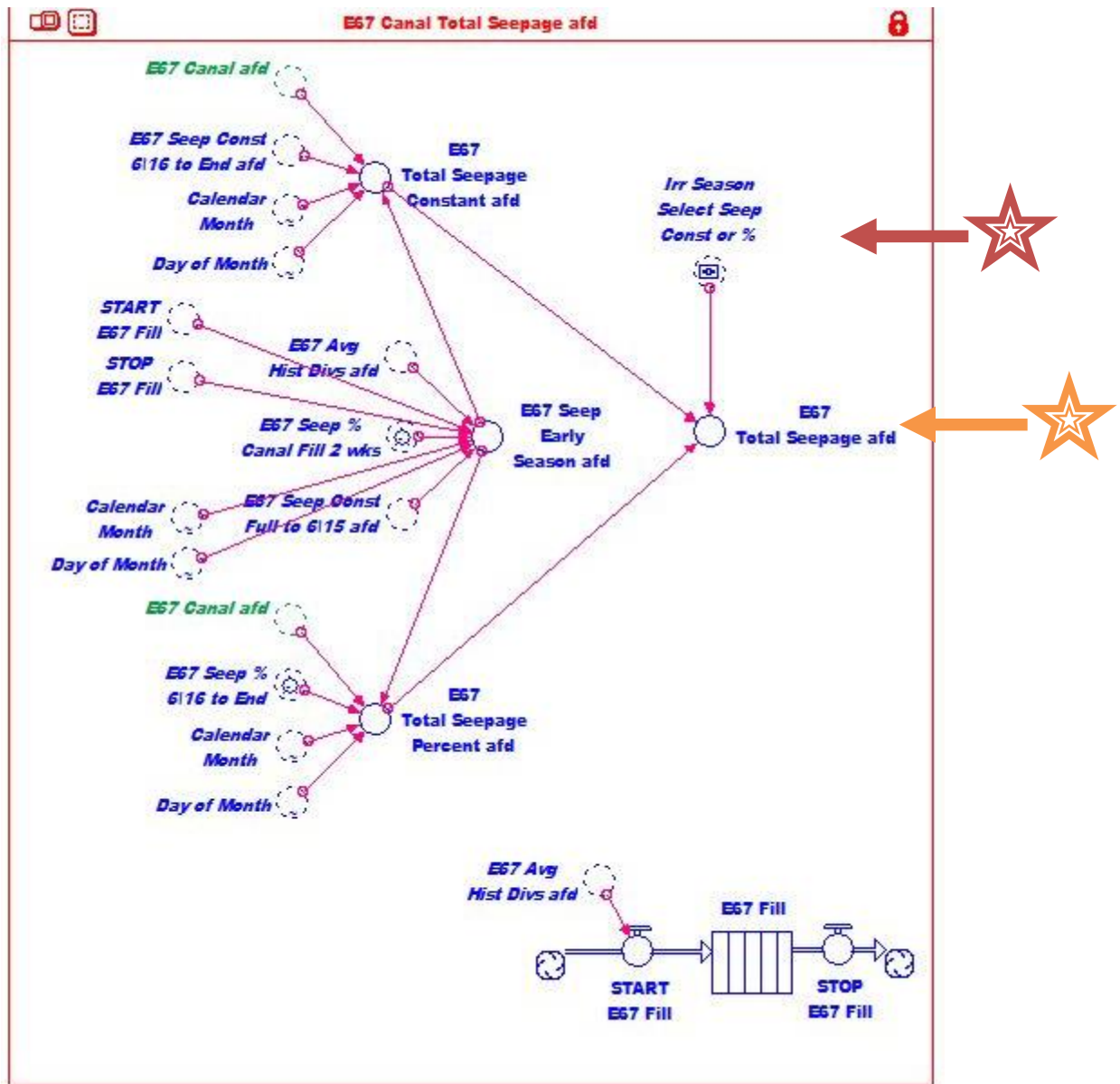


Table 4 shows the original logic for **E67_Total_Seepage_afd**.

 Table 6 - Original Logic for **E67_Total_Seepage_afd**.

IF Irr_Season_Select_Seep_Const_or_% = 1 THEN E67_Total_Seepage_Constant_afd	Look at flag to determine if irrigation seepage is constant or a percentage. 1 = Constant and use Other Converter.
ELSE IF Irr_Season_Select_Seep_Const_or_% = 2 THEN E67_Total_Seepage_Percent_afd	2 = Percentage.
ELSE 0	Catch all, set to zero.

Based on this logic, we can have two cases, constant seepage and percentage seepage controlled by the `Irr_Season_Select_Seep_Const_or_%` construct (red Star in Figure 6.)

The seepage flag is set at 1, so we can ignore the percentage side and just focus on the constant side (Note: we should probably troubleshoot the other side too once we get this side working, so if that flag is ever changed, the model will still honor the `E67_Seepage_Flag`).

The previous Convert in the constant routine is `E67_Total_Seepage_Constant_afd` (identified by the orange star in in Figure 7). The original logic for `E67_Total_Seepage_Constant_afd` convert is shown in Table 5.

Figure 7 - E67 Canal Total Seepage afd Container.

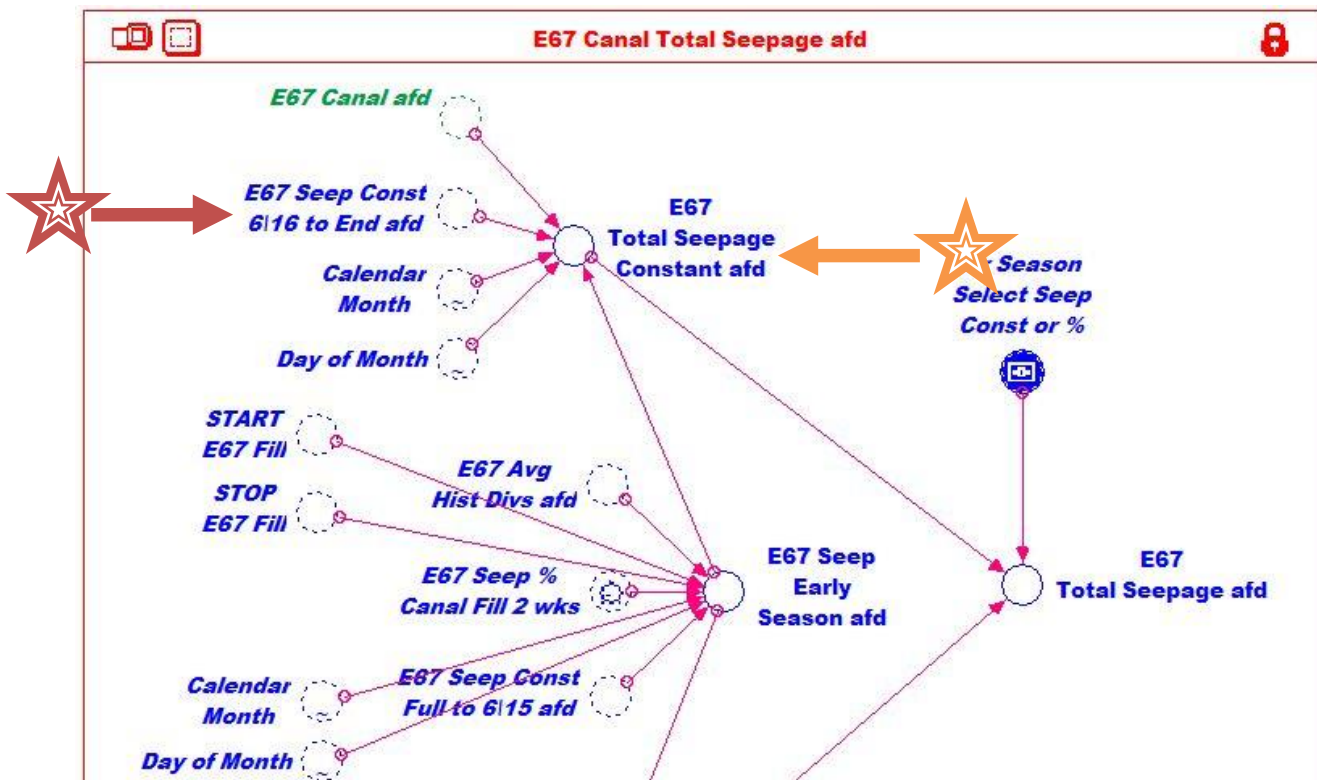


Table 7 - Original logic for E67_Total_Seepage_Consant_afd.

IF E67_Canal_afd = 0 THEN 0	If canal diversions are zero, no seepage
ELSE IF Calendar_Month < 6 THEN E67_Seep_Early_Season_afd	If calendar month is 1 to 5 use early season seepage.
ELSE IF Calendar_Month = 6 AND Day_of_Month <= 15 THEN E67_Seep_Early_Season_afd	If day is June 1 to June 15 th , use early season seepage.
ELSE IF Calendar_Month = 6 AND Day_of_Month >= 16 THEN E67_Seep_Const_6\16_to_End_afd	If day is June 16 to June 30, use Seepage rate 6/16 to end.
ELSE IF Calendar_Month >= 7 THEN E67_Seep_Const_6\16_to_End_afd	If Month is July or later, use seepage rate 6/16 to end.
ELSE 0	Catch all.

There is still no reference to 2001. My guess at this point is that it is in the variable after June 16th since we have some seepage in May, so let's check there (red star in **Figure 7**). **Table 6** shows the original logic for **E67_Seep_Const_6/16_to_End_afd**.

Table 8 - Original Logic for E_67_Seep_Const_6/16_to_End_afd

IF Calendar_Year > 2001 THEN 0	If year is after 2001 then no seepage
ELSE E67_Seep_Const_6\16_to_End_cfs*cfs_to_afd	Otherwise use the seepage rate.

There is our problem in Line No. 1. It shuts the seepage rate off after 2001. Let's change that to the logic shown in **Table 7**.

Table 9 - New Logic for E_67_Seep_Const_6/16_to_End_afd

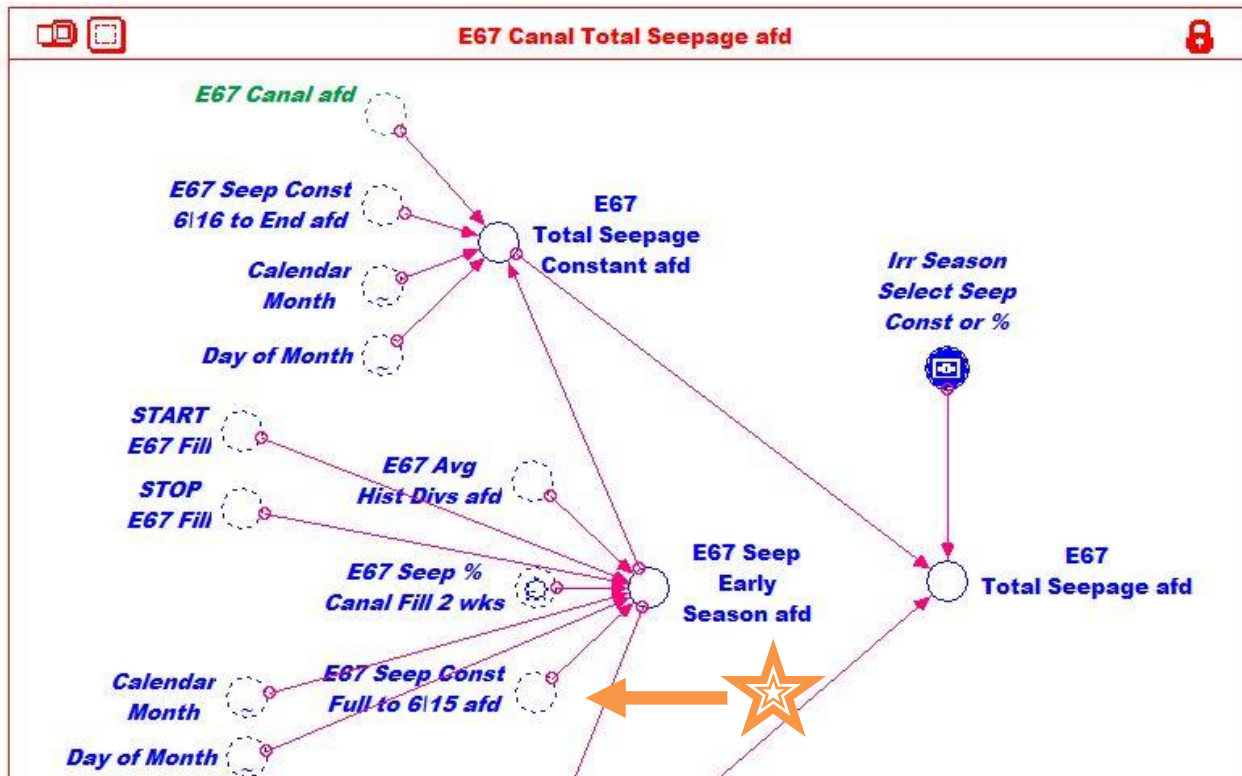
If E67_Seepage_Flag = 2 then 0	Seepage flag = 2, no seepage.
else if E67_Seepage_Flag = 1 and Calendar_Year >2001 THEN 0	Calibration model. After 2001, no seepage.
ELSE E67_Seep_Const_6\16_to_End_cfs*cfs_to_afd	Either Flag =3 or Calibration model before 2001, Either way model seepage.

As shown in **Table 7**, we added logic for flags 2 and 3. Let’s run the model again and see what we get. **Table 8** shows the results.

Table 10 - E-67 Seepage Amounts (ac-ft/mo) - Flag = 3 Historic Seepage for All Years

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1986	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1987	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1988	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1989	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1990	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1991	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1992	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1993	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1994	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1995	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1996	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1997	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1998	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1999	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
2000	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
2001	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
2002	0	0	0	0	200	744	1,537	1,537	496	0	0	0	4,514
2003	0	0	0	0	200	744	1,537	1,537	496	0	0	0	4,514
2004	0	0	0	0	200	744	1,537	1,537	496	0	0	0	4,514
2005	0	0	0	0	200	744	1,537	1,537	496	0	0	0	4,514
Average	0	0	0	0	268	1,338	1,537	1,537	496	0	0	0	5,176

The model includes seepage from E67 in all the irrigation months, but after 2001, it models less seepage during May and June. That’s got to be due to the pre 6/15 rate in the model. So now let’s go find that variable. **Figure 8** shows the location of the **E67_Seep_Const_Full_to_6\15_afd** convert. **Table 9** shows the original logic for **E67_Seep_Const_Full_to_6\15_afd** convert.

Figure 8- Location of *E67_Seep_Const_Full_to_6\15_afd*

 Table 11- Original Logic for *E67_Seep_Const_Full_to_6\15_afd*

IF Calendar_Year > 2001 THEN 0	If year is after 2001 then no seepage
ELSE E67_Seep_Const_Full_to_6\15_cfs*cfs_to_afd	Else use the pre 6/15 seepage rate.

Here is another place that the 2001 limitation is in place. Let's add logic for the flags as shown in **Table 10**.

 Table 12 - New Logic for *E67_Seep_Const_Full_to_6\15_afd*

If E67_Seepage_Flag = 2 then 0	Flag = 2, no seepage.
else if E67_Seepage_Flag = 1 and Calendar_Year >2001 THEN 0	Calibration model after 2001, no seepage
ELSE E67_Seep_Const_Full_to_6\15_cfs*cfs_to_afd	Calibration run before 2001 or Flag = 3, model seepage.

Let's re-run the model and see if we finally got all the flags. **Table 11** shows the updated results.

Table 13 - E-67 Seepage Amounts (ac-ft/mo) - Flag = 3 Historic Seepage for All Years

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1986	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1987	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1988	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1989	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1990	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1991	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1992	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1993	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1994	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1995	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1996	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1997	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1998	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
1999	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
2000	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
2001	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
2002	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
2003	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
2004	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
2005	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332
Average	0	0	0	0	284	1,478	1,537	1,537	496	0	0	0	5,332

It looks like it finally works. Yea!

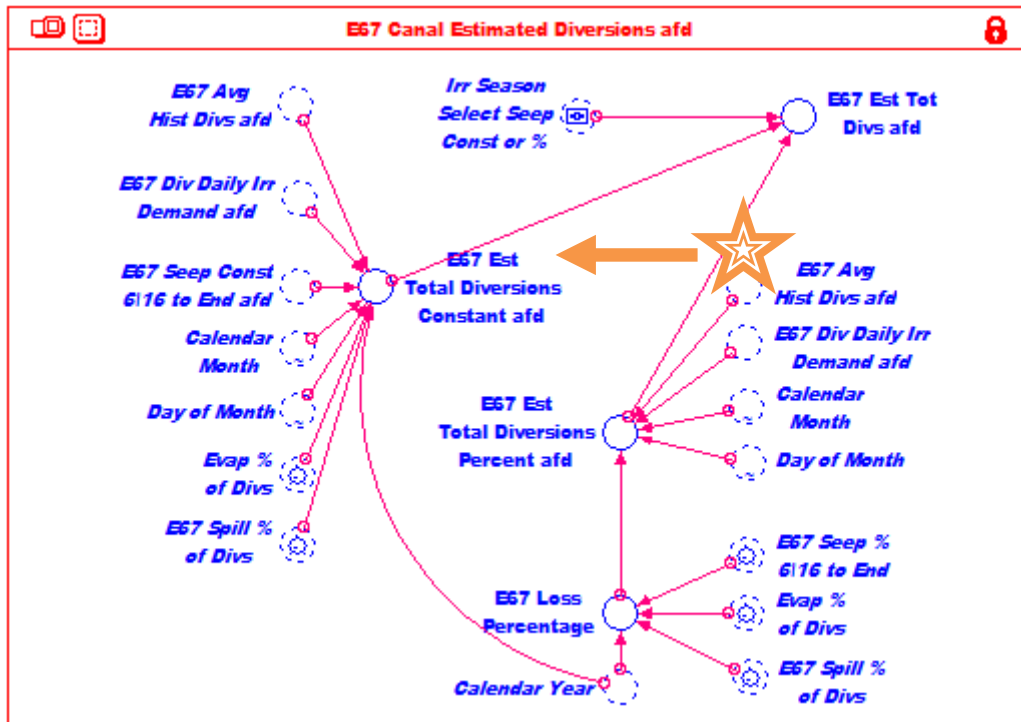
Intermission

At this point, I think I have done everything I needed to and started running the watershed model and ground water model for each scenario. And after looking at the results for those, something wasn't right, despite presenting these results to the sponsors. What could I have missed?

Seepage vs. Demand for Seepage

This entire time we have been changing the volume of seepage leaving the E-67 canal. This logic only applies to the water that is in the canal, but E-67 water often comes from upstream sources (i.e., Lake McConaughy or Tri-County Canal diversions from the Platte River), how do we change the demands for water from the upstream sources? The answer lies in the final E-67 container shown in **Figure 9 (E67 Canal Estimated Diversions afd container)**.

Figure 9 - E67_Canal Estimated Diversions afd Container.



Looking at the **E67 Canal Estimated Diversions afd** container we see it computes the estimated total diversions for E-67. As we'll see later, this estimated diversion amount is used to guide how much water is released from Lake McConaughy or diverted into Tri-County Canal. Let's look at the logic behind the calculation of estimated diversions and specifically the calculation of constant diversions. **Table 12** shows the logic for the **E67 Est Total Diversions Constant afd** construct, marked with the orange star in **Figure 9** above.

Table 14- Original Logic for E67 Est Total Diversions Constant afd

IF Calendar_Month < 6 THEN E67_Avg_Hist_Divs_afd	If the date is before June 1st, use Avg Historic Diversions.
ELSE IF Calendar_Month = 6 AND Day_of_Month <= 15 THEN E67_Avg_Hist_Divs_afd	If the date is in June, but before the 16 th , use Avg Historic Diversions
ELSE IF Calendar_Year < 2002 AND Calendar_Month = 6 AND Day_of_Month >= 16 THEN (E67_Div_Daily_Irr_Demand_afd+E67_Seep_Const_6\16_to_End_afd)/(1-((Evap_%_of_Divs+E67_Spill_%_of_Divs)/100))	If the year is before 2002, and the day is in June, but before the 17 th , then Diversions = daily irrigation demand + a constant seepage rate + some loss from evaporation and spills.
ELSE IF Calendar_Year >2001 AND Calendar_Month = 6 AND Day_of_Month >= 16 THEN (E67_Div_Daily_Irr_Demand_afd)/(1-((E67_Spill_%_of_Divs)/100))	If the year is after 2001 and the day is in June, but before the 17 th , then Diversions = daily irrigation demand increased to account for spills.
ELSE IF Calendar_Year < 2002 AND Calendar_Month >= 7 AND E67_Div_Daily_Irr_Demand_afd > 0 THEN (E67_Div_Daily_Irr_Demand_afd+E67_Seep_Const_6\16_to_End_afd)/(1-((Evap_%_of_Divs+E67_Spill_%_of_Divs)/100))	If the year is before 2002, and the month is greater than June, and there is a daily irrigation demand, Diversions = (daily irrigation demand + seepage) adjusted for spills.
ELSE IF Calendar_Year > 2001 AND Calendar_Month >= 7 AND E67_Div_Daily_Irr_Demand_afd > 0 THEN (E67_Div_Daily_Irr_Demand_afd)/(1-((E67_Spill_%_of_Divs)/100))	If the year is before 2001, the month is after June, and Daily irrigation demand is greater than zero, Diversions = Daily irrigation demand adjusted for spills.
ELSE 0	Catch all

There is a lot going on here. In some cases the estimated demand is just the daily irrigation demand adjusted by a spill percentage¹, or the irrigation demand and evaporation loss adjusted for spills. But in others, we include a seepage and evaporation loss. All of this estimated demands gets used to calculate how much to release from Lake McConaughy or how much to divert into Tri-County Canal. We'll need to

¹ The spills adjustment is a percentage. For example, if the spills are set at 5 percent, the daily irrigation demand is calculated as irrigation demand/ [1-(5/100)] or irrigation demand/95%. This increases the total demand to account for the spill percentage.

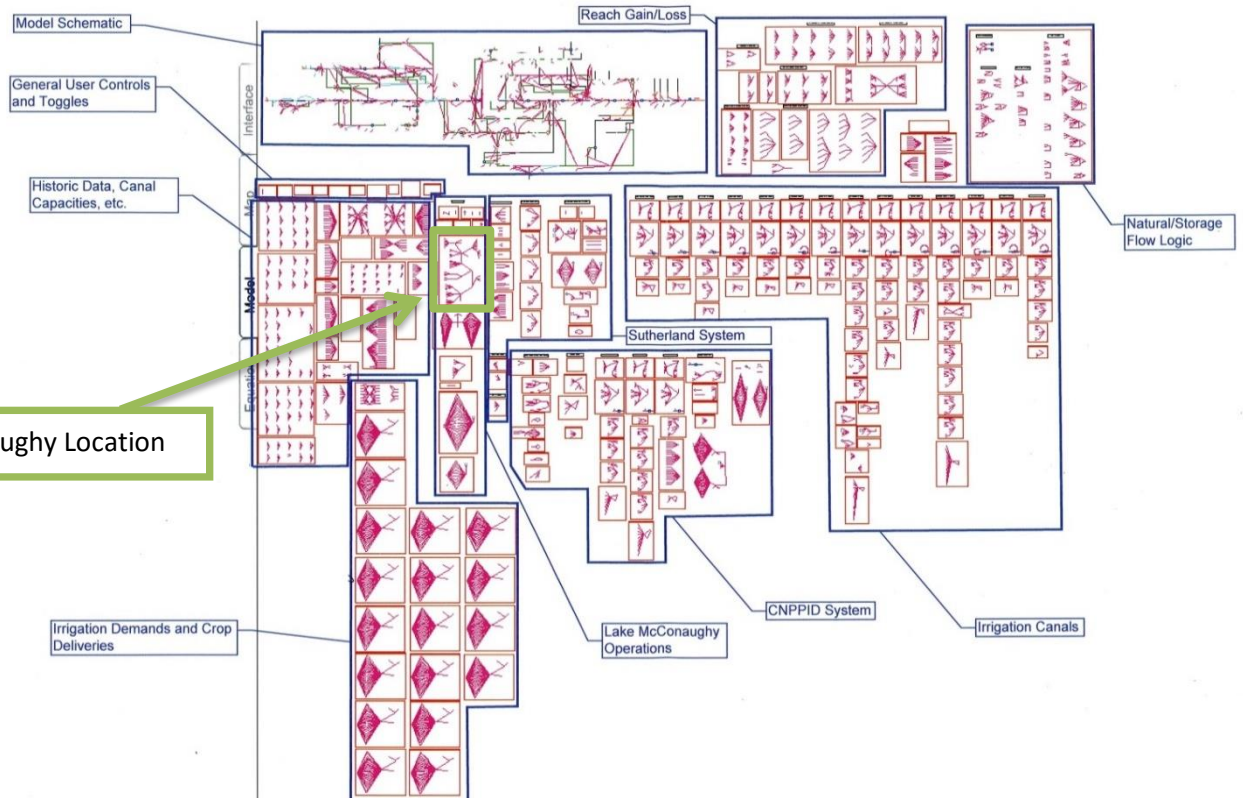
add our **E-67 Seepage Flag** to this logic too. **Table 13** shows the updated logic for the **E67 Est Total Diversions Constant afd** construct.

Table 15 - Revised logic for the E67 Est Total Diversions Constant afd Construct.

IF Calendar_Month < 6 THEN E67_Avg_Hist_Divs_afd	If the month is before June, use Avg. Historic Diversions
ELSE IF Calendar_Month = 6 AND Day_of_Month <= 15 THEN E67_Avg_Hist_Divs_afd	If the month is June, but the day is before the 15 th , use Avg Historic Diversions.
ELSE IF Calendar_Year < 2002 AND Calendar_Month = 6 AND Day_of_Month >= 16 AND E67_Seepage_Flag = 3 THEN (E67_Div_Daily_Irr_Demand_afd+E67_Seep_Const_6\16_to_End_afd)/(1-((Evap_%_of_Divs+E67_Spill_%_of_Divs)/100))	If all the following are true: Year before 2002, Month = June, Day before the 17 th , Seepage flag =3 THEN Demand = Daily irrigation demand + Seepage adjusted for spills and evaporation.
ELSE IF Calendar_Year < 2002 AND Calendar_Month = 6 AND Day_of_Month >= 16 THEN (E67_Div_Daily_Irr_Demand_afd+E67_Seep_Const_6\16_to_End_afd)/(1-((Evap_%_of_Divs+E67_Spill_%_of_Divs)/100))	If all the following are true: Year before 2002, Month = June, Day before the 17 th THEN Demand = Daily irrigation demand + Seepage adjusted for spills and evaporation.
ELSE IF Calendar_Year >2001 AND Calendar_Month = 6 AND Day_of_Month >= 16 AND E67_Seepage_Flag = 3 THEN (E67_Div_Daily_Irr_Demand_afd+E67_Seep_Const_6\16_to_End_afd)/(1-((E67_Spill_%_of_Divs)/100))	If all the following are true: Year after 2001, Month = June, Day after 17 th , Seepage flag =3 THEN Demand = Daily irrigation demand + seepage adjusted for spills.
ELSE IF Calendar_Year >2001 AND Calendar_Month = 6 AND Day_of_Month >= 16 THEN (E67_Div_Daily_Irr_Demand_afd)/(1-((E67_Spill_%_of_Divs)/100))	If all the following are true: Year after 2001, Month = June, Day after 17 th , Seepage flag =3 THEN Demand = Daily irrigation demand + seepage adjusted for spills.
ELSE IF Calendar_Year < 2002 AND Calendar_Month >= 7 AND E67_Div_Daily_Irr_Demand_afd > 0 THEN (E67_Div_Daily_Irr_Demand_afd+E67_Seep_Const_6\16_to_End_afd)/(1-((Evap_%_of_Divs+E67_Spill_%_of_Divs)/100))	If all the following are true: Year after 2001, Month = June, Day after 17 th , THEN Demand = Daily irrigation demand + seepage adjusted for spills.
ELSE IF Calendar_Year > 2001 AND Calendar_Month >= 7 AND E67_Div_Daily_Irr_Demand_afd > 0 and E67_Seepage_Flag = 3 THEN (E67_Div_Daily_Irr_Demand_afd+E67_Seep_Const_6\16_to_End_afd)/(1-((E67_Spill_%_of_Divs)/100))	If Year is after 2001, Month is after July, Demand is greater than 0, and Seepage Flag =3, THEN Demand = daily irrigation diversions + Seepage, adjusted for Spills.
ELSE IF Calendar_Year > 2001 AND Calendar_Month >= 7 AND E67_Div_Daily_Irr_Demand_afd > 0 THEN (E67_Div_Daily_Irr_Demand_afd)/(1-((E67_Spill_%_of_Divs)/100))	If Year is after 2001, Month is after July, Demand is greater than 0, THEN Demand = daily irrigation diversions + Seepage, adjusted for Spills.
ELSE 0	Catch All

By adding in the reference to the Seepage Flag, we can now change the demand for water on the upstream structures. This demand gets translated into new Lake McConaughy releases. **Figures 10 and 11** show the location of the Lake Mac Calculated Release Container and the contents of the container, respectively.

Figure 10 - Location of Lake McConaughy Logic in the Stella Model.



While there is a lot going on in this container, the short story is that the E-67 estimated demands get added to the estimated demands for the other CNPPID canals, which are then combined with the estimated demands for the North Platte Canals, and the estimated demands for the North Platte Power District. These combined estimated demands are then used in conjunction with many other factors such as operating mode, FERC releases, and other rules to calculate the volume to be released from Lake McConaughy.

Because there are so many items that feed in to the Lake McConaughy releases, the best way of checking that the changes we made work correctly is to run the model and evaluate the results to see if they make sense. The final results and a discussion of them are presented in the main text of this memorandum.

Appendix C

Monthly Results

Stream Flow Gages

For the Seepage and No Seepage Scenarios

Mac/Ogal Rel to NPR (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	141,303	81,933	165,746	91,138	43,962	95,572	228,951	182,398	91,698	39,964	54,159	34,327	1,251,149
1986	27,669	24,992	43,232	99,947	79,090	239,430	263,792	215,559	156,493	232,779	152,894	115,198	1,651,075
1987	87,241	74,043	93,591	48,118	44,712	69,223	219,032	175,434	96,684	71,578	65,572	65,359	1,110,587
1988	27,669	25,884	53,137	29,812	34,856	84,484	236,183	183,952	101,692	76,195	75,117	59,168	988,150
1989	27,669	26,198	31,596	40,266	63,765	101,746	214,481	168,046	88,045	15,372	14,876	15,372	807,432
1990	15,372	13,884	15,372	14,876	24,735	67,882	254,685	169,928	48,493	15,372	14,876	15,372	670,848
1991	15,372	13,884	15,372	14,876	24,276	41,318	261,357	181,387	49,339	15,372	14,876	15,372	662,802
1992	15,372	14,380	15,372	14,876	27,049	33,792	136,460	76,343	22,028	60,084	69,197	40,942	525,895
1993	27,669	24,992	27,669	27,579	53,021	94,820	180,387	140,260	69,069	15,372	14,876	15,372	691,087
1994	15,372	13,884	15,372	14,876	28,296	57,468	168,471	108,299	37,992	73,548	77,384	73,851	684,814
1995	37,252	32,452	40,661	31,625	41,225	24,087	59,469	170,228	79,378	44,663	67,763	76,360	705,162
1996	72,036	65,228	69,633	33,927	52,912	63,535	186,558	143,751	43,024	95,361	89,217	81,383	996,566
1997	61,452	55,731	71,099	82,435	111,096	118,225	211,635	113,385	110,951	147,564	86,063	74,496	1,244,133
1998	65,812	66,001	146,201	148,598	54,889	81,487	205,080	155,610	101,790	32,758	49,372	58,396	1,165,992
1999	27,669	31,743	68,347	31,786	99,324	278,908	203,148	156,045	191,778	151,536	95,752	74,405	1,410,443
2000	71,205	68,182	77,500	72,603	112,391	142,631	273,289	209,194	118,489	15,372	14,876	15,372	1,191,104
2001	15,372	13,884	15,372	14,876	24,622	54,515	196,476	133,033	41,162	75,124	72,198	69,215	725,850
2002	31,173	28,918	37,702	43,034	63,591	111,555	224,538	183,582	102,186	15,372	14,876	15,372	871,899
2003	15,372	13,884	15,372	14,876	28,560	62,947	214,643	141,293	40,800	15,372	14,876	15,372	593,368
2004	15,372	14,380	15,372	14,876	29,574	58,049	168,796	113,839	36,092	15,372	14,876	15,372	511,971
2005	15,372	13,884	15,372	14,876	27,491	29,435	170,804	109,032	36,214	15,372	14,876	14,876	477,604
Average	39,466	34,208	49,957	42,851	50,926	91,005	203,725	153,838	79,209	59,024	51,837	45,760	901,806

Mac/Ogal Rel to NPR (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	141,303	81,933	165,746	91,138	43,962	95,572	228,951	182,398	91,698	39,964	54,159	34,327	1,251,149
1986	27,669	24,992	43,232	99,947	79,090	239,430	263,792	215,559	156,493	232,779	152,894	115,198	1,651,075
1987	87,241	74,043	93,591	48,118	44,712	69,223	219,032	175,434	96,684	71,578	65,572	65,359	1,110,587
1988	27,669	25,884	53,137	29,812	34,856	84,484	236,183	183,952	101,692	76,195	75,117	59,168	988,150
1989	27,669	26,198	31,596	40,266	63,765	101,746	214,481	168,046	88,045	15,372	14,876	15,372	807,432
1990	15,372	13,884	15,372	14,876	24,735	68,633	256,236	171,481	48,994	15,372	14,876	15,372	675,204
1991	15,372	13,884	15,372	14,876	24,276	44,302	262,917	182,940	49,840	15,372	14,876	15,372	669,401
1992	15,372	14,380	15,372	14,876	27,049	34,243	138,013	77,737	20,982	15,372	14,876	15,372	403,644
1993	15,372	13,884	15,372	14,876	23,103	41,539	98,031	57,363	27,520	51,977	65,629	53,549	478,215
1994	69,191	59,266	65,707	35,425	61,537	107,365	217,561	171,776	102,741	73,547	77,384	73,851	1,115,352
1995	37,252	32,452	40,661	31,625	41,225	24,087	59,469	170,228	79,378	44,663	56,925	53,763	671,727
1996	27,923	34,992	69,633	33,927	52,912	63,535	186,558	143,751	43,024	95,321	89,217	81,383	922,177
1997	61,452	55,731	71,099	82,435	111,096	118,225	211,635	113,385	110,951	147,564	86,063	74,496	1,244,133
1998	65,812	66,001	146,201	148,598	54,889	81,487	205,080	156,610	101,790	32,758	49,372	58,396	1,165,992
1999	27,669	31,743	68,347	31,786	99,324	278,908	203,148	156,045	191,778	151,536	95,752	74,405	1,410,443
2000	71,205	68,182	77,500	72,603	112,391	142,631	273,289	209,194	118,489	15,372	14,876	15,372	1,191,104
2001	15,372	13,884	15,372	14,876	24,622	55,266	198,028	134,586	41,663	75,125	72,198	69,215	730,208
2002	31,173	28,918	37,702	43,034	63,591	111,555	224,538	183,582	102,186	15,372	14,876	15,372	871,899
2003	15,372	13,884	15,372	14,876	28,560	62,947	216,180	142,831	43,081	15,372	14,876	15,372	598,723
2004	15,372	14,380	15,372	14,876	29,574	58,049	170,333	115,378	36,587	15,372	14,876	15,372	515,543
2005	15,372	13,884	15,372	14,876	27,491	29,435	172,341	116,103	36,710	15,372	14,876	14,876	486,709
Average	39,343	34,400	51,768	43,225	51,084	91,079	202,657	153,685	80,492	58,636	51,151	45,284	902,803

Mac/Ogal Rel to NPR (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	-752	-1,551	-1,553	-501	0	0	0	-4,357
1991	0	0	0	0	0	-2,985	-1,561	-1,553	-501	0	0	0	-6,599
1992	0	0	0	0	0	-451	-1,553	-1,394	1,045	44,712	54,321	25,570	122,251
1993	12,297	11,107	12,297	12,703	29,918	53,282	82,356	82,897	41,549	-36,605	-50,753	-38,177	212,872
1994	-53,819	-45,382	-50,335	-20,549	-33,241	-49,896	-49,090	-63,477	-64,749	1	0	0	-430,538
1995	0	0	0	0	0	0	0	0	0	0	10,838	22,597	33,435
1996	44,112	30,236	0	0	0	0	0	0	0	40	0	0	74,389
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	-751	-1,553	-1,553	-500	0	0	0	-4,358
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	-1,537	-1,537	-2,281	0	0	0	-5,355
2004	0	0	0	0	0	0	-1,537	-1,539	-496	0	0	0	-3,572
2005	0	0	0	0	0	0	-1,537	-7,072	-496	0	0	0	-9,105
Average	123	-192	-1,811	-374	-158	-74	1,068	153	-1,282	388	686	476	-997

Gage NPR nr Key (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	33,700	9,759	72,290	1	3,174	21,151	121,347	74,795	14,044	0	0	0	350,260
1986	0	0	4,045	47,386	24,467	159,383	156,189	107,955	64,041	128,600	64,658	32,732	789,456
1987	11,562	7,600	15,144	1	3,174	10,955	111,429	67,830	8,128	0	0	0	235,823
1988	0	0	169	1	3,174	17,561	128,580	76,349	17,490	0	0	0	243,322
1989	0	0	0	1	3,174	20,810	106,877	60,443	13,380	0	0	0	204,684
1990	0	0	0	1	3,174	7,086	147,082	62,325	4,376	0	0	0	224,042
1991	0	0	0	0	2,119	6,251	153,753	73,784	4,711	0	0	0	240,619
1992	0	0	0	0	2,111	3,925	31,703	7,680	1,977	0	0	0	47,396
1993	0	0	0	0	2,111	12,787	72,784	32,656	9,375	0	0	0	129,713
1994	0	0	0	0	2,119	5,070	60,868	13,259	3,019	0	0	0	84,334
1995	0	0	0	0	2,119	6,003	41,280	62,625	17,792	0	4,374	6,852	141,045
1996	2,114	325	0	0	2,111	4,939	78,954	38,357	2,164	15,375	0	0	144,340
1997	0	0	0	0	6,301	59,030	104,869	45,609	29,352	39,961	13,170	6,494	304,786
1998	1,968	4,758	67,522	77,596	2,119	10,698	97,477	48,288	15,213	0	0	0	325,637
1999	0	0	0	0	49,847	180,540	95,545	54,702	87,646	43,933	16,328	4,194	532,734
2000	2,959	3,233	6,675	0	7,068	38,499	165,686	101,590	21,887	0	0	0	347,597
2001	0	0	0	0	1,771	5,650	88,872	25,696	3,640	0	0	0	125,629
2002	0	0	0	0	1,771	24,636	116,935	75,979	16,753	0	0	0	236,073
2003	0	0	0	0	1,711	4,659	107,040	33,690	2,730	0	0	0	149,830
2004	0	0	0	0	1,771	4,177	61,193	9,448	2,307	0	0	0	78,895
2005	0	0	0	0	1,771	4,520	63,201	11,111	2,618	0	0	0	83,220
Average	2,491	1,223	7,897	5,952	6,055	28,968	100,555	51,627	16,316	10,851	4,692	2,394	239,021

Gage NPR nr Key (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	33,700	9,759	72,290	1	3,174	21,151	121,347	74,795	14,044	0	0	0	350,260
1986	0	0	4,045	47,386	24,467	159,383	156,189	107,955	64,041	128,600	64,658	32,732	789,456
1987	11,562	7,600	15,144	1	3,174	10,955	111,429	67,830	8,128	0	0	0	235,823
1988	0	0	169	1	3,174	17,561	128,580	76,349	17,490	0	0	0	243,322
1989	0	0	0	1	3,174	20,810	106,877	60,443	13,380	0	0	0	204,684
1990	0	0	0	1	3,174	7,086	148,633	63,878	4,415	0	0	0	227,185
1991	0	0	0	0	2,119	6,251	155,314	75,337	5,212	0	0	0	244,234
1992	0	0	0	0	2,111	3,925	32,866	7,680	1,977	0	0	0	48,559
1993	0	0	0	0	2,111	3,975	22,515	7,921	2,022	0	0	0	38,544
1994	500	1,888	611	0	2,119	22,241	109,958	64,173	14,804	0	0	0	216,294
1995	0	0	0	0	2,119	6,003	41,280	62,625	17,792	0	0	0	129,818
1996	0	0	0	0	2,111	4,939	78,954	38,357	2,164	15,346	0	0	141,872
1997	0	0	0	0	6,301	59,030	104,869	45,609	29,352	39,961	13,170	6,494	304,786
1998	1,968	4,758	67,522	77,596	2,119	10,698	97,477	48,288	15,213	0	0	0	325,637
1999	0	0	0	0	49,847	180,540	95,545	54,702	87,646	43,933	16,328	4,194	532,734
2000	2,959	3,233	6,675	0	7,068	38,499	165,686	101,590	21,887	0	0	0	347,597
2001	0	0	0	0	1,771	5,650	90,425	27,153	3,640	0	0	0	128,639
2002	0	0	0	0	1,771	24,636	116,935	75,979	16,753	0	0	0	236,073
2003	0	0	0	0	1,711	4,659	108,577	35,227	2,730	0	0	0	152,904
2004	0	0	0	0	1,771	4,177	62,730	9,454	2,307	0	0	0	80,439
2005	0	0	0	0	1,771	4,520	64,738	11,111	2,618	0	0	0	84,757
Average	2,414	1,297	7,926	5,952	6,055	29,366	100,996	53,165	16,553	10,850	4,484	2,068	241,125

Gage NPR nr Key (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	-1,551	-1,553	-39	0	0	0	-3,143
1991	0	0	0	0	0	0	-1,561	-1,553	-501	0	0	0	-3,614
1992	0	0	0	0	0	0	-1,163	0	0	0	0	0	-1,163
1993	0	0	0	0	0	8,812	50,269	24,735	7,353	0	0	0	91,169
1994	-500	-1,888	-611	0	2,119	-17,171	-49,090	-50,914	-11,785	0	0	0	-131,960
1995	0	0	0	0	0	0	0	0	0	4,374	6,852	0	11,226
1996	2,114	325	0	0	0	0	0	0	0	29	0	0	2,469
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	-1,553	-1,457	0	0	0	0	-3,010
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	-1,537	-1,537	0	0	0	0	-3,074
2004	0	0	0	0	0	0	-1,537	-6	0	0	0	0	-1,543
2005	0	0	0	0	0	0	-1,537	0	0	0	0	0	-1,537
Average	77	-74	-29	0	0	-398	-441	-1,537	-237	1	208	326	-2,104

Gage NPR nr Suth (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	32,167	11,700	67,601	8,004	335	11,298	87,782	54,709	15,170	4,611	3,356	3,382	300,116
1986	3,327	3,173	6,522	48,241	21,236	137,054	135,644	89,354	61,108	133,403	65,804	42,464	747,330
1987	17,962	11,743	20,491	4,657	515	3,962	83,035	53,529	10,671	6,352	5,383	5,418	223,718
1988	5,494	5,014	5,461	4,195	1,125	9,479	96,654	59,199	20,874	7,295	5,957	5,861	226,607
1989	5,985	5,417	5,877	4,145	451	13,882	85,706	49,825	17,391	7,028	6,035	6,111	207,854
1990	6,224	5,533	6,360	4,571	624	483	109,311	44,280	7,546	6,794	6,045	6,131	203,901
1991	6,167	5,539	6,194	4,960	1,814	565	117,592	56,842	9,416	7,369	6,256	6,241	228,955
1992	6,444	5,953	7,054	5,373	657	755	19,854	3,243	4,337	6,357	6,279	6,595	72,900
1993	6,771	6,240	6,787	5,563	1,422	8,311	59,357	27,470	13,646	7,750	6,760	6,802	156,880
1994	6,899	6,141	6,657	5,385	811	371	38,702	2,121	5,836	8,417	6,509	6,443	94,290
1995	6,441	5,745	6,581	7,466	4,038	2,166	15,768	43,756	21,202	4,825	13,025	14,168	145,181
1996	9,952	6,589	7,065	6,053	1,884	1,951	63,329	33,617	10,952	24,643	6,887	6,686	179,607
1997	6,622	5,965	6,435	2,897	6,237	48,375	93,988	34,662	31,330	47,354	21,985	15,285	321,136
1998	9,861	11,318	64,856	84,872	8,913	7,661	81,381	37,960	20,647	8,819	7,958	7,594	351,839
1999	7,505	6,733	7,402	7,532	43,317	172,713	89,389	51,568	88,519	53,292	27,644	12,392	568,006
2000	11,263	10,441	14,356	6,667	5,514	29,207	127,964	81,653	27,159	11,322	8,099	7,778	341,424
2001	7,746	6,888	7,484	7,930	2,496	1,124	62,050	13,329	7,100	8,005	7,418	7,556	139,126
2002	7,558	6,745	7,352	5,936	1,044	17,575	97,307	64,840	22,531	8,959	7,464	7,493	254,807
2003	7,520	6,771	7,507	6,214	1,260	649	83,691	24,828	6,437	7,000	6,701	7,115	165,693
2004	7,207	6,748	7,176	6,091	1,043	638	45,292	3,840	4,959	6,912	6,792	7,063	103,759
2005	7,141	6,414	7,212	6,028	1,119	2,861	44,832	3,706	4,723	6,928	6,715	6,885	104,564
Average	8,869	6,991	13,449	11,561	5,041	22,432	78,030	39,730	19,598	18,259	11,384	9,308	244,652

Gage NPR nr Suth (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	32,167	11,700	67,601	8,004	335	11,298	87,782	54,709	15,170	4,611	3,356	3,382	300,116
1986	3,327	3,173	6,522	48,241	21,236	137,054	135,644	89,354	61,108	133,403	65,804	42,464	747,330
1987	17,962	11,743	20,491	4,657	515	3,962	83,035	53,529	10,671	6,352	5,383	5,418	223,718
1988	5,494	5,014	5,461	4,195	1,125	9,479	96,654	59,199	20,874	7,295	5,957	5,861	226,607
1989	5,985	5,417	5,877	4,145	451	13,882	85,706	49,825	17,391	7,028	6,035	6,111	207,854
1990	6,224	5,533	6,360	4,571	624	483	110,812	45,833	7,629	6,794	6,045	6,131	207,838
1991	6,167	5,539	6,194	4,960	1,814	565	119,103	58,395	9,967	7,369	6,256	6,241	232,570
1992	6,444	5,953	7,054	5,373	657	755	20,966	3,293	4,337	6,357	6,279	6,595	74,063
1993	6,771	6,240	6,787	5,563	1,422	682	9,873	1,999	5,462	7,750	6,760	6,802	66,111
1994	7,399	7,755	7,542	5,385	811	15,161	87,312	52,344	19,248	8,417	6,509	6,443	224,324
1995	6,441	5,745	6,581	7,466	4,038	2,166	15,768	43,756	21,202	4,825	8,651	7,798	134,437
1996	7,355	6,263	7,065	6,053	1,884	1,951	63,329	33,617	10,952	24,614	6,887	6,686	176,656
1997	6,622	5,965	6,435	2,897	6,237	48,375	93,988	34,662	31,330	47,354	21,985	15,285	321,136
1998	9,861	11,318	64,856	84,872	8,913	7,661	81,381	37,960	20,647	8,819	7,958	7,594	351,839
1999	7,505	6,733	7,402	7,532	43,317	172,713	89,389	51,568	88,519	53,292	27,644	12,392	568,006
2000	11,263	10,441	14,356	6,667	5,514	29,207	127,964	81,653	27,159	11,322	8,099	7,778	341,424
2001	7,746	6,888	7,484	7,930	2,496	1,124	63,553	14,748	7,150	8,005	7,418	7,556	142,098
2002	7,558	6,745	7,352	5,936	1,044	17,575	97,307	64,840	22,531	8,959	7,464	7,493	254,807
2003	7,520	6,771	7,507	6,214	1,260	649	85,178	26,365	6,487	7,000	6,701	7,115	168,768
2004	7,207	6,748	7,176	6,091	1,043	638	46,779	3,896	4,959	6,912	6,792	7,063	105,303
2005	7,141	6,414	7,212	6,028	1,119	2,861	46,320	3,756	4,723	6,928	6,715	6,885	106,101
Average	8,769	7,052	13,491	11,561	5,041	22,773	78,469	41,205	19,882	18,257	11,176	9,004	246,681

Gage NPR nr Suth (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	-1,501	-1,553	-83	0	0	0	-3,137
1991	0	0	0	0	0	0	-1,510	-1,553	-551	0	0	0	-3,614
1992	0	0	0	0	0	0	-1,113	-50	0	0	0	0	-1,163
1993	0	0	0	0	0	7,629	49,485	25,471	8,183	0	0	0	90,768
1994	-500	-1,615	-885	0	0	-14,790	-48,610	-50,223	-13,412	0	0	0	-130,034
1995	0	0	0	0	0	0	0	0	0	0	4,374	6,370	10,744
1996	2,597	325	0	0	0	0	0	0	29	0	0	0	2,951
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	-1,503	-1,419	-50	0	0	0	-2,972
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	-1,488	-1,537	-50	0	0	0	-3,074
2004	0	0	0	0	0	0	-1,488	-56	0	0	0	0	-1,543
2005	0	0	0	0	0	0	-1,488	-50	0	0	0	0	-1,537
Average	100	-61	-42	0	0	-341	-439	-1,475	-284	1	208	303	-2,029

Gage NPR at NP (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	39,255	18,818	73,135	17,236	8,542	16,860	92,785	61,881	23,908	12,985	10,997	11,182	387,584
1986	11,046	10,172	14,102	55,614	29,410	141,210	143,044	97,445	69,893	139,678	74,517	51,688	837,818
1987	27,414	19,969	29,014	14,001	9,600	12,768	89,032	62,099	20,323	15,498	14,142	14,351	328,212
1988	14,439	13,209	14,114	13,376	13,542	17,549	103,687	69,072	30,924	17,217	15,170	15,170	337,468
1989	15,205	13,666	14,865	12,989	9,245	21,252	89,888	57,015	26,314	16,343	14,864	15,144	306,791
1990	15,203	13,564	15,383	13,757	10,009	9,055	114,961	53,954	17,803	16,175	14,848	15,112	309,825
1991	15,086	13,535	15,007	14,240	14,883	10,283	124,060	66,097	20,665	17,223	15,497	15,643	342,218
1992	15,892	14,777	18,728	15,232	10,209	9,840	26,770	14,088	13,300	15,589	15,385	15,992	185,801
1993	16,144	14,713	16,045	14,940	11,468	19,068	67,027	37,143	23,624	18,467	16,514	16,624	271,777
1994	16,580	14,761	16,030	14,827	10,074	9,752	45,513	12,686	16,205	19,174	15,715	15,769	207,086
1995	15,625	13,931	15,663	17,952	18,062	12,634	25,928	53,460	31,084	13,778	23,745	24,663	266,524
1996	20,095	15,721	16,824	15,845	12,062	11,037	69,832	42,372	21,677	35,328	16,419	16,279	293,490
1997	16,058	14,401	15,667	10,920	16,266	51,983	101,690	44,127	40,085	56,704	32,106	25,412	425,419
1998	19,881	20,044	72,397	93,165	20,726	17,158	87,274	46,599	30,634	19,444	17,922	17,599	462,843
1999	17,290	15,494	16,981	17,941	52,696	177,698	97,393	60,518	96,305	63,258	38,037	22,264	675,874
2000	20,774	19,138	23,505	16,066	14,570	35,706	133,062	89,466	37,001	21,922	18,022	17,475	446,707
2001	17,239	15,422	16,897	19,097	15,090	11,794	69,972	24,462	17,647	18,546	17,537	17,898	261,601
2002	17,816	15,856	17,281	15,885	11,240	24,656	100,669	72,389	31,867	19,095	16,933	17,182	360,869
2003	17,150	15,410	17,081	16,740	11,698	10,290	89,341	32,993	15,848	16,261	15,744	16,520	275,077
2004	16,578	15,469	16,469	15,649	10,923	10,030	53,106	13,885	13,689	15,830	15,714	16,293	213,585
2005	16,359	14,665	17,115	16,054	12,108	17,854	53,889	15,173	14,629	16,683	16,256	16,426	227,211
Average	18,149	15,368	22,491	21,025	15,353	30,880	84,711	48,899	29,211	27,867	20,766	18,795	353,513

Gage NPR at NP (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	39,255	18,818	73,135	17,236	8,542	16,860	92,785	61,881	23,908	12,985	10,997	11,182	387,584
1986	11,046	10,172	14,102	55,614	29,410	141,210	143,044	97,445	69,893	139,678	74,517	51,688	837,818
1987	27,414	19,969	29,014	14,001	9,600	12,768	89,032	62,099	20,323	15,498	14,142	14,351	328,212
1988	14,439	13,209	14,114	13,376	13,542	17,549	103,687	69,072	30,924	17,217	15,170	15,170	337,468
1989	15,205	13,666	14,865	12,989	9,245	21,252	89,888	57,015	26,314	16,343	14,864	15,144	306,791
1990	15,203	13,564	15,383	13,757	10,009	9,055	116,462	55,507	17,861	16,175	14,848	15,112	312,937
1991	15,086	13,535	15,007	14,240	14,883	10,283	125,570	67,649	21,189	17,223	15,497	15,643	345,805
1992	15,892	14,777	18,728	15,232	10,209	9,840	27,883	14,138	13,300	15,589	15,385	15,992	186,963
1993	16,144	14,713	16,045	14,940	11,468	11,487	17,618	12,286	15,639	18,467	16,514	16,624	181,945
1994	17,080	16,376	16,915	14,827	10,074	24,117	94,005	60,819	29,230	19,174	15,715	15,769	334,100
1995	15,625	13,931	15,663	17,952	18,062	12,634	25,928	53,460	31,084	13,778	19,371	18,293	255,781
1996	17,498	15,396	16,824	15,845	12,062	11,037	69,832	42,372	21,677	35,299	16,419	16,279	290,539
1997	16,058	14,401	15,667	10,920	16,266	51,983	101,690	44,127	40,085	56,704	32,106	25,412	425,419
1998	19,881	20,044	72,397	93,165	20,726	17,158	87,274	46,599	30,634	19,444	17,922	17,599	462,843
1999	17,290	15,494	16,981	17,941	52,696	177,698	97,393	60,518	96,305	63,258	38,037	22,264	675,874
2000	20,774	19,138	23,505	16,066	14,570	35,706	133,062	89,466	37,001	21,922	18,022	17,475	446,707
2001	17,239	15,422	16,897	19,097	15,090	11,794	71,475	25,915	17,697	18,546	17,537	17,898	264,607
2002	17,816	15,856	17,281	15,885	11,240	24,656	100,669	72,389	31,867	19,095	16,933	17,182	360,869
2003	17,150	15,410	17,081	16,740	11,698	10,290	90,828	34,531	15,898	16,261	15,744	16,520	278,151
2004	16,578	15,469	16,469	15,649	10,923	10,030	54,593	13,885	13,689	15,830	15,714	16,293	215,122
2005	16,359	14,665	17,115	16,054	12,108	17,854	55,377	15,223	14,629	16,683	16,256	16,426	228,748
Average	18,049	15,430	22,533	21,025	15,353	31,203	85,147	50,305	29,483	27,865	20,557	18,491	355,442

Gage NPR at NP (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	-1,501	-1,553	-58	0	0	0	-3,112
1991	0	0	0	0	0	0	-1,510	-1,553	-524	0	0	0	-3,587
1992	0	0	0	0	0	0	-1,113	-50	0	0	0	0	-1,163
1993	0	0	0	0	0	7,581	49,409	24,857	7,986	0	0	0	89,832
1994	-500	-1,615	-885	0	0	-14,365	-48,492	-48,133	-13,026	0	0	0	-127,015
1995	0	0	0	0	0	0	0	0	0	0	4,374	6,370	10,744
1996	2,597	325	0	0	0	0	0	0	0	29	0	0	2,951
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	-1,503	-1,453	-50	0	0	0	-3,006
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	-1,488	-1,537	-50	0	0	0	-3,074
2004	0	0	0	0	0	0	-1,488	-50	0	0	0	0	-1,537
2005	0	0	0	0	0	0	-1,488	-50	0	0	0	0	-1,537
Average	100	-61	-42	0	0	-323	-437	-1,406	-272	1	208	303	-1,929

Gage SPR at Paxton (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	61,961	63,039	21,571	7,090	61,104	23,232	8,606	2,150	5,996	6,217	5,811	10,820	277,598
1986	26,550	9,912	7,200	72,803	11,735	135,491	7,387	1,559	26,553	16,915	17,425	28,238	361,768
1987	22,129	17,521	64,677	11,842	133,235	93,282	8,919	3,255	9,922	7,218	6,474	6,516	384,990
1988	12,015	41,936	21,480	7,650	22,741	12,050	3,630	1,844	4,702	6,215	6,125	6,595	146,982
1989	7,331	9,181	7,433	6,532	2,496	3,044	2,163	767	4,680	6,678	4,560	4,581	59,446
1990	9,332	7,205	12,265	16,764	6,864	3,608	1,582	971	2,775	6,680	7,046	6,573	81,665
1991	7,579	9,209	6,795	6,584	10,154	16,116	2,029	1,206	5,032	6,480	5,902	6,547	83,633
1992	12,180	10,394	29,064	12,217	4,708	9,902	7,116	14,599	8,413	6,844	6,674	8,164	130,275
1993	12,078	10,889	13,711	7,370	8,308	7,256	2,086	4,073	10,962	7,067	6,764	9,086	99,651
1994	7,597	6,159	6,788	6,983	3,829	2,031	3,178	730	1,019	6,332	4,241	6,537	55,424
1995	6,799	5,962	7,216	7,524	59,751	574,452	239,065	20,174	12,262	10,893	8,896	11,867	964,862
1996	17,415	24,957	20,170	7,113	11,231	16,627	6,549	7,540	50,154	26,099	6,857	6,731	201,443
1997	7,713	5,738	6,905	6,770	6,440	280,454	27,633	77,604	15,155	54,494	41,165	37,174	567,245
1998	56,273	35,593	30,394	47,952	35,380	32,568	17,710	15,603	5,690	9,097	7,127	7,010	300,396
1999	12,815	7,657	12,132	7,298	214,647	242,562	27,687	96,017	65,819	51,309	20,553	38,218	796,714
2000	38,896	35,971	25,648	7,076	6,901	2,202	1,294	2,917	3,200	9,428	5,568	6,108	145,209
2001	6,687	6,068	7,057	8,042	18,198	5,728	5,184	1,828	5,149	6,496	6,891	7,188	84,516
2002	6,945	6,328	6,474	6,319	1,999	1,139	8,596	1,361	1,384	1,828	1,288	1,766	45,426
2003	3,059	3,019	3,748	6,142	4,140	1,756	811	527	2,056	1,577	1,293	2,348	30,476
2004	3,609	3,040	2,784	2,735	1,312	997	2,549	738	1,809	3,416	1,934	4,506	29,430
2005	6,321	3,246	2,657	6,505	5,046	33,395	4,286	1,388	3,391	6,410	4,119	6,529	83,292
Average	16,442	15,382	15,056	12,824	30,010	71,328	18,479	12,231	11,720	12,271	8,415	10,624	234,783

Gage SPR at Paxton (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	61,961	63,039	21,571	7,090	61,104	23,232	8,606	2,150	5,996	6,217	5,811	10,820	277,598
1986	26,550	9,912	7,200	72,803	11,735	135,491	7,387	1,559	26,553	16,915	17,425	28,238	361,768
1987	22,129	17,521	64,677	11,842	133,235	93,282	8,919	3,255	9,922	7,218	6,474	6,516	384,990
1988	12,015	41,936	21,480	7,650	22,741	12,050	3,630	1,844	4,702	6,215	6,125	6,595	146,982
1989	7,331	9,181	7,433	6,532	2,496	3,044	2,163	767	4,680	6,678	4,560	4,581	59,446
1990	9,332	7,205	12,265	16,764	6,864	3,608	1,582	971	2,775	6,680	7,046	6,573	81,665
1991	7,579	9,209	6,795	6,584	10,154	16,116	2,029	1,206	5,032	6,480	5,902	6,547	83,633
1992	12,180	10,394	29,064	12,217	4,708	9,902	7,116	14,599	8,413	6,844	6,674	8,164	130,275
1993	12,078	10,889	13,711	7,370	8,308	6,880	2,086	4,073	10,962	7,067	6,764	9,086	99,274
1994	19,595	15,622	14,008	6,983	3,829	2,031	3,178	730	1,019	6,332	4,241	6,537	84,104
1995	6,799	5,962	7,216	7,524	59,751	574,452	239,065	20,174	12,262	10,893	7,375	7,238	958,712
1996	7,252	13,101	20,170	7,113	11,231	16,627	6,549	7,540	50,154	26,067	6,857	6,731	179,392
1997	7,713	5,738	6,905	6,770	6,440	280,454	27,633	77,604	15,155	54,494	41,165	37,174	567,245
1998	56,273	35,593	30,394	47,952	35,380	32,568	17,710	15,603	5,690	9,097	7,127	7,010	300,396
1999	12,815	7,657	12,132	7,298	214,647	242,562	27,687	96,017	65,819	51,309	20,553	38,218	796,714
2000	38,896	35,971	25,648	7,076	6,901	2,202	1,294	2,917	3,200	9,428	5,568	6,108	145,209
2001	6,687	6,068	7,057	8,042	18,198	5,728	5,184	1,828	5,149	6,496	6,891	7,188	84,516
2002	6,945	6,328	6,474	6,319	1,999	1,139	8,596	1,361	1,384	1,828	1,288	1,766	45,426
2003	3,059	3,019	3,748	6,142	4,140	1,756	811	527	2,056	1,577	1,293	2,348	30,476
2004	3,609	3,040	2,784	2,735	1,312	997	2,549	738	1,809	3,416	1,934	4,506	29,430
2005	6,321	3,246	2,657	6,505	5,046	33,395	4,286	1,388	3,391	6,410	4,119	6,529	83,292
Average	16,529	15,268	15,399	12,824	30,010	71,310	18,496	12,231	11,720	12,270	8,343	10,404	234,804

Gage SPR at Paxton (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	-351	0	0	0	0	0	-351
1993	0	0	0	0	0	377	0	0	0	0	0	0	377
1994	-11,998	-9,463	-7,219	0	0	0	0	0	0	0	0	0	-28,680
1995	0	0	0	0	0	0	0	0	0	0	1,521	4,629	6,150
1996	10,163	11,856	0	0	0	0	0	0	0	32	0	0	22,051
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	-87	114	-344	0	0	18	-17	0	0	2	72	220	-22

Gage SPR at NP (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	59,174	64,104	28,233	12,645	64,850	33,525	16,601	8,800	10,164	9,585	9,034	14,292	331,004
1986	27,595	14,151	10,816	73,916	22,940	138,711	18,344	9,848	28,322	21,625	20,911	32,277	419,455
1987	26,242	20,613	66,430	18,707	126,858	112,335	20,541	11,110	15,380	11,156	11,559	11,765	452,698
1988	15,284	42,669	26,617	15,130	34,972	23,122	12,846	11,376	9,954	10,515	10,838	12,158	225,480
1989	11,609	12,644	12,466	11,592	11,159	13,957	10,308	7,879	8,683	10,337	9,483	10,167	130,283
1990	13,271	10,806	16,660	21,380	17,018	14,891	10,185	7,823	7,048	10,639	11,624	11,974	153,318
1991	11,359	12,928	12,178	11,936	25,087	25,678	11,005	8,671	10,971	11,033	11,201	12,320	164,368
1992	15,675	15,281	35,313	18,140	14,008	20,252	16,171	23,217	16,111	11,836	11,990	14,101	212,094
1993	16,397	14,522	19,866	13,249	18,099	20,435	12,326	13,108	15,457	12,581	12,036	15,055	183,132
1994	12,592	10,458	12,190	12,266	12,487	12,432	14,936	8,410	6,743	11,106	9,045	11,788	134,452
1995	11,187	9,728	12,885	15,429	59,436	562,976	258,508	37,390	19,785	15,993	16,262	18,381	1,037,961
1996	23,759	27,479	26,947	13,360	23,037	28,614	16,833	15,228	57,996	34,369	12,968	12,597	293,188
1997	11,961	8,596	11,776	12,756	15,895	274,114	44,803	88,079	20,574	59,484	47,046	43,971	639,055
1998	59,402	41,541	34,438	51,133	50,607	46,273	26,333	26,123	13,518	14,539	13,828	13,641	391,376
1999	17,373	11,149	18,430	14,642	206,300	251,087	47,308	110,529	69,173	58,097	29,110	40,423	873,622
2000	45,263	39,561	31,488	13,405	15,385	12,066	10,975	10,416	9,239	19,667	11,663	11,959	231,086
2001	11,374	10,106	12,430	17,305	27,520	16,724	16,065	11,186	12,076	11,898	12,374	13,533	172,590
2002	12,305	10,871	12,212	11,896	10,837	10,268	19,759	9,963	7,205	6,779	6,800	7,991	126,885
2003	7,975	7,344	9,534	12,150	12,976	12,276	8,905	7,336	6,634	5,884	6,455	8,220	105,688
2004	8,335	7,272	8,565	8,375	9,852	11,057	12,666	8,154	6,938	7,707	7,240	9,945	106,104
2005	10,887	7,700	9,204	11,586	14,504	47,673	14,373	9,929	9,412	11,287	9,575	12,128	168,259
Average	20,429	19,025	20,413	18,619	37,801	80,403	29,514	21,170	17,209	17,434	13,859	16,128	312,005

Gage SPR at NP (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	59,174	64,104	28,233	12,645	64,850	33,525	16,601	8,800	10,164	9,585	9,034	14,292	331,004
1986	27,595	14,151	10,816	73,916	22,940	138,711	18,344	9,848	28,322	21,625	20,911	32,277	419,455
1987	26,242	20,613	66,430	18,707	126,858	112,335	20,541	11,110	15,380	11,156	11,559	11,765	452,698
1988	15,284	42,669	26,617	15,130	34,972	23,122	12,846	11,376	9,954	10,515	10,838	12,158	225,480
1989	11,609	12,644	12,466	11,592	11,159	13,957	10,308	7,879	8,683	10,337	9,483	10,167	130,283
1990	13,271	10,806	16,660	21,380	17,018	14,891	10,185	7,823	7,048	10,639	11,624	11,974	153,318
1991	11,359	12,928	12,178	11,936	25,087	25,678	11,005	8,671	10,971	11,033	11,201	12,320	164,368
1992	15,675	15,281	35,313	18,140	14,008	20,252	16,522	23,217	16,111	11,836	11,990	14,101	212,444
1993	16,397	14,522	19,866	13,249	18,099	20,058	12,326	13,108	15,457	12,581	12,036	15,055	182,755
1994	24,288	19,978	19,654	12,266	12,487	12,432	14,936	8,410	6,743	11,106	9,045	11,788	163,132
1995	11,187	9,728	12,885	15,429	59,436	562,976	258,508	37,390	19,785	15,993	14,742	14,485	1,032,544
1996	12,863	15,623	26,947	13,360	23,037	28,614	16,833	15,228	57,996	34,337	12,968	12,597	270,404
1997	11,961	8,596	11,776	12,756	15,895	274,114	44,803	88,079	20,574	59,484	47,046	43,971	639,055
1998	59,402	41,541	34,438	51,133	50,607	46,273	26,333	26,123	13,518	14,539	13,828	13,641	391,376
1999	17,373	11,149	18,430	14,642	206,300	251,087	47,308	110,529	69,173	58,097	29,110	40,423	873,622
2000	45,263	39,561	31,488	13,405	15,385	12,066	10,975	10,416	9,239	19,667	11,663	11,959	231,086
2001	11,374	10,106	12,430	17,305	27,520	16,724	16,065	11,186	12,076	11,898	12,374	13,533	172,590
2002	12,305	10,871	12,212	11,896	10,837	10,268	19,759	9,963	7,205	6,779	6,800	7,991	126,885
2003	7,975	7,344	9,534	12,150	12,976	12,276	8,905	7,336	6,634	5,884	6,455	8,220	105,688
2004	8,335	7,272	8,565	8,375	9,852	11,057	12,666	8,154	6,938	7,707	7,240	9,945	106,104
2005	10,887	7,700	9,204	11,586	14,504	47,673	14,373	9,929	9,412	11,287	9,575	12,128	168,259
Average	20,468	18,914	20,769	18,619	37,801	80,385	29,531	21,170	17,209	17,433	13,787	15,942	312,026

Gage SPR at NP (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	-351	0	0	0	0	0	-351
1993	0	0	0	0	0	377	0	0	0	0	0	0	377
1994	-11,696	-9,520	-7,464	0	0	0	0	0	0	0	0	0	-28,680
1995	0	0	0	0	0	0	0	0	0	0	1,521	3,896	5,417
1996	10,896	11,856	0	0	0	0	0	0	0	32	0	0	22,784
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	-38	111	-355	0	0	18	-17	0	0	2	72	186	-22

Gage PR blw TriCo Div (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	
1985	51,761	51,305	73,686	3,409	19,522	11,088	76,766	39,376	4,898	0	0	0	331,811	
1986	0	0	1,482	84,537	21,507	240,610	128,964	71,039	55,593	132,150	66,586	52,223	854,692	
1987	23,926	12,531	45,948	5,470	80,877	76,214	75,048	33,742	4,579	0	0	0	358,336	
1988	0	6,592	2,536	304	5,266	9,717	72,243	42,571	8,249	0	0	0	147,477	
1989	0	0	0	0	0	6,817	67,749	32,005	4,885	0	0	0	111,456	
1990	0	0	0	0	0	0	86,337	21,539	863	0	0	0	108,739	
1991	0	0	0	0	0	0	97,203	43,613	595	0	0	0	141,410	
1992	0	0	2,323	0	0	0	1,590	3,924	220	0	0	0	8,057	
1993	0	0	0	0	0	9,208	48,233	19,475	1,683	0	0	0	78,599	
1994	0	0	0	0	0	0	11,774	986	0	0	0	0	12,760	
1995	0	0	0	0	37,241	522,422	210,232	61,502	13,655	274	3,754	1,026	850,105	
1996	9,108	14,055	8,113	0	0	5,290	50,114	18,878	49,775	27,797	0	0	183,131	
1997	0	0	519	0	0	282,104	111,659	97,091	26,053	66,371	45,349	33,958	663,102	
1998	38,290	31,930	76,224	104,473	23,464	29,207	78,483	37,942	7,587	0	0	0	427,600	
1999	0	0	4	0	0	199,700	399,274	113,520	141,326	138,966	93,041	41,605	22,942	1,150,377
2000	30,420	17,634	20,938	795	282	9,921	110,698	67,695	13,537	0	0	0	271,921	
2001	0	0	0	0	3,541	0	52,461	2,366	0	0	0	0	58,368	
2002	0	0	0	0	0	5,803	92,021	49,315	8,904	0	0	0	156,043	
2003	0	0	0	0	0	0	64,914	7,476	128	0	0	0	72,518	
2004	0	0	0	0	0	0	20,528	1,168	0	0	0	0	21,696	
2005	0	0	0	0	0	0	9,808	34,280	1,128	0	0	0	45,216	
Average	7,310	6,383	11,037	9,476	18,638	77,023	76,420	37,817	16,198	15,221	7,490	5,245	288,258	

Gage PR blw TriCo Div (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	
1985	51,761	51,305	73,686	3,409	19,522	11,088	76,766	39,376	4,898	0	0	0	331,811	
1986	0	0	1,482	84,537	21,507	240,610	128,964	71,039	55,593	132,150	66,586	52,223	854,692	
1987	23,926	12,531	45,948	5,470	80,877	76,214	75,048	33,742	4,579	0	0	0	358,336	
1988	0	6,592	2,536	304	5,266	9,717	72,243	42,571	8,249	0	0	0	147,477	
1989	0	0	0	0	0	6,817	67,749	32,005	4,885	0	0	0	111,456	
1990	0	0	0	0	0	0	87,838	23,025	913	0	0	0	111,776	
1991	0	0	0	0	0	0	101,650	45,165	645	0	0	0	147,461	
1992	0	0	2,323	0	0	0	2,091	3,974	220	0	0	0	8,608	
1993	0	0	0	0	0	0	0	0	0	0	0	119	119	
1994	9,078	9,567	5,676	0	0	1,858	74,500	36,564	6,475	0	0	0	143,719	
1995	0	0	0	0	37,241	522,422	210,232	61,502	13,655	274	0	0	845,326	
1996	0	0	3,068	0	0	5,290	50,114	18,878	49,775	27,797	0	0	154,923	
1997	0	0	519	0	0	282,104	111,659	97,091	26,053	66,371	45,349	33,958	663,102	
1998	38,290	31,930	76,224	104,473	23,464	29,207	78,483	37,942	7,587	0	0	0	427,600	
1999	0	0	4	0	0	199,700	399,274	113,520	141,326	138,966	93,041	41,605	22,942	1,150,377
2000	30,420	17,634	20,938	795	282	9,921	110,698	67,695	13,537	0	0	0	271,921	
2001	0	0	0	0	3,541	0	53,963	2,650	0	0	0	0	60,155	
2002	0	0	0	0	0	5,803	92,021	49,315	8,904	0	0	0	156,043	
2003	0	0	0	0	0	0	66,401	8,935	178	0	0	0	75,514	
2004	0	0	0	0	0	0	21,570	1,217	0	0	0	0	22,787	
2005	0	0	0	0	0	0	9,808	35,768	1,178	0	0	0	46,754	
Average	7,308	6,169	11,067	9,476	18,638	76,673	77,680	38,819	16,434	15,221	7,311	5,202	289,998	

Gage PR blw TriCo Div (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	-1,501	-1,486	-50	0	0	0	-3,037
1991	0	0	0	0	0	0	-4,448	-1,553	-50	0	0	0	-6,051
1992	0	0	0	0	0	0	-501	-50	0	0	0	0	-551
1993	0	0	0	0	0	9,208	48,233	19,475	1,683	0	0	-119	78,481
1994	-9,078	-9,567	-5,676	0	0	-1,858	-62,727	-35,578	-6,475	0	0	0	-130,959
1995	0	0	0	0	0	0	0	0	0	0	3,754	1,026	4,779
1996	9,108	14,055	5,045	0	0	0	0	0	0	0	0	0	28,208
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	-1,503	-284	0	0	0	0	-1,787
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	-1,488	-1,459	-50	0	0	0	-2,997
2004	0	0	0	0	0	0	-1,041	-50	0	0	0	0	-1,091
2005	0	0	0	0	0	0	-1,488	-50	0	0	0	0	-1,537
Average	1	214	-30	0	0	350	-1,260	-1,002	-235	0	179	43	-1,740

Gage PR at Brady (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	50,035	50,699	78,425	6,424	22,172	13,481	74,413	42,524	8,464	2,495	2,434	2,791	354,358
1986	2,803	2,763	4,417	79,018	33,019	240,597	128,149	75,706	54,937	133,418	74,343	53,500	882,670
1987	28,755	17,893	47,574	11,100	75,730	88,233	75,664	39,113	8,813	3,352	3,663	3,865	403,754
1988	3,896	10,105	6,078	4,605	10,153	14,017	71,872	48,170	13,475	3,620	3,619	3,870	193,480
1989	3,984	3,450	4,079	3,431	3,539	9,731	66,818	36,491	9,134	3,252	3,515	3,798	151,224
1990	3,666	3,255	4,086	3,543	4,260	3,348	83,505	26,670	4,954	3,100	3,283	3,453	147,123
1991	3,553	3,104	3,880	3,873	6,252	4,145	94,589	48,685	5,155	3,514	3,466	3,691	183,909
1992	3,856	3,718	7,082	3,978	4,300	4,011	4,765	8,317	5,356	3,329	3,524	3,913	56,148
1993	4,082	3,771	4,084	3,942	4,070	15,187	52,594	24,396	6,314	3,991	3,892	4,095	130,417
1994	4,178	3,775	4,092	3,925	3,483	4,520	13,265	4,810	3,360	3,754	3,564	3,747	56,472
1995	3,739	3,361	3,831	4,194	37,761	517,005	222,689	66,903	19,160	2,632	8,274	5,295	894,844
1996	13,022	16,980	12,970	3,667	6,792	11,378	52,363	24,195	54,613	34,999	4,073	3,884	238,936
1997	3,811	3,368	4,196	2,807	4,349	274,982	118,639	102,359	31,180	66,702	52,344	37,569	702,306
1998	41,374	37,221	71,346	115,364	29,124	33,699	80,877	43,031	13,257	4,077	4,221	4,022	477,612
1999	4,013	3,590	4,050	4,372	196,491	392,877	128,284	147,136	138,741	98,493	47,006	27,514	1,192,566
2000	33,421	21,308	25,299	5,523	3,782	11,874	108,803	71,688	18,925	4,358	4,065	3,590	312,636
2001	3,459	3,213	3,792	7,308	9,121	4,406	52,882	8,890	4,270	3,757	3,660	3,959	108,717
2002	4,150	3,638	3,954	3,535	3,374	7,791	88,977	52,578	13,322	3,369	3,268	3,470	191,426
2003	3,630	3,415	3,808	4,232	3,877	4,187	64,089	12,266	2,822	2,925	3,121	3,447	111,819
2004	3,511	3,393	3,644	3,300	3,143	3,899	21,937	5,415	2,771	2,899	3,182	3,471	60,565
2005	3,568	3,291	4,160	4,160	4,067	16,408	35,565	5,719	2,941	3,077	3,306	3,489	89,750
Average	10,786	9,777	14,516	13,443	22,326	79,799	78,130	42,622	20,094	18,624	11,515	8,878	330,511

Gage PR at Brady (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	50,035	50,699	78,425	6,424	22,172	13,481	74,413	42,524	8,464	2,495	2,434	2,791	354,358
1986	2,803	2,763	4,417	79,018	33,019	240,597	128,149	75,706	54,937	133,418	74,343	53,500	882,670
1987	28,755	17,893	47,574	11,100	75,730	88,233	75,664	39,113	8,813	3,352	3,663	3,865	403,754
1988	3,896	10,105	6,078	4,605	10,153	14,017	71,872	48,170	13,475	3,620	3,619	3,870	193,480
1989	3,984	3,450	4,079	3,431	3,539	9,731	66,818	36,491	9,134	3,252	3,515	3,798	151,224
1990	3,666	3,255	4,086	3,543	4,260	3,348	84,956	28,155	5,055	3,100	3,283	3,453	150,160
1991	3,553	3,104	3,880	3,873	6,252	4,145	98,987	50,238	5,256	3,514	3,466	3,691	189,960
1992	3,856	3,718	7,082	3,978	4,300	4,011	5,216	8,417	5,356	3,329	3,524	3,913	56,699
1993	4,082	3,771	4,084	3,942	4,070	6,634	5,334	3,930	3,993	3,991	3,892	4,214	51,936
1994	12,543	14,055	9,768	3,925	3,483	5,211	75,574	40,861	10,947	3,754	3,564	3,747	187,430
1995	3,739	3,361	3,831	4,194	37,761	517,005	222,689	66,903	19,160	2,632	4,520	4,270	890,064
1996	4,068	3,512	7,184	3,667	6,792	11,378	52,363	24,195	54,613	34,999	4,073	3,884	210,728
1997	3,811	3,368	4,196	2,807	4,349	274,982	118,639	102,359	31,180	66,702	52,344	37,569	702,306
1998	41,374	37,221	71,346	115,364	29,124	33,699	80,877	43,031	13,257	4,077	4,221	4,022	477,612
1999	4,013	3,590	4,050	4,372	196,491	392,877	128,284	147,136	138,741	98,493	47,006	27,514	1,192,566
2000	33,421	21,308	25,299	5,523	3,782	11,874	108,803	71,688	18,925	4,358	4,065	3,590	312,636
2001	3,459	3,213	3,792	7,308	9,121	4,406	54,335	9,224	4,270	3,757	3,660	3,959	110,504
2002	4,150	3,638	3,954	3,535	3,374	7,791	88,977	52,578	13,322	3,369	3,268	3,470	191,426
2003	3,630	3,415	3,808	4,232	3,877	4,187	65,527	13,725	2,921	2,925	3,121	3,447	114,816
2004	3,511	3,393	3,644	3,300	3,143	3,899	22,929	5,514	2,771	2,899	3,182	3,471	61,656
2005	3,568	3,291	4,160	4,160	4,067	16,408	37,003	5,818	2,941	3,077	3,306	3,489	91,287
Average	10,758	9,625	14,511	13,443	22,326	79,424	79,400	43,608	20,359	18,624	11,337	8,835	332,251

Gage PR at Brady (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	-1,451	-1,486	-100	0	0	0	-3,037
1991	0	0	0	0	0	0	-4,398	-1,553	-100	0	0	0	-6,051
1992	0	0	0	0	0	0	-451	-100	0	0	0	0	-551
1993	0	0	0	0	0	8,553	47,260	20,466	2,321	0	0	-119	78,481
1994	-8,365	-10,280	-5,676	0	0	-691	-62,309	-36,051	-7,586	0	0	0	-130,959
1995	0	0	0	0	0	0	0	0	0	0	3,754	1,026	4,779
1996	8,954	13,468	5,786	0	0	0	0	0	0	6,320	0	0	28,208
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	-1,453	-334	0	0	0	0	-1,787
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	-1,438	-1,459	-99	0	0	0	-2,997
2004	0	0	0	0	0	0	-992	-499	0	0	0	0	-1,091
2005	0	0	0	0	0	0	-1,438	-99	0	0	0	0	-1,537
Average	28	152	5	0	0	374	-1,270	-986	-265	0	179	43	-1,740

Gage PR nr Cozad (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	51,032	56,235	84,017	13,286	18,318	7,422	10,625	8,496	11,204	12,026	11,435	12,468	296,566
1986	12,738	12,250	14,216	77,561	48,236	211,176	63,443	31,001	55,693	146,682	81,160	69,809	823,964
1987	41,887	30,128	61,452	21,754	67,382	95,512	24,221	14,481	16,108	16,818	17,068	17,827	424,638
1988	18,221	23,169	19,516	16,800	17,944	23,785	17,923	15,320	18,308	17,987	17,531	18,402	224,906
1989	18,595	16,414	18,506	14,511	10,845	13,517	21,114	14,658	16,635	17,059	17,024	17,968	196,848
1990	17,933	15,886	18,846	14,684	7,873	6,690	12,705	8,981	11,762	16,121	16,198	17,002	164,681
1991	17,195	15,248	17,541	15,300	23,647	7,272	19,052	12,034	12,465	16,952	16,569	17,411	190,685
1992	17,865	16,676	22,344	15,131	7,957	9,334	11,593	13,948	14,426	17,432	16,727	17,853	181,286
1993	18,229	16,765	18,324	15,761	12,907	17,463	48,699	17,148	16,734	19,077	18,553	19,372	239,031
1994	19,496	17,574	19,146	16,690	7,222	11,151	12,177	11,040	12,685	18,668	17,843	18,595	182,288
1995	18,586	16,632	18,502	18,130	46,055	488,147	166,028	23,469	20,765	16,480	23,214	21,987	877,996
1996	28,787	31,407	28,593	16,316	19,982	17,222	25,283	18,743	65,083	54,990	20,619	20,422	347,445
1997	20,135	18,065	20,228	14,945	14,156	244,001	75,298	65,017	31,240	84,079	69,160	56,181	712,507
1998	55,533	55,373	79,127	130,100	42,180	25,759	27,242	16,280	19,378	21,201	21,712	21,263	515,149
1999	21,203	19,087	21,463	20,369	191,706	376,357	106,497	123,390	138,094	118,235	68,641	43,280	1,248,322
2000	54,385	38,402	43,532	20,791	15,705	13,776	24,857	15,822	20,739	22,645	22,943	21,160	314,755
2001	20,687	18,640	20,733	28,481	18,903	13,804	15,871	10,489	14,022	20,547	20,095	21,059	223,332
2002	21,198	18,919	20,642	17,287	12,792	14,132	24,829	16,485	17,965	18,745	18,238	19,192	220,424
2003	19,453	17,694	19,462	21,574	8,402	4,715	13,949	9,620	11,569	17,334	17,328	18,401	179,500
2004	18,568	17,498	18,764	15,433	4,354	7,182	10,457	10,491	11,989	16,444	16,719	17,610	165,510
2005	17,799	16,123	21,638	16,410	9,219	22,042	13,805	11,989	12,465	16,832	16,827	17,221	192,368
Average	25,215	23,247	28,885	25,777	28,847	77,641	35,508	22,329	26,159	33,636	25,981	24,023	377,248

Gage PR nr Cozad (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	51,032	56,235	84,017	13,286	18,318	7,422	10,547	8,496	11,204	12,026	11,435	12,468	296,488
1986	12,738	12,250	14,216	77,561	48,236	211,176	63,443	31,001	55,693	146,682	81,160	69,809	823,964
1987	41,887	30,128	61,452	21,754	67,382	95,512	24,221	14,481	16,108	16,818	17,068	17,827	424,638
1988	18,221	23,169	19,516	16,800	17,944	23,785	17,923	15,320	18,308	17,987	17,531	18,402	224,906
1989	18,595	16,414	18,506	14,511	10,845	13,464	21,114	14,658	16,635	17,059	17,024	17,968	196,794
1990	17,933	15,886	18,846	14,684	7,873	6,508	13,266	9,132	11,662	16,121	16,198	17,002	165,110
1991	17,195	15,248	17,541	15,300	23,647	6,947	22,800	12,185	12,465	16,952	16,569	17,411	194,258
1992	17,865	16,676	22,344	15,131	7,957	9,303	11,593	13,897	14,123	17,432	16,727	17,853	180,901
1993	18,229	16,765	18,324	15,761	12,481	14,591	30,386	13,552	15,351	19,077	18,553	19,491	212,560
1994	27,860	27,854	24,822	16,690	11,879	12,158	32,027	14,674	16,690	18,668	17,843	18,595	239,761
1995	18,586	16,632	18,502	18,130	46,055	488,147	166,028	23,369	20,765	16,480	20,169	20,253	873,117
1996	19,833	17,938	22,807	16,316	19,982	17,222	25,283	18,743	65,083	54,990	20,619	20,422	319,237
1997	20,135	18,065	20,228	14,945	14,156	244,001	75,248	65,017	31,240	84,079	69,160	56,181	712,456
1998	55,533	55,373	79,127	130,100	42,180	25,759	27,242	16,280	19,378	21,201	21,712	21,263	515,149
1999	21,203	19,087	21,463	20,369	191,706	376,357	106,497	123,390	138,094	118,235	68,641	43,280	1,248,322
2000	54,385	38,402	43,532	20,791	15,705	13,776	24,857	15,822	20,739	22,645	22,943	21,160	314,755
2001	20,687	18,640	20,733	28,481	18,903	13,595	15,871	10,449	14,022	20,547	20,095	21,059	223,083
2002	21,198	18,919	20,642	17,287	12,792	14,132	24,829	16,485	17,965	18,745	18,238	19,192	220,424
2003	19,453	17,694	19,462	21,574	8,402	4,715	14,249	9,688	11,609	17,334	17,328	18,401	179,900
2004	18,568	17,498	18,764	15,433	4,354	7,182	10,407	10,255	11,988	16,444	16,719	17,610	165,223
2005	17,799	16,123	21,638	16,410	9,219	22,042	13,755	12,126	12,460	16,832	16,827	17,221	192,451
Average	25,187	23,095	28,880	25,777	29,048	77,514	35,790	22,334	26,266	33,636	25,836	23,946	377,310

Gage PR nr Cozad (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	78	0	0	0	0	0	78
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	54	0	0	0	0	0	0	54
1990	0	0	0	0	0	182	-561	-150	100	0	0	0	-429
1991	0	0	0	0	0	326	-3,748	-150	0	0	0	0	-3,573
1992	0	0	0	0	0	31	0	51	303	0	0	0	386
1993	0	0	0	0	426	2,872	18,313	3,597	1,382	0	0	-119	26,471
1994	-8,365	-10,280	-5,676	0	-4,657	-1,007	-19,850	-3,634	-4,005	0	0	0	-57,473
1995	0	0	0	0	0	0	0	100	0	0	3,045	1,734	4,879
1996	8,954	13,468	5,786	0	0	0	0	0	0	0	0	0	28,208
1997	0	0	0	0	0	0	50	0	0	0	0	0	50
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	210	0	39	0	0	0	0	249
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	-300	-68	-40	0	0	0	-408
2004	0	0	0	0	0	0	50	236	1	0	0	0	287
2005	0	0	0	0	0	0	50	-137	5	0	0	0	-82
Average	28	152	5	0	-201	127	-282	-6	-1,079	0	145	77	-62

Gage PR nr Overton (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	143,310	143,128	173,899	89,906	98,802	62,645	56,319	50,627	82,695	91,002	81,901	78,845	1,153,077
1986	94,465	88,399	60,062	149,744	94,672	246,866	118,802	74,615	127,276	246,787	182,829	171,132	1,655,650
1987	145,610	119,831	161,670	116,152	140,435	182,061	80,065	64,693	93,448	108,193	93,035	95,774	1,400,965
1988	83,391	105,014	105,300	82,377	64,116	74,209	58,269	52,858	83,766	91,280	91,618	93,400	985,597
1989	89,160	80,489	72,126	44,287	36,191	47,497	70,173	64,381	83,466	63,091	40,541	39,595	730,995
1990	72,855	67,370	83,723	71,358	18,883	17,458	37,685	25,040	42,904	48,431	35,392	50,084	571,183
1991	59,639	66,084	57,065	44,858	44,493	20,750	42,482	29,485	42,901	37,737	41,626	49,149	536,267
1992	63,043	80,119	107,595	65,059	19,303	21,218	27,085	38,560	47,782	80,906	88,894	95,146	734,711
1993	91,778	86,910	100,900	64,055	43,618	75,727	157,772	108,673	100,674	96,106	50,472	70,606	1,047,292
1994	82,479	73,763	61,441	38,950	16,531	23,140	32,211	26,409	42,166	88,529	92,525	94,741	672,885
1995	70,511	61,168	63,734	64,176	99,679	544,519	222,359	74,369	98,985	95,845	107,852	104,090	1,607,288
1996	122,970	119,763	123,559	72,979	60,836	76,990	106,862	93,038	163,173	154,765	119,315	119,954	1,334,202
1997	116,704	103,504	120,517	92,787	86,378	284,622	133,895	118,270	112,618	193,303	177,024	163,819	1,703,441
1998	165,032	150,534	174,906	221,842	126,252	99,838	85,165	70,626	103,362	123,642	98,974	99,922	1,520,095
1999	98,461	82,636	108,544	68,337	255,128	443,836	181,738	197,178	226,079	230,230	178,838	144,226	2,215,230
2000	162,947	135,842	140,360	108,699	76,285	63,741	65,872	54,711	97,810	85,129	50,405	48,630	1,090,431
2001	61,564	62,091	45,770	73,473	51,202	28,633	44,040	27,563	53,152	89,627	96,821	101,149	735,085
2002	76,596	69,562	67,820	57,752	33,975	43,215	60,531	58,106	82,007	47,240	39,339	46,810	682,953
2003	48,721	45,106	36,766	39,592	20,128	17,166	41,776	23,467	27,820	33,004	35,115	39,611	408,271
2004	44,660	40,998	40,116	32,452	13,251	16,249	30,499	23,534	30,308	36,470	35,810	40,240	384,587
2005	43,315	35,719	41,525	30,551	20,353	66,555	39,148	25,835	32,762	42,312	38,853	43,752	460,679
Average	92,248	86,573	92,733	77,590	67,643	116,997	80,607	62,002	84,531	99,220	84,628	85,270	1,030,042

Gage PR nr Overton (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	143,310	143,128	173,899	89,906	98,802	61,943	54,788	49,075	82,144	91,002	81,901	78,845	1,148,742
1986	94,465	88,399	60,062	149,744	94,672	246,165	117,299	73,062	126,725	246,787	182,829	171,132	1,651,342
1987	145,610	119,831	161,670	116,152	140,435	181,359	78,613	63,140	92,897	108,193	93,035	95,774	1,396,708
1988	83,391	105,014	105,300	82,377	64,116	73,558	56,817	51,331	83,215	91,280	91,618	93,400	981,415
1989	89,160	80,489	72,126	44,287	36,191	46,842	68,669	62,828	82,915	63,091	40,541	39,595	726,733
1990	72,855	67,370	83,723	71,358	18,883	17,126	37,585	25,090	42,774	49,623	35,441	50,086	571,914
1991	59,639	66,084	57,065	44,858	44,493	20,294	45,233	29,535	42,693	37,737	41,626	49,149	538,044
1992	63,043	80,119	107,595	65,059	19,303	21,039	27,085	37,288	47,279	50,770	59,764	71,404	649,748
1993	81,221	75,508	93,866	45,731	30,248	33,395	77,685	40,307	61,939	102,099	94,550	101,027	837,576
1994	122,184	113,084	104,653	59,547	48,073	43,529	90,654	70,333	86,536	97,442	92,525	94,741	1,023,302
1995	70,511	61,168	63,734	64,176	99,679	543,818	220,806	72,866	98,435	95,845	99,583	94,879	1,585,499
1996	94,256	87,977	116,471	66,960	60,836	76,289	105,309	91,485	162,622	154,725	119,315	119,954	1,256,198
1997	116,704	103,504	120,517	92,787	86,378	283,921	132,342	116,718	112,067	193,303	177,024	163,819	1,699,084
1998	165,032	150,534	174,906	221,842	126,252	99,137	83,612	69,074	102,811	123,642	98,974	99,922	1,515,738
1999	98,461	82,636	108,544	68,337	255,128	443,134	180,185	195,625	225,528	230,230	178,838	144,226	2,210,873
2000	162,947	135,842	140,360	108,699	76,285	63,040	64,419	53,158	97,259	85,129	50,405	48,630	1,086,174
2001	61,564	62,091	45,770	73,473	51,202	28,458	44,040	27,557	53,250	89,859	96,821	101,149	735,235
2002	76,596	69,562	67,820	57,752	33,975	43,215	59,142	56,569	81,462	47,240	39,339	46,810	679,482
2003	48,721	45,106	36,766	39,592	20,128	17,166	41,776	23,485	28,085	33,004	35,115	39,611	408,554
2004	44,660	40,998	40,116	32,452	13,251	16,249	30,450	23,298	30,354	36,470	35,810	40,240	384,349
2005	43,315	35,719	41,525	30,551	20,353	66,555	39,099	26,026	32,981	42,312	38,853	43,752	461,041
Average	92,269	86,389	94,118	77,411	68,509	115,535	78,838	59,898	84,475	98,561	84,948	85,150	1,026,100

Gage PR nr Overton (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	701	1,531	1,553	551	0	0	0	4,336
1986	0	0	0	0	0	701	1,503	1,553	551	0	0	0	4,308
1987	0	0	0	0	0	701	1,453	1,553	551	0	0	0	4,257
1988	0	0	0	0	0	651	1,453	1,527	551	0	0	0	4,182
1989	0	0	0	0	0	655	1,504	1,553	551	0	0	0	4,262
1990	0	0	0	0	0	332	100	-50	130	-1,193	-49	-2	-732
1991	0	0	0	0	0	456	-2,751	-50	208	0	0	0	-2,137
1992	0	0	0	0	0	180	0	1,272	504	30,136	29,131	23,742	84,963
1993	10,558	11,402	7,034	18,324	13,370	42,331	80,087	68,366	38,735	-5,993	-44,078	-30,421	209,715
1994	-39,705	-39,321	-43,212	-20,597	-31,542	-20,390	-58,443	-43,924	-44,370	-8,913	0	0	-350,417
1995	0	0	0	0	0	701	1,553	1,503	551	0	8,270	9,211	21,788
1996	28,714	31,786	7,088	6,019	0	701	1,553	1,553	551	40	0	0	78,004
1997	0	0	0	0	0	701	1,553	1,553	551	0	0	0	4,358
1998	0	0	0	0	0	701	1,553	1,553	551	0	0	0	4,358
1999	0	0	0	0	0	701	1,553	1,553	551	0	0	0	4,358
2000	0	0	0	0	0	701	1,453	1,553	551	0	0	0	4,257
2001	0	0	0	0	0	176	0	5	-98	-232	0	0	-149
2002	0	0	0	0	0	0	1,388	1,537	545	0	0	0	3,471
2003	0	0	0	0	0	0	0	-18	-265	0	0	0	-283
2004	0	0	0	0	0	0	50	235	-46	0	0	0	239
2005	0	0	0	0	0	0	50	-192	-219	0	0	0	-362
Average	-21	184	-1,385	178	-865	1,462	1,768	2,104	56	659	-320	120	3,942

Gage PR nr Odessa (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	145,398	145,099	176,436	94,034	113,561	66,984	62,433	56,218	76,379	74,675	73,790	81,414	1,166,421
1986	96,675	90,610	66,668	147,913	89,035	236,697	126,763	76,161	118,421	233,799	179,337	172,813	1,634,895
1987	147,641	122,047	187,322	121,165	146,269	198,817	93,027	62,173	85,936	93,404	79,315	91,588	1,428,704
1988	86,874	106,824	105,631	76,484	56,339	75,038	94,126	61,446	77,609	87,983	92,422	94,494	1,015,270
1989	90,338	81,901	73,745	41,937	29,632	64,775	81,994	66,646	79,097	55,061	42,402	41,467	748,814
1990	73,824	68,677	87,453	70,742	16,258	11,664	44,922	31,595	32,432	38,023	35,578	50,543	561,710
1991	59,896	66,565	57,828	44,667	57,935	23,821	57,252	41,143	42,960	37,211	41,619	49,490	580,387
1992	64,542	79,896	109,557	64,634	12,350	20,307	50,591	46,314	42,327	81,898	88,335	95,147	755,898
1993	92,254	87,726	104,586	67,400	54,628	101,518	225,458	132,105	101,708	99,145	53,075	73,144	1,192,747
1994	85,174	76,108	63,879	44,404	20,570	29,147	45,110	28,088	41,441	90,032	91,098	96,606	711,657
1995	72,172	62,600	68,898	69,620	123,978	534,694	226,397	79,288	95,353	95,531	109,006	105,694	1,643,233
1996	124,382	120,813	124,944	74,918	80,670	91,341	127,652	102,198	168,722	142,598	112,327	122,979	1,393,546
1997	119,537	105,642	122,853	86,901	79,620	276,284	134,916	124,738	101,020	189,952	179,001	165,379	1,685,844
1998	166,446	151,970	183,938	217,914	126,610	96,914	94,223	68,626	96,280	116,623	101,318	101,715	1,522,577
1999	100,455	84,085	106,234	65,285	260,248	458,333	188,813	217,651	218,890	223,836	178,174	146,776	2,248,779
2000	165,196	137,840	146,901	108,012	73,838	64,824	100,872	62,986	92,654	80,246	53,864	50,284	1,137,517
2001	63,378	63,328	47,848	84,056	66,460	31,655	47,132	30,577	42,750	71,609	87,238	102,277	738,307
2002	78,291	70,841	69,311	57,867	31,464	48,703	66,015	77,848	68,089	34,748	39,741	47,205	690,122
2003	49,345	46,313	38,209	48,371	20,386	12,564	45,185	30,978	26,412	32,397	35,064	39,789	425,012
2004	45,099	41,335	42,688	34,574	15,625	17,414	46,588	27,070	33,171	35,954	36,165	40,388	416,071
2005	43,526	36,031	45,599	18,223	15,364	76,976	47,185	30,834	25,502	26,445	30,103	43,907	439,696
Average	93,831	87,917	96,692	78,053	70,992	120,879	95,555	69,262	79,388	92,437	82,808	86,338	1,054,153

Gage PR nr Odessa (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	145,398	145,099	176,436	94,034	113,561	66,880	60,880	54,665	75,828	74,675	73,790	81,414	1,162,003
1986	96,675	90,610	66,668	147,913	89,035	235,996	125,261	74,609	117,870	233,799	179,337	172,813	1,630,587
1987	147,641	122,047	187,322	121,165	146,269	198,116	91,575	60,620	85,385	93,404	79,315	91,588	1,424,446
1988	86,874	106,824	105,631	76,484	56,339	74,387	92,624	59,919	77,058	87,983	92,422	94,494	1,011,039
1989	90,338	81,901	73,745	41,937	29,632	64,120	80,491	64,912	78,546	55,061	42,402	41,467	744,505
1990	73,824	68,677	87,453	70,742	16,258	11,191	44,769	31,695	32,209	39,216	35,627	50,545	562,252
1991	59,896	66,565	57,828	44,667	57,935	22,695	60,003	41,193	42,752	37,211	41,619	49,490	581,853
1992	64,542	79,896	109,557	64,634	12,350	20,102	50,541	45,042	41,824	51,762	59,204	71,406	670,860
1993	81,696	76,324	97,552	49,076	41,258	59,186	145,371	63,739	62,973	105,138	97,153	103,565	983,032
1994	124,879	115,429	107,091	65,001	52,241	49,512	104,827	72,012	87,034	98,945	91,098	96,606	1,064,675
1995	72,172	62,600	68,898	69,620	123,978	533,992	224,844	77,785	94,802	95,531	100,737	96,483	1,621,445
1996	95,668	89,028	117,856	68,899	80,670	90,640	126,099	100,645	168,171	142,558	112,327	122,979	1,315,541
1997	119,537	105,642	122,853	86,901	79,620	275,583	133,363	123,186	100,469	189,952	179,001	165,379	1,681,487
1998	166,446	151,970	183,938	217,914	126,610	96,213	92,670	67,073	95,729	116,623	101,318	101,715	1,518,220
1999	100,455	84,085	106,234	65,285	260,248	457,631	187,261	216,098	218,339	223,836	178,174	146,776	2,244,421
2000	165,196	137,840	146,901	108,012	73,838	64,122	99,420	61,434	92,103	80,246	53,864	50,284	1,133,260
2001	63,378	63,328	47,848	84,056	66,460	31,451	47,084	30,572	42,702	71,841	87,238	102,277	738,235
2002	78,291	70,841	69,311	57,867	31,464	48,703	64,618	76,311	67,543	34,748	39,741	47,205	686,642
2003	49,345	46,313	38,209	48,371	20,386	12,564	45,185	30,978	26,661	32,397	35,064	39,789	425,261
2004	45,099	41,335	42,688	34,574	15,625	17,414	46,489	26,835	33,212	35,954	36,165	40,388	415,778
2005	43,526	36,031	45,599	18,223	15,364	76,976	47,136	31,026	25,721	26,445	30,103	43,907	440,057
Average	93,851	87,733	98,077	77,875	71,864	119,375	93,834	67,159	79,378	91,777	83,129	86,218	1,050,270

Gage PR nr Odessa (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	701	1,552	1,553	551	0	0	0	4,357
1986	0	0	0	0	0	701	1,503	1,553	551	0	0	0	4,308
1987	0	0	0	0	0	701	1,453	1,553	551	0	0	0	4,257
1988	0	0	0	0	0	651	1,502	1,527	551	0	0	0	4,231
1989	0	0	0	0	0	655	1,504	1,553	551	0	0	0	4,262
1990	0	0	0	0	0	473	153	-100	223	-1,193	-49	-2	-495
1991	0	0	0	0	0	1,126	-2,750	-50	208	0	0	0	-1,466
1992	0	0	0	0	0	205	50	1,272	504	30,136	29,131	23,741	85,038
1993	10,558	11,402	7,034	18,324	13,370	42,331	80,087	68,366	38,735	-5,993	-44,078	-30,421	209,715
1994	-39,705	-39,321	-43,212	-20,597	-31,671	-20,365	-59,717	-43,924	-45,594	-8,913	0	0	-353,018
1995	0	0	0	0	0	701	1,553	1,503	551	0	8,270	9,211	21,788
1996	28,714	31,786	7,088	6,019	0	701	1,553	1,553	551	40	0	0	78,004
1997	0	0	0	0	0	701	1,553	1,553	551	0	0	0	4,358
1998	0	0	0	0	0	701	1,553	1,553	551	0	0	0	4,358
1999	0	0	0	0	0	701	1,553	1,553	551	0	0	0	4,358
2000	0	0	0	0	0	701	1,453	1,553	551	0	0	0	4,257
2001	0	0	0	0	0	203	48	5	48	-232	0	0	72
2002	0	0	0	0	0	0	1,397	1,537	545	0	0	0	3,480
2003	0	0	0	0	0	0	0	0	-249	0	0	0	-249
2004	0	0	0	0	0	0	99	235	-41	0	0	0	293
2005	0	0	0	0	0	0	50	-192	-219	0	0	0	-361
Average	-21	184	-1,385	178	-871	1,504	1,721	2,103	11	659	-320	120	3,883

Gage PR nr Kearney (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	138,978	146,437	177,740	95,736	115,385	70,696	62,008	57,521	75,656	75,300	73,945	81,095	1,170,496
1986	95,858	91,431	67,138	149,061	91,642	225,020	136,472	77,978	111,413	238,664	173,857	176,682	1,635,215
1987	148,003	122,639	191,250	124,237	141,808	208,505	94,684	64,317	83,960	93,545	79,292	92,051	1,444,289
1988	87,001	106,553	105,444	79,654	56,088	72,846	95,764	62,877	76,566	87,160	91,901	94,260	1,016,112
1989	89,732	82,356	74,504	43,070	30,517	65,405	84,525	68,187	78,381	56,037	43,301	41,028	757,242
1990	73,246	68,498	87,040	73,710	18,249	11,943	43,984	33,089	31,949	37,929	34,984	49,588	564,207
1991	59,451	66,409	58,161	45,963	58,009	26,191	55,289	41,024	41,339	37,287	40,805	48,882	578,810
1992	62,519	80,090	109,467	66,693	13,335	20,169	51,726	46,287	41,314	79,541	87,724	94,580	753,446
1993	91,749	87,220	105,437	69,550	56,007	101,356	234,165	140,589	102,784	100,841	53,744	72,629	1,216,071
1994	86,363	76,992	64,702	46,379	21,577	29,458	44,611	29,243	40,304	88,607	91,312	96,957	716,505
1995	73,229	62,801	69,899	70,588	121,880	527,154	240,311	80,343	93,562	96,095	107,401	106,636	1,649,899
1996	124,932	120,642	124,882	76,573	84,090	92,813	129,930	103,532	164,809	146,615	112,721	123,622	1,405,162
1997	120,126	105,900	123,063	88,598	80,713	257,500	151,434	127,279	99,477	187,046	179,968	167,625	1,688,729
1998	166,218	153,194	178,152	228,162	129,613	98,609	96,811	70,456	94,834	116,507	102,385	101,921	1,536,860
1999	101,589	83,219	107,786	67,440	255,712	454,233	203,649	221,458	214,273	225,988	181,506	144,967	2,261,819
2000	167,170	139,792	148,659	108,909	75,160	66,394	101,650	64,525	90,407	80,556	55,522	50,464	1,149,209
2001	63,202	63,468	49,185	83,578	70,692	32,993	46,873	32,459	41,337	70,668	86,601	102,365	743,421
2002	79,441	71,117	69,970	58,528	32,968	47,378	65,264	77,451	66,964	35,239	39,753	46,504	690,578
2003	49,119	46,230	38,863	48,538	22,520	12,651	43,902	31,088	25,567	31,782	34,357	39,309	423,926
2004	44,550	41,033	42,860	34,843	16,504	16,389	46,030	27,892	32,516	35,489	35,568	40,019	413,694
2005	43,375	35,828	45,707	19,189	17,539	77,357	47,805	31,697	24,678	26,253	28,895	43,637	441,960
Average	93,612	88,183	97,139	79,952	71,905	119,765	98,899	70,919	77,719	92,721	82,645	86,420	1,059,879

Gage PR nr Kearney (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	138,978	146,437	177,740	95,736	115,385	70,045	60,456	55,968	75,055	75,300	73,945	81,095	1,166,139
1986	95,858	91,431	67,138	149,061	91,642	224,369	134,969	76,426	110,812	238,664	173,857	176,682	1,630,907
1987	148,003	122,639	191,250	124,237	141,808	207,854	93,231	62,764	83,359	93,545	79,292	92,051	1,440,032
1988	87,001	106,553	105,444	79,654	56,088	72,245	94,262	61,350	75,965	87,160	91,901	94,260	1,011,880
1989	89,732	82,356	74,504	43,070	30,517	64,801	83,021	66,635	77,779	56,037	43,301	41,028	752,780
1990	73,246	68,498	87,040	73,710	18,249	11,520	43,781	33,189	31,727	39,122	35,033	49,587	564,703
1991	59,451	66,409	58,161	45,963	58,009	25,129	57,975	41,074	41,132	37,287	40,805	48,882	580,276
1992	62,519	80,090	109,467	66,693	13,335	20,014	51,627	45,115	40,710	92,986	58,939	70,377	668,872
1993	81,422	75,865	97,662	51,610	42,624	61,401	153,781	72,010	62,507	105,338	97,682	103,741	1,005,643
1994	125,272	116,362	108,560	66,443	52,911	49,723	104,101	73,390	85,916	98,826	91,312	96,957	1,069,772
1995	73,229	62,801	69,899	70,588	121,880	526,502	238,758	78,840	92,961	96,095	100,038	96,518	1,628,111
1996	96,218	88,887	117,764	70,554	84,090	92,162	128,378	101,979	164,208	146,575	112,721	123,622	1,327,158
1997	120,126	105,900	123,063	88,598	80,713	256,849	149,881	125,726	98,876	187,046	179,968	167,625	1,684,371
1998	166,218	153,194	178,152	228,162	129,613	97,957	95,258	68,903	94,233	116,507	102,385	101,921	1,532,503
1999	101,589	83,219	107,786	67,440	255,712	453,582	202,097	219,905	213,672	225,988	181,506	144,967	2,257,461
2000	167,170	139,792	148,659	108,909	75,160	65,743	100,197	62,972	89,805	80,556	55,522	50,464	1,144,952
2001	63,202	63,468	49,185	83,578	70,692	32,790	46,825	32,454	41,289	70,900	86,601	102,365	743,349
2002	79,441	71,117	69,970	58,528	32,968	47,378	63,917	75,914	66,368	35,239	39,753	46,504	687,099
2003	49,119	46,230	38,863	48,538	22,520	12,651	43,902	31,088	25,816	31,782	34,357	39,309	424,176
2004	44,550	41,033	42,860	34,843	16,504	16,389	45,932	27,657	32,556	35,489	35,568	40,019	413,401
2005	43,375	35,828	45,707	19,189	17,539	77,357	47,755	31,889	24,897	26,253	28,895	43,637	442,322
Average	93,606	88,005	98,518	79,767	72,760	118,403	97,148	68,821	77,602	92,081	83,018	86,267	1,055,996

Gage PR nr Kearney (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	651	1,552	1,553	601	0	0	0	4,357
1986	0	0	0	0	0	651	1,503	1,553	601	0	0	0	4,308
1987	0	0	0	0	0	651	1,453	1,553	601	0	0	0	4,257
1988	0	0	0	0	0	601	1,502	1,527	601	0	0	0	4,231
1989	0	0	0	0	0	605	1,504	1,553	601	0	0	0	4,262
1990	0	0	0	0	0	423	203	-100	223	-1,193	-49	-2	-495
1991	0	0	0	0	0	1,062	-2,686	-50	208	0	0	0	-1,466
1992	0	0	0	0	0	155	100	1,172	604	29,555	28,785	24,204	84,574
1993	10,328	11,355	7,775	17,939	13,384	39,956	80,384	68,579	40,277	-4,497	-43,938	-31,112	210,429
1994	-38,909	-39,370	-43,857	-20,065	-31,334	-20,265	-59,490	-44,147	-45,612	-10,218	0	0	-353,267
1995	0	0	0	0	0	651	1,553	1,503	601	0	7,363	10,118	21,788
1996	28,714	31,755	7,119	6,019	0	651	1,553	1,553	601	40	0	0	78,004
1997	0	0	0	0	0	651	1,553	1,553	601	0	0	0	4,358
1998	0	0	0	0	0	651	1,553	1,553	601	0	0	0	4,358
1999	0	0	0	0	0	651	1,553	1,553	601	0	0	0	4,358
2000	0	0	0	0	0	651	1,453	1,553	601	0	0	0	4,257
2001	0	0	0	0	0	203	48	5	48	-232	0	0	72
2002	0	0	0	0	0	0	1,347	1,537	595	0	0	0	3,480
2003	0	0	0	0	0	0	0	0	-249	0	0	0	-249
2004	0	0	0	0	0	0	99	235	-40	0	0	0	293
2005	0	0	0	0	0	0	50	-192	-219	0	0	0	-361
Average	6	178	-1,379	185	-855	1,362	1,752	2,097	116	641	-373	153	3,883

Gage PR nr GI (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	130,816	142,899	178,196	113,220	140,157	88,800	78,831	75,563	92,883	95,531	85,555	81,878	1,304,329
1986	95,380	92,613	71,975	154,775	115,664	229,919	165,935	98,047	120,218	251,879	182,003	174,381	1,752,790
1987	150,903	123,650	215,808	141,719	164,729	242,483	115,171	84,276	97,809	108,661	95,909	100,533	1,641,650
1988	89,583	106,738	108,041	92,305	74,099	81,272	113,144	73,089	88,028	87,241	89,537	92,578	1,095,654
1989	88,136	82,409	75,125	47,831	48,257	94,234	107,535	87,242	94,324	67,154	45,308	41,669	879,225
1990	72,132	68,382	89,026	79,089	42,041	32,724	52,225	50,414	43,760	46,800	33,753	47,727	658,074
1991	57,759	65,362	58,270	50,333	71,657	37,635	54,629	41,414	40,498	33,615	38,364	46,894	596,341
1992	59,832	78,295	110,357	68,990	25,951	35,056	65,638	51,157	43,564	76,123	83,756	91,902	790,620
1993	90,108	87,231	107,181	73,695	63,025	120,402	297,150	172,957	114,135	104,614	57,840	74,045	1,366,384
1994	89,301	79,777	67,584	53,238	24,764	40,894	55,394	38,992	45,059	86,717	96,698	98,370	772,787
1995	75,058	63,597	74,739	75,245	150,692	534,619	272,178	100,264	100,182	93,282	104,971	107,087	1,751,914
1996	124,897	120,934	126,297	79,024	109,876	118,863	153,485	119,197	172,686	166,758	128,557	126,602	1,547,175
1997	122,717	107,316	124,597	98,965	101,178	246,726	180,857	150,958	115,886	198,571	184,777	167,069	1,799,616
1998	168,521	154,905	179,110	256,061	159,874	121,350	127,882	94,344	106,510	125,947	105,188	103,893	1,703,585
1999	104,529	84,202	113,512	90,911	263,700	468,564	237,274	250,598	223,972	238,802	191,997	148,282	2,416,342
2000	171,266	141,498	157,296	114,534	88,563	82,136	115,810	73,841	94,485	88,037	58,686	51,903	1,238,055
2001	63,842	64,340	52,077	87,238	87,103	46,470	64,076	53,392	60,316	87,842	97,182	103,129	867,006
2002	81,799	72,262	71,752	61,321	49,750	50,136	66,377	80,740	77,227	47,764	38,424	44,689	742,291
2003	48,109	45,853	39,490	50,766	40,136	29,799	47,149	34,845	29,872	27,822	31,397	37,126	462,365
2004	42,398	39,424	43,724	34,510	19,441	20,409	55,186	33,380	37,673	31,857	33,892	38,314	430,207
2005	41,862	34,742	47,814	34,642	48,531	100,169	57,247	44,461	35,404	38,784	36,044	42,110	561,809
Average	93,759	88,401	100,570	88,496	89,961	134,412	118,246	86,151	87,359	100,181	86,659	86,675	1,160,872

Gage PR nr GI (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	130,816	142,899	178,196	113,220	140,157	88,198	77,279	74,010	92,232	95,531	85,555	81,878	1,299,971
1986	95,380	92,613	71,975	154,775	115,664	229,318	164,432	96,495	119,567	251,879	182,003	174,381	1,748,483
1987	150,903	123,650	215,808	141,719	164,729	241,882	113,719	82,723	97,157	108,661	95,909	100,533	1,637,393
1988	89,583	106,738	108,041	92,305	74,099	80,721	111,642	71,562	87,376	87,241	89,537	92,578	1,091,423
1989	88,136	82,409	75,125	47,831	48,257	93,679	106,031	85,690	93,673	67,154	45,308	41,669	874,963
1990	72,132	68,382	89,026	79,089	42,041	32,351	52,012	50,475	43,442	47,988	33,808	47,729	658,474
1991	57,759	65,362	58,270	50,333	71,657	36,623	57,265	41,464	40,290	33,615	38,364	46,894	597,897
1992	59,832	78,295	110,357	68,990	25,951	34,952	65,488	49,986	42,959	47,307	55,186	67,175	706,478
1993	80,103	75,761	98,767	56,198	49,574	82,746	216,523	104,156	72,320	108,441	100,527	106,117	1,151,232
1994	126,022	120,724	111,939	72,867	55,698	61,242	114,549	83,328	91,372	97,733	96,698	98,370	1,130,542
1995	75,058	63,597	74,739	75,245	150,692	534,018	270,625	98,761	99,530	93,282	98,596	97,043	1,731,186
1996	97,136	89,737	116,606	73,004	109,876	118,262	151,932	117,645	172,034	166,718	128,557	126,602	1,468,110
1997	122,717	107,316	124,597	98,965	101,178	246,125	179,304	149,405	115,235	198,571	184,777	167,069	1,795,259
1998	168,521	154,905	179,110	256,061	159,874	120,749	126,329	92,791	105,859	125,947	105,188	103,893	1,699,227
1999	104,529	84,202	113,512	90,911	263,700	467,963	235,722	249,064	223,321	238,802	191,997	148,282	2,411,985
2000	171,266	141,498	157,296	114,534	88,563	81,535	114,358	72,288	93,834	88,037	58,686	51,903	1,233,798
2001	63,842	64,340	52,077	87,238	87,103	45,982	64,313	53,386	60,218	88,074	97,182	103,129	866,883
2002	81,799	72,262	71,752	61,321	49,750	50,136	65,079	79,203	76,623	47,764	38,424	44,689	738,811
2003	48,109	45,853	39,490	50,766	40,136	29,799	47,149	34,846	30,119	27,822	31,397	37,126	462,611
2004	42,398	39,424	43,724	34,510	19,441	20,409	55,087	33,146	37,713	31,857	33,892	38,314	429,914
2005	41,862	34,742	47,814	34,642	48,531	100,169	57,197	44,653	35,622	38,784	36,044	42,110	562,169
Average	93,710	88,320	101,820	88,311	90,794	133,184	116,478	84,050	87,167	99,581	87,030	86,547	1,156,991

Gage PR nr GI (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	601	1,552	1,553	651	0	0	0	4,357
1986	0	0	0	0	0	601	1,503	1,553	651	0	0	0	4,308
1987	0	0	0	0	0	601	1,453	1,553	651	0	0	0	4,257
1988	0	0	0	0	0	551	1,502	1,527	651	0	0	0	4,231
1989	0	0	0	0	0	555	1,504	1,553	651	0	0	0	4,262
1990	0	0	0	0	0	373	214	-61	318	-1,187	-55	-2	-400
1991	0	0	0	0	0	1,012	-2,636	-50	208	0	0	0	-1,466
1992	0	0	0	0	0	104	150	1,170	605	28,816	28,570	24,727	84,142
1993	10,006	11,469	8,415	17,497	13,450	37,656	80,627	68,802	41,815	-3,826	-42,687	-32,072	211,152
1994	-36,721	-40,947	-44,355	-19,629	-30,934	-20,348	-59,156	-44,333	-46,313	-11,017	0	0	-353,753
1995	0	0	0	0	0	601	1,553	1,553	651	0	6,375	10,045	20,727
1996	27,760	31,197	9,691	6,019	0	601	1,553	1,553	651	40	0	0	79,066
1997	0	0	0	0	0	601	1,553	1,553	651	0	0	0	4,358
1998	0	0	0	0	0	601	1,553	1,553	651	0	0	0	4,358
1999	0	0	0	0	0	601	1,553	1,553	651	0	0	0	4,358
2000	0	0	0	0	0	601	1,453	1,553	651	0	0	0	4,257
2001	0	0	0	0	0	488	-237	5	99	-232	0	0	123
2002	0	0	0	0	0	0	1,298	1,537	645	0	0	0	3,480
2003	0	0	0	0	0	0	0	0	-246	0	0	0	-246
2004	0	0	0	0	0	0	99	234	-39	0	0	0	293
2005	0	0	0	0	0	0	50	-192	-218	0	0	0	-360
Average	50	82	-1,250	185	-833	1,229	1,768	2,101	192	600	-371	128	3,881

Gage PR nr Duncan (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	126,408	141,936	185,752	141,699	178,225	113,291	100,086	85,335	116,953	105,053	92,729	87,954	1,475,421
1986	99,787	97,816	88,556	170,670	142,418	228,275	193,335	116,469	127,754	269,491	186,133	187,083	1,908,286
1987	157,354	132,874	290,326	169,945	189,457	267,827	125,147	112,013	104,728	114,621	102,873	108,813	1,875,977
1988	99,289	111,296	114,335	104,490	85,066	89,481	123,486	76,564	96,315	87,427	91,117	95,215	1,174,079
1989	90,934	86,170	79,640	51,941	54,534	109,577	112,031	92,794	112,819	69,530	48,060	43,465	951,494
1990	72,225	69,629	95,661	83,779	59,413	72,409	65,445	61,263	46,533	50,437	36,663	49,916	763,373
1991	60,339	67,785	63,292	60,018	92,905	81,555	83,154	45,107	40,386	34,990	41,000	51,534	722,066
1992	64,433	83,077	120,869	76,730	51,623	57,529	79,474	69,958	48,308	87,762	88,315	97,938	926,015
1993	99,773	96,030	117,568	92,159	79,810	159,975	376,761	202,146	130,125	117,660	70,344	84,085	1,626,436
1994	100,106	90,440	77,546	70,704	36,429	54,809	65,729	48,317	53,977	89,479	103,608	104,958	986,101
1995	81,947	68,918	85,738	88,353	186,226	530,466	297,737	108,187	104,038	95,687	106,104	111,304	1,864,706
1996	127,849	124,830	129,087	85,075	147,154	137,914	163,836	129,157	174,910	174,473	146,373	135,449	1,676,106
1997	130,168	113,003	130,299	108,073	115,834	234,374	203,649	179,220	132,904	210,204	194,695	174,074	1,926,496
1998	172,841	161,511	196,791	295,759	200,894	161,391	150,585	110,238	115,056	135,425	117,928	113,227	1,931,646
1999	114,283	90,755	122,855	130,064	285,199	509,534	275,081	271,323	231,036	251,292	203,200	160,947	2,645,570
2000	179,849	152,816	167,070	123,906	100,505	89,734	123,270	77,406	92,160	90,974	65,641	55,033	1,318,364
2001	67,106	67,837	57,655	106,245	129,203	55,896	75,860	58,005	63,127	89,153	101,972	106,381	978,442
2002	87,436	75,964	77,718	68,431	69,041	56,980	68,242	81,991	75,819	51,158	39,857	45,558	798,195
2003	49,795	48,162	42,570	59,370	66,531	42,303	48,918	35,584	39,421	26,554	31,477	37,712	528,398
2004	43,503	41,556	54,906	40,728	30,839	23,595	65,183	34,586	44,694	30,129	35,327	39,089	484,134
2005	43,126	37,417	51,401	44,180	104,866	115,724	59,993	50,930	33,348	39,241	37,811	43,185	661,223
Average	98,502	93,325	111,888	103,444	114,580	152,054	136,048	97,457	94,496	105,749	92,439	92,044	1,292,025

Gage PR nr Duncan (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	126,408	141,936	185,752	141,699	178,225	112,740	98,533	83,783	116,252	105,053	92,729	87,954	1,471,064
1986	99,787	97,816	88,556	170,670	142,418	228,224	191,832	114,916	127,053	269,491	186,133	187,083	1,903,979
1987	157,354	132,874	290,326	169,945	189,457	267,276	123,694	110,460	104,026	114,621	102,873	108,813	1,871,719
1988	99,289	111,296	114,335	104,490	85,066	88,980	121,984	75,037	95,614	87,427	91,117	95,215	1,169,848
1989	90,934	86,170	79,640	51,941	54,534	109,072	110,527	91,241	112,118	69,530	48,060	43,465	947,232
1990	72,225	69,629	95,661	83,779	59,413	72,136	65,142	61,313	46,215	51,618	36,724	49,919	763,773
1991	60,339	67,785	63,292	60,018	92,905	80,599	85,605	45,286	40,178	34,990	41,000	51,534	723,532
1992	64,433	83,077	120,869	76,730	51,623	57,416	79,332	68,787	47,703	59,653	59,964	72,737	942,325
1993	90,039	84,458	108,532	75,238	66,191	124,534	295,875	133,236	86,895	120,645	111,719	116,824	1,414,186
1994	136,033	131,211	121,532	91,462	66,677	75,610	124,437	92,963	100,228	101,783	103,608	104,958	1,250,502
1995	81,947	68,918	85,738	88,353	186,226	529,915	296,184	106,684	103,337	95,687	100,306	100,682	1,843,979
1996	101,149	93,474	118,495	79,056	147,154	137,363	162,283	127,604	174,209	174,433	146,373	135,449	1,597,041
1997	130,168	113,003	130,299	108,073	115,834	233,823	202,096	177,667	132,203	210,204	194,695	174,074	1,922,138
1998	172,841	161,511	196,791	295,759	200,894	160,840	149,032	108,685	114,355	135,425	117,928	113,227	1,927,288
1999	114,283	90,755	122,855	130,064	285,199	508,984	273,528	269,771	230,334	251,292	203,200	160,947	2,641,212
2000	179,849	152,816	167,070	123,906	100,505	89,183	121,817	75,854	91,459	90,974	65,641	55,033	1,314,106
2001	67,106	67,837	57,655	106,245	129,203	55,459	76,047	58,000	63,029	89,385	101,972	106,381	978,319
2002	87,436	75,964	77,718	68,431	69,041	56,980	66,994	80,454	75,125	51,158	39,857	45,558	794,716
2003	49,795	48,162	42,570	59,370	66,531	42,303	48,918	35,584	39,667	26,554	31,477	37,712	528,644
2004	43,503	41,556	54,906	40,728	30,839	23,595	65,084	34,353	44,732	30,129	35,327	39,089	483,841
2005	43,126	37,417	51,401	44,180	104,866	115,724	59,944	51,122	33,566	39,241	37,811	43,185	661,583
Average	98,478	93,222	113,047	103,340	115,371	150,988	134,233	95,371	94,205	105,204	92,786	91,897	1,288,144

Gage PR nr Duncan (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	551	1,553	1,553	701	0	0	0	4,357
1986	0	0	0	0	0	551	1,503	1,553	701	0	0	0	4,308
1987	0	0	0	0	0	551	1,453	1,553	701	0	0	0	4,257
1988	0	0	0	0	0	501	1,502	1,527	701	0	0	0	4,231
1989	0	0	0	0	0	504	1,504	1,553	701	0	0	0	4,262
1990	0	0	0	0	0	273	303	-50	318	-1,181	-61	-2	-400
1991	0	0	0	0	0	956	-2,451	-179	208	0	0	0	-1,466
1992	0	0	0	0	0	113	142	1,170	605	28,108	28,351	25,202	83,690
1993	9,733	11,572	9,036	16,921	13,620	35,441	80,886	68,910	43,230	-2,986	-41,375	-32,738	212,250
1994	-35,927	-40,771	-43,987	-20,759	-30,247	-20,801	-58,708	-44,646	-46,252	-12,303	0	0	-354,401
1995	0	0	0	0	0	551	1,553	1,503	701	0	5,798	10,622	20,727
1996	26,700	31,356	10,592	6,019	0	551	1,553	1,553	701	40	0	0	79,066
1997	0	0	0	0	0	551	1,553	1,553	701	0	0	0	4,358
1998	0	0	0	0	0	551	1,553	1,553	701	0	0	0	4,358
1999	0	0	0	0	0	551	1,553	1,553	701	0	0	0	4,358
2000	0	0	0	0	0	551	1,453	1,553	701	0	0	0	4,257
2001	0	0	0	0	0	438	-187	5	99	-232	0	0	123
2002	0	0	0	0	0	0	1,248	1,537	694	0	0	0	3,480
2003	0	0	0	0	0	0	0	0	-246	0	0	0	-246
2004	0	0	0	0	0	0	99	233	-39	0	0	0	293
2005	0	0	0	0	0	0	50	-192	-218	0	0	0	-360
Average	24	103	-1,160	104	-792	1,066	1,815	2,085	291	545	-347	147	3,881

Suth rtn (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	86,365	83,721	98,792	75,485	74,850	86,573	99,420	99,713	84,412	74,467	65,355	56,132	985,286
1986	62,350	68,440	39,622	72,221	48,357	74,785	98,122	94,195	84,574	100,572	91,616	97,934	932,789
1987	98,112	78,218	80,476	97,127	73,151	78,483	96,307	90,536	86,599	80,648	64,641	62,555	986,854
1988	46,357	49,930	74,455	57,170	44,984	76,199	87,154	92,193	71,213	63,550	61,184	63,359	787,746
1989	56,711	47,990	40,939	22,810	46,245	67,044	98,805	97,709	70,773	25,259	3,941	3,775	581,300
1990	35,504	35,653	50,989	41,516	8,049	50,468	92,440	90,030	41,970	18,096	14	14,701	479,430
1991	23,593	33,071	25,359	19,307	5,971	38,286	93,257	99,004	42,423	8,301	5,742	11,217	405,529
1992	24,754	44,313	58,235	34,969	9,002	39,039	79,219	82,790	28,403	53,604	61,269	63,779	579,375
1993	53,443	54,751	68,651	37,664	39,722	71,165	98,438	99,623	71,462	53,268	7,681	25,729	681,596
1994	39,789	36,114	25,757	7,548	7,798	44,218	76,188	89,740	27,400	54,644	62,342	63,369	534,726
1995	28,474	25,532	28,117	29,133	47,453	75,426	56,923	100,695	74,480	64,971	62,765	53,490	647,459
1996	77,811	76,639	82,872	43,885	38,864	71,106	93,997	91,458	96,218	67,536	80,963	83,834	905,182
1997	82,138	75,564	101,525	80,223	87,649	83,809	94,568	95,603	87,586	82,799	93,016	96,198	1,060,678
1998	91,319	82,574	90,397	86,070	81,995	91,931	94,949	95,564	85,269	83,781	57,973	59,881	1,001,703
1999	53,007	48,622	72,502	29,999	68,375	99,015	98,063	100,165	101,395	103,557	98,845	79,418	952,962
2000	91,535	75,304	87,809	83,806	76,900	85,607	97,948	98,479	84,127	29,901	47	3,285	814,748
2001	17,645	22,446	5,291	19,426	20,247	46,261	97,102	86,446	33,168	53,061	61,174	63,216	525,482
2002	28,999	28,905	29,836	29,100	41,630	72,253	103,984	97,926	72,640	9,241	2,735	9,324	526,573
2003	9,751	7,853	1,912	546	8,363	28,855	97,641	97,827	25,068	3,153	2,048	2,594	285,611
2004	7,203	5,960	8,446	9,973	9,203	42,054	81,360	95,244	21,036	3,644	2,872	2,682	289,676
2005	4,250	2,839	2,790	1,191	10,808	40,617	97,251	89,769	20,350	4,198	2,283	4,067	280,411
Average	48,529	46,878	51,180	41,865	40,458	64,914	92,054	94,510	62,375	49,432	42,310	43,835	678,339

Suth rtn (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	86,365	83,721	98,792	75,485	74,850	86,573	99,420	99,713	84,412	74,467	65,355	56,132	985,286
1986	62,350	68,440	39,622	72,221	48,357	74,785	98,122	94,195	84,574	100,572	91,616	97,934	932,789
1987	98,112	78,218	80,476	97,127	73,151	78,483	96,307	90,536	86,599	80,648	64,641	62,555	986,854
1988	46,357	49,930	74,455	57,170	44,984	76,199	87,154	92,193	71,213	63,550	61,184	63,359	787,746
1989	56,711	47,990	40,939	22,810	46,245	67,044	98,805	97,709	70,773	25,259	3,941	3,775	581,300
1990	35,504	35,653	50,989	41,516	8,049	50,468	92,440	90,030	41,970	18,096	66	14,701	480,677
1991	23,593	33,071	25,359	19,307	5,971	38,286	96,200	99,004	42,423	8,301	5,742	11,217	408,472
1992	24,754	44,313	58,235	34,969	9,002	39,485	79,258	82,790	28,403	14,892	22,215	32,670	470,985
1993	41,167	40,969	60,568	16,350	20,569	20,569	58,806	44,402	35,541	65,291	59,467	63,638	527,336
1994	81,144	70,316	68,475	28,607	56,841	59,445	95,857	98,053	73,990	63,508	62,342	63,369	821,945
1995	28,474	25,532	28,117	29,133	47,453	75,426	56,923	100,695	74,480	64,971	58,094	53,490	642,788
1996	54,498	50,962	78,526	36,899	38,864	71,106	93,997	91,458	96,218	67,557	80,963	83,834	844,882
1997	82,138	75,564	101,525	80,223	87,649	83,809	94,568	95,603	87,586	82,799	93,016	96,198	1,060,678
1998	91,319	82,574	90,397	86,070	81,995	91,931	94,949	95,564	85,269	83,781	57,973	59,881	1,001,703
1999	53,007	48,622	72,502	29,999	68,375	99,015	98,063	100,165	101,395	103,557	98,845	79,418	952,962
2000	91,535	75,304	87,809	83,806	76,900	85,607	97,948	98,479	84,127	29,901	47	3,285	814,748
2001	17,645	22,446	5,291	19,426	20,247	47,003	97,102	86,446	33,334	53,433	61,174	63,216	526,763
2002	28,999	28,905	29,836	29,100	41,630	72,253	103,984	97,926	72,640	9,241	2,735	9,324	526,573
2003	9,751	7,853	1,912	546	8,363	28,855	97,641	97,827	27,322	3,153	2,048	2,594	287,865
2004	7,203	5,960	8,446	9,973	9,203	42,054	81,360	96,756	21,526	3,644	2,872	2,682	291,679
2005	4,250	2,839	2,790	1,191	10,808	40,617	97,251	96,756	20,839	4,198	2,283	4,067	287,887
Average	48,804	46,628	52,622	41,520	41,881	63,286	91,245	92,681	63,045	48,667	42,696	44,159	677,234

Suth rtn (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	-1,195	-52	0	-1,247
1991	0	0	0	0	0	0	-2,943	0	0	0	0	0	-2,943
1992	0	0	0	0	0	-445	-39	0	0	38,712	39,054	31,109	108,390
1993	12,276	13,783	8,083	21,314	19,153	50,596	39,632	55,221	35,920	-12,023	-51,786	-37,909	154,260
1994	-41,355	-34,202	-42,718	-21,059	-49,043	-15,227	-19,668	-8,314	-46,590	-9,044	0	0	-287,220
1995	0	0	0	0	0	0	0	0	0	0	4,671	0	4,671
1996	23,312	25,677	4,347	6,985	0	0	0	0	0	-21	0	0	60,300
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	-742	0	0	-167	-372	0	0	-1,281
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0	0	-2,254	0	0	0	-2,254
2004	0	0	0	0	0	0	0	-1,513	-490	0	0	0	-2,003
2005	0	0	0	0	0	0	0	-6,987	-490	0	0	0	-7,477
Average	-275	250	-1,442	345	-1,423	1,628	809	1,829	-670	765	-386	-324	1,105

Appendix D

Monthly Results

Canal Diversions

For the Seepage and No Seepage Scenario

Key Div (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	107,603	72,174	93,456	91,137	40,788	74,421	107,603	107,603	77,653	39,964	54,159	34,327	900,889
1986	27,669	24,992	39,187	52,561	54,623	80,047	107,603	107,603	92,452	104,178	88,237	82,467	861,618
1987	75,679	66,443	78,446	48,117	41,539	58,268	107,603	107,603	88,557	71,578	65,572	65,359	874,764
1988	27,669	25,884	52,969	29,811	31,683	66,923	107,603	107,603	84,202	76,195	75,117	59,168	744,827
1989	27,669	26,198	31,596	40,265	60,591	80,935	107,603	107,603	74,665	15,372	14,876	15,372	602,748
1990	15,372	13,884	15,372	14,875	21,562	60,796	107,603	107,603	44,117	15,372	14,876	15,372	446,805
1991	15,372	13,884	15,372	14,876	22,157	35,066	107,603	107,603	44,628	15,372	14,876	15,372	422,182
1992	15,372	14,380	15,372	14,876	24,938	29,867	104,757	68,663	20,050	60,084	69,197	40,942	478,499
1993	27,669	24,992	27,669	27,579	50,911	82,033	107,603	107,603	59,694	15,372	14,876	15,372	561,374
1994	15,372	13,884	15,372	14,876	26,177	52,398	107,603	95,040	34,973	73,548	77,384	73,851	600,480
1995	37,252	32,452	40,661	31,625	39,106	18,084	18,189	107,603	61,586	44,663	63,389	69,507	564,117
1996	69,921	64,903	69,633	33,927	50,801	58,596	107,603	105,394	40,859	79,986	89,217	81,383	852,225
1997	61,452	55,731	71,099	82,435	104,795	59,195	106,767	67,776	81,599	107,603	72,893	68,002	939,346
1998	63,844	61,243	78,679	71,002	52,770	70,789	107,603	107,321	86,577	32,758	49,372	58,396	840,355
1999	27,669	31,743	68,347	31,786	49,477	98,368	107,603	101,344	104,132	107,603	79,424	70,212	877,709
2000	68,246	64,949	70,825	72,603	105,323	104,132	107,603	107,603	96,602	15,372	14,876	15,372	843,507
2001	15,372	13,884	15,372	14,876	22,851	48,866	107,603	107,337	37,522	75,124	72,198	69,215	600,221
2002	31,173	28,918	37,702	43,034	61,820	86,919	107,603	107,603	85,433	15,372	14,876	15,372	635,825
2003	15,372	13,884	15,372	14,876	26,849	58,288	107,603	107,603	38,070	15,372	14,876	15,372	443,538
2004	15,372	14,380	15,372	14,876	27,804	53,872	107,603	104,391	33,784	15,372	14,876	15,372	433,075
2005	15,372	13,884	15,372	14,876	25,720	24,915	107,603	97,921	33,596	15,372	14,876	14,876	394,384
Average	36,976	32,985	42,059	36,900	44,871	62,037	103,170	102,211	62,893	48,173	47,145	43,366	611,339

Key Div (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	107,603	72,174	93,456	91,137	40,788	74,421	107,603	107,603	77,653	39,964	54,159	34,327	900,889
1986	27,669	24,992	39,187	52,561	54,623	80,047	107,603	107,603	92,452	104,178	88,237	82,467	861,618
1987	75,679	66,443	78,446	48,117	41,539	58,268	107,603	107,603	88,557	71,578	65,572	65,359	874,764
1988	27,669	25,884	52,969	29,811	31,683	66,923	107,603	107,603	84,202	76,195	75,117	59,168	744,827
1989	27,669	26,198	31,596	40,265	60,591	80,935	107,603	107,603	74,665	15,372	14,876	15,372	602,748
1990	15,372	13,884	15,372	14,875	21,562	61,548	107,603	107,603	44,579	15,372	14,876	15,372	448,019
1991	15,372	13,884	15,372	14,876	22,157	38,051	107,603	107,603	44,628	15,372	14,876	15,372	425,167
1992	15,372	14,380	15,372	14,876	24,938	30,318	105,147	70,057	19,005	15,372	14,876	15,372	355,085
1993	15,372	13,884	15,372	14,876	20,992	37,564	75,516	49,442	25,498	51,977	65,629	53,549	439,671
1994	68,692	57,378	65,096	35,425	59,418	85,123	107,603	107,603	87,937	73,547	77,384	73,851	899,057
1995	37,252	32,452	40,661	31,625	39,106	18,084	18,189	107,603	61,586	44,663	56,925	53,763	541,909
1996	27,923	34,992	69,632	33,927	50,801	58,596	107,603	105,394	40,859	79,975	89,217	81,383	780,305
1997	61,452	55,731	71,099	82,435	104,795	59,195	106,767	67,776	81,599	107,603	72,893	68,002	939,346
1998	63,844	61,243	78,679	71,002	52,770	70,789	107,603	107,321	86,577	32,758	49,372	58,396	840,355
1999	27,669	31,743	68,347	31,786	49,477	98,368	107,603	101,344	104,132	107,603	79,424	70,212	877,709
2000	68,246	64,949	70,825	72,603	105,323	104,132	107,603	107,603	96,602	15,372	14,876	15,372	843,507
2001	15,372	13,884	15,372	14,876	22,851	49,617	107,603	107,433	38,022	75,125	72,198	69,215	601,569
2002	31,173	28,918	37,702	43,034	61,820	86,919	107,603	107,603	85,433	15,372	14,876	15,372	635,825
2003	15,372	13,884	15,372	14,876	26,849	59,031	107,603	107,603	40,351	15,372	14,876	15,372	446,562
2004	15,372	14,380	15,372	14,876	27,804	54,616	107,603	105,924	34,280	15,372	14,876	15,372	435,847
2005	15,372	13,884	15,372	14,876	25,720	25,312	107,603	104,992	34,092	15,372	14,876	14,876	402,348
Average	36,929	33,103	43,841	37,273	45,029	61,803	101,661	100,520	63,939	47,786	46,667	43,216	603,205

Key Div (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	-752	0	0	-462	0	0	0	-1,214
1991	0	0	0	0	0	-2,985	0	0	0	0	0	0	-2,985
1992	0	0	0	0	0	-451	-390	-1,394	1,045	44,712	54,321	25,570	123,414
1993	12,297	11,107	12,297	12,703	29,918	44,469	32,087	58,161	34,196	-36,605	-50,753	-38,177	121,703
1994	-53,320	-43,493	-49,724	-20,549	-33,241	-32,725	0	-12,563	-52,964	1	0	0	-298,578
1995	0	0	0	0	0	0	0	0	0	0	6,464	15,744	22,208
1996	41,998	29,911	0	0	0	0	0	0	0	11	0	0	71,920
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	-751	0	-96	-500	0	0	0	-1,348
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	-744	0	0	-2,281	0	0	0	-3,025
2004	0	0	0	0	0	-743	0	-1,533	-496	0	0	0	-2,772
2005	0	0	0	0	0	-397	0	-7,072	-496	0	0	0	-7,964
Average	46	-118	-1,782	-374	-158	234	1,509	1,691	-1,046	387	478	149	8,133

PH Canal (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	24	1,545	6,569	5,397	1,335	0	0	0	14,871
1986	0	0	0	0	567	1,965	6,589	5,411	1,338	0	0	0	15,871
1987	0	0	0	0	525	1,288	5,548	4,664	1,198	0	0	0	13,224
1988	0	0	0	0	1,640	1,883	6,989	5,699	1,392	0	0	0	17,602
1989	0	0	0	0	396	1,488	4,050	3,589	998	0	0	0	10,522
1990	0	0	0	0	1,102	1,854	7,485	6,054	1,416	0	0	0	17,912
1991	0	0	0	0	1,667	2,223	6,698	5,490	1,353	0	0	0	17,432
1992	0	0	0	0	815	1,968	3,616	3,205	920	0	0	0	10,525
1993	0	0	0	0	1,667	2,201	3,992	3,547	990	0	0	0	12,398
1994	0	0	0	0	984	520	5,255	3,810	1,153	0	0	0	11,723
1995	0	0	0	0	1,667	2,817	6,764	5,537	1,361	0	0	0	18,146
1996	0	0	0	0	1,667	2,401	3,961	3,524	986	0	0	0	12,539
1997	0	0	0	0	1,657	1,051	5,332	4,509	1,170	0	0	0	13,718
1998	0	0	0	0	1,667	2,510	4,688	3,976	1,083	0	0	0	13,925
1999	0	0	0	0	1,069	2,269	4,133	3,648	1,009	0	0	0	12,127
2000	0	0	0	0	1,649	3,048	8,329	6,661	1,571	0	0	0	21,258
2001	0	0	0	0	1,667	2,824	6,910	5,548	1,381	0	0	0	18,331
2002	0	0	0	0	1,494	1,723	4,610	3,991	1,073	0	0	0	12,890
2003	0	0	0	0	1,585	2,221	4,121	3,639	1,007	0	0	0	12,573
2004	0	0	0	0	1,441	2,040	3,638	3,068	919	0	0	0	11,104
2005	0	0	0	0	1,573	2,551	4,969	3,989	1,120	0	0	0	14,203
Average	0	0	0	0	1,263	2,019	5,440	4,522	1,180	0	0	0	13,066

PH Canal (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	24	1,545	6,569	5,397	1,335	0	0	0	14,871
1986	0	0	0	0	567	1,965	6,589	5,411	1,338	0	0	0	15,871
1987	0	0	0	0	525	1,288	5,548	4,664	1,198	0	0	0	13,224
1988	0	0	0	0	1,640	1,883	6,989	5,699	1,392	0	0	0	17,602
1989	0	0	0	0	396	1,488	4,050	3,589	998	0	0	0	10,522
1990	0	0	0	0	1,102	1,854	7,485	6,054	1,423	0	0	0	17,918
1991	0	0	0	0	1,667	2,223	6,698	5,490	1,353	0	0	0	17,432
1992	0	0	0	0	815	1,968	3,616	3,205	920	0	0	0	10,525
1993	0	0	0	0	1,667	1,910	3,992	3,437	990	0	0	0	11,997
1994	0	0	0	0	984	1,794	5,255	4,454	1,159	0	0	0	13,646
1995	0	0	0	0	1,667	2,817	6,764	5,537	1,361	0	0	0	18,146
1996	0	0	0	0	1,667	2,401	3,961	3,524	986	0	0	0	12,539
1997	0	0	0	0	1,657	1,051	5,332	4,509	1,170	0	0	0	13,718
1998	0	0	0	0	1,667	2,510	4,688	3,976	1,083	0	0	0	13,925
1999	0	0	0	0	1,069	2,269	4,133	3,648	1,009	0	0	0	12,127
2000	0	0	0	0	1,649	3,048	8,329	6,661	1,571	0	0	0	21,258
2001	0	0	0	0	1,667	2,824	6,910	5,586	1,381	0	0	0	18,369
2002	0	0	0	0	1,494	1,723	4,610	3,991	1,073	0	0	0	12,890
2003	0	0	0	0	1,585	2,221	4,121	3,639	1,007	0	0	0	12,573
2004	0	0	0	0	1,441	2,040	3,638	3,068	919	0	0	0	11,104
2005	0	0	0	0	1,573	2,551	4,969	3,989	1,120	0	0	0	14,203
Average	0	0	0	0	1,263	2,065	5,440	4,549	1,180	0	0	0	13,371

PH Canal (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	-6	0	0	0	-6
1991	0	0	0	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	291	0	110	0	0	0	0	401
1994	0	0	0	0	0	-1,274	0	-643	-6	0	0	0	-1,923
1995	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	-38	0	0	0	0	-38
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	0	0	0	0	0	-47	0	-27	-1	0	0	0	-304

Sub Canal (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	1,900	2,787	7,001	6,032	1,610	0	0	0	19,331
1986	0	0	0	0	1,983	2,973	6,825	5,906	1,587	0	0	0	19,273
1987	0	0	0	0	2,026	2,901	6,377	5,584	1,527	0	0	0	18,415
1988	0	0	0	0	2,127	3,305	6,680	5,802	1,567	0	0	0	19,481
1989	0	0	0	0	2,001	3,341	6,744	5,847	1,576	0	0	0	19,509
1990	0	0	0	0	2,054	2,548	7,507	6,506	1,198	0	0	0	19,813
1991	0	0	0	0	2,127	2,793	6,831	5,996	1,577	0	0	0	19,323
1992	0	0	0	0	2,054	2,841	5,400	4,596	1,014	0	0	0	15,905
1993	0	0	0	0	2,126	3,261	5,419	4,896	1,398	0	0	0	17,100
1994	0	0	0	0	2,028	2,643	6,375	3,210	1,150	0	0	0	15,405
1995	0	0	0	0	2,127	3,395	6,957	6,001	1,615	0	0	0	20,095
1996	0	0	0	0	2,127	3,148	5,233	4,763	1,373	0	0	0	16,644
1997	0	0	0	0	2,127	1,973	6,185	5,255	1,501	0	0	0	17,041
1998	0	0	0	0	2,127	3,338	5,898	5,045	1,463	0	0	0	17,869
1999	0	0	0	0	1,999	3,211	5,703	5,100	1,436	0	0	0	17,450
2000	0	0	0	0	2,127	3,665	7,897	6,675	1,730	0	0	0	22,094
2001	0	0	0	0	2,127	2,945	5,813	5,080	1,447	0	0	0	17,412
2002	0	0	0	0	2,067	3,374	7,174	6,156	1,634	0	0	0	20,404
2003	0	0	0	0	2,103	2,770	6,457	5,722	1,193	0	0	0	18,247
2004	0	0	0	0	2,074	2,797	5,560	4,344	1,149	0	0	0	15,924
2005	0	0	0	0	2,104	3,347	5,748	4,478	1,153	0	0	0	16,829
Average	0	0	0	0	2,073	3,017	6,371	5,381	1,424	0	0	0	17,030

Sub Canal (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	1,900	2,787	7,001	6,032	1,610	0	0	0	19,331
1986	0	0	0	0	1,983	2,973	6,825	5,906	1,587	0	0	0	19,273
1987	0	0	0	0	2,026	2,901	6,377	5,584	1,527	0	0	0	18,415
1988	0	0	0	0	2,127	3,305	6,680	5,802	1,567	0	0	0	19,481
1989	0	0	0	0	2,001	3,341	6,744	5,847	1,576	0	0	0	19,509
1990	0	0	0	0	2,054	2,548	7,507	6,506	1,230	0	0	0	19,844
1991	0	0	0	0	2,127	2,793	6,831	5,996	1,604	0	0	0	19,350
1992	0	0	0	0	2,054	2,841	5,400	4,596	1,014	0	0	0	15,905
1993	0	0	0	0	2,126	2,983	5,343	4,213	1,201	0	0	0	15,865
1994	0	0	0	0	2,028	3,389	6,493	5,667	1,542	0	0	0	19,118
1995	0	0	0	0	2,127	3,395	6,957	6,001	1,615	0	0	0	20,095
1996	0	0	0	0	2,127	3,148	5,233	4,763	1,373	0	0	0	16,644
1997	0	0	0	0	2,127	1,973	6,185	5,255	1,501	0	0	0	17,041
1998	0	0	0	0	2,127	3,338	5,898	5,045	1,463	0	0	0	17,869
1999	0	0	0	0	1,999	3,211	5,703	5,100	1,436	0	0	0	17,450
2000	0	0	0	0	2,127	3,665	7,897	6,675	1,730	0	0	0	22,094
2001	0	0	0	0	2,127	2,945	5,813	5,080	1,447	0	0	0	17,412
2002	0	0	0	0	2,067	3,374	7,174	6,156	1,634	0	0	0	20,404
2003	0	0	0	0	2,103	2,770	6,457	5,722	1,193	0	0	0	18,247
2004	0	0	0	0	2,074	2,797	5,560	4,350	1,149	0	0	0	15,930
2005	0	0	0	0	2,104	3,347	5,748	4,478	1,153	0	0	0	16,829
Average	0	0	0	0	2,073	3,039	6,373	5,465	1,436	0	0	0	17,525

Sub Canal (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	-31	0	0	0	-31
1991	0	0	0	0	0	0	0	0	-27	0	0	0	-27
1992	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	278	76	683	198	0	0	0	1,235
1994	0	0	0	0	0	-746	-118	-2,457	-393	0	0	0	-3,713
1995	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0	-6	0	0	0	0	-6
2005	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	0	0	0	0	0	-22	-2	-85	-12	0	0	0	-496

Korty Div (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	9,223	25,016	15,477	6,201	52,075	27,738	1,706	1,226	20,613	36,738	22,466	45,254	263,733
1986	52,264	43,433	16,384	34,633	13,226	14,211	1,556	0	14,040	10,288	17,404	24,896	242,335
1987	29,236	27,326	28,661	47,200	51,536	36,895	4,185	595	12,660	5,575	10,604	13,589	268,062
1988	44,215	48,893	35,761	26,219	32,857	22,736	0	0	0	841	0	19,966	231,486
1989	38,918	30,972	26,331	4,507	0	3,857	0	0	8,896	166	0	3,460	117,106
1990	41,626	32,185	46,077	43,183	5,009	1,074	0	0	3,675	2,192	1,663	18,735	195,419
1991	38,713	33,093	18,019	9,095	1,671	29,430	0	0	10,109	2,388	351	7,263	150,133
1992	33,419	45,075	47,643	30,729	0	16,906	6,096	9,578	24,756	17,417	6,120	37,485	275,224
1993	39,380	41,668	50,096	31,593	5,883	1,740	0	0	25,722	24,971	10,204	25,378	256,636
1994	39,378	35,761	26,674	8,369	879	0	0	0	0	2,648	0	6,166	119,876
1995	6,729	7,326	3,453	12,872	22,790	50,579	46,718	6,302	23,783	33,457	17,505	20,194	251,708
1996	23,465	25,746	25,058	10,933	6,195	27,334	494	2,216	48,249	23,998	9,578	20,962	224,230
1997	38,505	35,003	29,819	14,773	4,423	34,446	7,146	29,451	19,442	9,223	29,752	35,635	287,617
1998	38,404	32,297	28,400	31,077	48,517	32,900	2,380	4,981	11,025	45,586	27,548	21,754	324,869
1999	38,818	32,439	21,224	14,510	39,517	11,702	9,052	15,483	8,880	9,223	25,601	34,323	260,771
2000	35,603	32,585	35,157	26,550	5,169	219	0	0	0	1,052	0	6,467	142,803
2001	18,937	23,387	6,651	20,526	17,054	5,606	1,068	0	3,728	1,198	3,463	9,700	111,317
2002	12,101	11,086	6,782	110	0	148	8,343	0	0	0	0	0	38,569
2003	0	0	0	0	262	0	0	0	0	0	0	0	262
2004	0	0	0	0	0	0	0	0	0	0	0	120	120
2005	878	0	0	462	100	29,541	0	0	0	1,196	0	2,074	34,252
Average	27,610	26,823	22,270	17,788	14,627	16,527	4,226	3,325	11,218	10,865	8,679	16,830	225,535

Korty Div (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	9,223	25,016	15,477	6,201	52,075	27,738	1,706	1,226	20,613	36,738	22,466	45,254	263,733
1986	52,264	43,433	16,384	34,633	13,226	14,211	1,556	0	14,040	10,288	17,404	24,896	242,335
1987	29,236	27,326	28,661	47,200	51,536	36,895	4,185	595	12,660	5,575	10,604	13,589	268,062
1988	44,215	48,893	35,761	26,219	32,857	22,736	0	0	0	841	0	19,966	231,486
1989	38,918	30,972	26,331	4,507	0	3,857	0	0	8,896	166	0	3,460	117,106
1990	41,626	32,185	46,077	43,183	5,009	1,074	0	0	3,675	2,192	1,663	18,735	195,419
1991	38,713	33,093	18,019	9,095	1,671	29,430	0	0	10,109	2,388	351	7,263	150,133
1992	33,419	45,075	47,643	30,729	0	16,906	5,746	9,578	24,756	17,417	6,120	37,485	274,873
1993	39,380	41,668	50,096	31,593	5,883	2,117	0	0	25,722	24,971	10,204	25,378	257,013
1994	27,381	26,299	19,455	8,369	879	0	0	0	0	2,648	0	6,166	91,196
1995	6,729	7,326	3,453	12,872	22,790	50,579	46,718	6,302	23,783	33,457	19,026	24,823	257,857
1996	33,629	37,602	25,058	10,933	6,195	27,334	494	2,216	48,249	24,030	9,578	20,962	246,281
1997	38,505	35,003	29,819	14,773	4,423	34,446	7,146	29,451	19,442	9,223	29,752	35,635	287,617
1998	38,404	32,297	28,400	31,077	48,517	32,900	2,380	4,981	11,025	45,586	27,548	21,754	324,869
1999	38,818	32,439	21,224	14,510	39,517	11,702	9,052	15,483	8,880	9,223	25,601	34,323	260,771
2000	35,603	32,585	35,157	26,550	5,169	219	0	0	0	1,052	0	6,467	142,803
2001	18,937	23,387	6,651	20,526	17,054	5,606	1,068	0	3,728	1,198	3,463	9,700	111,317
2002	12,101	11,086	6,782	110	0	148	8,343	0	0	0	0	0	38,569
2003	0	0	0	0	262	0	0	0	0	0	0	0	262
2004	0	0	0	0	0	0	0	0	0	0	0	120	120
2005	878	0	0	462	100	29,541	0	0	0	1,196	0	2,074	34,252
Average	27,523	26,937	21,926	17,788	14,627	16,545	4,209	3,325	11,218	10,866	8,751	17,050	225,444

Korty Div (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	351	0	0	0	0	0	351
1993	0	0	0	0	0	-377	0	0	0	0	0	0	-377
1994	11,998	9,463	7,219	0	0	0	0	0	0	0	0	0	28,680
1995	0	0	0	0	0	0	0	0	0	0	-1,521	-4,629	-6,150
1996	-10,163	-11,856	0	0	0	0	0	0	0	-32	0	0	-22,051
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	87	-114	344	0	0	-18	17	0	0	-2	-72	-220	91

Suth Cnl (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	113,684	94,394	105,830	94,650	89,841	99,565	107,184	106,745	95,535	73,760	73,767	76,626	1,131,580
1986	76,976	65,772	52,735	84,283	65,147	91,546	106,917	105,721	103,524	111,336	102,638	104,268	1,070,863
1987	101,833	90,990	104,014	92,365	90,051	92,290	109,220	106,235	98,235	74,562	73,320	75,995	1,109,110
1988	68,967	72,010	85,728	53,274	61,659	86,970	105,721	105,721	82,480	75,071	73,441	76,180	947,224
1989	63,697	54,574	55,198	42,425	58,944	82,872	105,721	105,721	81,059	14,077	13,501	17,198	694,987
1990	54,155	43,528	58,584	55,293	24,428	60,064	105,721	105,721	45,861	15,662	14,842	31,378	615,239
1991	51,256	44,432	30,667	21,611	21,973	62,012	105,721	105,721	52,536	15,740	13,733	20,159	545,563
1992	45,989	56,765	60,142	42,902	23,470	44,534	108,485	76,114	42,106	74,555	72,504	75,477	723,044
1993	64,157	64,016	74,819	56,401	54,383	81,662	105,721	105,721	82,984	37,584	22,479	37,988	787,915
1994	51,918	47,087	39,278	21,084	25,380	50,836	105,721	93,221	33,497	74,002	75,696	77,138	694,858
1995	41,516	37,269	42,040	41,800	59,029	65,843	63,065	111,092	82,897	75,171	78,014	86,695	784,432
1996	90,362	87,803	91,660	42,396	54,897	83,025	106,134	105,611	86,188	100,907	95,827	99,276	1,044,085
1997	96,899	87,970	97,855	94,246	106,937	90,697	111,099	94,262	98,374	113,684	99,656	100,561	1,192,240
1998	99,179	90,762	103,986	99,093	98,223	100,774	107,776	109,770	95,070	75,394	74,060	77,191	1,131,279
1999	63,597	61,551	86,566	43,589	85,992	107,045	113,514	113,684	109,972	113,684	102,024	101,454	1,102,672
2000	100,772	94,653	102,895	96,183	107,852	102,450	105,721	105,721	94,818	14,685	13,501	19,798	959,049
2001	31,579	34,775	19,747	32,750	37,617	52,546	106,627	105,456	39,116	74,322	73,277	76,080	683,893
2002	40,499	37,532	42,330	41,588	60,167	85,292	112,808	105,721	83,705	13,951	13,501	13,951	651,046
2003	13,951	12,601	13,951	13,501	25,553	56,695	105,721	105,721	36,579	13,951	13,501	13,951	425,676
2004	13,951	13,051	13,951	13,501	26,320	52,302	105,721	102,525	32,315	13,951	13,501	14,031	415,120
2005	14,590	12,601	13,951	13,804	24,308	52,022	105,721	96,087	32,127	14,867	13,501	15,017	408,595
Average	61,882	57,340	61,711	52,226	57,246	76,240	105,240	103,442	71,856	56,710	53,633	57,639	806,867

Suth Cnl (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	113,684	94,394	105,830	94,650	89,841	99,565	107,184	106,745	95,535	73,760	73,767	76,626	1,131,580
1986	76,976	65,772	52,735	84,283	65,147	91,546	106,917	105,721	103,524	111,336	102,638	104,268	1,070,863
1987	101,833	90,990	104,014	92,365	90,051	92,290	109,220	106,235	98,235	74,562	73,320	75,995	1,109,110
1988	68,967	72,010	85,728	53,274	61,659	86,970	105,721	105,721	82,480	75,071	73,441	76,180	947,224
1989	63,697	54,574	55,198	42,425	58,944	82,872	105,721	105,721	81,059	14,077	13,501	17,198	694,987
1990	54,155	43,528	58,584	55,293	24,428	60,812	105,721	105,721	46,321	15,662	14,842	31,378	616,447
1991	51,256	44,432	30,667	21,611	21,973	64,982	105,721	105,721	52,536	15,740	13,733	20,159	548,532
1992	45,989	56,765	60,142	42,902	23,470	44,982	108,524	77,501	41,067	30,067	18,454	50,035	599,898
1993	51,921	52,964	62,583	43,761	24,614	37,790	73,794	47,850	48,958	74,005	72,979	75,974	667,195
1994	93,034	80,948	81,570	41,530	58,455	83,397	105,721	105,721	86,197	74,001	75,696	77,138	963,408
1995	41,516	37,269	42,040	41,800	59,029	65,843	63,065	111,092	82,897	75,171	73,096	75,635	768,454
1996	58,686	69,838	91,659	42,396	54,897	83,025	106,134	105,611	86,188	100,928	95,827	99,276	994,465
1997	96,899	87,970	97,855	94,246	106,937	90,697	111,099	94,262	98,374	113,684	99,656	100,561	1,192,240
1998	99,179	90,762	103,986	99,093	98,223	100,774	107,776	109,770	95,070	75,394	74,060	77,191	1,131,279
1999	63,597	61,551	86,566	43,589	85,992	107,045	113,514	113,684	109,972	113,684	102,024	101,454	1,102,672
2000	100,772	94,653	102,895	96,183	107,852	102,450	105,721	105,721	94,818	14,685	13,501	19,798	959,049
2001	31,579	34,775	19,747	32,750	37,617	53,293	106,627	105,552	39,614	74,322	73,277	76,080	685,234
2002	40,499	37,532	42,330	41,588	60,167	85,292	112,808	105,721	83,705	13,951	13,501	13,951	651,046
2003	13,951	12,601	13,951	13,501	25,553	57,436	105,721	105,721	38,848	13,951	13,501	13,951	428,686
2004	13,951	13,051	13,951	13,501	26,320	53,042	105,721	104,051	32,808	13,951	13,501	14,031	417,878
2005	14,590	12,601	13,951	13,804	24,308	52,417	105,721	103,123	32,621	14,867	13,501	15,017	416,520
Average	61,749	57,571	63,142	52,597	57,404	76,025	103,722	101,760	72,897	56,327	53,229	57,709	798,684

Suth Cnl (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	-748	0	0	-460	0	0	0	-1,207
1991	0	0	0	0	0	-2,970	0	0	0	0	0	0	-2,970
1992	0	0	0	0	0	-449	-39	-1,387	1,040	44,488	54,050	25,442	123,146
1993	12,236	11,052	12,236	12,639	29,769	43,872	31,927	57,871	34,025	-36,422	-50,499	-37,986	120,720
1994	-41,115	-33,861	-42,292	-20,446	-33,075	-32,561	0	-12,500	-52,699	1	0	0	-268,549
1995	0	0	0	0	0	0	0	0	0	0	4,918	11,060	15,978
1996	31,676	17,964	0	0	0	0	0	0	0	-21	0	0	49,620
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	-748	0	-95	-498	0	0	0	-1,341
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	-740	0	0	-2,270	0	0	0	-3,010
2004	0	0	0	0	0	-740	0	-1,525	-493	0	0	0	-2,758
2005	0	0	0	0	0	-395	0	-7,036	-493	0	0	0	-7,925
Average	133	-231	-1,431	-372	-157	215	1,518	1,682	-1,040	383	403	-71	8,183

TriCo Div (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	129,731	116,370	126,337	103,745	131,308	126,658	133,736	133,736	116,086	98,056	87,202	82,890	1,385,855
1986	101,604	94,224	64,923	118,286	82,058	112,911	133,736	133,736	128,493	130,682	121,608	131,394	1,353,653
1987	129,973	108,800	131,032	126,115	131,439	129,415	133,736	133,736	119,456	109,952	91,676	91,499	1,436,828
1988	78,421	100,427	113,823	89,188	90,589	109,428	133,736	133,736	107,492	93,087	89,089	92,568	1,231,583
1989	85,315	76,813	71,039	48,891	68,704	95,986	133,736	133,736	104,593	53,731	30,879	30,491	933,912
1990	65,287	61,607	84,817	79,718	37,664	73,617	133,441	133,639	70,169	47,178	28,242	42,879	858,259
1991	51,897	60,979	54,802	48,119	49,512	74,261	132,948	133,736	77,716	38,870	34,276	40,936	798,050
1992	57,126	76,224	112,215	71,571	36,082	70,382	122,512	121,904	60,880	80,661	90,451	95,824	995,831
1993	88,000	85,931	106,374	69,223	71,478	104,038	133,736	133,736	112,850	87,446	37,589	59,392	1,089,794
1994	71,429	63,865	56,119	37,159	32,160	67,577	126,697	111,877	54,137	85,177	88,909	92,830	887,938
1995	58,368	50,979	58,664	64,587	90,725	129,422	133,736	133,736	114,963	95,981	101,149	97,638	1,129,946
1996	114,945	106,072	121,244	76,587	77,126	108,335	133,736	133,736	129,422	112,723	112,441	114,604	1,340,968
1997	112,074	99,898	130,517	105,216	122,421	126,662	133,736	133,736	124,999	133,736	128,930	133,736	1,485,659
1998	133,687	115,081	122,069	127,277	133,474	129,422	133,736	133,736	124,782	120,577	91,909	92,789	1,458,537
1999	90,497	76,150	111,088	64,528	126,972	129,422	133,736	133,736	129,422	133,736	127,607	120,492	1,377,384
2000	129,468	117,589	123,384	115,040	108,467	125,828	133,736	133,736	120,898	74,989	31,917	34,225	1,249,275
2001	47,801	49,628	37,382	59,081	62,884	75,800	132,498	124,762	66,765	83,986	92,968	96,625	930,177
2002	62,350	57,741	61,319	58,516	65,239	101,988	133,736	133,736	106,929	37,545	28,516	35,915	883,529
2003	36,897	32,445	30,904	31,622	35,030	52,241	132,473	133,628	51,873	26,913	25,991	29,159	619,177
2004	34,089	30,475	35,354	35,129	32,182	62,997	129,355	118,588	46,236	28,714	27,584	30,757	611,460
2005	33,506	26,879	31,356	31,097	39,297	99,348	132,947	116,688	48,892	33,769	29,946	34,392	658,116
Average	81,546	76,580	84,989	74,319	77,372	100,273	132,449	130,161	96,050	81,310	71,375	75,287	1,088,895

TriCo Div (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	129,731	116,370	126,337	103,745	131,308	126,658	133,736	133,736	116,086	98,056	87,202	82,890	1,385,855
1986	101,604	94,224	64,923	118,286	82,058	112,911	133,736	133,736	128,493	130,682	121,608	131,394	1,353,653
1987	129,973	108,800	131,032	126,115	131,439	129,415	133,736	133,736	119,456	109,952	91,676	91,499	1,436,828
1988	78,421	100,427	113,823	89,188	90,589	109,428	133,736	133,736	107,492	93,087	89,089	92,568	1,231,583
1989	85,315	76,813	71,039	48,891	68,704	95,986	133,736	133,736	104,593	53,731	30,879	30,491	933,912
1990	65,287	61,607	84,817	79,718	37,664	73,617	133,441	133,706	70,188	48,371	28,291	42,882	859,589
1991	51,897	60,979	54,802	48,119	49,512	74,261	132,948	133,736	78,216	38,870	34,276	40,936	798,551
1992	57,126	76,224	112,215	71,571	36,082	70,827	123,514	121,904	60,880	43,052	51,692	64,135	889,220
1993	75,911	71,915	98,880	47,217	52,703	55,926	91,833	73,534	68,657	98,120	89,726	97,218	921,640
1994	114,355	99,823	102,896	57,715	80,375	95,930	133,736	133,736	106,636	95,721	88,909	92,830	1,202,661
1995	58,368	50,979	58,664	64,587	90,725	129,422	133,736	133,736	114,963	95,981	94,547	88,196	1,113,903
1996	87,294	83,078	121,193	69,616	77,126	108,335	133,736	133,736	129,422	112,683	112,441	114,604	1,283,261
1997	112,074	99,898	130,517	105,216	122,421	126,662	133,736	133,736	124,999	133,736	128,930	133,736	1,485,659
1998	133,687	115,081	122,069	127,277	133,474	129,422	133,736	133,736	124,782	120,577	91,909	92,789	1,458,537
1999	90,497	76,150	111,088	64,528	126,972	129,422	133,736	133,736	129,422	133,736	127,607	120,492	1,377,384
2000	129,468	117,589	123,384	115,040	108,467	125,828	133,736	133,736	120,898	74,989	31,917	34,225	1,249,275
2001	47,801	49,628	37,382	59,081	62,884	76,492	132,547	125,930	66,981	84,356	92,968	96,625	932,674
2002	62,350	57,741	61,319	58,516	65,239	101,988	133,736	133,736	106,929	37,545	28,516	35,915	883,529
2003	36,897	32,445	30,904	31,622	35,030	52,926	132,522	133,706	54,123	26,913	25,991	29,159	622,238
2004	34,089	30,475	35,354	35,129	32,182	63,046	129,817	120,054	46,773	28,714	27,584	30,757	613,976
2005	33,506	26,879	31,356	31,097	39,297	99,691	132,947	123,435	49,606	33,769	29,946	34,392	665,920
Average	81,698	76,530	86,857	73,918	78,774	99,438	130,863	128,789	96,647	80,602	71,700	75,130	1,082,137

TriCo Div (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	-67	-19	-1,193	-49	-2	-1,330
1991	0	0	0	0	0	0	0	0	-501	0	0	0	-501
1992	0	0	0	0	0	-445	-1,001	0	0	37,609	38,758	31,689	106,610
1993	12,089	14,016	7,494	22,006	18,775	48,112	41,902	60,202	44,194	-10,674	-52,137	-37,826	168,153
1994	-42,925	-35,958	-46,777	-20,556	-48,215	-28,353	-7,039	-21,858	-52,499	-10,544	0	0	-314,724
1995	0	0	0	0	0	0	0	0	0	0	6,601	9,442	16,043
1996	27,651	22,993	51	6,971	0	0	0	0	0	40	0	0	57,707
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	-691	-49	-1,169	-216	-371	0	0	-2,497
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	-685	-49	-78	-2,249	0	0	0	-3,061
2004	0	0	0	0	0	-49	-462	-1,467	-538	0	0	0	-2,516
2005	0	0	0	0	0	-342	0	-6,748	-714	0	0	0	-7,804
Average	-152	50	-1,868	401	-1,402	836	1,586	1,372	-597	708	-325	157	6,758

Goth Div (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	2,428	5,676	7,834	16,722	14,007	3,579	0	0	0	50,247
1986	0	0	0	2,345	5,460	8,299	19,862	16,262	3,999	0	0	0	56,227
1987	0	0	0	2,444	5,510	7,727	15,999	13,488	3,482	0	0	0	48,650
1988	0	0	0	2,444	5,539	7,868	16,948	14,170	3,609	0	0	0	50,577
1989	0	0	0	2,444	5,502	7,541	14,740	12,584	3,313	0	0	0	46,122
1990	0	0	0	2,444	5,510	8,514	21,011	17,306	4,165	0	0	0	58,950
1991	0	0	0	2,444	5,524	8,464	20,142	17,064	4,149	0	0	0	57,788
1992	0	0	0	2,444	5,531	7,316	13,212	11,494	3,110	0	0	0	43,106
1993	0	0	0	2,444	5,500	6,684	8,950	8,427	2,537	0	0	0	34,542
1994	0	0	0	2,444	5,149	7,572	14,953	12,737	2,752	0	0	0	45,606
1995	0	0	0	2,444	5,538	8,085	18,416	15,224	3,806	0	0	0	53,513
1996	0	0	0	2,444	5,519	7,003	11,105	9,974	2,826	0	0	0	38,870
1997	0	0	0	2,442	5,561	7,914	17,261	14,394	3,651	0	0	0	51,223
1998	0	0	0	2,444	5,507	7,977	17,688	14,701	3,708	0	0	0	52,026
1999	0	0	0	2,444	5,517	7,241	12,716	11,131	3,042	0	0	0	42,091
2000	0	0	0	2,444	5,520	8,855	23,620	18,960	4,503	0	0	0	63,901
2001	0	0	0	2,444	5,514	7,895	16,996	14,304	3,634	0	0	0	50,786
2002	0	0	0	2,444	5,518	7,633	15,365	13,033	3,397	0	0	0	47,389
2003	0	0	0	2,444	5,518	6,734	18,417	15,518	3,861	0	0	0	52,491
2004	0	0	0	2,444	5,294	7,902	19,744	16,177	3,984	0	0	0	55,544
2005	0	0	0	2,444	5,496	7,945	17,473	14,547	3,679	0	0	0	51,585
Average	0	0	0	2,438	5,495	7,762	16,730	14,071	3,561	0	0	0	43,127

Goth Div (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	2,428	5,676	7,834	16,722	14,007	3,579	0	0	0	50,247
1986	0	0	0	2,345	5,460	8,299	19,862	16,262	3,999	0	0	0	56,227
1987	0	0	0	2,444	5,510	7,727	15,999	13,488	3,482	0	0	0	48,650
1988	0	0	0	2,444	5,539	7,868	16,948	14,170	3,609	0	0	0	50,577
1989	0	0	0	2,444	5,502	7,541	14,740	12,584	3,313	0	0	0	46,122
1990	0	0	0	2,444	5,510	8,514	20,911	17,306	4,114	0	0	0	58,800
1991	0	0	0	2,444	5,524	8,464	20,092	17,064	4,149	0	0	0	57,738
1992	0	0	0	2,444	5,531	7,316	13,162	11,494	3,110	0	0	0	43,056
1993	0	0	0	2,444	5,500	6,684	8,950	8,427	2,537	0	0	0	34,542
1994	0	0	0	2,444	5,511	7,572	14,953	12,737	3,342	0	0	0	46,558
1995	0	0	0	2,444	5,538	8,085	18,416	15,224	3,806	0	0	0	53,513
1996	0	0	0	2,444	5,519	7,003	11,105	9,974	2,826	0	0	0	38,870
1997	0	0	0	2,442	5,561	7,914	17,261	14,394	3,651	0	0	0	51,223
1998	0	0	0	2,444	5,507	7,977	17,688	14,701	3,708	0	0	0	52,026
1999	0	0	0	2,444	5,517	7,241	12,716	11,131	3,042	0	0	0	42,091
2000	0	0	0	2,444	5,520	8,855	23,620	18,960	4,503	0	0	0	63,901
2001	0	0	0	2,444	5,514	7,895	16,995	14,304	3,634	0	0	0	50,786
2002	0	0	0	2,444	5,518	7,633	15,365	13,033	3,397	0	0	0	47,389
2003	0	0	0	2,444	5,518	6,734	18,417	15,518	3,861	0	0	0	52,491
2004	0	0	0	2,444	5,294	7,782	19,744	16,177	3,984	0	0	0	55,424
2005	0	0	0	2,444	5,496	7,945	17,473	14,547	3,679	0	0	0	51,585
Average	0	0	0	2,438	5,513	7,756	16,721	14,071	3,587	0	0	0	43,308

Goth Div (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	100	0	50	0	0	0	150
1991	0	0	0	0	0	0	50	0	0	0	0	0	50
1992	0	0	0	0	0	0	50	0	0	0	0	0	50
1993	0	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	-362	0	0	0	-590	0	0	0	-951
1995	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	1	0	0	0	0	0	1
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0	0	0	0	0	0	0
2004	0	0	0	0	0	120	0	0	0	0	0	0	120
2005	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	0	0	0	0	-17	6	10	0	-26	0	0	0	-180

Thirty Mi Div (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	1,723	6,134	12,639	10,717	2,792	0	0	0	34,005
1986	0	0	0	0	1,723	6,417	14,552	12,091	3,049	0	0	0	37,832
1987	0	0	0	0	1,723	6,118	12,532	10,640	2,778	0	0	0	33,791
1988	0	0	0	0	1,723	6,133	12,630	10,711	2,791	0	0	0	33,988
1989	0	0	0	0	1,577	5,914	11,150	9,648	2,593	0	0	0	30,882
1990	0	0	0	0	1,222	6,388	14,915	13,091	2,912	0	0	0	38,528
1991	0	0	0	0	1,723	6,482	14,655	12,891	3,198	0	0	0	38,949
1992	0	0	0	0	724	5,823	10,313	9,294	2,527	0	0	0	28,680
1993	0	0	0	0	1,723	5,270	6,804	6,528	2,010	0	0	0	22,335
1994	0	0	0	0	39	5,897	11,264	9,931	1,482	0	0	0	28,612
1995	0	0	0	0	1,723	6,322	13,906	11,627	2,962	0	0	0	36,540
1996	0	0	0	0	1,723	5,555	8,725	7,907	2,268	0	0	0	26,177
1997	0	0	0	0	1,723	6,137	12,657	10,730	2,795	0	0	0	34,041
1998	0	0	0	0	1,723	6,288	13,676	11,462	2,931	0	0	0	36,079
1999	0	0	0	0	1,723	5,627	9,210	8,256	2,333	0	0	0	27,148
2000	0	0	0	0	1,723	6,850	17,478	14,192	3,441	0	0	0	43,684
2001	0	0	0	0	1,723	6,126	12,176	10,677	2,702	0	0	0	33,403
2002	0	0	0	0	1,723	6,075	12,241	10,432	2,739	0	0	0	33,209
2003	0	0	0	0	878	2,850	10,055	9,103	2,491	0	0	0	25,377
2004	0	0	0	0	287	4,435	7,389	6,948	2,089	0	0	0	21,148
2005	0	0	0	0	1,584	5,694	9,665	8,582	2,394	0	0	0	27,920
Average	0	0	0	0	1,449	5,835	11,840	10,260	2,632	0	0	0	28,469

Thirty Mi Div (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	1,723	6,134	12,639	10,717	2,792	0	0	0	34,005
1986	0	0	0	0	1,723	6,417	14,552	12,091	3,049	0	0	0	37,832
1987	0	0	0	0	1,723	6,118	12,532	10,640	2,778	0	0	0	33,791
1988	0	0	0	0	1,723	6,133	12,630	10,711	2,791	0	0	0	33,988
1989	0	0	0	0	1,577	5,914	11,150	9,648	2,593	0	0	0	30,882
1990	0	0	0	0	1,222	6,338	14,915	13,091	2,886	0	0	0	38,452
1991	0	0	0	0	1,723	5,908	14,655	12,891	3,198	0	0	0	38,374
1992	0	0	0	0	724	5,823	10,313	9,294	2,527	0	0	0	28,680
1993	0	0	0	0	1,713	5,270	6,804	6,528	2,010	0	0	0	22,325
1994	0	0	0	0	1,723	5,972	11,543	9,931	2,645	0	0	0	31,814
1995	0	0	0	0	1,723	6,322	13,906	11,627	2,962	0	0	0	36,540
1996	0	0	0	0	1,723	5,555	8,725	7,907	2,268	0	0	0	26,177
1997	0	0	0	0	1,723	6,137	12,657	10,730	2,795	0	0	0	34,041
1998	0	0	0	0	1,723	6,288	13,676	11,462	2,931	0	0	0	36,079
1999	0	0	0	0	1,723	5,627	9,210	8,256	2,333	0	0	0	27,148
2000	0	0	0	0	1,723	6,850	17,478	14,192	3,441	0	0	0	43,684
2001	0	0	0	0	1,723	6,126	12,176	10,677	2,583	0	0	0	33,284
2002	0	0	0	0	1,723	6,075	12,241	10,432	2,739	0	0	0	33,209
2003	0	0	0	0	878	2,850	10,055	9,103	2,491	0	0	0	25,377
2004	0	0	0	0	287	4,435	7,389	6,948	2,089	0	0	0	21,148
2005	0	0	0	0	1,584	5,694	9,665	8,582	2,394	0	0	0	27,920
Average	0	0	0	0	1,529	5,809	11,853	10,260	2,680	0	0	0	29,107

Thirty Mi Div (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	50	0	0	26	0	0	0	76
1991	0	0	0	0	0	574	0	0	0	0	0	0	574
1992	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	10	0	0	0	0	0	0	0	10
1994	0	0	0	0	-1,684	-75	-280	0	-1,163	0	0	0	-3,202
1995	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	119	0	0	0	119
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	0	0	0	0	-80	26	-13	0	-48	0	0	0	-638

Cozad Div (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	1,924	3,754	10,953	8,572	1,941	0	0	0	27,143
1986	0	0	0	0	1,924	4,106	13,327	10,276	2,259	0	0	0	31,891
1987	0	0	0	0	1,924	3,674	10,412	8,183	1,868	0	0	0	26,061
1988	0	0	0	0	1,924	3,749	10,918	8,546	1,936	0	0	0	27,073
1989	0	0	0	0	1,924	3,399	8,550	6,846	1,619	0	0	0	22,337
1990	0	0	0	0	1,924	4,077	12,598	10,139	2,159	0	0	0	30,897
1991	0	0	0	0	1,169	4,259	13,835	11,060	2,405	0	0	0	32,729
1992	0	0	0	0	1,169	3,113	6,617	5,472	1,362	0	0	0	17,733
1993	0	0	0	0	1,169	2,691	3,782	3,422	980	0	0	0	12,044
1994	0	0	0	0	1,169	3,312	7,977	6,434	1,542	0	0	0	20,434
1995	0	0	0	0	1,169	3,966	12,401	9,611	2,135	0	0	0	29,282
1996	0	0	0	0	1,169	3,030	6,071	5,066	1,286	0	0	0	16,622
1997	0	0	0	0	1,169	3,789	11,199	8,748	1,974	0	0	0	26,879
1998	0	0	0	0	1,169	3,884	11,844	9,211	2,060	0	0	0	28,169
1999	0	0	0	0	1,169	3,108	6,598	5,445	1,357	0	0	0	17,677
2000	0	0	0	0	1,169	4,635	16,712	12,854	2,740	0	0	0	38,111
2001	0	0	0	0	2,136	4,375	11,011	8,704	1,966	0	0	0	28,192
2002	0	0	0	0	2,136	4,538	12,244	9,499	2,114	0	0	0	30,531
2003	0	0	0	0	2,136	4,112	9,238	7,431	1,728	0	0	0	24,645
2004	0	0	0	0	2,136	3,333	4,098	3,650	1,022	0	0	0	14,239
2005	0	0	0	0	2,136	3,702	6,592	5,441	1,356	0	0	0	19,227
Average	0	0	0	0	1,615	3,743	9,856	7,839	1,800	0	0	0	19,223

Cozad Div (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	1,924	3,754	10,953	8,572	1,941	0	0	0	27,143
1986	0	0	0	0	1,924	4,106	13,327	10,276	2,259	0	0	0	31,891
1987	0	0	0	0	1,924	3,674	10,412	8,183	1,868	0	0	0	26,061
1988	0	0	0	0	1,924	3,749	10,918	8,546	1,936	0	0	0	27,073
1989	0	0	0	0	1,924	3,399	8,550	6,846	1,619	0	0	0	22,337
1990	0	0	0	0	1,924	4,077	12,598	10,139	2,135	0	0	0	30,873
1991	0	0	0	0	1,169	4,252	13,835	11,060	2,405	0	0	0	32,721
1992	0	0	0	0	1,169	3,113	6,617	5,472	1,362	0	0	0	17,733
1993	0	0	0	0	1,169	2,691	3,782	3,422	980	0	0	0	12,044
1994	0	0	0	0	1,169	3,312	7,977	6,434	1,542	0	0	0	20,434
1995	0	0	0	0	1,169	3,966	12,401	9,611	2,135	0	0	0	29,282
1996	0	0	0	0	1,169	3,030	6,071	5,066	1,286	0	0	0	16,622
1997	0	0	0	0	1,169	3,789	11,199	8,748	1,974	0	0	0	26,879
1998	0	0	0	0	1,169	3,884	11,844	9,211	2,060	0	0	0	28,169
1999	0	0	0	0	1,169	3,108	6,598	5,445	1,357	0	0	0	17,677
2000	0	0	0	0	1,169	4,635	16,662	12,854	2,740	0	0	0	38,061
2001	0	0	0	0	2,136	4,375	11,011	8,704	1,966	0	0	0	28,192
2002	0	0	0	0	2,136	4,538	12,244	9,499	2,114	0	0	0	30,531
2003	0	0	0	0	2,136	4,112	9,188	7,431	1,728	0	0	0	24,595
2004	0	0	0	0	2,136	3,333	4,098	3,650	1,022	0	0	0	14,239
2005	0	0	0	0	2,136	3,702	6,592	5,441	1,356	0	0	0	19,227
Average	0	0	0	0	1,615	3,743	9,851	7,839	1,799	0	0	0	19,223

Cozad Div (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	24	0	0	0	24
1991	0	0	0	0	0	8	0	0	0	0	0	0	8
1992	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	50	0	0	0	0	0	50
2001	0	0	0	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	50	0	0	0	0	0	50
2004	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	0	0	0	0	0	0	5	0	1	0	0	0	0

Orch Alf Canal (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	720	2,397	10,277	7,677	1,577	0	0	0	22,648
1986	0	0	0	0	720	2,463	10,566	7,996	1,636	0	0	0	23,381
1987	0	0	0	0	720	2,176	8,781	6,603	1,376	0	0	0	19,655
1988	0	0	0	0	720	2,452	10,523	7,943	1,626	0	0	0	23,264
1989	0	0	0	0	720	1,818	6,366	4,869	1,053	0	0	0	14,826
1990	0	0	0	0	720	2,846	12,915	10,032	1,844	0	0	0	28,356
1991	0	0	0	0	720	2,551	10,970	8,520	1,734	0	0	0	24,495
1992	0	0	0	0	720	1,419	3,671	2,934	691	0	0	0	9,435
1993	0	0	0	0	720	1,425	3,705	2,958	696	0	0	0	9,504
1994	0	0	0	0	720	1,968	7,315	5,593	1,188	0	0	0	16,783
1995	0	0	0	0	720	2,475	10,801	8,053	1,647	0	0	0	23,696
1996	0	0	0	0	720	1,544	4,509	3,536	804	0	0	0	11,112
1997	0	0	0	0	720	1,936	7,160	5,439	1,159	0	0	0	16,414
1998	0	0	0	0	720	1,688	5,486	4,237	935	0	0	0	13,066
1999	0	0	0	0	720	1,597	4,869	3,794	852	0	0	0	11,832
2000	0	0	0	0	720	2,935	13,535	10,286	2,064	0	0	0	29,539
2001	0	0	0	0	720	2,328	9,650	7,342	1,514	0	0	0	21,554
2002	0	0	0	0	720	2,099	8,262	6,230	1,307	0	0	0	18,618
2003	0	0	0	0	720	1,986	7,287	5,682	1,204	0	0	0	16,879
2004	0	0	0	0	720	1,721	5,709	4,398	965	0	0	0	13,513
2005	0	0	0	0	720	1,814	6,334	4,846	1,048	0	0	0	14,762
Average	0	0	0	0	720	2,078	8,033	6,141	1,282	0	0	0	14,106

Orch Alf Canal (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	720	2,397	10,277	7,677	1,577	0	0	0	22,648
1986	0	0	0	0	720	2,463	10,515	7,996	1,636	0	0	0	23,331
1987	0	0	0	0	720	2,176	8,781	6,603	1,376	0	0	0	19,655
1988	0	0	0	0	720	2,452	10,473	7,943	1,626	0	0	0	23,214
1989	0	0	0	0	720	1,818	6,366	4,869	1,053	0	0	0	14,826
1990	0	0	0	0	720	2,846	12,915	10,032	1,822	0	0	0	28,334
1991	0	0	0	0	720	2,513	10,970	8,520	1,734	0	0	0	24,457
1992	0	0	0	0	720	1,419	3,671	2,934	691	0	0	0	9,435
1993	0	0	0	0	720	1,425	3,705	2,958	696	0	0	0	9,504
1994	0	0	0	0	720	1,968	7,374	5,593	1,188	0	0	0	16,842
1995	0	0	0	0	720	2,475	10,801	8,053	1,647	0	0	0	23,696
1996	0	0	0	0	720	1,544	4,509	3,536	804	0	0	0	11,112
1997	0	0	0	0	720	1,936	7,160	5,439	1,159	0	0	0	16,414
1998	0	0	0	0	720	1,688	5,486	4,237	935	0	0	0	13,066
1999	0	0	0	0	720	1,597	4,869	3,794	852	0	0	0	11,832
2000	0	0	0	0	720	2,935	13,485	10,286	2,064	0	0	0	29,489
2001	0	0	0	0	720	2,328	9,650	7,342	1,514	0	0	0	21,554
2002	0	0	0	0	720	2,099	8,262	6,230	1,307	0	0	0	18,618
2003	0	0	0	0	720	1,986	7,287	5,682	1,204	0	0	0	16,879
2004	0	0	0	0	720	1,721	5,709	4,398	965	0	0	0	13,513
2005	0	0	0	0	720	1,814	6,334	4,846	1,048	0	0	0	14,762
Average	0	0	0	0	720	2,076	8,028	6,141	1,281	0	0	0	14,118

Orch Alf Canal (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	50	0	0	0	0	0	50
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	50	0	0	0	0	0	50
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	22	0	0	0	22
1991	0	0	0	0	0	38	0	0	0	0	0	0	38
1992	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	-60	0	0	0	0	0	-60
1995	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	50	0	0	0	0	0	50
2001	0	0	0	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	0	0	0	0	0	2	4	0	1	0	0	0	-12

Dawson Div (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	3,858	10,514	23,534	19,688	5,020	0	0	0	62,614
1986	0	0	0	0	3,858	11,180	27,177	22,920	5,623	0	0	0	70,758
1987	0	0	0	0	3,858	10,149	21,069	17,918	4,689	0	0	0	57,683
1988	0	0	0	0	3,858	10,641	23,511	20,306	5,135	0	0	0	63,452
1989	0	0	0	0	3,858	10,128	20,927	17,816	4,670	0	0	0	57,400
1990	0	0	0	0	3,858	9,926	27,424	21,683	3,692	0	0	0	66,582
1991	0	0	0	0	4,031	8,853	27,533	23,778	5,331	0	0	0	69,526
1992	0	0	0	0	4,031	9,245	14,918	14,249	4,005	0	0	0	46,448
1993	0	0	0	0	4,031	8,547	11,245	10,864	3,373	0	0	0	38,060
1994	0	0	0	0	4,031	9,979	19,236	17,807	2,810	0	0	0	53,864
1995	0	0	0	0	4,031	10,713	25,880	21,373	5,334	0	0	0	67,332
1996	0	0	0	0	4,031	9,074	14,799	13,416	3,849	0	0	0	45,169
1997	0	0	0	0	4,031	10,612	25,193	20,879	5,242	0	0	0	65,956
1998	0	0	0	0	4,031	10,239	22,674	19,070	4,904	0	0	0	60,918
1999	0	0	0	0	4,031	9,810	19,775	16,989	4,516	0	0	0	55,121
2000	0	0	0	0	4,031	11,614	30,092	25,742	6,150	0	0	0	77,628
2001	0	0	0	425	6,247	10,944	24,019	19,913	2,931	0	0	0	64,479
2002	0	0	0	425	6,247	11,582	28,517	23,888	5,803	0	0	0	76,462
2003	0	0	0	425	6,247	8,649	28,024	24,180	5,239	0	0	0	72,765
2004	0	0	0	425	6,233	9,886	23,159	21,170	4,820	0	0	0	65,693
2005	0	0	0	425	6,247	11,362	27,369	22,819	5,589	0	0	0	73,812
Average	0	0	0	101	4,509	10,174	23,146	19,832	4,701	0	0	0	50,174

Dawson Div (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	3,858	10,514	23,512	19,688	5,020	0	0	0	62,592
1986	0	0	0	0	3,858	11,180	27,177	22,920	5,623	0	0	0	70,758
1987	0	0	0	0	3,858	10,149	21,069	17,918	4,689	0	0	0	57,683
1988	0	0	0	0	3,858	10,641	23,461	20,306	5,135	0	0	0	63,402
1989	0	0	0	0	3,858	10,128	20,927	17,816	4,670	0	0	0	57,400
1990	0	0	0	0	3,858	9,607	27,422	21,683	3,524	0	0	0	66,095
1991	0	0	0	0	4,031	6,970	27,533	23,778	5,381	0	0	0	67,693
1992	0	0	0	0	4,031	9,220	14,879	14,249	4,005	0	0	0	46,383
1993	0	0	0	0	4,031	8,547	11,245	10,864	3,373	0	0	0	38,060
1994	0	0	0	0	4,031	9,954	20,914	17,807	4,669	0	0	0	57,376
1995	0	0	0	0	4,031	10,713	25,880	21,373	5,334	0	0	0	67,332
1996	0	0	0	0	4,031	9,074	14,799	13,416	3,849	0	0	0	45,169
1997	0	0	0	0	4,031	10,612	25,193	20,879	5,242	0	0	0	65,956
1998	0	0	0	0	4,031	10,239	22,674	19,070	4,904	0	0	0	60,918
1999	0	0	0	0	4,031	9,810	19,775	16,989	4,516	0	0	0	55,121
2000	0	0	0	0	4,031	11,614	30,092	25,742	6,150	0	0	0	77,628
2001	0	0	0	425	6,247	10,916	23,969	19,913	2,600	0	0	0	64,069
2002	0	0	0	425	6,247	11,582	28,418	23,888	5,803	0	0	0	76,363
2003	0	0	0	425	6,247	8,785	28,024	24,162	5,220	0	0	0	72,863
2004	0	0	0	425	6,233	9,787	23,126	21,170	4,814	0	0	0	65,555
2005	0	0	0	425	6,247	11,362	27,320	22,819	5,588	0	0	0	73,761
Average	0	0	0	101	4,509	10,067	23,210	19,831	4,767	0	0	0	50,864

Dawson Div (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	22	0	0	0	0	0	22
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	50	0	0	0	0	0	50
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	319	2	0	167	0	0	0	487
1991	0	0	0	0	0	1,883	0	0	-50	0	0	0	1,833
1992	0	0	0	0	0	25	39	0	0	0	0	0	65
1993	0	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	25	-1,678	0	-1,858	0	0	0	-3,512
1995	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	28	50	0	332	0	0	0	410
2002	0	0	0	0	0	0	99	0	0	0	0	0	99
2003	0	0	0	0	0	-136	0	18	19	0	0	0	-98
2004	0	0	0	0	0	99	34	0	6	0	0	0	138
2005	0	0	0	0	0	0	50	0	1	0	0	0	51
Average	0	0	0	0	0	107	-63	1	-66	0	0	0	-689

Phelps Canal Div (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	1,879	12,219	18,438	34,430	29,609	7,637	0	0	0	104,212
1986	0	0	0	1,879	12,219	19,007	38,723	32,371	8,152	0	0	0	112,352
1987	0	0	0	1,879	12,219	18,068	32,519	27,816	7,302	0	0	0	99,803
1988	0	0	0	1,879	12,219	19,711	45,110	36,768	8,973	0	0	0	124,660
1989	0	0	0	1,879	11,710	17,984	34,541	29,179	7,557	0	0	0	102,850
1990	0	0	0	1,879	5,394	15,378	49,355	34,010	8,827	0	0	0	114,844
1991	0	0	0	1,590	10,654	16,863	55,232	44,072	9,383	0	0	0	137,794
1992	0	0	0	1,879	4,177	15,331	28,152	26,371	6,196	0	0	0	82,107
1993	0	0	0	1,879	12,219	15,681	16,513	16,235	5,141	0	0	0	67,669
1994	0	0	0	1,119	3,809	14,890	26,561	21,165	6,260	0	0	0	73,803
1995	0	0	0	1,879	12,219	19,566	42,761	34,076	8,658	0	0	0	119,160
1996	0	0	0	1,879	12,219	16,301	20,699	19,240	5,702	0	0	0	76,040
1997	0	0	0	1,879	12,219	19,557	42,700	35,037	8,650	0	0	0	120,043
1998	0	0	0	1,879	12,219	17,884	31,398	26,922	7,135	0	0	0	97,438
1999	0	0	0	1,879	12,219	17,745	30,458	26,247	7,009	0	0	0	95,557
2000	0	0	0	1,879	12,219	20,058	46,084	37,467	9,103	0	0	0	126,811
2001	0	0	0	1,879	8,271	16,381	37,285	23,124	6,677	0	0	0	93,617
2002	0	0	0	1,879	11,950	19,622	43,897	35,896	8,810	0	0	0	122,055
2003	0	0	0	1,315	3,788	12,902	44,855	27,599	7,108	0	0	0	97,566
2004	0	0	0	1,548	3,155	14,031	31,908	26,626	6,183	0	0	0	83,452
2005	0	0	0	1,474	4,966	17,936	31,786	22,459	5,824	0	0	0	84,444
Average	0	0	0	1,767	9,633	17,302	36,427	29,157	7,442	0	0	0	83,756

Phelps Canal Div (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	1,879	12,219	18,438	34,430	29,609	7,637	0	0	0	104,212
1986	0	0	0	1,879	12,219	19,007	38,723	32,371	8,152	0	0	0	112,352
1987	0	0	0	1,879	12,219	18,068	32,418	27,816	7,302	0	0	0	99,703
1988	0	0	0	1,879	12,219	19,661	45,110	36,742	8,973	0	0	0	124,584
1989	0	0	0	1,879	11,710	17,937	34,492	29,179	7,557	0	0	0	102,754
1990	0	0	0	1,879	5,394	15,378	49,355	34,010	8,827	0	0	0	114,844
1991	0	0	0	1,590	10,654	18,987	55,182	44,072	9,383	0	0	0	139,868
1992	0	0	0	1,879	4,177	15,279	28,091	26,240	6,149	0	0	0	81,815
1993	0	0	0	1,879	9,946	13,606	16,513	15,921	5,101	0	0	0	62,967
1994	0	0	0	1,879	12,219	16,611	31,305	26,856	7,123	0	0	0	95,993
1995	0	0	0	1,879	12,219	19,566	42,761	34,026	8,658	0	0	0	119,110
1996	0	0	0	1,879	12,219	16,301	20,699	19,240	5,702	0	0	0	76,040
1997	0	0	0	1,879	12,219	19,557	42,700	35,037	8,650	0	0	0	120,043
1998	0	0	0	1,879	12,219	17,884	31,398	26,922	7,135	0	0	0	97,438
1999	0	0	0	1,879	12,219	17,745	30,458	26,247	7,009	0	0	0	95,557
2000	0	0	0	1,879	12,219	20,058	46,084	37,467	9,103	0	0	0	126,811
2001	0	0	0	1,879	8,271	16,267	37,285	23,080	6,677	0	0	0	93,459
2002	0	0	0	1,879	11,950	19,572	43,897	35,896	8,810	0	0	0	122,005
2003	0	0	0	1,315	3,788	12,237	44,854	27,599	7,881	0	0	0	97,674
2004	0	0	0	1,548	3,406	13,896	31,751	25,860	6,183	0	0	0	82,645
2005	0	0	0	1,474	4,966	17,936	31,786	23,193	5,824	0	0	0	85,179
Average	0	0	0	1,804	9,937	17,333	36,633	29,399	7,516	0	0	0	87,185

Phelps Canal Div (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	100	0	0	0	0	0	100
1988	0	0	0	0	0	50	0	26	0	0	0	0	76
1989	0	0	0	0	0	46	49	0	0	0	0	0	96
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	-2,124	50	0	0	0	0	0	-2,074
1992	0	0	0	0	0	52	61	131	47	0	0	0	291
1993	0	0	0	0	2,273	2,075	0	314	40	0	0	0	4,702
1994	0	0	0	-761	-8,410	-1,722	-4,745	-5,691	-863	0	0	0	-22,191
1995	0	0	0	0	0	0	0	50	0	0	0	0	50
1996	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	114	0	44	0	0	0	0	158
2002	0	0	0	0	0	50	0	0	0	0	0	0	50
2003	0	0	0	0	0	665	1	0	-774	0	0	0	-108
2004	0	0	0	0	-250	134	157	766	0	0	0	0	807
2005	0	0	0	0	0	0	0	-734	0	0	0	0	-734
Average	0	0	0	-36	-304	-31	-206	-243	-74	0	0	0	-3,429

Kearney Div (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	6,643	9,455	9,792	18,724	15,911	15,814	19,293	10,423	0	106,056
1986	0	0	0	4,433	17,786	19,577	20,729	20,317	16,869	15,592	4,727	0	120,030
1987	0	0	0	2,535	14,188	16,203	17,421	18,696	15,898	16,415	16,213	6,692	124,260
1988	0	0	1,589	9,535	16,804	12,827	13,597	13,293	13,722	3,614	0	0	84,980
1989	0	0	0	4,560	15,548	11,839	14,705	16,118	14,364	9,394	0	0	86,529
1990	0	0	0	2,486	14,953	16,923	15,116	15,312	15,087	10,635	321	0	90,835
1991	0	0	0	2,539	6,926	6,397	9,917	9,812	6,313	0	0	0	41,905
1992	0	0	0	1,375	11,357	12,119	8,951	7,960	7,706	1,767	0	0	51,235
1993	0	0	0	0	1,018	6,188	4,304	6,160	5,782	0	0	0	23,452
1994	0	0	0	0	274	7,527	11,921	12,085	6,173	0	3,826	0	41,806
1995	0	0	0	0	11,633	17,340	18,690	17,163	9,743	0	0	0	74,569
1996	0	0	0	0	5,502	11,593	11,954	11,266	11,895	15,080	11,471	0	78,762
1997	0	0	0	8,747	15,180	13,216	18,829	19,991	19,029	8,707	59	0	103,759
1998	0	0	0	10,092	14,820	13,700	19,158	19,946	11,752	8,652	0	0	98,120
1999	0	0	4,346	11,948	4,355	7,240	10,663	12,165	11,427	8,346	3,608	0	74,098
2000	0	387	0	3,743	8,442	9,493	9,880	11,092	9,737	7,507	0	0	60,280
2001	0	0	0	0	673	9,045	18,793	19,835	19,107	19,139	10,875	0	97,467
2002	0	0	0	2,180	10,022	4,788	11,171	10,048	16,574	13,035	0	0	67,819
2003	0	0	0	0	10,651	15,105	13,111	10,810	7,988	0	0	0	57,665
2004	0	0	0	0	1,991	6,460	11,645	10,316	6,635	4	0	0	37,051
2005	0	0	1,684	15,045	17,187	15,544	11,778	14,521	13,974	15,544	9,160	0	114,437
Average	0	18	363	4,089	9,941	11,567	13,860	13,944	12,171	8,225	3,366	319	53,964

Kearney Div (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	6,643	9,455	9,792	18,724	15,911	15,814	19,293	10,423	0	106,056
1986	0	0	0	4,433	17,786	19,577	20,729	20,317	16,869	15,592	4,727	0	120,030
1987	0	0	0	2,535	14,188	16,203	17,421	18,696	15,898	16,415	16,213	6,692	124,260
1988	0	0	1,589	9,535	16,804	12,827	13,597	13,293	13,722	3,614	0	0	84,980
1989	0	0	0	4,560	15,548	11,839	14,705	16,118	14,364	9,394	0	0	86,529
1990	0	0	0	2,486	14,953	16,923	15,116	15,312	14,992	10,635	321	0	90,740
1991	0	0	0	2,539	6,926	6,397	9,917	9,812	6,313	0	0	0	41,905
1992	0	0	0	1,375	11,357	12,119	8,951	7,960	7,706	1,767	0	0	51,235
1993	0	0	0	0	1,018	6,188	4,304	6,160	5,782	0	0	0	23,452
1994	0	0	0	0	274	7,527	11,921	12,085	6,368	0	3,826	0	42,001
1995	0	0	0	0	11,633	17,340	18,690	17,163	9,743	0	0	0	74,569
1996	0	0	0	0	5,502	11,593	11,954	11,266	11,895	15,080	11,471	0	78,762
1997	0	0	0	8,747	15,180	13,216	18,829	19,991	19,029	8,707	59	0	103,759
1998	0	0	0	10,092	14,820	13,700	19,158	19,946	11,752	8,652	0	0	98,120
1999	0	0	4,346	11,948	4,355	7,240	10,663	12,165	11,427	8,346	3,608	0	74,098
2000	0	387	0	3,743	8,442	9,493	9,880	11,092	9,737	7,507	0	0	60,280
2001	0	0	0	0	673	9,045	18,793	19,835	19,056	19,139	10,875	0	97,416
2002	0	0	0	2,180	10,022	4,788	11,171	10,048	16,574	13,035	0	0	67,819
2003	0	0	0	0	10,651	15,105	13,111	10,810	7,985	0	0	0	57,661
2004	0	0	0	0	1,991	6,460	11,645	10,316	6,635	4	0	0	37,051
2005	0	0	1,684	15,045	17,187	15,544	11,778	14,521	13,973	15,544	9,160	0	114,436
Average	0	18	363	4,089	9,941	11,567	13,860	13,944	12,173	8,225	3,366	319	54,003

Kearney Div (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	95	0	0	0	95
1991	0	0	0	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	-195	0	0	0	-195
1995	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	51	0	0	0	51
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0	0	3	0	0	0	3
2004	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0	0	1	0	0	0	1
Average	0	0	0	0	0	0	0	0	-2	0	0	0	-39

E67 Canal (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	484	1,179	1,961	1,408	263	0	0	0	5,295
1986	0	0	0	0	484	1,236	2,346	1,684	314	0	0	0	6,064
1987	0	0	0	0	484	1,142	1,712	1,229	229	0	0	0	4,795
1988	0	0	0	0	484	1,326	2,958	2,124	396	0	0	0	7,289
1989	0	0	0	0	484	1,170	1,902	1,365	255	0	0	0	5,175
1990	0	0	0	0	484	1,389	3,383	2,429	453	0	0	0	8,138
1991	0	0	0	0	484	1,477	3,975	2,854	533	0	0	0	9,324
1992	0	0	0	0	484	1,124	1,592	1,143	213	0	0	0	4,556
1993	0	0	0	0	484	903	99	71	13	0	0	0	1,569
1994	0	0	0	0	484	1,122	1,578	1,133	211	0	0	0	4,528
1995	0	0	0	0	484	1,292	2,723	1,955	365	0	0	0	6,819
1996	0	0	0	0	484	965	517	371	69	0	0	0	2,407
1997	0	0	0	0	484	1,291	2,717	1,951	364	0	0	0	6,807
1998	0	0	0	0	484	1,124	1,587	1,140	213	0	0	0	4,547
1999	0	0	0	0	484	1,110	1,493	1,072	200	0	0	0	4,358
2000	0	0	0	0	484	1,341	3,056	2,194	410	0	0	0	7,484
2001	0	0	0	0	484	1,224	2,268	1,628	304	0	0	0	5,908
2002	0	0	0	0	484	1,304	2,809	2,017	376	0	0	0	6,990
2003	0	0	0	0	484	1,320	2,915	2,093	391	0	0	0	7,202
2004	0	0	0	0	484	1,173	1,924	1,381	258	0	0	0	5,220
2005	0	0	0	0	484	1,134	1,659	1,191	222	0	0	0	4,690
Average	0	0	0	0	484	1,207	2,151	1,544	288	0	0	0	3,976

E67 Canal (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	484	1,930	3,514	2,961	764	0	0	0	9,652
1986	0	0	0	0	484	1,987	3,899	3,237	815	0	0	0	10,422
1987	0	0	0	0	484	1,893	3,264	2,782	730	0	0	0	9,153
1988	0	0	0	0	484	2,078	4,511	3,677	897	0	0	0	11,647
1989	0	0	0	0	484	1,921	3,454	2,918	756	0	0	0	9,533
1990	0	0	0	0	484	2,141	4,936	3,982	954	0	0	0	12,496
1991	0	0	0	0	484	2,228	5,528	4,407	1,034	0	0	0	13,681
1992	0	0	0	0	484	1,875	3,145	2,696	714	0	0	0	8,914
1993	0	0	0	0	484	1,655	1,651	1,623	514	0	0	0	5,927
1994	0	0	0	0	484	1,874	3,130	2,686	712	0	0	0	8,886
1995	0	0	0	0	484	2,043	4,276	3,508	866	0	0	0	11,177
1996	0	0	0	0	484	1,716	2,070	1,924	570	0	0	0	6,765
1997	0	0	0	0	484	2,042	4,270	3,504	865	0	0	0	11,164
1998	0	0	0	0	484	1,875	3,140	2,692	714	0	0	0	8,904
1999	0	0	0	0	484	1,861	3,046	2,625	701	0	0	0	8,716
2000	0	0	0	0	484	2,092	4,608	3,747	910	0	0	0	11,841
2001	0	0	0	0	484	1,976	3,820	3,181	805	0	0	0	10,265
2002	0	0	0	0	484	2,048	4,346	3,554	872	0	0	0	11,304
2003	0	0	0	0	484	2,064	4,452	3,630	886	0	0	0	11,516
2004	0	0	0	0	484	1,917	3,461	2,919	754	0	0	0	9,534
2005	0	0	0	0	484	1,878	3,196	2,728	718	0	0	0	9,004
Average	0	0	0	0	484	1,957	3,701	3,094	788	0	0	0	8,334

E67 Canal (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	-751	-1,552	-1,553	-501	0	0	0	-4,358
1986	0	0	0	0	0	-751	-1,553	-1,553	-501	0	0	0	-4,358
1987	0	0	0	0	0	-751	-1,553	-1,553	-501	0	0	0	-4,358
1988	0	0	0	0	0	-751	-1,553	-1,553	-501	0	0	0	-4,358
1989	0	0	0	0	0	-751	-1,552	-1,553	-501	0	0	0	-4,358
1990	0	0	0	0	0	-751	-1,553	-1,553	-501	0	0	0	-4,358
1991	0	0	0	0	0	-751	-1,553	-1,553	-501	0	0	0	-4,358
1992	0	0	0	0	0	-751	-1,553	-1,553	-501	0	0	0	-4,358
1993	0	0	0	0	0	-751	-1,553	-1,553	-501	0	0	0	-4,358
1994	0	0	0	0	0	-751	-1,552	-1,553	-501	0	0	0	-4,358
1995	0	0	0	0	0	-751	-1,553	-1,552	-501	0	0	0	-4,358
1996	0	0	0	0	0	-751	-1,553	-1,553	-501	0	0	0	-4,358
1997	0	0	0	0	0	-751	-1,553	-1,552	-501	0	0	0	-4,358
1998	0	0	0	0	0	-751	-1,552	-1,553	-501	0	0	0	-4,357
1999	0	0	0	0	0	-751	-1,553	-1,553	-501	0	0	0	-4,358
2000	0	0	0	0	0	-751	-1,553	-1,553	-501	0	0	0	-4,358
2001	0	0	0	0	0	-751	-1,553	-1,553	-501	0	0	0	-4,358
2002	0	0	0	0	0	-744	-1,537	-1,537	-496	0	0	0	-4,314
2003	0	0	0	0	0	-744	-1,537	-1,537	-496	0	0	0	-4,314
2004	0	0	0	0	0	-744	-1,537	-1,537	-496	0	0	0	-4,314
2005	0	0	0	0	0	-744	-1,537	-1,537	-496	0	0	0	-4,314
Average	0	0	0	0	0	-750	-1,550	-1,550	-500	0	0	0	-4,358

Jeff rtn (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	97	15,577	3,864	17,426	8,839	0	0	0	45,804
1986	0	0	0	0	6,772	5,495	1,393	12,957	10,692	0	0	0	37,309
1987	0	0	0	0	580	7,209	3,895	17,382	8,400	0	0	0	37,467
1988	0	0	0	0	5,025	14,457	5,377	13,607	5,289	0	0	0	43,755
1989	0	0	0	0	6,971	16,173	3,324	14,586	6,416	0	0	0	47,470
1990	0	0	0	0	1,519	21,863	7,316	37,320	8,635	0	0	0	76,652
1991	0	0	0	0	4,944	18,737	718	23,168	11,216	0	0	0	58,783
1992	0	0	0	0	702	19,435	40,764	32,521	7,652	0	0	0	101,073
1993	0	0	0	0	6,594	7,848	625	6,574	5,202	0	0	0	26,844
1994	0	0	0	0	143	20,110	41,699	44,206	5,145	0	0	0	111,303
1995	0	0	0	0	1,919	0	0	6,056	1,974	0	0	0	9,950
1996	0	0	0	0	4,521	12,688	2,126	14,100	2,860	0	0	0	36,296
1997	0	0	0	0	6,276	3,761	1,526	3,185	2,038	0	0	0	16,786
1998	0	0	0	0	2,255	3,472	2,473	14,748	4,548	0	0	0	27,496
1999	0	0	0	0	3,463	0	745	513	0	0	0	0	4,721
2000	0	0	0	0	6,826	20,355	1,539	10,653	4,686	0	0	0	44,058
2001	0	0	0	0	4,998	22,749	20,718	44,402	6,257	0	0	0	99,125
2002	0	0	0	186	10,032	21,455	1,766	10,582	5,360	0	0	0	49,381
2003	0	0	0	144	1,865	7,337	8,904	44,517	9,734	0	0	0	72,501
2004	0	0	0	222	975	16,413	33,595	43,431	8,051	0	0	0	102,687
2005	0	0	0	145	4,570	15,322	31,758	47,757	9,620	0	0	0	109,172
Average	0	0	0	33	3,859	12,879	10,196	21,890	6,315	0	0	0	57,093

Jeff rtn (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	97	15,577	3,764	17,426	8,839	0	0	0	45,704
1986	0	0	0	0	6,772	5,495	1,343	12,957	10,692	0	0	0	37,259
1987	0	0	0	0	580	7,209	3,895	17,382	8,400	0	0	0	37,467
1988	0	0	0	0	5,025	14,457	5,277	13,607	5,289	0	0	0	43,655
1989	0	0	0	0	6,971	16,119	3,324	14,586	6,416	0	0	0	47,416
1990	0	0	0	0	1,519	21,312	6,374	35,934	8,145	0	0	0	73,284
1991	0	0	0	0	4,944	15,765	212	21,715	11,166	0	0	0	53,802
1992	0	0	0	0	702	19,378	40,224	32,370	7,349	0	0	0	100,022
1993	0	0	0	0	6,158	13,386	29,018	24,141	6,140	0	0	0	78,843
1994	0	0	0	0	7,148	20,173	1,916	11,252	5,052	0	0	0	45,542
1995	0	0	0	0	1,919	0	0	5,956	1,974	0	0	0	9,849
1996	0	0	0	0	4,521	12,688	2,126	14,100	2,860	0	0	0	36,296
1997	0	0	0	0	6,276	3,761	1,476	3,185	2,038	0	0	0	16,736
1998	0	0	0	0	2,255	3,472	2,473	14,748	4,548	0	0	0	27,496
1999	0	0	0	0	3,463	0	745	513	0	0	0	0	4,721
2000	0	0	0	0	6,826	20,355	1,439	10,653	4,686	0	0	0	43,958
2001	0	0	0	0	4,998	22,511	19,215	44,029	5,806	0	0	0	96,559
2002	0	0	0	186	10,032	21,455	1,666	10,582	5,360	0	0	0	49,282
2003	0	0	0	144	1,865	7,826	7,717	43,107	9,656	0	0	0	70,314
2004	0	0	0	222	975	15,979	31,865	43,095	8,045	0	0	0	100,181
2005	0	0	0	145	4,570	15,322	30,172	47,795	9,614	0	0	0	107,617
Average	0	0	0	33	4,172	12,964	9,250	20,911	6,289	0	0	0	54,111

Jeff rtn (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	100	0	0	0	0	0	100
1986	0	0	0	0	0	0	50	0	0	0	0	0	50
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	100	0	0	0	0	0	100
1989	0	0	0	0	0	54	0	0	0	0	0	0	54
1990	0	0	0	0	0	551	941	1,386	490	0	0	0	3,367
1991	0	0	0	0	0	2,972	506	1,453	50	0	0	0	4,980
1992	0	0	0	0	0	56	540	151	303	0	0	0	1,051
1993	0	0	0	0	436	-5,538	-28,393	-17,567	-938	0	0	0	-52,000
1994	0	0	0	0	-7,006	-63	39,783	32,954	93	0	0	0	65,761
1995	0	0	0	0	0	0	0	100	0	0	0	0	100
1996	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	50	0	0	0	0	0	50
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	100	0	0	0	0	0	100
2001	0	0	0	0	0	238	1,503	374	451	0	0	0	2,565
2002	0	0	0	0	0	0	99	0	0	0	0	0	99
2003	0	0	0	0	0	-488	1,187	1,410	78	0	0	0	2,187
2004	0	0	0	0	0	434	1,730	336	6	0	0	0	2,506
2005	0	0	0	0	0	0	1,586	-37	6	0	0	0	1,555
Average	0	0	0	0	-313	-85	947	979	26	0	0	0	2,982

J2 rtn (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	97,919	87,962	87,656	66,392	70,410	45,811	36,640	32,602	67,898	74,229	65,993	62,713	796,223
1986	78,293	71,488	40,697	78,286	27,288	44,934	33,899	31,615	72,742	98,783	93,159	99,057	770,241
1987	97,379	82,712	92,744	83,717	71,567	57,623	40,264	36,189	71,852	84,757	69,416	70,508	858,727
1988	58,521	76,244	79,775	56,631	36,277	31,815	22,065	24,171	58,811	67,086	68,198	68,662	648,254
1989	64,324	57,925	46,382	22,920	16,731	23,016	37,212	36,291	59,680	38,612	16,593	15,729	435,415
1990	49,037	46,012	57,915	48,640	795	1,210	14,573	2,391	24,389	26,342	13,955	28,117	313,374
1991	37,074	45,444	33,086	22,528	3,618	1,984	13,642	5,561	24,935	14,827	19,989	26,173	248,861
1992	40,796	57,356	78,806	42,083	2,391	3,278	680	14,476	25,422	58,797	66,643	71,223	461,951
1993	67,486	64,980	75,085	39,866	19,736	42,854	75,278	69,878	72,715	66,218	23,303	42,864	660,262
1994	53,513	47,854	33,509	12,336	2	980	4,886	2,572	22,727	63,452	67,046	68,369	377,245
1995	43,288	37,645	36,861	36,829	38,778	61,881	30,352	34,816	69,553	72,433	76,865	73,354	612,656
1996	86,913	81,075	86,041	47,267	25,715	39,944	65,506	56,413	86,137	86,337	88,634	90,003	839,983
1997	87,473	77,678	91,926	69,723	60,920	56,380	28,902	36,736	77,514	99,988	97,387	101,142	885,767
1998	101,093	87,962	86,598	84,595	70,868	61,718	44,021	40,588	76,976	93,913	68,241	70,687	887,259
1999	68,217	56,866	78,569	36,714	65,520	65,599	47,607	56,158	86,413	101,142	96,838	92,044	851,686
2000	98,421	88,902	86,919	78,327	49,034	38,384	24,696	26,258	71,441	51,953	17,630	19,462	651,429
2001	33,038	36,294	15,706	32,180	16,415	2,387	15,219	2,537	31,556	62,380	69,161	72,024	388,896
2002	46,378	43,157	38,855	31,888	11,209	19,137	27,208	28,296	58,485	20,581	14,230	21,152	360,573
2003	22,134	19,111	9,232	6,217	0	2	17,852	2,367	9,789	9,529	11,705	14,396	122,335
2004	19,326	16,665	13,677	9,407	307	823	6,918	2,306	10,569	13,951	13,298	15,995	123,242
2005	18,743	13,545	9,915	5,821	0	27,238	12,971	2,123	12,365	19,006	15,660	20,105	157,491
Average	60,446	56,994	56,188	43,446	27,980	29,857	28,590	25,921	51,998	58,301	51,140	54,466	590,420

J2 rtn (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	97,919	87,962	87,656	66,392	70,410	45,059	35,188	31,049	67,397	74,229	65,993	62,713	791,966
1986	78,293	71,488	40,697	78,286	27,288	44,182	32,397	30,062	72,241	98,783	93,159	99,057	765,933
1987	97,379	82,712	92,744	83,717	71,567	56,871	38,811	34,636	71,351	84,757	69,416	70,508	854,469
1988	58,521	76,244	79,775	56,631	36,277	31,114	20,612	22,644	58,310	67,086	68,198	68,662	644,072
1989	64,324	57,925	46,382	22,920	16,731	22,365	35,709	34,739	59,180	38,612	16,593	15,729	431,207
1990	49,037	46,012	57,915	48,640	795	1,010	13,961	2,291	24,396	27,535	14,004	28,119	313,714
1991	37,074	45,444	33,086	22,528	3,618	2,081	12,645	5,460	24,728	14,827	19,989	26,173	247,653
1992	40,796	57,356	78,806	42,083	2,391	3,079	730	13,205	25,271	28,110	37,108	48,003	376,941
1993	56,765	53,662	68,563	21,192	6,704	1,139	13,804	5,251	37,060	73,936	67,030	72,637	477,743
1994	86,461	76,056	71,916	31,833	26,296	20,866	43,208	42,663	62,749	71,120	67,046	68,369	668,584
1995	43,288	37,645	36,861	36,829	38,778	61,129	28,800	33,413	69,052	72,433	71,296	66,035	595,560
1996	65,926	62,921	85,989	41,247	25,715	39,193	63,953	54,861	85,636	86,297	88,634	90,003	790,374
1997	87,473	77,678	91,926	69,723	60,920	55,628	27,399	35,184	77,013	99,988	97,387	101,142	881,460
1998	101,093	87,962	86,598	84,595	70,868	60,966	42,468	39,035	76,475	93,913	68,241	70,687	882,902
1999	68,217	56,866	78,569	36,714	65,520	64,848	46,054	54,605	85,912	101,142	96,838	92,044	847,328
2000	98,421	88,902	86,919	78,327	49,034	37,633	23,243	24,705	70,940	51,953	17,630	19,462	647,171
2001	33,038	36,294	15,706	32,180	16,415	2,421	15,219	2,571	31,722	62,612	69,161	72,024	389,362
2002	46,378	43,157	38,855	31,888	11,209	18,442	25,770	26,758	57,989	20,581	14,230	21,152	356,408
2003	22,134	19,111	9,232	6,217	0	0	17,552	2,318	10,014	9,529	11,705	14,396	122,208
2004	19,326	16,665	13,677	9,407	307	558	7,214	2,306	10,617	13,951	13,298	15,995	123,321
2005	18,743	13,545	9,915	5,821	0	26,837	13,019	2,178	12,590	19,006	15,660	20,105	157,418
Average	60,505	56,934	57,704	43,199	28,612	28,353	26,560	23,806	51,935	57,638	51,553	54,429	581,840

J2 rtn (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	751	1,453	1,553	501	0	0	0	4,258
1986	0	0	0	0	0	751	1,502	1,553	501	0	0	0	4,307
1987	0	0	0	0	0	751	1,452	1,553	501	0	0	0	4,257
1988	0	0	0	0	0	701	1,453	1,527	501	0	0	0	4,182
1989	0	0	0	0	0	651	1,503	1,553	501	0	0	0	4,208
1990	0	0	0	0	0	200	611	100	-8	-1,193	-49	-2	-340
1991	0	0	0	0	0	-96	997	100	208	0	0	0	1,208
1992	0	0	0	0	0	199	-50	1,271	150	30,687	29,535	23,220	85,011
1993	10,721	11,318	6,522	18,674	13,032	41,715	61,474	64,627	35,656	-7,719	-43,727	-29,773	182,519
1994	-32,949	-28,203	-38,407	-19,497	-26,294	-19,886	-38,323	-40,091	-40,021	-7,668	0	0	-291,339
1995	0	0	0	0	0	751	1,553	1,402	501	0	5,570	7,320	17,097
1996	20,987	18,154	51	6,019	0	751	1,553	1,553	501	40	0	0	49,609
1997	0	0	0	0	0	751	1,503	1,553	501	0	0	0	4,308
1998	0	0	0	0	0	751	1,553	1,553	501	0	0	0	4,357
1999	0	0	0	0	0	751	1,553	1,553	501	0	0	0	4,358
2000	0	0	0	0	0	751	1,453	1,553	501	0	0	0	4,257
2001	0	0	0	0	0	-34	0	-34	-166	-232	0	0	-467
2002	0	0	0	0	0	694	1,438	1,537	496	0	0	0	4,165
2003	0	0	0	0	0	2	300	50	-225	0	0	0	127
2004	0	0	0	0	0	266	-296	0	-48	0	0	0	-79
2005	0	0	0	0	0	402	-49	-55	-224	0	0	0	73
Average	-59	60	-1,516	247	-632	1,504	2,030	2,115	63	663	-413	36	8,579

Suth rtn (ac-ft) - Flag 2 No Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	86,365	83,721	98,792	75,485	74,850	86,573	99,420	99,713	84,412	74,467	65,355	56,132	985,286
1986	62,350	68,440	39,622	72,221	48,357	74,785	98,122	94,195	84,574	100,572	91,616	97,934	932,789
1987	98,112	78,218	80,476	97,127	73,151	78,483	96,307	90,536	86,599	80,648	64,641	62,555	986,854
1988	46,357	49,930	74,455	57,170	44,984	76,199	87,154	92,193	71,213	63,550	61,184	63,359	787,746
1989	56,711	47,990	40,939	22,810	46,245	67,044	98,805	97,709	70,073	25,259	3,941	3,775	581,300
1990	35,504	35,653	50,989	41,516	8,049	50,468	92,440	90,030	41,970	18,096	14	14,701	479,430
1991	23,593	33,071	25,359	19,307	5,971	38,286	93,257	99,004	42,423	8,301	5,742	11,217	405,529
1992	24,754	44,313	58,235	34,969	9,002	39,039	79,219	82,790	28,403	53,604	61,269	63,779	579,375
1993	53,443	54,751	68,651	37,664	39,722	71,165	98,438	99,623	71,462	53,268	7,681	25,729	681,596
1994	39,789	36,114	25,757	7,548	7,798	44,218	76,188	89,740	27,400	54,464	62,342	63,369	534,726
1995	28,474	25,532	28,117	29,133	47,453	75,426	56,923	100,695	74,480	64,971	62,765	53,490	647,459
1996	77,811	76,639	82,872	43,885	38,864	71,106	93,997	91,458	96,218	67,536	80,963	83,834	905,182
1997	82,138	75,564	101,525	80,223	87,649	83,809	94,568	95,603	87,586	82,799	93,016	96,198	1,060,678
1998	91,319	82,574	90,397	86,070	81,995	91,931	94,949	95,564	85,269	83,781	57,973	59,881	1,001,703
1999	53,007	48,622	72,502	29,999	68,375	99,015	98,063	100,165	101,395	103,557	98,845	79,418	952,962
2000	91,535	75,304	87,809	83,806	76,900	85,607	97,948	98,479	84,127	29,901	47	3,285	814,748
2001	17,645	22,446	5,291	19,426	20,247	46,261	97,102	86,446	33,168	53,061	61,174	63,216	525,482
2002	28,999	28,905	29,836	29,100	41,630	72,253	103,984	97,926	72,640	9,241	2,735	9,324	526,573
2003	9,751	7,853	1,912	546	8,363	28,855	97,641	97,827	25,068	3,153	2,048	2,594	285,611
2004	7,203	5,960	8,446	9,973	9,203	42,054	81,360	95,244	21,036	3,644	2,872	2,682	289,676
2005	4,250	2,839	2,790	1,191	10,808	40,617	97,251	89,769	20,350	4,198	2,283	4,067	280,411
Average	48,529	46,878	51,180	41,865	40,458	64,914	92,054	94,510	62,375	49,432	42,310	43,835	669,668

Suth rtn (ac-ft) - Flag 3 Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	86,365	83,721	98,792	75,485	74,850	86,573	99,420	99,713	84,412	74,467	65,355	56,132	985,286
1986	62,350	68,440	39,622	72,221	48,357	74,785	98,122	94,195	84,574	100,572	91,616	97,934	932,789
1987	98,112	78,218	80,476	97,127	73,151	78,483	96,307	90,536	86,599	80,648	64,641	62,555	986,854
1988	46,357	49,930	74,455	57,170	44,984	76,199	87,154	92,193	71,213	63,550	61,184	63,359	787,746
1989	56,711	47,990	40,939	22,810	46,245	67,044	98,805	97,709	70,073	25,259	3,941	3,775	581,300
1990	35,504	35,653	50,989	41,516	8,049	50,468	92,440	90,030	41,970	19,291	66	14,701	480,677
1991	23,593	33,071	25,359	19,307	5,971	38,286	96,200	99,004	42,423	8,301	5,742	11,217	408,472
1992	24,754	44,313	58,235	34,969	9,002	39,485	79,258	82,790	28,403	14,892	22,215	32,670	470,985
1993	41,167	40,969	60,568	16,350	20,569	20,569	58,806	44,402	35,541	65,291	59,467	63,638	527,336
1994	81,144	70,316	68,475	28,607	56,841	59,445	95,857	98,053	73,990	63,508	62,342	63,369	821,945
1995	28,474	25,532	28,117	29,133	47,453	75,426	56,923	100,695	74,480	64,971	58,094	53,490	642,788
1996	54,498	50,962	78,526	36,899	38,864	71,106	93,997	91,458	96,218	67,557	80,963	83,834	844,882
1997	82,138	75,564	101,525	80,223	87,649	83,809	94,568	95,603	87,586	82,799	93,016	96,198	1,060,678
1998	91,319	82,574	90,397	86,070	81,995	91,931	94,949	95,564	85,269	83,781	57,973	59,881	1,001,703
1999	53,007	48,622	72,502	29,999	68,375	99,015	98,063	100,165	101,395	103,557	98,845	79,418	952,962
2000	91,535	75,304	87,809	83,806	76,900	85,607	97,948	98,479	84,127	29,901	47	3,285	814,748
2001	17,645	22,446	5,291	19,426	20,247	47,003	97,102	86,446	33,334	53,433	61,174	63,216	526,763
2002	28,999	28,905	29,836	29,100	41,630	72,253	103,984	97,926	72,640	9,241	2,735	9,324	526,573
2003	9,751	7,853	1,912	546	8,363	29,590	97,641	97,827	27,322	3,153	2,048	2,594	288,600
2004	7,203	5,960	8,446	9,973	9,203	42,103	82,046	96,756	21,526	3,644	2,872	2,682	292,414
2005	4,250	2,839	2,790	1,191	10,808	40,960	97,299	96,756	20,839	4,198	2,283	4,067	288,279
Average	48,804	46,628	52,622	41,520	41,881	63,340	91,280	92,681	63,045	48,667	42,696	44,159	661,587

Suth rtn (ac-ft) - No Seepage minus Constant Seepage

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	-1,195	-52	0	-1,247
1991	0	0	0	0	0	0	-2,943	0	0	0	0	0	-2,943
1992	0	0	0	0	0	-445	-39	0	0	38,712	39,054	31,109	108,390
1993	12,276	13,783	8,083	21,314	19,153	50,596	39,632	55,221	35,920	-12,023	-51,786	-37,909	154,260
1994	-41,355	-34,202	-42,718	-21,059	-49,043	-15,227	-19,668	-8,314	-46,590	-9,044	0	0	-287,220
1995	0	0	0	0	0	0	0	0	0	0	4,671	0	4,671
1996	23,312	25,677	4,347	6,985	0	0	0	0	0	-21	0	0	60,300
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	-742	0	0	-167	-372	0	0	-1,281
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	-735	0	0	-2,254	0	0	0	-2,989
2004	0	0	0	0	0	-49	-686	-1,513	-490	0	0	0	-2,738
2005	0	0	0	0	0	-343	-49	-6,987	-490	0	0	0	-7,868
Average	-275	250	-1,442	345	-1,423	1,574	774	1,829	-670	765	-386	-324	8,080