Evaluation of Historic Platte River Streamflow in Excess of State Protected Flows and Target Flows

Nebraska Department of Natural Resources

December 2010

HDR

THE FLATWATER GROUP INC.

Table of Contents

1.0 INTRODUCTION AND BACKGROUND 1

1.1 Assumptions and Limitations 1
1.2 Definitions 2

2.0 DATA INPUTS AND CALCULATED PARAMETERS 4

2.1 Gage Data 4
2.2 Reach Gains and Losses 5
2.3 Flow Split Assumptions 6
2.3.1 Keystone (Sutherland Canal) Diversion 6
2.3.2 Tri-County Diversion 7
2.4 Canal Diversion/Return Assumptions in Computing Natural Flow Demands 7
2.4.1 North Platte Canals 8
2.4.2 NPPD Canals 8

3.0 METHODOLOGY FOR DETERMINING EXCESS FLOWS 10

3.1 Available Natural Flow 10
3.2 Demands 10
3.2.1 State Protected Flows 10
3.2.2 Platte River Recovery Implementation Program Target Flows 11
3.3 Demand Query Database 12

4.0 RESULTS 15

List of Tables

Table 1: Platte River Gage Data Used in Analysis 5
Table 2: Platte River Reach Gain/Loss Summary 6
Table 3: Platte River Canal Natural Flow Appropriations and Diversion Capacities 12
Table 4: Platte River Analysis Points and Demands 13
Table 5: Analysis Point 1 – North Platte River at Keystone Diversion Summary Summary of Excess to State Protected Flows 17
Table 6: Analysis Point 2 – North Platte River, Downstream of Keystone Canal Diversion Summary of Excess to State Protected Flows 17
Table 7: Analysis Point 3 – North Platte River, Downstream of Birdwood Creek Summary of Excess to State Protected Flows 18
Table 8: Analysis Point S1 – South Platte River at Western Canal Diversion Summary of Excess to State Protected Flows 18
Table 9: Analysis Point S2 – South Platte River at Korty Canal Diversion Summary of Excess to State Protected Flows 19
Table 10: Analysis Point 4 – Platte River at Tri-County Diversion Summary of Excess to State Protected Flows 19

Table 11: Analysis Point 5 – Platte River at Gothenburg Canal Diversion Summary of Excess to State Protected Flows 20
Table 12: Analysis Point 6 – Platte River at Cozad Canal Diversion Summary of Excess to State Protected Flows 20
Table 13: Analysis Point 7 – Platte River at Dawson County Canal Diversion Summary of Excess to State Protected Flows 21
Table 14: Analysis Point 8 – Platte River at Overton (Natural Flow) Summary of Excess to State Protected Flows 21
Table 15: Analysis Point 8a – Platte River at Overton (Historical Flow) Summary of Excess to State Protected Flows 22
Table 16: Analysis Point 9 – Platte River at Kearney Canal Diversion Summary of Excess to State Protected Flows 22
Table 17: Analysis Point 9a – Platte River at Odessa (Historical Flow Summary of Excess to State Protected Flows 23
Table 18: Analysis Point 10 – Platte River at Grand Island (Instream Flow) Summary of Excess to State Protected Flows 23
Table 19: Analysis Point 11 – Platte River at Duncan (Instream Flow) Summary of Excess to State Protected Flows 24
Table 20: Analysis Point 12 – Platte River at North Bend (Instream Flow) Summary of Excess to State Protected Flows 24
Table 21: Analysis Point 13 – Platte River at Louisville (Instream Flow) Summary of Excess to State Protected Flows 25

List of Figures

Figure 1: Conceptural Schematic of Brady to Cozad Reach..... 9
Figure 2: Analysis Point Location Map..... 14

List of Appendices

APPENDIX A – INSTREAM FLOW APPROPRIATIONS AND PRRIP TARGET FLOWS

APPENDIX B – WATER RIGHTS SUMMARY

APPENDIX C – MUNICIPAL WELL PUMPAGE DATA

APPENDIX D – OUTPUT PLOTS FOR EXCESS TO STATE PROTECTED FLOWS

APPENDIX E – OUTPUT PLOTS FOR EXCESS TO PRRIP TARGET FLOWS

APPENDIX F – OUTPUT PLOTS FOR MONTHLY VOLUMES (PERIOD OF RECORD)

APPENDIX G – FLOW CHART AND EXAMPLE CALCULATION FOR AVAILABLE NATURAL FLOW

Evaluation of Historic Platte River Streamflow in Excess of State Protected Flows and Target Flows

1.0 Introduction and Background

This document describes the analysis conducted to evaluate the historic quantity of excess water in the Platte River. The purpose of this project was to develop a planning tool to estimate the rate of flow and the duration and frequency of water in excess of state protected flows by reach; and to determine the quantity of water in excess of target flows based on wet, dry, and normal hydrologic classification. The study included the area from the North Platte River at Lewellen, Nebraska, and the South Platte River at Julesburg, Colorado, to the Platte River near Louisville, Nebraska.

This project used the following approach and objectives in the evaluations process:

1. Be conservative in methods and analysis,
2. Build in flexibility to the tools so that different demands and supplies may be simulated, and
3. Limit the scope of this project to historical data.

This project did not address future conditions and is not intended to provide a potential applicant with an analysis sufficient to establish whether there is excess flow available for a specific project (new use). Any applicant seeking a surface water permit will need to provide the Nebraska Department of Natural Resources (NDNR) with a comprehensive package at the time the application or variance is filed. This document describes the methodology used to evaluate excess flow and provides plots of the results at several points along the river. The basic methodology compares the amount of natural flow that is available in specified reaches and compares that to the computed demands for natural flow in the same specified reach. Before discussing the details of the methodology, this document describes the assumptions and limitations associated with the analysis and gives basic definitions for terms used throughout this document.

1.1 Assumptions and Limitations

Key assumptions and limitations used in conducting the analyses described in this document are summarized below:

- Irrigation Season is defined as April 1 through September 30.
- Several individual appropriators with natural flow appropriations along the North Platte, South Platte, and Platte Rivers, and their tributaries were not included in the analysis. See Appendix B for a summary of surface water appropriations[1] for the North Platte, South

[1] Surface water appropriation data provided by NDNR from database (current as of October 2010).

Platte, and Platte Rivers as well as tributaries. Generally, these individual appropriations are for 5 cfs or less each.

- Several small storage appropriations from the North Platte, South Platte, and Platte Rivers, and their tributaries, were not included in the analysis. See Appendix B for a summary of surface water appropriations[2] for the North Platte, South Platte, and Platte Rivers as well as tributaries.
- Statutory preference of irrigation and non-irrigation uses was not considered.
- The results summarize excess flows and the number of days excess flow has been available. It should be noted that the number of days with excess flow may or may not be consecutive and operational constraints that limit the ability to divert short-duration occurrences of excess flows were not considered.
- For the Platte River Recovery Implementation Program (PRRIP) target flows, no differentiation was made between wet, dry, and normal hydrologic conditions throughout the period of record. Instead the corresponding target flow for each respective hydrologic condition was applied to the entire period of record.
- Impacts of groundwater pumping and associated lag effects were not explicitly represented in this analysis. Groundwater pumping effects are represented to the extent they are reflected in the stream gage records and reflected in the reach gain/loss calculations.
- All inflows to Lake McConaughy (Lewellen gage flows and tributary inflows between Lewellen and Lake McConaughy) were treated as natural flow. No system operations above Lewellen were considered.
- All inflows on the South Platte River at Julesburg were treated as natural flow.
- Assumptions were made on the North Platte River at the Keystone (Sutherland Canal) Diversion and on the Platte River at the Tri-County Diversion regarding the flow necessary to satisfy natural flow rights and flow which bypassed the diversion structures (see Section 2.3).
- Flows to implement the PRRIP Water Action Plan were not considered. At this time, no new water action plan project that requires a State of Nebraska water appropriation has been implemented; therefore, any natural flow demand for such a project is not considered in this analysis.

1.2 Definitions

The following terms and definitions are used throughout this document.

- Analysis Point: Point of interest for determining excess flows. See Figure 2.
- North Platte Canals: The canal diversions located between the Keystone Diversion and the confluence of the North and South Platte Rivers: Keith-Lincoln Canal, North Platte Canal, Paxton-Hershey Canal, Suburban Canal, and Cody-Dillon Canal.

[2] Surface water appropriation data provided by NDNR from database (current as of October 2010).

- NPPD Canals: The canal diversions in the Brady to Odessa reach of the Platte River: Gothenburg Canal, Thirty Mile Canal, Six Mile Canal, Cozad Canal, Orchard-Alfalfa Canal, Dawson County Canal, and Kearney Canal.

Given Values used in Evaluation

- Diversion Capacity: Physical capacity of diversion headworks[3]. See Table 3 for summary of diversion capacities used in this evaluation.
- Gaged Flow: Mean daily flow data from NDNR or United States Geological Survey (USGS) gaging stations.
- Historic Diversion and Returns: Mean daily flow data from NDNR diversion and return records.
- Instream Flow Appropriations: Water appropriation granted for recreational use or the needs of existing fish and wildlife. Flows vary through specific stream reaches and by date[4].
- Travel Time: The estimated time for water to flow between specified points of interest[5]. See Table 2 for summary of travel times used in evaluation.
- Natural Flow Appropriation: Water appropriation for natural flow granted to appropriator by the NDNR.
- State Protected Flows: Described by the Nebraska New Depletion Plan[6] as of October 2010 and established, by water appropriations issued by the state, see Section 3.2 for a summary and exceptions as it pertains to this evaluation.
- Target Flows: Flow rates (or targets) set by the Governance Committee of the PRRIP for specific reaches of the Platte River[7]. See Section 3.3.

Computed Values used in Evaluation

- Available Natural Flow: Computed natural flow available for diversion by a natural flow appropriation.
- Excess Natural Flow: The difference between available natural flow and natural flow demand.
- Natural Flow: Non-storage flows. All gaged flows at Lewellen and Julesburg were treated as natural flow. One limitation of this approach is that the flows at Lewellen also contain storage appropriations that are transferred from reservoirs in Wyoming to Lake McConaughy, generally in the month of September.

[3] Physical operating capacity of diversion facilities based on discussions with facility operators and owners.

[4] Surface water appropriation data provided by NDNR from database (current as of October 2010).

[5] Travel times estimates were compiled from various sources including PWAP; USFWS, PRRIP and NDNR documents; and discussions with operational personnel.

[6] Platte River Recovery Implementation Program. October 2006. Water Plan, Attachment 5 to the Final Platte River Recovery Implementation Program Document. Section 8 - *Nebraska Depletions Plan.*

[7] Platte River Recovery Implementation Program. October 2006. Water Plan, Attachment 5 to the Final Platte River Recovery Implementation Program Document. Section 8 - *Nebraska Depletions Plan.*

- Natural Flow Demand: The lesser of an individual diversion point's natural flow appropriation(s) or the physical capacity of the diversion (a single canal may have appropriations for multiple uses that, if combined, result in a flow rate greater than the canal's ability to divert for any one use). Natural flow demands were aggregated to each Analysis Point. See Table 3 for a summary of natural flow appropriations and diversion capacities, and Table 4 for the aggregated natural flow demands at each Analysis Point.
- Natural Flow Split: Term used to describe the partitioning of natural flow at specific diversions during the evaluation. For example, the amount of natural flows that remain in the river versus the amount diverted.
- Reach Gain/Loss: The computed flow gains or losses that occur between Analysis Points.
- Storage Flow: Flows released from Lake McConaughy that were previously retained as storage for some period of time. When historic Lake McConaughy outflows exceed inflows, the computed difference is storage flow.

2.0 Data Inputs and Calculated Parameters

A critical value necessary to determine excess natural flows is the available natural flow. The available natural flow, as defined above, is a computed value of natural flow available for diversion to meet a natural flow appropriation. Data used to compute this value include the mean daily discharge recorded by Platte River gages, canal diversions and returns for the period beginning with Water Year (WY) 1954 (10/1/1953) through the end of WY 2008 (9/30/2008), and natural flow appropriations. The Platte River gage data are the basic element for understanding the water supply in the stream. The canal diversions and returns provide data on the impacts of these actions to the gage data. As an intermediate step, reach gains or losses are also calculated. The key data inputs and calculated parameters used in determining available natural flow are summarized below. A Microsoft Excel spreadsheet tool was developed for this purpose and accompanies this document. More detailed explanations of the individual computations involved in the quantification of available flow are annotated in detail within the Excel spreadsheet tool.

The available natural flow calculations were performed for the reaches from the North Platte River at Lewellen, Nebraska, and the South Platte River at Julesburg, Colorado, to the Platte River near Odessa, Nebraska. Storage releases are not protected downstream of the Kearney Diversion, and therefore, all flows downstream of the Kearney Diversion were treated as natural flows.

2.1 Gage Data

Historical gage data were obtained from two sources: the USGS and the NDNR. Table 1 lists the gages (Platte River System, tributaries, canal diversions/returns) used in this evaluation and the source of the gage data. Various locations contain gages operated by both the USGS and NDNR, and are denoted appropriately. The main-stem Platte River gages denoted in bold font delineate defined reaches.

Table 1: Platte River Gage Data Used in Analysis

Gage No.	Description*	Source	System
06687500	**North Platte River at Lewellen**	USGS	North Platte River
138000	Sutherland Canal from North Platte River	NDNR	North Platte River
06690500	**North Platte River near Keystone, NE**	USGS/NDNR	North Platte River
76000	Keith-Lincoln County Canal from North Platte River	NDNR	North Platte River
114000	North Platte Canal from North Platte River	NDNR	North Platte River
121000	Paxton-Hershey Canal from North Platte River	NDNR	North Platte River
06692000	Birdwood Creek near Hershey, NE	USGS/NDNR	North Platte River
136000	Suburban Canal from North Platte River	NDNR	North Platte River
27000	Cody-Dillon Canal from North Platte River	NDNR	North Platte River
06693000	**North Platte River at North Platte, NE**	USGS/NDNR	North Platte River
06764000	**South Platte at Julesburg, CO**	USGS	South Platte River
147000	Western Canal from South Platte River	NDNR	South Platte River
06764900	South Platte Supply Canal (Korty) from South Platte River	NDNR	South Platte River
06765000	**South Platte River at Paxton, NE**	USGS	South Platte River
06765500	**South Platte River at North Platte, NE**	USGS/NDNR	South Platte River
140000	Sutherland Power Return to South Platte River	NDNR	South Platte River
142000	Tri-County Canal from Platte River	NDNR	Platte River
06766000	**Platte River at Brady, NE**	USGS/NDNR	Platte River
143000	Jeffrey Power Return to Platte River	NDNR	Platte River
57000	Gothenburg Canal from Platte River	NDNR	Platte River
141000	Thirty Mile Canal from Platte River	NDNR	Platte River
134000	Six Mile Canal from Platte River	NDNR	Platte River
33000	Cozad Canal from Platte River	NDNR	Platte River
117000	Orchard-Alfalfa Canal from Platte River	NDNR	Platte River
37000	Dawson County Canal from Platte River	NDNR	Platte River
06766500	**Platte River near Cozad, NE**	USGS/NDNR	Platte River
144000	Johnson (J-2) Power Return to Platte River	NDNR	Platte River
06768000	**Platte River near Overton, NE**	USGS	Platte River
73000	Kearney Canal from Platte River	NDNR	Platte River
06770000	**Platte River near Odessa, NE**	USGS/NDNR	Platte River
06770500	**Platte River near Grand Island, NE**	USGS	Platte River
06774000	**Platte River near Duncan, NE**	USGS	Platte River
06796000	**Platte River at North Bend, NE**	USGS	Platte River
06805500	**Platte River at Louisville, NE**	USGS	Platte River

* The main-stem Platte River gages denoted in bold font delineate defined reaches used in this analysis.

2.2 Reach Gains and Losses

Daily reach gains/losses were computed for each reach utilizing available historic gage and diversion data. Evaporation and evapotranspiration losses, runoff, bank storage effects, and baseflow were not explicitly calculated in the computation of gain/loss. Table 2 summarizes the different reaches, and the diversions, returns, and tributary inflows represented in each reach.

Table 2: Platte River Reach Gain/Loss Summary

	Reach Extent		Diversions Represented	Returns Represented	Tributaries Represented	Travel Time (days)
	Upstream	Downstream				
North Platte River	Keystone	Birdwood Creek	Keith-Lincoln North Platte Paxton-Hershey		Birdwood Creek	1
	Birdwood Creek	North Platte	Suburban Cody-Dillon			1
South Platte River*	Julesburg	Western Canal Div.	Western			0
	Western Canal Div.	Korty Canal Div.	Korty			1
	Korty Canal Div.	North Platte		Sutherland		1
Platte River	North Platte	Brady	Tri-County			1
	Brady	Cozad	Gothenburg Thirty Mile Six Mile Cozad Orchard-Alfalfa Dawson County	Jeffrey		1
	Cozad	Overton		Johnson (J-2)		1
	Overton	Odessa	Kearney			1

*Details of the reach gain/losses assumptions for the South Platte River are annotated in the accompanied Microsoft Excel spreadsheet tool. For purposes of this analysis, the gage location for the South Platte River at Paxton was assumed to be coincident with the location of the Korty Canal Diversion.

2.3 Flow Split Assumptions

Flow was split on the North Platte River at the Keystone (Sutherland Canal) Diversion and on the Platte River at the Tri-County Diversion to determine the amount of flow remaining in the river versus the amount diverted. The assumptions and methodologies used to split the flow are described in the following sections.

2.3.1 Keystone (Sutherland Canal) Diversion

The Keystone (Sutherland Canal) Diversion diverts flows from the North Platte River, downstream of Lake McConaughy, to Sutherland Reservoir. The following assumptions were made to partition flow at the Keystone Diversion:

1. Natural inflow to Lake McConaughy was based on the historic gage record for the North Platte River at Lewellen plus tributary inflows between the Lewellen gage and Lake McConaughy. To account for travel time through Lake McConaughy, the inflows were compared to the following day's outflow from Lake McConaughy. The natural outflow was the lesser of the historic Lake

McConaughy release from storage, or the natural inflow from the previous day. Losses through Lake McConaughy were not considered in this evaluation.

2. Demand at Keystone was based on the natural flow rights of the North Platte canals (Keith-Lincoln, North Platte, Paxton-Hershey, Suburban, and Cody-Dillon), adjusted for Birdwood Creek inflows and reach gain/losses between Keystone and North Platte. Storage appropriations in Lake McConaughy for upstream canals using exchanges were not considered in this evaluation. During the irrigation season, this should result in a more conservative estimate of excess flows. In the month of September, at the time that the contracted water is flowing into Lake McConaughy, it would result in a less conservative estimate of natural inflow.
3. The natural flow demand for the North Platte Canals (lesser of natural flow appropriations or diversion capacities, adjusted for reach gains/losses) was sent down the river, with the excess sent down the Keystone Diversion, capping Keystone Diversion natural flow at the canal capacity (1,750 cfs).

2.3.2 Tri-County Diversion

A calculation similar to that used for the Keystone Diversion was made at the Tri-County Diversion structure, just downstream of the North Platte/South Platte confluence. The following assumptions were made to partition the flow at the Tri-County Diversion:

1. The natural flow demand for the Nebraska Public Power District (NPPD) Canals in the Brady to Cozad reach was calculated based on the natural flow rights of the canals and adjusted for reach gain/losses between the Tri-County Diversion and Cozad. The demand was translated upstream to Tri-County Diversion, accounting for travel time between the Tri-County Diversion and Cozad (2 days).
2. The natural flow demand for the NPPD Canals (less Kearney Canal) was sent down the river with the excess being sent down the Tri-County Diversion, capping the Tri-County Diversion natural flow at the canal capacity (2,250 cfs). No flows are returned at the Jeffrey Return to meet demands.

2.4 Canal Diversion/Return Assumptions in Computing Natural Flow Demands

The natural flow appropriations for North Platte Canals and the NPPD Canals were used in the calculation of the natural flow demand at the Keystone Canal Diversion and Tri-County Diversion, as described in Sections 2.3.1 and 2.3.2, respectively.

The following sections describe the assumptions regarding canal diversions and returns used in calculating the natural flow demand. The only return flows used in the calculation of natural flow were the Sutherland Return to the South Platte River, and the Jeffrey and Johnson (J-2) returns to the Platte River. All other canal returns are either not gaged or have gage records not consistent with the period of record and were assumed to be captured in the calculated reach gain/losses.

2.4.1 North Platte Canals

The North Platte Canals (Keith-Lincoln, North Platte, Paxton-Hershey, Suburban, and Cody-Dillon) were segmented into two different reaches: upstream of Birdwood Creek and downstream of Birdwood Creek. Keith-Lincoln, North Platte, and Paxton-Hershey canals divert flows from the North Platte River upstream of Birdwood Creek, while Suburban and Cody-Dillon canals divert flows downstream of Birdwood Creek. To account for the effect of Birdwood Creek on the Suburban and Cody-Dillon canals and better replicate actual operations, the calculated demand for Suburban and Cody-Dillon (translated upstream to calculate the natural flow split at the Keystone Diversion) were compared to the Birdwood Creek historic gage flows. When Birdwood Creek historic gage flows (measured just upstream of the confluence with the North Platte River) exceeded the Suburban and Cody-Dillon natural flow right (± reach gain/losses), then zero demand for Suburban and Cody-Dillon was transferred to the Keystone Diversion split location for use in the calculation. When Birdwood Creek flows were less than the Suburban and Cody-Dillon natural flow right, then the deficit (± reach gain/losses) was added to the demand for Keith-Lincoln, North Platte, and Paxton-Hershey canals and transferred upstream to the Keystone Diversion split location for use in the calculation.

The reach gain/loss between Keystone Diversion and North Platte was calculated based on upstream and downstream gages (North Platte River at Keystone and North Platte River at North Platte), the five North Platte Canals, and Birdwood Creek. The reach gain/loss was then partitioned, based on reach length, to calculate the demand for the North Platte Canals at the Keystone Diversion split.

2.4.2 NPPD Canals

The Nebraska Public Power District operates six canals in the Brady to Cozad reach of the Platte River. These canals are Gothenburg Canal, Thirty Mile Canal, Six Mile Canal, Cozad Canal, Orchard-Alfalfa Canal, and Dawson County Canal. Similar to the North Platte Canals, the Brady to Cozad reach was segmented to account for the effect of reach gain/losses on the canal demands. The river miles (RM) for the gages, returns, and diversions in the Brady to Cozad reach are as follows:

- Platte River at Brady – RM 292
- Jeffrey Return – RM 288
- Gothenburg Canal Diversion – RM 288
- Thirty Mile Canal Diversion – RM 288
- Six Mile Canal Diversion – RM 283
- Cozad Canal Diversion – RM 280
- Orchard-Alfalfa Canal Diversion – RM 271
- Dawson County Canal Diversion – RM 267
- Platte River at Cozad – RM 266

The Brady to Cozad reach was segmented into two sub-reaches: (1) Brady to Cozad Canal Diversion, and (2) Cozad Canal Diversion to the Cozad gage. The demand (natural flow right or structure capacity) for sub-reach 1 was calculated and added to the demand for sub-reach 2 less the partitioned reach gain/losses between Brady and Cozad Canal Diversion, then translated upstream to calculate the natural flow split at the Tri-County Diversion.

Conceptually, the calculations proceed as follows:

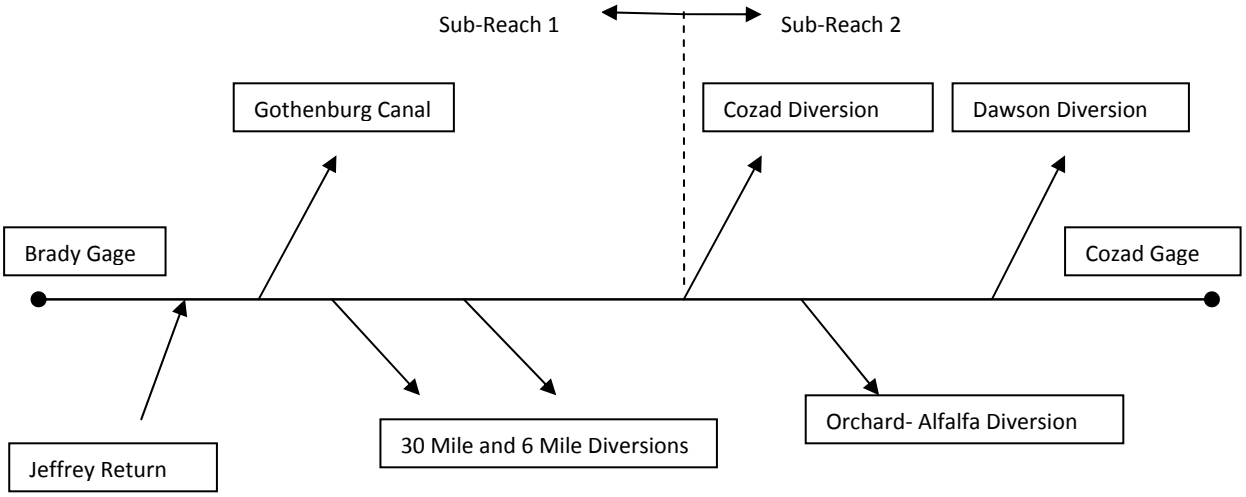
1. Computed Reach Gain/Loss (RGL)
   (Cozad Gage – Brady Gage) + (Gaged Canal Diversions) – (Gaged Jeffrey Return)
   a. *Note: RGL prorated by reach length; 45% of gain in Sub-reach 1, 55% of gain in Sub-reach 2*

2. Sub-reach 2 Natural Flow Demand
   Cozad Canal Demand + Orchard Alfalfa Demand + Dawson Demand

3. Sub-reach 1 Natural Flow Demand
   Gothenburg Canal Demand + 30-Mile Canal Demand + 6-Mile Canal Demand

4. Natural Flow Demand at Tri-County
   (Sub-reach 1 Demand) + (Sub-reach 2 Demand) – (0.45)*(RGL)
   Note: Jeffrey Return inflow is not represented in this projection of natural flow demand as all flows to meet the natural flow demand are assumed to be sent down the river at Tri-County Diversion, i.e. no inflows at Jeffrey Return to meet the natural flow demands downstream.

Figure 1: Conceptual Schematic of Brady to Cozad Reach



3.0 Methodology for Determining Excess Flows

3.1 Available Natural Flow

Data inputs and calculated parameters as described in Section 2.0 were used to compute values of natural flow available for diversion to meet a natural flow appropriation. The flow chart below illustrates the use and linkages of data and calculated parameters to compute available natural flow. The Microsoft Excel spreadsheet tool developed for this evaluation accompanies this document and provides more detailed explanations of the individual computations involved in the quantification of available natural flow. A flow chart and example calculation for available natural flow is included in Appendix G.

3.2 Demands

Determination of demand consisted of two efforts: 1) State protected flows; and 2) Target flows as set by the Governance Committee of the PRRIP for the Lexington to Chapman reach.

3.2.1 State Protected Flows

State protected flows are defined for this project as the following:

1. Flows necessary to satisfy Nebraska natural flow and storage appropriations. For these analyses, four primary right holders and data sources have been identified:
    a. Irrigation canals – For this analysis the appropriated water demand is the lesser of diversion capacity or natural flow right. Each canal is represented to give the spreadsheet tool flexibility to discretely represent reach components. Full diversion will be assumed throughout irrigation season (April 1 to September 30).
    b. Individual small appropriators – The NDNR's database of active surface water appropriations was reviewed to evaluate the significance of individual appropriators along the Platte River (Appendix B). For the study reach upstream of Duncan, fourteen individual appropriators have rights on the main stem with a cumulative total of less than 14 cfs. Individual appropriators on tributaries to the main stem were not considered. Based on the relative magnitude of this demand and the planning-level nature of the tools, individual small appropriators were not included in the analysis.
    c. Storage Permits – Storage appropriations are served by facilities included in the analysis and representation of the demands to fill the storage right were not explicitly represented as a separate demand, but rather considered served by the facilities' natural flow rights. Storage appropriations on tributaries to the main stem were not included in the analysis.
    d. Hydropower Generation – Location and quantity of hydropower generation water rights were aggregated and explicitly represented in each reach.
2. Flows to satisfy Nebraska instream flow rights above Chapman. Table A-1 in Appendix A defines the instream flow appropriations and periods defined in the Central Platte Natural Resources

District (CPNRD) and Nebraska Game & Parks Commission (NGPC) appropriations. More detailed information on the appropriations may be found Appendix B.

3. Flows to recharge aquifers above Chapman, but only to the extent needed to prevent loss of available water supply, as opposed to reductions in water levels. In most cases the flows needed for recharge are met by those flows required by other permitted uses in the reach (i.e. non-zero flows indicate adequate flows exist for recharge). Based on the reach gain/losses analysis conducted for this study, the Platte River above Odessa can be characterized as a gaining reach (i.e. recharge needs can be assumed to be met for those reaches). As an additional verification check, the peak pumping rates of the largest well fields adjacent to the river were compared to reach instream flow demands. The monthly records from 1997 to 2009[8] show the peak month for both the Grand Island and Kearney well fields occurred in July of 2002 (see Appendix C)(Reference 9). Converting this monthly volume to a daily pumping rate and applying a 1.5 peak-day factor yields a rate of 53 cfs for the Grand Island well field and 33 cfs for the Kearney well field. The peak pumping rates of both of these well fields are significantly less than the minimum instream flow rights of 500 cfs. Because instream flow demands exceed peak pumping rates, recharge requirements can be assumed to be fulfilled if instream flow demands are being met and were therefore not explicitly represented in the demand analysis. This analysis is based on water supply only, without considering water quality impacts, etc., that may occur during periods of reduced flows.
4. Flows to implement the PRRIP Water Action Plan[9]. At this time, no new water action plan project that requires a State of Nebraska water appropriation has been implemented; therefore, any natural flow demand for such a project is not considered in this analysis.

3.2.2 Platte River Recovery Implementation Program Target Flows

The second effort in the determination of system flow demands is based on target flows as set by the Governance Committee of the PRRIP for the Lexington to Chapman reach, and included in the Nebraska New Depletions Plan[10]. As noted previously, the state protected flows do not vary based on wet/dry/normal conditions, but target flows do vary based on hydrologic variation. These target flows are illustrated in Table A-2 in Appendix A. Because of the interdependency of system operations and wet/dry/normal determinations, demands were not varied annually by the wet/dry/normal hydrologic condition. Rather, each respective wet/dry/normal target flow demand was applied consistently over the entire period of record and the evaluation completed for each of the three cases. As stated previously, the tools developed for the analysis do have the flexibility for future modification to vary target flow demands annually based on the hydrologic classification. In this analysis any target flows

[8] Municipal well pumping data provided by Central Platte Natural Resources District (September 2010).

[9] Platte River Recovery Implementation Program. October 2006. Water Plan, Attachment 5 to the Final Platte River Recovery Implementation Program Document. Section 6 – *Reconnaissance-Level Water Action Plan*.

[10] Platte River Recovery Implementation Program. October 2006. Water Plan, Attachment 5 to the Final Platte River Recovery Implementation Program Document. Section 8 - *Nebraska Depletions Plan*.

that were greater than state protected flows, in a given reach, became the total demand for that reach. If target flows were less than state protected flows, then the total demand was the state protected flow.

3.3 Demand Query Database

Excess to state protected and target flows was quantified by comparing the available natural flow to the demands (natural/instream flow rights) at various analysis points throughout the study area. Appropriated water, as defined for this analysis, is the lesser of the natural flow right or the physical limitation of the infrastructure. Furthermore, the evaluation for this effort will be based on the natural flow right and will not evaluate the practicality of a user's ability to fully use the full quantity of the natural flow right at all times considered in this analysis. As stated in the introduction, the tool developed for this analysis will also have the flexibility to be modified to simulate different assumptions in future analyses.

A database tool was used to query the available natural flow against the demands at each analysis point, working from downstream to upstream, and taking into account travel time between each analysis point. Demands are projected over the historic period of record. Effects of groundwater usage are only represented to the extent they are reflected in the stream gage used in the reach gain/losses analysis. It is recognized that potential lag effects of recent groundwater development may not be fully captured, particularly in the early portion of the historic record. Table 3 lists the natural flow appropriations and diversion capacities for the Platte River canals. Table 4 lists the analysis points, descriptions, demands (flow rights or capacities), and travel days from Lake McConaughy or the Western Canal for each point.

Table 3: Platte River Canal Natural Flow Appropriations and Diversion Capacities

Description	Natural Flow Right (cfs)	Diversion Capacity (cfs)
NPPD Keystone Canal (North Platte River)	3,790#	1,750
Keith-Lincoln Canal (North Platte River)	80	100
North Platte Canal (North Platte River)	202	350
Paxton-Hershey Canal (North Platte River)	103	135
Suburban Canal (North Platte River)	78	105
Cody-Dillon Canal (North Platte River)	56	60
Western Canal (South Platte River)	176	250
NPPD Korty Canal (South Platte River)	2,236#	850
CNPPID Tri-County Supply Canal	4,040#	2,250
Gothenburg Canal	272	400
Thirty-Mile Canal	303	325
Six-Mile Canal	24	25
Cozad Canal	235	290
Orchard-Alfalfa Canal	84	85
Dawson County Canal	450	525
Kearney Canal	406#	400

These Canals have appropriations for more than one use (i.e. irrigation and power). When the appropriations are added together they may amount to more than the diversion capacity; however, at any given time for any single use, no more than the diversion capacity may be used.

Table 4: Platte River Analysis Points and Demands

Analysis Point No.	Description	Demand/Right (cfs)	Demand Type	Travel Days (from Lake McConaughy / Western Canal)
1	North Platte River at Keystone Canal Diversion	1,750[1]	Natural Flow	0
2	North Platte River, Downstream of Keystone Canal Diversion	386[2]	Natural Flow	0
3	North Platte River, Downstream of Birdwood Creek	136[3]	Natural Flow	1
S1	Western Canal Diversion – South Platte River	176	Natural Flow	0
S2	Korty Canal Diversion – South Platte River	850[1]	Natural Flow	1
4	Platte River at Tri-County Diversion	2,250[1]	Natural Flow	2
5	Platte River at Gothenburg Canal Diversion	600[4]	Natural Flow	3
6	Platte River at Cozad Canal Diversion	319[5]	Natural Flow	4
7	Platte River at Dawson County Canal Diversion	450	Natural Flow	4
8	Platte River at Overton (Natural Flow)	See Appendix[6]	Instream Flow	5
8a	Platte River at Overton (Historical Flow)	See Appendix[6]	Instream Flow	5
9	Platte River at Kearney Canal Diversion	406	Natural Flow	6
9a	Platte River at Odessa (Historical)	See Appendix[6]	Instream Flow	6
10	Platte River at Grand Island (Instream Flow)	See Appendix[6]	Instream Flow	7
11	Platte River at Duncan (Instream Flow)	See Appendix[6]	Instream Flow	8
12	Platte River at North Bend (Instream Flow)	See Appendix[6]	Instream Flow	9
13	Platte River at Louisville (Instream Flow)	See Appendix[6]	Instream Flow	10

[1]Limited by canal capacity

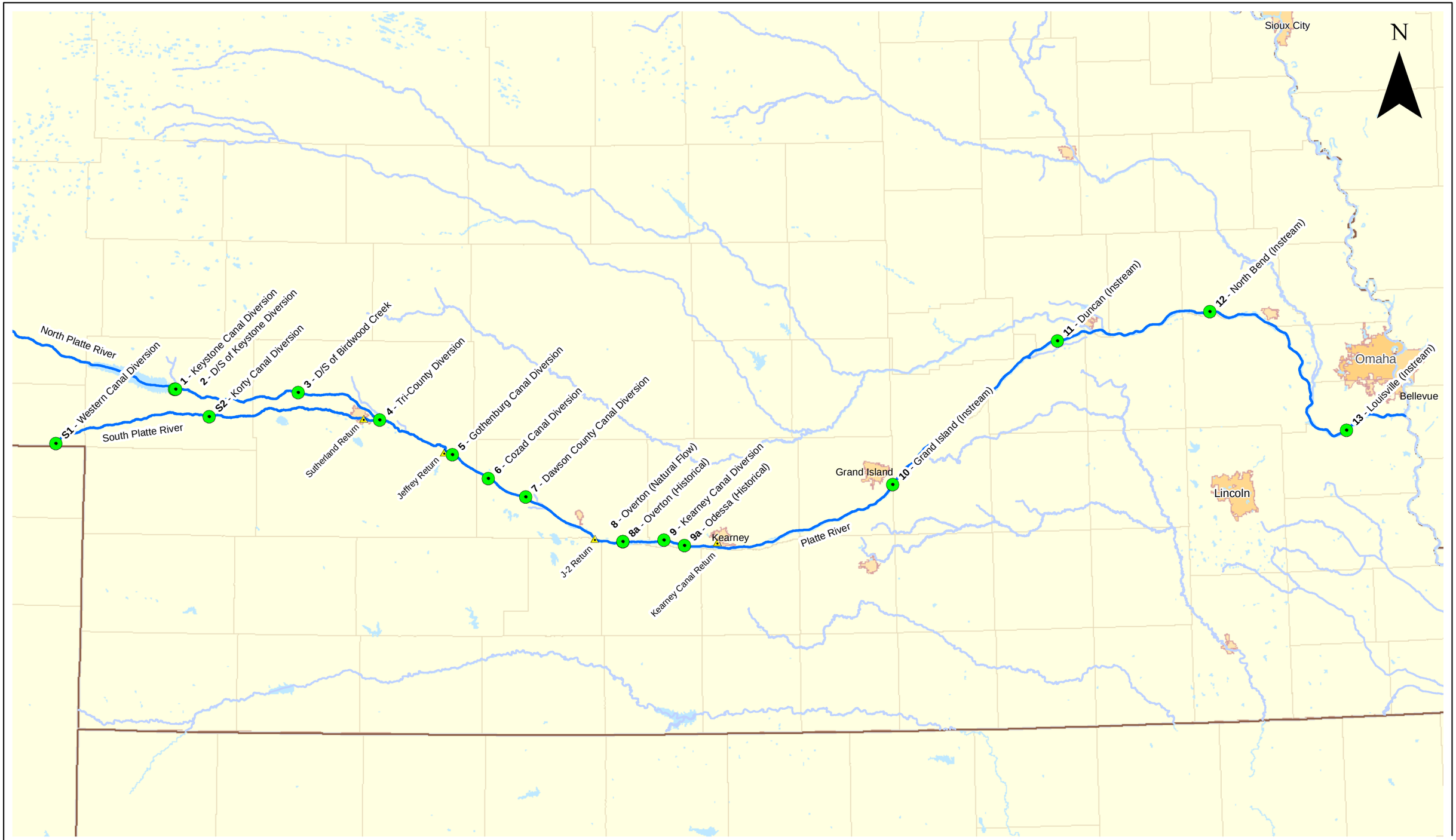
[2]Includes Keith-Lincoln, North Platte, and Paxton-Hershey

[3]Includes Suburban, and Cody-Dillon

[4]Includes Gothenburg, Thirty Mile, and Six Mile

[5]Includes Cozad and Orchard-Alfalfa

[6]Demand varies throughout the year. See Appendix A.



HDR

THE FLATWATER GROUP INC.

NEBRASKA Department of Natural Resources

Analysis Point Location Map

Evaluation of Historic Platte River Streamflow in Excess of State Protected Flows and Target Flows

DATE
December 2010

FIGURE
2

The database query quantified excess to state protected and target flow water volumes, as well as the duration of flow excess to state protected and target flows. The query compares the available natural flow (obtained from the Excel Spreadsheet Tool) to the demands at each analysis point. The steps are outlined below:

1. Compare available natural flow to demand at each analysis point, starting at the upstream extent (North Platte River at Keystone Canal Diversion, Analysis Point 1) and moving downstream.
    a. Compare natural flow and/or actual historical flow (historical gaged flows below Kearney Diversion) to demands and target flows.
    b. Convert the excess/deficit value to an acre-feet per day volume.
2. Analyze the relationship between the analysis point excess/deficit volumes using a query based on travel time between analysis points.
    a. Starting at the downstream analysis point at Louisville (Analysis Point 13) and working upstream, evaluate the excess/deficit volume to determine if it is greater than 0.
    b. If the volume is less than or equal to 0, then, taking into account the travel time between analysis points illustrated in Table 4, all the volumes upstream are reset to 0 - indicating no flow excess to state protected and target flows above that analysis point on the appropriate day. For example, if no excess volume is available at Louisville (Analysis Point 13), then volumes are set to 0 on the previous day at North Bend, two days previous at Duncan, etc.
3. Identify the flow excess to state protected and target flows for each analysis point.
    a. The flow excess to state protected and target flows equals the lesser of the calculated excess volume at the analysis point or the minimum excess volume of the analysis points downstream.

The database query was conducted for state protected flow demands alone first. Subsequent queries were then conducted for target flows by adding the incremental amount of the target flow demands to the state protected flow demands to derive the combined state protected and target flow demands at the Overton, Odessa, and Grand Island gages as illustrated in Table A-3 in Appendix A. The query of the available natural flow (Excel Spreadsheet Tool) using this set of demands progresses as described above.

4.0 Results

Summary tables for each analysis point, over the entire 54-year period, indicating minimum, maximum, and average volumes as well as number of years with excess flows above 5,000 ac-ft, 10,000 ac-ft, 20,000 ac-ft, and 30,000 ac-ft are included. The values are not cumulative for the number of years with excess flow. For example, the number of years with flows above 10,000 ac-ft is included in the number of years with flows above 5,000 ac-ft. Also included in the tables are monthly summaries of number of years with zero excess flow and average number of days with excess flow.

Complete results of the excess to state protected and target flows flow analysis are provided in Appendices D-F. Appendix D contains plots of the average monthly excess to state protected flow

volumes over the period of record. In addition, the average number of days each month during which excess to state protected flows is available is also plotted. Appendix E contains plots of the average monthly excess to state protected and target flow volumes over the period of record when queried for both state protected and target flow demands. Finally, Appendix F contains plots of the monthly excess to state protected flow volumes for the period of record at each analysis point.

Table 5: Analysis Point 1 – North Platte River at Keystone Diversion Summary
Summary of Excess to State Protected Flows

Summary for Water Year 1954-2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum Natural Flow Vol (AF)	4,846	26,442	145,337	193,014	259,684	340,061	190,368	134,158	136,356	60,767	22,140	5,371
Minimum Natural Flow Vol (AF)	0	0	0	0	0	0	0	0	0	0	0	0
Average Natural Flow Vol (AF)	116	490	5,748	6,486	12,717	22,232	4,139	2,661	4,078	1,801	461	141
# Years with Excess Natural Flow:												
>5,000 AF	0	1	4	5	6	8	5	3	4	2	1	1
>10,000 AF	0	1	4	5	5	7	1	1	3	2	1	0
>20,000 AF	0	1	3	3	3	7	1	1	2	2	1	0
>30,000 AF	0	0	2	2	3	5	1	1	2	2	0	0
Average # of Days With Excess Natural Flow	0.5	0.7	1.7	1.8	2.2	3.4	1.4	0.8	1.4	1.2	0.9	0.4
Number of Years with Zero (0) Excess Natural Flow	53	53	51	49	48	45	47	52	50	52	54	53

Table 6: Analysis Point 2 – North Platte River, Downstream of Keystone Canal Diversion
Summary of Excess to State Protected Flows

Summary for Water Year 1954-2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum Natural Flow Vol (AF)	9,610	28,747	148,907	199,584	259,684	340,061	191,868	134,158	136,356	64,755	26,867	8,793
Minimum Natural Flow Vol (AF)	0	0	0	0	0	0	0	0	0	0	0	0
Average Natural Flow Vol (AF)	268	717	5,885	6,684	12,915	22,564	4,384	2,661	4,083	1,891	551	205
# Years with Excess Natural Flow:												
>5,000 AF	1	2	4	5	6	9	5	3	4	2	1	1
>10,000 AF	0	1	4	5	5	8	3	1	3	2	1	0
>20,000 AF	0	1	3	3	4	7	1	1	2	2	1	0
>30,000 AF	0	0	2	2	3	6	1	1	2	2	0	0
Average # of Days With Excess Natural Flow	0.6	1.1	1.8	1.8	2.3	3.7	1.5	0.8	1.5	1.3	0.9	0.4
Number of Years with Zero (0) Excess Natural Flow	52	53	50	49	48	45	47	52	49	52	53	53

Table 7: Analysis Point 3 – North Platte River, Downstream of Birdwood Creek
Summary of Excess to State Protected Flows

Summary for Water Year 1954-2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum Natural Flow Vol (AF)	21,287	55,197	154,092	212,455	260,668	353,468	207,674	137,476	140,005	86,689	27,880	14,841
Minimum Natural Flow Vol (AF)	0	0	0	0	0	0	0	0	0	0	0	0
Average Natural Flow Vol (AF)	875	1,968	6,597	6,955	13,323	23,729	4,923	2,791	4,248	2,481	632	372
# Years with Excess Natural Flow:												
>5,000 AF	3	6	5	5	6	10	5	2	4	2	1	1
>10,000 AF	2	3	4	4	6	9	4	2	3	2	1	1
>20,000 AF	1	1	3	3	4	8	1	1	3	2	1	0
>30,000 AF	0	1	2	2	3	7	1	1	2	2	0	0
Average # of Days With Excess Natural Flow	1.1	2.2	2.5	2.2	4.0	5.1	1.8	1.0	1.6	1.6	1.1	0.5
Number of Years with Zero (0) Excess Natural Flow	49	46	44	48	39	35	46	52	50	49	52	53

Table 8: Analysis Point S1 – South Platte River at Western Canal Diversion
Summary of Excess to State Protected Flows

Summary for Water Year 1954-2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum Natural Flow Vol (AF)	35,796	101,024	68,038	152,934	489,999	716,936	237,653	71,253	38,055	71,483	24,256	10,316
Minimum Natural Flow Vol (AF)	0	0	0	0	0	0	0	0	0	0	0	0
Average Natural Flow Vol (AF)	1,397	3,672	2,898	5,825	35,656	42,995	6,881	2,024	1,800	1,505	491	258
# Years with Excess Natural Flow:												
>5,000 AF	3	6	6	6	11	16	3	4	4	1	1	1
>10,000 AF	2	5	4	6	10	16	3	3	3	1	1	1
>20,000 AF	2	2	2	5	9	13	2	2	2	1	1	0
>30,000 AF	1	2	2	5	9	12	2	1	1	1	0	0
Average # of Days With Excess Natural Flow	1.1	2.2	2.0	2.1	4.3	6.0	1.3	1.1	1.2	0.9	0.6	0.3
Number of Years with Zero (0) Excess Natural Flow	49	46	45	48	41	36	48	52	49	50	53	53

Table 9: Analysis Point S2 – South Platte River at Korty Canal Diversion
Summary of Excess to State Protected Flows

Summary for Water Year 1954-2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum Natural Flow Vol (AF)	25,087	65,144	21,676	96,216	430,928	647,347	217,540	24,298	22,485	33,065	8,241	4,364
Minimum Natural Flow Vol (AF)	0	0	0	0	0	0	0	0	0	0	0	0
Average Natural Flow Vol (AF)	1,061	2,831	1,219	3,588	32,076	40,235	6,814	1,107	748	812	203	153
# Years with Excess Natural Flow:												
>5,000 AF	3	6	5	5	10	16	3	3	3	2	1	0
>10,000 AF	2	5	2	5	9	15	3	3	1	1	0	0
>20,000 AF	2	2	1	4	9	12	2	2	1	1	0	0
>30,000 AF	0	2	0	2	9	12	2	0	0	1	0	0
Average # of Days With Excess Natural Flow	1.1	2.2	2.1	2.0	4.3	6.0	1.5	1.1	1.1	1.0	0.6	0.3
Number of Years with Zero (0) Excess Natural Flow	49	46	45	48	41	36	48	52	50	49	53	53

Table 10: Analysis Point 4 – Platte River at Tri-County Diversion
Summary of Excess to State Protected Flows

Summary for Water Year 1954-2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum Natural Flow Vol (AF)	27,400	111,729	149,203	256,544	518,583	853,222	354,625	141,057	143,625	96,103	28,100	16,350
Minimum Natural Flow Vol (AF)	0	0	0	0	0	0	0	0	0	0	0	0
Average Natural Flow Vol (AF)	1,178	3,798	6,667	8,341	40,079	58,198	10,345	3,216	4,342	2,687	652	414
# Years with Excess Natural Flow:												
>5,000 AF	3	6	6	5	11	16	8	3	5	3	1	1
>10,000 AF	2	5	3	5	10	16	4	3	3	2	1	1
>20,000 AF	2	2	3	4	9	15	2	2	3	2	1	0
>30,000 AF	0	2	3	3	9	13	2	1	2	2	0	0
Average # of Days With Excess Natural Flow	1.1	2.2	2.5	2.2	4.4	6.3	2.2	1.1	1.6	1.6	1.1	0.5
Number of Years with Zero (0) Excess Natural Flow	49	46	44	47	39	35	44	52	50	49	52	53

Table 11: Analysis Point 5 – Platte River at Gothenburg Canal Diversion
Summary of Excess to State Protected Flows

Summary for Water Year 1954-2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum Natural Flow Vol (AF)	67,822	147,842	188,841	260,578	508,464	847,970	377,330	145,748	145,942	127,083	49,639	26,753
Minimum Natural Flow Vol (AF)	0	0	0	0	0	0	0	0	0	0	0	0
Average Natural Flow Vol (AF)	10,818	16,942	20,271	8,451	40,820	59,928	11,698	3,449	4,483	6,092	7,074	7,082
# Years with Excess Natural Flow:												
>5,000 AF	34	45	39	6	12	18	10	3	5	13	27	29
>10,000 AF	23	38	34	4	10	17	6	3	3	10	13	19
>20,000 AF	8	9	17	4	10	15	3	2	3	4	4	2
>30,000 AF	3	4	5	2	9	13	2	1	2	2	1	0
Average # of Days With Excess Natural Flow	17.6	21.7	20.9	3.1	6.7	8.2	3.3	1.6	2.1	6.7	14.5	14.6
Number of Years with Zero (0) Excess Natural Flow	6	3	7	33	27	25	37	48	48	38	8	9

Table 12: Analysis Point 6 – Platte River at Cozad Canal Diversion
Summary of Excess to State Protected Flows

Summary for Water Year 1954-2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum Natural Flow Vol (AF)	71,071	150,327	190,364	262,401	511,034	847,970	377,330	145,817	145,988	130,254	50,083	31,966
Minimum Natural Flow Vol (AF)	0	0	0	0	0	0	0	0	0	0	0	0
Average Natural Flow Vol (AF)	12,227	19,111	22,142	8,484	40,980	60,024	11,698	3,452	4,495	6,696	8,086	8,346
# Years with Excess Natural Flow:												
>5,000 AF	37	46	39	6	12	18	10	3	5	13	30	30
>10,000 AF	25	39	36	4	11	18	6	3	4	10	17	22
>20,000 AF	10	17	27	4	10	15	3	2	3	5	4	4
>30,000 AF	4	6	8	2	9	14	2	1	2	3	2	1
Average # of Days With Excess Natural Flow	17.6	21.7	20.9	3.1	6.7	8.2	3.3	1.6	2.1	6.7	14.5	14.6
Number of Years with Zero (0) Excess Natural Flow	6	3	7	33	27	25	37	48	48	38	8	9

Table 13: Analysis Point 7 – Platte River at Dawson County Canal Diversion
Summary of Excess to State Protected Flows

Summary for Water Year 1954-2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum Natural Flow Vol (AF)	75,895	154,009	192,636	265,293	512,510	847,970	377,330	145,968	146,103	134,761	50,740	39,704
Minimum Natural Flow Vol (AF)	0	0	0	0	0	0	0	0	0	0	0	0
Average Natural Flow Vol (AF)	14,118	22,180	24,749	8,536	41,178	60,162	11,699	3,458	4,517	7,521	9,414	10,004
# Years with Excess Natural Flow:												
>5,000 AF	40	47	39	6	13	18	10	3	5	15	33	32
>10,000 AF	31	41	37	4	11	18	6	3	4	10	19	22
>20,000 AF	11	23	28	4	11	15	3	2	3	6	7	11
>30,000 AF	6	8	14	2	9	14	2	1	2	3	3	2
Average # of Days With Excess Natural Flow	17.6	21.7	20.9	3.1	6.7	8.2	3.3	1.6	2.1	6.7	14.5	14.6
Number of Years with Zero (0) Excess Natural Flow	6	3	7	33	27	25	37	48	48	38	8	9

Table 14: Analysis Point 8 – Platte River at Overton (Natural Flow)
Summary of Excess to State Protected Flows

Summary for Water Year 1954-2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum Natural Flow Vol (AF)	197,176	332,042	351,871	443,064	624,033	850,689	420,400	226,694	215,158	198,112	129,199	155,084
Minimum Natural Flow Vol (AF)	0	0	0	0	0	0	0	0	0	0	0	0
Average Natural Flow Vol (AF)	31,167	49,810	43,509	15,547	51,418	72,159	18,079	6,521	10,859	11,487	19,706	23,592
# Years with Excess Natural Flow:												
>5,000 AF	41	48	39	11	20	21	14	4	7	15	34	35
>10,000 AF	36	45	37	6	17	21	12	3	6	13	26	27
>20,000 AF	26	40	31	6	11	20	10	3	6	8	18	22
>30,000 AF	20	31	25	5	11	18	7	3	6	6	13	15
Average # of Days With Excess Natural Flow	17.9	21.8	21.1	4.0	7.2	8.7	3.9	2.1	3.3	6.6	14.2	15.0
Number of Years with Zero (0) Excess Natural Flow	6	3	7	27	25	23	33	44	46	39	8	9

Table 15: Analysis Point 8a – Platte River at Overton (Historical Flow)
Summary of Excess to State Protected Flows

Summary for Water Year 1954-2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum Natural Flow Vol (AF)	197,882	334,212	351,934	466,765	628,734	851,479	421,707	227,787	215,158	232,647	142,340	155,134
Minimum Natural Flow Vol (AF)	0	0	0	0	0	0	0	0	0	0	0	0
Average Natural Flow Vol (AF)	31,580	50,578	48,482	21,731	54,428	74,335	19,388	7,134	11,382	14,633	21,017	23,892
# Years with Excess Natural Flow:												
>5,000 AF	41	48	41	15	24	26	17	6	7	16	36	35
>10,000 AF	36	45	38	11	18	21	14	4	7	14	26	27
>20,000 AF	26	41	33	8	12	21	11	3	6	9	18	22
>30,000 AF	20	31	28	7	11	18	8	3	6	8	13	15
Average # of Days With Excess Natural Flow	18.1	21.9	21.9	6.6	8.3	9.2	4.6	2.6	3.6	7.5	14.6	15.1
Number of Years with Zero (0) Excess Natural Flow	6	3	6	23	21	21	29	39	44	37	8	8

Table 16: Analysis Point 9 – Platte River at Kearney Canal Diversion
Summary of Excess to State Protected Flows

Summary for Water Year 1954-2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum Natural Flow Vol (AF)	188,865	339,422	352,952	462,887	635,438	835,630	441,475	230,697	214,393	239,607	149,320	154,558
Minimum Natural Flow Vol (AF)	0	0	0	0	0	0	0	0	0	0	0	0
Average Natural Flow Vol (AF)	31,532	51,740	54,255	23,022	53,869	75,695	21,881	7,333	11,079	15,671	21,297	24,275
# Years with Excess Natural Flow:												
>5,000 AF	41	49	42	20	24	28	17	6	7	16	36	36
>10,000 AF	35	45	40	14	21	24	15	5	7	14	28	28
>20,000 AF	28	41	34	8	13	21	12	3	6	9	17	22
>30,000 AF	20	33	30	8	12	18	9	3	6	9	14	15
Average # of Days With Excess Natural Flow	18.1	21.9	22.9	7.2	8.3	9.4	4.9	2.7	3.6	7.6	14.6	15.3
Number of Years with Zero (0) Excess Natural Flow	5	2	4	21	21	21	27	40	44	37	8	8

Table 17: Analysis Point 9a – Platte River at Odessa (Historical Flow
Summary of Excess to State Protected Flows

Summary for Water Year 1954-2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum Natural Flow Vol (AF)	227,904	354,432	354,491	484,391	674,529	841,691	533,543	297,505	349,255	293,221	253,868	223,997
Minimum Natural Flow Vol (AF)	0	0	0	0	0	0	0	0	0	0	0	0
Average Natural Flow Vol (AF)	42,735	64,035	57,135	39,866	77,522	85,050	28,586	13,836	30,722	19,850	32,486	36,666
# Years with Excess Natural Flow:												
>5,000 AF	43	52	42	28	38	33	25	13	22	17	39	43
>10,000 AF	40	46	40	25	30	32	21	8	17	14	32	32
>20,000 AF	31	43	34	22	28	24	13	7	14	9	23	25
>30,000 AF	24	39	30	15	26	21	10	6	13	9	18	20
Average # of Days With Excess Natural Flow	20.0	23.7	23.0	13.5	16.9	11.7	6.2	4.5	10.2	8.0	16.0	17.7
Number of Years with Zero (0) Excess Natural Flow	3	1	4	17	8	16	26	36	27	35	5	5

Table 18: Analysis Point 10 – Platte River at Grand Island (Instream Flow)
Summary of Excess to State Protected Flows

Summary for Water Year 1954-2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum Natural Flow Vol (AF)	273,128	377,639	365,916	504,364	700,870	827,796	551,990	299,132	348,203	337,969	261,822	237,068
Minimum Natural Flow Vol (AF)	0	2,418	0	0	0	0	0	0	0	0	0	0
Average Natural Flow Vol (AF)	46,438	72,444	74,214	48,284	89,621	97,236	35,374	16,442	32,892	23,908	36,382	39,773
# Years with Excess Natural Flow:												
>5,000 AF	46	53	49	34	44	35	28	13	24	18	40	45
>10,000 AF	40	50	45	30	39	33	24	11	18	15	34	35
>20,000 AF	32	45	40	26	35	29	20	10	16	12	25	28
>30,000 AF	25	40	36	22	30	26	13	6	14	11	20	22
Average # of Days With Excess Natural Flow	20.5	23.8	25.2	17.0	20.5	14.0	8.2	5.4	10.4	8.5	16.7	18.5
Number of Years with Zero (0) Excess Natural Flow	3	0	1	11	5	10	22	32	26	35	5	4

Table 19: Analysis Point 11 – Platte River at Duncan (Instream Flow)
Summary of Excess to State Protected Flows

Summary for Water Year 1954-2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum Natural Flow Vol (AF)	313,790	476,873	550,044	750,528	881,978	817,431	608,800	310,418	353,837	374,445	304,170	270,311
Minimum Natural Flow Vol (AF)	0	1,799	13,125	470	0	0	0	0	0	0	0	0
Average Natural Flow Vol (AF)	53,700	91,386	137,594	115,050	123,569	118,569	46,835	19,582	36,839	54,060	55,465	48,160
# Years with Excess Natural Flow:												
>5,000 AF	48	52	55	53	49	42	29	16	24	34	43	47
>10,000 AF	44	50	55	52	47	37	27	12	21	30	38	39
>20,000 AF	37	47	53	50	45	33	22	10	17	26	32	32
>30,000 AF	27	45	51	44	40	30	18	10	14	23	27	24
Average # of Days With Excess Natural Flow	20.9	23.6	30.1	28.4	25.2	17.0	10.2	6.2	10.9	16.4	20.8	18.8
Number of Years with Zero (0) Excess Natural Flow	3	0	0	0	3	8	18	32	26	14	5	4

Table 20: Analysis Point 12 – Platte River at North Bend (Instream Flow)
Summary of Excess to State Protected Flows

Summary for Water Year 1954-2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum Natural Flow Vol (AF)	341,955	572,025	651,691	837,956	923,713	860,154	743,912	335,886	410,763	478,896	405,031	374,822
Minimum Natural Flow Vol (AF)	0	1,567	61,965	7,855	0	1,567	0	0	0	0	0	0
Average Natural Flow Vol (AF)	83,867	161,812	274,703	220,213	218,137	233,691	98,142	49,444	67,195	86,275	94,194	80,027
# Years with Excess Natural Flow:												
>5,000 AF	50	54	55	55	53	54	41	30	35	38	46	50
>10,000 AF	50	53	55	54	52	52	37	25	30	34	46	47
>20,000 AF	42	52	55	53	50	50	34	21	26	29	38	39
>30,000 AF	37	49	55	53	49	49	32	19	23	27	36	36
Average # of Days With Excess Natural Flow	21.3	23.6	30.2	29.1	26.9	23.6	15.1	9.9	14.5	17.4	22.6	19.3
Number of Years with Zero (0) Excess Natural Flow	2	0	0	0	1	0	8	17	14	9	2	3

Table 21: Analysis Point 13 – Platte River at Louisville (Instream Flow)
Summary of Excess to State Protected Flows

Summary for Water Year 1954-	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum Natural Flow Vol (AF)	473,918	709,614	827,533	923,625	955,358	1,014,333	941,813	536,941	523,540	651,797	409,216	443,114
Minimum Natural Flow Vol (AF)	0	1,190	75,552	10,651	0	3,213	0	0	0	0	0	0
Average Natural Flow Vol (AF)	115,437	203,226	357,180	317,478	326,837	335,184	158,409	87,908	95,442	109,556	112,015	98,178
# Years with Excess Natural Flow:												
>5,000 AF	51	53	55	55	52	53	47	36	37	37	46	50
>10,000 AF	51	52	55	55	52	53	42	33	35	34	46	47
>20,000 AF	43	51	55	54	52	52	41	25	29	28	39	40
>30,000 AF	42	49	55	53	50	51	37	24	28	27	36	36
Average # of Days With Excess Natural Flow	22.0	23.3	30.2	29.2	27.2	24.4	16.9	12.2	15.4	16.7	22.9	19.7
Number of Years with Zero (0) Excess Natural Flow	1	0	0	0	2	0	5	11	11	10	2	4

Appendix A – Instream Flow Appropriations and PRRIP Target Flows

Appendix A contains the total Platte River instream flow appropriations and the Platte River Recovery Implementation Program target flows for wet, dry, and normal years.

Table A - 1: Total (CPNRD and NGPC) Platte River Instream Flow Appropriations (cfs)

Period	Overton	Odessa	Grand Island	Duncan	North Bend	Louisville
January 1 – January 31	500	500	500	500	1,800	3,100
February 1 - February 28	500	500	500	500	1,800	3,700
March 1 – March 31	1,100	1,100	1,100	500	1,800	3,700
April 1 – April 14	1,300	1,350	1,350	500	1,800	3,700
April 15 – May 3	1,500	1,500	1,500	500	1,800	3,700
May 4 – May 10	500	1,350	1,350	500	1,800	3,700
May 11- May 31	500	500	500	500	1,800	3,700
June 1 – June 23	500	1,000	1,000	1,000	1,800	3,700
June 24 – July 31	600	1,000	1,000	1,000	1,800	3,700
August 1 – August 22	600	800	800	900	1,800	3,500
August 23 – August 31	500	800	800	900	1,800	3,500
September 1 – September 30	500	500	500	500	1,800	3,200
October 1 – October 11	1,100	1,350	1,350	500	1,800	3,700
October 12 – November 10	1,500	1,500	1,500	500	1,800	3,700
November 11 – December 31	500	500	500	500	1,800	3,700

Table A - 2: PRRIP Target Flows (cfs)*

Period	Wet	Normal	Dry
January 1 – January 31	1,000	1,000	600
February 1 – February 14	1,800	1,800	1,200
February 15 – March 15	3,350	3,350	2,250
March 16 – March 22	1,800	1,800	1,200
March 23 – May 10	2,400	2,400	1,700
May 11 – May 19	1,200	1,200	800
May 20 – June 20	3,700	3,400	800
June 21 – September 15	1,200	1,200	800
September 16 – September 30	1,000	1,000	600
October 1 – November 15	2,400	1,800	1,300
November 16 – December 31	1,000	1,000	600

*Obtained from Nebraska Depletions Plan (PRRIP Document Attachment 5, Section 8)

Table A - 3: Platte River Instream Flow Appropriations and PRRIP Target Flows (cfs) in Critical Reach (Lexington to Chapman)

Period	Overton	Odessa	Grand Island	PRRIP Target Flows		
				Wet	Normal	Dry
January 1 – January 31	500	500	500	1,000	1,000	600
February 1 - February 14	500	500	500	1,800	1,800	1,200
February 15 - February 28	500	500	500	3,350	3,350	2,250
March 1 – March 15	1,100	1,100	1,100	3,350	3,350	2,250
March 16 – March 22	1,100	1,100	1,100	1,800	1,800	1,200
March 23 – March 31	1,100	1,100	1,100	2,400	2,400	1,700
April 1 – April 14	1,300	1,350	1,350	2,400	2,400	1,700
April 15 – May 3	1,500	1,500	1,500	2,400	2,400	1,700
May 4 – May 10	500	1,350	1,350	2,400	2,400	1,700
May 11- May 19	500	500	500	1,200	1,200	800
May 20 - May 31	500	500	500	3,700	3,400	800
June 1 – June 20	500	1,000	1,000	3,700	3,400	800
June 21 – June 23	500	1,000	1,000	1,200	1,200	800
June 24 – July 31	600	1,000	1,000	1,200	1,200	800
August 1 – August 22	600	800	800	1,200	1,200	800
August 23 – August 31	500	800	800	1,200	1,200	800
September 1 – September 15	500	500	500	1,200	1,200	800
September 16 – September 30	500	500	500	1,000	1,000	600
October 1 – October 11	1,100	1,350	1,350	2,400	1,800	1,300
October 12 – November 10	1,500	1,500	1,500	2,400	1,800	1,300
November 11 – November 15	500	500	500	2,400	1,800	1,300
November 16 – December 31	500	500	500	1,000	1,000	600

Appendix B – Water Rights Summary

Appendix B contains the surface water appropriations for the Platte River and its tributaries from Louisville upstream to Lewellen on the North Platte River and Julesburg on the South Platte River. The source of this information was the Nebraska DNR Database (October 2010). For some of the appropriation priority dates, the date field did not transfer electronically from the database and are denoted with hash tags (##########...). Additional information on those appropriations can be obtained from the NDNR database using the appropriation number.

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
393	South Platte River	##########	US	Western Irrigation District	Western Canal	0			27.62
1804	South Platte River	13-Apr-26	IR	Western Irrigation District	Western Canal	679	70	CFS	9.71
1804	South Platte River	13-Apr-26	US	Western Irrigation District	Western Canal	0			1.21
4739	South Platte River	15-Aug-50	IR	Western Irrigation District	Western Canal	489.58	70	CFS	7.00
4739	South Platte River	15-Aug-50	US	Western Irrigation District	Western Canal	0			0.11
16605	South Platte River, Trib. To	16-Nov-87	ST	City of Ogallala	Ogallala Reservoir No. 6	0		AF	1.40
16699	South Platte River, Trib. To	18-Aug-88	ST	City of Ogallala	Ogallala Reservoir No. 7	0		AF	279.80
10999	South Platte River, Trib. To	14-Dec-66	ST	City of Ogallala	Cure Creek Reservoir 1-A	0		AF	33.03
11877	Roscoe Creek, Trib. To	24-Feb-70	IR	Most	Pump	150	70	CFS	2.14
3601	South Platte River	29-Mar-43	PR	Nebraska Public Power District	South Platte Supply Canal	0		CFS	500.00
12745	South Platte River	26-Sep-72	CO	Nebraska Public Power District	South Platte Supply Canal	0		CFS	860.00
14666	South Platte River	28-Jan-77	CO	Nebraska Public Power District	South Platte Supply Canal	0		CFS	860.00
15845	South Platte River	20-Apr-81	FC	Nebraska Game & Parks Commission	South Platte Supply Canal	0			16.00
15849	South Platte River	20-Apr-81	ST	Nebraska Game & Parks Commission	South Platte Supply Canal	0		AF	146.30

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
13446	Ash Creek	26-Feb-75	ST	Lobner Group Number 70	Lobner Group No. 70 Res.	0		AF	33.10
17023	Ash Creek	01-Oct-90	ST	Buzzell	Buzzell Reservoir	0		AF	2.80
4403	Ash Creek	16-Dec-48	ST	Frazell	Clark Reservoir	0		AF	19.00
4745	Clark Reservoir	16-Dec-48	SO	Frazell	Pump	60		AF	19.00
1344	Plum Creek	12-Jan-14	IR	Anderson	Plum Creek Res. Canal	18.6	66	CFS	0.28
1344	Plum Creek	12-Jan-14	IR	Anderson	Plum Creek Res. Canal	33.2	70	CFS	0.69
15622	Plum Creek	22-Feb-80	ST	North Platte Natural Resources District	Briscoe Reservoir	0		AF	62.90
15611	North Platte River, Trib. To	18-Jan-80	ST	North Platte Natural Resources District	Wes Clark Reservoir	0		AF	54.90
754	Clear Creek	################	IR	Bairn	Barber Canal	671.9	70	CFS	9.59
1111	Clear Creek	05-Jul-11	IR	Kleist	Barber Canal	10	70	CFS	0.14
748	Clear Creek	################	IR	Fischer	Clear Creek Canal	200	70	CFS	2.86
754	Clear Creek	################	IR	Central Nebraska Public Power & Irrigation District	Clear Creek Canal	348.1	70	CFS	4.98
10905	Lonergan Creek, Trib. To	27-Jul-66	ST	V Lazy H Ranch	Harris Fish Pond	0		AF	9.90
2288	Clear Creek	06-Oct-32	IR	McConnell	Scripter Canal	104.6	70	CFS	1.49
2361	North Platte River	08-Feb-34	ST	Nebraska Public Power District	Kingsley Reservoir	0		AF	125,000.00
2374	North Platte River	27-Apr-34	ST	Central Nebraska Public Power & Irrigation District	Kingsley Reservoir	0		AF	1,782,500.00
2374	North Platte River	27-Apr-34	SU	Central Nebraska Public Power & Irrigation District	Elwood Reservoir	0		AF	40,500.00
15923	North Platte River	10-Jul-81	PR	Central Nebraska Public Power & Irrigation District	Kingsley Power Plant	0		CFS	5,720.00
17695	Kingsley Reservoir	28-Aug-98	FW	Central Nebraska Public Power & Irrigation District	Start of Reach	0		AF	215,000.00
2350	North Platte River	13-Jan-34	ST	Nebraska Public Power District	Sutherland Canal	0		AF	140,000.00
2352	North Platte River	13-Jan-34	ST	Nebraska Public Power District	Sutherland Canal	0		AF	6,000.00
2353	North Platte River	13-Jan-34	PR	Nebraska Public Power District	Sutherland Canal	0		CFS	975.00
2361	North Platte River	08-Feb-34	SS	Nebraska Public Power District	Sutherland Canal	0		AF	25,000.00
2640	North Platte River	19-Sep-36	RD	Nebraska Public Power District	Sutherland Canal	0			0.00
2710	Sutherland Reservoir	08-Mar-37	SP	Nebraska Public Power District	Sutherland Canal	0		AF	54,000.00
3263	North Platte River	12-Sep-40	ST	Nebraska Public Power District	Keystone Reservoir	0		AF	1,300.00
4685	North Platte River	29-May-50	PR	Nebraska Public Power District	Sutherland Canal	0			625.00
4889	North Platte River	13-Jul-51	IR	Nebraska Public Power District	Sutherland Canal	51	75	CFS	0.68
4908	Sutherland Reservoir	14-Sep-51	SI	Nebraska Public Power District	Sutherland Canal	51		AF	0.00
6030	Sutherland Reservoir	04-Mar-54	SO	Nebraska Public Power District	Sutherland Canal	40		AF	0.00
7052	North Platte River	01-Feb-55	PR	Nebraska Public Power District	Sutherland Canal	0			450.00
12746	North Platte River	26-Sep-72	CO	Nebraska Public Power District	Sutherland Canal	0		CFS	860.00
12757	Kingsley Reservoir	01-Nov-72	SC	Nebraska Public Power District	Sutherland Canal	0		CFS	860.00
12757	Kingsley Reservoir	01-Nov-72	SC	Nebraska Public Power District	Sutherland Canal	0		CFS	860.00
12758	Sutherland Reservoir	01-Nov-72	SC	Nebraska Public Power District	Sutherland Canal	0		CFS	860.00
12758	Sutherland Reservoir	01-Nov-72	SC	Nebraska Public Power District	Sutherland Canal	0		CFS	860.00
14665	North Platte River	28-Jan-77	CO	Nebraska Public Power District	Sutherland Canal	0		CFS	860.00
14667	Kingsley Reservoir	28-Jan-77	SC	Nebraska Public Power District	Sutherland Canal	0		CFS	860.00
14668	Sutherland Reservoir	28-Jan-77	SC	Nebraska Public Power District	Sutherland Canal	0		CFS	860.00
14668	Sutherland Reservoir	28-Jan-77	SC	Nebraska Public Power District	Sutherland Canal	0		CFS	860.00
15846	North Platte River	20-Apr-81	FC	Nebraska Game & Parks Commission	Sutherland Canal	0			16.00
15847	Sutherland Reservoir	20-Apr-81	SO	Nebraska Public Power District	Sutherland Canal	60		AF	0.00
15848	Sutherland Reservoir	20-Apr-81	FC	Nebraska Public Power District	Sutherland Canal	0			0.00
16922	Lake Maloney	30-Jan-90	SI	Nebraska Public Power District	Sutherland Canal	170		AF	0.00

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
16748	White Tail Creek	27-Feb-89	FC	Kingsley Cattle Co	Hatchery	0			14.00
16025	White Tail Creek	10-Dec-81	IR	Graney	Pump	118	70	CFS	1.69
16025	White Tail Creek	10-Dec-81	IR	Kreutzer	Pump	45	70	CFS	0.64
16025	White Tail Creek	10-Dec-81	IR	Lapp	Pump	124	70	CFS	1.77
5160	White Tail Creek	12-Feb-53	IR	Eager Family Trust	Pump	106.52	75	CFS	1.42
722	North Platte River	##########	IU	Keith Lincoln County Irrigation District	Keith-Lincoln Canal	5639	70	CFS	80.56
6474	Kingsley Reservoir	21-Jul-54	SI	Central Nebraska Public Power & Irrigation District	Keith-Lincoln Canal	4852.2		AF	14,556.60
6474	Kingsley Reservoir	21-Jul-54	SO	Central Nebraska Public Power & Irrigation District	Keith-Lincoln Canal	146		AF	438.00
740	Skunk Creek	##########	IR	Knight	Miller Canal	160	70	CFS	2.29
750	Mathews Creek	##########	IR	Mathews & Mathews	Mathews Canal	80	70	CFS	1.14
410	Spring Branch	##########	IR	Chandler	Brogan Canal	40	70	CFS	0.57
11551	Spring Branch	27-Aug-68	IR	Brogan	Pump	155.25	70	CFS	2.22
918	Buckhorn Spring	03-Oct-08	IR	Prairie Ridge Partners	Pump	140	70	CFS	2.00
918	Buckhorn Spring	03-Oct-08	IR	Buckhorn Springs Ranch	Pump	20	70	CFS	0.29
710	Sarben Slough	##########	IR	White	Sheridan-Wilson Canal	216	70	CFS	3.09
2114	Willow Creek	20-Nov-29	IR	Stafford Et Al	Stafford Canal	56	70	CFS	0.80
635	North Platte River	##########	IR	Platte Valley Irrigation District	North Platte Canal	13540.4	70	CFS	193.44
635	North Platte River	##########	US	Platte Valley Irrigation District	North Platte Canal	0			7.56
722	North Platte River	##########	IU	Keith Lincoln County Irrigation District	North Platte Canal	100	70	CFS	1.43
5024	Kingsley Reservoir	13-Sep-52	SI	Central Nebraska Public Power & Irrigation District	North Platte Canal	12358.67		AF	37,076.01
6474	Kingsley Reservoir	21-Jul-54	SI	Central Nebraska Public Power & Irrigation District	North Platte Canal	86		AF	258.00
653	North Platte River	##########	IR	Paxton Hershey Water Company	Paxton-Hershey Canal	6092	70	CFS	87.03
653	North Platte River	##########	US	Paxton Hershey Water Company	Paxton-Hershey Canal	0			15.75
6476	Kingsley Reservoir	21-Jul-54	SI	Central Nebraska Public Power & Irrigation District	Paxton-Hershey Canal	6014.5		AF	18,043.50
16649	Meadow Creek	25-May-88	IR	Kelly	Kelly Headgate	333.5	70	CFS	4.76
11183	Squaw Creek	22-Jun-67	ST	Pawnee Springs Ranch Company	Pawnee Springs Ranch Res.	0		AF	25.40
652	Birdwood Creek	##########	IR	Hoatson Land & Cattle Ltd	Pump	15	70	CFS	0.22
5150	Birdwood Creek	06-Feb-53	IR	Hoatson Land & Cattle Ltd	Pump	131.7	80	CFS	1.65
646	Birdwood Creek	##########	IR	Birdwood Irrigation District	Birdwood Canal	4411.28		CFS	44.06
662	North Platte River	##########	IR	Suburban Irrigation District	Suburban Canal	4321.7	70	CFS	61.82
662	North Platte River	##########	TI	Suburban Irrigation District	Suburban Canal	14	70	CFS	0.12
662	North Platte River	##########	US	Suburban Irrigation District	Suburban Canal	0			15.73
662	North Platte River	##########	TI	Suburban Irrigation District	Suburban Canal			CFS	0.03
6475	Kingsley Reservoir	21-Jul-54	SI	Central Nebraska Public Power & Irrigation District	Suburban Canal	4004.4		AF	12,013.20
4516	North Platte River	27-Sep-49	IR	Steffes	Pump	162	80	CFS	2.03
6426	North Platte River	15-Jul-54	IR	Sowle	Pump	168.3	85	CFS	1.98
649	North Platte River	##########	IR	Cody Dillon Ditch Company	Cody-Dillon Canal	4066	70	CFS	58.08
6393	North Platte River	24-Jun-54	IR	Kosmicki	Pump	106.8	85	CFS	1.26
2694	Lincoln County Drain Dist. 1, Ditch 1	##########	IR	Frame Ltd	Pump	359.2	70	CFS	5.13
2459	Lincoln County Drain Dist. 1, Ditch 2	##########	IR	Olson	Pump	56	70	CFS	0.80
2648	Lincoln County Drain Dist. 1, Ditch 2	##########	IR	Suburban Irrigation District	Suburban Canal	2526.2	70	CFS	36.09
16154	Scout Creek	12-Oct-82	ST	Nebraska Game & Parks Commission	Duck Lake	0		AF	0.60
649	North Platte River	##########	IR	Vieyra	Pump	30.3	70	CFS	0.43

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
1853	Platte River	07-Sep-26	IR	Thirty Mile Canal Company	Tri-County Canal	0		CFS	0.00
1976	Platte River	13-Dec-27	IR	Thirty Mile Canal Company	Tri-County Canal	0		CFS	0.00
2355	Platte River	13-Jan-34	IU	Central Nebraska Public Power & Irrigation District	Tri-County Canal	84488.3	136	CFS	617.13
2354	Platte River	27-Apr-34	PI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	0		CFS	1,500.00
2726	Sutherland Reservoir	31-Mar-37	SI	Nebraska Public Power District	Tri-County Canal	0		AF	0.00
2726	Sutherland Reservoir	31-Mar-37	SI	Nebraska Public Power District	Tri-County Canal	0		AF	0.00
3474	Platte River	28-Jul-41	RD	Central Nebraska Public Power & Irrigation District	Tri-County Canal	0			0.00
3475	Kingsley Reservoir	28-Jul-41	PS	Central Nebraska Public Power & Irrigation District	Tri-County Canal	0		AF	500,000.00
3476	Kingsley Reservoir	28-Jul-41	UI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	68661.7		AF	248,555.35
3476	Kingsley Reservoir	28-Jul-41	UI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	6509.9		AF	23,565.84
3476	Kingsley Reservoir	28-Jul-41	UI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	5			0.00
3476	Kingsley Reservoir	28-Jul-41	UI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	30			0.00
3476	Kingsley Reservoir	28-Jul-41	UI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	21			0.00
3476	Kingsley Reservoir	28-Jul-41	UI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	5			0.00
3476	Kingsley Reservoir	28-Jul-41	UI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	49			0.00
3476	Kingsley Reservoir	28-Jul-41	UI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	55			0.00
3620	Kingsley Reservoir	28-Jul-41	UI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	607.4		AF	0.00
3823	Kingsley Reservoir	28-Jul-41	UI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	445.8			0.00
4656	Kingsley Reservoir	28-Jul-41	UI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	101.5			0.00
4656	Kingsley Reservoir	28-Jul-41	UI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	962		AF	3,482.44
4674	Platte River	11-May-50	PI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	0		CFS	700.00
5278	Kingsley Reservoir	22-Apr-53	UI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	27		AF	97.74
5278	Kingsley Reservoir	22-Apr-53	UI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	4411.2		AF	15,968.54
7716	Kingsley Reservoir	25-Jun-55	UI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	345		AF	1,248.90
9673	Kingsley Reservoir	24-Dec-58	UI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	164.1		AF	590.00
9673	Kingsley Reservoir	24-Dec-58	UI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	10195.5		AF	36,907.71
10280	Platte River	20-Jan-64	IU	Central Nebraska Public Power & Irrigation District	Tri-County Canal	38421.2	68	CFS	564.69
10281	Platte River	20-Jan-64	IU	Central Nebraska Public Power & Irrigation District	Tri-County Canal	84488.3	136	CFS	617.13
10282	Kingsley Reservoir	20-Jan-64	UI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	74.2		AF	268.60
10282	Kingsley Reservoir	20-Jan-64	UI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	3042.4		AF	11,013.49
17111	Kingsley Reservoir	12-Sep-91	SO	Central Nebraska Public Power & Irrigation District	Tri-County Canal	67.5		AF	244.35
17111	Kingsley Reservoir	12-Sep-91	SI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	15179.9		AF	55,905.10
17111	Kingsley Reservoir	12-Sep-91	SI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	11858.1		AF	44,204.18
17111	Kingsley Reservoir	12-Sep-91	SI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	8		AF	0.00
17112	Kingsley Reservoir	12-Sep-91	SO	Central Nebraska Public Power & Irrigation District	Tri-County Canal	506.4		AF	1,615.42
17112	Kingsley Reservoir	12-Sep-91	SI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	238.8		AF	861.56
17112	Kingsley Reservoir	12-Sep-91	SI	Central Nebraska Public Power & Irrigation District	Tri-County Canal	82.5		AF	298.65
17226	Kingsley Reservoir	02-Oct-92	SC	Nebraska Public Power District	Tri-County Canal	0		AF	350.00
17227	Platte River	02-Oct-92	CO	Nebraska Public Power District	Tri-County Canal	0		CFS	1.00
10650	White Horse Creek	01-Jul-65	ST	Hansen	Hansen Lake	0		AF	94.60
5956	White Horse Creek, Trib. To	15-Feb-54	IR	Kosmicki	Pump	35.1	85	CFS	0.41
6394	White Horse Creek, Trib. To	24-Jun-54	IR	Kosmicki	Pump	14.3	85	CFS	0.16
17406	Fremont Creek	26-Sep-94	ST	Four H Land Company Ltd	Hidden Lake West	0		AF	64.00
17380	Fremont Creek	23-Jun-94	ST	Four H Land Company Ltd	Hidden Lake East	0		AF	158.00
4710	Fremont Creek	21-Jun-50	IR	Henry	Pump	19.7	90	CFS	0.22
4438	Fremont Creek	17-Feb-49	IR	Henry	Pump	17	90	CFS	0.19
6317	Fremont Creek	21-May-54	IR	Henry	Pump	40.3	90	CFS	0.45
2253	Bull Drain	18-Feb-32	IR	Seaton	Norris Canal	52.4	70	CFS	0.75
636	Pawnee Creek	##################	IR	Haythorn Ranch Company	Holcomb Canal	560	70	CFS	8.00
1694	Pawnee Creek	16-Nov-22	IR	Haythorn Ranch Company	Kent-Burke Canal	258	70	CFS	3.69
2231	Pawnee Creek	31-Aug-31	IR	Prairie Creek Ranch Partnership LTD	Janssen Canal	473	70	CFS	6.76

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
645	Platte River	##########	IU	Nebraska Public Power District	Gothenburg Canal	989	70	CFS	14.12
622	Platte River	##########	IR	Nebraska Public Power District	Gothenburg Canal	86	70	CFS	1.23
624	Platte River	##########	IR	Nebraska Public Power District	Gothenburg Canal	145	70	CFS	2.07
645	Platte River	##########	IU	Nebraska Public Power District	Gothenburg Canal	17316.3	73	CFS	237.50
2039	Platte River	03-Oct-28	IR	Nebraska Public Power District	Gothenburg Canal	117	70	CFS	1.67
2726	Sutherland Reservoir	31-Mar-37	UI	Nebraska Public Power District	Gothenburg Canal	253			0.00
2726	Sutherland Reservoir	31-Mar-37	SI	Nebraska Public Power District	Gothenburg Canal	86		AF	258.00
2726	Sutherland Reservoir	31-Mar-37	SI	Nebraska Public Power District	Gothenburg Canal	145		AF	435.00
2726	Sutherland Reservoir	31-Mar-37	UI	Nebraska Public Power District	Gothenburg Canal	17316.3			0.00
2726	Sutherland Reservoir	31-Mar-37	SI	Nebraska Public Power District	Gothenburg Canal	117		AF	0.00
3717	Sutherland Reservoir	31-Mar-37	UI	Nebraska Public Power District	Gothenburg Canal	995		AF	0.00
3716	Platte River	20-Apr-44	IU	Nebraska Public Power District	Gothenburg Canal	995	105	CFS	9.48
11798	Platte River	17-Sep-69	IU	Nebraska Public Power District	Gothenburg Canal	38.6	70	CFS	0.55
11799	Sutherland Reservoir	17-Sep-69	UI	Nebraska Public Power District	Gothenburg Canal	38.6			0.00
15580	Platte River	24-Aug-79	IU	Nebraska Public Power District	Gothenburg Canal	56	70	CFS	0.80
15581	Sutherland Reservoir	24-Aug-79	UI	Nebraska Public Power District	Gothenburg Canal	56			0.00
15870	Platte River	15-May-81	IU	Nebraska Public Power District	Gothenburg Canal	13	70	CFS	0.19
15890	Platte River	10-Jun-81	SS	Central Platte Natural Resources District	Gothenburg Canal	0		AF	4,218.00
15992	Platte River	14-Sep-81	IR	Nebraska Public Power District	Gothenburg Canal	13.3	70	CFS	0.19
16629	Platte River	21-Mar-88	IR	Nebraska Public Power District	Gothenburg Canal	35	70	CFS	0.50
16630	Sutherland Reservoir	21-Mar-88	SI	Nebraska Public Power District	Gothenburg Canal	35		AF	0.00
17002	Platte River	23-Jul-90	IR	Nebraska Public Power District	Gothenburg Canal	216	70	CFS	3.09
17003	Sutherland Reservoir	23-Jul-90	SI	Nebraska Public Power District	Gothenburg Canal	216		AF	0.00
17302	Platte River	28-Jul-93	ST	City of Gothenburg	Gothenburg Canal	0		AF	0.00
17315	Sutherland Reservoir	23-Sep-93	SI	Nebraska Public Power District	Gothenburg Canal	689		AF	861.25
17315	Sutherland Reservoir	23-Sep-93	SO	Nebraska Public Power District	Gothenburg Canal	31		AF	38.75
5362	Platte River	23-Jun-53	IR	Schelling	Pump	161.9	95	CFS	1.70
680	Platte River	##########	IR	Six Mile Ditch Company	Thirty Mile Canal	89	70	CFS	1.27
680	Platte River	##########	US	Six Mile Ditch Company	Thirty Mile Canal	0			0.05
1853	Platte River	07-Sep-26	IR	Thirty Mile Canal Company	Thirty Mile Canal	12148	70	CFS	173.54
1853	Platte River	07-Sep-26	US	Thirty Mile Canal Company	Thirty Mile Canal	0			101.12
1976	Platte River	13-Dec-27	IR	Thirty Mile Canal Company	Thirty Mile Canal	959	70	CFS	13.70
1976	Platte River	13-Dec-27	US	Thirty Mile Canal Company	Thirty Mile Canal	0			12.92
2726	Sutherland Reservoir	31-Mar-37	UI	Nebraska Public Power District	Thirty Mile Canal	89			0.00
2726	Sutherland Reservoir	31-Mar-37	UI	Nebraska Public Power District	Thirty Mile Canal	12148			0.00
2726	Sutherland Reservoir	31-Mar-37	UI	Nebraska Public Power District	Thirty Mile Canal	959			0.00
680	Platte River	##########	IU	Six Mile Ditch Company	Six Mile Canal	1666	70	CFS	23.80
2726	Sutherland Reservoir	31-Mar-37	UI	Nebraska Public Power District	Six Mile Canal	1666			0.00
626	Platte River	##########	IR	Cozad Ditch Company	Cozad Canal	16150.4	70	CFS	230.73
626	Platte River	##########	US	Cozad Ditch Company	Cozad Canal	0			3.49
2726	Sutherland Reservoir	31-Mar-37	UI	Nebraska Public Power District	Cozad Canal	16071.17		AF	48,215.10
2726	Sutherland Reservoir	31-Mar-37	OU	Nebraska Public Power District	Cozad Canal	40		AF	120.00
17002	Platte River	23-Jul-90	IR	Cozad Ditch Company	Cozad Canal	35	70	CFS	0.50
17003	Sutherland Reservoir	23-Jul-90	SI	Nebraska Public Power District	Cozad Canal	35		AF	0.00
627	Platte River	##########	IR	South Side Irrigation Company	Orchard-Alfalfa Canal	4326	70	CFS	61.80

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
627	Platte River	##########	US	South Side Irrigation Company	Orchard-Alfalfa Canal	0			22.20
2726	Sutherland Reservoir	31-Mar-37	UI	Nebraska Public Power District	Orchard-Alfalfa Canal	4326			0.00
621	Platte River	##########	IR	Nebraska Public Power District	Dawson County Canal	65	70	CFS	0.93
621	Platte River	##########	US	Nebraska Public Power District	Dawson County Canal	0			0.36
622	Platte River	##########	IR	Nebraska Public Power District	Dawson County Canal	18681.3	70	CFS	266.88
622	Platte River	##########	US	Nebraska Public Power District	Dawson County Canal	0		CFS	104.28
624	Platte River	##########	IR	Nebraska Public Power District	Dawson County Canal	1164.1	70	CFS	16.63
624	Platte River	-1932	US	Nebraska Public Power District	Dawson County Canal	0			7.28
2039	Platte River	10504	IR	Nebraska Public Power District	Dawson County Canal	1307	70	CFS	18.67
2039	Platte River	10504	US	Nebraska Public Power District	Dawson County Canal	0			7.3
2110	Platte River	10891	IR	Nebraska Public Power District	Dawson County Canal	924	70	CFS	13.2
2110	Platte River	10891	US	Nebraska Public Power District	Dawson County Canal	0			5.16
2145	Platte River	11123	IR	Nebraska Public Power District	Dawson County Canal	55	70	CFS	0.79
2145	Platte River	11123	US	Nebraska Public Power District	Dawson County Canal	0			0.31
2262	Platte River	11749	IR	Nebraska Public Power District	Dawson County Canal	147	70	CFS	2.1
2262	Platte River	11749	US	Nebraska Public Power District	Dawson County Canal	0			0.82
2726	Sutherland Reservoir	13605	UI	Nebraska Public Power District	Dawson County Canal	18469.3		AF	0
2726	Sutherland Reservoir	13605	UI	Nebraska Public Power District	Dawson County Canal	551			0
2726	Sutherland Reservoir	13605	UI	Nebraska Public Power District	Dawson County Canal	1197			0
2726	Sutherland Reservoir	13605	UI	Nebraska Public Power District	Dawson County Canal	924			0
2726	Sutherland Reservoir	13605	UI	Nebraska Public Power District	Dawson County Canal	55			0
2726	Sutherland Reservoir	13605	UI	Nebraska Public Power District	Dawson County Canal	147			0
2726	Sutherland Reservoir	13605	UI	Nebraska Public Power District	Dawson County Canal	64			0
2726	Sutherland Reservoir	13605	OU	Nebraska Public Power District	Dawson County Canal	9			0
15184	Platte River	28536	IU	Nebraska Public Power District	Dawson County Canal	56	70	CFS	0.8
15492	Sutherland Reservoir	29021	UI	Nebraska Public Power District	Dawson County Canal	56			0
15507	Platte River	29034	IR	Nebraska Public Power District	Dawson County Canal	64	70	CFS	0.91

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
14753	Stump Ditch, Trib. To	24-Feb-77	IR	Whipple	Pump	267.6	70	CFS	3.82
15237	Stump Ditch	14-Apr-78	ST	Dawson County Clerk	Spring Creek Res. 19-B	0		AF	46.50
13696	Stump Ditch, Trib. To	01-Aug-75	ST	Spring Creek Watershed	Spring Creek Res. 18-A	0		AF	21.70
3873	Platte River, Trib. To	08-Feb-46	ST	Lauby	Lauby Reservoir	0		AF	82.00
16269	Platte River, Trib. To	13-Feb-84	IR	Thomas	Pump	38.5	70	CFS	0.55
9057	Platte River	26-Dec-56	IR	Moon	Pump	51	70	CFS	0.73
14588	Platte River, Trib. To	13-Dec-76	IR	Reynolds	Pump	228	70	CFS	3.26
5635	Platte River	09-Oct-53	IR	Berryman Enterprises	Pump	8.6	110	CFS	0.08
5635	Platte River	09-Oct-53	TI	Berryman Enterprises	Pump	111.4	110	CFS	1.01
17004	Platte River	25-Jul-90	IF	Central Platte Natural Resources District	Start of Reach	0		CFS	500.00
17004	Platte River	25-Jul-90	IF	Central Platte Natural Resources District	Start of Reach	0		CFS	600.00
17004	Platte River	25-Jul-90	IF	Central Platte Natural Resources District	Start of Reach	0		CFS	500.00
17007	Platte River	25-Jul-90	IF	Central Platte Natural Resources District	Start of Reach	0		CFS	1,100.00
17007	Platte River	25-Jul-90	IF	Central Platte Natural Resources District	Start of Reach	0		CFS	1,100.00
17008	Platte River	25-Jul-90	IF	Central Platte Natural Resources District	Start of Reach	0		CFS	1,300.00
17008	Platte River	25-Jul-90	IF	Central Platte Natural Resources District	Start of Reach	0		CFS	1,500.00
17008	Platte River	25-Jul-90	IF	Central Platte Natural Resources District	Start of Reach	0		CFS	1,500.00
17145	Plum Creek	18-Feb-92	ST	Hi Gain Feedlot Inc	Holding Pond No. 3	0		AF	130.00
17335	Holding Pond No. 3	06-Dec-93	MF	Hi Gain Feedlot Inc	Pump	0		AF	124.00
8407	Plum Creek	10-Mar-56	IR	Brainard	Pump	70	105	CFS	0.67
5104	Plum Creek	08-Dec-52	IR	Brainard	Pump	62	105	CFS	0.59
2527	Plum Creek	14-Mar-35	IR	Stuehm	Pump	23.25	70	CFS	0.33
15249	Plum Creek	02-May-78	IR	Stuehm	Pump	53.8	70	CFS	0.77

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
11833	Strever Creek, Trib. To	03-Dec-69	ST	Dawson County Clerk	Reservoir 9-A	0		AF	55.70
11834	Strever Creek, Trib. To	03-Dec-69	ST	Dawson County Clerk	Reservoir 9-B	0		AF	62.80
16299	Strever Creek	14-May-84	IR	Griffis	Pump	33.8	70	CFS	0.48
16795	Strever Creek	03-May-89	IR	ODonnell	Pump	28.2		CFS	0.40
15378	Strever Creek	26-Dec-78	IR	Cranford Family Revoc Trust	Pump	64.04	70	CFS	0.91
15659	Strever Creek	19-Jun-80	IR	Kinnison	Pump	87	70	CFS	1.24
16685	Strever Creek	12-Jul-88	IR	Kinnison & Kinnison & Stuart	Pump	77.6	70	CFS	1.11
15659	Strever Creek	19-Jun-80	IR	Kinnison & Kinnison & Stuart	Pump	48	70	CFS	0.69
2129	Dawson County Drain Dist. No. 1 Ditch	##########	IR	Herbert	Pump	41	69	CFS	0.59
16049	Strever Creek	14-Jan-82	IR	Kline Farm Ltd	Pump	27.62	70	CFS	0.39
16052	Strever Creek	19-Jan-82	IR	Wightman Living Trst	Pump	70.35	70	CFS	1.01
2083	Strever Creek	03-Jun-29	IR	Wightman Living Trst	Beatty Canal	39.4	70	CFS	0.56
2777	Strever Creek	24-Aug-37	IR	Wightman Living Trst	Pump	39.42	70	CFS	0.56
2101	Strever Creek	03-Oct-28	IR	Schinzel	Pump	144	70	CFS	2.06
10449	Platte River, Trib. To	01-Oct-64	IR	Sand	Pump	28.5	70	CFS	0.41
12711	Platte River, Trib. To	10-Aug-72	IR	Evans	Pump	20	70	CFS	0.29
14319	Platte River, Trib. To	12-Jul-76	IR	3T Land Corporation	Pump	24	70	CFS	0.34
16994	Platte River, Trib. To	31-May-90	IR	Crandall	Pump	140	70	CFS	2.00
13908	Platte River	16-Dec-75	IR	Johnson	Pump	69.4	70	CFS	0.99
15883	Buffalo Creek	04-Jun-81	ST	Central Platte Natural Resources District	Buffalo Creek Res. B-1	0		AF	2,015.00
13905	Buffalo Creek, Trib. To	15-Dec-75	ST	Central Platte Natural Resources District	Buffalo Creek Res. C-5	0		AF	77.10
15400	Buffalo Creek, West	24-Jan-79	ST	Central Platte Natural Resources District	Buffalo Creek Res. B-3	0		AF	710.00
15947	Buffalo Creek, West, Trib. To	23-Jul-81	ST	Central Platte Natural Resources District	Smith Supply Canal Res.	0		AF	15.00
14188	French Creek	21-Apr-76	ST	Central Platte Natural Resources District	French Creek Res. F-7	0		AF	68.60
16209	French Creek, Trib. To	28-Jun-83	ST	Central Platte Natural Resources District	Buffalo-French Creek	0		AF	126.60
15177	French Creek, Trib. To	03-Feb-78	ST	Central Platte Natural Resources District	Buffalo Creek Res. F-1	0		AF	42.40
14187	French Creek, Trib. To	21-Apr-76	ST	Central Platte Natural Resources District	French Creek Res. F-3	0		AF	44.30
15573	Buffalo Creek	23-Aug-79	IR	Falkinburg	Pump	42.66	70	CFS	0.60
15656	Buffalo Creek	30-May-80	IR	Fellers III	Pump	60.39	70	CFS	0.86
10763	Buffalo Creek	03-Feb-66	IR	White	Pump	58	95	CFS	0.61
1868	Buffalo Creek	##########	IR	Hodgson Et Al	Pump	91		CFS	1.30
16683	Buffalo Creek	08-Jul-88	IR	Rice Trust	Pump	72.3	70	CFS	1.03
16357	Buffalo Creek	19-Feb-85	IR	John	Pump	41.8	70	CFS	0.60
16838	Buffalo Creek	27-Jun-89	IR	Douglas Malovoz & Yanda	Pump	75	76	CFS	0.99
2052	Buffalo Creek	12-Nov-28	IR	Pearson	Pump	146	70	CFS	2.09
15700	Buffalo Creek	07-Aug-80	IR	Kasson	Pump	100.7	70	CFS	1.44
2074	Buffalo Creek	05-Mar-29	IR	Poulson Mfg & Investment Co Inc	Pump	72	70	CFS	1.03
1946	Buffalo Creek	26-Jul-27	IR	Carpenter Trust	Pump	165	70	CFS	2.36
14367	Buffalo Creek	03-Aug-76	IR	Carpenter Trust	Pump	39	70	CFS	0.56
14694	Buffalo Creek	08-Feb-77	IR	Philpot	Pump	78	70	CFS	1.11
1985	Buffalo Creek	20-Feb-28	IR	Mitchell & Mitchell & Mitchell & Olsen & Saum	Pump	47.2	70	CFS	0.67
14338	Buffalo Creek	22-Jul-76	IR	Foster Rev Trust	Pump	12	70	CFS	0.17
14331	Buffalo Creek	19-Jul-76	IR	Nickel	Pump	64.2	70	CFS	0.92
14328	Buffalo Creek	16-Jul-76	IR	Ourada & Ourada Etal	Pump	38.3	70	CFS	0.55
1988	Buffalo Creek	05-Mar-28	IR	Maas Rev Trust	Pump	155	70	CFS	2.22
16763	Buffalo Creek	28-Mar-89	IR	Bergman Bergman & Bergman	Pump	23	70	CFS	0.33
2087	Buffalo Creek	19-Jun-29	IR	Village of Elm Creek	Pump	6	70	CFS	0.09
4322	Buffalo Creek	07-Aug-48	IR	Moles Testamentary Trust	Pump	70	115	CFS	0.61

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
14545	Elm Creek	10-Nov-76	IR	Seiler	Pump	63.34	70	CFS	0.90
16359	Elm Creek	20-Feb-85	IR	Consolidated Blenders Inc	Pump	68	70	CFS	0.97
4321	Elm Creek	07-Aug-48	IR	Moles Testamentary Trust	Pump	37	115	CFS	0.32
1023	Platte River	################	IU	Nebraska Public Power District	Kearney Canal	2538		CFS	22.00
1023	Platte River	################	PI	Nebraska Public Power District	Kearney Canal	0		CFS	140.00
1744	Platte River	################	IU	Rapp	Kearney Canal	15	70	CFS	0.21
1577	Platte River	12-Feb-20	PI	Nebraska Public Power District	Kearney Canal	0		CFS	219.00
2104	Platte River	17-Sep-29	IU	Nebraska Public Power District	Kearney Canal	70	70	CFS	1.00
2726	Sutherland Reservoir	31-Mar-37	UI	Nebraska Public Power District	Kearney Canal	2538			0.00
2726	Sutherland Reservoir	31-Mar-37	UI	Nebraska Public Power District	Kearney Canal	70			0.00
2726	Sutherland Reservoir	31-Mar-37	UI	Nebraska Public Power District	Kearney Canal	913			0.00
2726	Sutherland Reservoir	31-Mar-37	OU	Nebraska Public Power District	Kearney Canal	10			0.00
4323	Platte River	07-Aug-48	IR	Ourada	Kearney Canal	46.8	115	CFS	0.41
4324	Platte River	07-Aug-48	IR	Ourada	Kearney Canal	44.8	115	CFS	0.39
8399	Platte River	07-Mar-56	IU	Nebraska Public Power District	Kearney Canal	1437	115	CFS	12.50
8400	Sutherland Reservoir	07-Mar-56	UI	Nebraska Public Power District	Kearney Canal	524			0.00
9844	Platte River	25-Jul-60	IU	Nebraska Public Power District	Kearney Canal	280	70	CFS	4.00
9845	Sutherland Reservoir	25-Jul-60	UI	Nebraska Public Power District	Kearney Canal	280			0.00
10871	Platte River	20-Jun-66	IU	Nebraska Public Power District	Kearney Canal	25	70	CFS	0.36
10872	Sutherland Reservoir	20-Jun-66	UI	Nebraska Public Power District	Kearney Canal	25			0.00
14859	Platte River	29-Mar-77	IU	Nebraska Public Power District	Kearney Canal	80	70	CFS	1.14
15491	Sutherland Reservoir	15-Jun-79	UI	Nebraska Public Power District	Kearney Canal	80			0.00
16529	Platte River	10-Nov-86	ST	City of Kearney	Kearney Canal	0		AF	20.20
16583	Sutherland Reservoir	24-Aug-87	SI	Nebraska Public Power District	Kearney Canal	340		AF	0.00
16584	Platte River	24-Aug-87	IR	Nebraska Public Power District	Kearney Canal	340	70	CFS	4.86
17313	Platte River	10-Sep-93	ST	City of Kearney	Kearney Canal	0		AF	160.00
17329	Platte River	30-Nov-93	IF	Nebraska Game & Parks Commission	Start of Reach	0		CFS	0.00
17332	Platte River	30-Nov-93	IF	Nebraska Game & Parks Commission	Start of Reach	0		CFS	0.00
16853	Platte River	18-Jul-89	ST	Platte River Whooping Crane Maintenance Trust	Elm Creek Reservoir No. 3	0		AF	67.20
16854	Platte River	18-Jul-89	ST	Platte River Whooping Crane Maintenance Trust	Elm Creek Reservoir No. 4	0		AF	63.30
16852	Platte River	18-Jul-89	ST	Platte River Whooping Crane Maintenance Trust	Elm Creek Reservoir No. 1	0		AF	53.20
12801	Dry Creek, Trib. To	08-Feb-73	IR	Erickson	Pump	5	70	CFS	0.07
17162	Platte River, Trib. To	12-Mar-92	IR	Carlson	Pump	25.4	70	CFS	0.36

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
3784	Turkey Creek, Trib. To	13-Nov-44	ST	Garrelts	Walter Reservoir	0		AF	57.00
5368	Turkey Creek	29-Jun-53	IR	Samway	Pump	10	120	CFS	0.08
13347	Dry Creek, North	07-Jan-75	IR	Leff	Pump	19.6	70	CFS	0.28
14341	Dry Creek, Trib. To	23-Jul-76	IR	R & J Marshall Co	Pump	80	70	CFS	1.14
16707	Dry Creek	13-Sep-88	IR	Black Velvet Inc	Pump	25	70	CFS	0.36
15260	Dry Creek, Trib. To	15-May-78	IR	Carlson	Pump	42	70	CFS	0.60
15259	Dry Creek, Trib. To	15-May-78	IR	Carlson	Pump	60	70	CFS	0.86
5431	Dry Creek	30-Jul-53	IR	Doderhult Farms LLC	Pump	15.7	70	CFS	0.23
12235	Dry Creek	23-Apr-71	IR	Schneider	Pump	37.4	70	CFS	0.53
11914	Dry Creek, Trib. To	06-Apr-70	IR	Erickson Land & Cattle Co Inc	Pump	70	70	CFS	1.00
15742	Dry Creek, Trib. To	29-Dec-80	IR	Erickson Land & Cattle Co Inc	Pump	48.9	70	CFS	0.70
16881	Dry Creek, Trib. To	29-Aug-89	IR	Erickson Land & Cattle Co Inc	Pump	59.1	70	CFS	0.84
17095	Dry Creek, North	22-Jul-91	IR	Anderson	Pump	15	70	CFS	0.21
17846	Lost Creek	20-Apr-00	FW	Tri Basin Natural Resources District	Lost Creek Diversion	0		CFS	40.00
16580	Dry Creek	28-Jul-87	IR	Olsen Irrev Trust	Pump	127	70	CFS	1.82
17284	Dry Creek	12-May-93	IR	Matuschka	Pump	65	70	CFS	0.93
15863	Dry Creek	04-May-81	IR	Haws	Pump	24.6	70	CFS	0.35
13190	Dry Creek	05-Sep-74	IR	Rasmussen	Pump	56	70	CFS	0.80
11865	Platte River, Trib. To	11-Feb-70	IR	Berg	Pump	10	70	CFS	0.14
17332	Platte River	30-Nov-93	IF	Nebraska Game & Parks Commission	End of Reach	0		CFS	0.00
17008	Platte River	25-Jul-90	IF	Central Platte Natural Resources District	End of Reach	0		CFS	0.00
17008	Platte River	25-Jul-90	IF	Central Platte Natural Resources District	End of Reach	0		CFS	0.00
17008	Platte River	25-Jul-90	IF	Central Platte Natural Resources District	End of Reach	0		CFS	0.00

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
17007	Platte River	25-Jul-90	IF	Central Platte Natural Resources District	End of Reach	0		CFS	0.00
17007	Platte River	25-Jul-90	IF	Central Platte Natural Resources District	End of Reach	0		CFS	0.00
17009	Platte River	25-Jul-90	IF	Central Platte Natural Resources District	End of Reach	0		CFS	0.00
17695	Kingsley Reservoir	28-Aug-98	FW	Central Nebraska Public Power & Irrigation District	End of Reach	0			0.00
13755	Wood River	21-Aug-75	IR	McFarland	Pump	29	70	CFS	0.41
1753	Wood River	02-Dec-24	IR	Slater	Pump	123	70	CFS	1.76
1038	Wood River	10-Nov-10	IR	Jacobson & Jacobson& Jacobson Family Trust	Jacobsons Canal	58.6	200	CFS	0.29
1038	Wood River	10-Nov-10	IR	Jacobson & Jacobson& Jacobson Family Trust	Pump	41.4	200	CFS	0.21
3870	Jacobson Reservoir	03-Feb-20	SO	Jacobson & Jacobson& Jacobson Family Trust	Pump	74.2		AF	0.00
3870	Jacobson Reservoir	03-Feb-20	SO	Jacobson & Jacobson& Jacobson Family Trust	Pump	21.4		AF	0.00
3870	Jacobson Reservoir	03-Feb-20	SI	Jacobson & Jacobson& Jacobson Family Trust	Pump	41.4		AF	0.00
1576	Wood River	03-Feb-20	ST	Jacobson Et Al	Jacobson Reservoir	0		AF	45.00
15187	Wood River, Trib. To	27-Feb-78	ST	Buffalo County Highway Department	Hadwiger Reservoir	0		AF	2.40
3911	Wood River	27-May-46	IR	Pawley	Pump	29.1	120	CFS	0.24
1656	Wood River	17-Apr-22	IR	Pawley	Pump	19	70	CFS	0.27
4999	Wood River	26-Jul-52	IR	King Revoc Trusts	Pump	76.7	120	CFS	0.64
3886	Wood River	01-Apr-46	IR	Richter	Pump	88.8	120	CFS	0.74
18232	Wood River, Trib. To	12-Apr-04	ST	Lighthouse Point Homeowners Association	Lighthouse Point Dam			AF	49.50
4900	Wood River	15-Aug-51	IR	Markus	Pump	135	120	CFS	1.13
18319	Wood River, Trib. To	30-Jun-05	ST	NP Land Development Inc	Stoneridge Lake			AF	201.55
1805	Wood River	21-Apr-26	IR	Seiler	Pump	80.7	70	CFS	1.15
1794	Wood River	10-Feb-26	IR	Nutter	Pump	45	70	CFS	0.70
1818	Wood River	15-Jun-26	IR	Fletcher	Pump	110	70	CFS	1.57
1702	Wood River	12-Jan-23	IR	Fletcher	Pump	69	70	CFS	1.04
3746	Wood River, Trib. To	29-Jul-44	ST	Randall	Randall Reservoir	0		AF	44.00
5143	Wood River, Trib. To	03-Feb-53	ST	Rhoadarmer	Rhoadarmer Reservoir	0		AF	79.00
13017	Boxelder Creek	09-Apr-74	ST	Central Platte Natural Resources District	Boxelder Reservoir 5-A	0		AF	250.10
14902	Wood River	14-Apr-77	IR	Whitefoot	Pump	168	70	CFS	2.40
13742	Wood River, Trib. To	18-Aug-75	IR	Dibbern	Pump	147	70	CFS	2.10
17901	Wood River	07-Aug-00	FL	Central Platte Natural Resources District	Channel-Levee	0		CFS	4,200.00
17902	Warm Slough, Upper	07-Aug-00	FL	Central Platte Natural Resources District	Channel-Levee	0		CFS	760.00
10950	Wood River	14-Sep-66	IR	Merrick Foundation	Pump	73	70	CFS	1.04
16594	Wood River	10-Sep-87	IR	Kortum	Pump	36	70	CFS	0.51
3163	Platte River	17-May-40	IR	Lockenvitz Et Al	Pump	38.7	140	CFS	0.28
12406	Platte River, Trib. To	21-Oct-71	ST	Sherman	Sherman Reservoir	0		AF	17.80
12699	Platte River, Trib. To	27-Jul-72	ST	Chader Living Trust	Chader Reservoir	0		AF	30.80
17903	Warm Slough, Lower	07-Aug-00	FL	Central Platte Natural Resources District	Channel-Levee	0		CFS	1,480.00
14601	Platte River, Trib. To	20-Dec-76	ST	Central Platte Natural Resources District	Dittmer Reservoir	0		AF	17.30
12911	Platte River, Trib. To	30-Jul-73	ST	McGuin	Coover Reservoir	0		AF	26.90
16353	Platte River, Trib. To	13-Feb-85	ST	Central Platte Natural Resources District	Erickson-Swedenburg Res.	0		AF	19.30
16195	Platte River, Trib. To	02-May-83	ST	Central Platte Natural Resources District	Oquist Reservoir	0		AF	18.30
14687	Prairie Creek, Trib. To	07-Feb-77	IR	Poehler Revocable Trust	Pump	75	70	CFS	1.07
14688	Prairie Creek, Trib. To	07-Feb-77	IR	Poehler	Pump	69	70	CFS	0.99
13593	Prairie Creek, Trib. To	27-May-75	IR	Olp Farms Ltd	Pump	156	70	CFS	2.23
14378	Prairie Creek, Trib. To	06-Aug-76	ST	Central Platte Natural Resources District	Prairie Creek Res. No. 4	0		AF	178.00
14754	Prairie Creek, Trib. To	24-Feb-77	ST	Central Platte Natural Resources District	Hulme Reservoir	0		AF	6.30

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
13528	Prairie Creek, Trib. To	04-Apr-75	IR	Turek	Pump	58	70	CFS	0.83
14881	Prairie Creek	31-Mar-77	IR	Bredthauer	Pump	26	70	CFS	0.37
13822	Prairie Creek, Trib. To	02-Oct-75	IR	Leiser	Pump	79	70	CFS	1.13
18438	Silver Creek	27-Dec-06	ST	Central Platte Natural Resources District	Cells 3, 4, 5 and 7			AF	3,650.00
13975	Prairie Creek	29-Jan-76	IR	Svitak	Pump	4.4	70	CFS	0.06
14055	Prairie Creek	25-Feb-76	IR	Svitak	Pump	7	70	CFS	0.10
4307	Prairie Creek	16-Jul-48	IR	Lippincott	Pump	60	140	CFS	0.43
2958	Prairie Creek	05-Sep-39	IR	Cooper	Pump	46	139	CFS	0.33
17255	Prairie Creek	16-Mar-93	IR	Cooper	Pump	62	70	CFS	0.89
4245	Prairie Creek	17-Apr-48	IR	Shotkoski	Pump	69.3	140	CFS	0.50
15297	Prairie Creek	18-Jul-78	IR	Syslo	Pump	35	70	CFS	0.50
13059	Prairie Creek	02-Jul-74	IR	Boryca	Pump	109	70	CFS	1.56
17245	Prairie Creek	28-Jan-93	IR	Knopik Family Trust	Pump	75.1	70	CFS	1.07
9810	Prairie Creek	06-Apr-60	IR	Knopik Family Trust	Pump	81.5	70	CFS	1.16
12681	Prairie Creek	06-Jul-72	IR	Boryca	Pump	60	70	CFS	0.86
4341	Prairie Creek	13-Sep-48	IR	Boryca	Pump	66	140	CFS	0.47
9910	Prairie Creek	16-Mar-61	IR	Boryca	Pump	65.7	70	CFS	0.94
3380	Prairie Creek	01-Feb-41	IR	Shotkoski	Pump	69.3	140	CFS	0.50
9938	Prairie Creek	17-May-61	IR	Koza	Pump	8	70	CFS	0.11
12466	Prairie Creek	22-Dec-71	IR	Koza	Pump	33	70	CFS	0.57
10131	Prairie Creek	14-Dec-62	IR	Borowiak	Pump	85	70	CFS	1.21
12467	Joe Creek	22-Dec-71	IR	Koza	Pump	8	70	CFS	0.11
13291	Prairie Creek	26-Nov-74	IR	Bialas	Pump	53	70	CFS	0.76

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
17238	Prairie Creek	11-Jan-93	IR	Van Berg	Pump	53	70	CFS	0.76
17004	Platte River	25-Jul-90	IF	Central Platte Natural Resources District	End of Reach	0		CFS	0.00
17004	Platte River	25-Jul-90	IF	Central Platte Natural Resources District	End of Reach	0		CFS	0.00
15649	Clear Creek, Trib. To	16-May-80	ST	Central Platte Natural Resources District	Lone Star Reservoir	0		AF	52.40
16355	Clear Creek, Trib. To	13-Feb-85	ST	Central Platte Natural Resources District	Benda-Nekl Reservoir	0		AF	6.80
16356	Clear Creek, Trib. To	13-Feb-85	ST	Central Platte Natural Resources District	Wallace Benda Reservoir	0		AF	3.40
15966	Clear Creek, Trib. To	12-Aug-81	ST	Central Platte Natural Resources District	Micek Reservoir-West	0		AF	7.50
15967	Clear Creek, Trib. To	12-Aug-81	ST	Central Platte Natural Resources District	Micek Reservoir-East	0		AF	4.70
10452	Clear Creek	09-Oct-64	ST	Stuart	Behlen Reservoir	0		AF	2.48
10542	Clear Creek, Trib. To	23-Feb-65	ST	Lower Platte North Natural Resources District	Bellwood Reservoir 3-A	0		AF	56.30
12837	Wilson Creek, Trib. To	22-Mar-73	ST	Bosshart	Gruenewald Reservoir	0		AF	60.50
12834	Wilson Creek	19-Mar-73	ST	Lower Platte North Natural Resources District	Bellwood Reservoir 3-B	0		AF	87.30
10712	Wilson Creek, Trib. To	05-Nov-65	ST	Lower Platte North Natural Resources District	Bellwood Reservoir 3-C	0		AF	29.00
14265	Wilson Creek	09-Jun-76	IR	Krafka	Pump	83.6	70	CFS	1.19
12584	Clear Creek	11-Apr-72	IR	Alshouse Liv Trst	Pump	83.9	70	CFS	1.20
17094	Elm Creek	22-Jul-91	ST	Lower Platte North Natural Resources District	Bellwood Reservoir 2-C	0		AF	391.50
12112	Clear Creek	12-Nov-70	IR	Romshek	Pump	167.6	70	CFS	2.39
9116	Clear Creek	21-Jan-57	IR	Romshek	Pump	95	70	CFS	1.36
12183	Platte River, Trib. To	11-Mar-71	IR	Romshek	Pump	92.5	70	CFS	1.32
11691	Platte River, Trib. To	22-Apr-69	ST	Lower Platte North Natural Resources District	Bellwood Reservoir 6-F	0		AF	35.30
11506	Platte River, Trib. To	23-Jul-68	ST	Lower Platte North Natural Resources District	Bellwood Reservoir 6-E	0		AF	22.20
14968	Platte River, Trib. To	06-Jun-77	ST	Lower Platte North Natural Resources District	Bellwood Reservoir 6-G	0		AF	17.10
13687	Deer Creek	28-Jul-75	IR	Birkel & Hook	Pump	209	70	CFS	2.99
13749	Deer Creek	20-Aug-75	ST	Birkel & Hook	Peter Birkel Res. No. 1	0		AF	14.50
14168	Deer Creek	08-Apr-76	SS	Birkel & Hook	Peter Birkel Res. No. 1	0		AF	15.80
15261	Deer Creek	19-May-78	SS	Birkel & Hook	Peter Birkel Res. No. 1	0		AF	40.00
15599	Deer Creek	08-Nov-79	SS	Birkel & Hook	Peter Birkel Res. No. 1	0		AF	70.30
14134	Peter Birkel Reservoir No. 1	31-Mar-76	SI	Birkel & Hook	Pump	209		AF	0.00
15726	Deer Creek	03-Nov-80	ST	Hilger Farms Inc	Deer Creek Reservoir	0		AF	41.20
16110	Deer Creek Reservoir	25-May-82	SO	Hilger Farms Inc	Pump	70.8		AF	26.82
16110	Deer Creek Reservoir	25-May-82	SO	Juranek	Pump	123.2		AF	26.82
8431	Deer Creek	17-Mar-56	ST	Siffring	Martin Reservoir	0		AF	26.00
11739	Deer Creek	25-Jun-69	ST	Lower Platte North Natural Resources District	Bellwood Reservoir 5-H	0		AF	143.30
14478	Bellwood Reservoir 5-H	23-Sep-76	SO	Lower Platte North Natural Resources District	Pump	42.8		AF	0.00
12833	Deer Creek	19-Mar-73	ST	Lower Platte North Natural Resources District	Bellwood Reservoir 5-K	0		AF	36.10
10711	Deer Creek, Trib. To	05-Nov-65	ST	Lower Platte North Natural Resources District	Bellwood Reservoir 5-J	0		AF	26.50
10541	Deer Creek, Trib. To	23-Feb-65	ST	Lower Platte North Natural Resources District	Bellwood Reservoir 5-D	0		AF	9.70
15841	Platte River	16-Apr-81	IR	Tomek Trust	Pump	21.6	70	CFS	0.31
4726	Platte River, Trib. To	15-Jul-50	IR	Engel	Pump	45	140	CFS	0.32
17623	Platte River, Trib. To	06-Oct-97	IR	Engel	Pump	45	140	CFS	0.32
14252	Platte River	04-Jun-76	IR	Ingwersen	Pump	60	70	CFS	0.86
14252	Platte River	04-Jun-76	IR	Kobza	Pump	80	70	CFS	1.14
16162	Platte River	06-Dec-82	IR	Kobza Trust	Pump	130	70	CFS	1.86
10543	Platte River, Trib. To	23-Feb-65	ST	Lower Platte North Natural Resources District	Bellwood Reservoir 4-K	0		AF	18.20
12133	Platte River	28-Dec-70	IR	Papa Farms	Pump	147	70	CFS	2.10
14219	Platte River	12-May-76	IR	Papa	Pump	100.5	70	CFS	1.44
15193	Platte River	02-Mar-78	IR	Weerts Properties LLP	Pump	257.6	70	CFS	3.68
18708	Bone Creek	09-Jun-10	ST	Riverside Land Company	Lost Island Wetland			AF	45.36

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
18709	Bone Creek	09-Jun-10	WT	Riverside Land Company	Bone Creek Diversion Str			CFS	1.00
17449	Bone Creek, Trib. To	01-May-95	ST	Novak	Lake C W	0		AF	35.45
13534	Bone Creek	04-Apr-75	IR	Janovy & Janovy & Schmit	Pump	57.5	70	CFS	0.82
11505	Bone Creek, Trib. To	23-Jul-68	ST	Lower Platte North Natural Resources District	Bellwood Reservoir 4-L	0		AF	64.80
17742	North Branch, Shell Creek	03-Mar-99	IR	Cederlind	Pump	47	70	CFS	0.67
16942	Shell Creek	08-Mar-90	IR	Klassen	Pump	20	70	CFS	0.28
16579	Shell Creek	27-Jul-87	IR	Jarecki Brothers Partnership	Pump	35	70	CFS	0.50
11329	Shell Creek	01-Feb-68	IR	Smokie Joe Farms Inc	Pump	38	70	CFS	0.54
11147	Shell Creek	25-May-67	IR	Gronenthal	Pump	93	70	CFS	1.33
17169	Shell Creek	15-Apr-92	IR	Podraza	Pump	37	70	CFS	0.53
7475	Shell Creek	14-May-55	IR	Podraza	Pump	3	140	CFS	0.02
2815	Shell Creek	18-Dec-37	IR	Kallweit Trust etal	Pump	67.8	140	CFS	0.48
4069	Shell Creek	26-Apr-47	IR	Pillen etal	Pump	22.1	140	CFS	0.16
2787	Shell Creek	14-Sep-37	IR	Novak	Pump	11.5	140	CFS	0.08
2787	Shell Creek	14-Sep-37	IR	Nebraska Game & Parks Commission	Pump	45.5	140	CFS	0.33
7195	Shell Creek	16-Mar-55	IR	Coan	Pump	42.6	140	CFS	0.31
3599	Shell Creek	17-Mar-43	IR	Coan	Pump	114.7	140	CFS	0.82
10560	Shell Creek	08-Mar-65	IR	Foltz	Pump	53.5	70	CFS	0.76
15677	Shell Creek	09-Jul-80	IR	Wilke	Pump	4	70	CFS	0.06
10771	Shell Creek	14-Feb-66	IR	Wilke Trust	Pump	74	70	CFS	1.06
8665	Shell Creek	09-Jul-56	IR	Wilke & Wilke et al	Pump	8	70	CFS	0.11
2997	Shell Creek	26-Oct-39	IR	Lusche	Pump	67	140	CFS	0.48
16488	Loseke Creek, Trib. To	14-May-86	ST	Lower Platte North Natural Resources District	Hollman Reservoir	0		AF	29.90
14394	Loseke Creek, Trib. To	13-Aug-76	ST	Lower Platte North Natural Resources District	Loseke-Frese Reservoir	0		AF	114.90
18377	Loseke Creek, Trib. To	17-Feb-06	SS	Lower Platte North Natural Resources District	Loseke-Frese Reservoir			AF	96.50
6502	Shell Creek	28-Jul-54	IR	Pieper & Mueller	Pump	24	140	CFS	0.17
14562	Shell Creek	17-Nov-76	IR	Ernst	Pump	10	70	CFS	0.14
13943	Shell Creek	15-Jan-76	IR	Pine Tree Farm Ltd	Pump	12.5	70	CFS	0.18
13943	Shell Creek	15-Jan-76	IR	Wilshusen	Pump	48.5	70	CFS	0.69
6750	Shell Creek	05-Oct-54	IR	Bergt	Pump	20	140	CFS	0.14
6750	Shell Creek	05-Oct-56	IR	Bergt	Pump	10	140	CFS	0.07
11119	Shell Creek	01-May-67	IR	Novak	Pump	15	70	CFS	0.22
6523	Shell Creek	30-Jul-54	IR	Cech	Pump	70	140	CFS	0.50
2782	Shell Creek	13768	IR	Benedictine Mission House	Pump	33.7	140	CFS	0.24
2642	Shell Creek	13421	IR	Benedictine Mission House	Pump	25	140	CFS	0.18
3080	Shell Creek	14630	IR	Benedictine Mission House	Pump	15	140	CFS	0.11
4054	Shell Creek	17254	IR	Mares	Pump	70	140	CFS	0.5
15620	Shell Creek	29270	IR	Vavricek	Pump	112.8	70	CFS	1.61
15620	Shell Creek	29270	IR	Bailey	Pump	34.3	70	CFS	0.49
2923	Shell Creek	14384	IR	Bailey & Bailey	Pump	20	140	CFS	0.14
17870	Shell Creek	36691	IR	Bailey & Bailey	Pump	20	140	CFS	0.15
9130	Lost Creek	20843	IR	Archer Daniels Midland Company	Pump	8	70	CFS	0.11
7253	Lost Creek	20172	IR	Newman	Pump	42.9	140	CFS	0.31
15696	Lost Creek	29433	IR	Newman	Pump	45	70	CFS	0.61
3054	Lost Creek	14594	IR	Siefken	Pump	7	140	CFS	0.05
4488	Lost Creek	18097	IR	Kluck Company	Pump	233	140	CFS	1.66
8311	Lost Creek	20465	IR	Kaup	Pump	31.7	140	CFS	0.23
6207	Lost Creek	19830	IR	Barta Family Ltd Ptn	Pump	32	140	CFS	0.22

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
4092	Lost Creek	17390	IR	Wolta	Pump	24	140	CFS	0.17
2406	Lost Creek	12581	ST	Zoucha	Ballon Lake	0		AF	14
8286	Lost Creek	20439	IR	Gaskill	Pump	39	140	CFS	0.28
2742	Lost Creek	13650	ST	City of Schuyler	Community Park Lake	0		AF	15
13990	Lost Creek	27794	IR	Horizon Properties Company	Pump	149	70	CFS	2.13
14729	Platte River	28172	IR	Riverside Acres Ltd	Pump	27.1	70	CFS	0.39
15030	Platte River	28319	IR	Schmale	Pump	59.7	70	CFS	0.85
12223	Skull Creek, Trib. To	26039	IR	Polacek	Pump	6	70	CFS	0.08
17540	Skull Creek	35320	IR	Stara	Pump	81	70	CFS	1.16
17784	Skull Creek, Trib. To	36374	ST	Lower Platte North Natural Resources District	Skull Creek Reservoir 55	0		AF	218.1
18113	Skull Creek, Trib. To	37558	ST	Fendrich	Fendrich Lake	0		AF	14.95
18134	Skull Creek	37637	SS	Fendrich	Pump	0		AF	23
13363	Skull Creek	27414	IR	Pierce Revoc Trusts	Pump	220	70	CFS	3.14

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
7244	Platte River, Trib. To	19-Mar-55	IR	Schuelke	Pump	1	140	CFS	0.01
12070	Platte River	02-Sep-70	IR	Ritthaler	Pump	40	70	CFS	0.57
12069	Platte River, Trib. To	02-Sep-70	IR	Ritthaler	Pump	45.1	70	CFS	0.64
5529	Platte River, Trib. To	01-Sep-53	ST	Mid America Council	Camp Cedars Reservoir	0		AF	17.80
18387	Platte River, Trib. To	03-Apr-06	ST	Venice Woods Inc	Venice Woods Lake	0		AF	292.00
18166	Platte River, Trib. To	14-May-03	ST	Hauptman	Hauptman's Pond	0		AF	3.45
16193	Clear Creek, Upper	02-May-83	ST	Lower Platte North Natural Resources District	Clear Creek Reservoir 7-A	0		AF	536.80
17318	Platte River	06-Oct-93	IG	Metropolitan Utilities District of Omaha	Begin Wellfield	0		CFS	1,000.00
17312	Platte River	21-Jan-64	IG	City of Lincoln	Wellfield-Start of Reach			CFS	
17312	Platte River	01-Jan-70	IG	City of Lincoln	Wellfield-Start of Reach			CFS	
17312	Platte River	01-Jan-80	IG	City of Lincoln	Wellfield-Start of Reach			CFS	
17312	Platte River	01-Jan-90	IG	City of Lincoln	Wellfield-Start of Reach			CFS	
17312	Platte River	01-Jan-93	IG	City of Lincoln	Wellfield-Start of Reach			CFS	
11311	Salt Creek, Olive Branch, Trib. To	10-Jan-68	ST	Lower Platte South Natural Resources District	Salt Creek Reservoir 27-A	0		AF	215.30
11424	Salt Creek, Olive Branch, Trib. To	15-May-68	ST	Lower Platte South Natural Resources District	Salt Creek Reservoir 27-B	0		AF	78.80
11425	Salt Creek, Olive Branch	15-May-68	ST	Lower Platte South Natural Resources District	Salt Creek Reservoir 27-C	0		AF	128.90
10302	Salt Creek, Olive Branch, Trib. To	06-Feb-64	ST	Nebraska Game & Parks Commission	Teal Reservoir	0		AF	152.38
11310	Salt Creek, Olive Branch, Trib. To	10-Jan-68	ST	Lower Platte South Natural Resources District	Salt Creek Reservoir 26-A	0		AF	220.70
10120	Salt Creek, Olive Branch, Trib. To	06-Nov-62	ST	Nebraska Game & Parks Commission	Olive Branch Reservoir	0		AF	1,410.00
11423	Salt Creek, Olive Branch, Trib. To	15-May-68	ST	Lower Platte South Natural Resources District	Salt Creek Reservoir 25-A	0		AF	245.10
16417	Salt Creek, Olive Branch, Trib. To	09-Jul-85	ST	Lower Platte South Natural Resources District	Upper Salt Reservoir 14-1	0		AF	29.80
11076	Salt Creek, Olive Branch	16-Mar-67	IR	Wells	Pump	85	70	CFS	1.21
16416	Salt Creek, Olive Branch, Trib. To	09-Jul-85	ST	Lower Platte South Natural Resources District	Upper Salt Reservoir 14-A	0		AF	59.80
16424	Salt Creek, Olive Branch, Trib. To	09-Jul-85	ST	Lower Platte South Natural Resources District	Upper Salt Reservoir 13-A	0		AF	57.00
16415	Salt Creek, Olive Branch, Trib. To	09-Jul-85	ST	Lower Platte South Natural Resources District	Upper Salt Reservoir 13-B	0		AF	51.30
6177	Salt Creek, Olive Branch	13-Apr-54	IR	Reller	Pump	40	140	CFS	0.29
16419	Salt Creek, North Branch, Trib. To	09-Jul-85	ST	Lower Platte South Natural Resources District	Upper Salt Reservoir 23-B	0		AF	58.40
10025	Salt Creek, North Branch	01-Mar-62	ST	Nebraska Game & Parks Commission	Bluestem Reservoir	0		AF	3,200.00
10820	Salt Creek, Spring Branch	04-Apr-66	ST	Lower Platte South Natural Resources District	Salt Creek Reservoir 6-A	0		AF	53.90
12844	Salt Creek, Spring Branch, Trib. To	29-Mar-73	ST	Severin	Meadowlake Res. No. 1	0		AF	99.10
16407	Salt Creek, Spring Branch, Trib. To	09-Jul-85	ST	Lower Platte South Natural Resources District	Upper Salt Reservoir 5-7	0		AF	41.70
16406	Salt Creek, Spring Branch, Trib. To	09-Jul-85	ST	Lower Platte South Natural Resources District	Upper Salt Reservoir 5-A	0		AF	41.60
16408	Salt Creek, Spring Branch, Trib. To	09-Jul-85	ST	Lower Platte South Natural Resources District	Upper Salt Reservoir 5-9	0		AF	23.70
11383	Salt Creek	25-Mar-68	IR	Thompson Et Al	Pump	111	70	CFS	1.59
5542	Salt Creek	04-Sep-53	IR	Oelling	Pump	39	140	CFS	0.28
7908	Linn Creek	15-Aug-55	ST	Vergith	Vergith Reservoir	0		AF	15.60
18549	Linn Creek	25-Oct-07	SS	Vergith	Vergith Reservoir			AF	50.00
10822	Wittstruck Creek	04-Apr-66	ST	Lower Platte South Natural Resources District	Wittstruck Creek	0		AF	87.55
10821	Wittstruck Creek, Trib. To	04-Apr-66	ST	Lower Platte South Natural Resources District	Wittstruck Creek	0		AF	142.50
12826	Salt Creek	14-Mar-73	IR	Batie Farms Inc	Pump	10	70	CFS	0.14
11410	Salt Creek, Trib. To	06-May-68	ST	Nebraska Department of Roads	Princeton Rest Area	0		AF	0.16
13525	Salt Creek	03-Apr-75	IR	Meadowlark Enterprises LLC	Pump	204.9	70	CFS	2.93
12202	Salt Creek	01-Apr-71	IR	Meadowlark Enterprises LLC	Pump	75	70	CFS	1.07
16422	Salt Creek, East Branch, Trib. To	09-Jul-85	ST	Lower Platte South Natural Resources District	Upper Salt Reservoir 38-3	0		AF	42.70
16421	Salt Creek, East Branch	09-Jul-85	ST	Lower Platte South Natural Resources District	Upper Salt Reservoir 38-A	0		AF	121.20
16409	Salt Creek, East Branch, Trib. To	09-Jul-85	ST	Lower Platte South Natural Resources District	Upper Salt Reservoir 8-A	0		AF	47.40
16410	Salt Creek, East Branch, Trib. To	09-Jul-85	ST	Lower Platte South Natural Resources District	Upper Salt Reservoir 8-B	0		AF	29.70
10949	Salt Creek, East Branch, Trib. To	13-Sep-66	ST	Van Pelt	Van Pelt Reservoir	0		AF	59.00
16413	Salt Creek, East Branch, Trib. To	09-Jul-85	ST	Lower Platte South Natural Resources District	Upper Salt Reservoir 10-4	0		AF	19.30
10301	Salt Creek, East Branch, Trib. To	06-Feb-64	ST	Nebraska Game & Parks Commission	Hedgefield Reservoir	0		AF	231.39

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
16418	Salt Creek, East Branch, Trib. To	09-Jul-85	ST	Lower Platte South Natural Resources District	Upper Salt Reservoir 19-B	0		AF	41.60
12507	Salt Creek, East Branch, Trib. To	15-Feb-72	IR	Foss Trust	Pump	10.8	70	CFS	0.15
12507	Salt Creek, East Branch, Trib. To	15-Feb-72	IR	Marks	Pump	10.8	70	CFS	0.15
16411	Salt Creek, East Branch, Trib. To	09-Jul-85	ST	Lower Platte South Natural Resources District	Upper Salt Reservoir 9-A	0		AF	33.90
16412	Salt Creek, East Branch, Trib. To	09-Jul-85	ST	Lower Platte South Natural Resources District	Upper Salt Reservoir 9-3	0		AF	34.70
10024	Salt Creek, East Branch, Trib. To	01-Mar-62	ST	Nebraska Game & Parks Commission	Wagontrain Reservoir	0		AF	2,500.00
8402	Salt Creek, East Branch	09-Mar-56	IR	Harlan	Pump	61	140	CFS	0.44
16414	Vanderbrink Creek, Trib. To	09-Jul-85	ST	Lower Platte South Natural Resources District	Upper Salt Reservoir 11-A	0		AF	54.50
9015	Vanderbrink Creek	03-Dec-56	IR	Deboer	Pump	74	70	CFS	1.06
7794	Vanderbrink Creek	22-Jul-55	IR	Harlan	Pump	85.5	140	CFS	0.61
7793	Salt Creek, East Branch	22-Jul-55	IR	Harlan	Pump	95.4	140	CFS	0.68
16425	Salt Creek, South Branch, Trib. To	09-Jul-85	ST	Lower Platte South Natural Resources District	Upper Salt Reservoir 18-9	0		AF	25.50
10119	Salt Creek, South Branch	06-Nov-62	ST	Nebraska Game & Parks Commission	Stagecoach Reservoir	0		AF	1,900.00
10153	Salt Creek, South Branch	06-Mar-63	IR	Poe	Pump	31	70	CFS	0.44
10154	Salt Creek, South Branch	06-Mar-63	ST	Poe	Scott Reservoir	0		AF	5.16
10155	Scott Reservoir	06-Mar-63	SI	Poe	Pump	31		AF	0.00
12685	Salt Creek, East Branch	17-Jul-72	ST	Lower Platte South Natural Resources District	Salt Creek Reservoir 35	0		AF	55.70
14825	Salt Creek Reservoir 35	18-Mar-77	SO	Lower Platte South Natural Resources District	Pump	46.4		AF	0.00
16420	Salt Creek, East Branch, Trib. To	09-Jul-85	ST	Lower Platte South Natural Resources District	Upper Salt Reservoir 35-1	0		AF	23.70
15162	Salt Creek, East Branch	11-Jan-78	IR	Bentzinger	Pump	43	70	CFS	0.61
15763	Salt Creek	12-Feb-81	IR	Roca Berry Farms Inc	Pump	70	70	CFS	1.00
15025	Salt Creek	12-Jul-77	IR	Bentzinger Trusts	Pump	8.5	70	CFS	0.12
9921	Salt Creek	30-Mar-61	IR	Williams	Pump	66.5	70	CFS	0.95
10066	Salt Creek	24-May-62	IR	Williams	Pump	65	70	CFS	0.93
11584	Salt Creek, Trib. To	01-Nov-68	ST	Bengston	Herkimer Lake	0		AF	73.10
12720	Salt Creek	21-Aug-72	IR	Berniklau	Pump	75.8	70	CFS	1.08
15509	Salt Creek	29-Jun-79	IR	Berniklau	Pump	31.05	71	CFS	0.44
18490	Salt Creek, Trib. To	21-Mar-07	ST	SWL Development LLC	Dakota Springs Pond 2			AF	12.20
18489	Salt Creek, Trib. To	21-Mar-07	ST	SWL Development LLC	Dakota Springs Pond 1			AF	11.20
10430	Cardwell Branch	26-Aug-64	ST	Nebraska Game & Parks Commission	Yankee Hill Reservoir	0		AF	2,020.00
10863	Salt Creek	08-Jun-66	IR	Bowen	Pump	20	70	CFS	0.29
9901	Beal Slough, Trib. To	03-Mar-61	ST	Pine Lake Corporation	Pine Lake Reservoir	0		AF	167.00
18313	Beal Slough, Trib. To	24-May-05	ST	Village Gardens LLC	Campbells Reservoir			AF	20.00
11095	Haines Branch	06-Apr-67	IR	Juricek	Pump	54	70	CFS	0.77
17647	Cheese Creek, Trib. To	06-Mar-98	ST	Lower Platte South Natural Resources District	Gertsch Reservoir	0		AF	25.70
18053	Haines Branch, Trib. To	29-Mar-02	ST	Sullivan	Sullivan Reservoir	0		AF	19.50
17932	Spring Creek, Trib. To	09-Nov-00	ST	Urbach	Urbach Pond No. 2	0		AF	20.90
17933	Spring Creek, Trib. To	09-Nov-00	ST	Urbach	Urbach Pond No. 1	0		AF	36.30
10121	Holmes Creek	06-Nov-62	ST	Nebraska Game & Parks Commission	Conestoga Reservoir	0		AF	2,700.00
12591	Haines Branch	17-Apr-72	IR	Priess	Pump	57	70	CFS	0.81
12592	Haines Branch	17-Apr-72	ST	Priess	Priess Reservoir No. 1	0		AF	0.00
12593	Priess Reservoir No. 1	17-Apr-72	SI	Priess	Pump	57		AF	0.00
16540	Haines Branch	12-Feb-87	FW	Lincoln Regional Center	Pump	0		CFS	0.04
17567	Middle Creek	25-Mar-97	IR	Schildt	Pump	106	70	CFS	1.51
17432	Middle Creek, North Branch, Trib. To	27-Feb-95	ST	Lower Platte South Natural Resources District	Road Res. 21-11-4	0		AF	28.70
17536	Middle Creek, North Branch, Trib. To	09-Sep-96	WS	Schildt	Schildt Livestock Waste	0		AF	27.90
17568	Reservoir	26-Mar-97	SO	Schildt	Pump	113		AF	27.90
16459	Middle Creek, North Branch, Trib. To	29-Oct-85	ST	Lower Platte South Natural Resources District	Krieser Reservoir	0		AF	66.10
15398	Middle Creek, North Branch	23-Jan-79	IR	Robotham	Pump	65	70	CFS	0.93
11759	Middle Creek, North Branch	04-Aug-69	IR	Robotham	Pump	99	70	CFS	1.41

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
18587	Middle Creek, North Branch, Trib. To	09-Apr-08	ST	Lower Platte South Natural Resources District	Piening Dam			AF	67.87
13686	Middle Creek, North Branch	28-Jul-75	IR	Brandt Trust	Pump	68	70	CFS	0.97
10176	Middle Creek, North Branch	12-Apr-63	ST	Nebraska Game & Parks Commission	Pawnee Reservoir	0		AF	8,600.00
13747	Middle Creek, North Branch	20-Aug-75	IR	Deinert	Pump	117.9	70	CFS	1.68
18552	Middle Creek, South Branch, Trib. To	13-Nov-07	ST	Seward County Road Department	168th & Pioneers Road Res			AF	29.30
10308	Middle Creek, South Branch	19-Feb-64	ST	Nebraska Game & Parks Commission	Twin Lakes Reservoir	0		AF	2,840.00
11773	Middle Creek, South Branch	20-Aug-69	IR	Piening Revocable Trusts	Pump	279	70	CFS	3.98
11885	Middle Creek, South Branch	05-Mar-70	IR	Piening Revocable Trusts	Pump	52.5	70	CFS	0.75
4162	Middle Creek, South Branch	22-Dec-47	IR	Piening Revocable Trusts	Pump	20.8	140	CFS	0.15
18244	Middle Creek, South Branch, Trib. To	20-May-04	ST	Oak Prairie LLC	Oak Prairie Reservoir			AF	45.80
18245	Oak Prairie Reservoir	20-May-04	SO	Oak Prairie LLC	Pump	41.4		AF	43.51
18278	Middle Creek, South Branch, Trib. To	11-Feb-05	ST	Oak Prairie LLC	Oak Prairie Irrig. Pit			AF	14.70
18279	Oak Prairie Irrigation Pit	11-Feb-05	SO	Oak Prairie LLC	Pump	25.1		AF	14.70
14915	Middle Creek	21-Apr-77	IR	Deinert	Pump	109	70	CFS	1.56
11021	Middle Creek	18-Jan-67	IR	Nebraska Board of Educational Lands & Funds	Pump	2	70	CFS	0.03
14541	Middle Creek	08-Nov-76	IR	Nebraska Board of Educational Lands & Funds	Pump	29	70	CFS	0.41
2823	Middle Creek	07-Jan-38	IR	ROJO Investments LLC	Pump	18.7	140	CFS	0.13
9972	Antelope Creek	28-Aug-61	ST	Corps of Engineers	Antelope Creek Reservoir	0		AF	1,050.00
17790	Antelope Creek Reservoir	10-Sep-99	SO	Corps of Engineers	Pump	0		AF	123.00
14126	Antelope Creek	29-Mar-76	IR	Coon	Pump	0.44	70	CFS	0.01
10935	Oak Creek, Trib. To	19-Aug-66	ST	Lower Platte South Natural Resources District	Butler County Res. 63-A	0		AF	9.83
11890	Oak Creek, Trib. To	05-Mar-70	ST	Lower Platte South Natural Resources District	Oak-Middle Reservoir 63-D	0		AF	64.00
16163	Oak-Middle Reservoir 63-D	14-Dec-82	SO	Lower Platte South Natural Resources District	Pump	257		AF	0.00
10565	Oak Creek, Trib. To	12-Mar-65	ST	Lower Platte South Natural Resources District	Oak-Middle Reservoir 63-C	0		AF	72.70
10936	Oak Creek, Trib. To	19-Aug-66	ST	Lower Platte South Natural Resources District	Butler County Res. 68-A	0		AF	174.60
16423	Oak Creek, Trib. To	09-Jul-85	ST	Lower Platte South Natural Resources District	Oak-Middle Reservoir 67-A	0		AF	54.50
15493	Oak Creek, Trib. To	15-Jun-79	IR	Kouma	Pump	118.4	70	CFS	1.69
15904	Oak Creek, Trib. To	25-Jun-81	ST	Lower Platte South Natural Resources District	Oak-Middle Reservoir 66-A	0		AF	75.10
17731	Oak-Middle Reservoir 66-A	10-Feb-99	SO	Lower Platte South Natural Resources District	Pump	75		AF	21.00
16571	Oak-Middle Reservoir 66-A	15-Jul-87	SO	Lower Platte South Natural Resources District	Pump	34		AF	0.00
11362	Oak Creek, Trib. To	08-Mar-68	ST	Lower Platte South Natural Resources District	Oak-Middle Reservoir 58-B	0		AF	70.83
11486	Oak Creek	12-Jul-68	IR	Chmelka	Pump	73	70	CFS	1.04
11238	Peanut Creek, Trib. To	30-Aug-67	ST	Lower Platte South Natural Resources District	Peanut Creek Res. 57-A	0		AF	383.20
9216	Peanut Creek, Trib. To	18-Feb-57	IR	Benes	Pump	55	70	CFS	0.79
12141	Peanut Creek	18-Jan-71	IR	Jasa	Pump	46	70	CFS	0.66
12860	Peanut Creek	19-Apr-73	IR	Benes	Pump	118	70	CFS	1.69
17781	Oak Creek, Trib. To	22-Jul-99	ST	Benes	Eugene Benes Reservoir	0		AF	16.88
11239	Oak Creek, Middle	30-Aug-67	ST	Lower Platte South Natural Resources District	Oak-Middle Reservoir 87-A	0		AF	107.30
14824	Oak-Middle Reservoir 87-A	18-Mar-77	SO	Lower Platte South Natural Resources District	Pump	20.7		AF	0.00
11367	Oak Creek, Middle, Trib. To	08-Mar-68	ST	Lower Platte South Natural Resources District	Oak-Middle Reservoir 86-A	0		AF	87.17
16321	Oak-Middle Reservoir 86-A	07-Aug-84	SO	Lower Platte South Natural Resources District	Pump	128.7		AF	0.00
11365	Oak Creek, Middle, Trib. To	08-Mar-68	ST	Lower Platte South Natural Resources District	Oak-Middle Reservoir 82-B	0		AF	62.54
14827	Oak-Middle Reservoir 82-B	18-Mar-77	SO	Lower Platte South Natural Resources District	Pump	13.8		AF	0.00
11211	Oak Creek, Middle	26-Jul-67	IR	Fiala	Pump	57	70	CFS	0.81
11366	Oak Creek, Middle, Trib. To	08-Mar-68	ST	Lower Platte South Natural Resources District	Oak-Middle Reservoir 84-A	0		AF	95.85
11124	Oak Creek, Middle	03-May-67	IR	Johnson	Pump	299	70	CFS	4.27
17869	Oak Creek, Middle, Trib. To	13-Jun-00	ST	Seward County	SEC-GNW Reservoir	0		AF	22.70
11113	Oak Creek, Middle	25-Apr-67	IR	Roth	Pump	165	70	CFS	2.36
12573	Oak Creek, Middle	31-Mar-72	ST	Hofmann	Clark Reservoir	0		AF	0.93
11364	Oak Creek, Middle, Trib. To	08-Mar-68	ST	Lower Platte South Natural Resources District	Oak-Middle Reservoir 81-A	0		AF	133.05

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
11363	Oak Creek, Middle, Trib. To	08-Mar-68	ST	Lower Platte South Natural Resources District	Oak-Middle Reservoir 79-A	0		AF	102.75
17176	Oak Creek, Middle, Trib. To	17-Apr-92	ST	Lower Platte South Natural Resources District	Hudkins Reservoir	0		AF	24.50
11107	Oak Creek, Middle	20-Apr-67	IR	Plautz	Pump	119	70	CFS	1.70
10393	Oak Creek, Middle, Trib. To	10-Jul-64	ST	Lower Platte South Natural Resources District	Oak-Middle Reservoir 76-A	0		AF	101.90
11000	Oak Creek, Middle	16-Dec-66	IR	Kovar	Pump	128	70	CFS	1.83
11495	Oak Creek, Middle	17-Jul-68	IR	Hudkins	Pump	202.5	70	CFS	2.89
18049	Oak Creek, Middle, Trib. To	06-Mar-02	ST	Lower Platte South Natural Resources District	Cipriano Reservoir	0		AF	20.30
11761	Oak Creek, Middle, Trib. To	07-Aug-69	ST	Lower Platte South Natural Resources District	Oak-Middle Reservoir 72-A	0		AF	177.80
11496	Oak Creek, Middle, Trib. To	17-Jul-68	IR	Hudkins	Pump	50.5	70	CFS	0.72
16460	Oak Creek, Middle, Trib. To	29-Oct-85	ST	Lower Platte South Natural Resources District	Housel Reservoir	0		AF	7.90
10309	Oak Creek	20-Feb-64	ST	Nebraska Game & Parks Commission	Branched Oak Reservoir	0		AF	26,000.00
8574	Oak Creek	19-May-56	IR	Corps of Engineers	Pump	60	140	CFS	0.43
10442	Oak Creek	09-Sep-64	IR	Corps of Engineers	Pump	60	140	CFS	0.43
10767	Oak Creek	08-Feb-66	IR	Johnson	Pump	115.5	70	CFS	1.65
18603	Oak Creek	21-Jul-08	IR	Johnson	Pump	10.2	70	CFS	0.15
12823	Oak Creek	08-Mar-73	IR	Lange Estate	Pump	149.35	70	CFS	2.14
11129	Oak Creek	05-May-67	IR	Sterns	Pump	133	70	CFS	1.90
5930	Oak Creek	03-Feb-54	IR	Sterns Sterns Sterns & Sterns	Pump	38	140	CFS	0.27
11229	Oak Creek	17-Aug-67	IR	Sterns Sterns Sterns & Sterns	Pump	66	70	CFS	0.94
12749	Oak Creek	10-Oct-72	IR	Sterns	Pump	201	70	CFS	2.87
11824	Oak Creek	20-Nov-69	IR	Heinbigner & Rigby	Pump	129	70	CFS	1.84
13239	Oak Creek	17-Oct-74	IR	Jakoubek	Pump	40	70	CFS	0.57
17751	Oak Creek	17-Mar-99	IR	Grant	Pump	74	70	CFS	1.06
14052	Oak Creek, North	24-Feb-76	ST	Lower Platte South Natural Resources District	North Oak Reservoir 6-A	0		AF	218.80
16165	North Oak Reservoir 6-A	03-Jan-83	SO	Lower Platte South Natural Resources District	Pump	40.05		AF	0.00
12922	Oak Creek, North, Trib. To	15-Aug-73	ST	Kuzelka & Kuzelka & Kuzelka	Kuzelka Reservoir No. 1	0		AF	9.50
14561	Oak Creek, North, Trib. To	16-Nov-76	ST	Kuzelka & Kuzelka & Kuzelka	Kuzelka Reservoir No. 2	0		AF	39.40
15036	Kuzelka Reservoir No. 2	18-Jul-77	SO	Carlson Living Trust	Pump	95.8		AF	28.66
14053	Oak Creek, North, Trib. To	24-Feb-76	ST	Lower Platte South Natural Resources District	North Oak Reservoir 6-B	0		AF	146.00
14826	North Oak Reservoir 6-B	18-Mar-77	SO	Lower Platte South Natural Resources District	Pump	52.7		AF	0.00
14526	Oak Creek, North, Trib. To	27-Oct-76	ST	Lower Platte South Natural Resources District	North Oak Reservoir 6-C	0		AF	276.30
15056	Oak Creek, North, Trib. To	27-Jul-77	ST	Lower Platte South Natural Resources District	North Oak Reservoir 6-G	0		AF	121.90
13056	Oak Creek, North, Trib. To	26-Jun-74	ST	Lower Platte South Natural Resources District	North Oak Reservoir 5-F	0		AF	129.80
16135	Oak Creek, North, Trib. To	05-Aug-82	ST	Butler County	Kudlacek Reservoir	0		AF	10.00
15750	Oak Creek, North, Trib. To	15-Jan-81	ST	Lower Platte South Natural Resources District	North Oak Reservoir 5-X	0		AF	210.80
13862	Oak Creek, North, Trib. To	10-Nov-75	IR	Rezac	Pump	188	70	CFS	2.69
9003	Oak Creek, North	27-Nov-56	IR	Bohac	Pump	104	70	CFS	1.49
15354	Hunters Slough	24-Oct-78	ST	Lower Platte South Natural Resources District	North Oak Reservoir 4-A	0		AF	904.20
15055	Hunters Slough	27-Jul-77	IR	Enchanted Oak Forest LLC	Pump	41.7	70	CFS	0.60
15600	Oak Creek, North	30-Nov-79	IR	Rezac	Pump	138.4	70	CFS	1.98
15544	Oak Creek, North, Trib. To	09-Aug-79	ST	Lower Platte South Natural Resources District	North Oak Reservoir 4-C	0		AF	199.50
16139	North Oak Reservoir 4-C	12-Aug-82	SO	Lower Platte South Natural Resources District	Pump	112		AF	82.70
17261	North Oak Reservoir 4-C	01-Apr-93	SO	Lower Platte South Natural Resources District	Pump	125.7		AF	92.90
13087	Oak Creek, North	19-Jul-74	IR	Rezac	Pump	112.1	70	CFS	1.60
8697	Oak Creek, North	28-Jul-56	IR	Bouc	Pump	124	70	CFS	1.77
15545	Oak Creek, North, Trib. To	09-Aug-79	ST	Lower Platte South Natural Resources District	North Oak Reservoir 3-A	0		AF	276.00
16140	North Oak Reservoir 3-A	12-Aug-82	SO	Lower Platte South Natural Resources District	Pump	25.5		AF	0.00
16140	North Oak Reservoir 3-A	12-Aug-82	SI	Lower Platte South Natural Resources District	Pump	27.3		AF	0.00
13666	Oak Creek, North, Trib. To	21-Jul-75	IR	Komenda	Pump	27.3	70	CFS	0.39
12414	Oak Creek, North	01-Nov-71	IR	Chmelka	Pump	134.5	70	CFS	1.92

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
12815	Oak Creek, North	23-Feb-73	IR	Benes	Pump	188	70	CFS	2.69
13057	Oak Creek, North, Trib. To	26-Jun-74	ST	Lower Platte South Natural Resources District	North Oak Reservoir 2-C	0		AF	118.90
15057	Oak Creek, North, Trib. To	27-Jul-77	ST	Lower Platte South Natural Resources District	North Oak Reservoir 2-D	0		AF	138.60
13921	Oak Creek, North	30-Dec-75	IR	Barry	Pump	123.7	70	CFS	1.77
9075	Oak Creek, North	31-Dec-56	IR	Barry	Pump	59	70	CFS	0.84
11702	Oak Creek, North	13-May-69	IR	Hellerich	Pump	58	70	CFS	0.83
15304	Wagon Tongue Creek, Trib. To	27-Jul-78	ST	Lower Platte South Natural Resources District	S & H Farms Reservoir	0		AF	33.97
17525	Wagon Tongue Creek, Trib. To	11-Jul-96	ST	Studebaker Farms	Studebaker Reservoir	0		AF	21.15
15158	Wagon Tongue Creek	30-Dec-77	ST	Lower Platte South Natural Resources District	North Oak Reservoir 1-A	0		AF	900.30
11884	Wagon Tongue Creek	03-Mar-70	IR	Ang	Pump	46	70	CFS	0.66
14211	Wagon Tongue Creek	05-May-76	IR	Trouba	Pump	68.6	70	CFS	0.98
10525	Oak Creek, North	04-Feb-65	IR	Grimes	Pump	83	70	CFS	1.19
9907	Oak Creek, North	15-Mar-61	IR	Garrison	Pump	164	70	CFS	2.34
15749	Oak Creek, North	15-Jan-81	IR	Schachenmeyer	Pump	151.5	70	CFS	2.16
10165	Oak Creek, North	25-Mar-63	IR	Kirkendall	Pump	54	70	CFS	0.77
11010	Oak Creek, North	11-Jan-67	IR	Grant	Pump	61	70	CFS	0.87
6173	Oak Creek, North	12-Apr-54	IR	Silverstrand	Pump	13	140	CFS	0.09
7187	Oak Creek, North	07-Mar-55	IR	Farm Products Corporation	Pump	98	140	CFS	0.70
13867	Oak Creek	17-Nov-75	IR	Sullivan & Sons	Pump	113.1	70	CFS	1.62
7889	Oak Creek	10-Aug-55	IR	Schied Trust	Pump	32	140	CFS	0.23
10179	Oak Creek	19-Apr-63	IR	Bool Family Ltd Partnership	Pump	75	70	CFS	1.07
9388	Oak Creek	21-Mar-57	IR	Bool	Pump	68	70	CFS	0.97
2422	Oak Creek	13-Jul-34	IR	Burcham	Pump	120.89	70	CFS	1.73
5203	Oak Creek	12-Mar-53	IR	Burcham	Pump	59	140	CFS	0.42
9805	Oak Creek	24-Mar-60	IR	Bool	Pump	38	70	CFS	0.54
11682	Oak Creek	03-Apr-69	IR	Hargens	Pump	53	70	CFS	0.76
12381	Oak Creek	16-Sep-71	IR	Bennett Trust	Pump	375	70	CFS	5.36
11078	Elk Creek	17-Mar-67	IR	Andelt	Pump	31	70	CFS	0.44
12145	Elk Creek	20-Jan-71	IR	Hudkins	Pump	14	70	CFS	0.20
11759	Elk Creek	04-Aug-69	IR	Piening	Pump	10	140	CFS	0.07
17481	Elk Creek	25-Aug-95	IR	Piening	Pump	43	70	CFS	0.62
17481	Elk Creek	25-Aug-95	IR	Piening	Pump	10	140	CFS	0.07
9442	Oak Creek	11-Apr-57	ST	City of Lincoln	Bowling Lake	0		AF	176.00
17196	Oak Creek, Trib. To	15-Jun-92	ST	City of Lincoln	Highlands Golf Course	0		AF	30.40
17219	Highlands Golf Course Reservoir	20-Aug-92	SO	City of Lincoln	Pump	233		AF	26.00
18406	Oak Creek	12-Jun-06	MF	Nebraska Department of Roads	Pump			AF	3.38
9944	Oak Creek	07-Jun-61	ST	Capitol Beach Community Assoc	Capitol Beach Lake	0		AF	1,430.00
17043	Oak Creek	11-Jan-91	SS	Capitol Beach Community Assoc	Capitol Beach Lake	0		AF	270.00
18116	Oak Creek	12-Nov-02	SS	Capitol Beach Community Assoc	Capitol Beach Lake	0		AF	315.00
16147	Oak Creek	03-Sep-82	ST	City of Lincoln	Oak Lake	0		AF	222.89
18365	Oak Creek, Trib. To	09-Dec-05	ST	Lindsey Management Company	Links at Lincoln Res.			AF	92.70
18520	Oak Creek, Trib. To	03-Jul-07	ST	Lincoln Parks & Recreation Department	I-180 & Adams St.			AF	28.40
9864	Dead Mans Run	21-Sep-60	ST	Wedgewood Manor Inc	Wedgewood Lake	0		AF	84.00
17600	Salt Creek, Trib. To	21-Jul-97	ST	Hartland Homes North Homeowners Association	Hartland Homes North Pond	0		AF	12.00
17684	Salt Creek, Little, Trib. To	30-Jun-98	ST	Knudson	Knudson Reservoir	0		AF	23.00
17267	Salt Creek, Little, Trib. To	08-Apr-93	ST	Studebaker Farms Inc	Studebaker Reservoir	0		AF	29.94
18551	A. Nagel Pond	31-Oct-07	SO	Nagel	Pump	27.7		AF	32.00
18550	Salt Creek, Little, Trib. To	31-Oct-07	ST	Nagel	A. Nagel Pond			AF	32.00
16704	Salt Creek, Little	06-Sep-88	ST	Kuck Investment Partners LP	Hendricks Reservoir	0		AF	24.00
16705	Salt Creek, Little	06-Sep-88	FW	Kuck Investment Partners LP	Pump	0		CFS	1.67

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
13010	Salt Creek, Little, Trib. To	01-Apr-74	IR	Nagel	Pump	137	70	CFS	1.96
1837	Salt Creek	29-Jul-26	ST	City of Lincoln	University Duck Pond	0		AF	58.33
16045	Salt Creek	07-Jan-82	ST	Lower Platte South Natural Resources District	Nebraska Dog & Hunt Club,	0		AF	50.00
17485	Salt Creek, Trib. To	07-Sep-95	ST	City of Lincoln	Bluff Road Landfill Storm	0		AF	37.00
17389	Stevens Creek	02-Sep-94	ST	Lower Platte South Natural Resources District	Magee Reservoir	0		AF	62.70
18036	Stevens Creek, Trib. To	08-Feb-02	ST	Lower Platte South Natural Resources District	Stevens Creek Res. A2-1	0		AF	30.00
17979	Stevens Creek, Trib. To	24-Apr-01	ST	Korver	Heritage Lake	0		AF	134.00
18037	Stevens Creek, Trib. To	08-Feb-02	ST	Lower Platte South Natural Resources District	Stevens Creek Res. A3-2	0		AF	37.00
18038	Stevens Creek, Trib. To	08-Feb-02	ST	Lower Platte South Natural Resources District	Stevens Creek Res. A5-1	0		AF	21.90
18007	Stevens Creek, Trib. To	09-Aug-01	ST	Lower Platte South Natural Resources District	Stevens Creek Res. A6-1	0		AF	14.70
16483	Stevens Creek, Trib. To	14-Apr-86	ST	Hodtwalker	Hodtwalker Reservoir	0		AF	1.56
18005	Stevens Creek, Trib. To	09-Aug-01	ST	Lower Platte South Natural Resources District	Stevens Creek Res. A7-1	0		AF	33.10
17966	Stevens Creek, Trib. To	28-Mar-01	ST	Lower Platte South Natural Resources District	Stevens Creek Res. A9-6	0		AF	49.30
17967	Stevens Creek, Trib. To	28-Mar-01	ST	Lower Platte South Natural Resources District	Stevens Creek Res. A9-1	0		AF	14.40
18058	Stevens Creek, Trib. To	10-Apr-02	ST	Lower Platte South Natural Resources District	Stevens Creek Res. A11-2	0		AF	20.70
12756	Stevens Creek	31-Oct-72	IR	Whitney	Pump	100	70	CFS	1.43
12756	Stevens Creek	31-Oct-72	IR	Whitney	Pump	20	70	CFS	0.28
18006	Stevens Creek, Trib. To	09-Aug-01	ST	Lower Platte South Natural Resources District	Stevens Creek Res. A17-1	0		AF	123.50
18720	Stevens Creek, Trib. To	20-Sep-10	ST	Mueller	Marvin Mueller Reservoir			AF	26.00
17185	Stevens Creek, Trib. To	18-May-92	ST	Himark Golf Course	Himark Golf Course Res.	0		AF	9.80
17195	Himark Golf Course Res.	11-Jun-92	SO	Lammle	Pump	183.3		AF	9.69
18306	Stevens Creek, Trib. To	28-Apr-05	ST	Lower Platte South Natural Resources District	Waterford Estates Lake			AF	820.00
18616	Stevens Creek, Trib. To	24-Oct-08	SS	Lower Platte South Natural Resources District	Waterford Estates Lake			AF	147.70
8134	Stevens Creek	19-Sep-55	IR	Pester	Pump	8	140	CFS	0.06
17947	Stevens Creek	25-Jan-01	ST	City of Lincoln	Lincoln Wetland	0		AF	73.40
18044	Stevens Creek, Trib. To	25-Feb-02	ST	City of Lincoln	Mahoney Park Golf Course	0		AF	30.00
18045	Mahoney Golf Course Lower Pond	25-Feb-02	SO	City of Lincoln	Pump	110.1		AF	30.00
3031	Rock Creek	27-Nov-39	IR	Wotipka et ux	Pump	25	140	CFS	0.18
7846	Rock Creek	29-Jul-55	IR	Wotipka	Pump	23	140	CFS	0.16
15303	Rock Creek, Little, Trib. To	27-Jul-78	ST	Lower Platte South Natural Resources District	Marshalek Reservoir	0		AF	16.00
13857	Rock Creek	06-Nov-75	IR	Peterson	Pump	74.7	70	CFS	1.08
13857	Rock Creek	06-Nov-75	IR	Burklund	Pump	2.3	70	CFS	0.03
2225	Rock Creek	06-Aug-31	IR	Stark	Pump	75.6	70	CFS	1.08
14883	Hobson Branch	04-Apr-77	IR	Peterson	Pump	17.6	70	CFS	0.25
17830	Hobson Branch	23-Mar-00	ST	Jicka	Pat"s Pond	0		AF	2.50
16882	Rock Creek, Trib. To	31-Aug-89	ST	Nebraska Game & Parks Commission	Jack Sinn Wildlife	0		AF	19.70
17962	Ash Hollow Creek, Trib. To	05-Mar-01	ST	Lower Platte South Natural Resources District	Stewart Reservoir	0		AF	67.00
18131	Ash Hollow Creek, Trib. To	15-Jan-03	ST	Nebraska Game & Parks Commission	Jack Sinn Wildlife Mgmt	0		AF	20.90
18130	Ash Hollow Creek, Trib. To	15-Jan-03	ST	Nebraska Game & Parks Commission	Jack Sinn Wildlife Mgmt	0		AF	16.90
18129	Ash Hollow Creek, Trib. To	15-Jan-03	ST	Nebraska Game & Parks Commission	Jack Sinn Wildlife Mgmt	0		AF	26.30
17696	Ash Hollow Creek, Trib. To	28-Aug-98	ST	Nebraska Game & Parks Commission	Jack Sinn Wetland	0		AF	72.90
16520	Rock Creek	22-Aug-86	FW	Nebraska Game & Parks Commission	Pump	0			3.34
13592	Rock Creek, North Fork	27-May-75	IR	Custom Homes Inc	Pump	45	70	CFS	0.64
18132	Rock Creek, North Fork, Trib. To	15-Jan-03	ST	Nebraska Game & Parks Commission	Jack Sinn Wildlife Mgmt	0		AF	21.00
18133	Rock Creek, Trib. To	15-Jan-03	ST	Nebraska Game & Parks Commission	Jack Sinn Wildlife Mgmt	0		AF	18.30
11688	Rock Creek	17-Apr-69	IR	McGill et al	Pump	48	70	CFS	0.68
8365	Rock Creek	20-Feb-56	IR	McGill et al	Pump	124	140	CFS	0.89
5157	Rock Creek	10-Feb-53	IR	McGill et al	Pump	49	140	CFS	0.35
16782	Rock Creek	24-Apr-89	IR	Maher	Pump	54	70	CFS	0.77
6420	Rock Creek	12-Jul-54	IR	Blomstrom Marital Trust	Pump	123	140	CFS	0.88

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
8429	Rock Creek	16-Mar-56	IR	Otto & Otto	Pump	38	140	CFS	0.27
2382	Rock Creek	12-May-34	IR	Olson	Pump	32	70	CFS	0.46
4139	Rock Creek	03-Nov-47	IR	Meyer	Pump	44	140	CFS	0.31
8312	Rock Creek	11-Jan-56	IR	Meyer	Pump	55	140	CFS	0.39
7866	Rock Creek	04-Aug-55	IR	Mills Etal	Pump	151	140	CFS	1.08
2978	Rock Creek	29-Sep-39	IR	Landon	Pump	27.8	140	CFS	0.20
6002	Camp Creek	26-Feb-54	IR	Schuelke	Pump	11	140	CFS	0.08
11541	Camp Creek	12-Aug-68	IR	Wagey	Pump	120.5	70	CFS	1.72
9287	Dee Creek	05-Mar-57	IR	Claycomb	Pump	0	70	CFS	0.00
9287	Dee Creek	05-Mar-57	IR	Claycomb	Pump	33.8	70	CFS	0.48
9287	Dee Creek	05-Mar-57	IR	Claycomb	Pump	68.3	70	CFS	0.98
2326	Dee Creek	12-Jun-33	IR	Hilt	Pump	48.5	70	CFS	0.70
2326	Dee Creek	12-Jun-33	IR	Hilt	Pump	71.7	70	CFS	1.02
16666	Greenwood Creek	21-Jun-88	IR	Rikli	Pump	43.1	70	CFS	0.62
18576	Greenwood Creek	26-Mar-08	MF	Netal Inc	Pump			AF	0.15
10294	Greenwood Creek	31-Jan-64	IR	Strate	Pump	61	70	CFS	0.87
15915	Robinson Branch	06-Jul-81	IR	Landon Farms Inc	Pump	57.7	70	CFS	0.82
13671	Callahan Creek	22-Jul-75	IR	Vogler	Pump	102.9	70	CFS	1.47
18568	Callahan Creek	12-Feb-08	IR	Boller	Pump	20	70	CFS	0.29
9729	Callahan Creek	19-May-59	IR	Hilt Et Al	Pump	145	70	CFS	2.07
9839	Wahoo Creek	30-Jun-60	IR	PRB Farm	Pump	30	70	CFS	0.43
13898	Wahoo Creek	08-Dec-75	IR	Meduna Trust	Pump	50	70	CFS	0.71
15575	Wahoo Creek, South Fork	23-Aug-79	IR	Stuchlik Jr	Pump	31.1	70	CFS	0.44
8395	Wahoo Creek, South Fork	05-Mar-56	IR	Stuchlik Jr	Pump	77	140	CFS	0.55
15574	Wahoo Creek, South Fork	23-Aug-79	IR	Stuchlik Jr	Pump	77	140	CFS	0.55
8656	Wahoo Creek, South Fork	02-Jul-56	IR	Madigan	Pump	8	70	CFS	0.11
14364	Wahoo Creek, North Fork	30-Jul-76	IR	Shanahan	Pump	43.4	70	CFS	0.62
14364	Wahoo Creek, North Fork	30-Jul-76	IR	Shanahan & Shanahan	Pump	52.9	70	CFS	0.76
12449	Wahoo Creek, North Fork	29-Nov-71	IR	Lawver	Pump	79	70	CFS	1.13
10862	Dunlap Creek, Trib. To	07-Jun-66	IR	Kubalek	Pump	35.5	70	CFS	0.51
9452	Dunlap Creek	17-Apr-57	IR	Virgl	Pump	72.8	70	CFS	1.04
12084	Dunlap Creek	21-Sep-70	IR	Lawver	Pump	42	70	CFS	0.60
13897	Dunlap Creek	08-Dec-75	IR	Kros	Pump	50	70	CFS	0.71
11077	Wahoo Creek, North Fork	16-Mar-67	IR	Kresl	Pump	20	70	CFS	0.29
11539	Wahoo Creek, North Fork	12-Aug-68	IR	Kresl	Pump	39.3	70	CFS	0.56
8719	Wahoo Creek	06-Aug-56	IR	Schoen	Pump	30.2	70	CFS	0.43
17057	Wahoo Creek	15-Mar-91	IR	Trutna	Pump	61.3	70	CFS	0.88
3150	Wahoo Creek	06-May-40	IR	Lanik	Pump	89.4	140	CFS	0.64
12574	Wahoo Creek	03-Apr-72	IR	Styskal	Pump	51.7	70	CFS	0.74
16552	Cottonwood Creek	29-Apr-87	ST	Lower Platte North Natural Resources District	Cottonwood Creek	0		AF	1,328.00
12424	Cottonwood Creek, Trib. To	10-Nov-71	ST	Lower Platte North Natural Resources District	Cottonwood Reservoir 6-E	0		AF	98.50
10990	Cottonwood Creek, Trib. To	06-Dec-66	ST	Lower Platte North Natural Resources District	Cottonwood Reservoir 6-D	0		AF	200.80
11263	Cottonwood Creek, Trib. To	16-Oct-67	ST	Lower Platte North Natural Resources District	Cottonwood Reservoir 6-C	0		AF	199.10
14923	Cottonwood Creek, Trib. To	29-Apr-77	ST	Lower Platte North Natural Resources District	Cottonwood Reservoir 6-B	0		AF	124.40
11848	Cottonwood Creek, Trib. To	08-Jan-70	ST	Lower Platte North Natural Resources District	Cottonwood Reservoir 41-A	0		AF	79.50
10991	Cottonwood Creek, Trib. To	06-Dec-66	ST	Lower Platte North Natural Resources District	Cottonwood Reservoir 42-A	0		AF	84.60
12578	Cottonwood Creek, Trib. To	06-Apr-72	ST	Lower Platte North Natural Resources District	Cottonwood Reservoir 32-A	0		AF	71.00
15959	Cottonwood Creek, Trib. To	10-Aug-81	ST	Lower Platte North Natural Resources District	Cottonwood Reservoir 21-A	0		AF	210.70
16448	Cottonwood Creek, Trib. To	19-Sep-85	ST	Lower Platte North Natural Resources District	Cottonwood Reservoir 22-A	0		AF	509.00
13142	Cottonwood Creek	09-Aug-74	IR	Dauel	Pump	29	70	CFS	0.41

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
11724	Cottonwood Creek, Trib. To	11-Jun-69	ST	Lower Platte North Natural Resources District	Cottonwood Reservoir 23-A	0		AF	75.30
13140	Cottonwood Creek	08-Aug-74	IR	Kremlacek	Pump	116.9	70	CFS	1.67
8559	Cottonwood Creek	10-May-56	IR	Bern	Pump	27	135	CFS	0.20
8280	Cottonwood Creek	07-Dec-55	IR	Swanson	Pump	62	140	CFS	0.44
12965	Cottonwood Creek	21-Dec-73	IR	Swanson	Pump	67.7	70	CFS	0.97
10521	Cottonwood Creek	26-Jan-65	IR	Malchow	Pump	71.7	70	CFS	1.02
12060	Cottonwood Creek	17-Aug-70	IR	Trutna	Pump	62.2	70	CFS	0.89
11264	Cottonwood Creek, Trib. To	16-Oct-67	ST	Lower Platte North Natural Resources District	Cottonwood Reservoir 8-D	0		AF	186.39
14543	Wahoo Creek	09-Nov-76	IR	Sladky Trust	Pump	27.8	70	CFS	0.39
14543	Wahoo Creek	09-Nov-76	IR	Morrissey	Pump	33.5	70	CFS	0.48
11854	Wahoo Creek	22-Jan-70	IR	Lamprecht	Pump	124	70	CFS	1.77
18692	Sand Creek, Trib. To	19-Mar-10	ST	Lower Platte North Natural Resources District	Sand Creek Reservoir 24			AF	119.60
18696	Sand Creek, Trib. To	19-Mar-10	ST	Lower Platte North Natural Resources District	Sand Creek Site 13 Res.			AF	59.40
18697	Sand Creek, Trib. To	19-Mar-10	ST	Lower Platte North Natural Resources District	Sand Creek Site 15 Res.			AF	265.40
18698	Sand Creek, Trib. To	19-Mar-10	ST	Lower Platte North Natural Resources District	Sand Creek Site 16 Res.			AF	127.60
13322	Sand Creek	18-Dec-74	IR	Meduna	Pump	54	70	CFS	0.77
13945	Sand Creek	15-Jan-76	IR	Meduna	Pump	77.6	70	CFS	1.11
16818	Sand Creek	12-Jun-89	IR	McDermott Farms Inc	Pump	79.2	70	CFS	1.13
16810	Sand Creek	22-May-89	IR	Divis	Pump	20.7	70	CFS	0.29
8737	Duck Creek	10-Aug-56	IR	Murren	Pump	12	70	CFS	0.17
18693	Duck Creek, Trib to	19-Mar-10	ST	Lower Platte North Natural Resources District	Duck Creek Site 2 Res.			AF	117.00
18694	Duck Creek, Trib to	19-Mar-10	ST	Lower Platte North Natural Resources District	Duck Creek Site 3 Res.			AF	79.10
18695	Duck Creek, Trib to	19-Mar-10	ST	Lower Platte North Natural Resources District	Duck Creek Site 6 Res.			AF	161.00
8174	Sand Creek	21-Sep-55	IR	Murren	Pump	36	140	CFS	0.26
18343	Sand Creek	08-Sep-05	ST	Lower Platte North Natural Resources District	Lake Wanahoo			AF	7,150.00
8528	Sand Creek	30-Apr-56	IR	Dvorak	Pump	34.8	140	CFS	0.25
14542	Sand Creek	09-Nov-76	IR	Sladky Trust	Pump	62	70	CFS	0.89
14542	Sand Creek	09-Nov-76	IR	Morrissey	Pump	78.1	70	CFS	1.11
14543	Sand Creek	09-Nov-76	IR	Morrissey	Pump	70.6	70	CFS	1.01
8907	Wahoo Creek	16-Oct-56	IR	Lamprecht	Pump	203	70	CFS	2.90
14282	Wahoo Creek	22-Jun-76	IR	Treptow	Pump	152.7	70	CFS	2.18
9006	Wahoo Creek	29-Nov-56	IR	Noerenberg	Pump	20	70	CFS	0.29
9006	Wahoo Creek	29-Nov-56	IR	Hass	Pump	80	70	CFS	1.14
18121	Wahoo Creek	12-Dec-02	IR	Moline	Pump	179	70	CFS	2.56
13380	Wahoo Creek	03-Feb-75	IR	Lamprecht	Pump	276	70	CFS	3.94
18124	Wahoo Creek	23-Dec-02	IR	Lamprecht	Pump	71	70	CFS	1.01
13734	Wahoo Creek	13-Aug-75	IR	Schultze	Pump	146	70	CFS	2.09
13932	Wahoo Creek	12-Jan-76	IR	L & J Farms Inc	Pump	75.5	72	CFS	1.04
17997	Wahoo Creek	16-Jul-01	IR	Lamprecht	Pump	197	70	CFS	2.81
7613	Wahoo Creek	31-May-55	IR	Dieter LLC	Pump	278	140	CFS	1.99
14955	Wahoo Creek	24-May-77	IR	Moravec Irrevocable Trust	Pump	124	70	CFS	1.77
11594	Wahoo Creek	09-Dec-68	IR	Raikes Foundation Farms Inc	Pump	666.2	70	CFS	9.52
17518	Silver Creek	16-May-96	IR	Gustafson	Pump	44	70	CFS	0.63
16612	Silver Creek	22-Dec-87	IR	Houska & Houska	Pump	107.2	70	CFS	1.53
10204	Silver Creek	14-Jun-63	IR	Nygren	Pump	40	70	CFS	0.57
14436	Silver Creek	01-Sep-76	IR	Houska Jr	Pump	40	70	CFS	0.57
8298	Silver Creek	04-Jan-56	IR	Houska Jr	Pump	54	140	CFS	0.39
13861	Silver Creek	10-Nov-75	IR	Houska Jr	Pump	54	140	CFS	0.39
13861	Silver Creek	10-Nov-75	IR	Houska Jr	Pump	106	70	CFS	1.51
10220	Silver Creek	22-Jul-63	IR	Quick	Pump	59.9	70	CFS	0.85

AppNum	SourceID	PriorityDate	UseID	OwnerID	CarrierA	CurTotalAcres	rate	units	ProGrant
14363	Silver Creek	29-Jul-76	IR	Quick	Pump	208.4	70	CFS	2.98
5982	Silver Creek	24-Feb-54	IR	Treptow	Pump	145	140	CFS	1.04
4713	Silver Creek	23-Jun-50	IR	Goodding	Pump	145	140	CFS	1.05
15521	Silver Creek	13-Jul-79	IR	University of Nebraska	Pump	80	70	CFS	1.14
17998	Silver Creek	16-Jul-01	IR	Krejci	Pump	67	70	CFS	0.96
7614	Silver Creek	31-May-55	IR	Dieter LLC	Pump	40	140	CFS	0.29
15396	Silver Creek	23-Jan-79	IR	Dieter LLC	Pump	40	140	CFS	0.29
15396	Silver Creek	23-Jan-79	IR	Dieter LLC	Pump	70	70	CFS	1.00
5749	Wahoo Creek	24-Nov-53	IR	Keiser	Pump	95	140	CFS	0.68
17864	Wahoo Creek	06-Jun-00	IR	Keiser	Pump	95	140	CFS	0.68
17864	Wahoo Creek	06-Jun-00	IR	Keiser	Pump	2	200	CFS	0.01
17864	Wahoo Creek	06-Jun-00	IR	Keiser	Pump	16	70	CFS	0.23
5750	Wahoo Creek	24-Nov-53	IR	Raikes Foundation Farms Inc	Pump	136	140	CFS	0.97
5750	Wahoo Creek	24-Nov-53	IR	Keiser	Pump	2	200	CFS	0.01
2184	Wahoo Creek	30-Dec-30	ST	Wahoo Hunting Club	Ayr Lake	0		AF	480.00
5522	Wahoo Creek	31-Aug-53	IR	Marcy	Pump	222	140	CFS	1.59
11785	Wahoo Creek	25-Aug-69	IR	Judds	Pump	82.5	70	CFS	1.18
6631	Wahoo Creek	23-Aug-54	IR	Kolb Farms Inc	Pump	104	140	CFS	0.75
17526	Wahoo Creek	31-Jul-96	IR	Sipe	Pump	146.6	70	CFS	2.09
415	Silver Creek	##################	ST	Nebraska Game & Parks Commission	Armour & Company Res.	0		AF	10.00
8322	Silver Creek	19-Jan-56	IR	Reim	Pump	22	140	CFS	0.16
6632	Silver Creek	23-Aug-54	IR	Kolb Farms Inc	Pump	84	140	CFS	0.60
13192	Clear Creek	05-Sep-74	IR	Karloff Brothers	Pump	49.8	70	CFS	0.71
12023	Clear Creek	23-Jul-70	IR	Karloff Brothers	Pump	40	70	CFS	0.57
14657	Clear Creek	24-Jan-77	IR	Delmer & Kolb	Pump	281.9	70	CFS	4.03
17786	Johnson Creek, Trib. To	05-Aug-99	ST	Todd Valley Farms	Todd Valley Farms	0		AF	25.44
13073	Johnson Creek	12-Jul-74	ST	Lower Platte North Natural Resources District	Johnson Creek Res. 22-A	0		AF	487.00
8772	Clear Creek	24-Aug-56	IR	Allington	Pump	60	70	CFS	0.86
16656	Clear Creek	14-Jun-88	IR	Norris	Pump	150	70	CFS	2.15
14552	Wahoo Creek	12-Nov-76	IR	Stander Et Al	Pump	106.68	70	CFS	1.52
15718	Salt Creek, Trib. To	12-Sep-80	ST	Nebraska Lutheran Outdoor Ministeries	Camp Carol Joy Holling	0		AF	50.60
17312	Platte River	21-Jan-64	IG	City of Lincoln	Wellfield-End of Reach			CFS	
17312	Platte River	01-Jan-70	IG	City of Lincoln	Wellfield-End of Reach			CFS	
17312	Platte River	01-Jan-80	IG	City of Lincoln	Wellfield-End of Reach			CFS	
17312	Platte River	01-Jan-90	IG	City of Lincoln	Wellfield-End of Reach			CFS	
17312	Platte River	01-Jan-93	IG	City of Lincoln	Wellfield-End of Reach			CFS	
16522	Pawnee Creek, Trib. To	17-Sep-86	ST	Nebraska Game & Parks Commission	E T Mahoney State Park	0		AF	32.40
18699	Platte River, Trib. To	09-Apr-10	ST	Nebraska Game & Parks Commission	Jenny Newman Lake			AF	33.77
16872	Pawnee Creek, Trib. To	10-Aug-89	ML	Nebraska Game & Parks Commission	Pump	0		AF	162.00
16895	Pawnee Creek, Trib. To	09-Nov-89	ST	Nebraska Game & Parks Commission	U S West Lake	0		AF	140.00
10178	Platte River, Trib. To	17-Apr-63	ST	Armbrust	Thousand Oaks Lake	0		AF	29.10
15968	Armbrust Creek	19-Aug-81	SS	Patterson	Thousand Oaks Lake	0		AF	29.10
12543	Platte River, Trib. To	14-Mar-72	ST	Nebraska Game & Parks Commission	Gretna Fish Hatchery	0		AF	1.89
7796	Fountain Creek	25-Jul-55	IR	Vervaeke	Pump	30	140	CFS	0.21
16645	Decker Creek, Trib. To	11-May-88	ST	Lower Platte South Natural Resources District	Reservoir 16-11-11	0		AF	29.50
15856	Decker Creek, Trib. To	27-Apr-81	ST	OBrien	O'Brien Reservoir	0		AF	72.20
15929	O'brien Reservoir	14-Jul-81	SO	OBrien	Pump	133.4		AF	0.00

Appendix C – Municipal Well Pumping Data

Appendix C contains pumping records from the majority of large well fields in the central Platte River Valley. The source of this information was the Central Platte Natural Resources District (September 2010).

Annual Municipal Pumpage Data

YEAR	MUNICIPALITY	TOTAL PUMPED (Gallons)	TOTAL DISCHARGED (Gallons)
1997	CITY OF COZAD	645,853,000.00	218,800,000.00
2001	CITY OF COZAD	325,271,000.00	117,600,000.00
2002	CITY OF COZAD	935,531,000.00	213,200,000.00
2003	CITY OF COZAD	572,653,000.00	185,400,000.00
2004	CITY OF COZAD	504,627,000.00	214,900,000.00
2005	CITY OF COZAD	544,418,000.00	212,500,000.00
2006	CITY OF COZAD	331,657,000.00	
1997	CITY OF WOOD RIVER	125,900,000.00	30,000,000.00
1998	CITY OF WOOD RIVER	125,300,000.00	33,300,000.00
1999	CITY OF WOOD RIVER	121,800,000.00	37,500,000.00
2000	CITY OF WOOD RIVER	159,800,000.00	46,900,000.00
2001	CITY OF WOOD RIVER	149,300,000.00	50,400,000.00
2002	CITY OF WOOD RIVER	143,900,000.00	38,900,000.00
2003	CITY OF WOOD RIVER	116,300,000.00	36,700,000.00
2004	CITY OF WOOD RIVER	109,000,000.00	39,300,000.00
2005	CITY OF WOOD RIVER	137,600,000.00	45,900,000.00
2006	CITY OF WOOD RIVER	127,600,000.00	39,800,000.00
2007	CITY OF WOOD RIVER	106,200,000.00	42,900,000.00
2008	CITY OF WOOD RIVER	90,000,000.00	43,200,000.00
2009	CITY OF WOOD RIVER	76,100,000.00	40,400,000.00
1999	VILLAGE OF ELM CREEK	83,900,000.00	13,200,000.00
2000	VILLAGE OF ELM CREEK	109,500,000.00	34,500,000.00
2001	VILLAGE OF ELM CREEK	103,000,000.00	33,700,000.00
2002	VILLAGE OF ELM CREEK	130,900,000.00	31,600,000.00
2003	VILLAGE OF ELM CREEK	115,000,000.00	31,900,000.00
2004	VILLAGE OF ELM CREEK	111,500,000.00	35,400,000.00
2005	VILLAGE OF ELM CREEK	107,100,000.00	32,800,000.00
2006	VILLAGE OF ELM CREEK	108,700,000.00	34,000,000.00
2007	VILLAGE OF ELM CREEK	89,600,000.00	30,000,000.00
2008	VILLAGE OF ELM CREEK	52,800,000.00	29,200,000.00
2009	VILLAGE OF ELM CREEK	51,800,000.00	16,300,000.00
1999	VILLAGE OF CAIRO	58,158,000.00	40,000,000.00
2001	VILLAGE OF CAIRO	71,920,000.00	30,000,000.00
2002	VILLAGE OF CAIRO	74,572,000.00	26,000,000.00
2003	VILLAGE OF CAIRO	74,714,000.00	27,000,000.00
2004	VILLAGE OF CAIRO	66,604,000.00	35,000,000.00
2005	VILLAGE OF CAIRO	76,420,000.00	35,000,000.00
2006	VILLAGE OF CAIRO	71,173,000.00	19,000,000.00
2007	VILLAGE OF CAIRO	57,903,000.00	35,000,000.00
2008	VILLAGE OF CAIRO	57,493,000.00	29,000,000.00
2009	VILLAGE OF CAIRO	57,723,000.00	21,500,000.00
2006	VILLAGE OF CLARKS	22,557,000.00	12,950,000.00
2007	VILLAGE OF CLARKS	18,689,000.00	14,950,000.00
2008	VILLAGE OF CLARKS	17,272,000.00	13,141,000.00
2009	VILLAGE OF CLARKS	15,901,000.00	12,299,000.00
2003	VILLAGE OF ALDA	52,800,000.00	4,068,000.00
2004	VILLAGE OF ALDA	52,600,000.00	6,020,000.00

Annual Municipal Pumpage Data

YEAR	MUNICIPALITY	TOTAL PUMPED (Gallons)	TOTAL DISCHARGED (Gallons)
2008	VILLAGE OF ALDA	40,700,000.00	22,809,000.00
2009	VILLAGE OF ALDA	37,200,000.00	18,173,000.00
2006	VILLAGE OF SHELTON	3,400,000.00	45,600,000.00
2007	VILLAGE OF SHELTON	99,200,000.00	45,600,000.00
2008	VILLAGE OF SHELTON	84,300,000.00	45,600,000.00
2009	VILLAGE OF SHELTON	80,900,000.00	45,600,000.00
1997	CITY OF GOTHENBURG	406,706,072.00	169,678,000.00
1998	CITY OF GOTHENBURG	439,437,000.00	183,832,000.00
1999	CITY OF GOTHENBURG	414,001,000.00	190,169,000.00
2000	CITY OF GOTHENBURG	492,176,000.00	177,011,000.00
2001	CITY OF GOTHENBURG	454,795,000.00	170,807,000.00
2002	CITY OF GOTHENBURG	510,824,000.00	176,264,000.00
2003	CITY OF GOTHENBURG	459,406,000.00	171,890,000.00
2004	CITY OF GOTHENBURG	441,583,000.00	177,402,000.00
2005	CITY OF GOTHENBURG	446,148,000.00	162,378,000.00
2006	CITY OF GOTHENBURG	449,285,000.00	163,904,000.00
2007	CITY OF GOTHENBURG	391,391,000.00	178,032,000.00
2008	CITY OF GOTHENBURG	342,780,000.00	218,799,000.00
2009	CITY OF GOTHENBURG	308,540,000.00	200,353,000.00
1997	CITY OF GRAND ISLAND	4,303,495,602.00	3,952,729,100.00
1998	CITY OF GRAND ISLAND	4,948,055,227.00	4,555,953,800.00
1999	CITY OF GRAND ISLAND	5,381,352,597.00	4,313,920,600.00
2000	CITY OF GRAND ISLAND	5,835,098,414.00	3,482,619,100.00
2001	CITY OF GRAND ISLAND	7,140,868,062.00	3,614,606,000.00
2002	CITY OF GRAND ISLAND	7,033,952,110.00	3,324,558,300.00
2003	CITY OF GRAND ISLAND	6,072,650,204.00	3,477,504,800.00
2004	CITY OF GRAND ISLAND	4,737,108,170.00	3,517,548,200.00
2005	CITY OF GRAND ISLAND	5,063,776,851.00	4,851,108,100.00
2006	CITY OF GRAND ISLAND	5,064,468,729.00	4,248,103,600.00
2007	CITY OF GRAND ISLAND	4,870,525,375.00	4,274,939,800.00
2008	CITY OF GRAND ISLAND	4,897,331,334.00	4,696,964,800.00
1997	CITY OF KEARNEY	2,332,239,000.00	1,151,390,000.00
1998	CITY OF KEARNEY	2,190,185,000.00	1,372,030,000.00
1999	CITY OF KEARNEY	2,221,557,000.00	1,520,480,000.00
2000	CITY OF KEARNEY	2,503,621,000.00	1,427,200,000.00
2001	CITY OF KEARNEY	2,435,192,000.00	1,447,130,000.00
2002	CITY OF KEARNEY	2,606,107,000.00	1,347,120,000.00
2003	CITY OF KEARNEY	2,582,612,000.00	1,320,970,000.00
2004	CITY OF KEARNEY	2,256,648,000.00	1,319,050,000.00
2005	CITY OF KEARNEY	2,340,426,000.00	1,340,070,000.00
2006	CITY OF KEARNEY	2,298,408,000.00	1,380,190,000.00
2007	CITY OF KEARNEY	2,094,097,000.00	1,480,570,000.00
2008	CITY OF KEARNEY	1,935,217,000.00	1,370,060,000.00
2009	CITY OF KEARNEY	1,947,239,000.00	1,306,540,000.00

Monthly Municipal Well Pumpage Data

MUNI - ID	MUNI_YEAR	MUNI_JAN	MUNI_FEB	MUNI_MAR	MUNI_APR	MUNI_MAY	MUNI_JUN	MUNI_JUL	MUNI_AUG	MUNI_SEP	MUNI_OCT	MUNI_NOV	MUNI_DEC	TOTAL PUMPED	CALC PUMPED
WR-M	1997	8,200,000	6,800,000	7,500,000	7,900,000	13,000,000	14,000,000	24,200,000	13,200,000	10,400,000	8,700,000	5,700,000	6,300,000	125,900,000	125,900,000
WR-M	1998	4,000,000	5,300,000	5,800,000	12,700,000	10,600,000	11,000,000	15,400,000	16,000,000	19,700,000	10,500,000	6,800,000	7,500,000	125,300,000	125,300,000
WR-M	1999	6,700,000	6,400,000	7,800,000	7,200,000	8,400,000	8,000,000	20,100,000	12,400,000	15,100,000	12,300,000	10,800,000	6,600,000	121,800,000	121,800,000
WR-M	2000	8,600,000	7,200,000	9,100,000	11,400,000	16,900,000	22,400,000	17,600,000	23,000,000	17,200,000	10,700,000	7,300,000	8,400,000	159,800,000	159,800,000
WR-M	2001	9,200,000	6,300,000	7,900,000	8,500,000	13,500,000	20,000,000	22,300,000	22,100,000	10,800,000	12,500,000	9,400,000	6,800,000	149,300,000	149,300,000
WR-M	2002	7,800,000	5,900,000	7,600,000	10,400,000	13,100,000	21,900,000	25,900,000	18,700,000	12,300,000	7,800,000	6,100,000	6,400,000	143,900,000	143,900,000
WR-M	2003	6,400,000	6,200,000	5,900,000	7,100,000	9,000,000	8,300,000	19,200,000	17,800,000	14,100,000	10,700,000	4,900,000	6,700,000	116,300,000	116,300,000
WR-M	2004	5,400,000	4,900,000	4,800,000	8,400,000	10,000,000	14,900,000	12,800,000	15,200,000	13,200,000	7,600,000	5,300,000	6,500,000	109,000,000	109,000,000
WR-M	2005	7,200,000	7,000,000	6,700,000	7,800,000	12,500,000	14,100,000	23,600,000	13,900,000	19,700,000	10,100,000	7,800,000	7,200,000	137,600,000	137,600,000
WR-M	2006	5,800,000	5,800,000	6,600,000	9,000,000	15,600,000	20,800,000	18,600,000	14,900,000	11,200,000	7,900,000	5,400,000	6,000,000	127,600,000	127,600,000
WR-M	2007	6,000,000	5,900,000	8,500,000	6,800,000	9,700,000	13,500,000	15,300,000	12,900,000	11,600,000	6,500,000	5,400,000	4,100,000	106,200,000	106,200,000
WR-M	2008	4,400,000	5,300,000	4,400,000	5,200,000	7,100,000	8,100,000	14,200,000	15,100,000	9,600,000	6,300,000	4,700,000	5,600,000	90,000,000	90,000,000
WR-M	2009	5,300,000	4,400,000	4,300,000	4,900,000	8,900,000	6,600,000	10,700,000	9,600,000	6,400,000	4,900,000	4,400,000	5,700,000	76,100,000	76,100,000
OV-M	2002	2,845,000	2,384,000	3,456,000	4,854,000	4,609,000	6,216,000	7,019,000	3,974,000	1,341,000	1,514,000	1,182,000	1,146,000	40,540,000	40,540,000
OV-M	2003	896,000	1,527,000	2,209,000	1,838,000	1,254,000	2,229,000	4,265,000	4,284,000	2,126,000	1,829,000	1,420,000	1,316,000	25,193,000	25,193,000
OV-M	2004	1,223,000	1,450,000	1,444,000	1,965,000	2,491,000	2,964,000	1,889,000	3,016,000	2,308,000	1,107,000	1,461,000	1,195,000	22,513,000	22,513,000
OV-M	2005	1,688,000	1,183,000	1,429,000	1,904,000	2,604,000	2,046,000	4,043,000	2,842,000	2,181,000	1,794,000	1,559,000	1,224,000	24,497,000	24,497,000
OV-M	2006	1,442,000	2,219,000	1,619,000	2,233,000	3,939,000	3,942,000	4,102,000	2,524,000	2,089,000	2,064,000	1,747,000	1,635,000	29,555,000	29,555,000
DU-M	2006	1,232,900	1,083,000	1,181,700	1,665,500	2,900,200	4,800,000	4,700,000	3,300,000	2,300,000	1,700,000	1,300,000	820,100	26,983,400	26,983,400
DU-M	2007	1,200,000	1,000,000	1,200,000	8,600,000	5,600,000	3,400,000	3,800,000	2,200,000	2,300,000	1,600,000	1,200,000	1,000,000	33,100,000	33,100,000
DU-M	2008	1,200,000	1,200,000	1,100,000	1,200,000	1,800,000	2,100,000	3,300,000	3,600,000	2,400,000	1,800,000	1,300,000	1,300,000	22,300,000	22,300,000
DU-M	2009	1,400,000	1,200,000	1,300,000	1,500,000	7,000,000	2,900,000	3,900,000	3,300,000	3,200,000	1,200,000	1,000,000	1,300,000	29,200,000	29,200,000
EC-M	1997	4,100,000	3,900,000	4,400,000	5,400,000	10,600,000	15,900,000	25,600,000	12,100,000	7,400,000	5,900,000	3,700,000	3,800,000	102,800,000	102,800,000
EC-M	1998	4,000,000	3,300,000	3,800,000	4,400,000	9,300,000	11,700,000	13,300,000	15,700,000	15,500,000	5,200,000	4,000,000	4,400,000	94,600,000	94,600,000
EC-M	1999	4,100,000	3,600,000	4,300,000	4,600,000	6,000,000	6,500,000	16,900,000	8,800,000	9,400,000	8,200,000	7,300,000	4,200,000	83,900,000	83,900,000
EC-M	2000	4,400,000	3,900,000	4,500,000	7,600,000	12,000,000	13,200,000	11,600,000	17,700,000	16,000,000	8,600,000	4,800,000	5,200,000	109,500,000	109,500,000
EC-M	2001	5,200,000	4,300,000	3,800,000	5,200,000	8,000,000	17,200,000	17,200,000	13,400,000	9,600,000	7,400,000	6,300,000	5,400,000	103,000,000	103,000,000
EC-M	2002	5,500,000	4,900,000	5,800,000	10,100,000	10,700,000	21,300,000	25,800,000	12,900,000	13,800,000	7,500,000	6,000,000	6,600,000	130,900,000	130,900,000
EC-M	2003	6,500,000	5,400,000	7,100,000	7,700,000	7,700,000	8,300,000	21,400,000	19,300,000	12,200,000	8,900,000	5,200,000	5,300,000	115,000,000	115,000,000
EC-M	2004	5,700,000	5,300,000	6,100,000	8,200,000	12,200,000	15,500,000	11,700,000	16,400,000	13,800,000	6,300,000	5,100,000	5,200,000	111,500,000	111,500,000
EC-M	2005	5,100,000	4,300,000	5,000,000	6,900,000	9,900,000	10,800,000	21,200,000	12,500,000	12,600,000	8,700,000	5,000,000	5,100,000	107,100,000	107,100,000
EC-M	2006	4,900,000	4,500,000	5,100,000	7,700,000	17,600,000	16,000,000	17,600,000	10,600,000	7,800,000	6,400,000	5,300,000	5,200,000	108,700,000	108,700,000
EC-M	2007	5,300,000	4,800,000	5,100,000	5,800,000	7,800,000	10,300,000	13,000,000	10,500,000	10,200,000	6,700,000	5,300,000	4,800,000	89,600,000	89,600,000
EC-M	2008	5,100,000	5,400,000	5,500,000	5,100,000	6,200,000			9,400,000	6,000,000	4,800,000		5,300,000	52,800,000	52,800,000
EC-M	2009		4,300,000	4,800,000	4,900,000	7,200,000	6,900,000	12,200,000	11,500,000					51,800,000	51,800,000
EU-M	1997	2,353,000	2,034,000	284,000	3,378,000	7,832,000	9,523,000	17,599,000	8,570,000	8,216,000	4,341,000	2,521,000	2,524,000	69,175,000	69,175,000
EU-M	1998	2,530,000	2,284,000	2,634,000	4,836,000	8,626,000	9,717,000	12,800,000	9,062,000	11,975,000	3,606,000	2,302,000	2,397,000	72,769,000	72,769,000
EU-M	1999	2,515,000	2,342,000	2,839,000	3,010,000	4,557,000	5,520,000	13,265,000	6,399,000	7,799,000	6,469,000	5,352,000	2,178,000	62,245,000	62,245,000
EU-M	2000	2,688,000	2,094,000	2,255,000	6,789,000	7,795,000	11,786,000	10,085,000	14,645,000	10,871,000	5,959,000	2,329,000	2,344,000	79,640,000	79,640,000
EU-M	2001	2,120,000	1,949,000	2,253,000	2,568,000	6,131,000	12,495,000	14,477,000	8,913,000	5,864,000	4,313,000	3,498,000	2,128,000	66,709,000	66,709,000
EU-M	2002	1,981,000	1,703,000	2,113,000	5,817,000	7,602,000	11,737,000	16,985,000	10,293,000	9,622,000	4,531,000	2,052,000	2,421,000	76,857,000	76,857,000
EU-M	2003	2,212,000	1,707,000	2,138,000	2,753,000	3,262,000	4,175,000	11,141,000	10,601,000	7,399,000	5,625,000	2,352,000	2,292,000	55,657,000	55,657,000
EU-M	2004	2,671,000	2,291,000	2,884,000	3,898,000	8,002,000	7,821,000	5,406,000	10,161,000	7,170,000	2,765,000	2,576,000	1,997,000	57,642,000	57,642,000
EU-M	2005	2,048,000	1,847,000	2,286,000	2,568,000	5,613,000	6,193,000	12,881,000	7,452,000	6,746,000	4,339,000	2,322,000	2,072,000	56,367,000	56,367,000
EU-M	2006	2,039,000	1,720,000	2,040,000	4,113,000	10,727,000	9,351,000	9,604,000	5,699,000	4,568,000	3,336,000	2,052,000	1,773,000	57,022,000	57,022,000
EU-M	2007	2,393,000	2,057,000	2,110,000	1,850,000	4,091,000	5,387,000	6,191,000	5,194,000	4,725,000	3,324,000	2,255,000	1,818,000	41,395,000	41,395,000
EU-M	2008	1,827,000	2,146,000	2,156,000	2,215,000	2,598,000	3,289,000	5,844,000	5,743,000	5,314,000	3,303,000	2,141,000	2,313,000	38,889,000	38,889,000
EU-M	2009	2,483,000	1,861,000	1,887,000	1,885,000	3,809,000	3,340,000	5,268,000	4,911,000	3,657,000	2,332,000	2,014,000	2,198,000	35,645,000	35,645,000
CA-M	1997													55,930,000	0
CA-M	1998													53,597,000	0
CA-M	1999	3,332,000	2,824,000	2,085,000	3,000,000	2,702,000	3,505,000	16,803,000	5,937,000	5,829,000	4,512,000	4,762,000	2,863,000	58,158,000	58,154,000
CA-M	2000	2,108,000	2,154,000	2,757,000	4,047,000	4,047,000	7,025,000	7,025,000	9,468,000	4,809,000	4,531,000	4,180,000	2,247,000	54,398,000	54,398,000
CA-M	2001	3,884,000	2,292,000	3,113,000	2,693,000	6,455,000	18,968,000	13,069,000	5,328,000	4,799,000	4,418,000	3,669,000	3,232,000	71,920,000	71,920,000
CA-M	2002	2,648,000	3,437,000	1,997,000	5,737,000	9,975,000	9,977,000	12,327,000	10,891,000	6,630,000	5,098,000	2,663,000	3,192,000	74,572,000	74,572,000
CA-M	2003	3,853,000	2,895,000	3,509,000	4,169,000	5,127,000	6,594,000	15,642,000	13,805,000	7,460,000	7,267,000	2,231,000	2,162,000	74,714,000	74,714,000
CA-M	2004	2,250,000	4,312,000	3,661,000	3,545,000	7,663,000	9,112,000	7,230,000	11,333,000	8,251,000	2,754,000	3,461,000	3,032,000	66,604,000	66,604,000
CA-M	2005	2,347,000	3,007,000	2,993,000	3,900,000	6,224,000	7,364,000	14,765,000	13,491,000	13,722,000	2,881,000	2,884,000	2,842,000	76,420,000	76,420,000
CA-M	2006	2,601,000	2,766,000	2,172,000	3,910,000	13,287,000	12,915,000	10,089,000	8,125,000	5,647,000	3,434,000	2,883,000	3,344,000	71,173,000	71,173,000
CA-M	2007	2,768,000	2,757,000	3,243,000	3,019,000	4,524,000	5,655,000	12,854,000	5,823,000	6,377,000	4,177,000	3,252,000	3,454,000	57,903,000	57,903,000

Monthly Municipal Well Pumpage Data

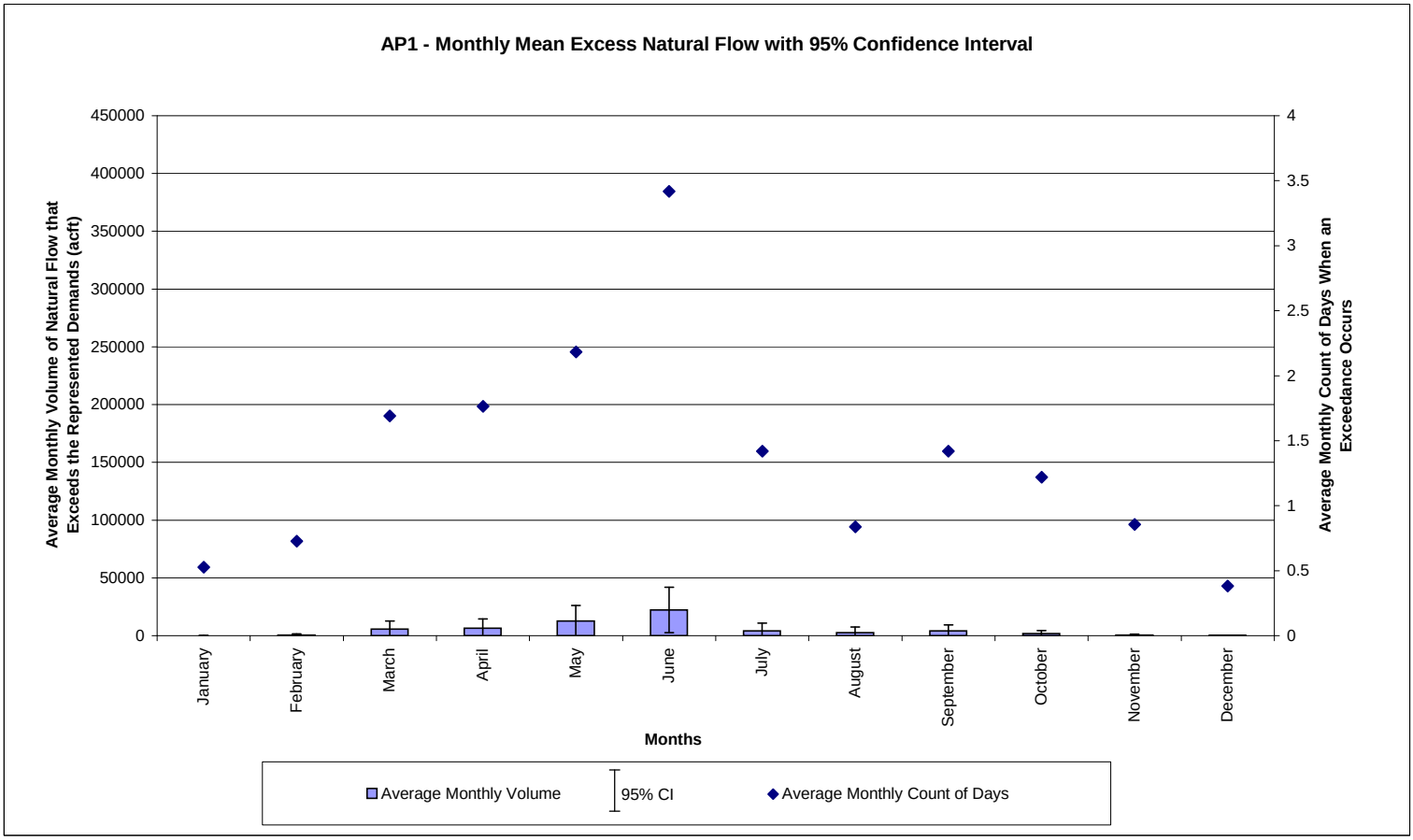
MUNI - ID	MUNI_YEAR	MUNI_JAN	MUNI_FEB	MUNI_MAR	MUNI_APR	MUNI_MAY	MUNI_JUN	MUNI_JUL	MUNI_AUG	MUNI_SEP	MUNI_OCT	MUNI_NOV	MUNI_DEC	TOTAL PUMPED	CALC PUMPED
CA-M	2008	2,466,000	2,681,000	2,751,000	2,542,000	3,253,000	3,524,000	10,509,000	13,085,000	5,921,000	4,750,000	2,810,000	3,201,000	57,493,000	57,493,000
CA-M	2009	3,942,000	3,087,000	3,251,000	3,984,000	5,835,000	3,703,000	10,304,000	6,752,000	5,257,000	4,671,000	4,098,000	3,839,000	57,723,000	58,723,000
CL-M	2006													22,557,000	0
CL-M	2007													18,689,000	0
CL-M	2008													17,272,000	0
CL-M	2009													15,901,000	0
AL-M	1997	2,700,000	1,800,000	3,300,000	900,000	4,300,000	8,900,000	7,800,000	3,400,000	3,500,000	2,100,000	2,600,000	1,700,000	43,000,000	0
AL-M	1998	2,200,000	2,400,000	2,500,000	3,200,000	4,300,000	4,100,000	8,100,000	6,700,000	6,300,000	3,300,000	2,100,000	3,000,000	48,200,000	0
AL-M	1999	2,300,000	1,900,000	2,600,000	2,300,000	3,500,000	3,100,000	6,300,000	7,900,000	4,900,000	4,000,000	4,900,000	1,100,000	44,800,000	0
AL-M	2000	3,400,000	2,300,000	2,900,000	3,600,000	6,200,000	11,800,000	7,000,000	6,400,000	8,900,000	3,700,000	2,600,000	2,500,000	61,300,000	0
AL-M	2001	1,900,000	2,100,000	2,600,000	2,300,000	4,200,000	9,600,000	9,300,000	7,900,000	4,400,000	3,600,000	3,800,000	2,800,000	54,500,000	0
AL-M	2002	1,600,000	2,800,000	3,100,000	3,700,000	4,400,000	8,800,000	7,900,000	5,500,000	4,400,000	2,800,000	2,100,000	3,000,000	50,100,000	0
AL-M	2003	2,900,000	2,900,000	2,300,000	2,700,000	3,200,000	3,300,000	8,800,000	10,600,000	6,000,000	5,300,000	2,200,000	2,600,000	52,800,000	0
AL-M	2004	3,500,000	2,500,000	2,200,000	4,800,000	4,300,000	7,000,000	6,500,000	7,400,000	6,000,000	3,400,000	2,300,000	2,700,000	52,600,000	0
AL-M	2005	2,800,000	2,300,000	2,200,000	3,000,000	4,500,000	5,000,000	10,700,000	6,500,000	5,100,000	4,400,000	2,400,000	2,900,000	51,800,000	0
AL-M	2006	2,200,000	2,100,000	2,800,000	2,100,000	5,500,000	8,200,000	9,100,000	4,800,000	3,400,000	2,900,000	2,600,000	2,000,000	47,700,000	0
AL-M	2007	2,900,000	2,300,000	2,700,000	1,700,000	3,900,000	6,500,000	6,400,000	5,700,000	3,300,000	2,300,000	2,900,000	2,000,000	42,600,000	0
AL-M	2008	2,300,000	2,800,000	2,600,000	2,200,000	3,200,000	3,100,000	5,800,000	6,800,000	3,900,000	3,000,000	2,000,000	3,000,000	40,700,000	0
AL-M	2009	2,500,000	2,200,000	2,300,000	2,400,000	4,700,000	2,900,000	6,600,000	3,900,000	3,200,000	2,400,000	1,300,000	2,800,000	37,200,000	0
SH-M	2006												3,400,000	3,400,000	0
SH-M	2007	6,000,000	5,700,000	6,300,000	7,300,000	8,200,000	10,200,000	16,900,000	11,100,000	9,200,000	9,300,000	4,700,000	4,300,000	99,200,000	0
SH-M	2008	3,900,000	3,900,000	3,800,000	4,400,000	6,900,000	8,500,000	12,000,000	13,000,000	10,800,000	7,100,000	5,000,000	5,000,000	84,300,000	0
SH-M	2009	4,900,000	3,400,000	3,800,000	4,500,000	8,000,000	7,600,000	14,800,000	12,600,000	7,600,000	4,600,000	4,100,000	5,000,000	80,900,000	0
AM-M	1997	2,406,600	2,198,600	2,895,800	2,839,300	4,921,000	8,765,600	9,860,100	7,628,300	5,026,450	1,566,100	1,642,950	1,926,000	51,676,800	0
AM-M	1998	2,552,000	1,598,400	1,878,100	1,862,700	4,056,600	2,376,800	8,840,600	1,976,900	3,967,300	2,340,200	2,114,950	1,775,800	35,340,350	0
AM-M	1999	1,751,100	1,807,800	2,330,000	1,797,300	3,053,300	3,318,200	8,658,950	0	0	12,449,410	3,647,600	2,496,800	41,310,460	0
AM-M	2000													12,202,300	0
AM-M	2001	2,191,400	2,131,300	3,538,400	7,060,600	4,566,900	0	0	0	16,708,700	13,968,000	8,942,500	2,754,200	61,862,000	0
AM-M	2002	2,707,300	2,172,900	1,948,800	5,888,100	3,218,200	10,374,700	5,555,500	0	8,352,300	11,834,500	3,056,600	4,128,900	59,237,800	0
AM-M	2003	2,588,200	2,650,800	3,880,200	3,071,600	3,135,200	5,915,200	10,101,300	8,648,600	5,843,700	5,824,700	2,506,200	3,038,800	57,204,500	0
AM-M	2004	2,526,100	2,615,900	3,513,000	3,600,600	3,102,050	5,714,900	10,731,400	10,552,600	5,636,700	3,105,300	4,521,700	3,122,900	58,743,150	0
AM-M	2005	3,399,100	2,715,000	4,105,200	3,628,400	5,378,000	6,186,500	11,344,600	8,629,200	6,084,300	4,755,160	3,100,300	3,097,900	62,423,660	0
AM-M	2006	3,546,300	3,322,900	3,334,000	3,938,600	10,217,400	9,236,200	9,146,300	3,353,800	3,249,000	3,573,000	4,042,600	4,117,400	61,077,500	0
AM-M	2007	3,212,100	3,434,300	2,963,700	3,344,200	4,331,000	5,365,700	3,286,500	10,054,700	3,118,500	4,425,300	3,085,200	3,996,100	50,617,300	0
AM-M	2008	4,237,300	3,481,700	3,228,000	3,146,300	3,132,200	3,149,500	2,955,400	8,023,500	3,130,400	1,762,200	2,262,500	3,163,700	41,672,700	0
AM-M	2009	2,500,000	2,477,600	3,186,400	2,022,000	3,639,000	4,828,000	5,090,000	5,340,000	9,937,100	1,209,000	0	5,090,000	45,319,100	0
GO-M	1997	19,992,000	16,890,000	19,482,000	22,248,000	48,246,000	47,053,000	79,218,000	43,886,000	41,022,000	29,331,000	18,985,000	20,353,000	406,706,072	0
GO-M	1998	19,514,000	16,443,000	18,428,000	28,370,000	55,421,000	45,309,000	70,676,000	61,105,000	62,507,000	28,309,000	15,897,000	17,458,000	439,437,000	0
GO-M	1999	18,465,000	16,105,000	19,383,000	21,210,000	27,652,000	41,281,000	78,328,000	58,208,000	46,719,000	38,647,000	29,129,000	18,874,000	414,001,000	0
GO-M	2000	18,639,000	16,579,000	19,822,000	42,108,000	51,004,000	73,119,000	56,023,000	79,764,000	59,861,000	37,229,000	19,269,000	18,759,000	492,176,000	0
GO-M	2001	19,136,000	17,032,000	18,320,000	22,645,000	44,172,000	65,155,000	85,808,000	59,335,000	44,620,000	34,016,000	24,392,000	20,164,000	454,795,000	0
GO-M	2002	20,212,000	17,014,000	19,221,000	35,031,000	55,663,000	81,966,000	102,733,000	62,029,000	54,119,000	27,978,000	16,854,000	18,004,000	510,824,000	0
GO-M	2003	19,355,000	17,007,000	22,349,000	27,435,000	35,383,000	41,069,000	85,010,000	76,266,000	57,048,000	42,708,000	18,220,000	17,556,000	459,406,000	0
GO-M	2004	19,502,000	18,913,000	24,645,000	36,057,000	57,010,000	57,312,000	54,320,000	57,993,000	49,408,000	28,945,000	18,851,000	18,627,000	441,583,000	0
GO-M	2005	19,154,000	17,127,000	20,335,000	26,375,000	44,619,000	48,131,000	76,946,000	58,364,000	60,183,000	34,547,000	21,086,000	19,281,000	446,148,000	0
GO-M	2006	19,396,000	18,538,000	20,283,000	32,100,000	65,654,000	64,228,000	64,241,000	56,303,000	40,529,000	28,225,000	20,236,000	19,552,000	449,285,000	0
GO-M	2007	20,844,000	20,380,000	21,417,000	22,626,000	36,617,000	45,756,000	51,742,000	56,258,000	43,930,000	28,592,000	22,290,000	20,939,000	391,391,000	0
GO-M	2008	21,977,000	20,052,000	20,708,000	22,409,000	26,664,000	33,550,000	50,755,000	45,726,000	37,381,000	25,262,000	18,171,000	20,125,000	342,780,000	0
GO-M	2009	20,805,000	17,806,000	19,638,000	21,007,000	31,490,000	30,089,000	42,202,000	37,169,000	31,647,000	19,423,000	17,534,000	19,730,000	308,540,000	0
GI-M	1997	416,721,364	318,871,000	285,355,600	281,410,637	367,345,050	435,959,950	604,605,700	412,619,250	372,387,000	335,791,976	236,479,700	235,948,375	4,303,495,602	0
GI-M	1998	339,286,594	224,838,270	258,177,515	240,879,972	388,541,317	416,139,264	638,330,295	505,527,867	626,998,602	487,581,131	355,473,450	466,280,950	4,948,055,227	0
GI-M	1999	403,928,070	365,717,436	432,626,215	359,908,718	319,177,473	523,787,781	947,179,422	617,785,809	468,617,521	377,242,212	300,303,348	265,078,592	5,381,352,597	0
GI-M	2000	289,120,281	276,447,337	283,481,747	353,224,704	512,014,293	714,414,698	687,717,325	652,157,571	660,396,567	571,072,430	393,912,086	441,139,375	5,835,098,414	0
GI-M	2001	476,952,143	393,460,605	468,567,596	472,911,728	617,888,355	727,722,472	946,648,065	888,210,352	686,716,308	621,858,019	619,924,763	490,007,656	7,140,868,062	0
GI-M	2002	506,007,507	522,597,326	658,724,018	543,293,019	537,771,869	699,679,583	883,587,804	790,608,528	624,853,873	495,406,092	412,685,152	358,737,339	7,033,952,110	0
GI-M	2003	382,201,649	337,176,735	481,660,596	510,566,944	533,078,206	539,960,562	842,772,875	761,314,854	594,048,798	509,378,047	284,664,361	295,826,577	6,072,650,204	0
GI-M	2004	297,861,050	262,836,006	319,402,453	361,859,670	442,793,320	539,559,395	503,469,157	607,389,678	524,023,800	328,690,420	263,037,085	286,186,136	4,737,108,170	0
GI-M	2005	300,495,612	264,170,459	304,949,492	340,864,497	490,240,638	545,220,792	739,700,147	612,650,223	427,540,117	406,708,021	321,297,853	309,939,000	5,063,776,851	0
GI-M	2006	308,808,896	279,213,088	310,687,706	357,711,602	564,048,743	642,789,058	721,117,667	574,914,852	413,764,928	372,231,793	316,269,212	302,911,184	5,064,468,729	0

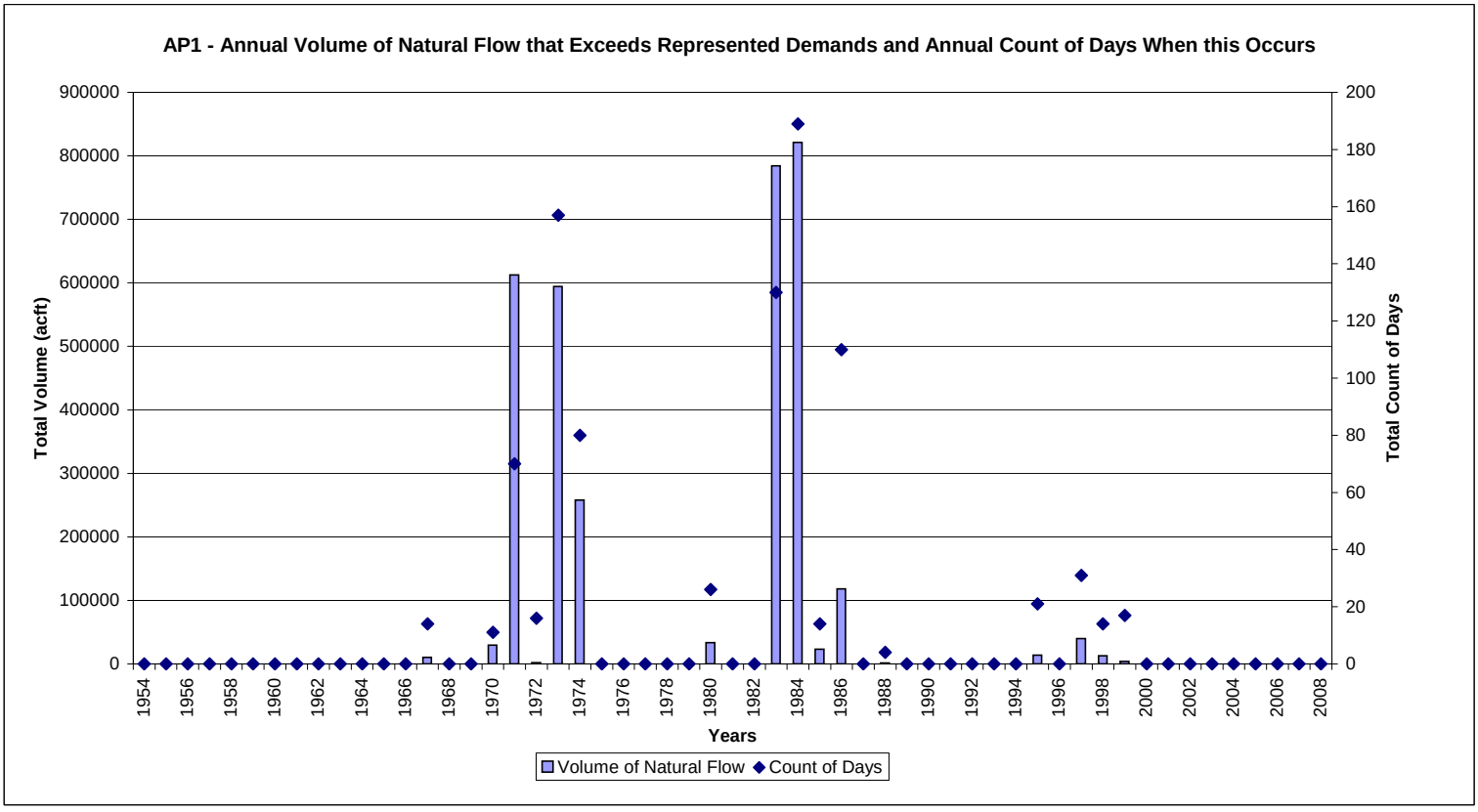
Monthly Municipal Well Pumpage Data

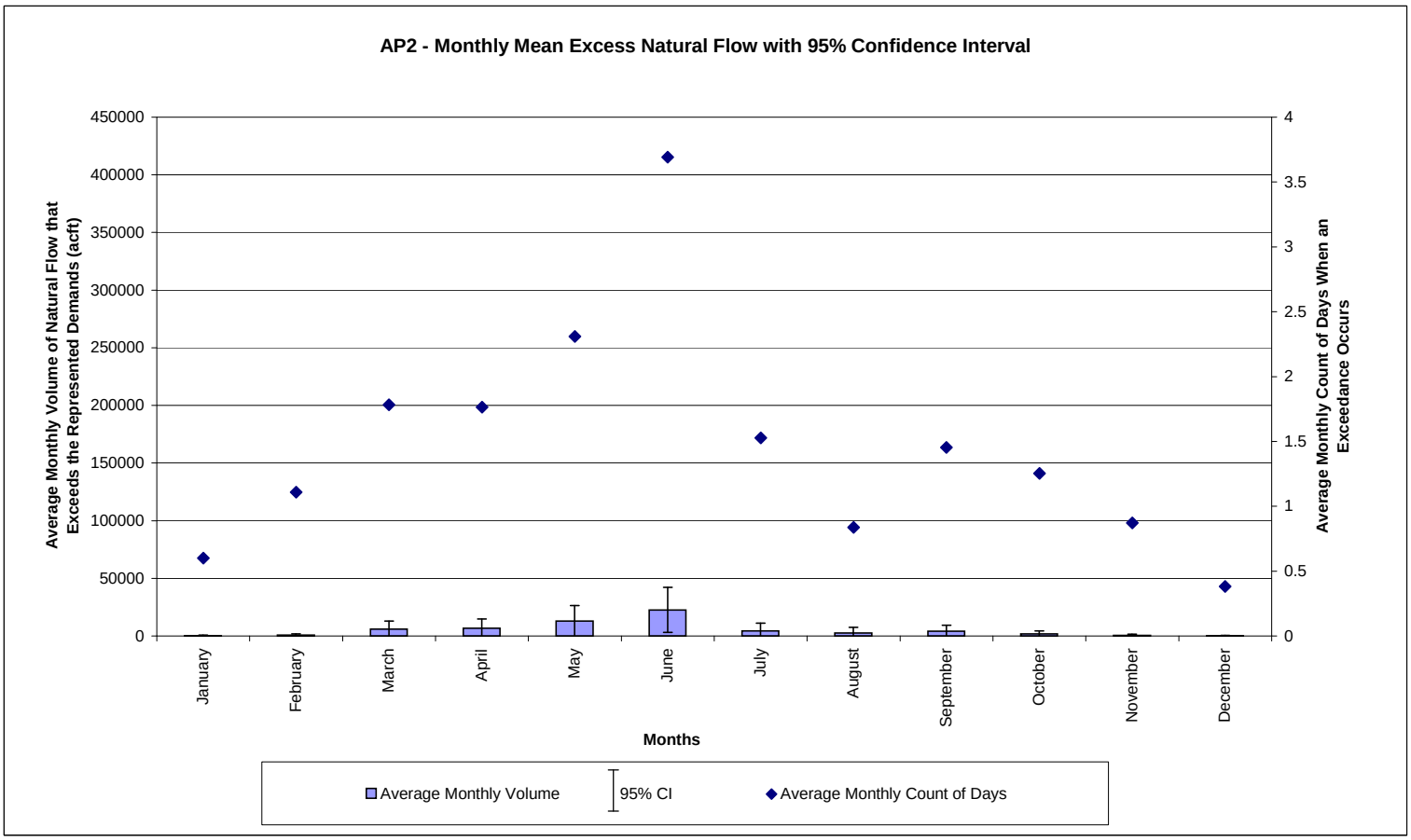
MUNI - ID	MUNI_YEAR	MUNI_JAN	MUNI_FEB	MUNI_MAR	MUNI_APR	MUNI_MAY	MUNI_JUN	MUNI_JUL	MUNI_AUG	MUNI_SEP	MUNI_OCT	MUNI_NOV	MUNI_DEC	TOTAL PUMPED	CALC PUMPED
GI-M	2007	329,805,364	295,921,685	323,402,989	303,356,800	427,514,972	529,900,008	661,536,014	575,300,804	478,401,501	339,158,621	302,077,175	304,149,442	4,870,525,375	0
GI-M	2008	308,385,763	295,233,961	314,119,046	308,035,843	387,778,441	483,683,755	643,173,202	646,855,948	508,043,408	382,832,206	310,132,695	309,057,066	4,897,331,334	0
KE-M	1997	136,914,000	120,301,000	139,448,000	148,967,000	213,854,000	263,285,000	410,558,000	256,431,000	195,611,000	180,235,000	132,812,000	133,823,000	2,332,239,000	0
KE-M	1998	132,959,000	116,677,000	131,172,000	142,398,000	200,923,000	220,230,000	255,060,000	253,923,000	289,792,000	177,729,000	134,866,000	134,456,000	2,190,185,000	0
KE-M	1999	135,431,000	118,834,000	137,872,000	147,836,000	179,468,000	179,941,000	307,814,000	234,646,000	253,643,000	215,614,000	174,464,000	135,994,000	2,221,557,000	0
KE-M	2000	136,255,000	126,092,000	139,709,000	188,247,000	244,894,000	283,461,000	269,359,000	338,223,000	298,980,000	200,836,000	134,260,000	143,305,000	2,503,621,000	0
KE-M	2001	135,465,000	124,532,000	136,835,000	145,760,000	221,256,000	315,493,000	337,602,000	307,794,000	223,063,000	194,798,000	156,535,000	136,059,000	2,435,192,000	0
KE-M	2002	138,891,000	124,780,000	141,879,000	180,373,000	214,281,000	325,454,000	451,421,000	322,393,000	266,119,000	179,155,000	131,361,000	130,000,000	2,606,107,000	0
KE-M	2003	131,059,000	117,363,000	138,550,000	159,228,000	169,901,000	197,915,000	399,393,000	445,213,000	346,490,000	231,990,000	123,341,000	122,250,000	2,582,612,000	0
KE-M	2004	126,892,000	122,580,000	123,815,000	167,564,000	221,523,000	280,990,000	256,283,000	311,639,000	256,634,000	156,127,000	119,117,000	113,484,000	2,256,648,000	0
KE-M	2005	113,979,000	103,665,000	115,099,000	141,413,000	195,458,000	210,027,000	397,854,000	293,665,000	308,384,000	195,342,000	135,483,000	130,057,000	2,340,426,000	0
KE-M	2006	124,998,000	113,188,000	119,653,000	157,677,000	287,121,000	332,133,000	349,149,000	241,703,000	184,437,000	152,727,000	116,993,000	118,629,000	2,298,408,000	0
KE-M	2007	121,878,000	112,068,000	118,092,000	121,083,000	167,550,000	229,070,000	315,843,000	256,441,000	266,122,000	164,152,000	118,944,000	102,854,000	2,094,097,000	0
KE-M	2008	103,851,000	99,869,000	108,477,000	120,047,000	151,162,000	183,087,000	289,839,000	281,563,000	238,071,000	146,901,000	101,394,000	110,956,000	1,935,217,000	0
KE-M	2009	113,145,000	100,087,000	115,079,000	129,921,000	175,115,000	181,920,000	287,488,000	287,034,000	212,532,000	129,120,000	104,126,000	111,672,000	1,947,239,000	0
CO-M	1997	29,671,000	23,775,000	33,278,000	34,056,000	65,535,000	83,934,000	128,700,000	76,013,000	63,792,000	43,685,000	30,912,000	32,502,000	645,853,000	
CO-M	2001							96,317,000	78,800,000	54,619,000	41,590,000	29,900,000	24,045,000	325,271,000	
CO-M	2002	25,050,000	23,198,000	304,703,000	51,903,000	63,855,000	100,268,000	121,841,000	83,900,000	70,203,000	36,732,000	26,628,000	27,250,000	935,531,000	
CO-M	2003	25,634,000	26,721,000	29,823,000	31,460,000	37,980,000	57,723,000	95,228,000	96,250,000	74,200,000	45,102,000	25,243,000	27,289,000	572,653,000	
CO-M	2004	27,822,000	26,457,000	29,435,000	37,675,000	55,957,000	68,016,000	53,432,000	65,404,000	52,300,000	32,193,000	28,090,000	27,846,000	504,627,000	
CO-M	2005	30,622,000	26,909,000	28,792,000	32,752,000	50,400,000	58,400,000	99,534,000	70,641,000	58,930,000	36,538,000	24,800,000	26,100,000	544,418,000	
CO-M	2006	25,762,000	22,054,000	24,160,000	34,446,000	70,300,000	77,500,000	77,435,000						331,657,000	

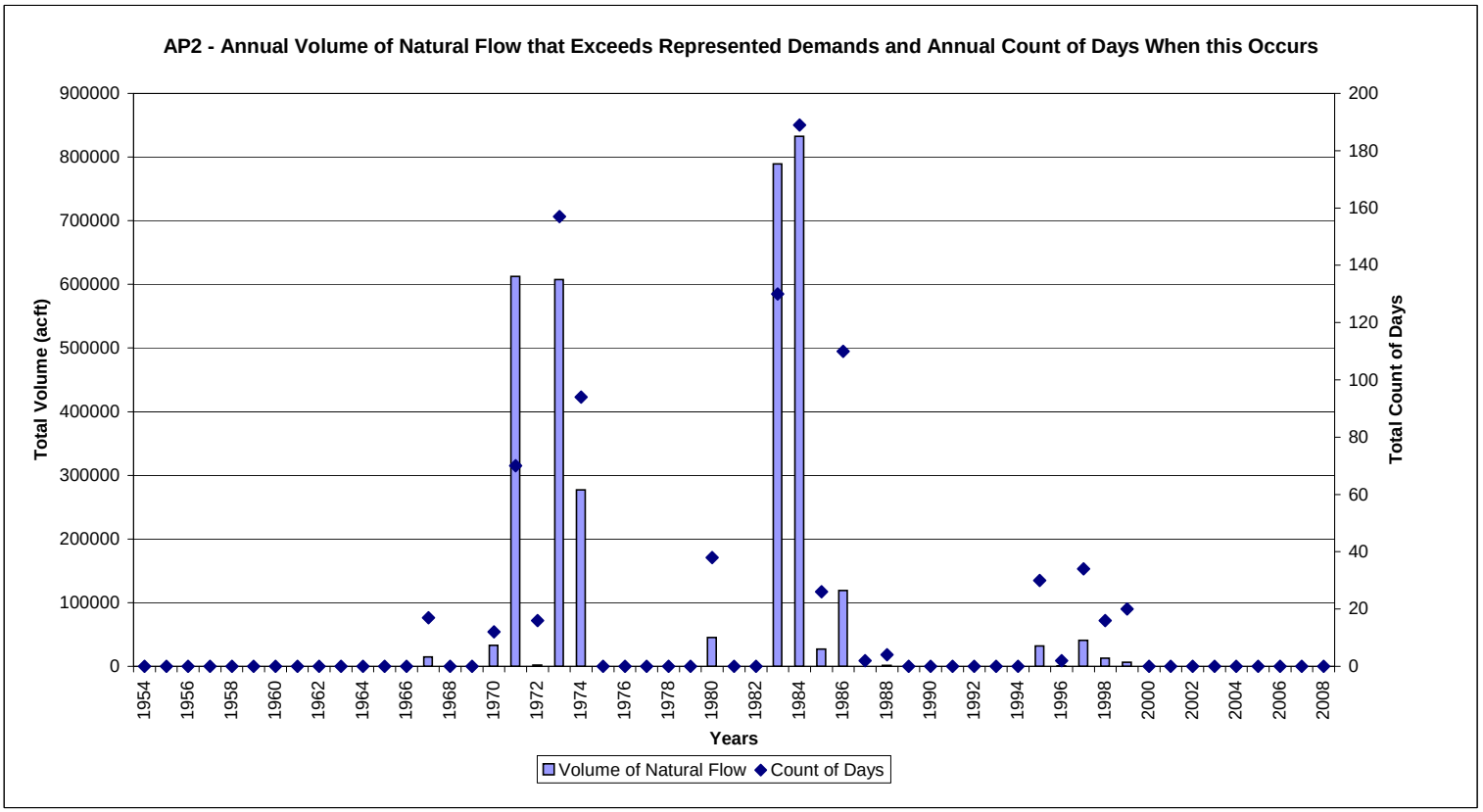
Appendix D – Output Plots for Excess to State Protected and Target Flows

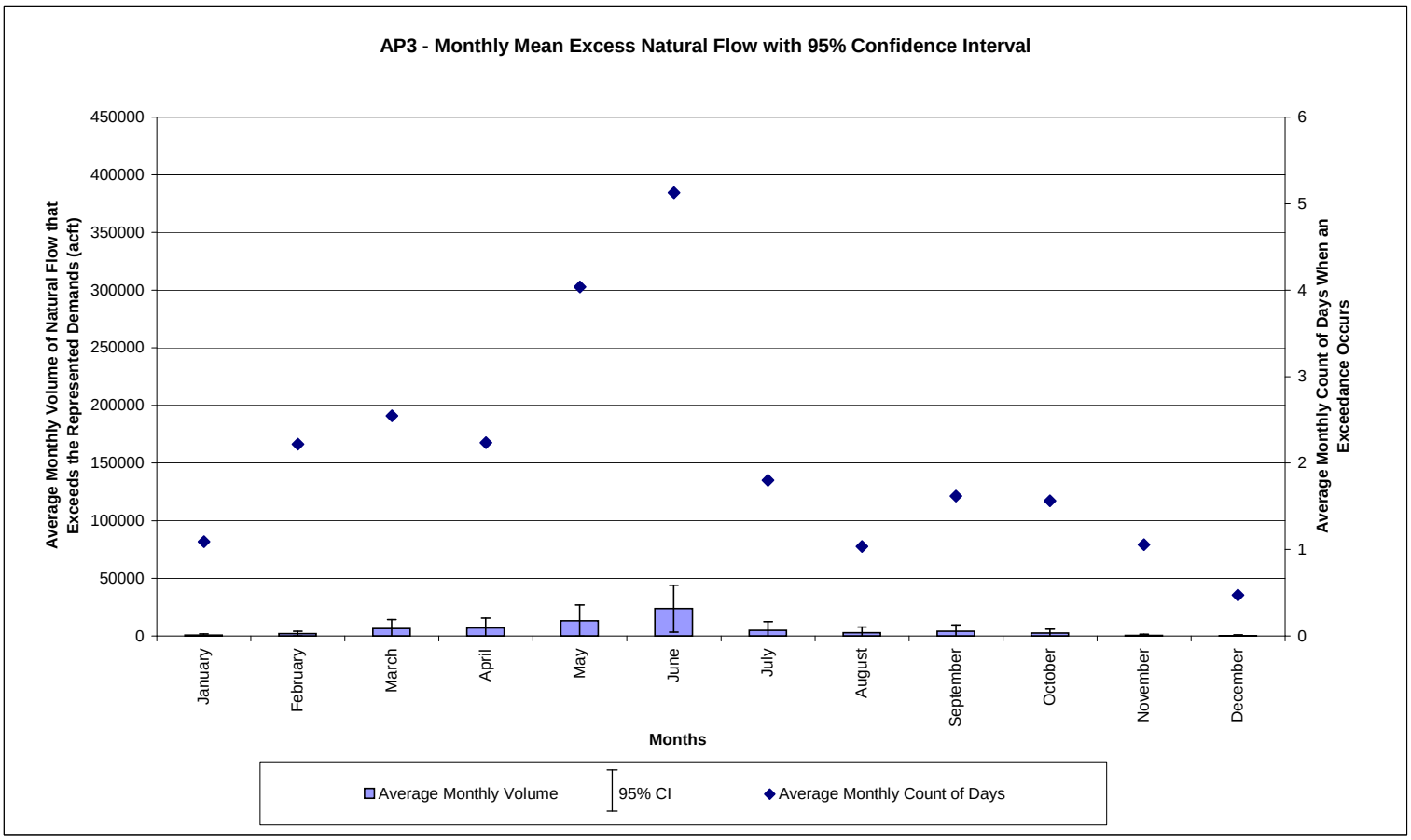
Appendix D contains plots of the average monthly excess to state protected flow volumes over the period of record. Also plotted is the average number of days each month during which excess to state protected flows is available.

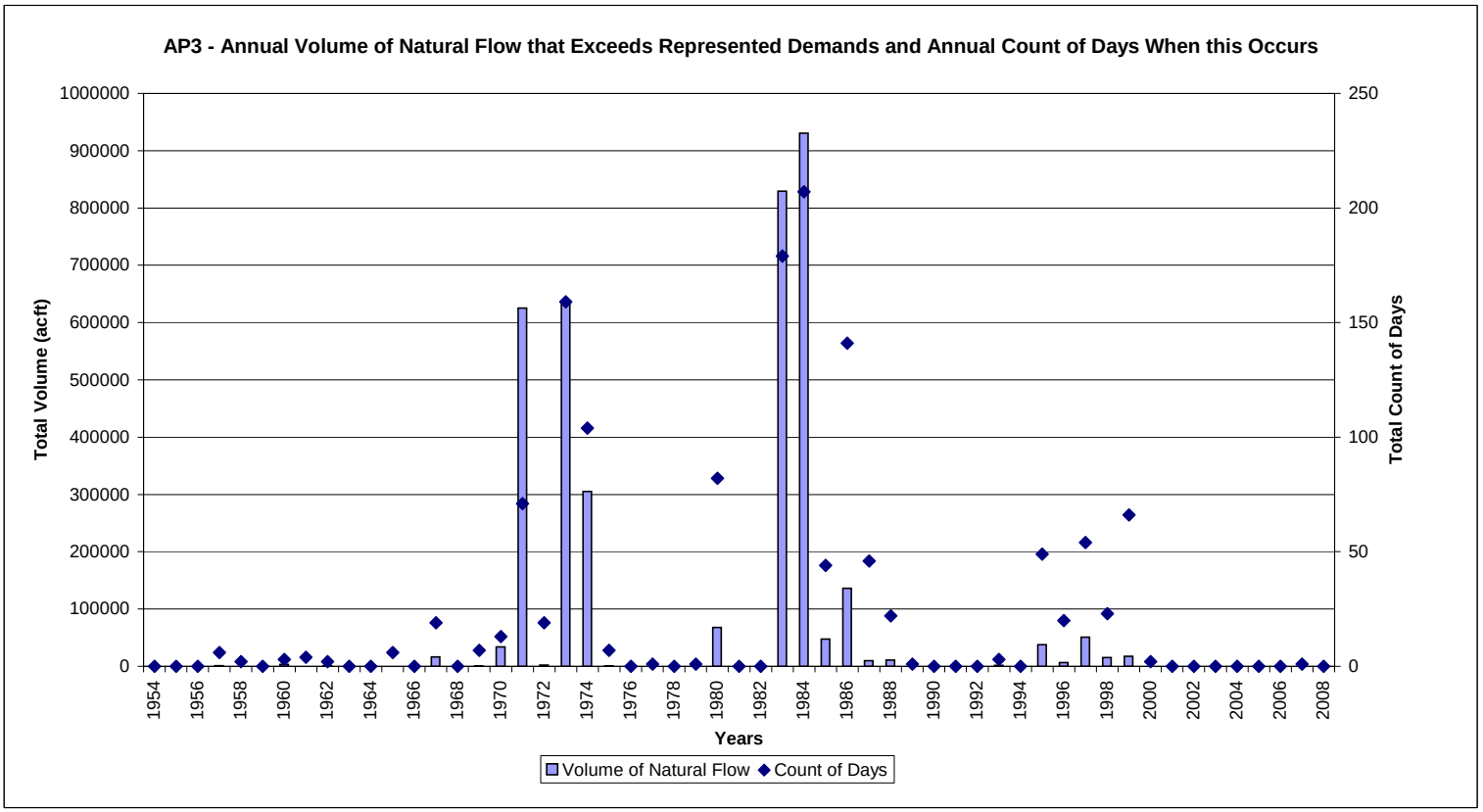

AP1 - Monthly Mean Excess Natural Flow with 95% Confidence Interval
Average Monthly Volume of Natural Flow that Exceeds the Represented Demands (acft)
Average Monthly Count of Days When an Exceedance Occurs
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
4
3.5
3
2.5
2
1.5
1
0.5
0
January
February
March
April
May
June
July
August
September
October
November
December
Months
Average Monthly Volume
95% CI
Average Monthly Count of Days

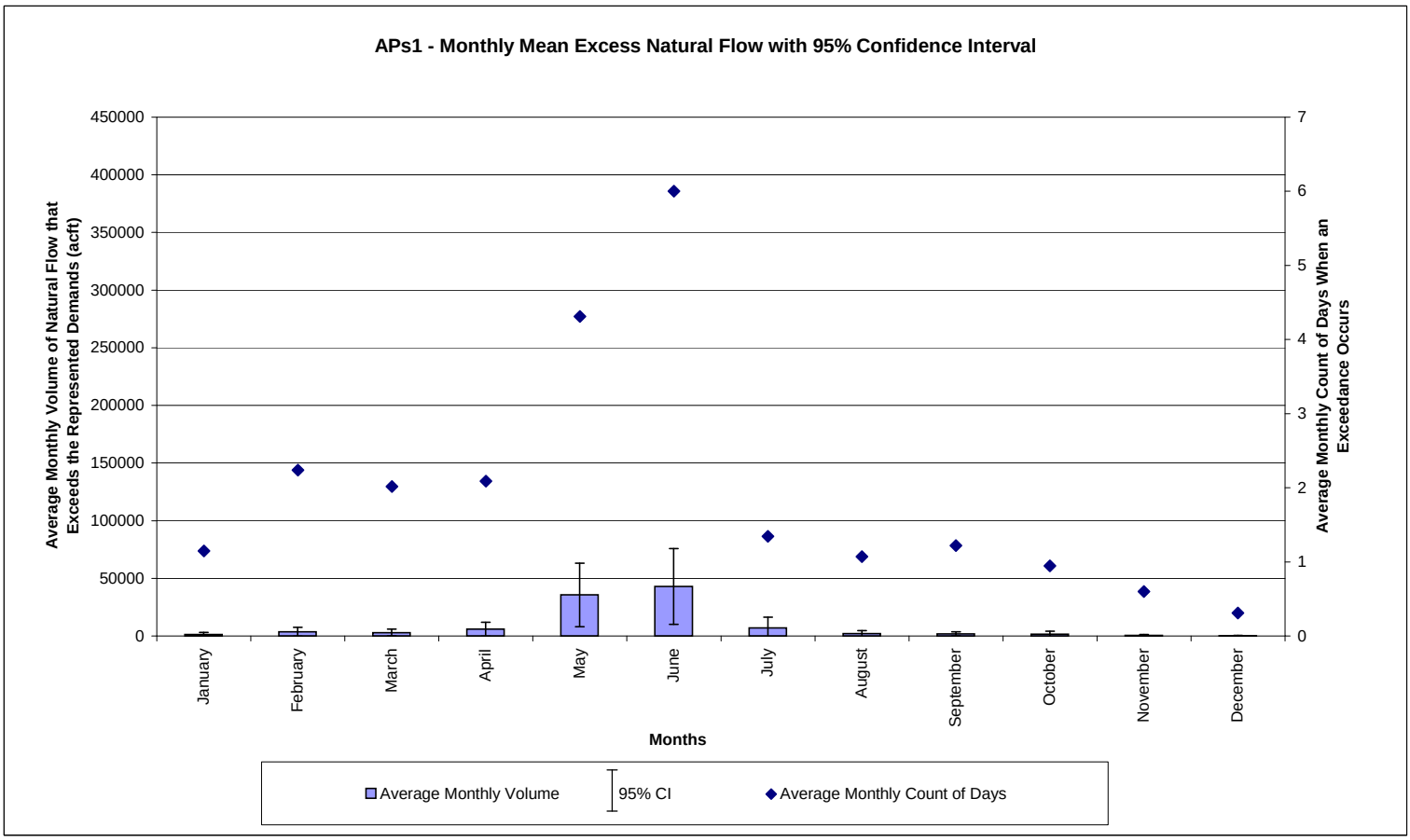

AP1 - Annual Volume of Natural Flow that Exceeds Represented Demands and Annual Count of Days When this Occurs
Total Volume (acft)
Total Count of Days
900000
800000
700000
600000
500000
400000
300000
200000
100000
0
200
180
160
140
120
100
80
60
40
20
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
Years
Volume of Natural Flow
Count of Days

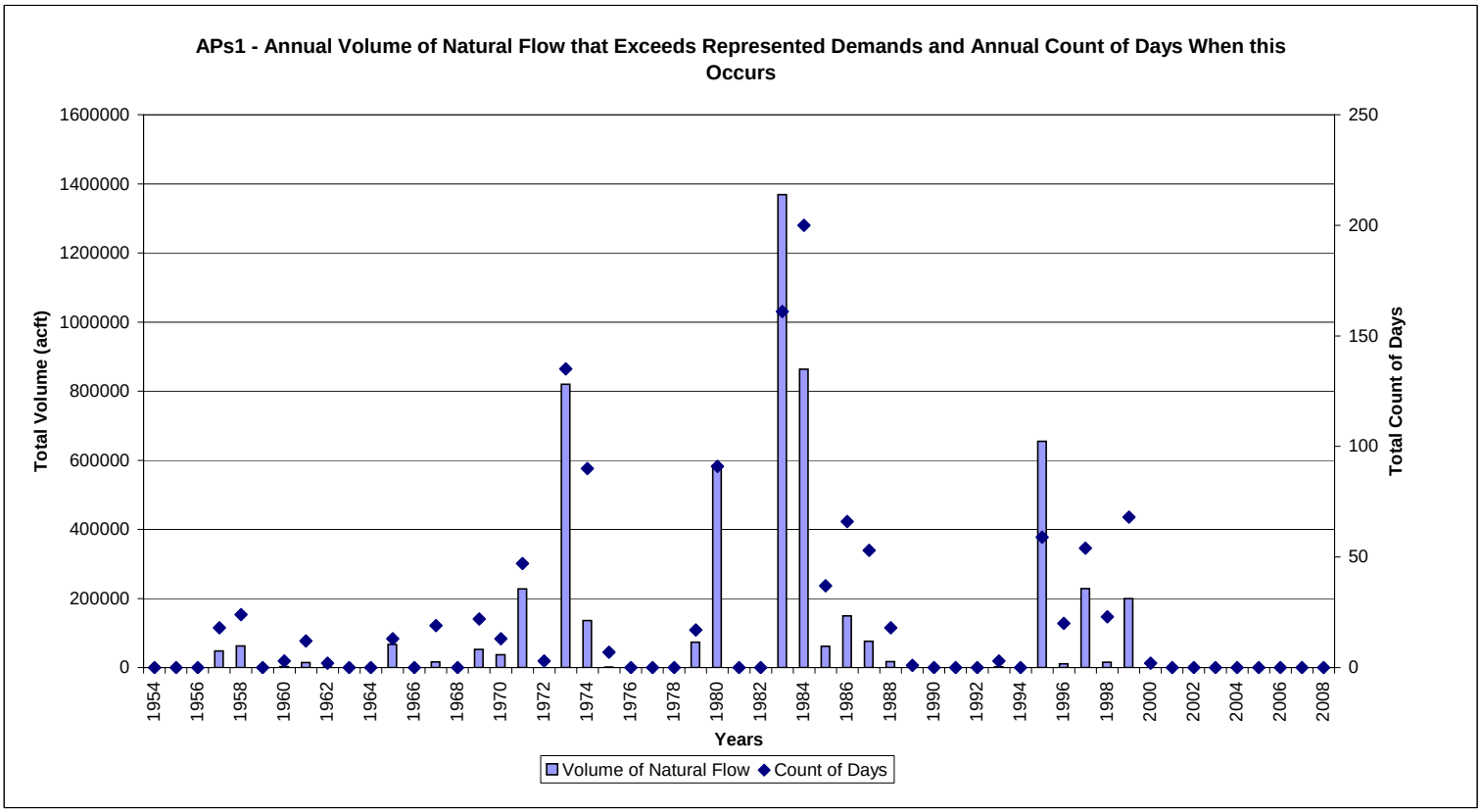

AP2 - Monthly Mean Excess Natural Flow with 95% Confidence Interval
Average Monthly Volume of Natural Flow that Exceeds the Represented Demands (acft)
Average Monthly Count of Days When an Exceedance Occurs
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
4
3.5
3
2.5
2
1.5
1
0.5
0
January
February
March
April
May
June
July
August
September
October
November
December
Months
Average Monthly Volume
95% CI
Average Monthly Count of Days

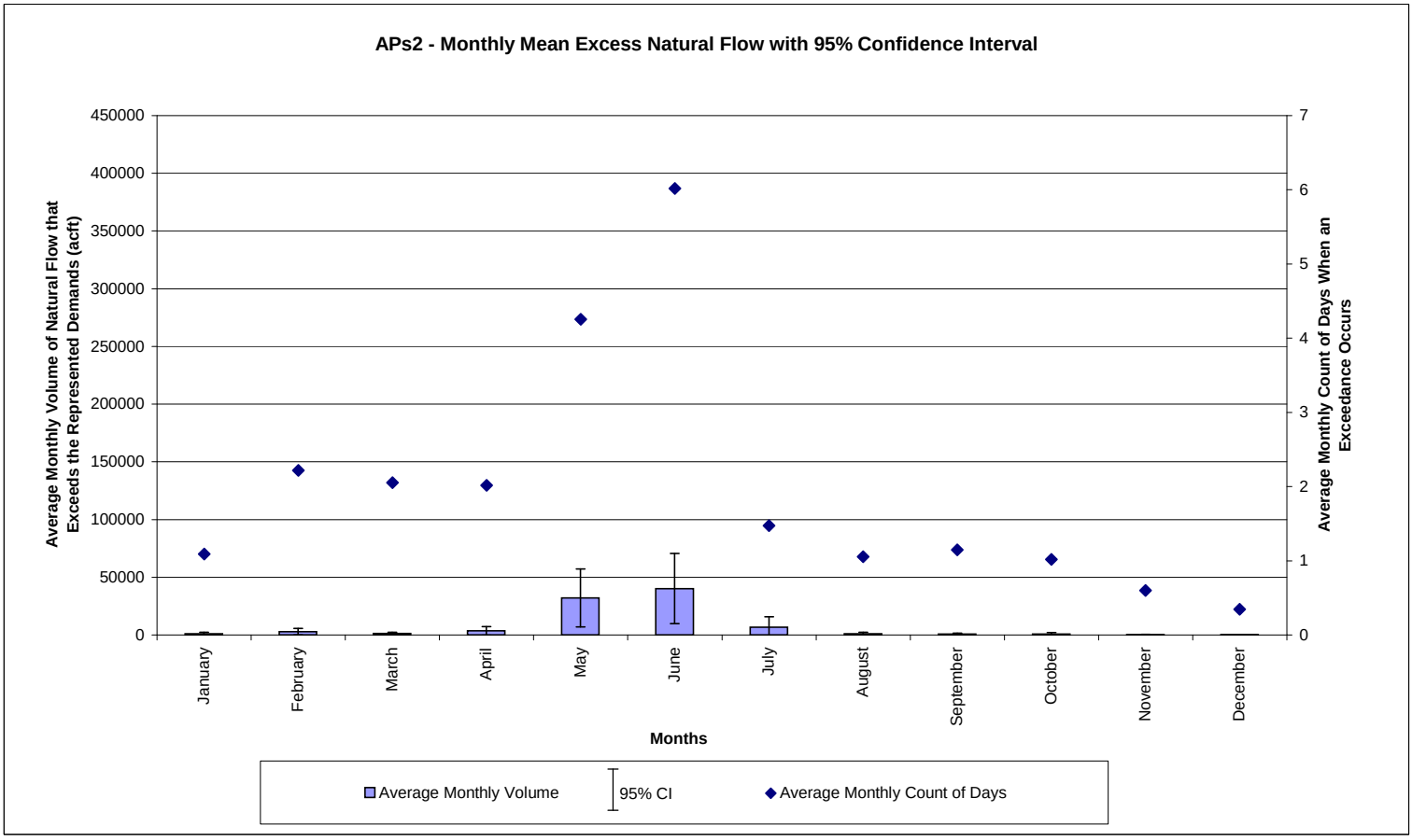

AP2 - Annual Volume of Natural Flow that Exceeds Represented Demands and Annual Count of Days When this Occurs
Total Volume (acft)
Total Count of Days
900000
800000
700000
600000
500000
400000
300000
200000
100000
0
200
180
160
140
120
100
80
60
40
20
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
Years
Volume of Natural Flow
Count of Days

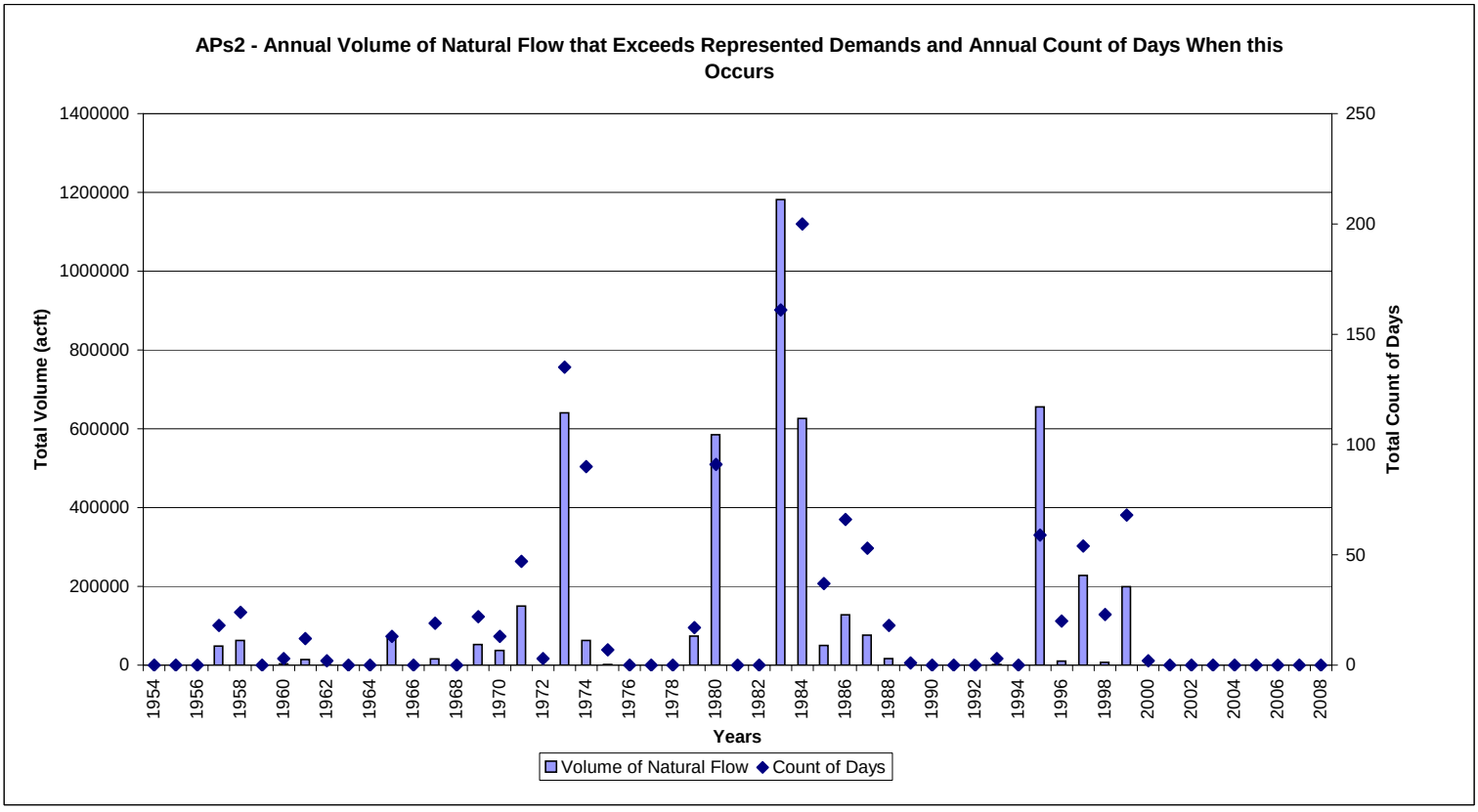

AP3 - Monthly Mean Excess Natural Flow with 95% Confidence Interval
Average Monthly Volume of Natural Flow that Exceeds the Represented Demands (acft)
Average Monthly Count of Days When an Exceedance Occurs
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
6
5
4
3
2
1
0
January
February
March
April
May
June
July
August
September
October
November
December
Months
Average Monthly Volume
95% CI
Average Monthly Count of Days

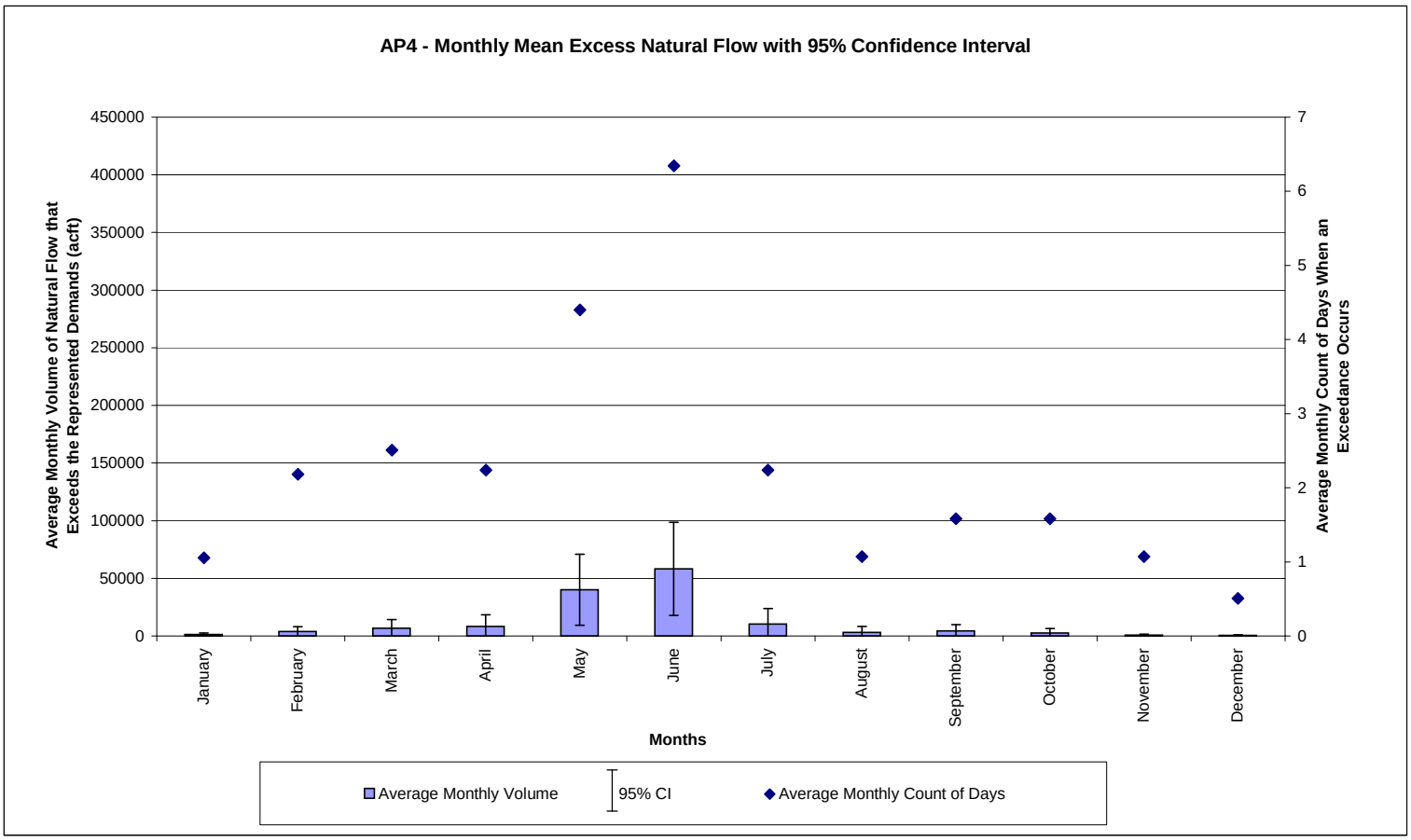

AP3 - Annual Volume of Natural Flow that Exceeds Represented Demands and Annual Count of Days When this Occurs
Total Volume (acft)
Total Count of Days
1000000
900000
800000
700000
600000
500000
400000
300000
200000
100000
0
250
200
150
100
50
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
Years
Volume of Natural Flow
Count of Days

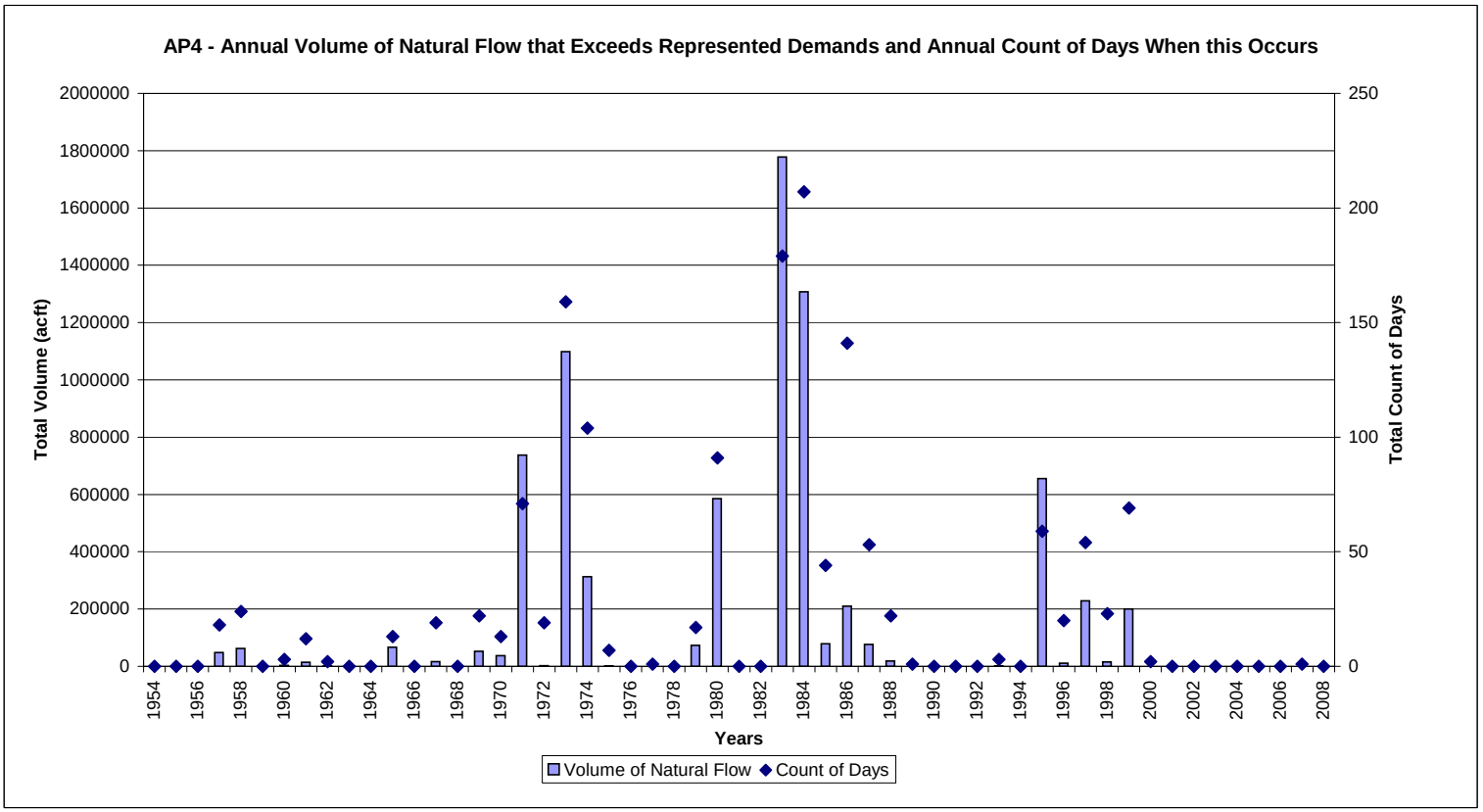

APs1 - Monthly Mean Excess Natural Flow with 95% Confidence Interval
Average Monthly Volume of Natural Flow that Exceeds the Represented Demands (acft)
Average Monthly Count of Days When an Exceedance Occurs
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
7
6
5
4
3
2
1
0
January
February
March
April
May
June
July
August
September
October
November
December
Months
Average Monthly Volume
95% CI
Average Monthly Count of Days

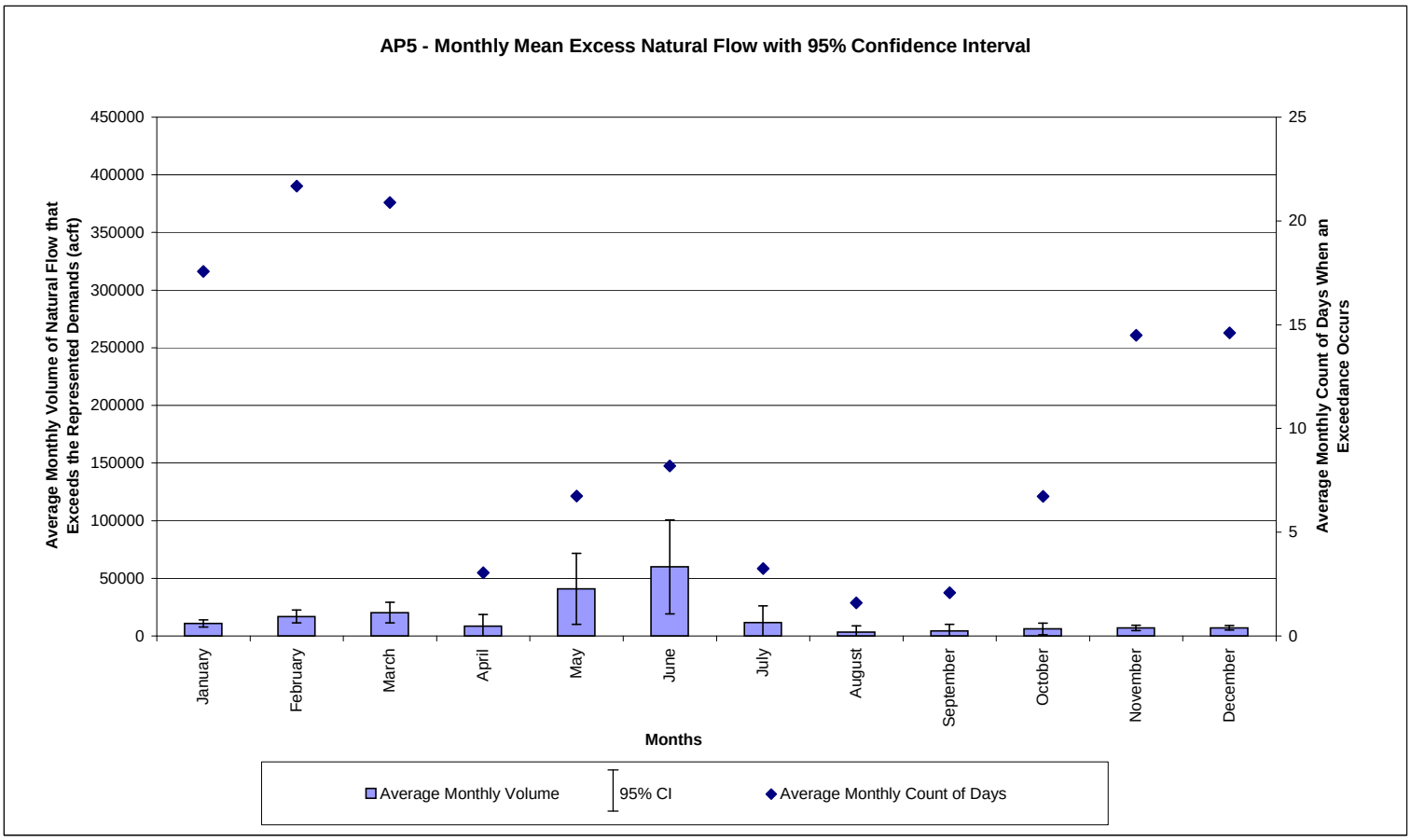

APs1 - Annual Volume of Natural Flow that Exceeds Represented Demands and Annual Count of Days When this Occurs
Total Volume (acft)
Total Count of Days
1600000
1400000
1200000
1000000
800000
600000
400000
200000
0
250
200
150
100
50
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
Years
Volume of Natural Flow
Count of Days

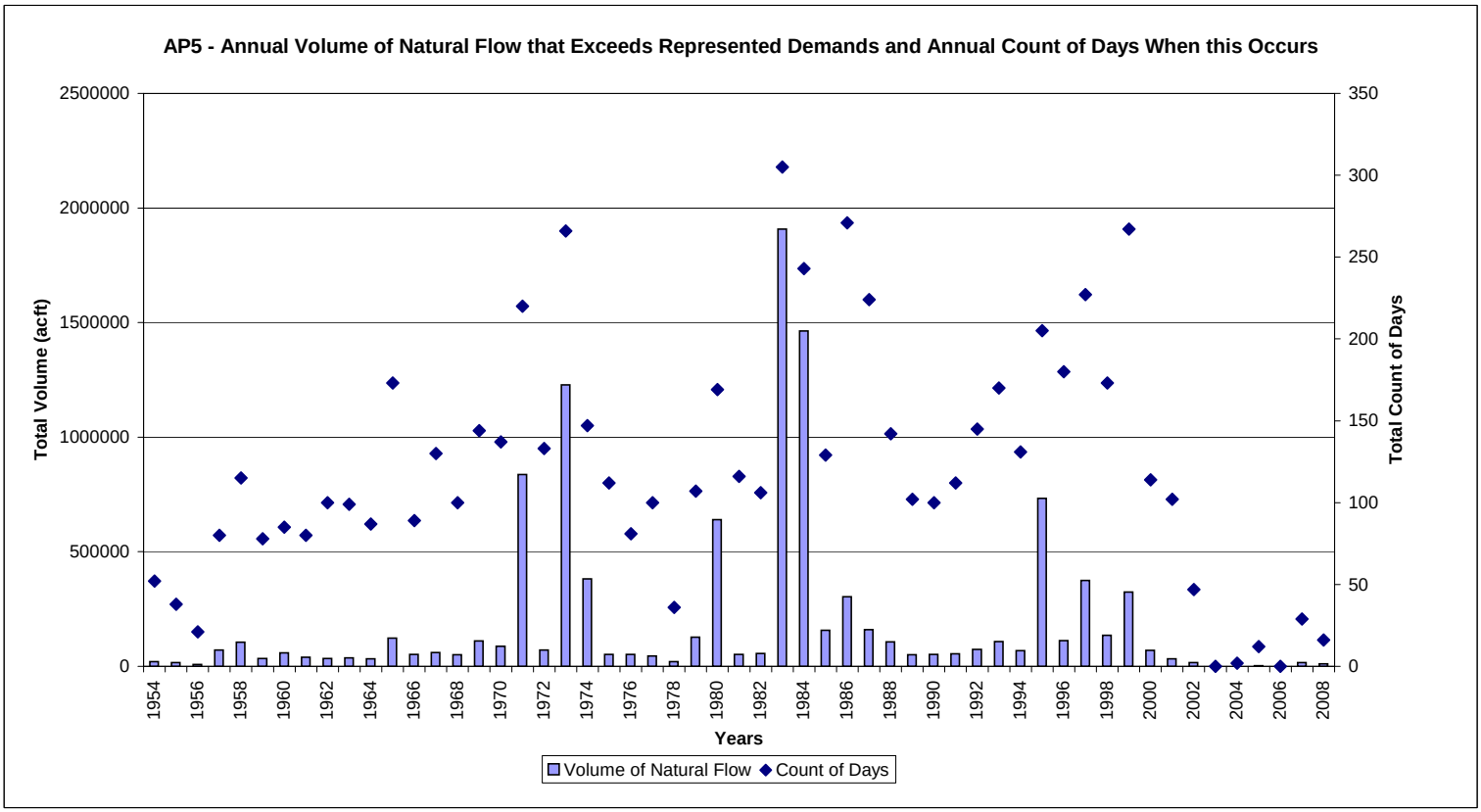

APs2 - Monthly Mean Excess Natural Flow with 95% Confidence Interval
Average Monthly Volume of Natural Flow that Exceeds the Represented Demands (acft)
Average Monthly Count of Days When an Exceedance Occurs
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
7
6
5
4
3
2
1
0
January
February
March
April
May
June
July
August
September
October
November
December
Months
Average Monthly Volume
95% CI
Average Monthly Count of Days

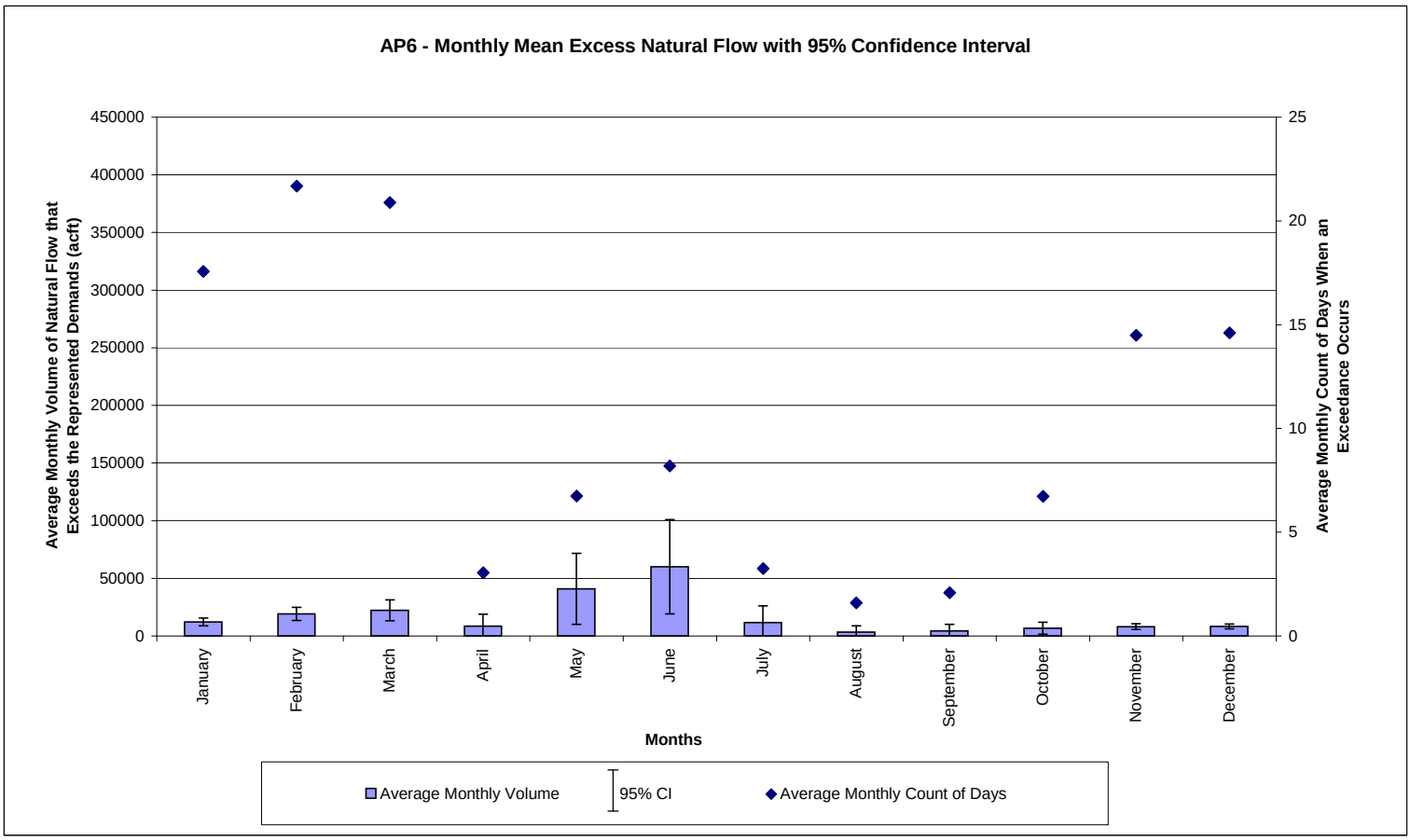

APs2 - Annual Volume of Natural Flow that Exceeds Represented Demands and Annual Count of Days When this Occurs
Total Volume (acft)
Total Count of Days
1400000
1200000
1000000
800000
600000
400000
200000
0
250
200
150
100
50
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
Years
Volume of Natural Flow
Count of Days

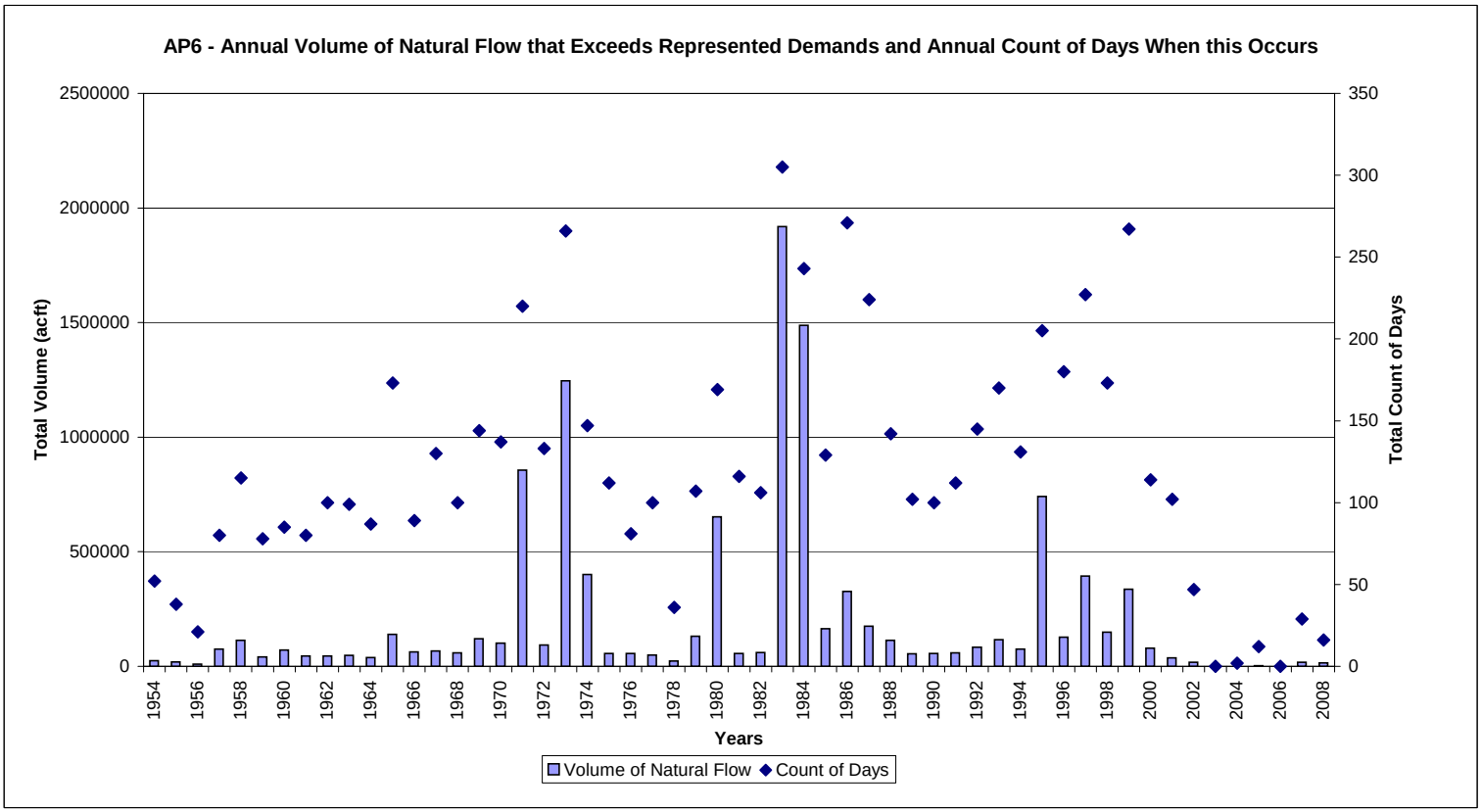

AP4 - Monthly Mean Excess Natural Flow with 95% Confidence Interval
Average Monthly Volume of Natural Flow that Exceeds the Represented Demands (acft)
Average Monthly Count of Days When an Exceedance Occurs
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
7
6
5
4
3
2
1
0
January
February
March
April
May
June
July
August
September
October
November
December
Months
Average Monthly Volume
95% CI
Average Monthly Count of Days

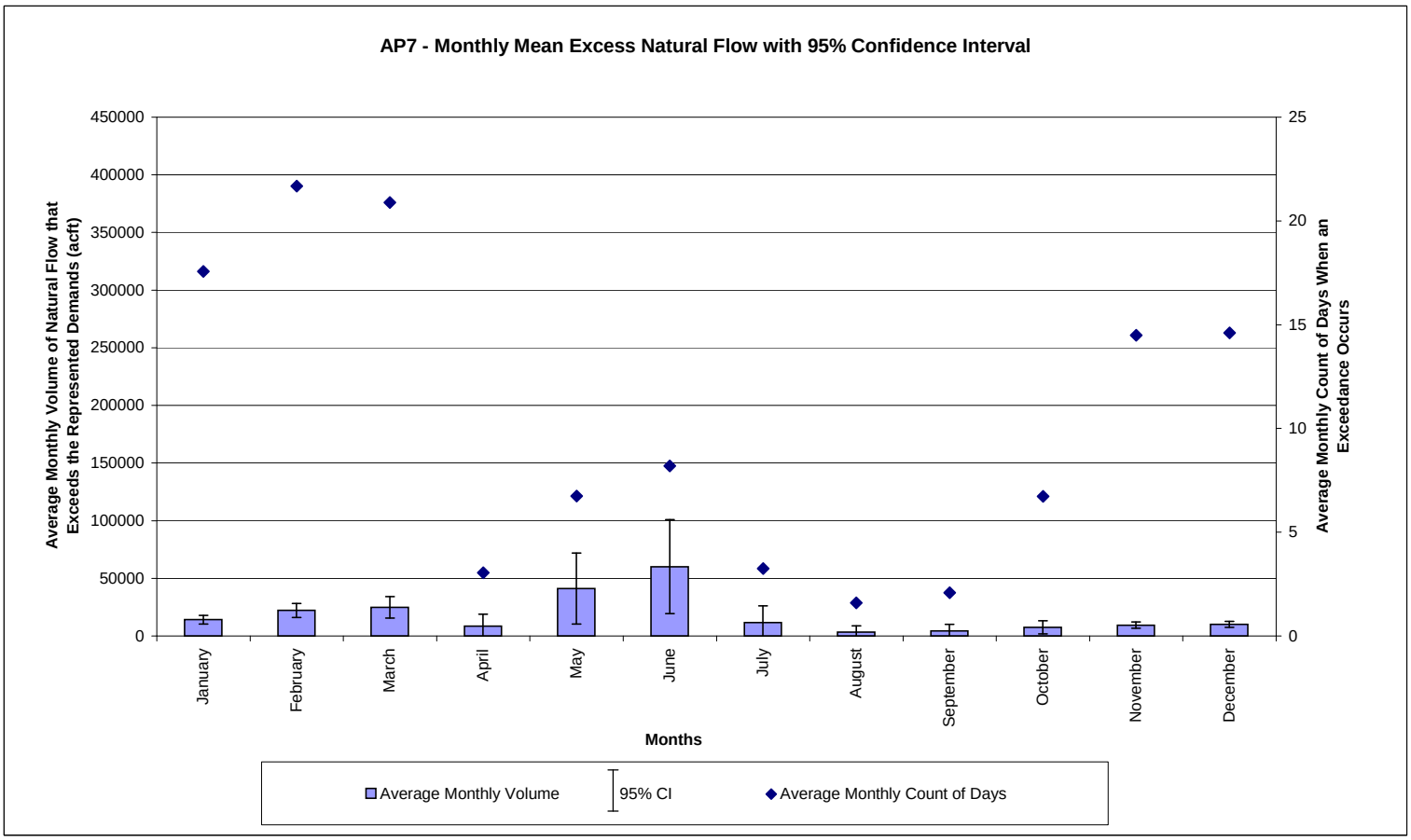

AP4 - Annual Volume of Natural Flow that Exceeds Represented Demands and Annual Count of Days When this Occurs
Total Volume (acft)
Total Count of Days
2000000
1800000
1600000
1400000
1200000
1000000
800000
600000
400000
200000
0
250
200
150
100
50
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
Years
Volume of Natural Flow
Count of Days

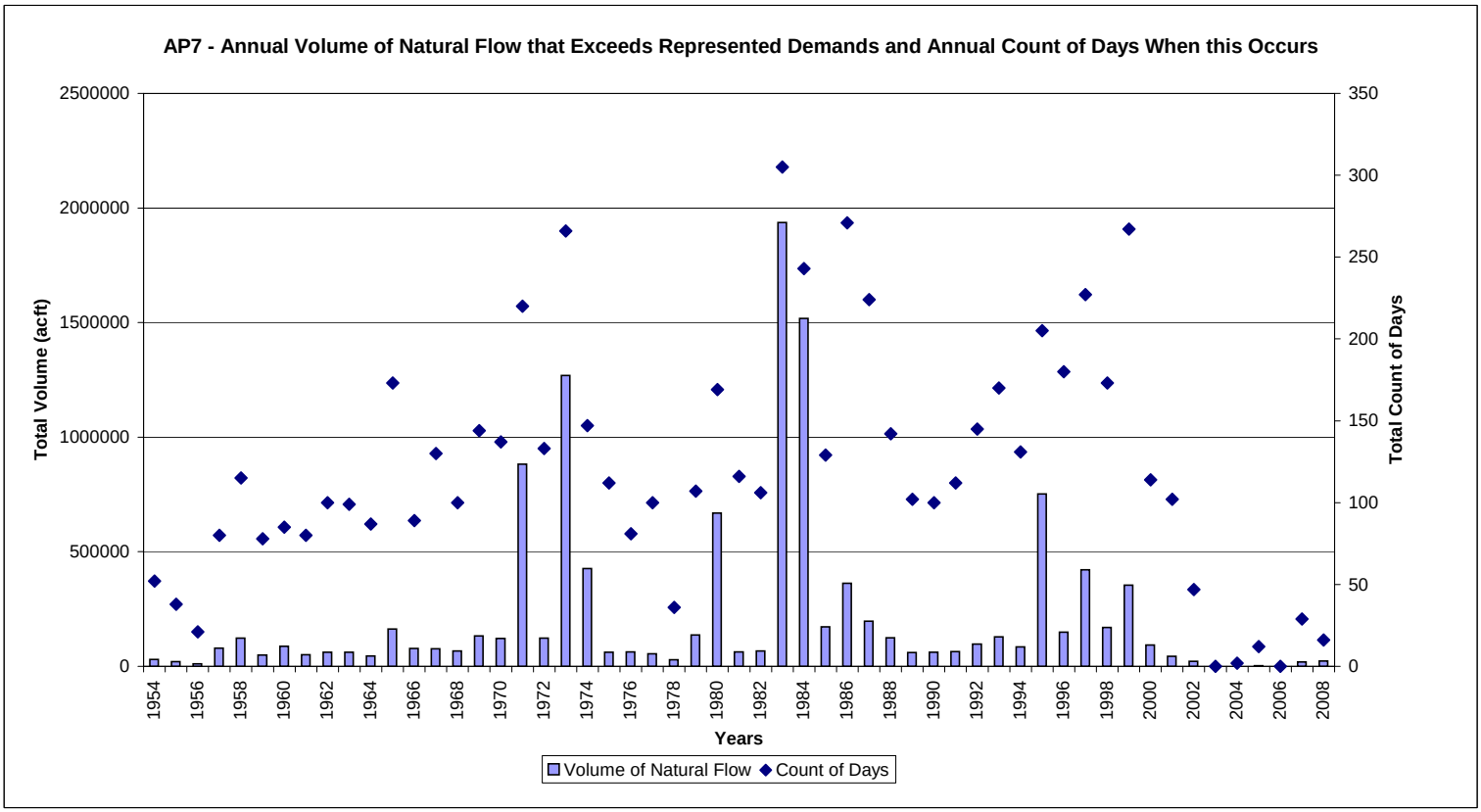

AP5 - Monthly Mean Excess Natural Flow with 95% Confidence Interval
Average Monthly Volume of Natural Flow that Exceeds the Represented Demands (acft)
Average Monthly Count of Days When an Exceedance Occurs
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
25
20
15
10
5
0
January
February
March
April
May
June
July
August
September
October
November
December
Months
Average Monthly Volume
95% CI
Average Monthly Count of Days

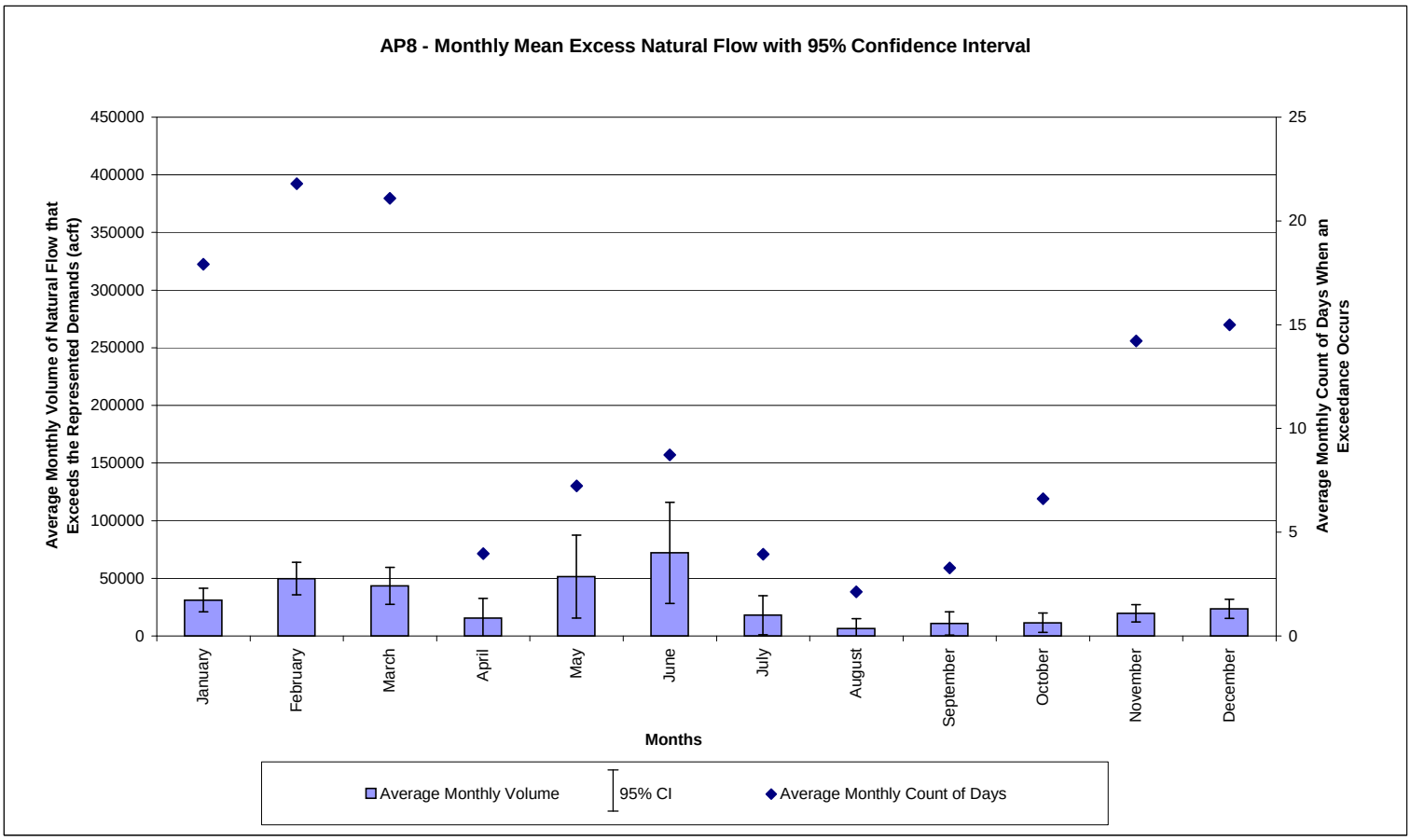

AP5 - Annual Volume of Natural Flow that Exceeds Represented Demands and Annual Count of Days When this Occurs
Total Volume (acft)
Total Count of Days
2500000
2000000
1500000
1000000
500000
0
350
300
250
200
150
100
50
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
Years
Volume of Natural Flow
Count of Days

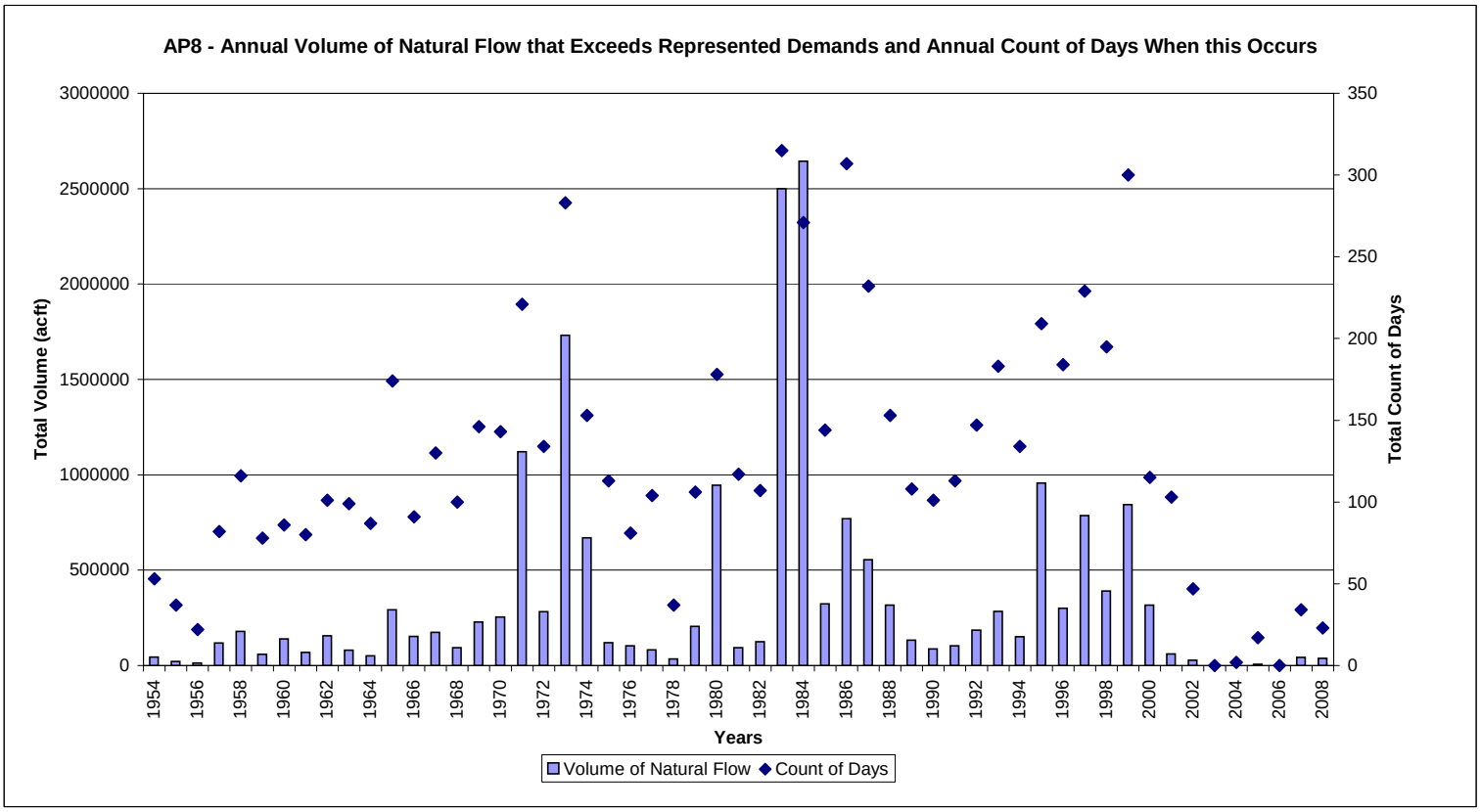

AP6 - Monthly Mean Excess Natural Flow with 95% Confidence Interval
Average Monthly Volume of Natural Flow that Exceeds the Represented Demands (acft)
Average Monthly Count of Days When an Exceedance Occurs
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
25
20
15
10
5
0
January
February
March
April
May
June
July
August
September
October
November
December
Months
Average Monthly Volume
95% CI
Average Monthly Count of Days

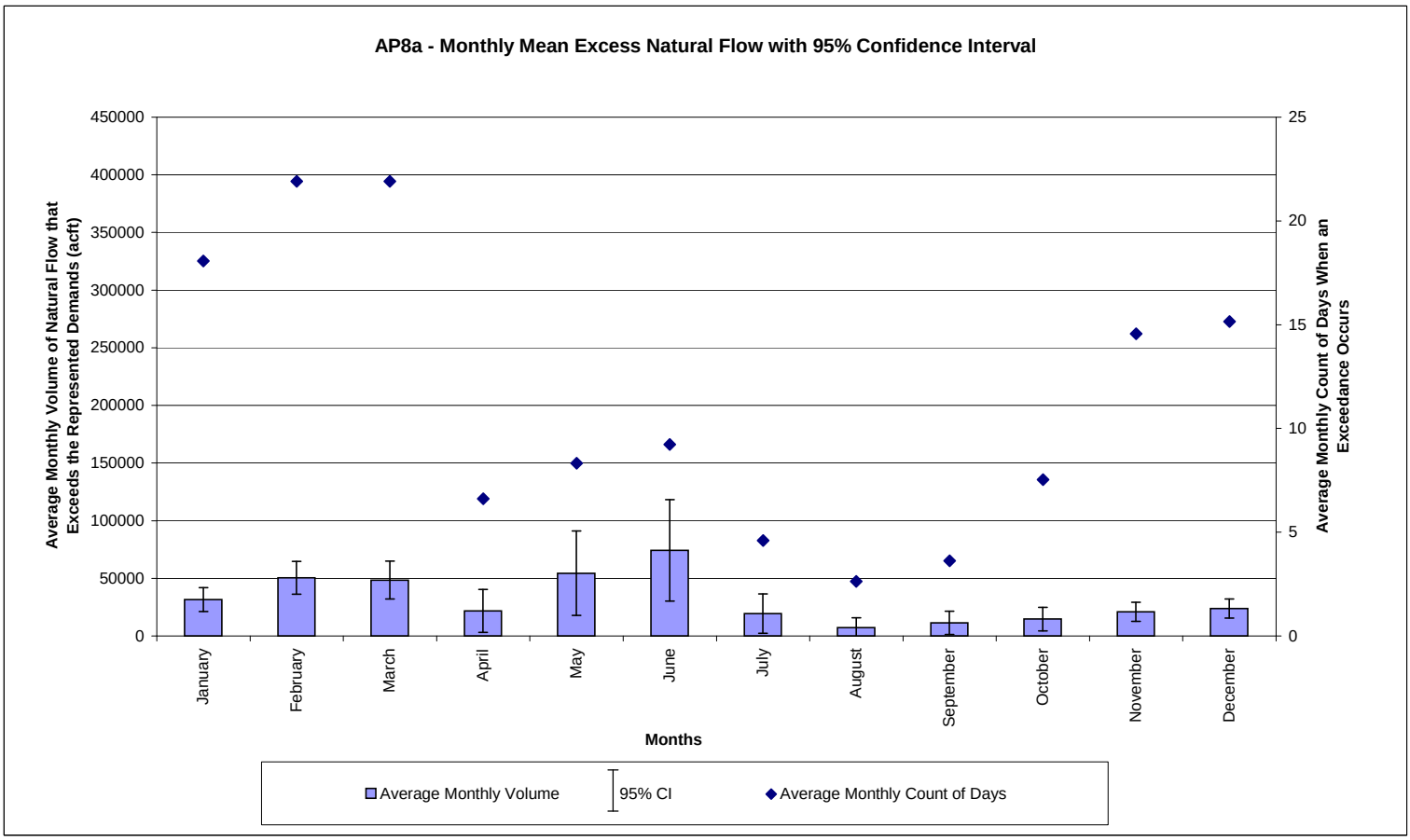

AP6 - Annual Volume of Natural Flow that Exceeds Represented Demands and Annual Count of Days When this Occurs
Total Volume (acft)
Total Count of Days
2500000
2000000
1500000
1000000
500000
0
350
300
250
200
150
100
50
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
Years
Volume of Natural Flow
Count of Days

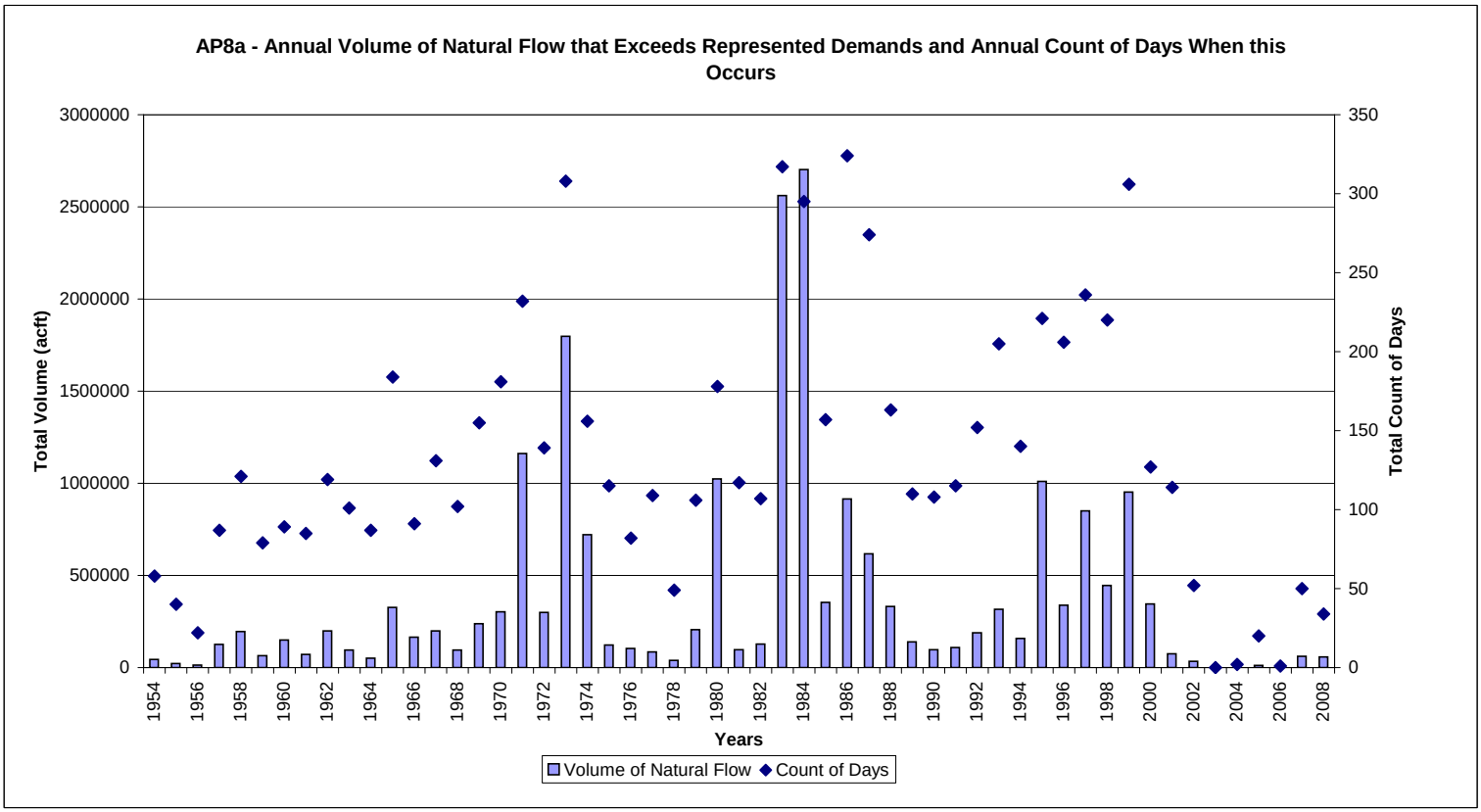

AP7 - Monthly Mean Excess Natural Flow with 95% Confidence Interval
Average Monthly Volume of Natural Flow that Exceeds the Represented Demands (acft)
Average Monthly Count of Days When an Exceedance Occurs
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
25
20
15
10
5
0
January
February
March
April
May
June
July
August
September
October
November
December
Months
Average Monthly Volume
95% CI
Average Monthly Count of Days

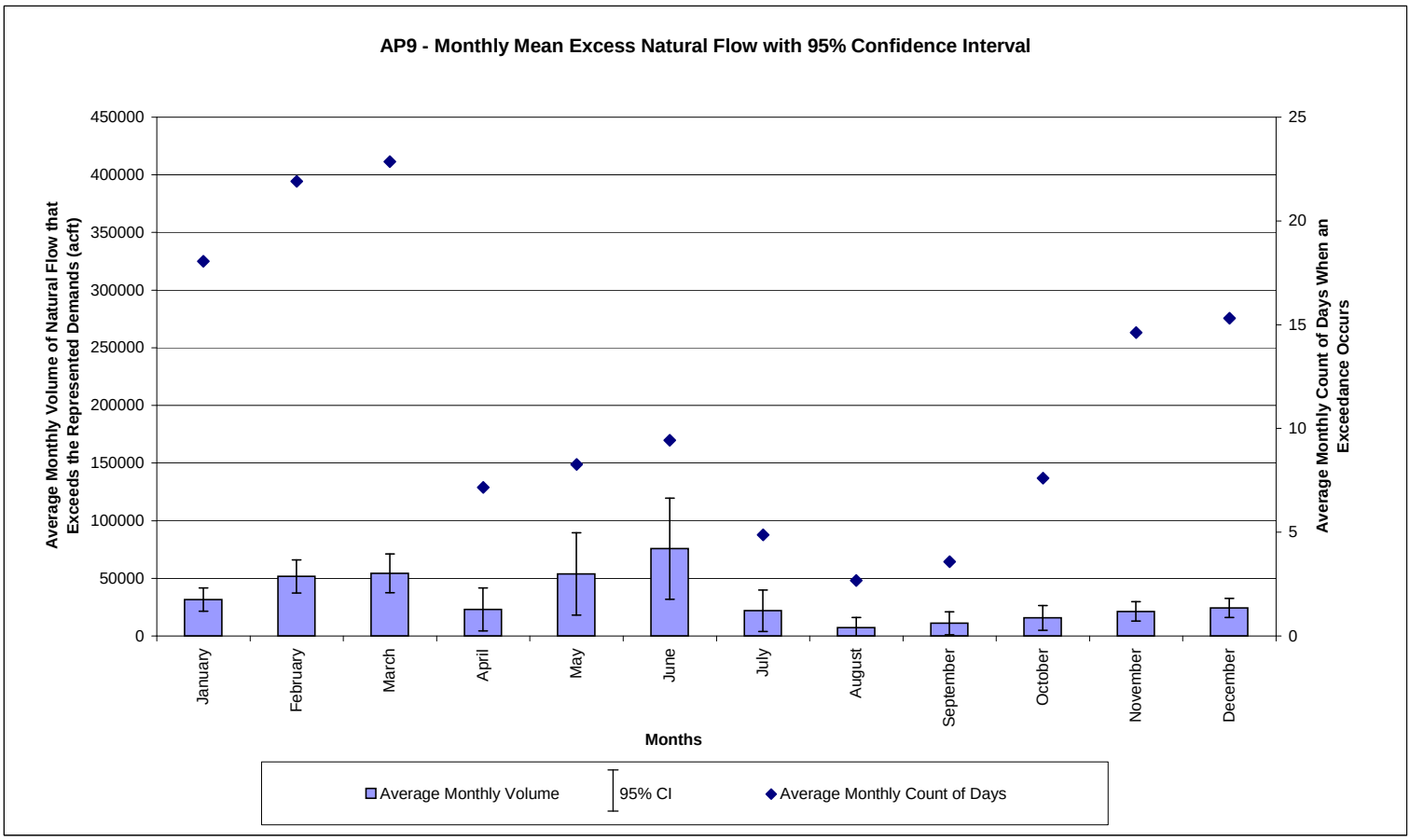

AP7 - Annual Volume of Natural Flow that Exceeds Represented Demands and Annual Count of Days When this Occurs
Total Volume (acft)
Total Count of Days
2500000
2000000
1500000
1000000
500000
0
350
300
250
200
150
100
50
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
Years
Volume of Natural Flow
Count of Days

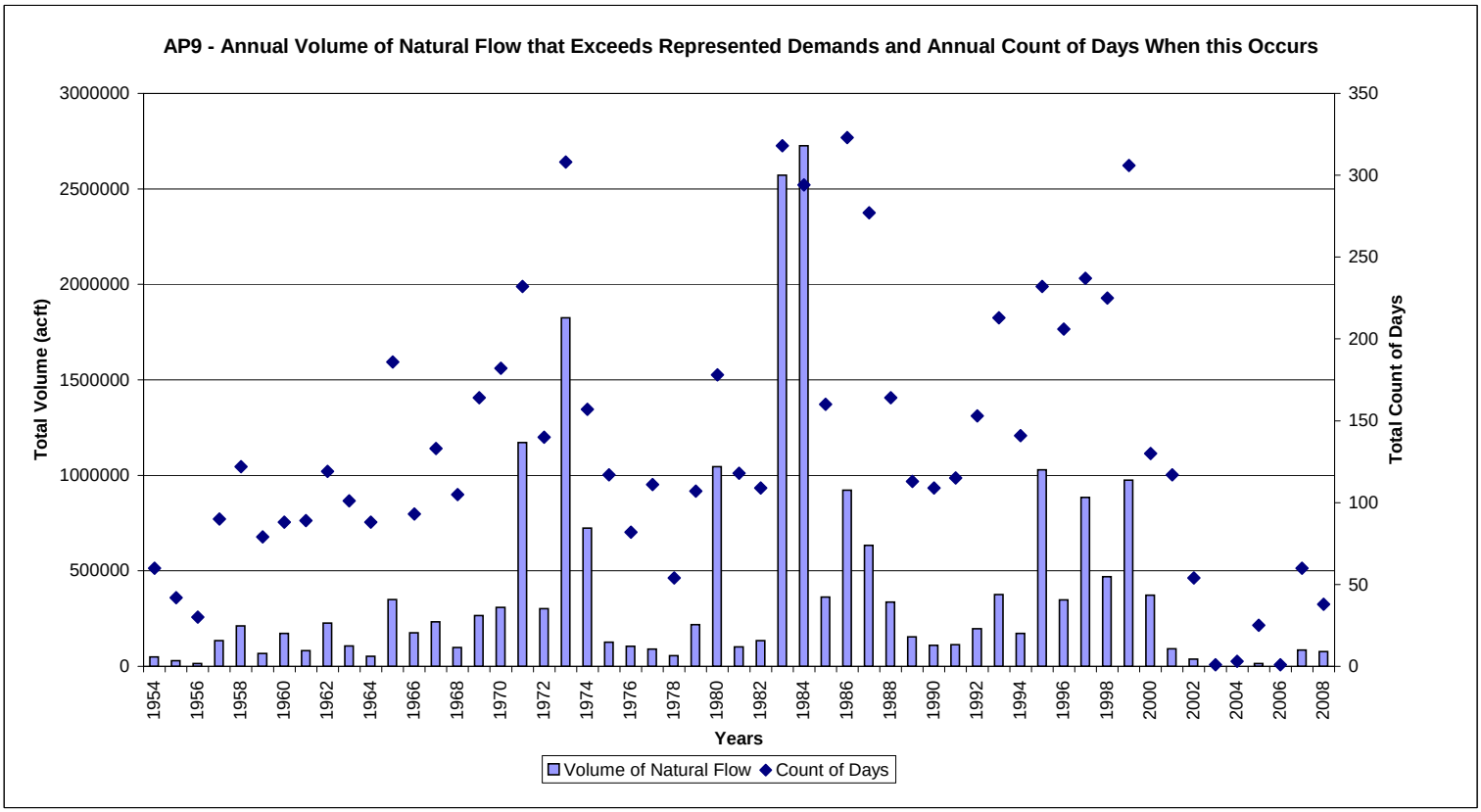

AP8 - Monthly Mean Excess Natural Flow with 95% Confidence Interval
Average Monthly Volume of Natural Flow that Exceeds the Represented Demands (acft)
Average Monthly Count of Days When an Exceedance Occurs
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
25
20
15
10
5
0
January
February
March
April
May
June
July
August
September
October
November
December
Months
Average Monthly Volume
95% CI
Average Monthly Count of Days

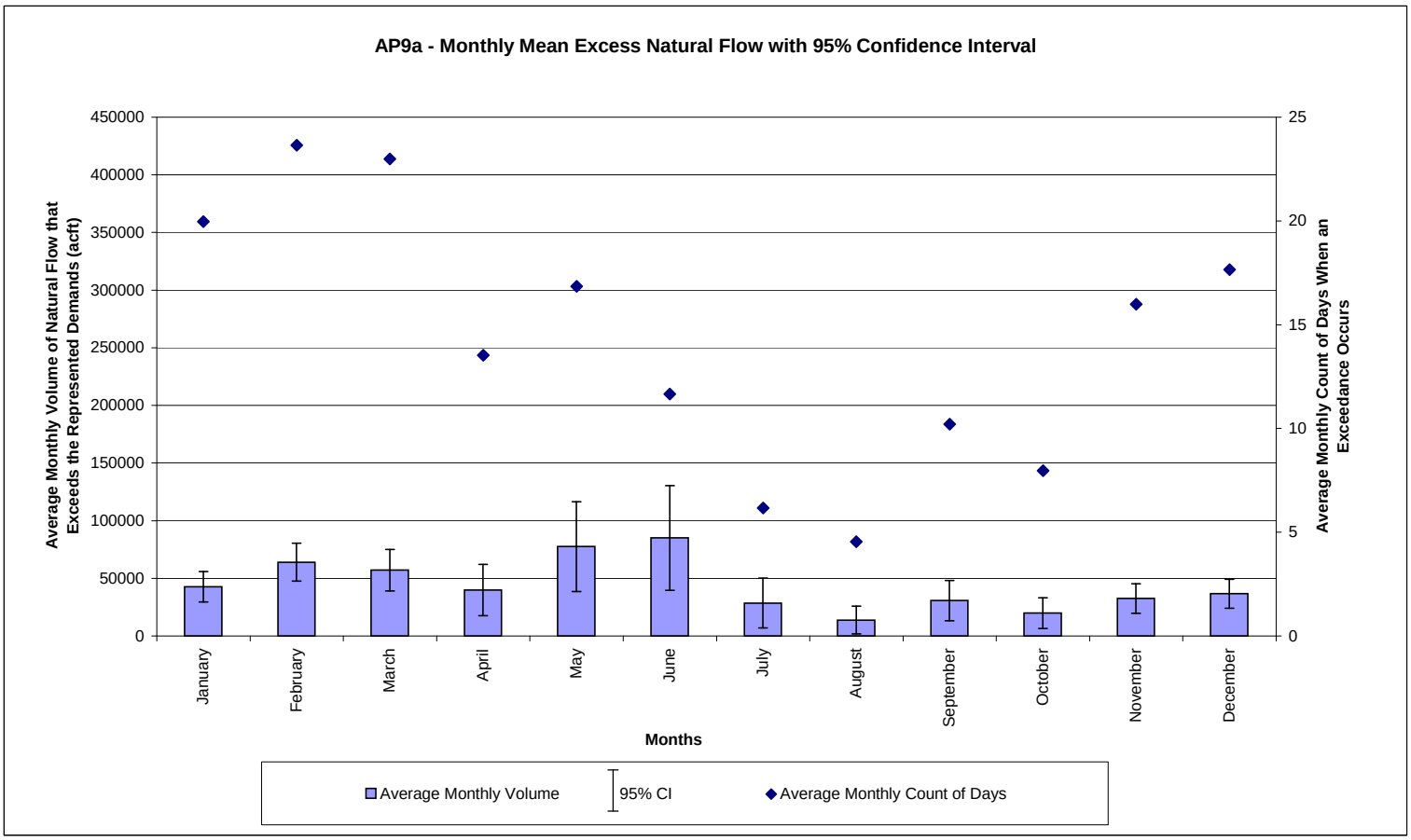

AP8 - Annual Volume of Natural Flow that Exceeds Represented Demands and Annual Count of Days When this Occurs
Total Volume (acft)
Total Count of Days
3000000
2500000
2000000
1500000
1000000
500000
0
350
300
250
200
150
100
50
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
Years
Volume of Natural Flow
Count of Days

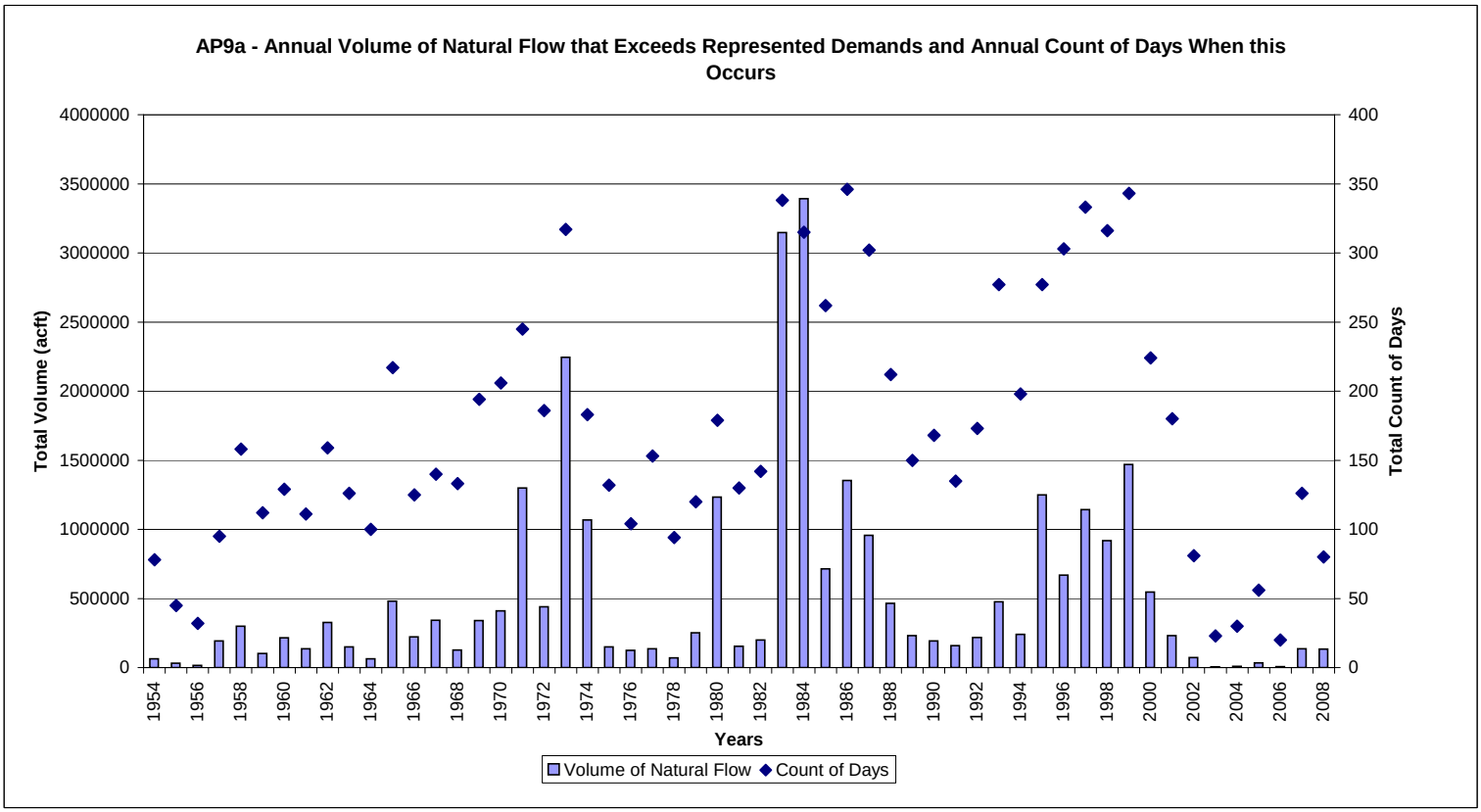

AP8a - Monthly Mean Excess Natural Flow with 95% Confidence Interval
Average Monthly Volume of Natural Flow that Exceeds the Represented Demands (acft)
Average Monthly Count of Days When an Exceedance Occurs
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
25
20
15
10
5
0
January
February
March
April
May
June
July
August
September
October
November
December
Months
Average Monthly Volume
95% CI
Average Monthly Count of Days

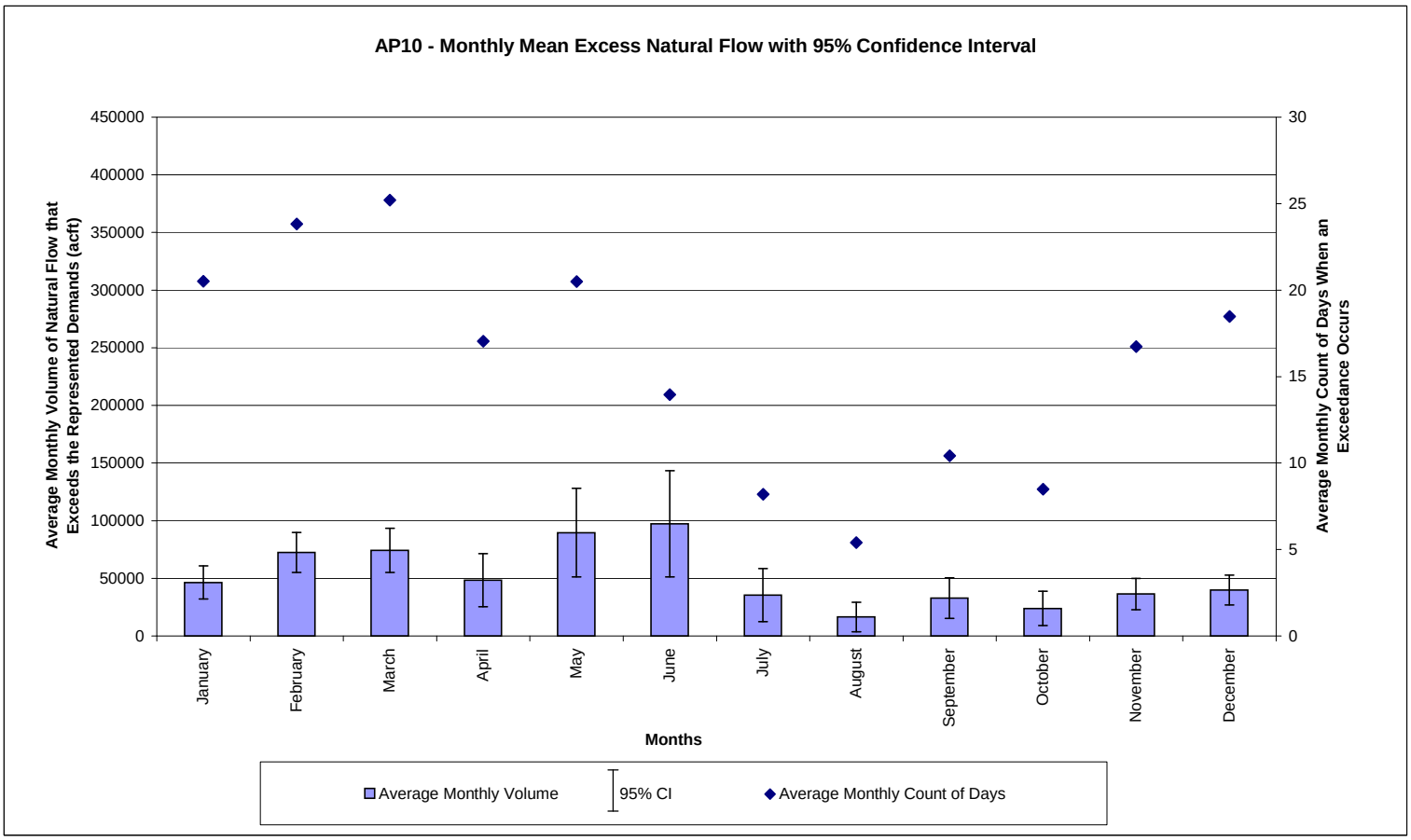

AP8a - Annual Volume of Natural Flow that Exceeds Represented Demands and Annual Count of Days When this Occurs
Total Volume (acft)
Total Count of Days
3000000
2500000
2000000
1500000
1000000
500000
0
350
300
250
200
150
100
50
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
Years
Volume of Natural Flow
Count of Days

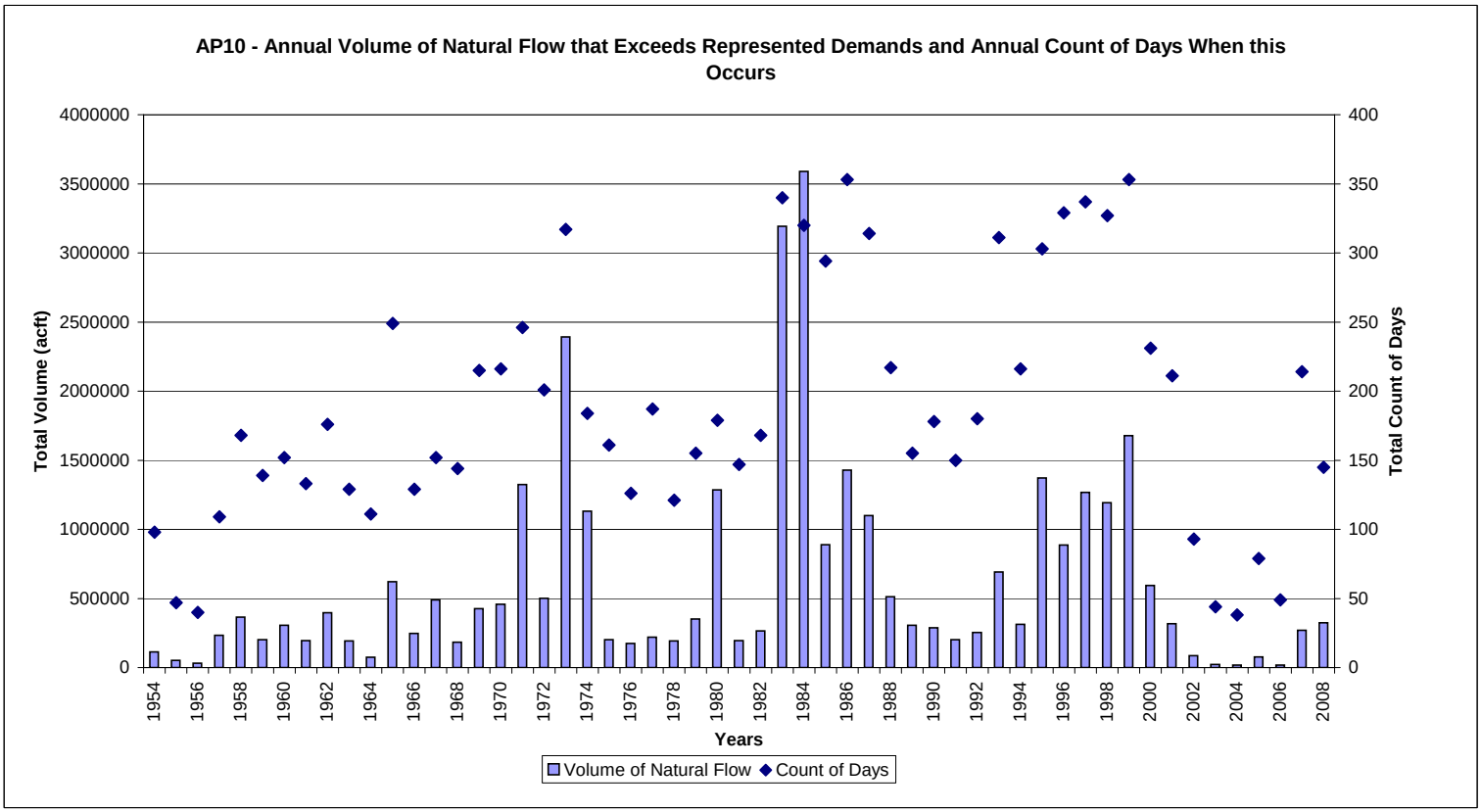

AP9 - Monthly Mean Excess Natural Flow with 95% Confidence Interval
Average Monthly Volume of Natural Flow that Exceeds the Represented Demands (acft)
Average Monthly Count of Days When an Exceedance Occurs
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
25
20
15
10
5
0
January
February
March
April
May
June
July
August
September
October
November
December
Months
Average Monthly Volume
95% CI
Average Monthly Count of Days

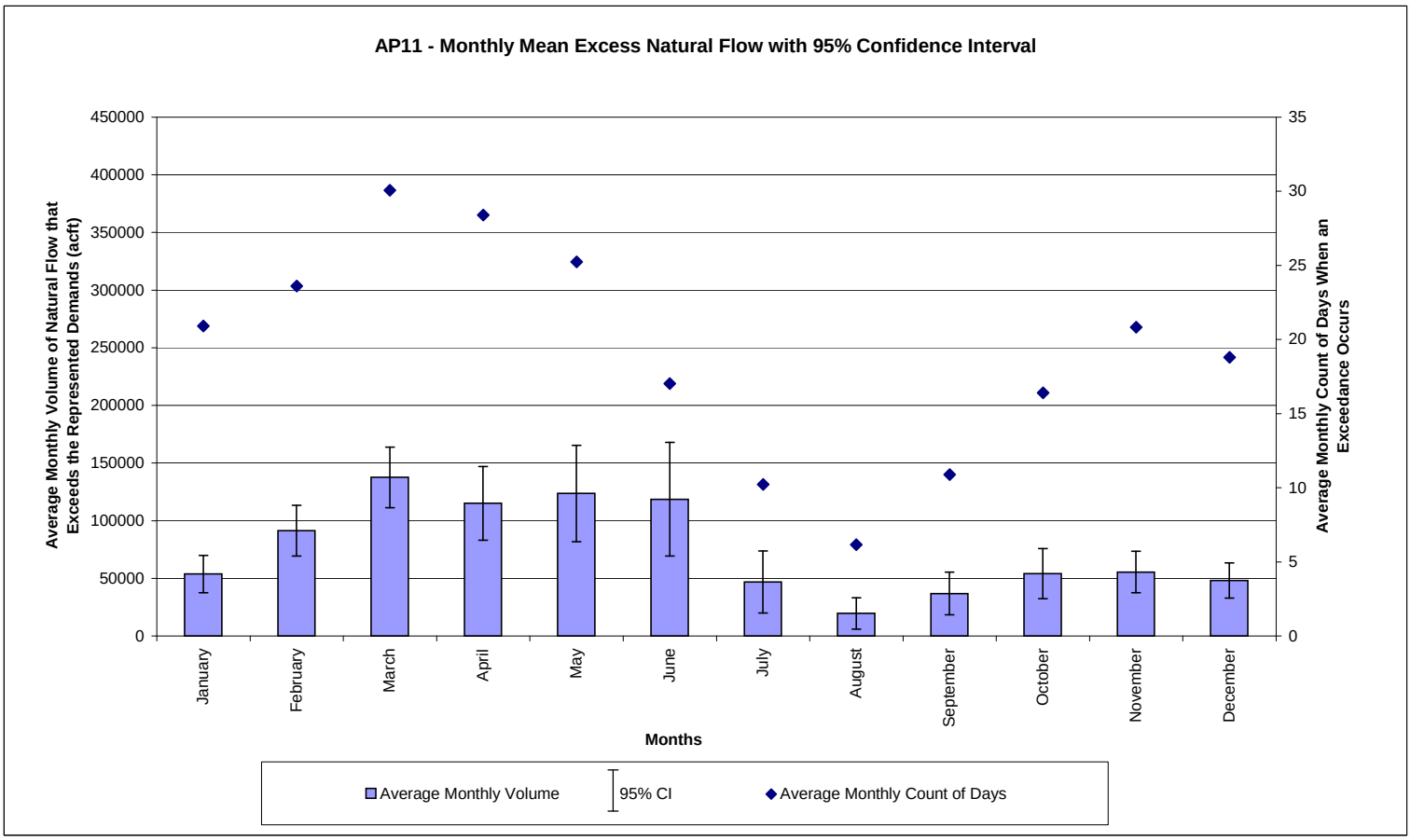

AP9 - Annual Volume of Natural Flow that Exceeds Represented Demands and Annual Count of Days When this Occurs
Total Volume (acft)
Total Count of Days
3000000
2500000
2000000
1500000
1000000
500000
0
350
300
250
200
150
100
50
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
Years
Volume of Natural Flow
Count of Days

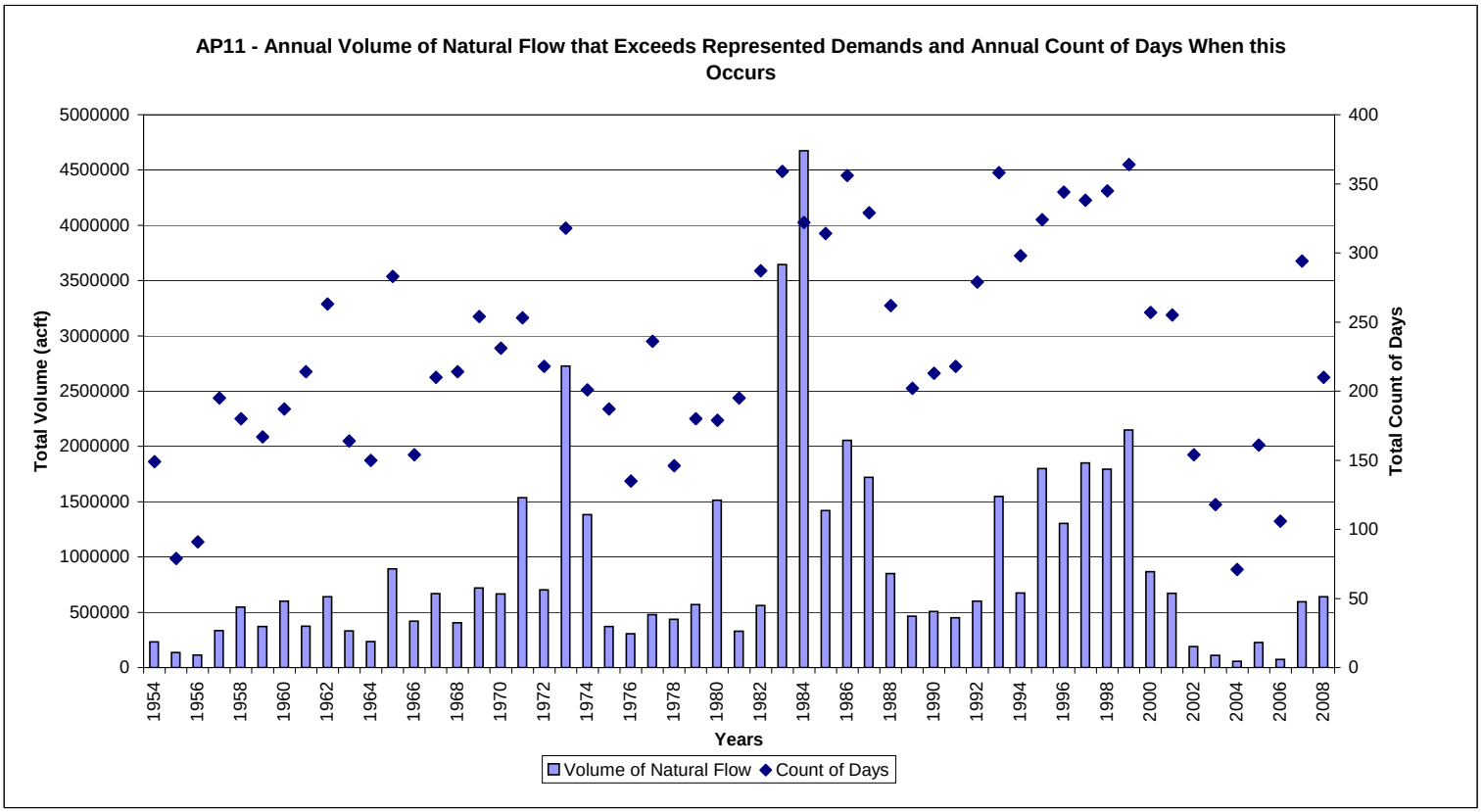

AP9a - Monthly Mean Excess Natural Flow with 95% Confidence Interval
Average Monthly Volume of Natural Flow that Exceeds the Represented Demands (acft)
Average Monthly Count of Days When an Exceedance Occurs
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
25
20
15
10
5
0
January
February
March
April
May
June
July
August
September
October
November
December
Months
Average Monthly Volume
95% CI
Average Monthly Count of Days

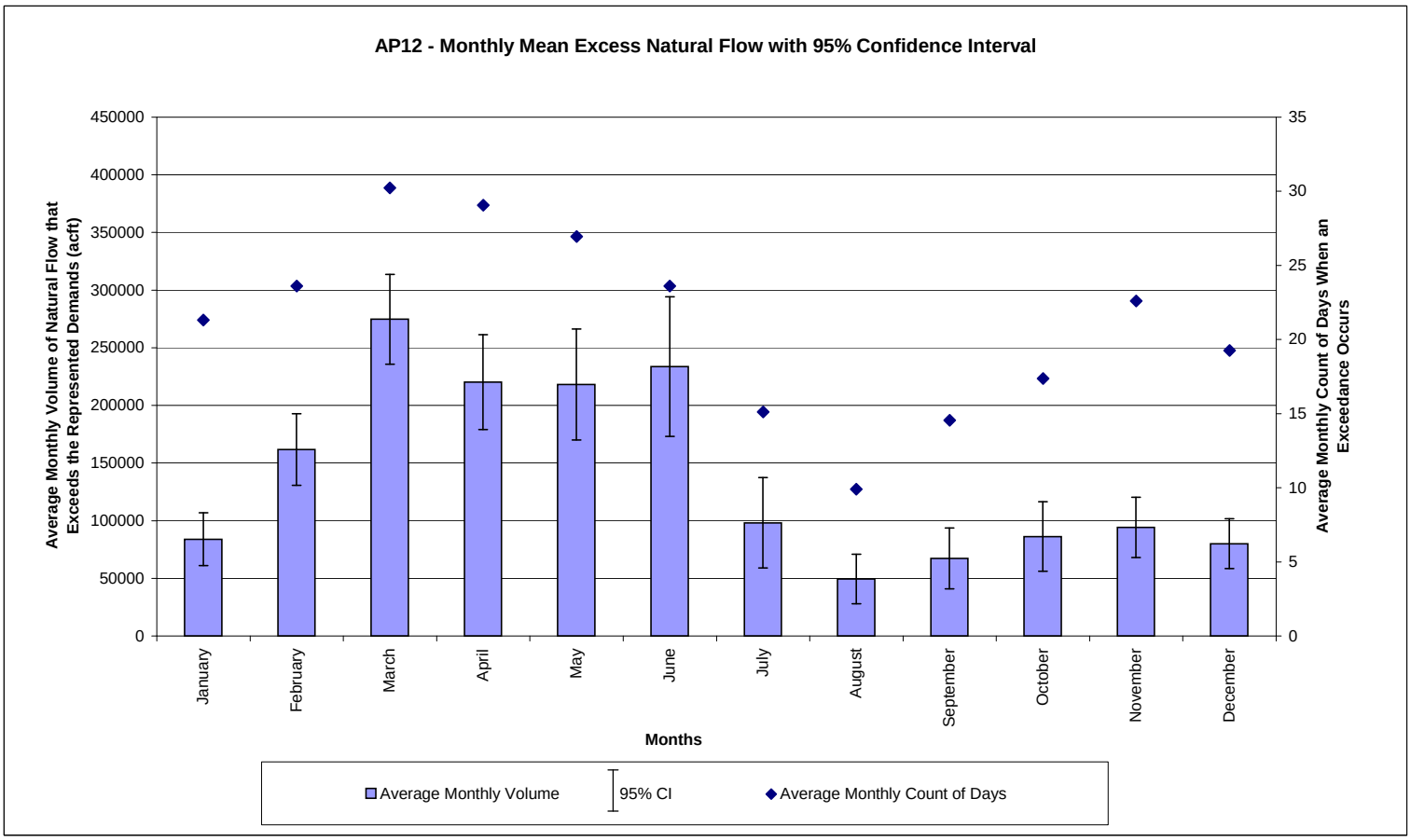

AP9a - Annual Volume of Natural Flow that Exceeds Represented Demands and Annual Count of Days When this Occurs
Total Volume (acft)
Total Count of Days
4000000
3500000
3000000
2500000
2000000
1500000
1000000
500000
0
400
350
300
250
200
150
100
50
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
Years
Volume of Natural Flow
Count of Days

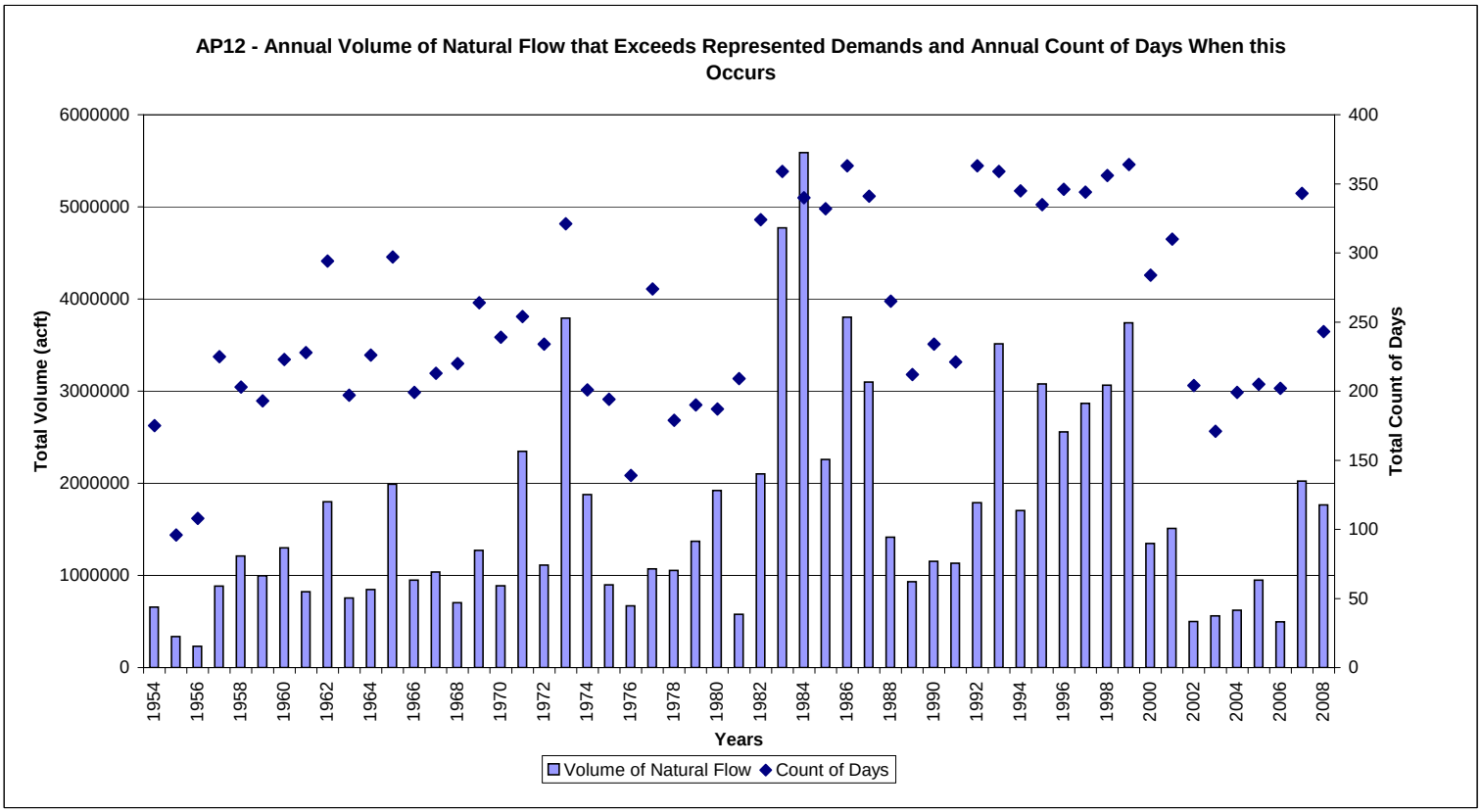

AP10 - Monthly Mean Excess Natural Flow with 95% Confidence Interval
Average Monthly Volume of Natural Flow that Exceeds the Represented Demands (acft)
Average Monthly Count of Days When an Exceedance Occurs
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
30
25
20
15
10
5
0
January
February
March
April
May
June
July
August
September
October
November
December
Months
Average Monthly Volume
95% CI
Average Monthly Count of Days

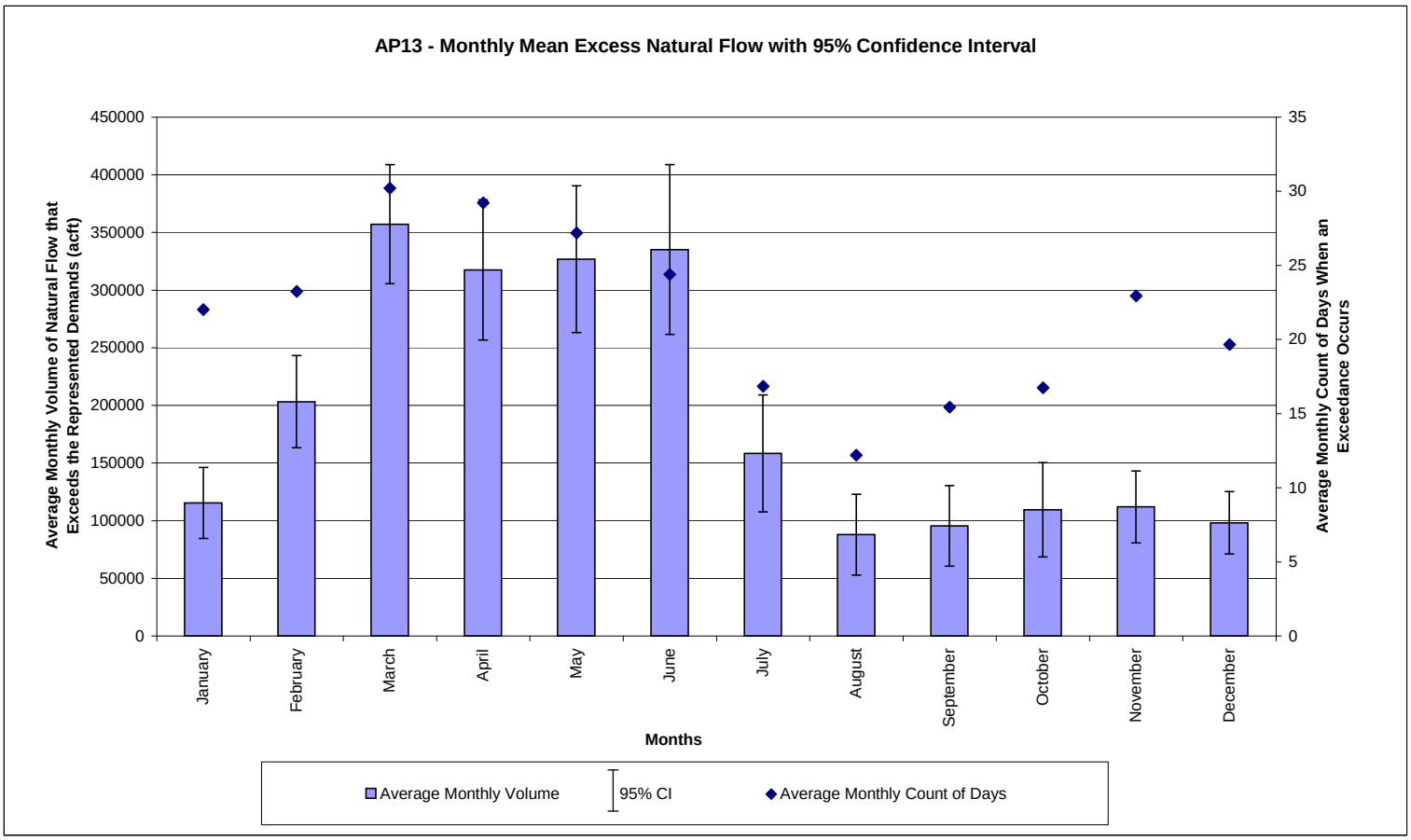

AP10 - Annual Volume of Natural Flow that Exceeds Represented Demands and Annual Count of Days When this Occurs
Total Volume (acft)
Total Count of Days
4000000
3500000
3000000
2500000
2000000
1500000
1000000
500000
0
400
350
300
250
200
150
100
50
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
Years
Volume of Natural Flow
Count of Days

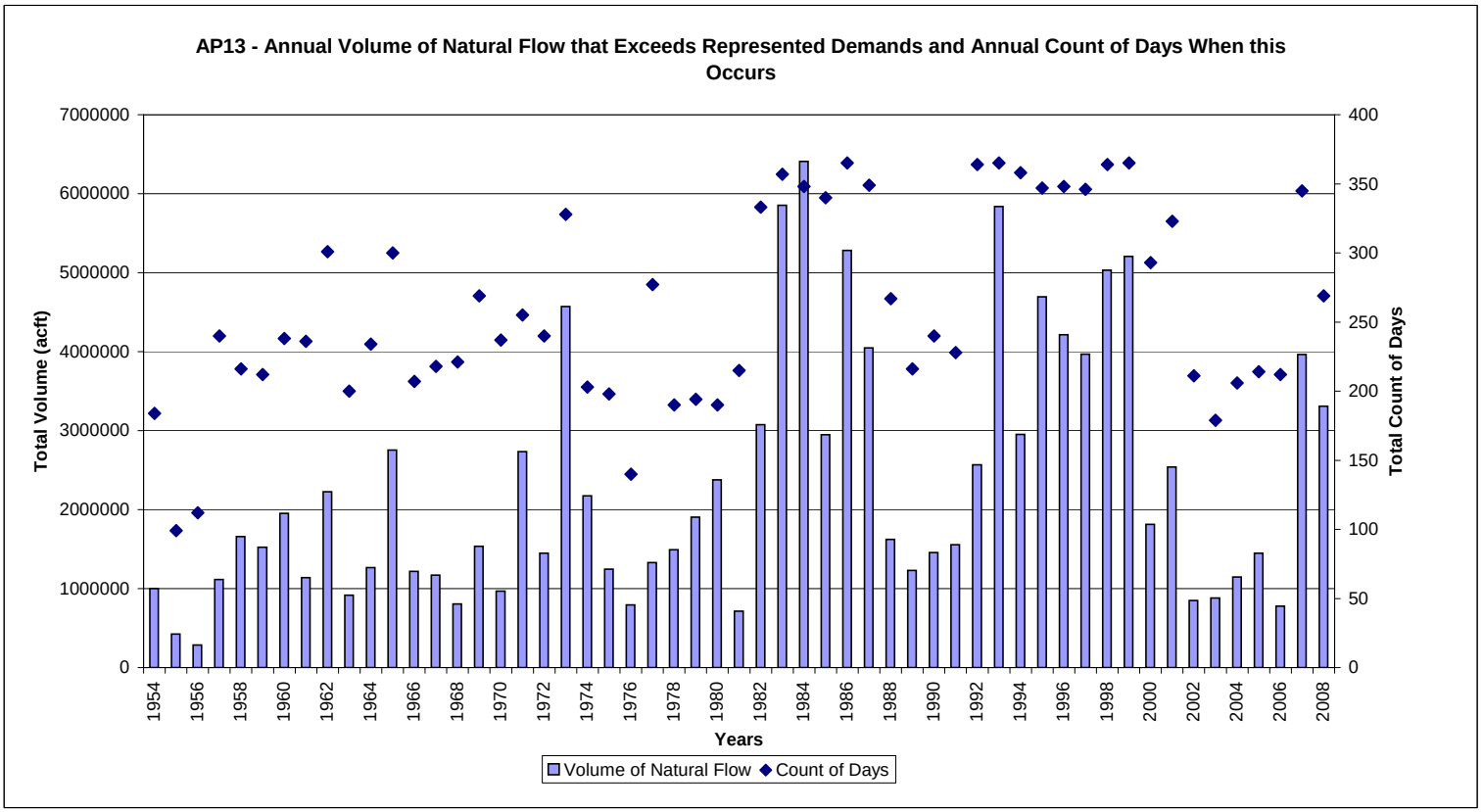

AP11 - Monthly Mean Excess Natural Flow with 95% Confidence Interval
Average Monthly Volume of Natural Flow that Exceeds the Represented Demands (acft)
Average Monthly Count of Days When an Exceedance Occurs
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
35
30
25
20
15
10
5
0
January
February
March
April
May
June
July
August
September
October
November
December
Months
Average Monthly Volume
95% CI
Average Monthly Count of Days


AP11 - Annual Volume of Natural Flow that Exceeds Represented Demands and Annual Count of Days When this Occurs
Total Volume (acft)
Total Count of Days
5000000
4500000
4000000
3500000
3000000
2500000
2000000
1500000
1000000
500000
0
400
350
300
250
200
150
100
50
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
Years
Volume of Natural Flow
Count of Days


AP12 - Monthly Mean Excess Natural Flow with 95% Confidence Interval
Average Monthly Volume of Natural Flow that Exceeds the Represented Demands (acft)
Average Monthly Count of Days When an Exceedance Occurs
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
35
30
25
20
15
10
5
0
January
February
March
April
May
June
July
August
September
October
November
December
Months
Average Monthly Volume
95% CI
Average Monthly Count of Days


AP12 - Annual Volume of Natural Flow that Exceeds Represented Demands and Annual Count of Days When this Occurs
Total Volume (acft)
Total Count of Days
6000000
5000000
4000000
3000000
2000000
1000000
0
400
350
300
250
200
150
100
50
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
Years
Volume of Natural Flow
Count of Days

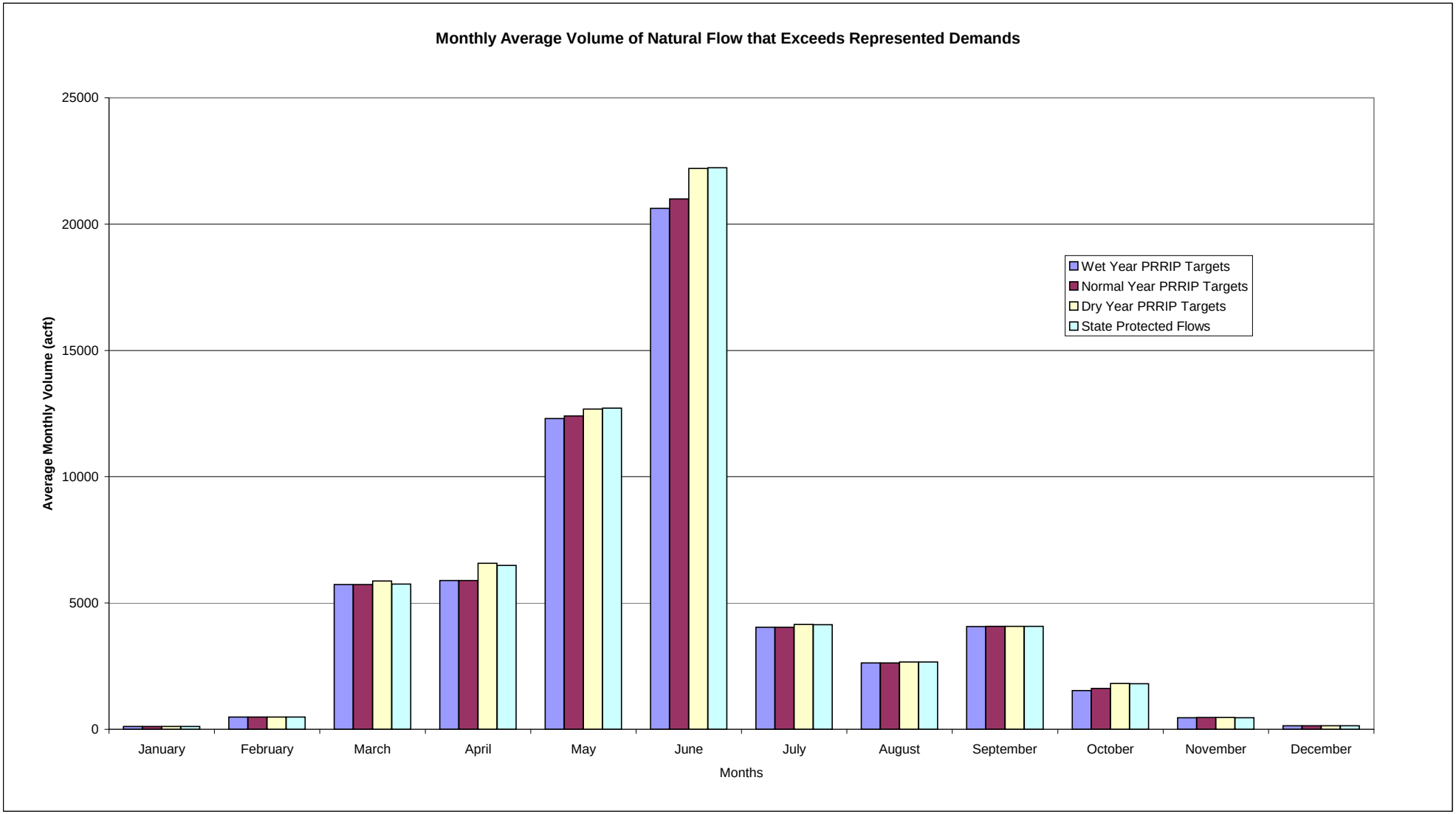

AP13 - Monthly Mean Excess Natural Flow with 95% Confidence Interval
Average Monthly Volume of Natural Flow that Exceeds the Represented Demands (acft)
Average Monthly Count of Days When an Exceedance Occurs
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
35
30
25
20
15
10
5
0
January
February
March
April
May
June
July
August
September
October
November
December
Months
Average Monthly Volume
95% CI
Average Monthly Count of Days


AP13 - Annual Volume of Natural Flow that Exceeds Represented Demands and Annual Count of Days When this Occurs
Total Volume (acft)
Total Count of Days
7000000
6000000
5000000
4000000
3000000
2000000
1000000
0
400
350
300
250
200
150
100
50
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
Years
Volume of Natural Flow
Count of Days

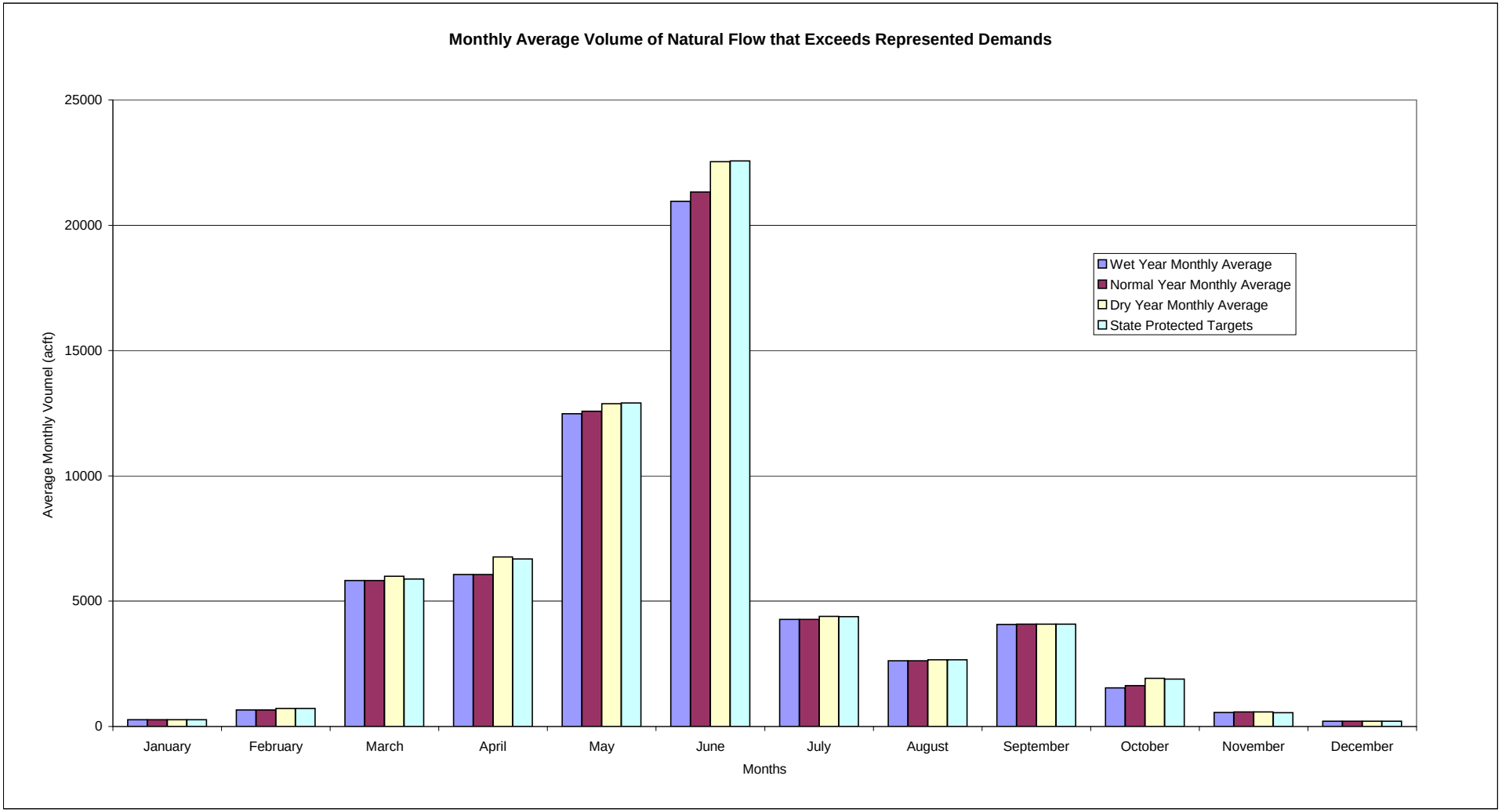
Appendix E – Output Plots for Excess to PRRIP Target Flows

Appendix E contains plots of the average monthly excess to state protected and target flow volumes over the period of record when queried for both state protected and target flow demands.

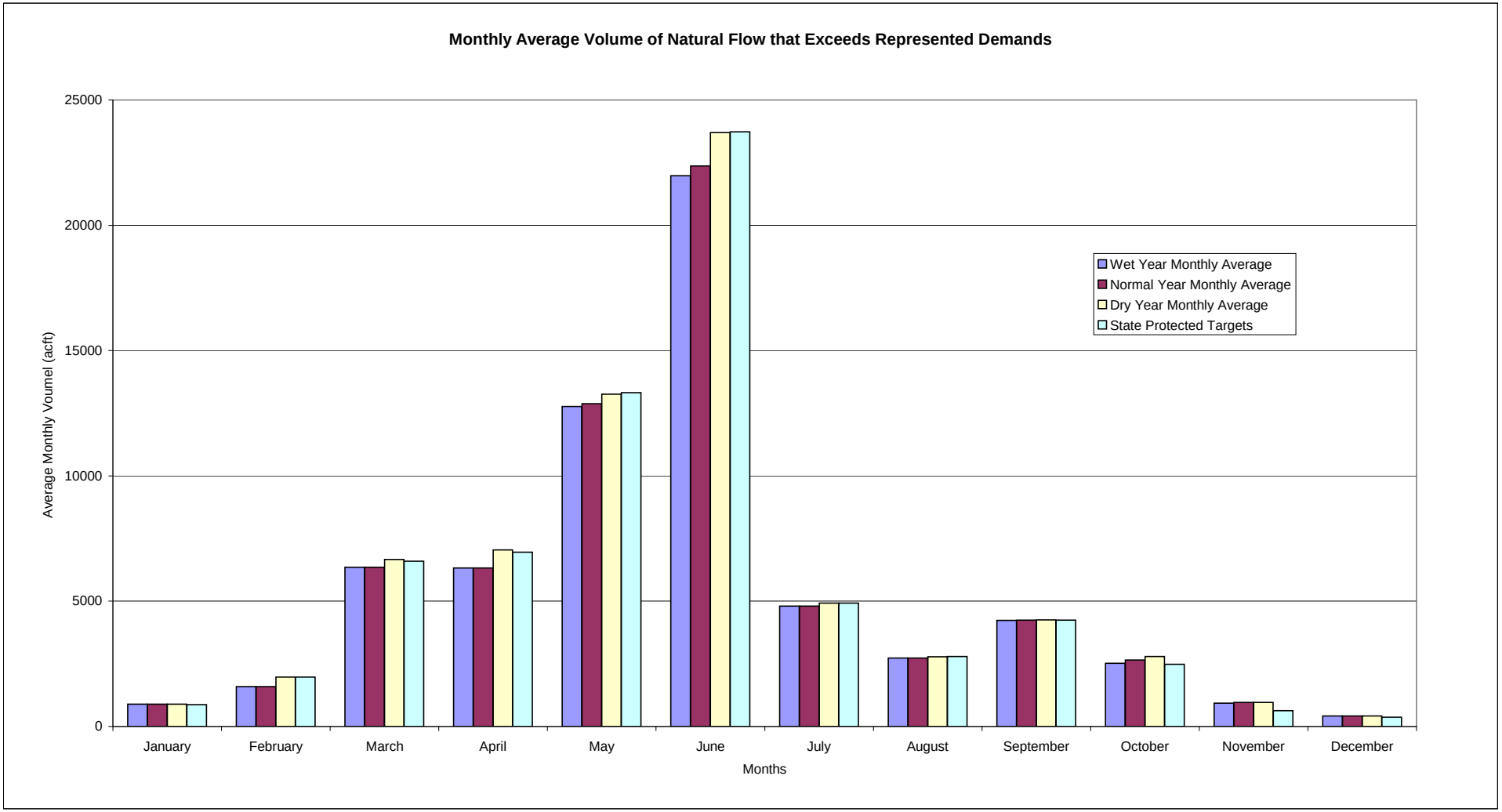
Analysis Point 1 (AP1) - North Platte River @ Keystone Diversion



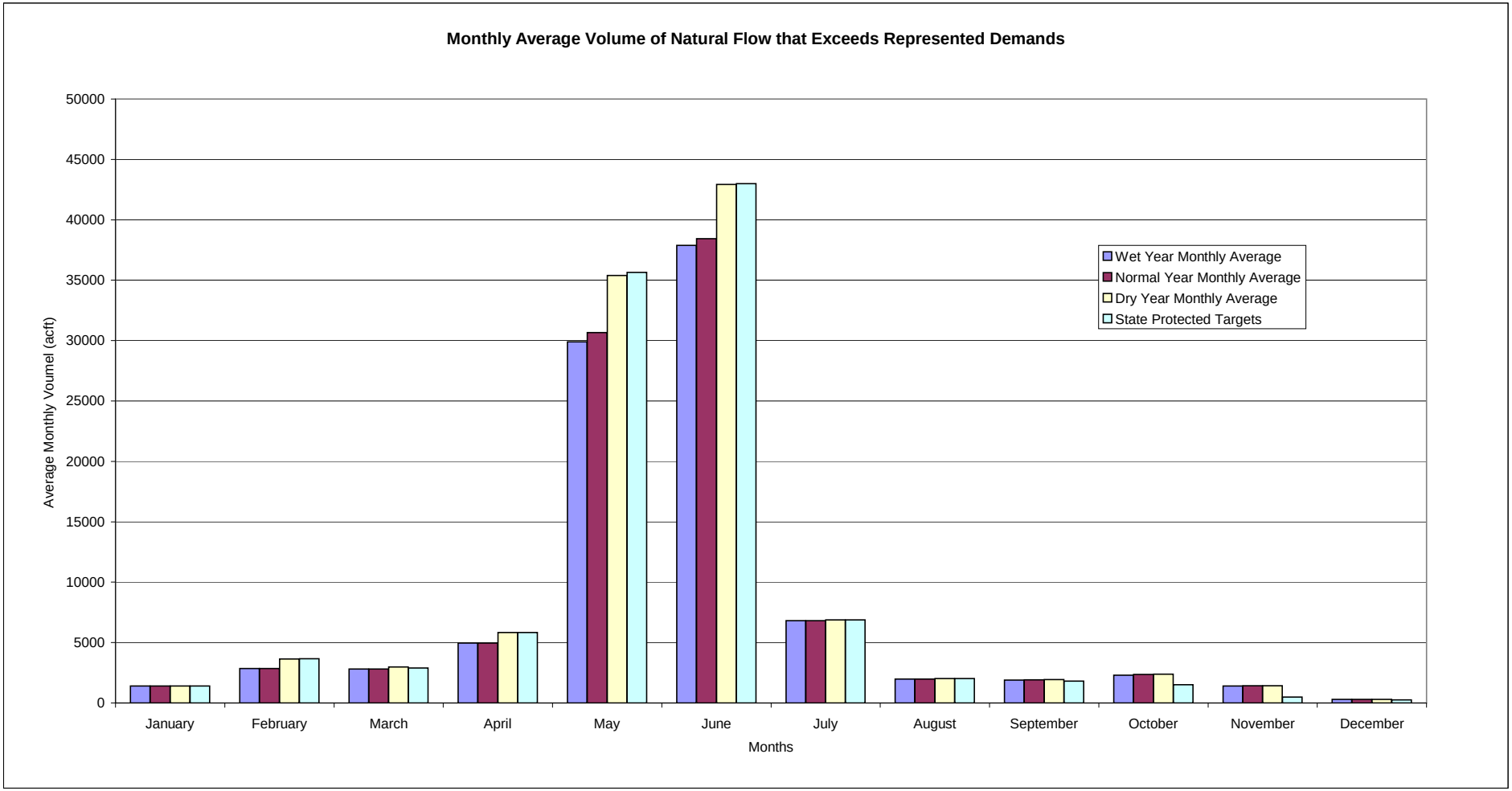
Analysis Point 2 (AP2) - North Platte River @ Keystone



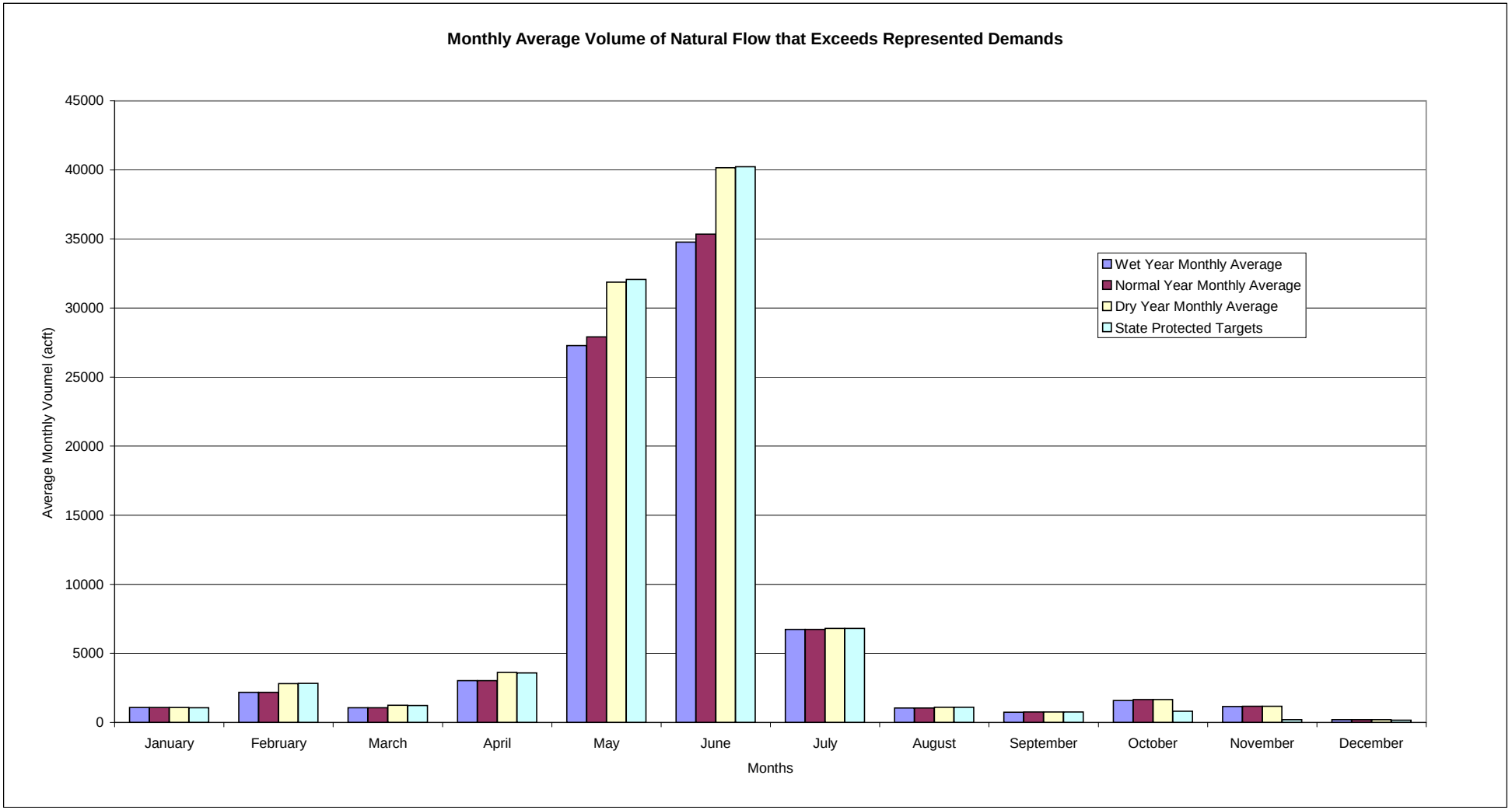
Analysis Point 3 (AP3) - North Platte River @ Birdwood



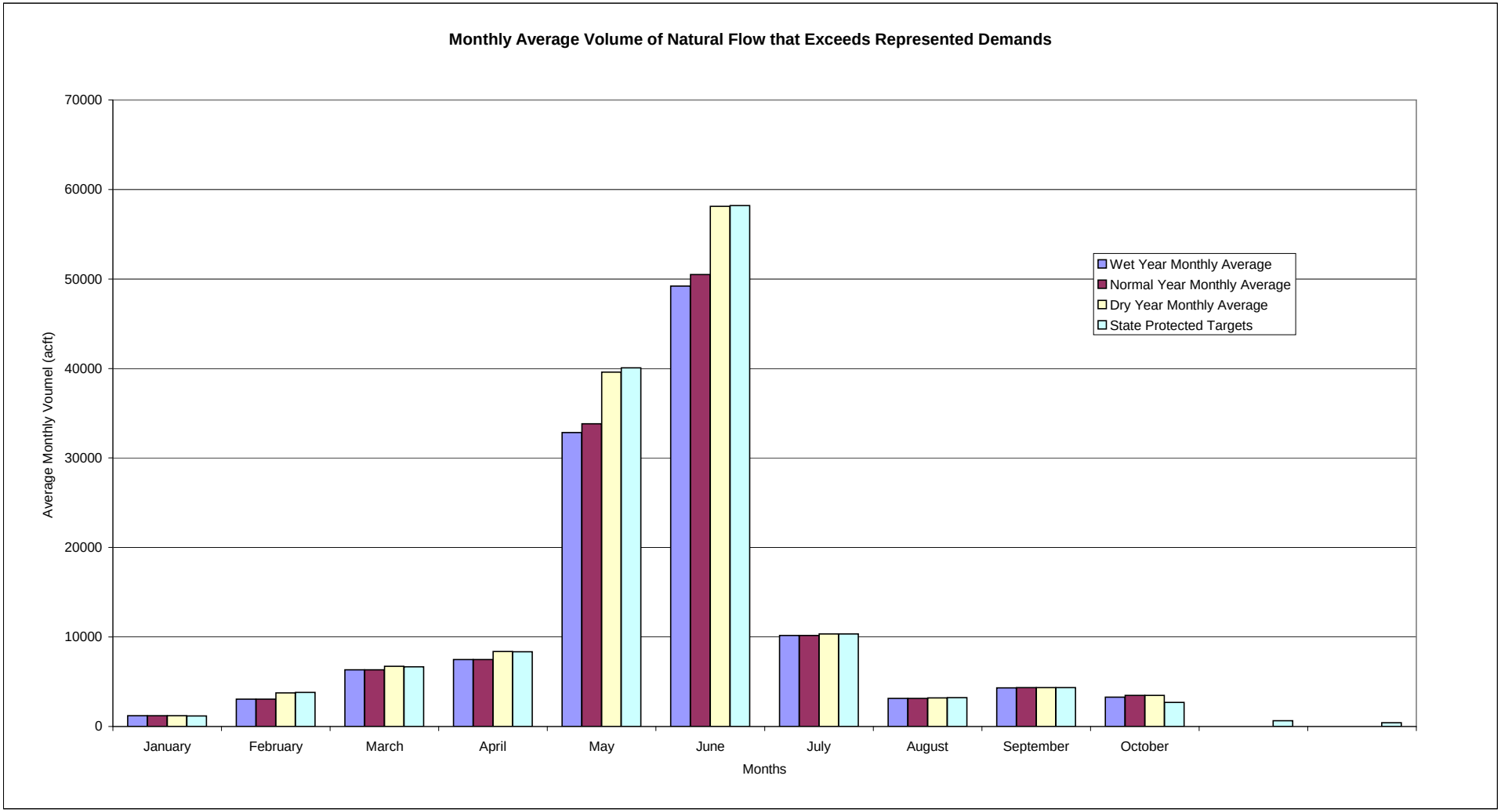
Analysis Point s1 (APs1) - South Platte River @ Western Canal



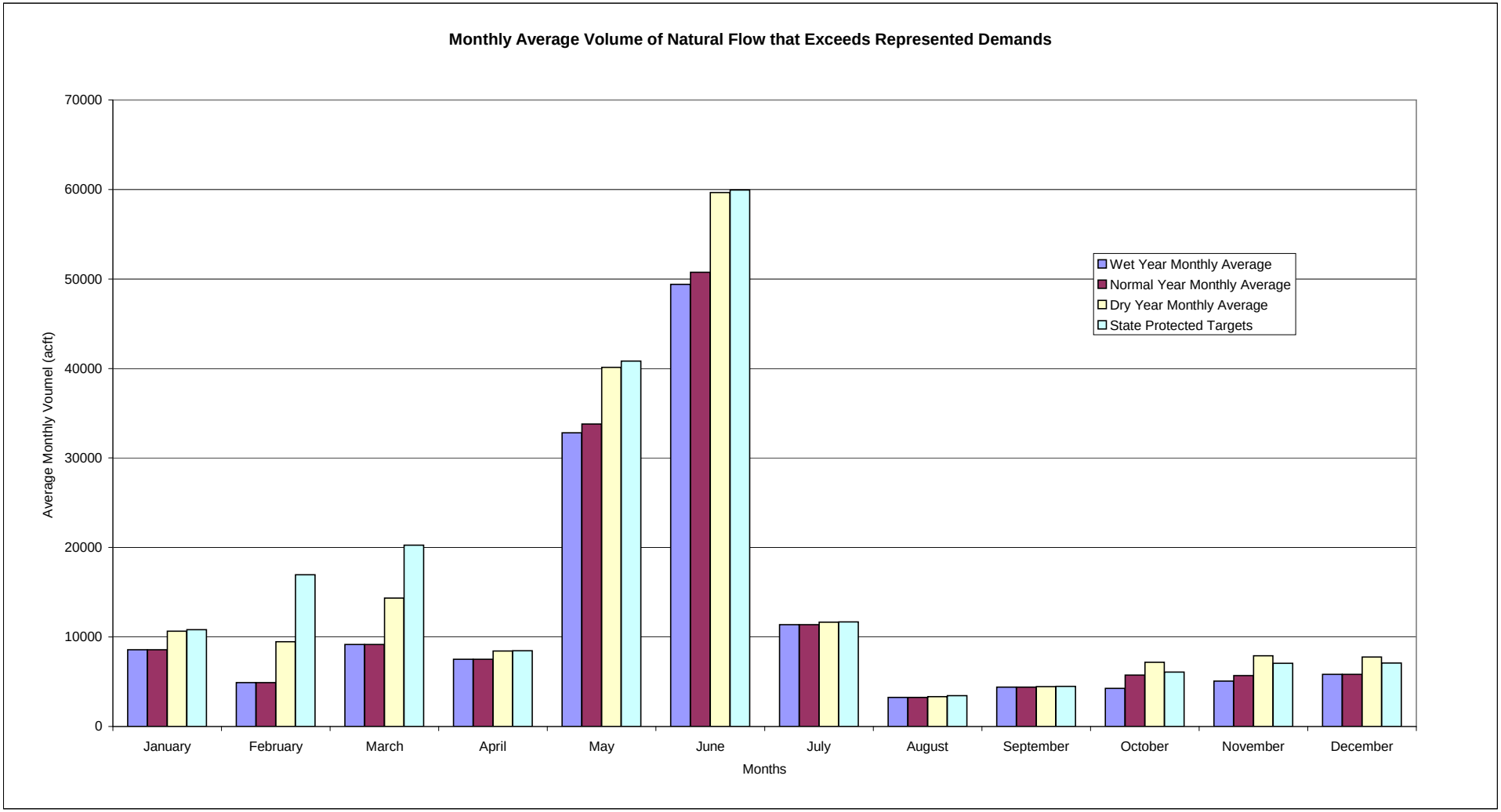
Analysis Point s2 (APs2) - South Platte River @ Korty Canal



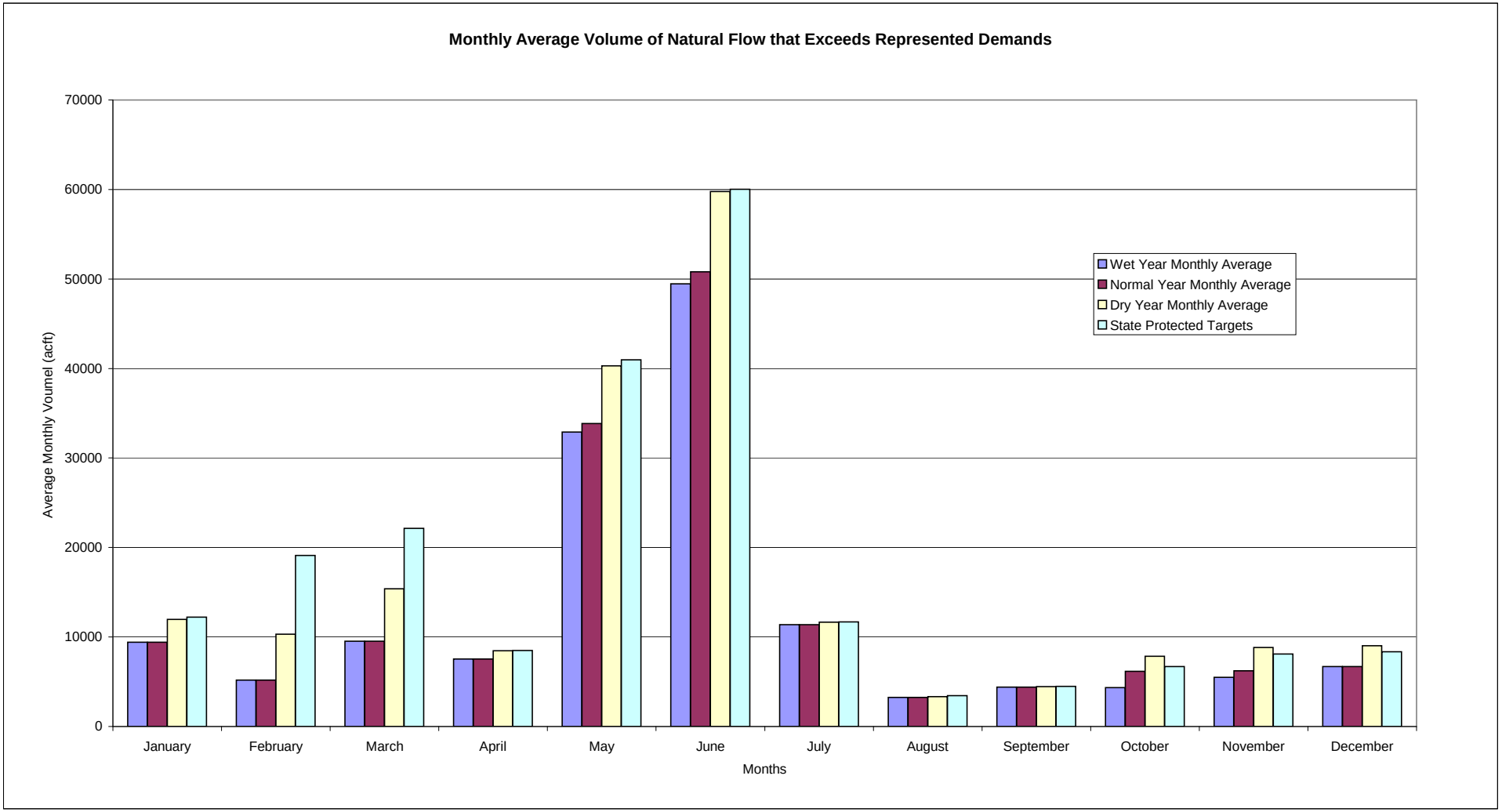
Analysis Point 4 (AP4) - Platte River @Tri-County Diversion



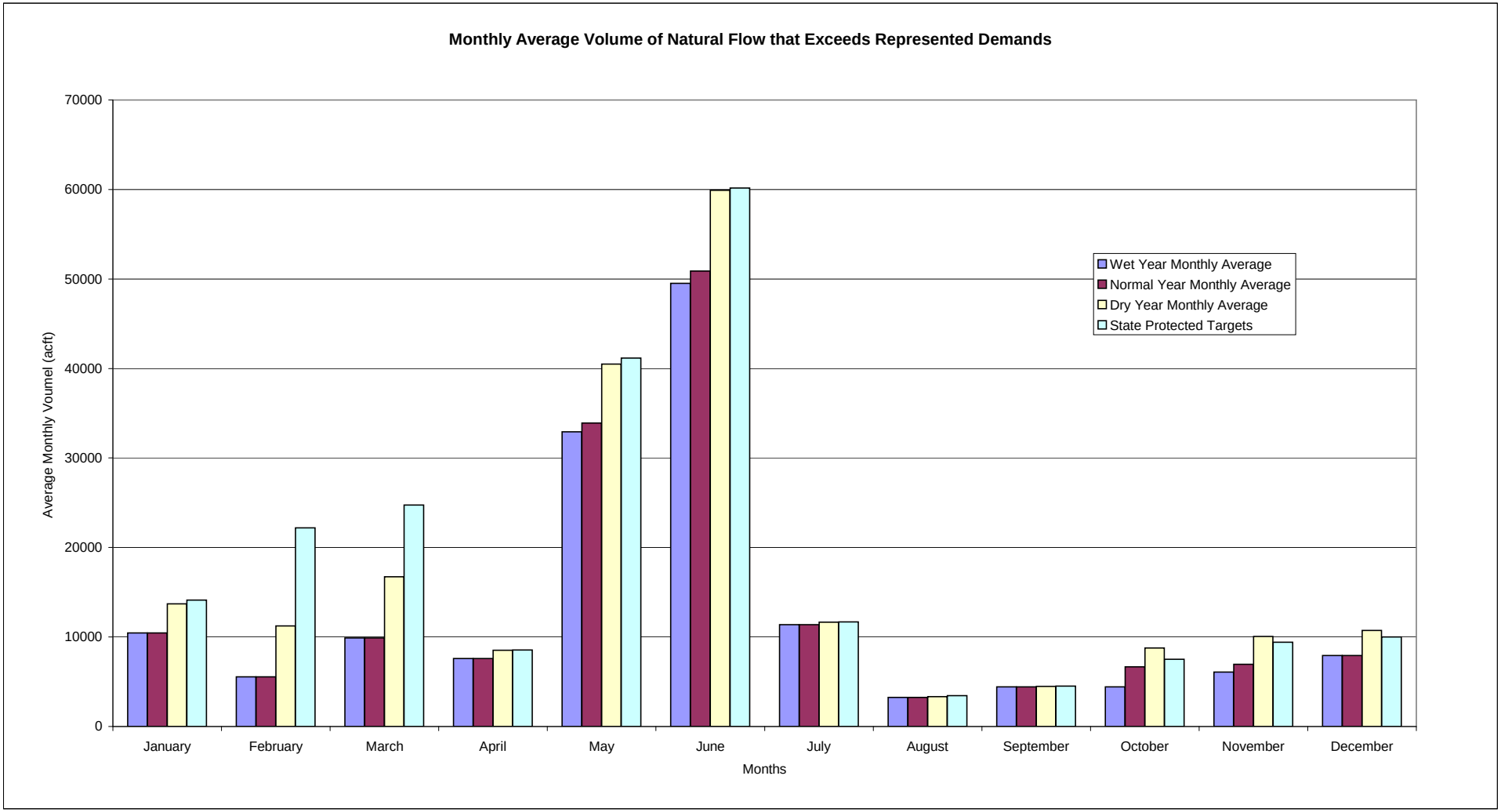
Analysis Point 5 (AP5) - Platte River @ Gothenberg Diversion



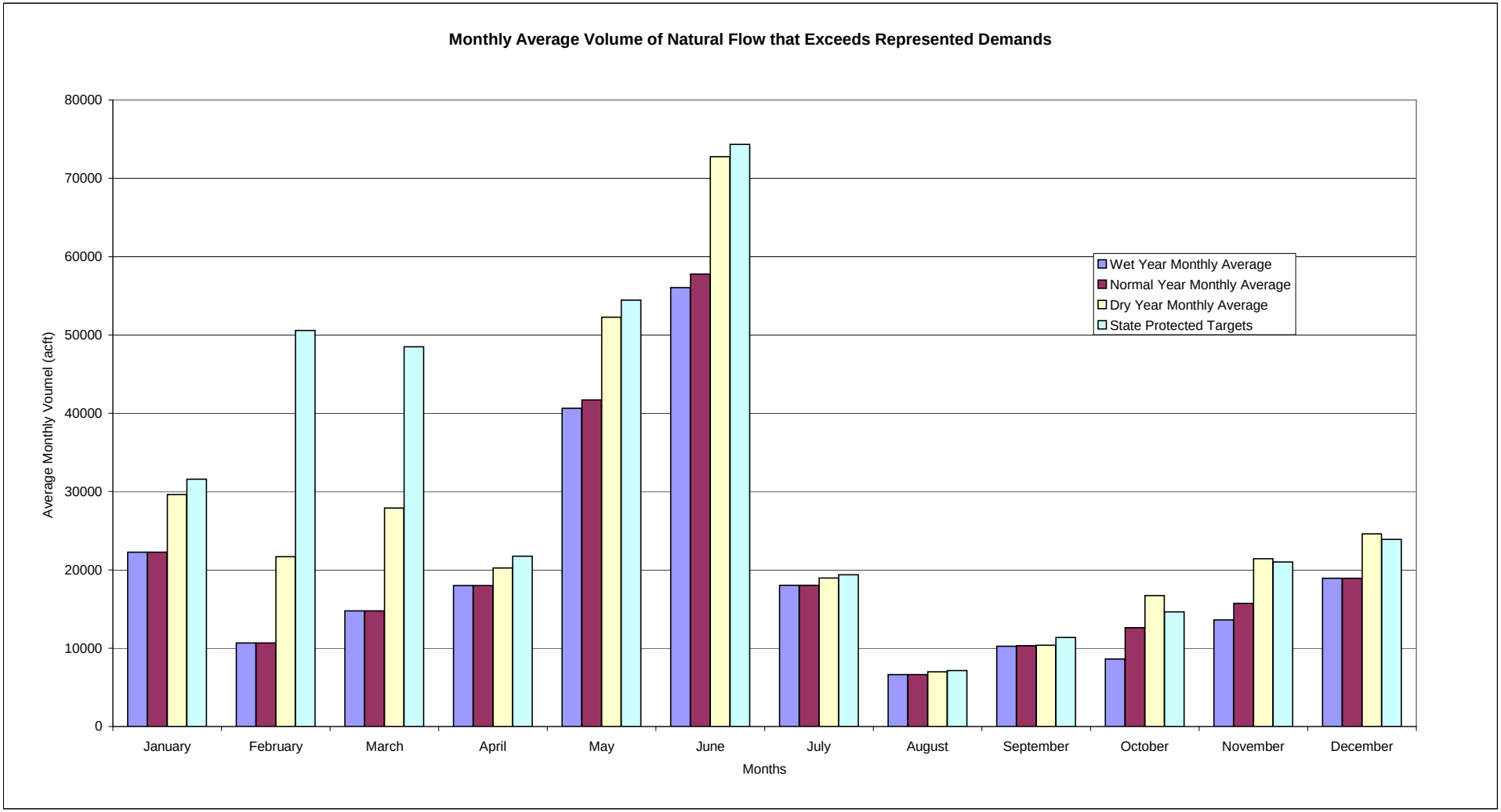
Analysis Point 6 (AP6) - Platte River @ Cozad Diversion



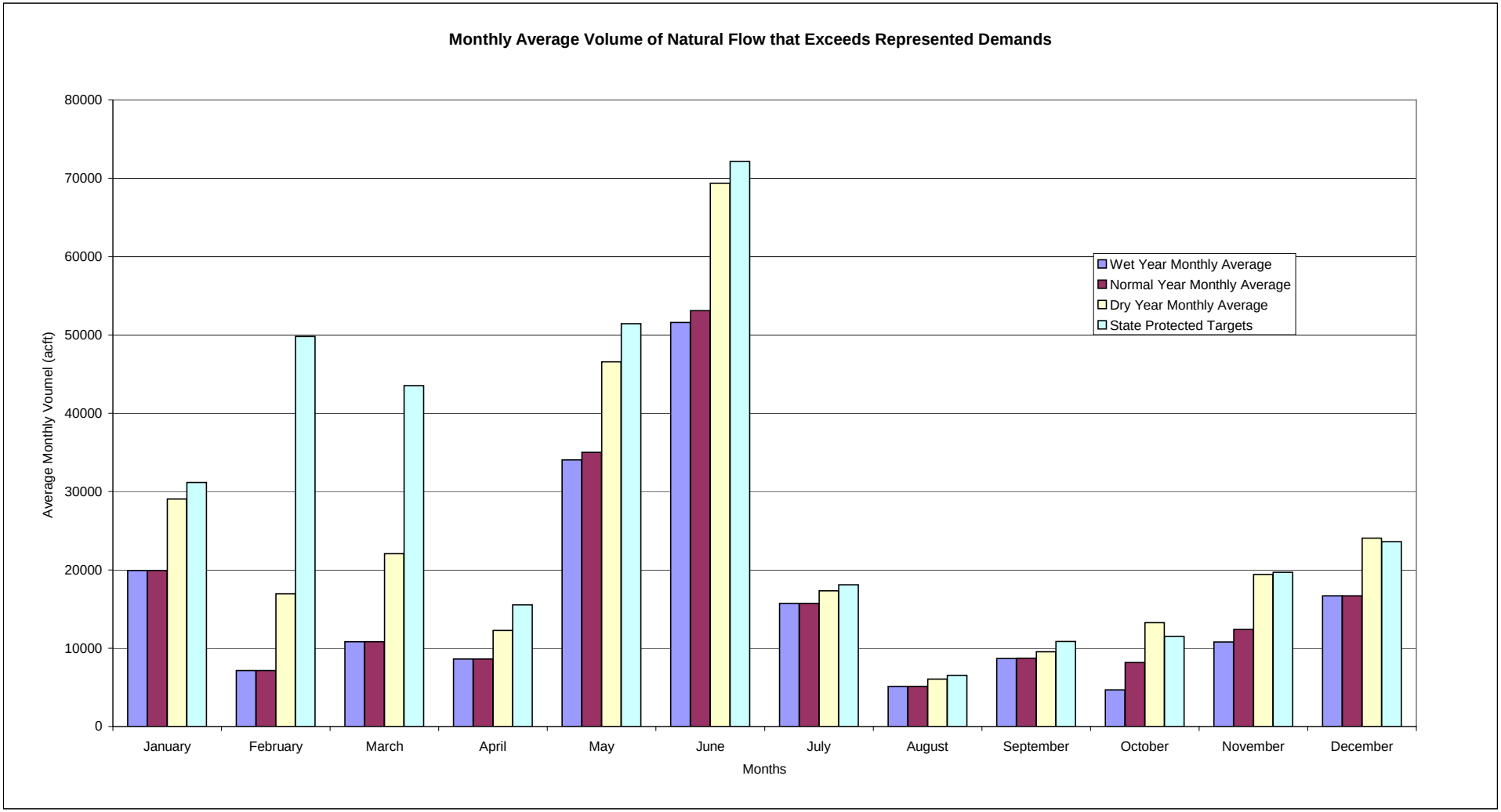
Analysis Point 7 (AP7) - Platte River @ Dawson County Diversion



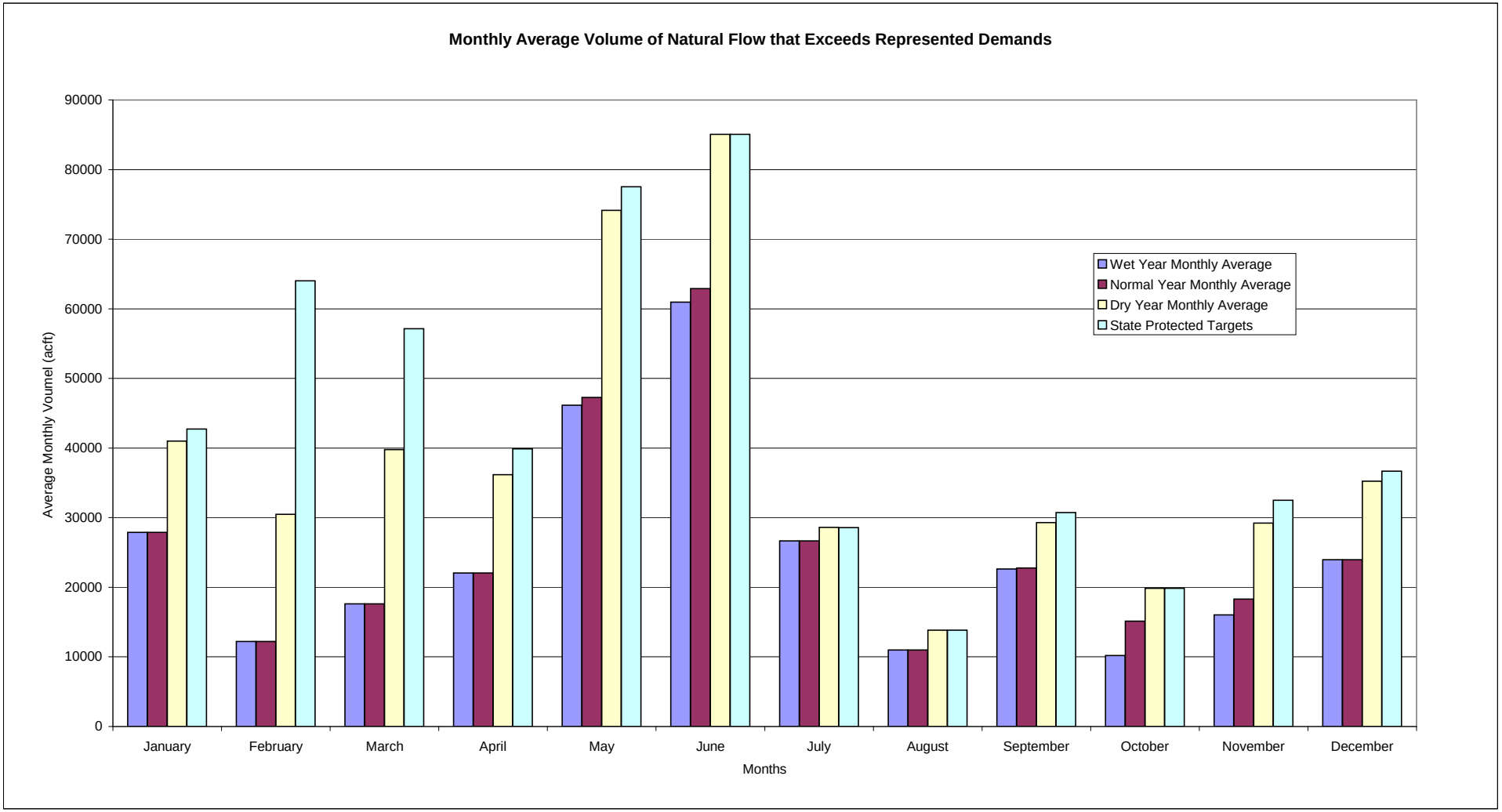
Analysis Point 8a (AP8a) - Platte River @ Overton (Historical Gauge)



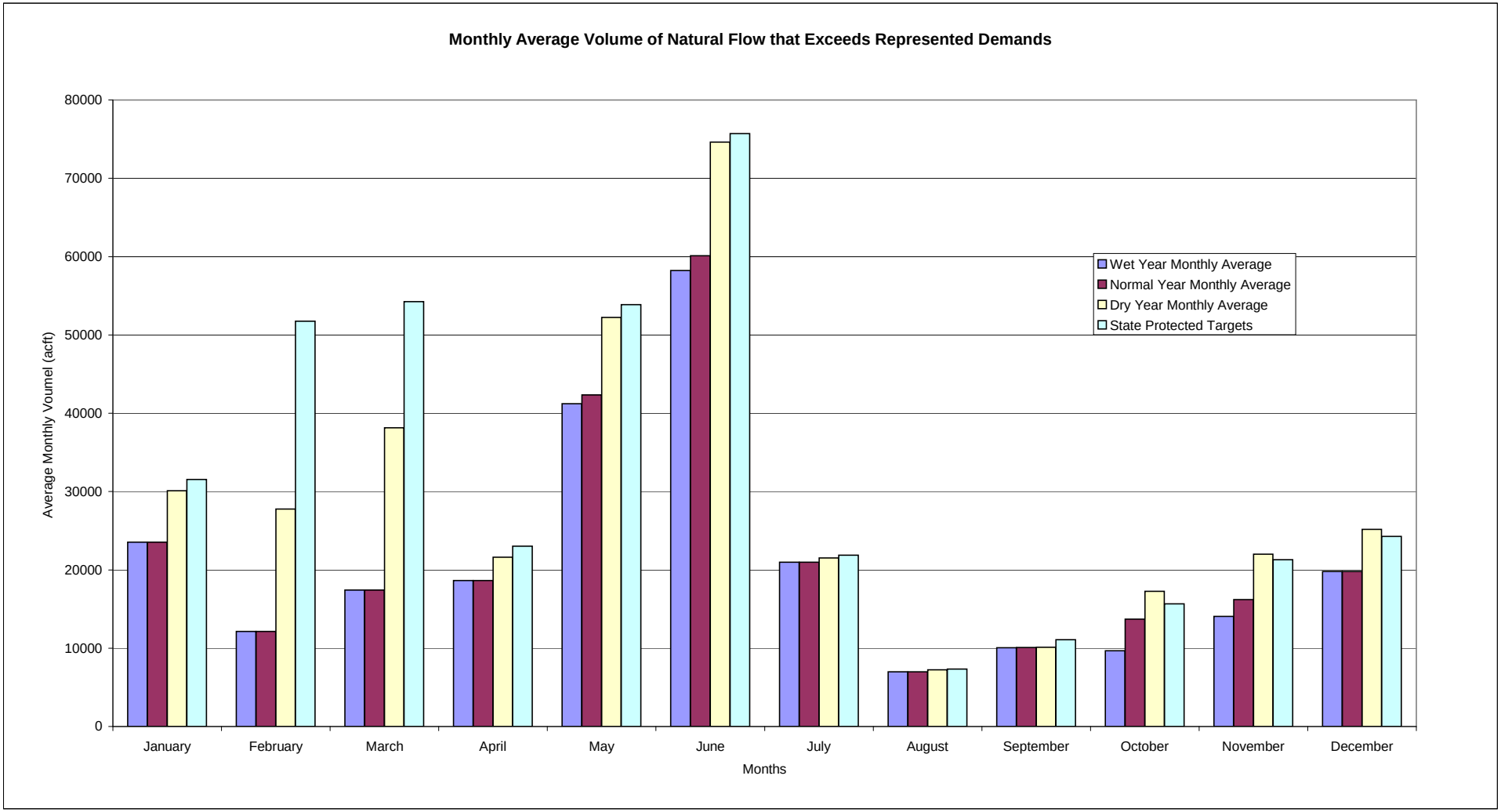
Analysis Point 8 (AP8) - Platte River @ Overton



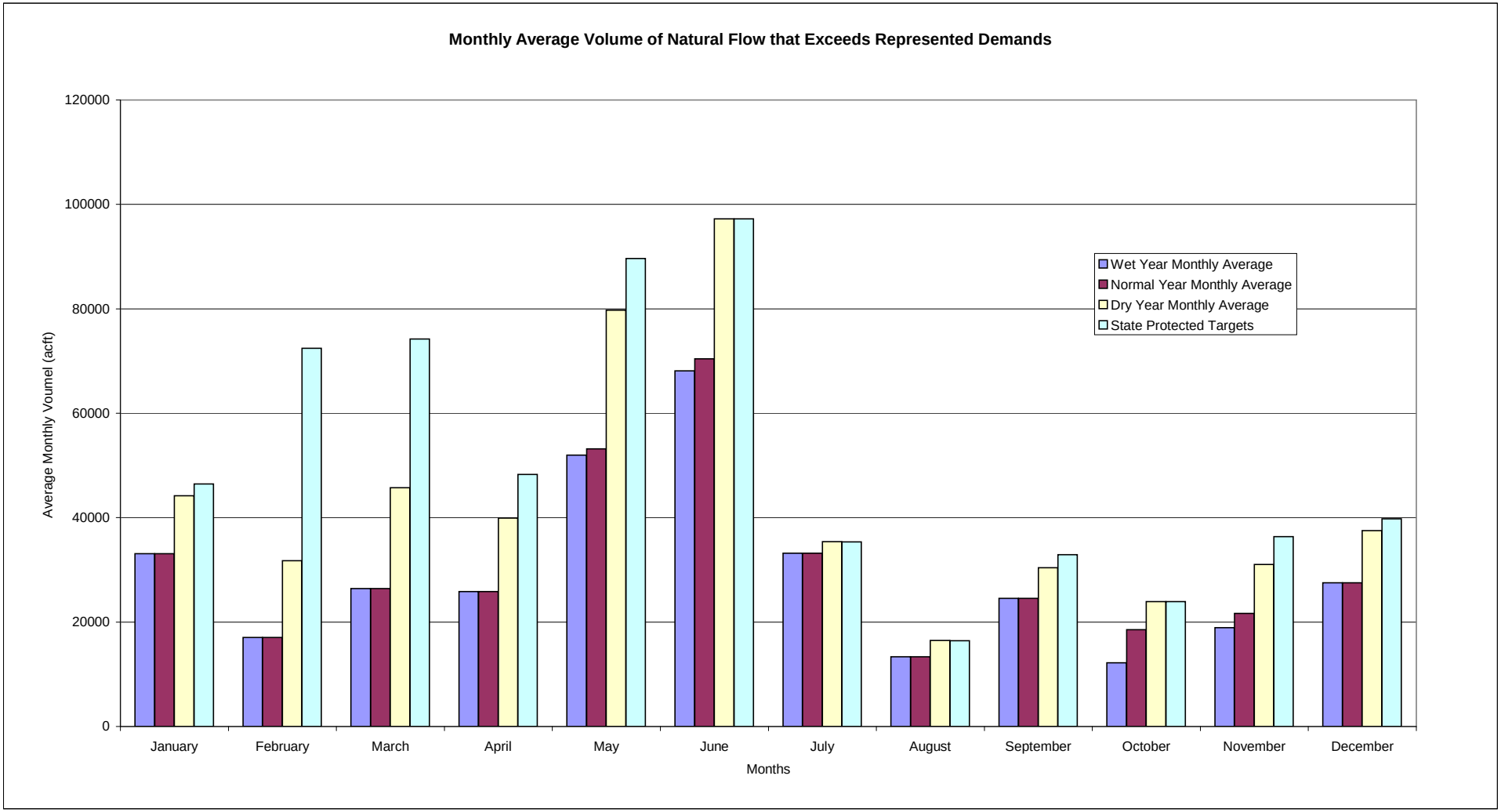
Analysis Point 9a (AP9a) - Platte River @ Odessa (Historical Gauge)



Analysis Point 9 (AP9) - Platte River @ Kearney Diversion

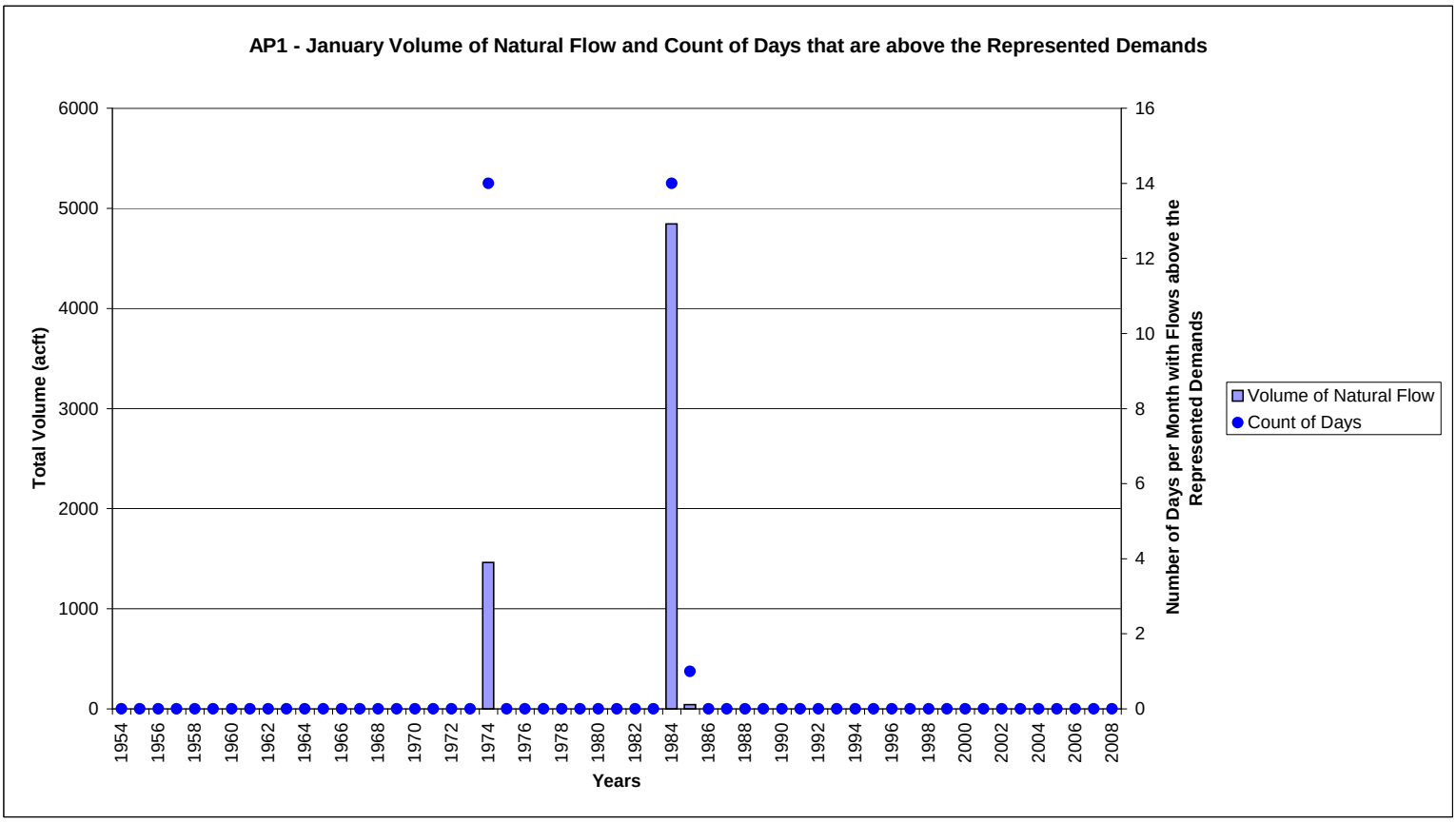


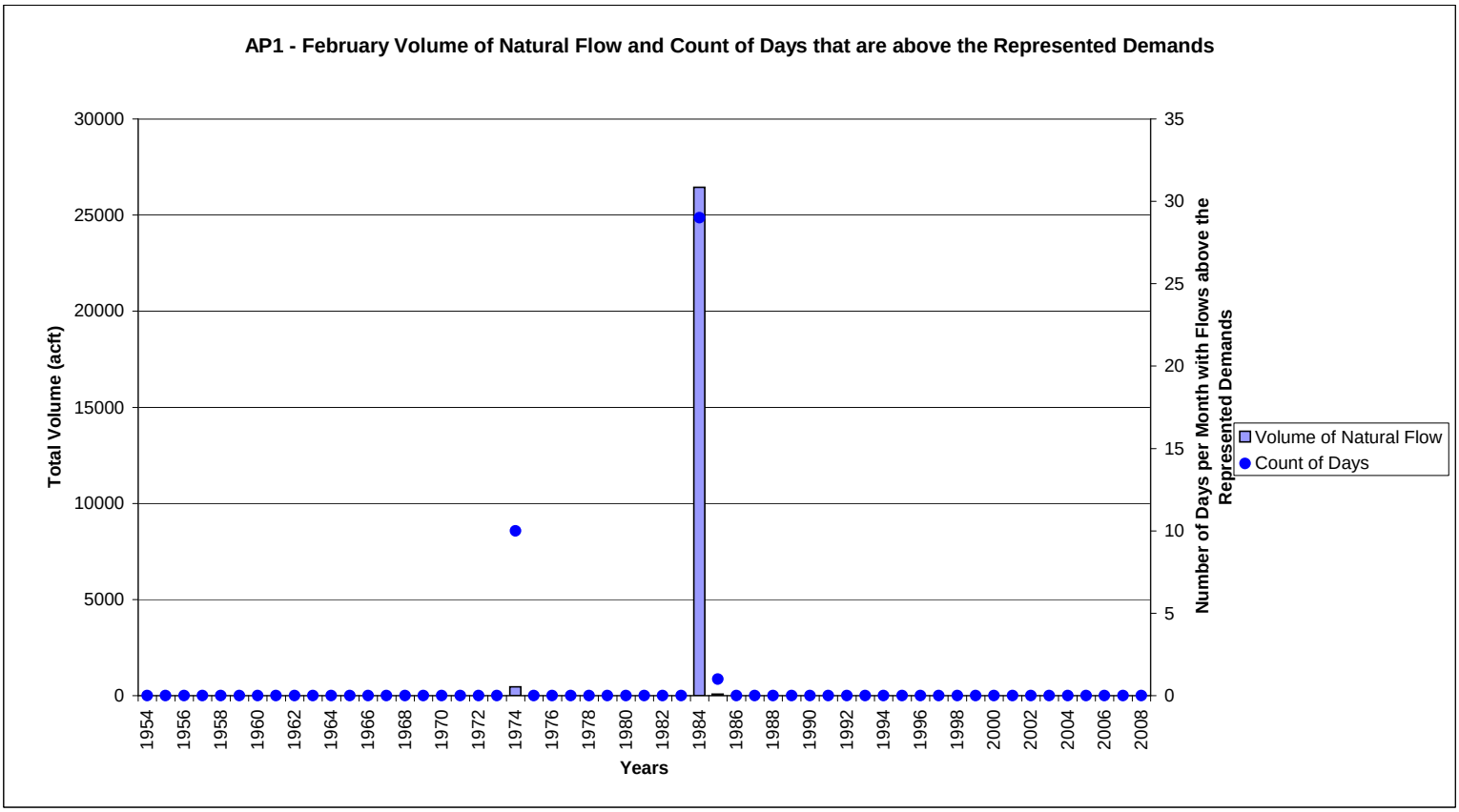
Analysis Point 10 (AP10) - Platte River @ Grand Island

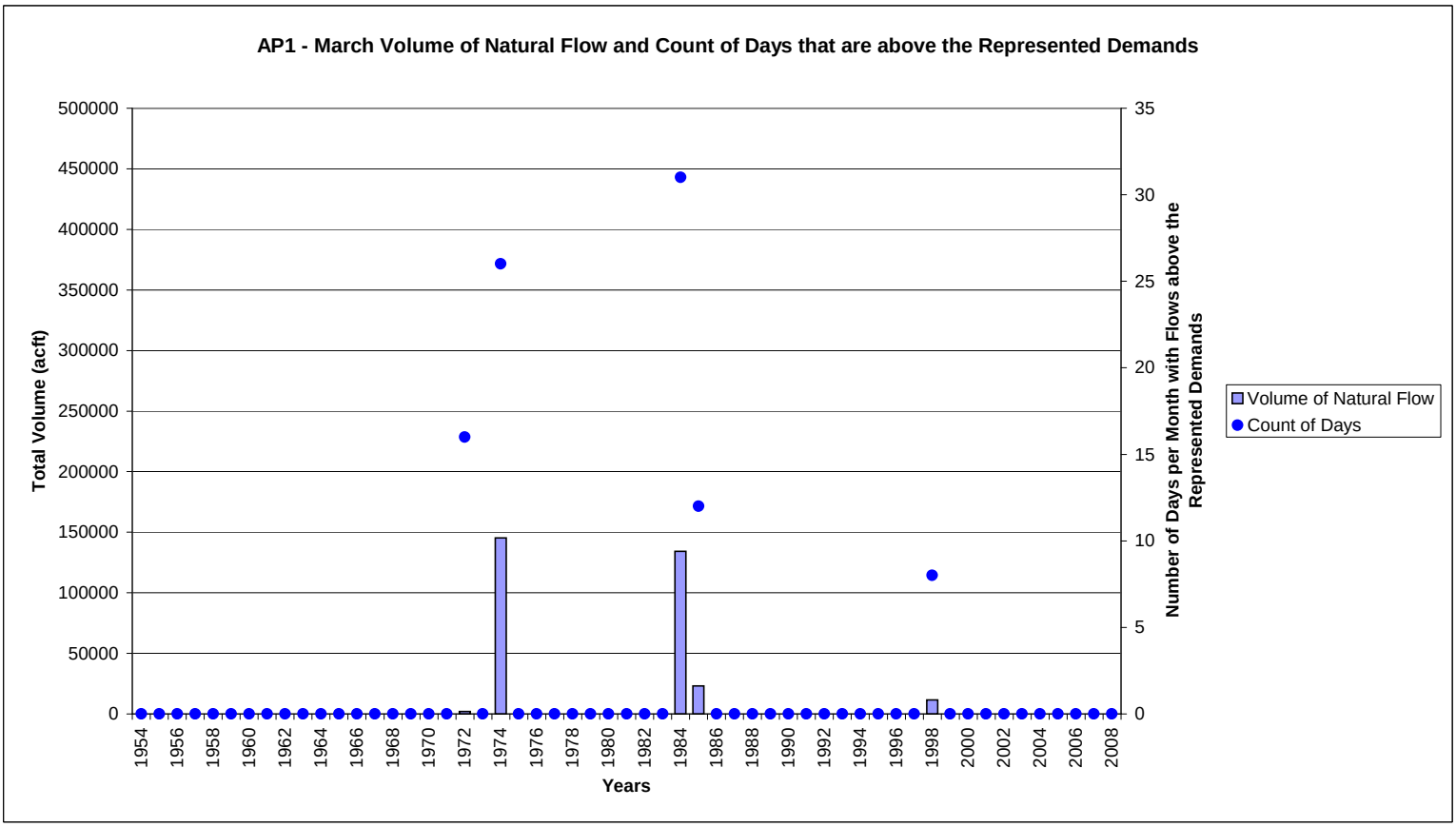


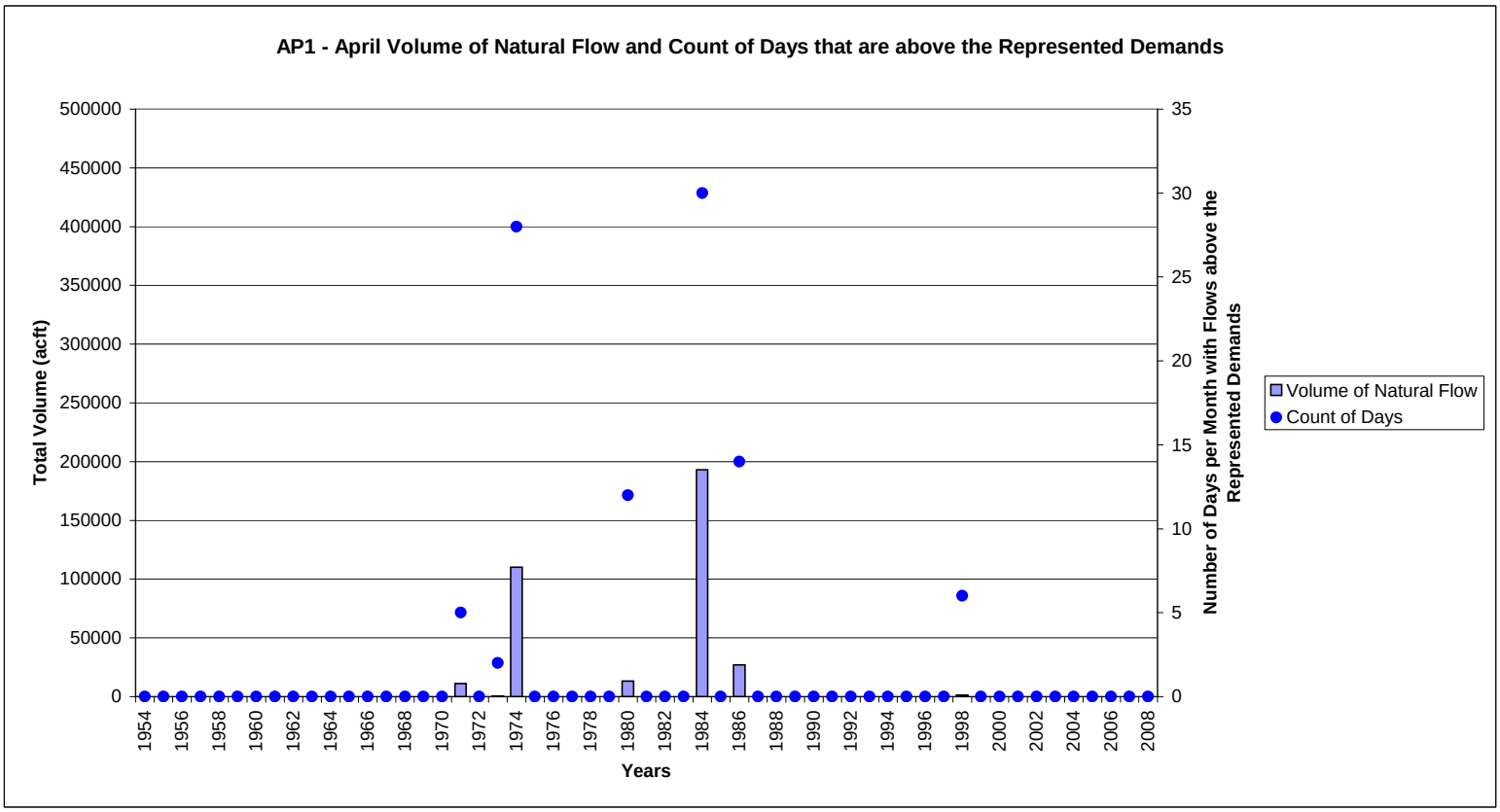
Appendix F – Output Plots for Monthly Volumes (Period of Record)

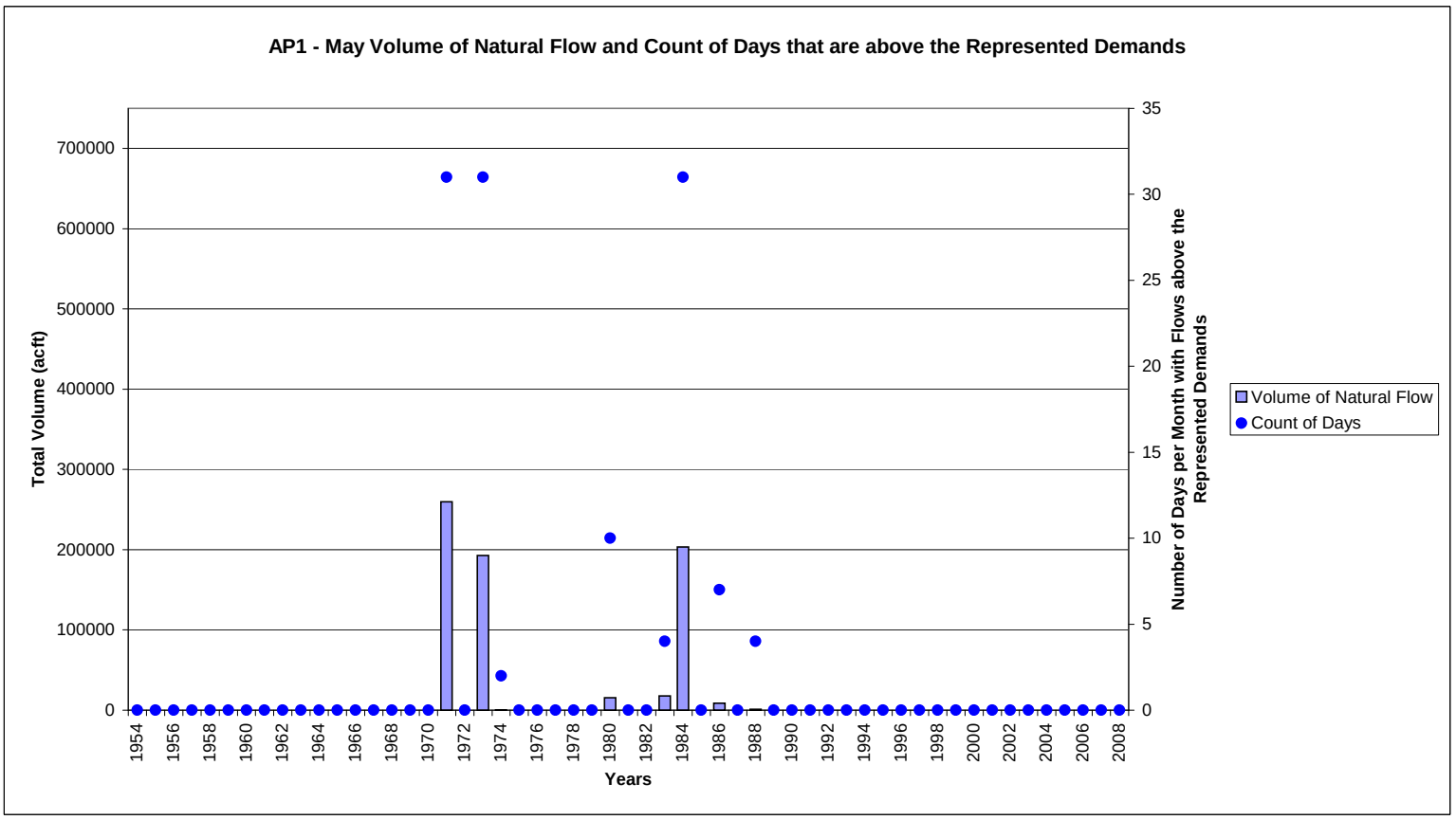
Appendix F contains plots of the monthly excess to state protected flow volumes for the period of record at each analysis point.

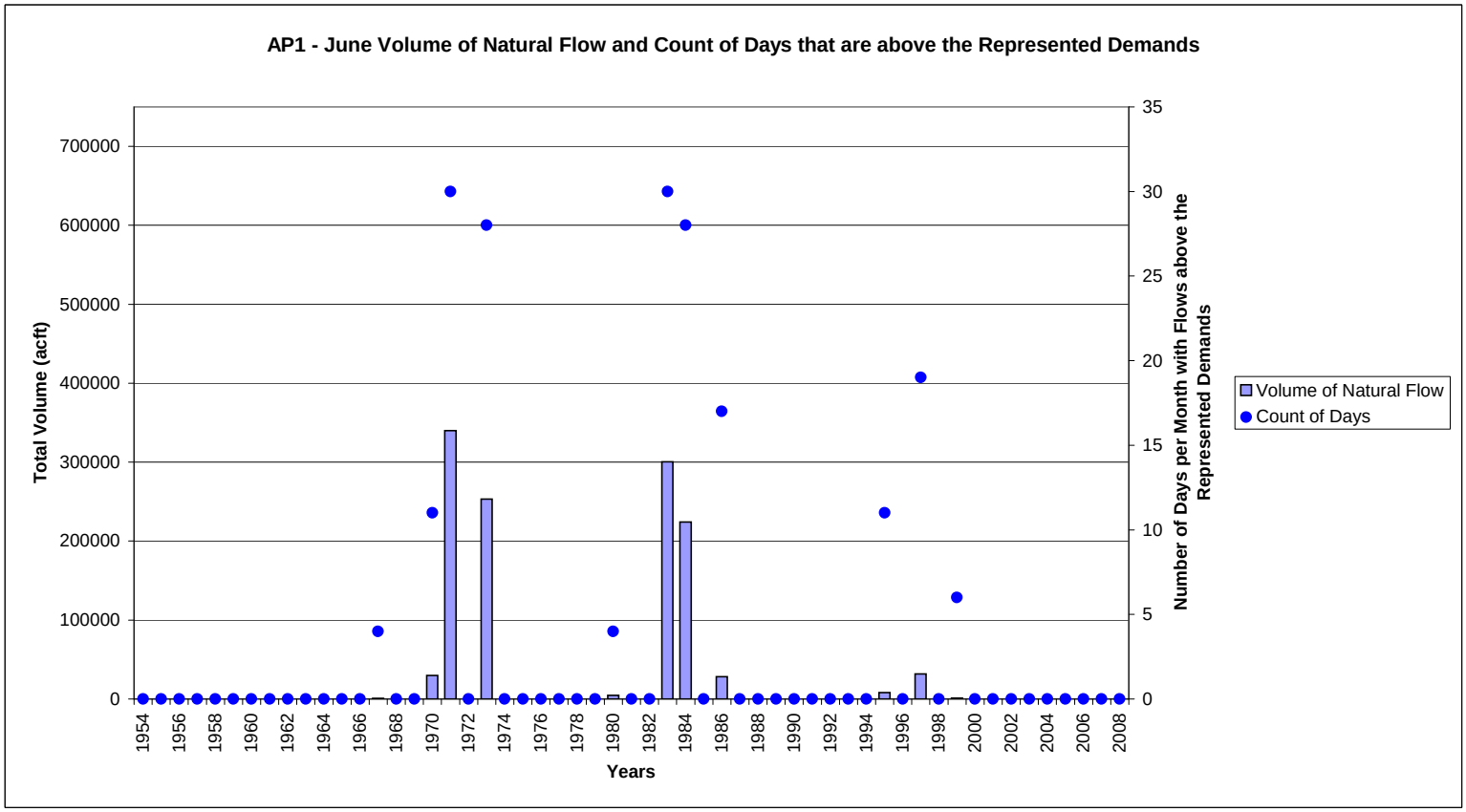

AP1 - January Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

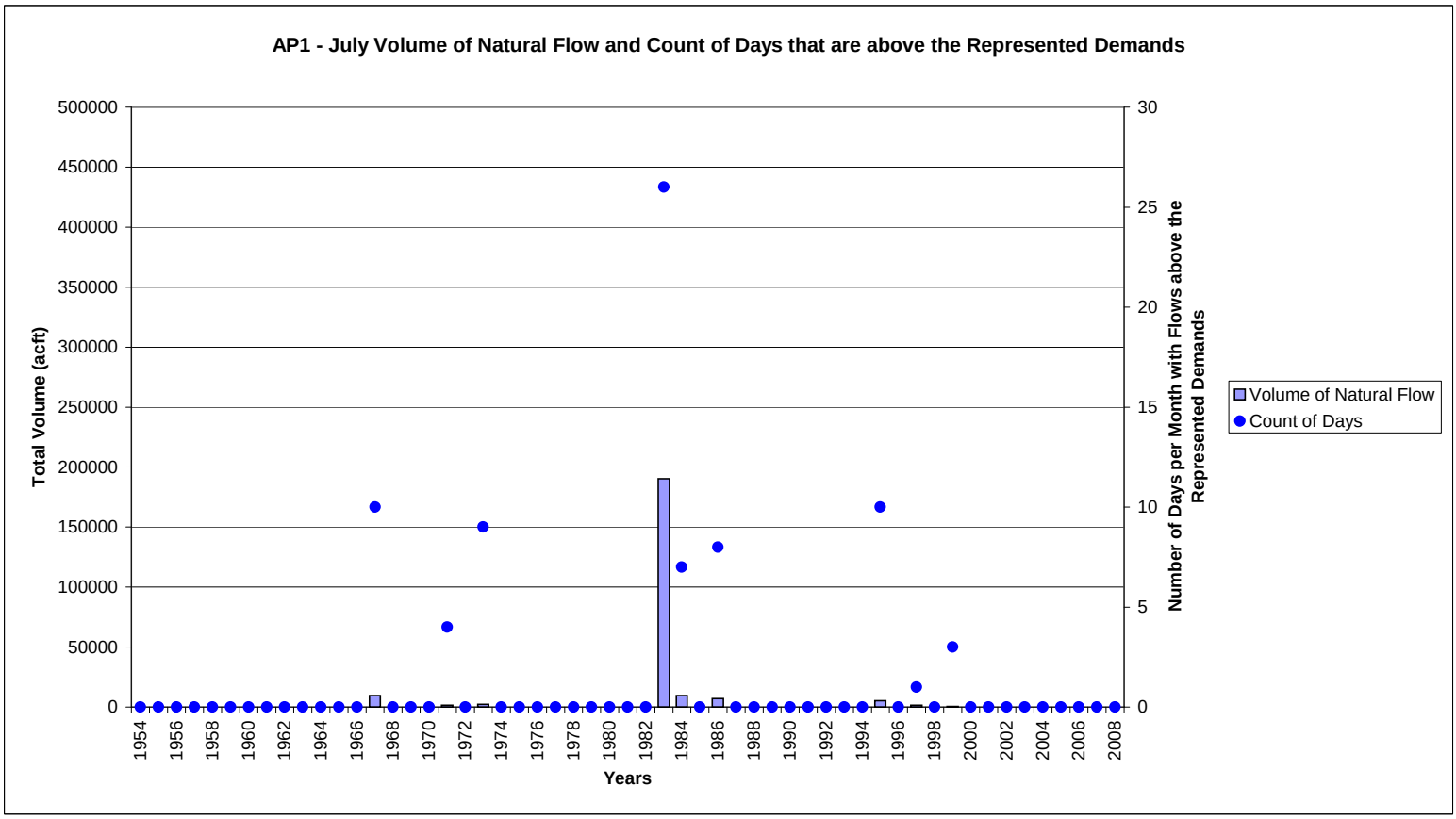

AP1 - February Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

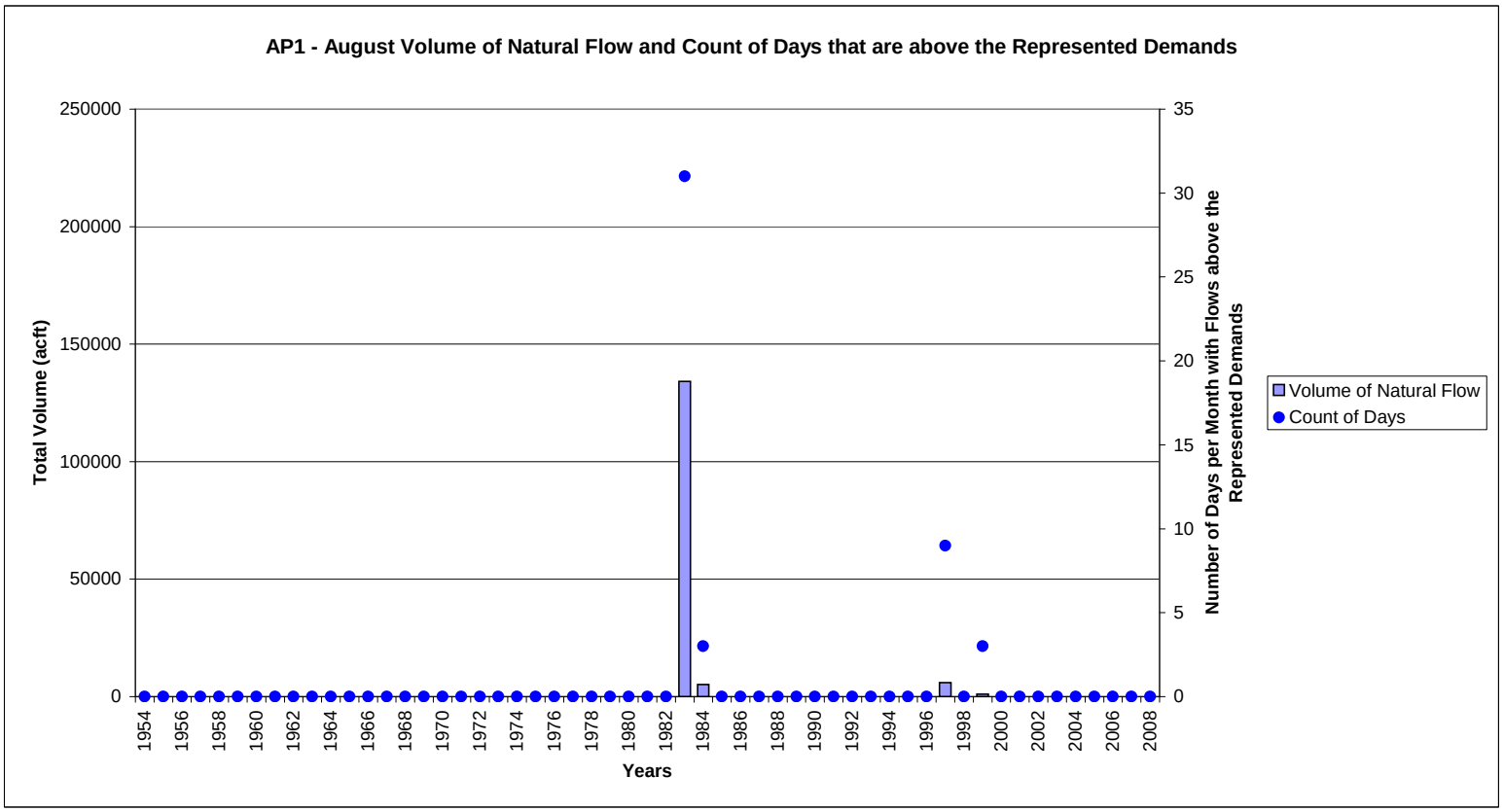

AP1 - March Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

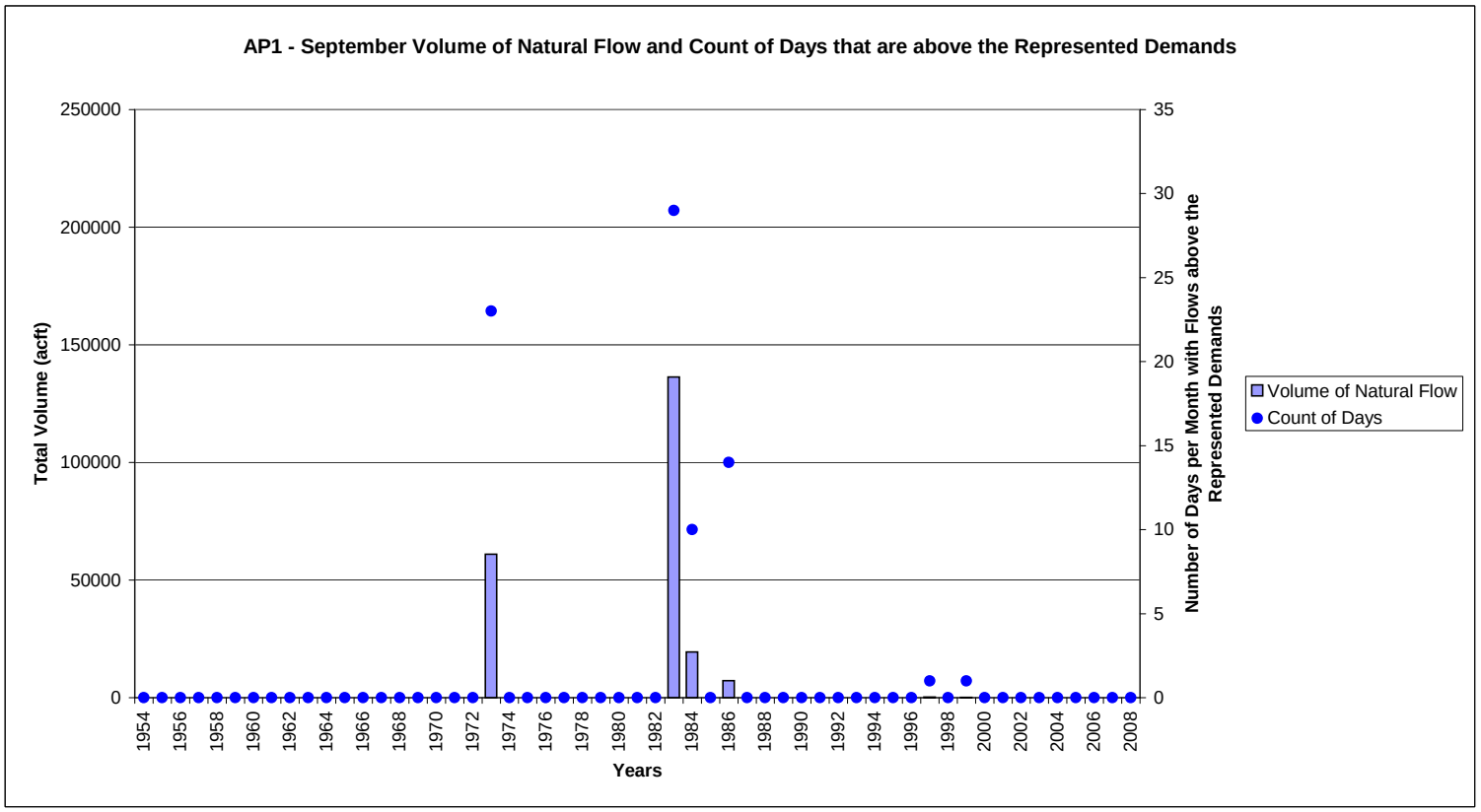

AP1 - April Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

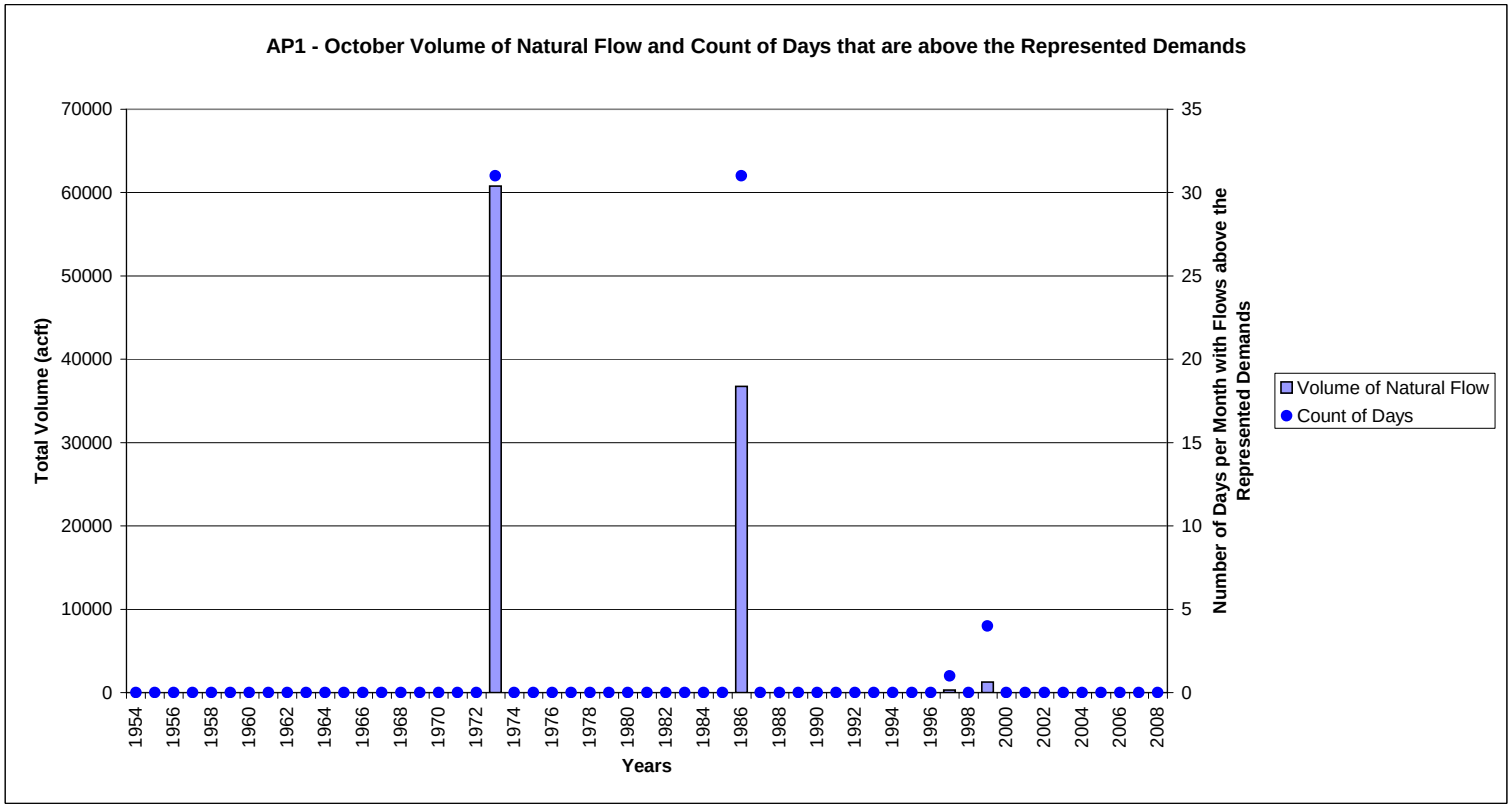

AP1 - May Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

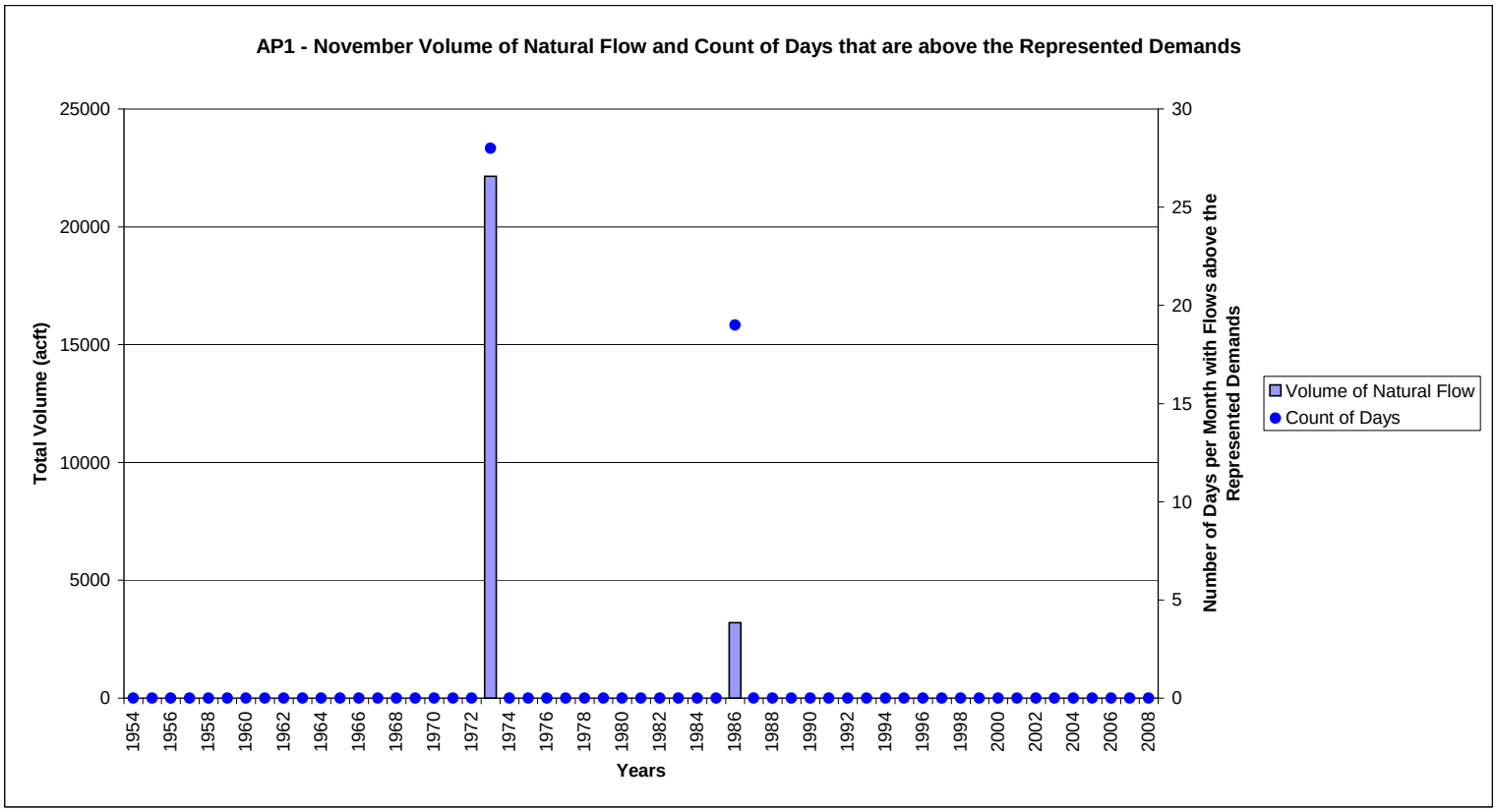

AP1 - June Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

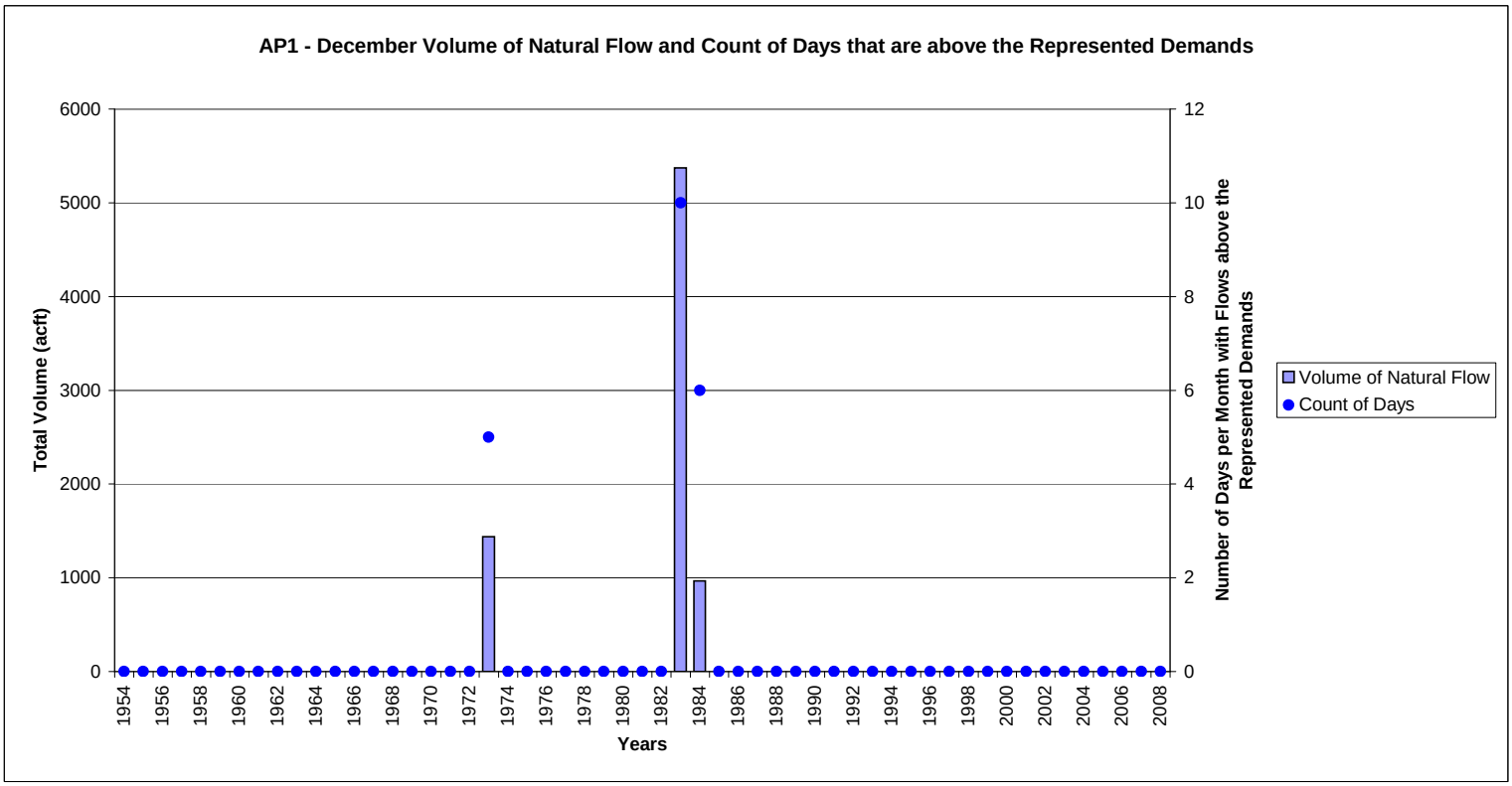

AP1 - July Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
50000
100000
150000
200000
250000
300000
350000
400000
450000
500000
0
5
10
15
20
25
30
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

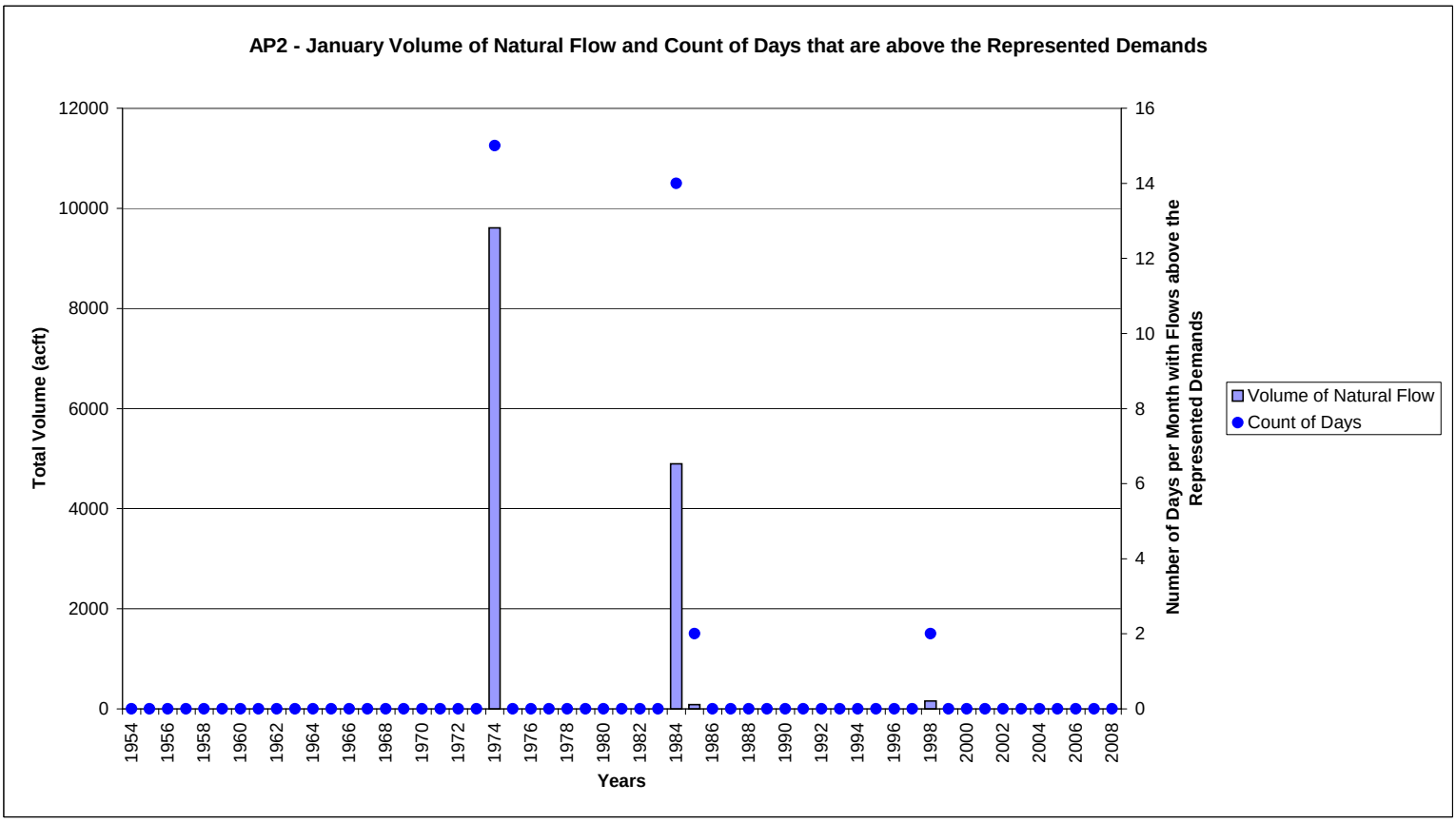

AP1 - August Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
50000
100000
150000
200000
250000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

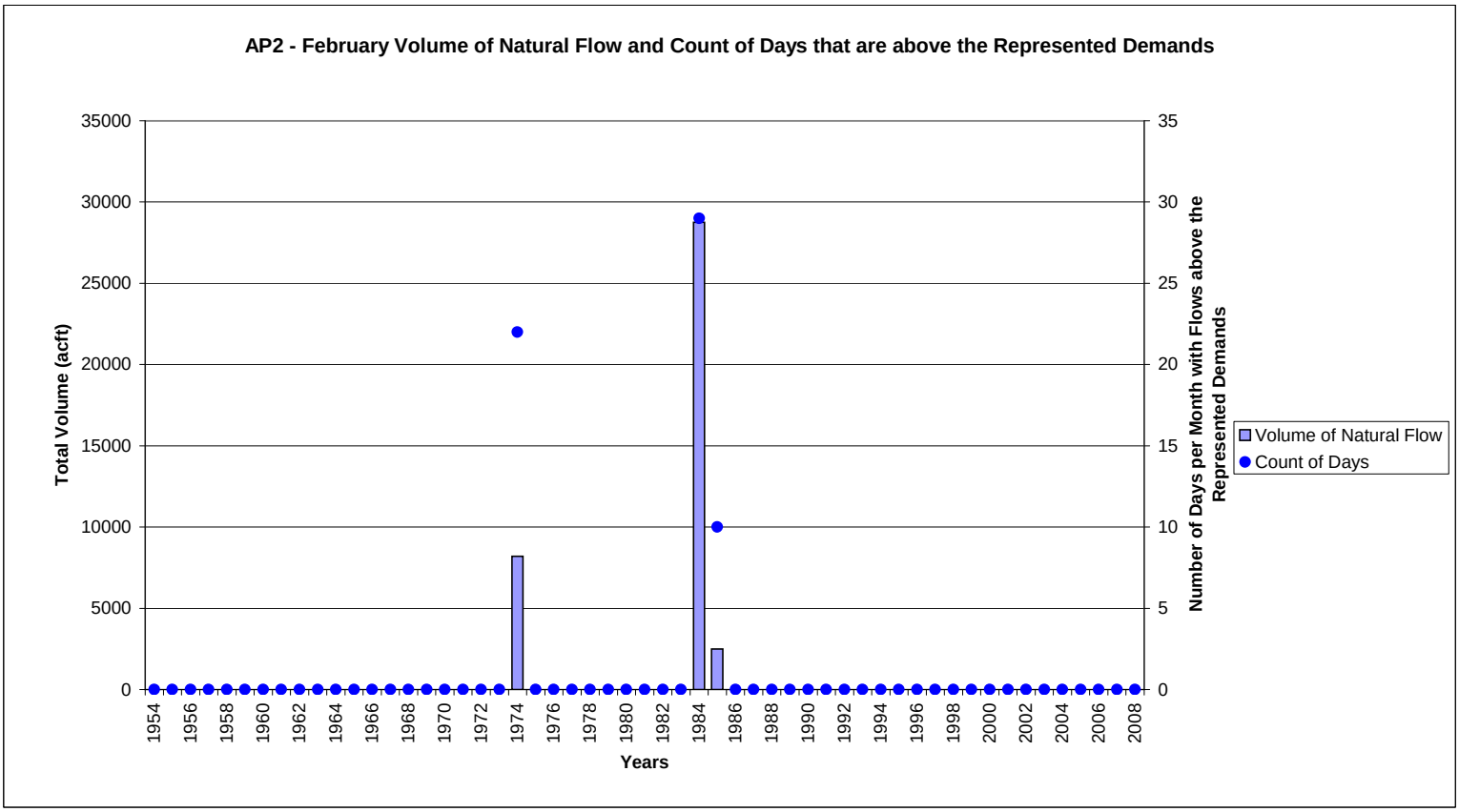

AP1 - September Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
250000
200000
150000
100000
50000
0
35
30
25
20
15
10
5
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

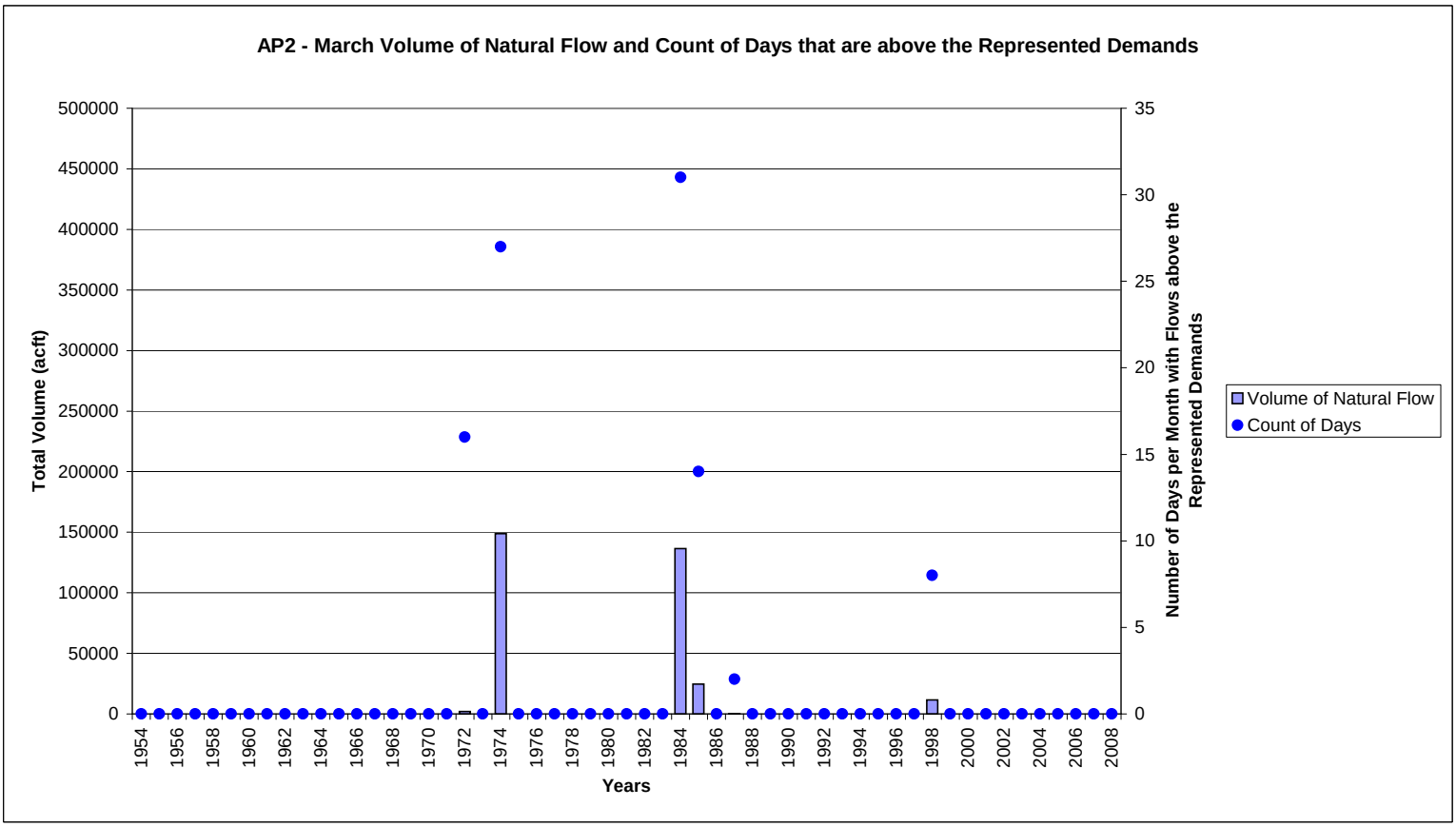

AP1 - October Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
70000
60000
50000
40000
30000
20000
10000
0
35
30
25
20
15
10
5
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

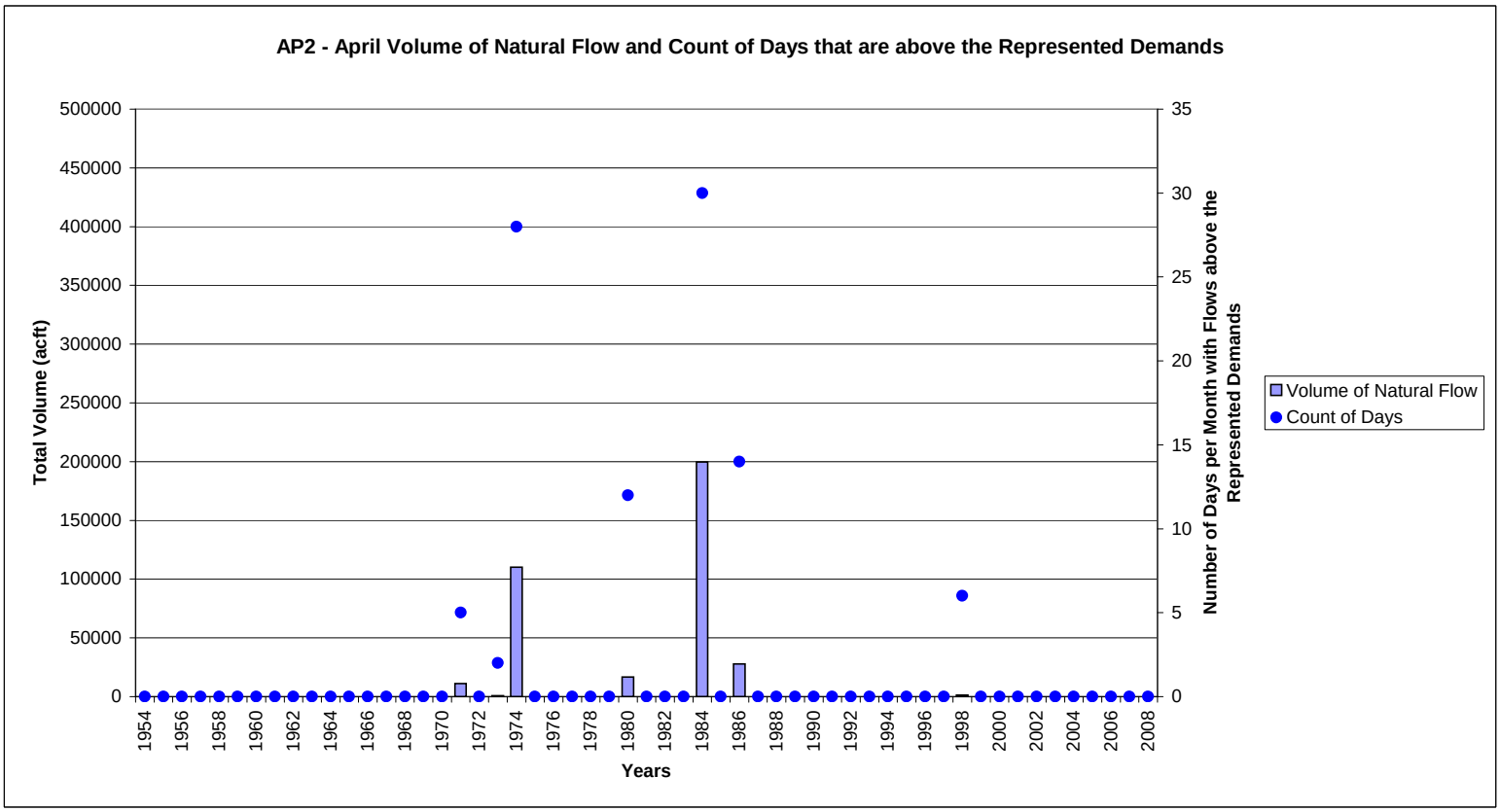

AP1 - November Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
5000
10000
15000
20000
25000
0
5
10
15
20
25
30
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

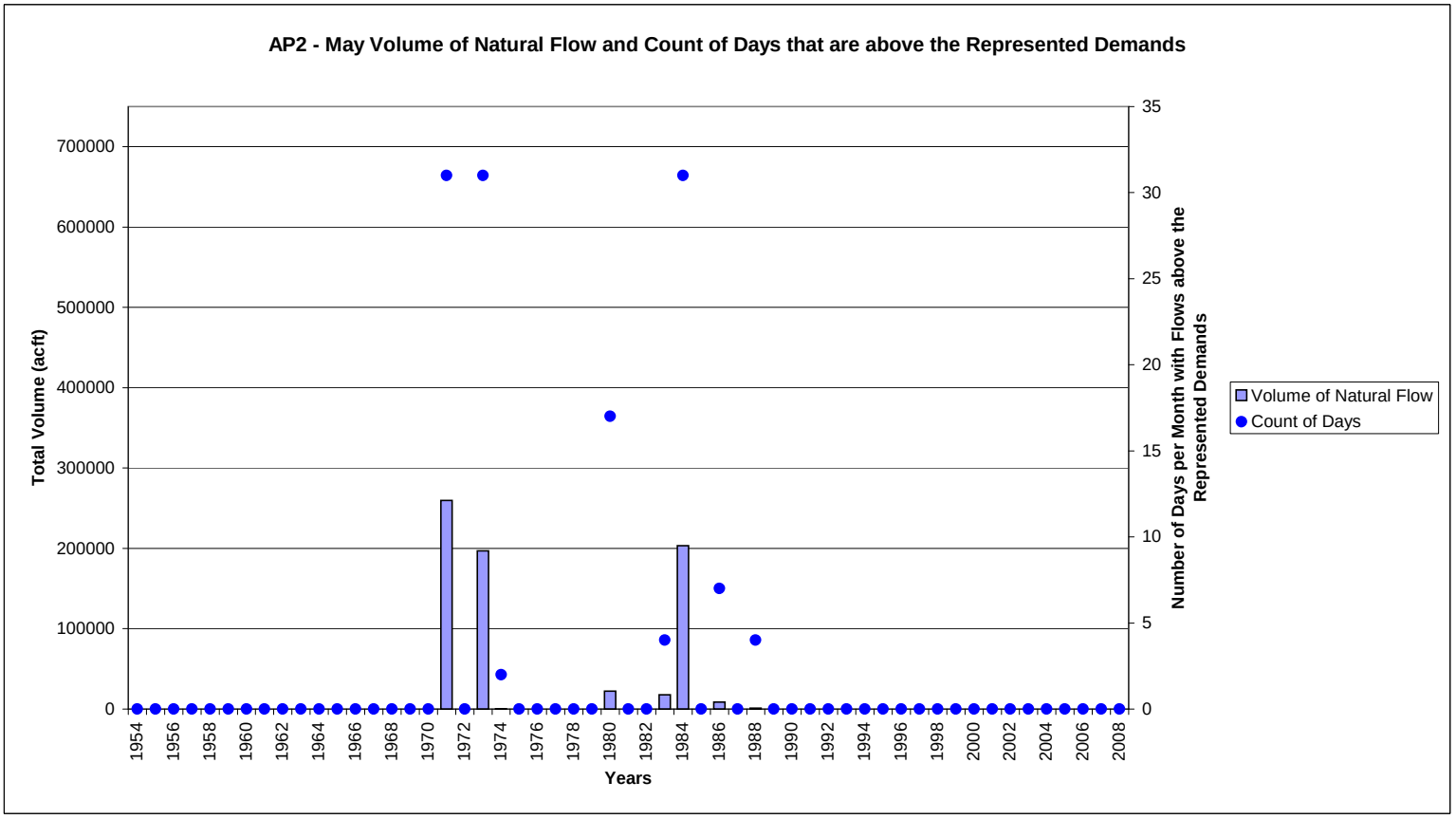

AP1 - December Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
1000
2000
3000
4000
5000
6000
0
2
4
6
8
10
12
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

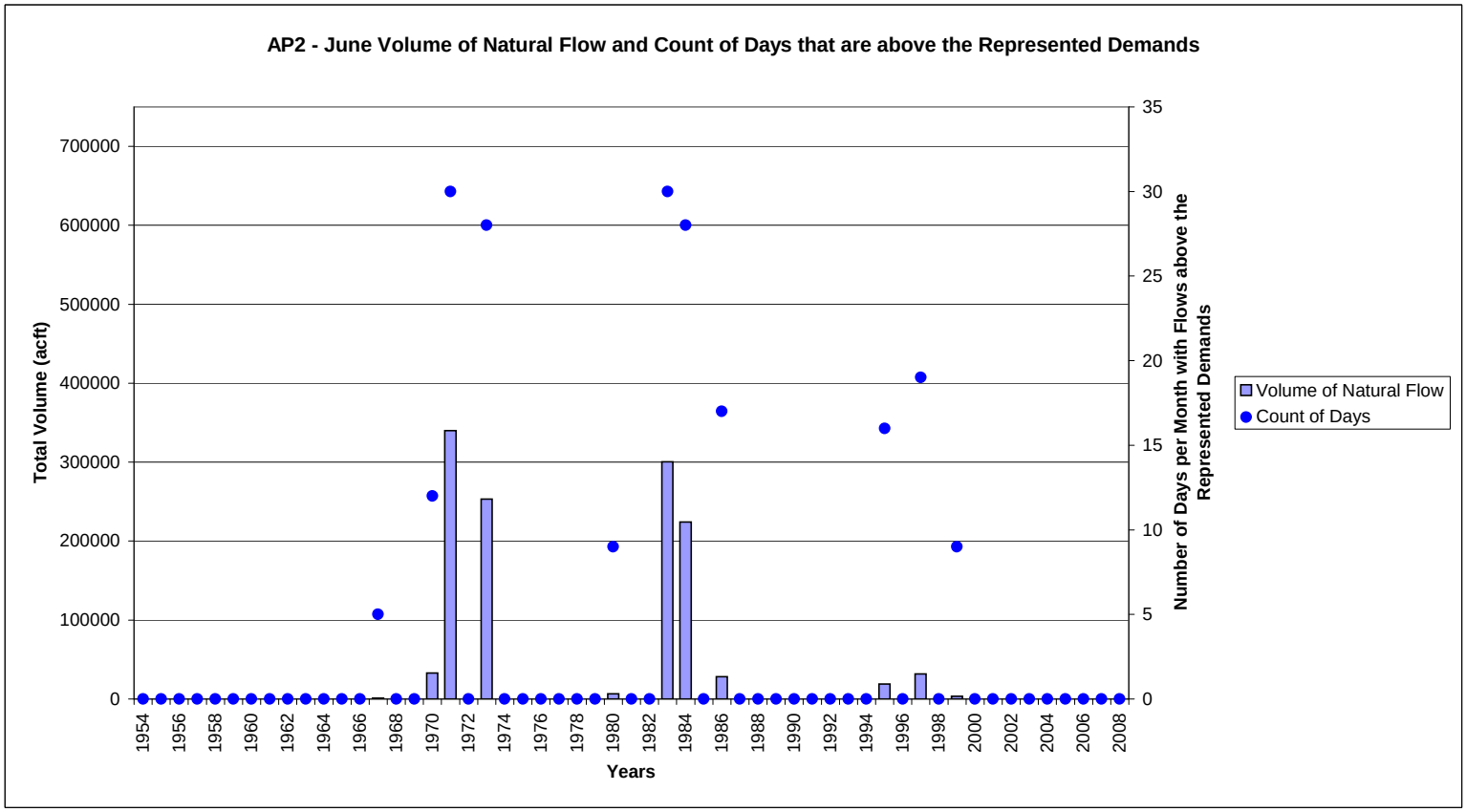

AP2 - January Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
2000
4000
6000
8000
10000
12000
0
2
4
6
8
10
12
14
16
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

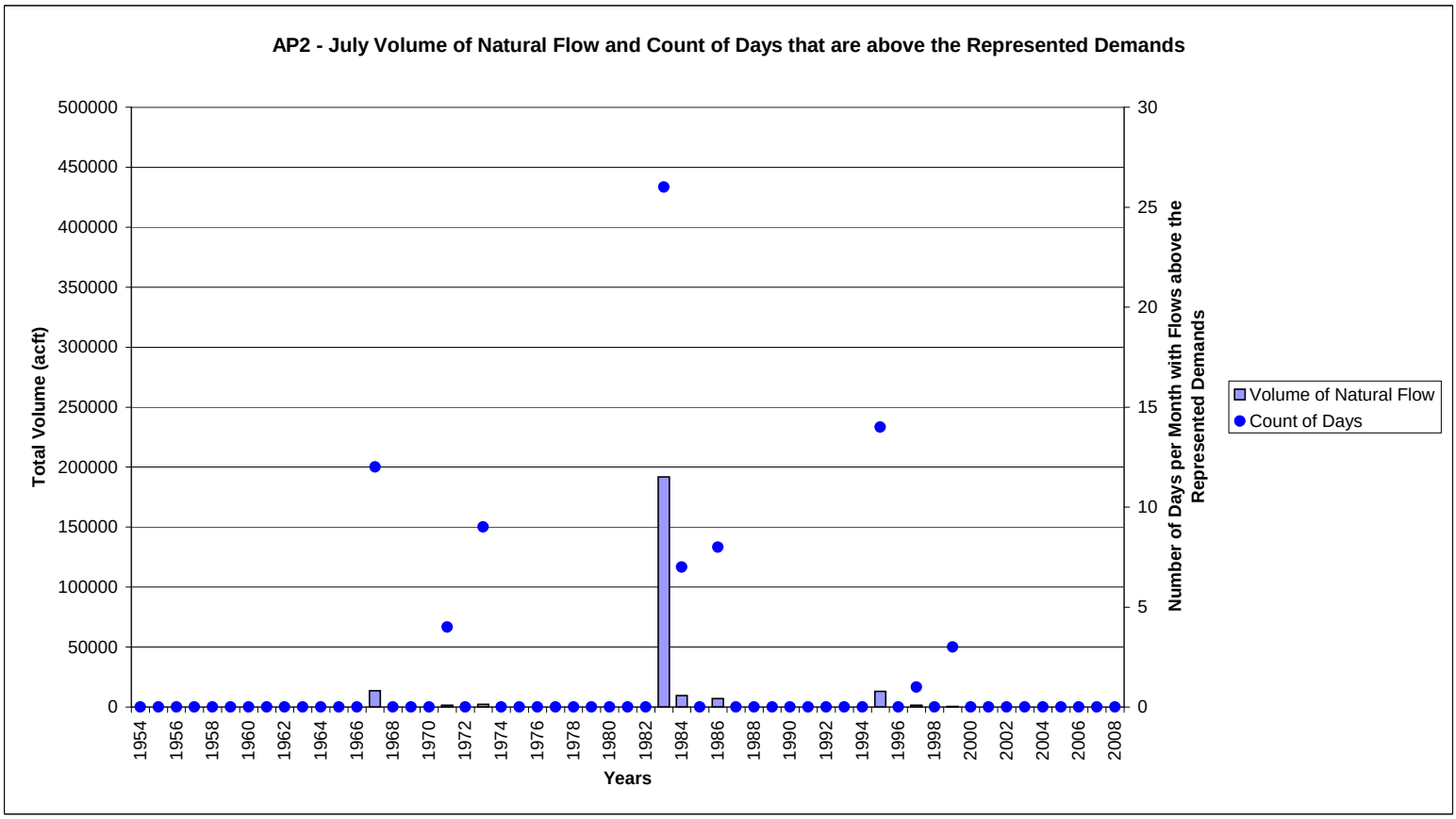

AP2 - February Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
5000
10000
15000
20000
25000
30000
35000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

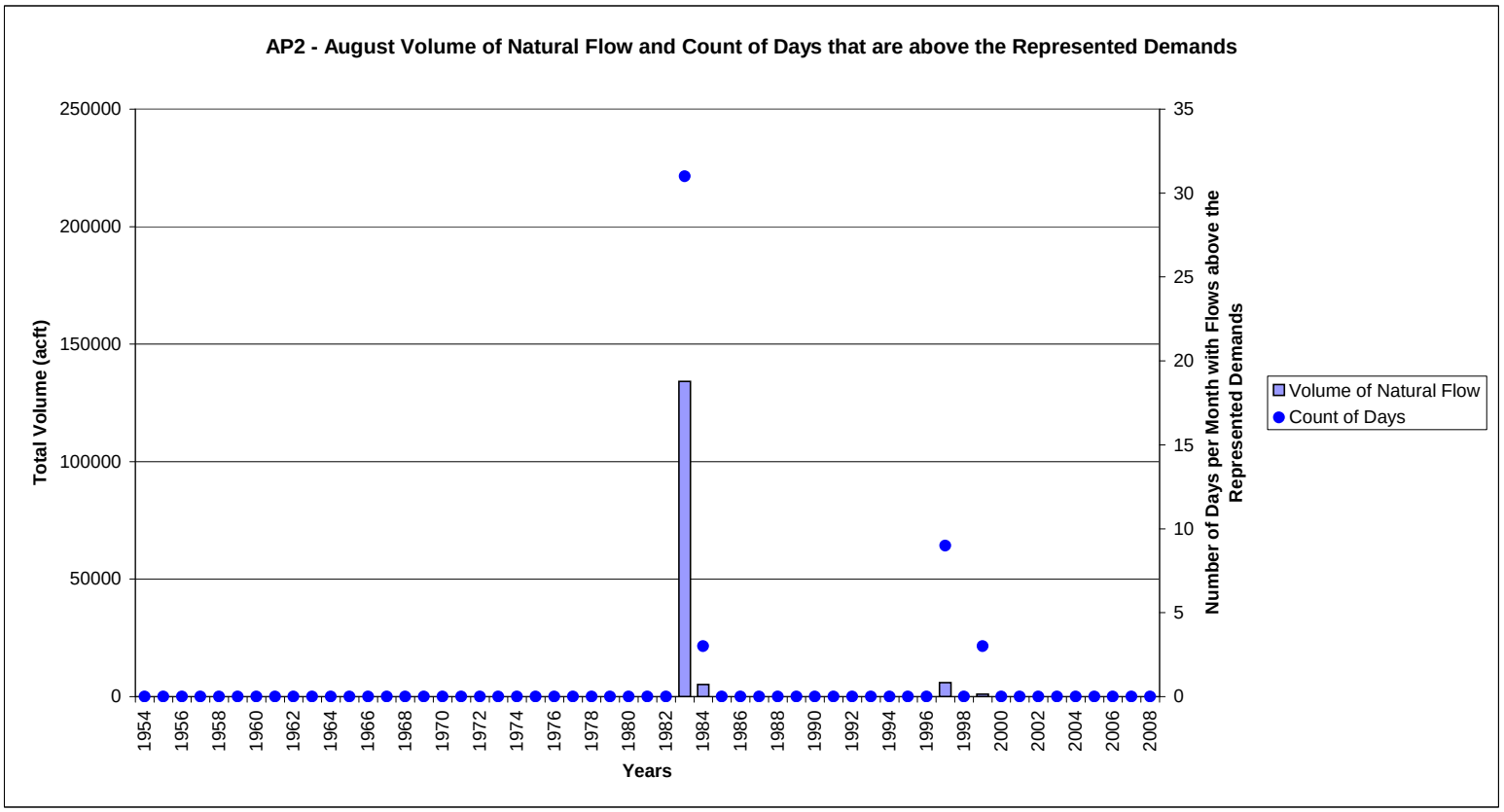

AP2 - March Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

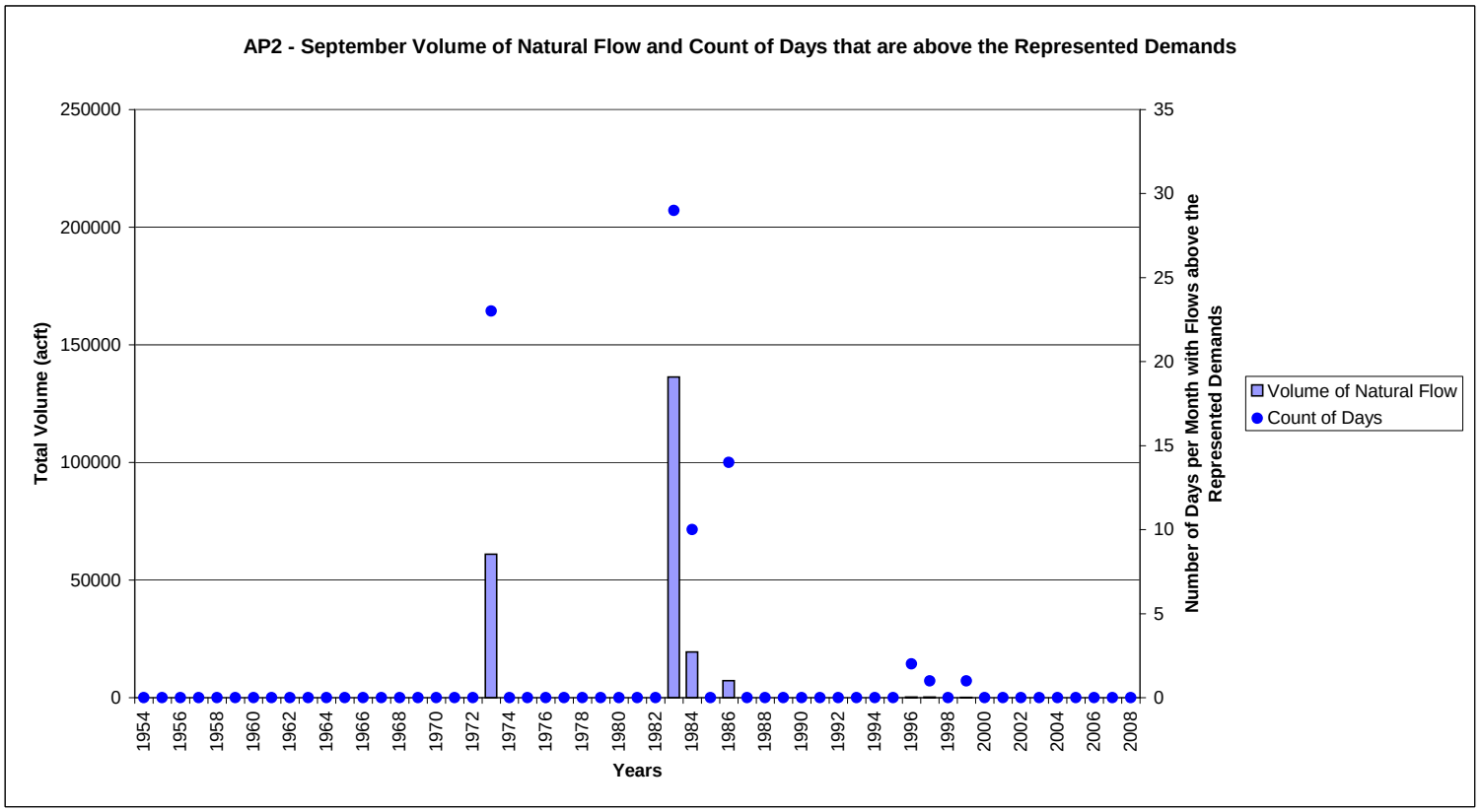

AP2 - April Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

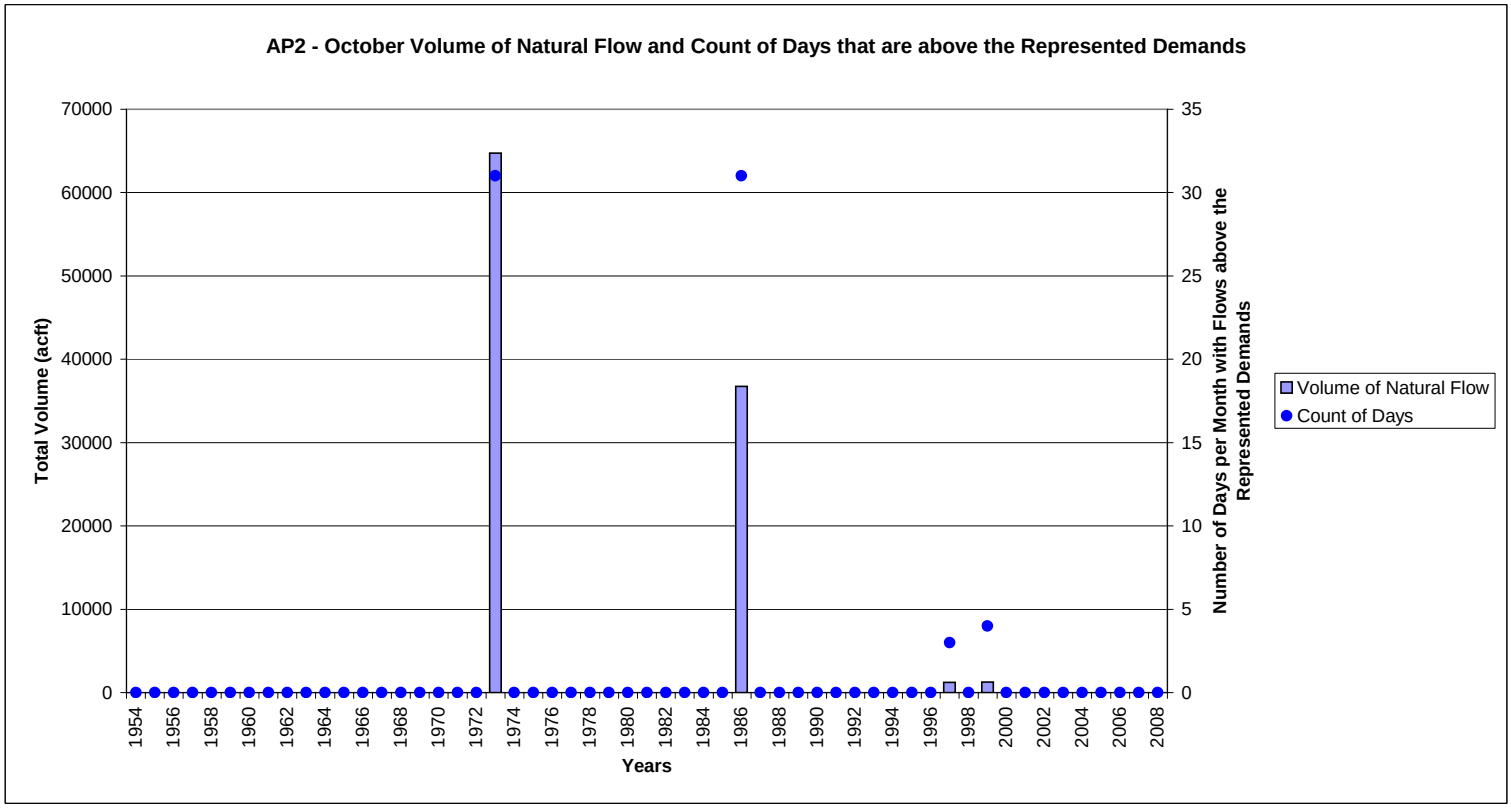

AP2 - May Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

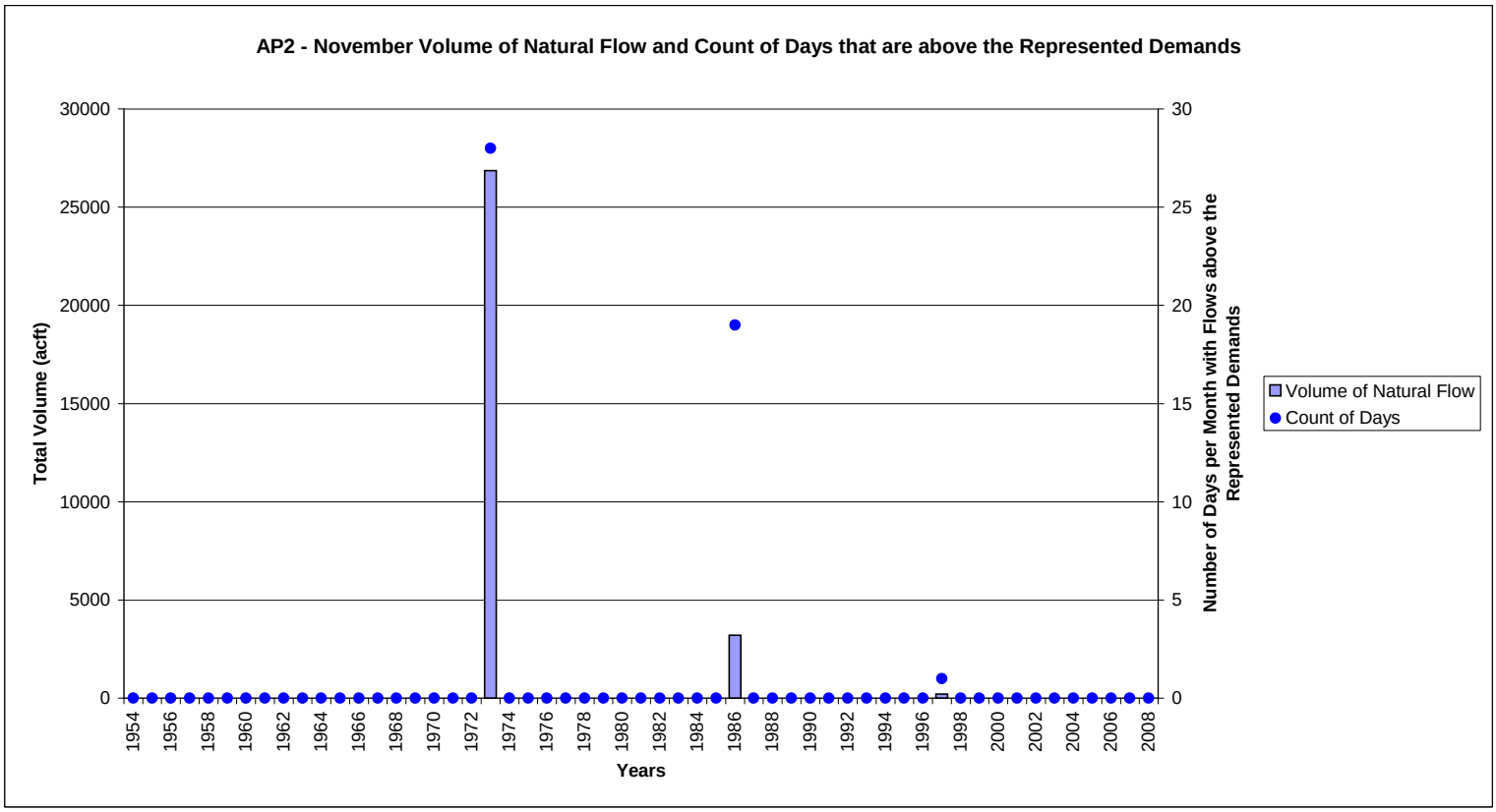

AP2 - June Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

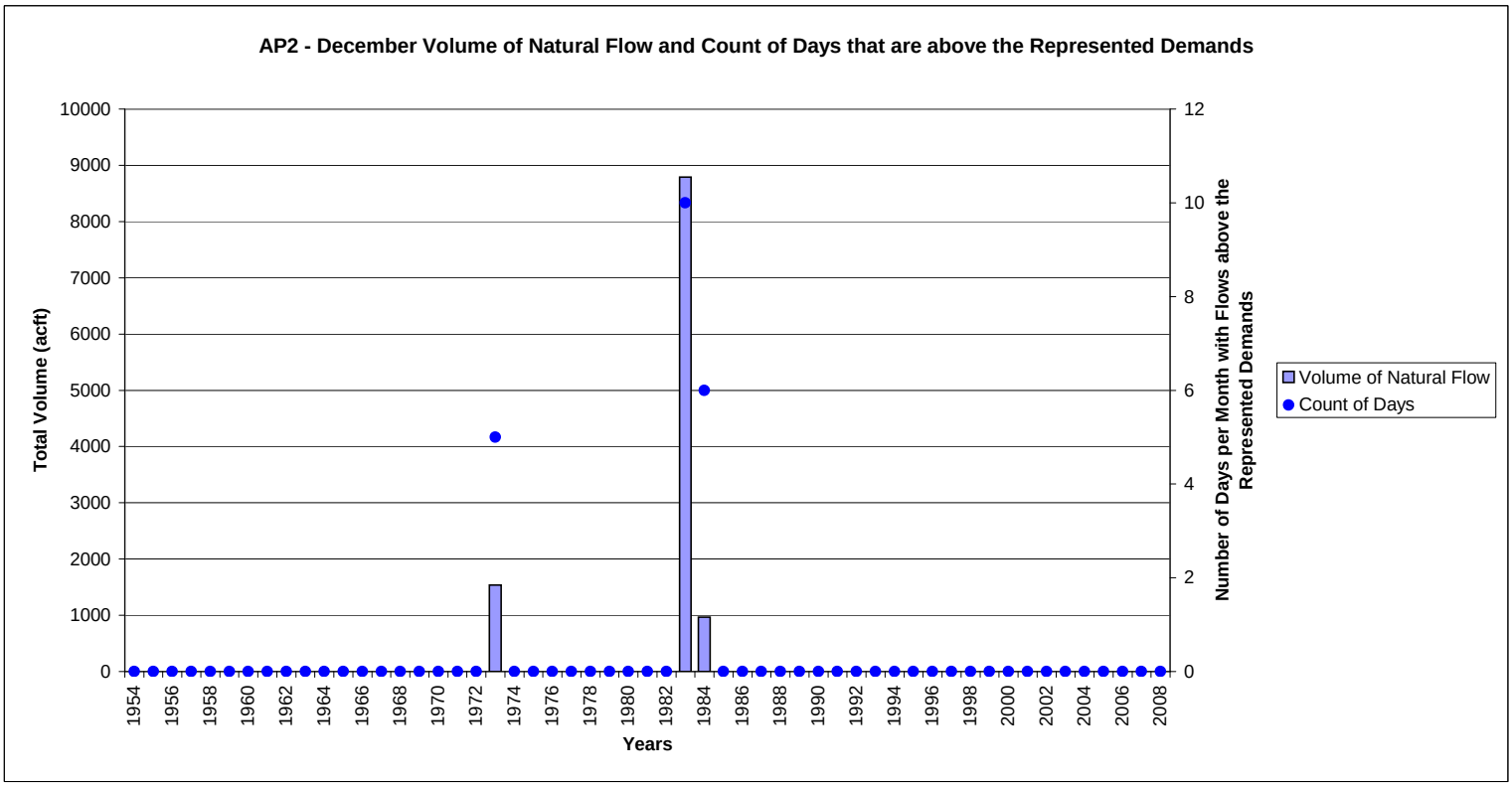

AP2 - July Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

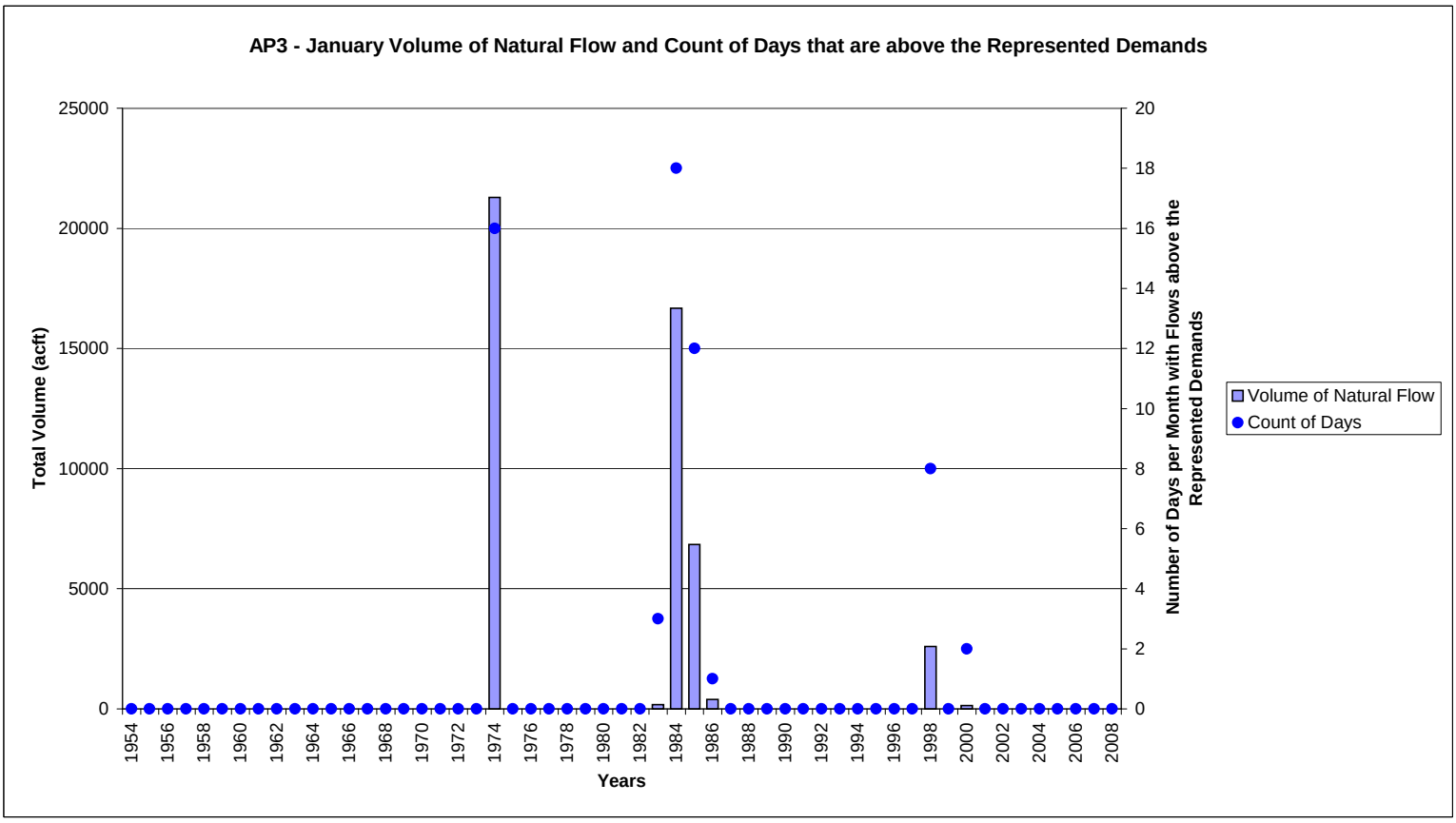

AP2 - August Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

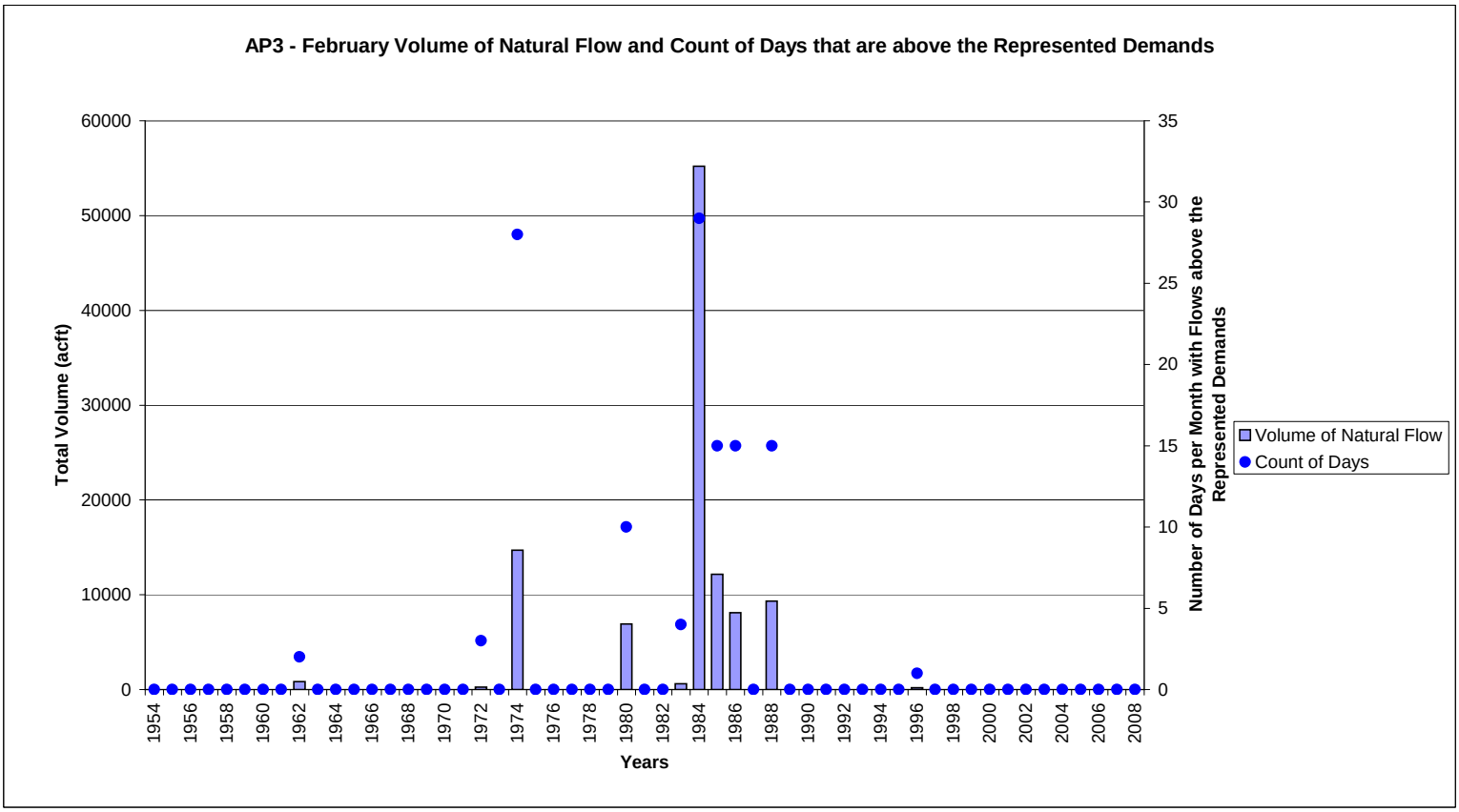

AP2 - September Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
250000
200000
150000
100000
50000
0
35
30
25
20
15
10
5
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

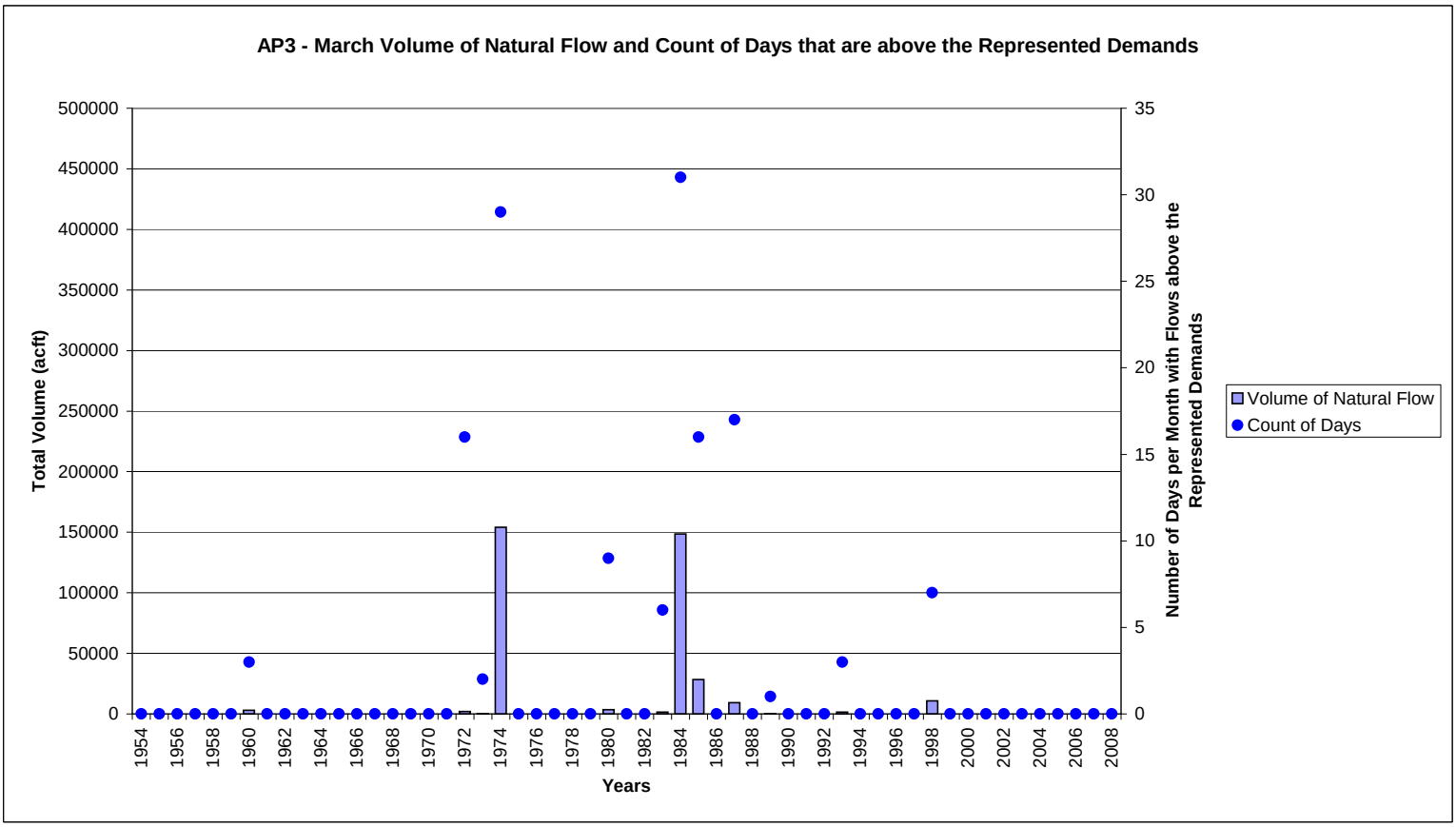

AP2 - October Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
70000
60000
50000
40000
30000
20000
10000
0
35
30
25
20
15
10
5
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

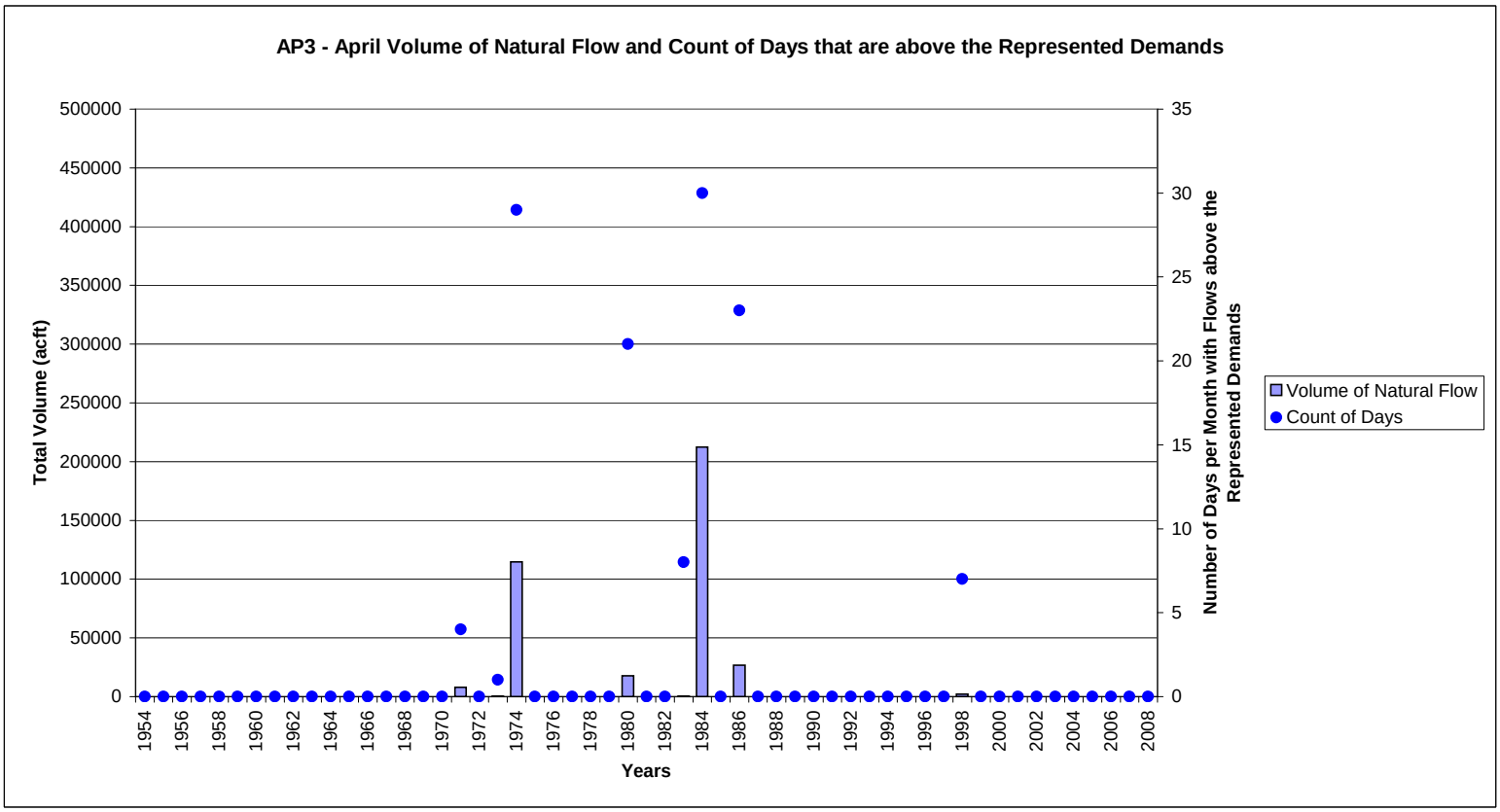

AP2 - November Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
5000
10000
15000
20000
25000
30000
0
5
10
15
20
25
30
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

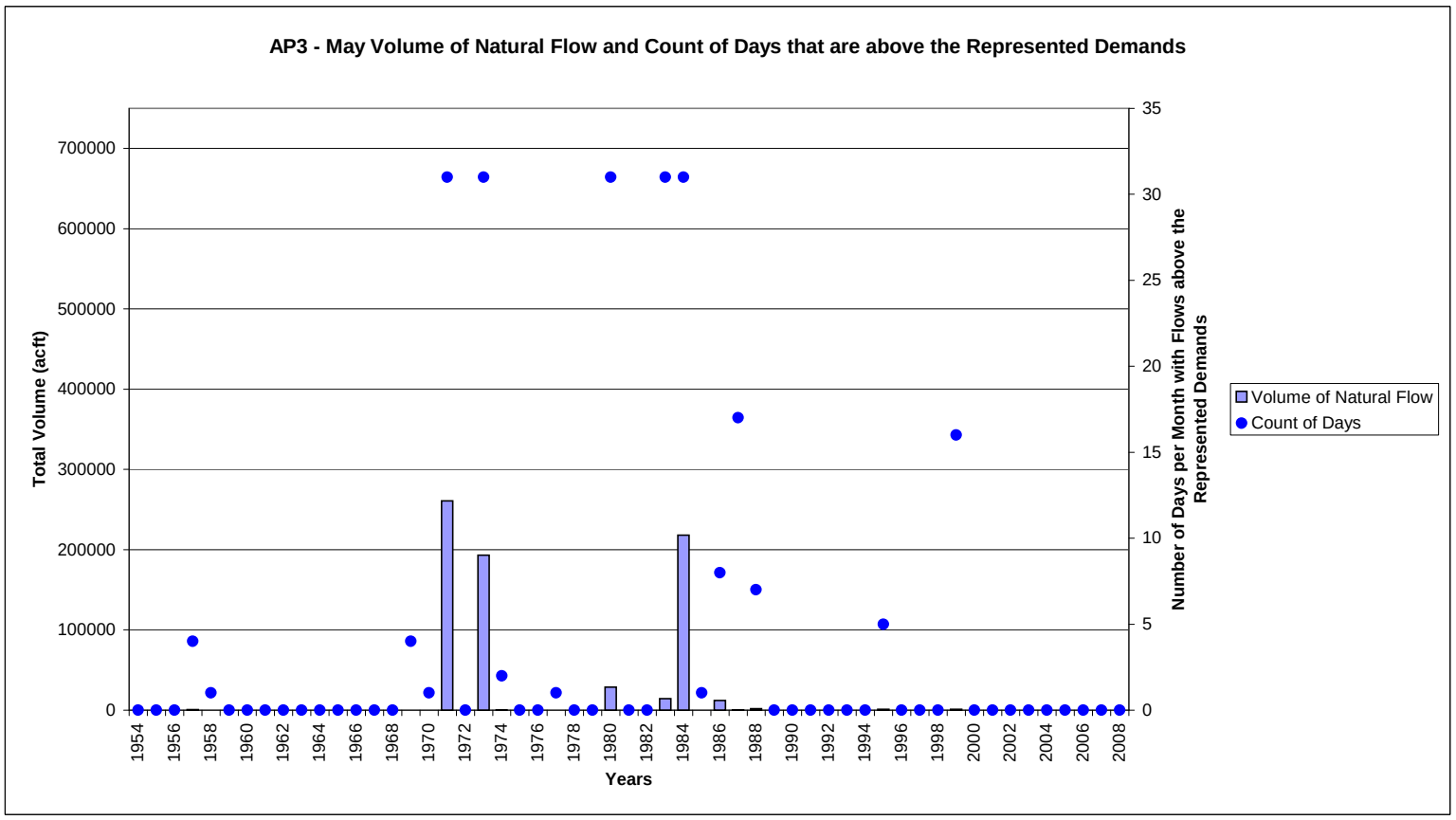

AP2 - December Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
0
2
4
6
8
10
12
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

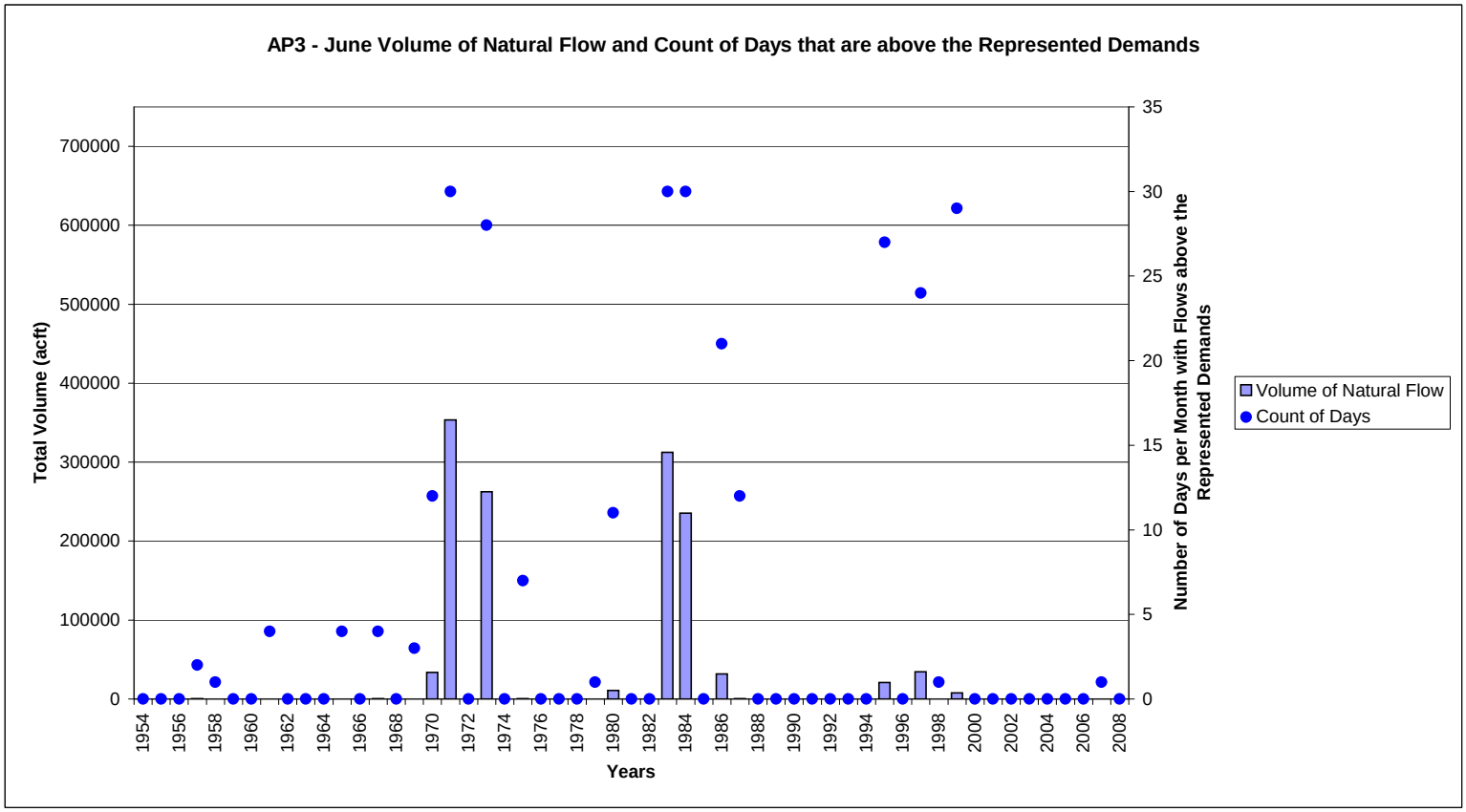

AP3 - January Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

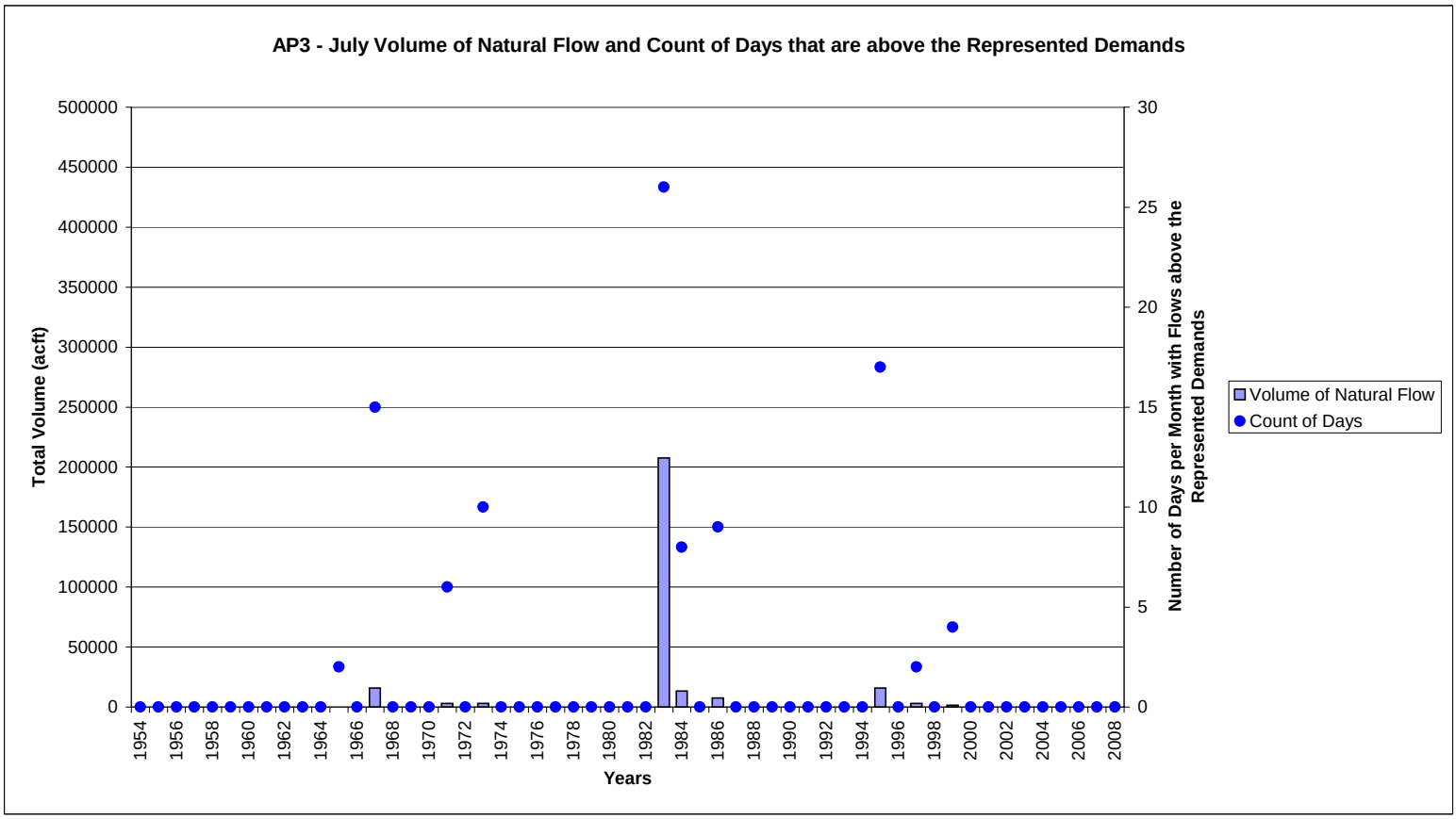

AP3 - February Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

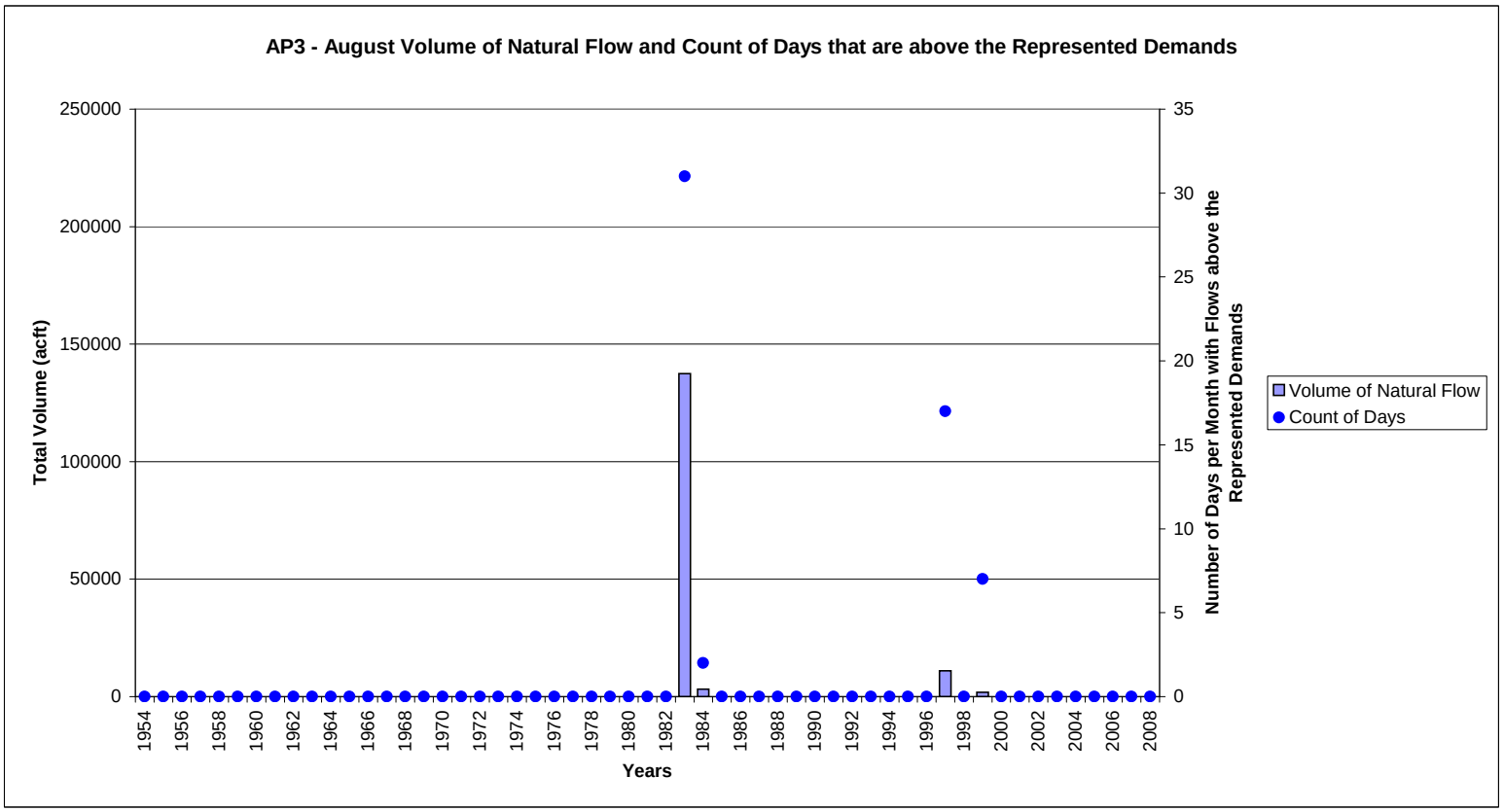

AP3 - March Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

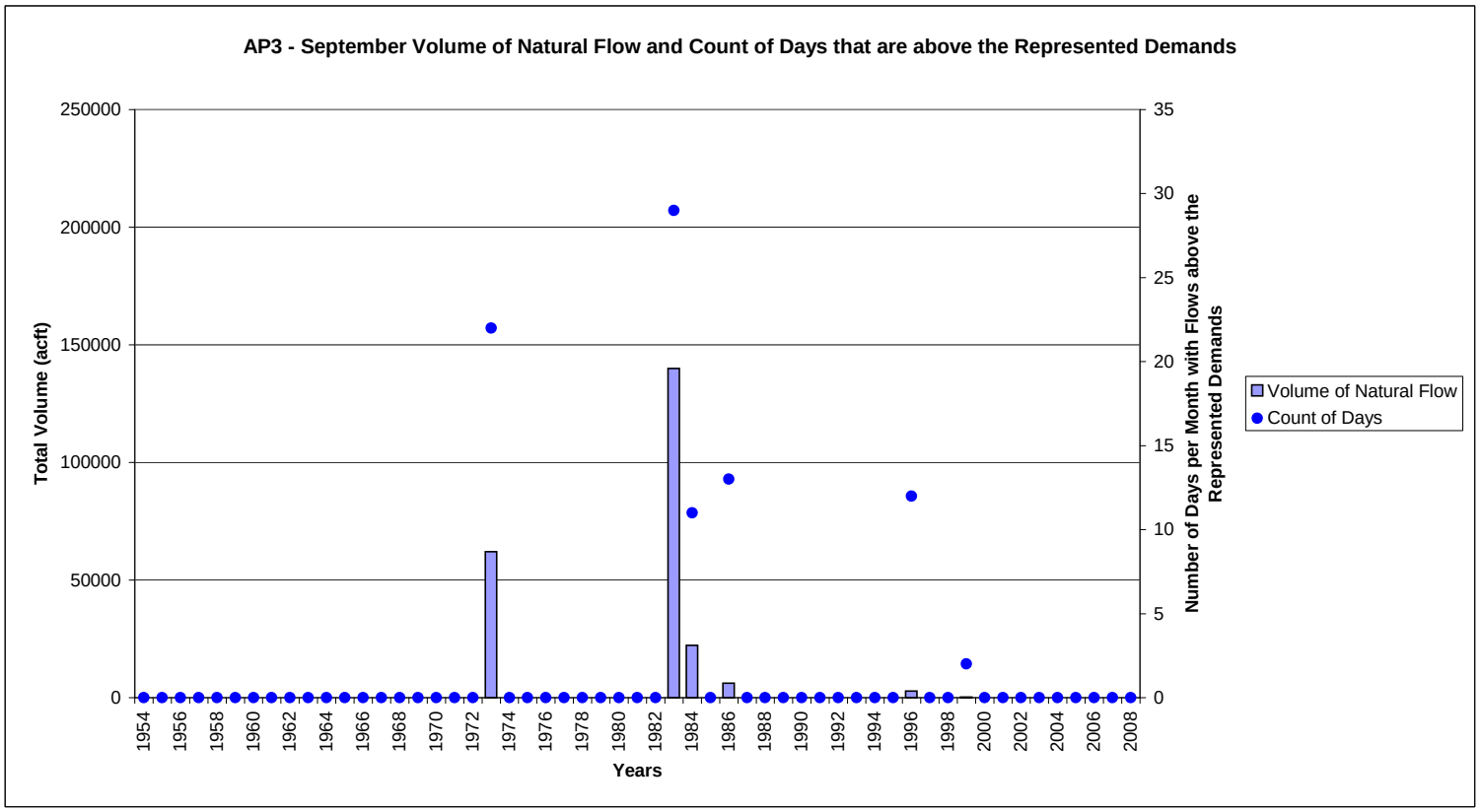

AP3 - April Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

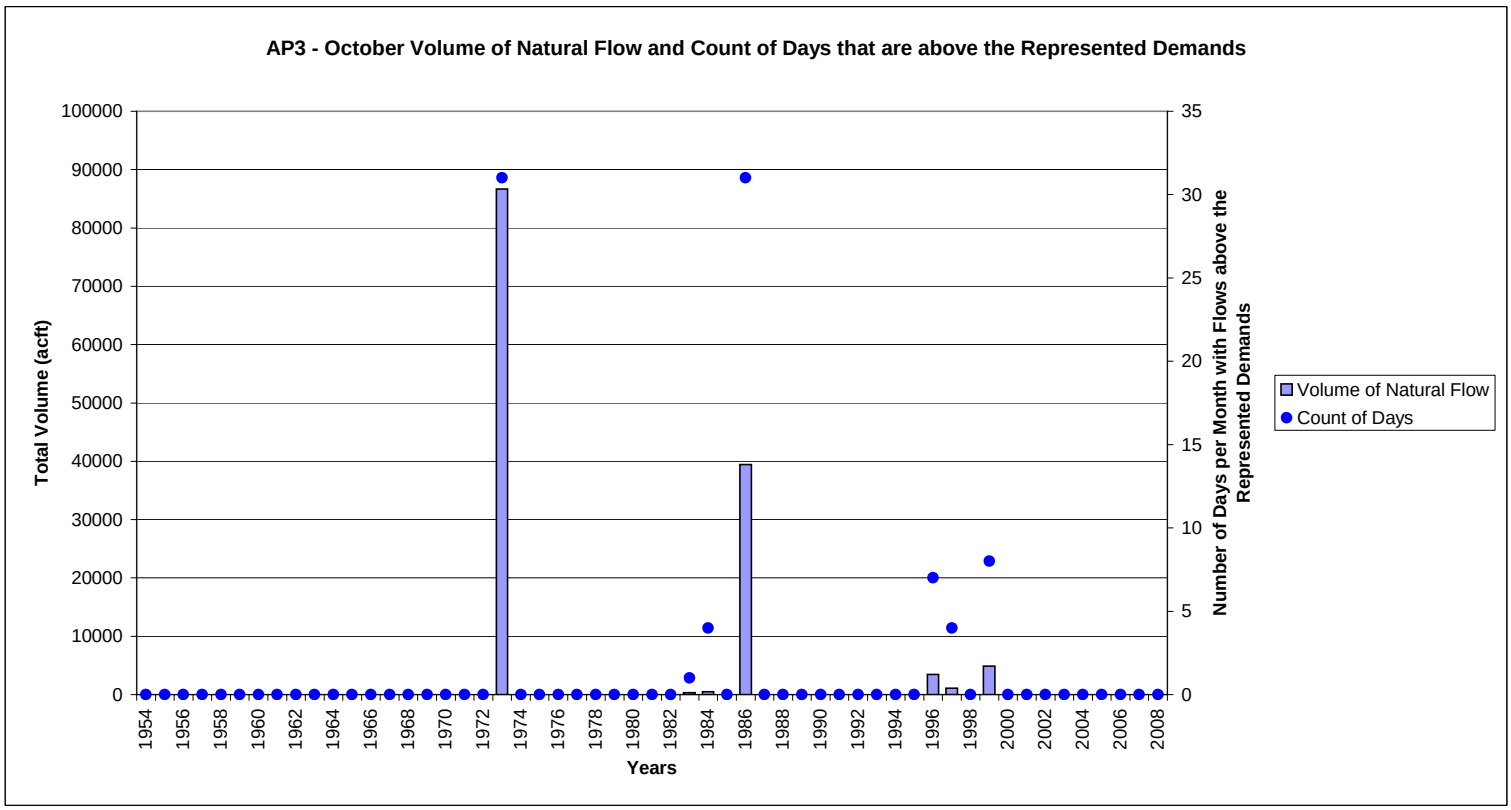

AP3 - May Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

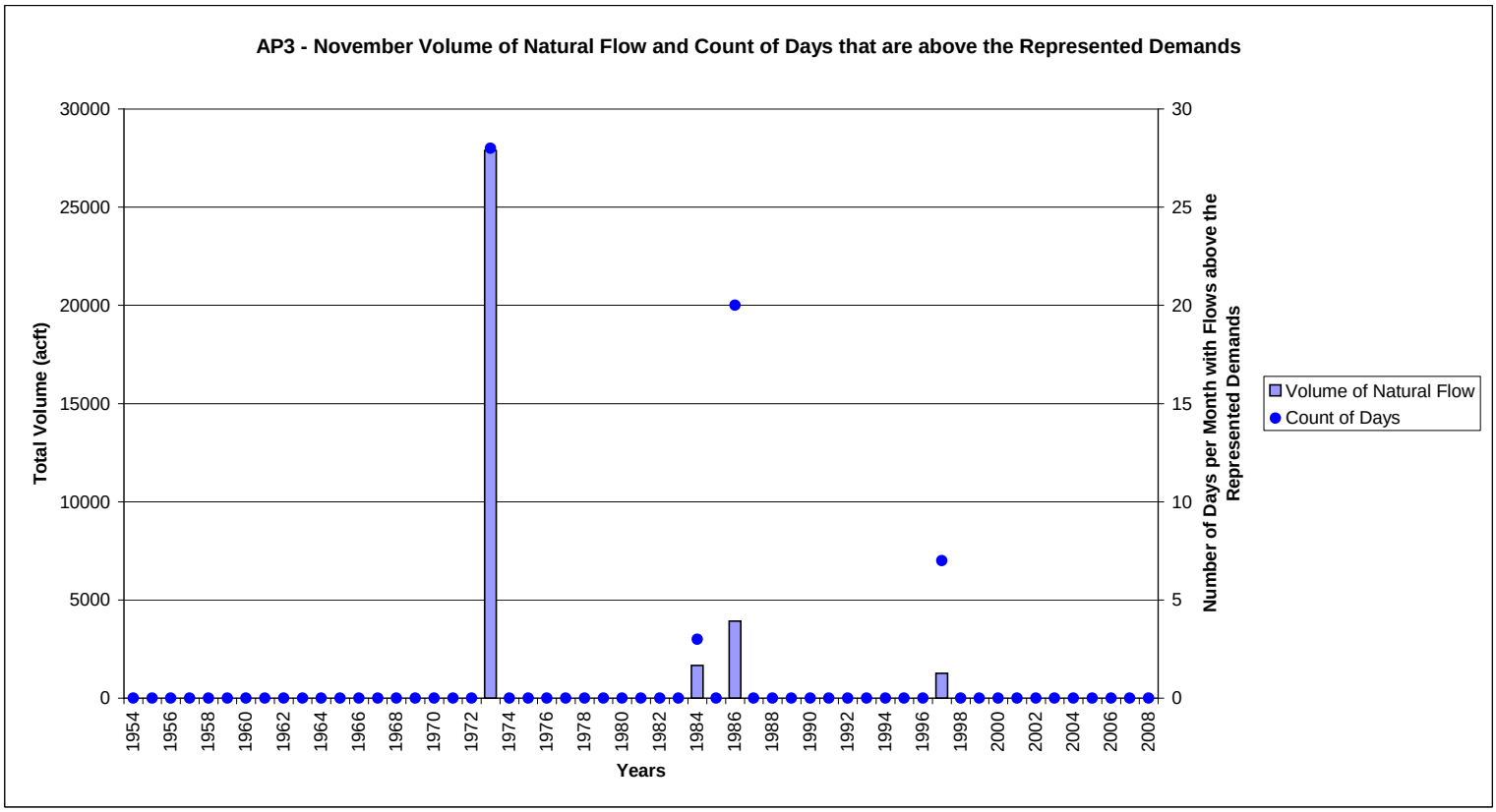

AP3 - June Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

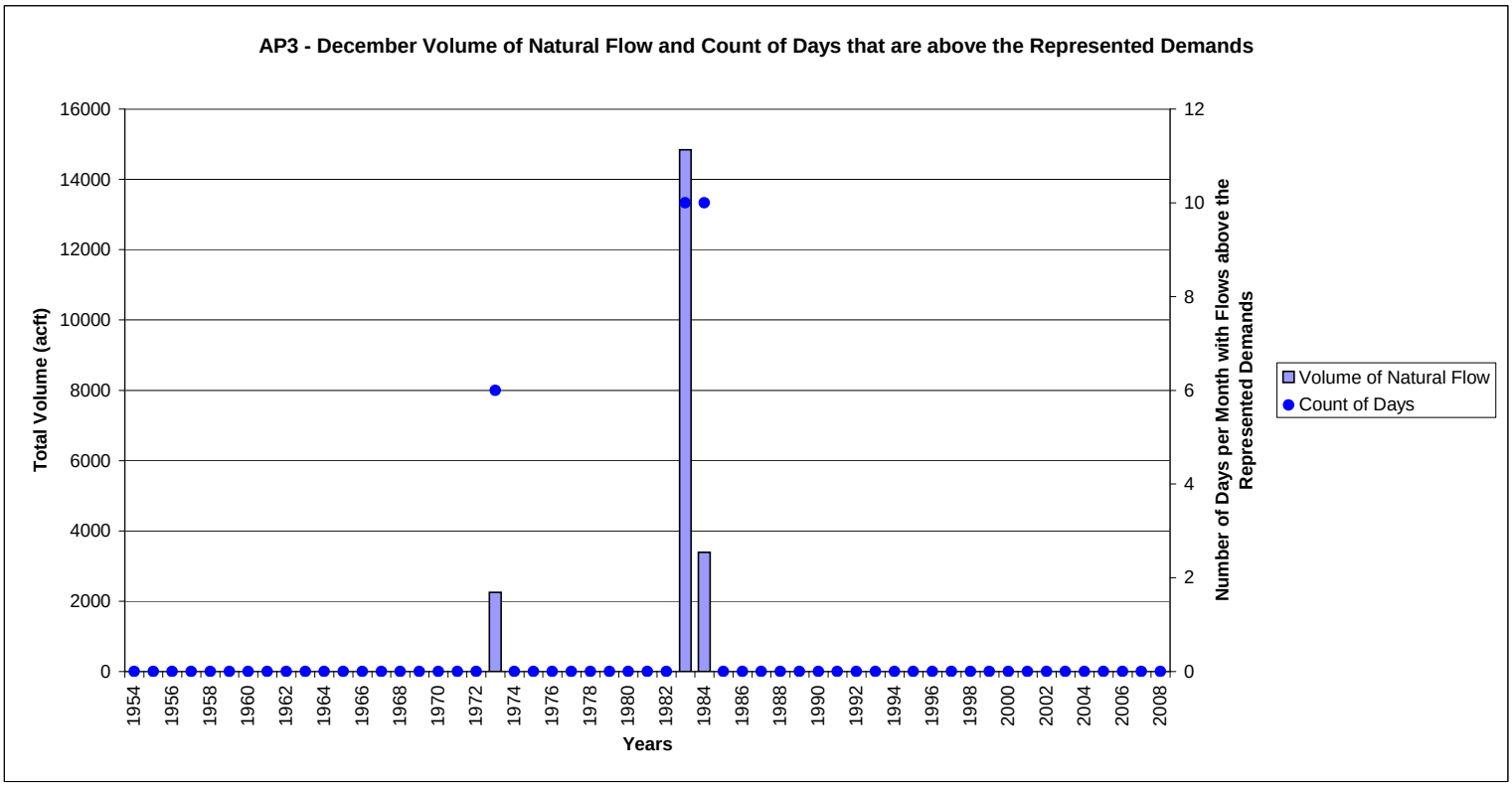

AP3 - July Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

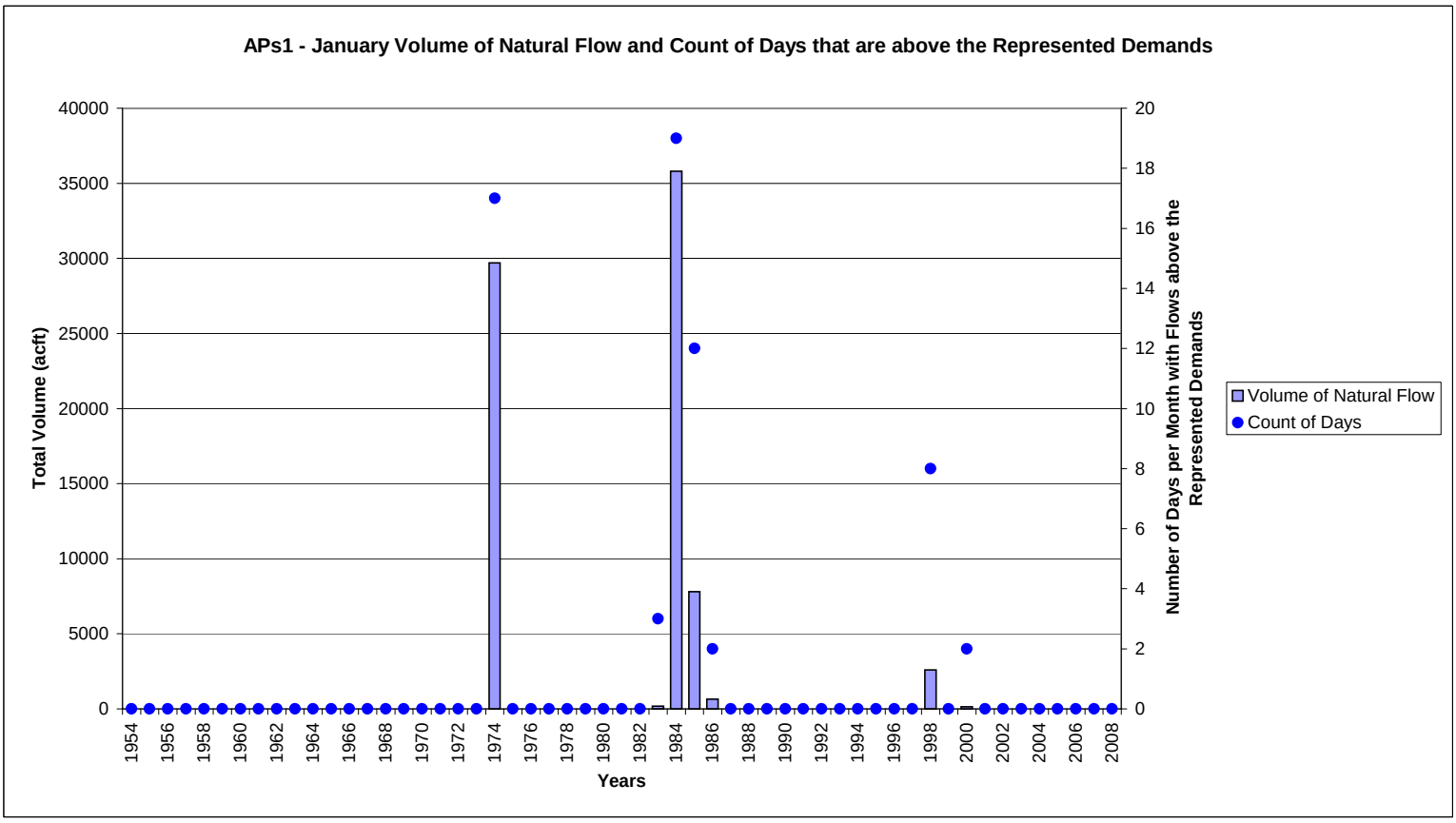

AP3 - August Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

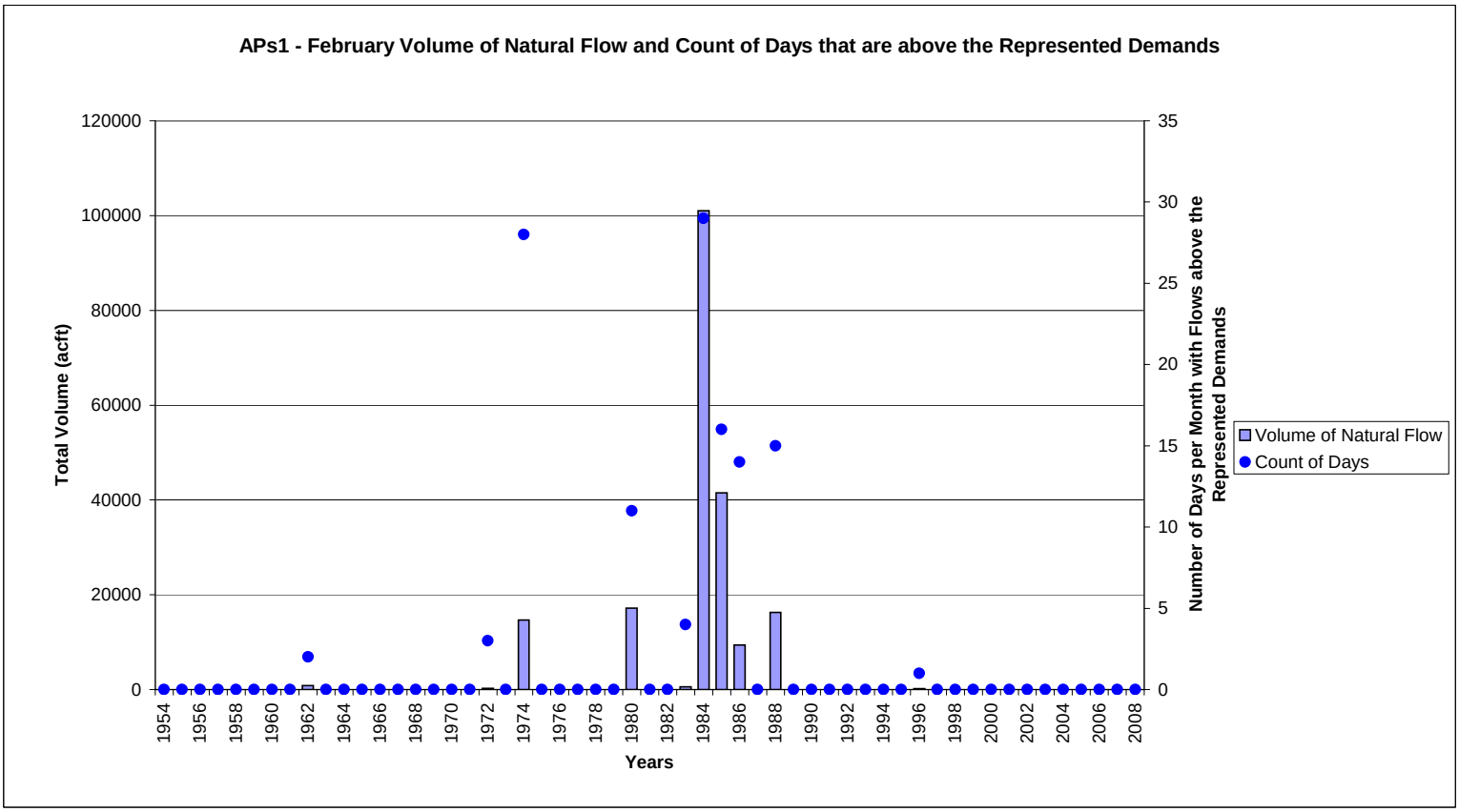

AP3 - September Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

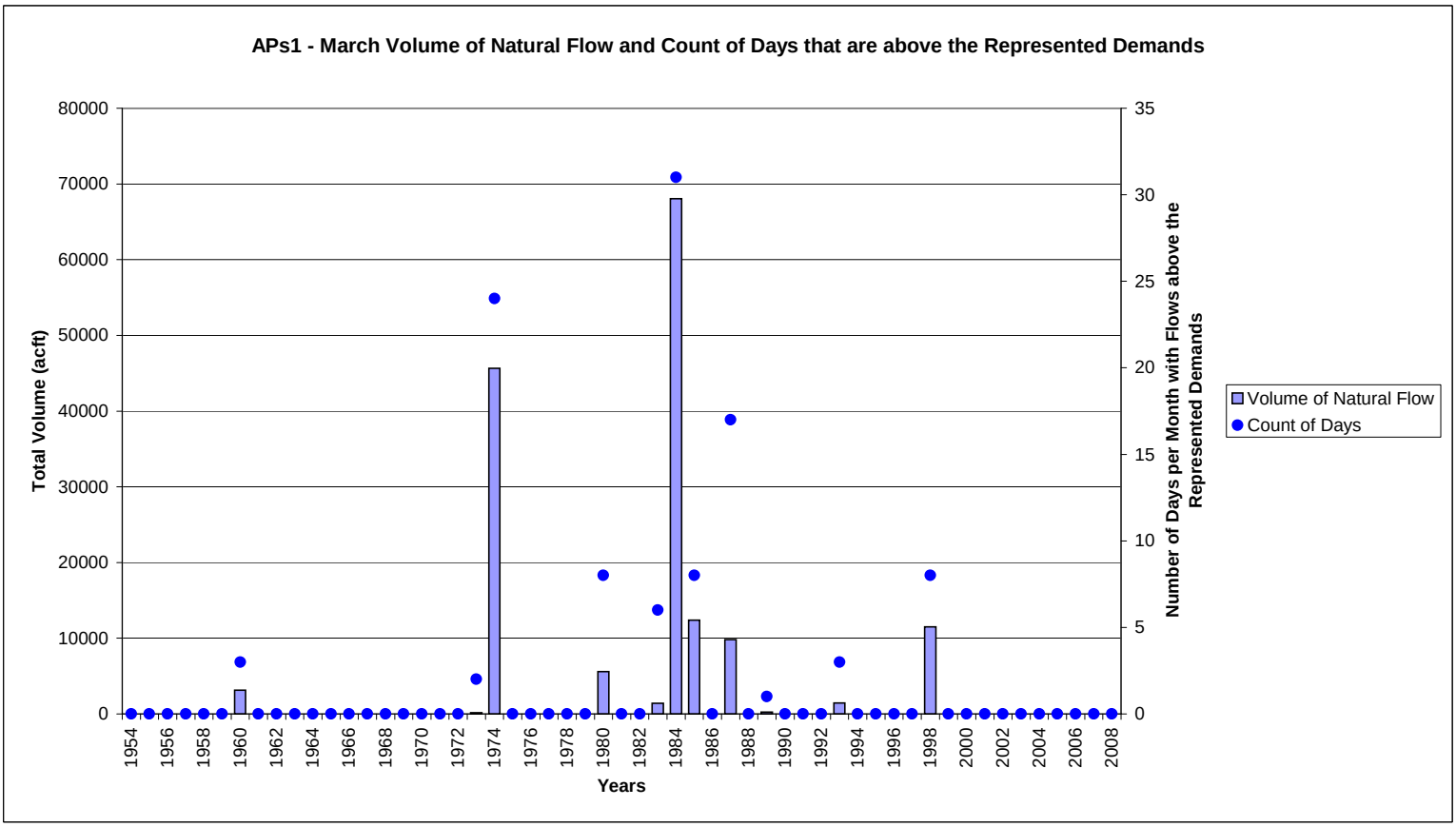

AP3 - October Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

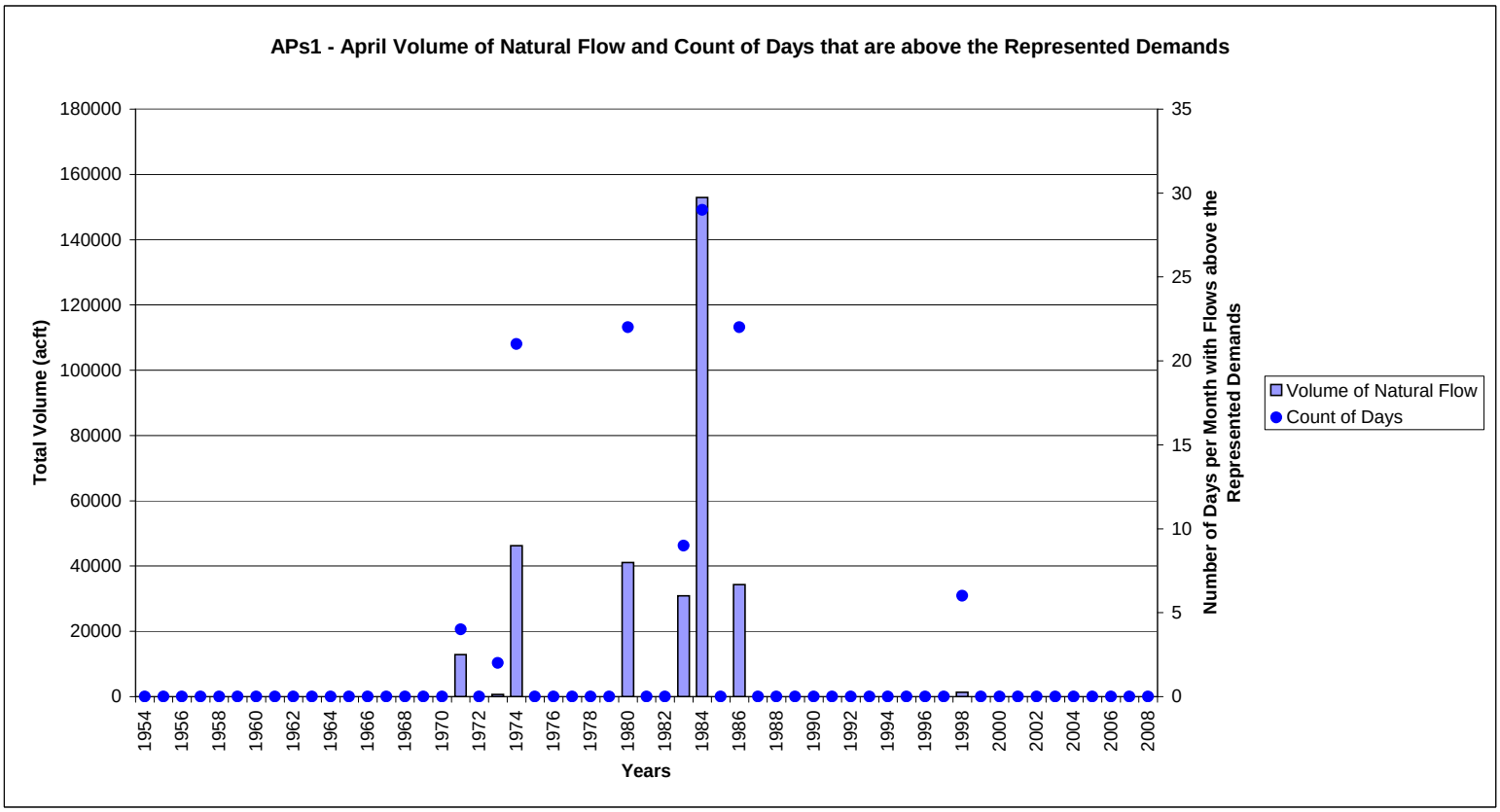

AP3 - November Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
5000
10000
15000
20000
25000
30000
0
5
10
15
20
25
30
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

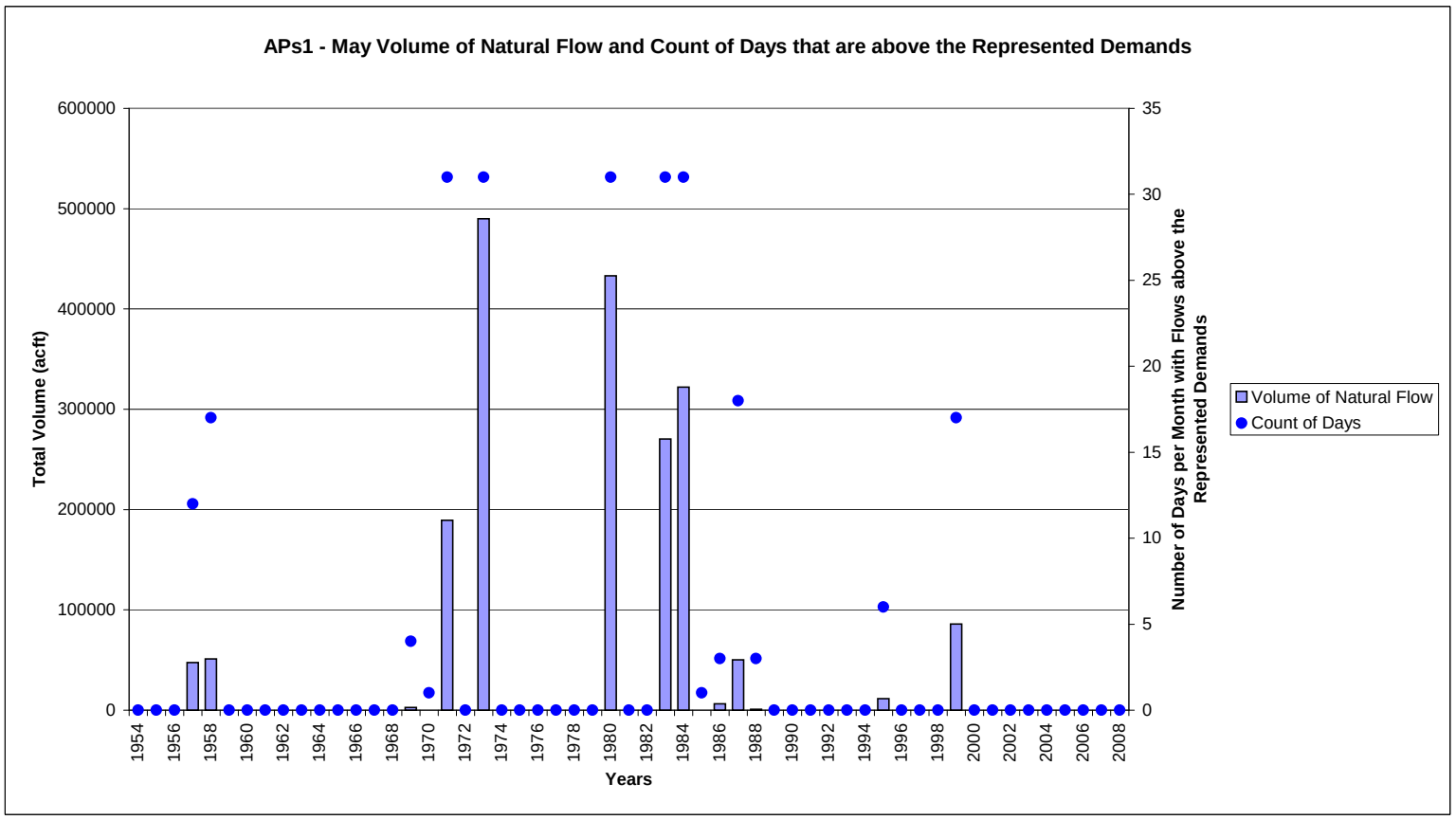

AP3 - December Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
2000
4000
6000
8000
10000
12000
14000
16000
0
2
4
6
8
10
12
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

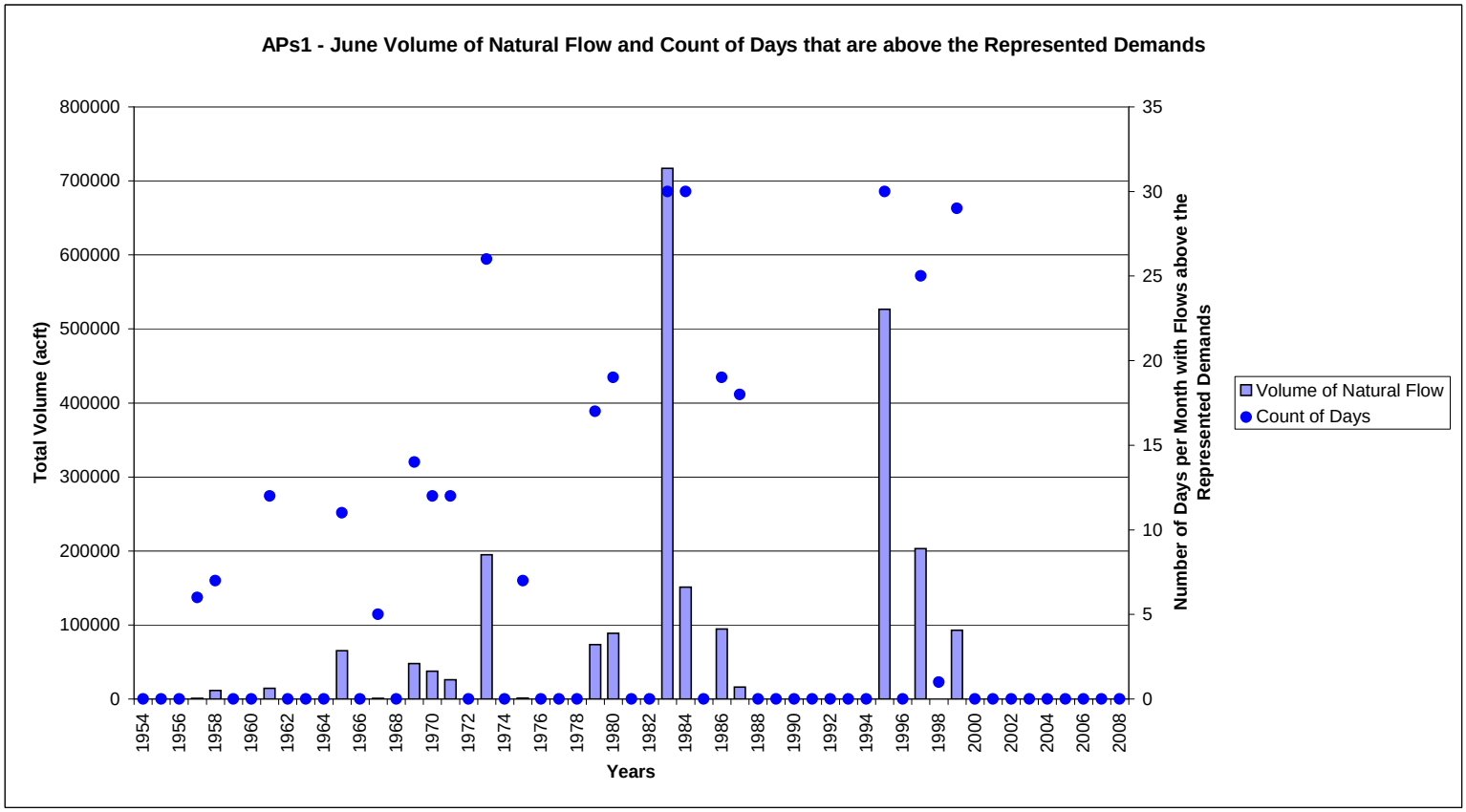

APs1 - January Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

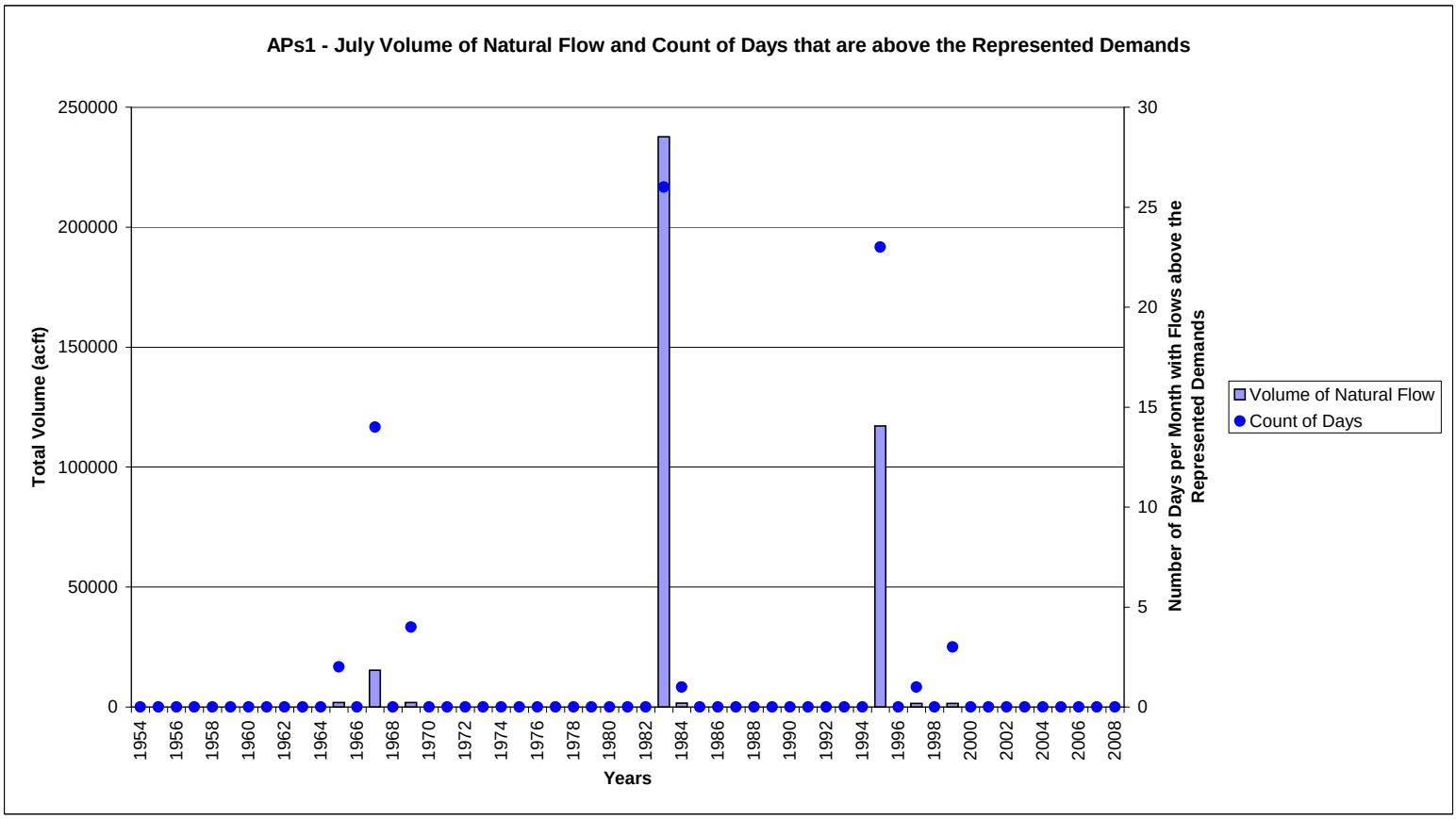

APs1 - February Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

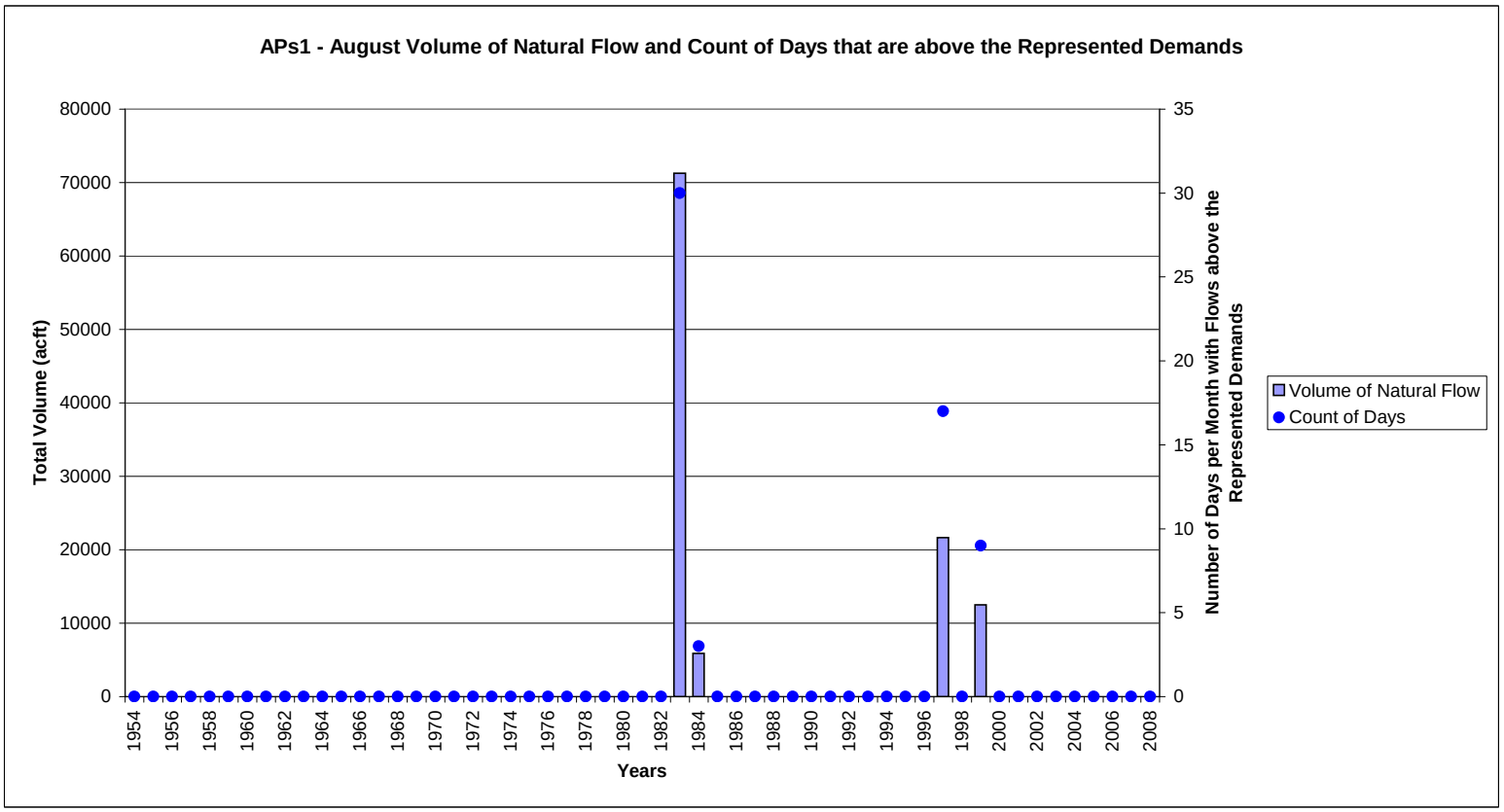

APs1 - March Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

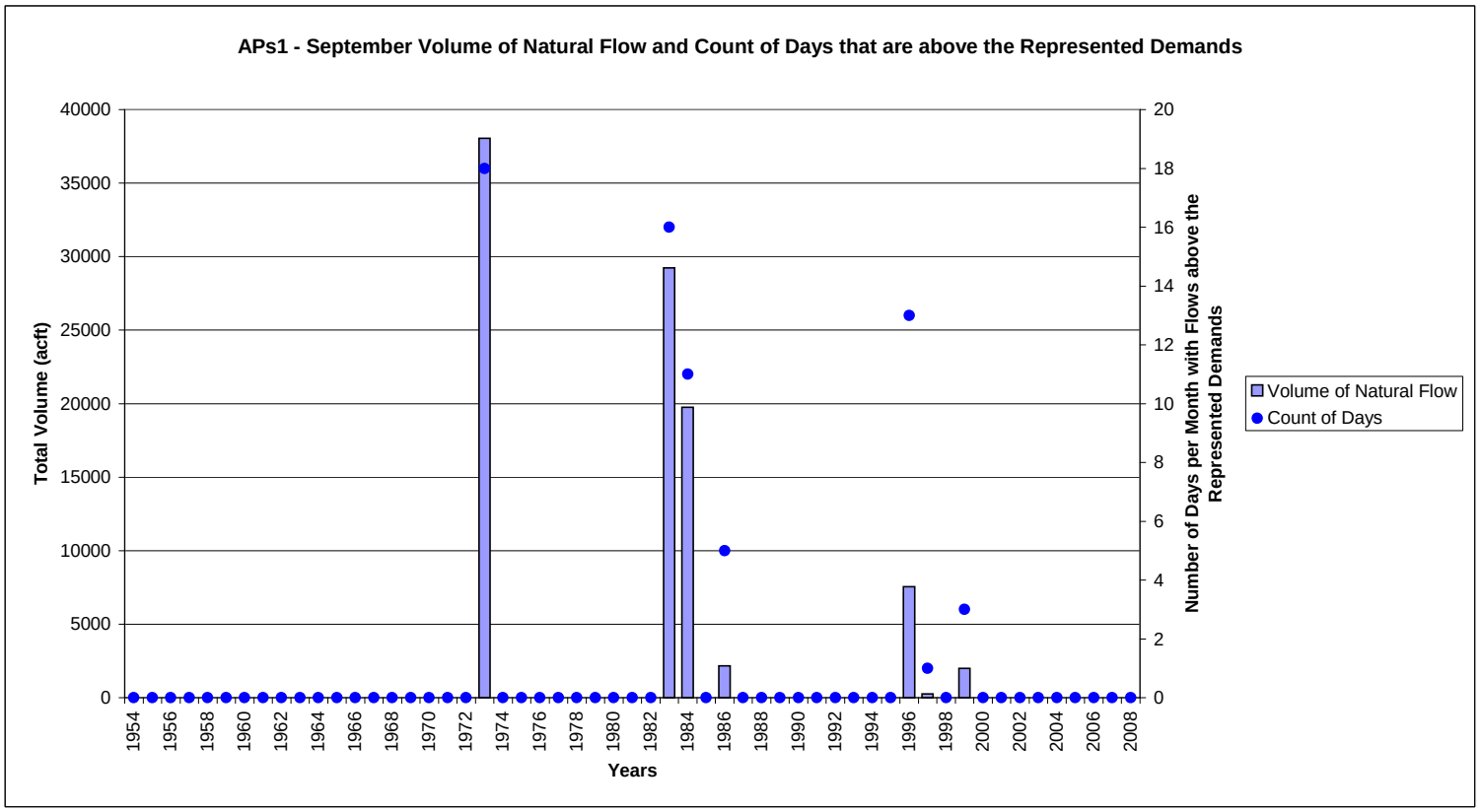

APs1 - April Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

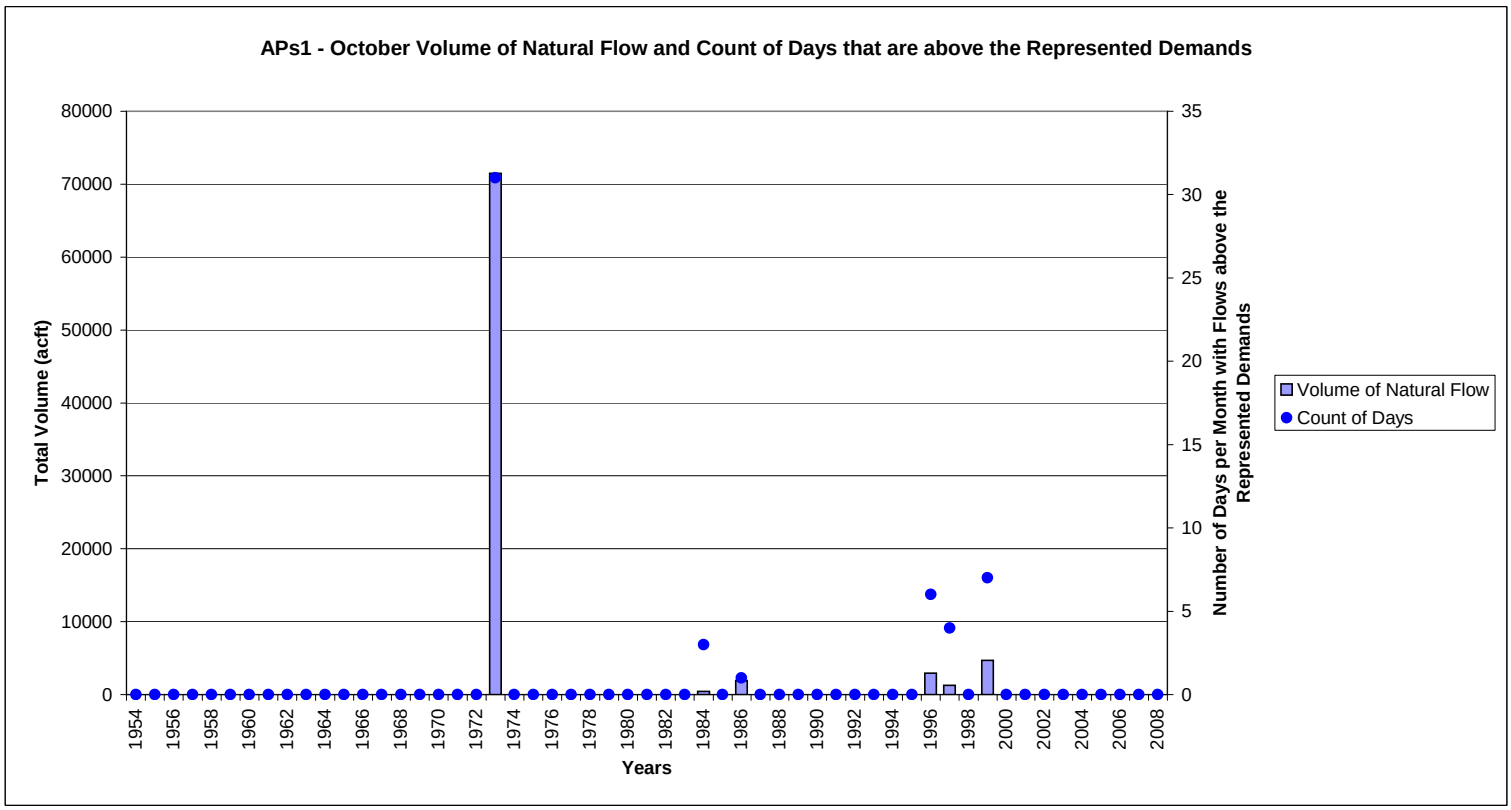

APs1 - May Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
100000
200000
300000
400000
500000
600000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

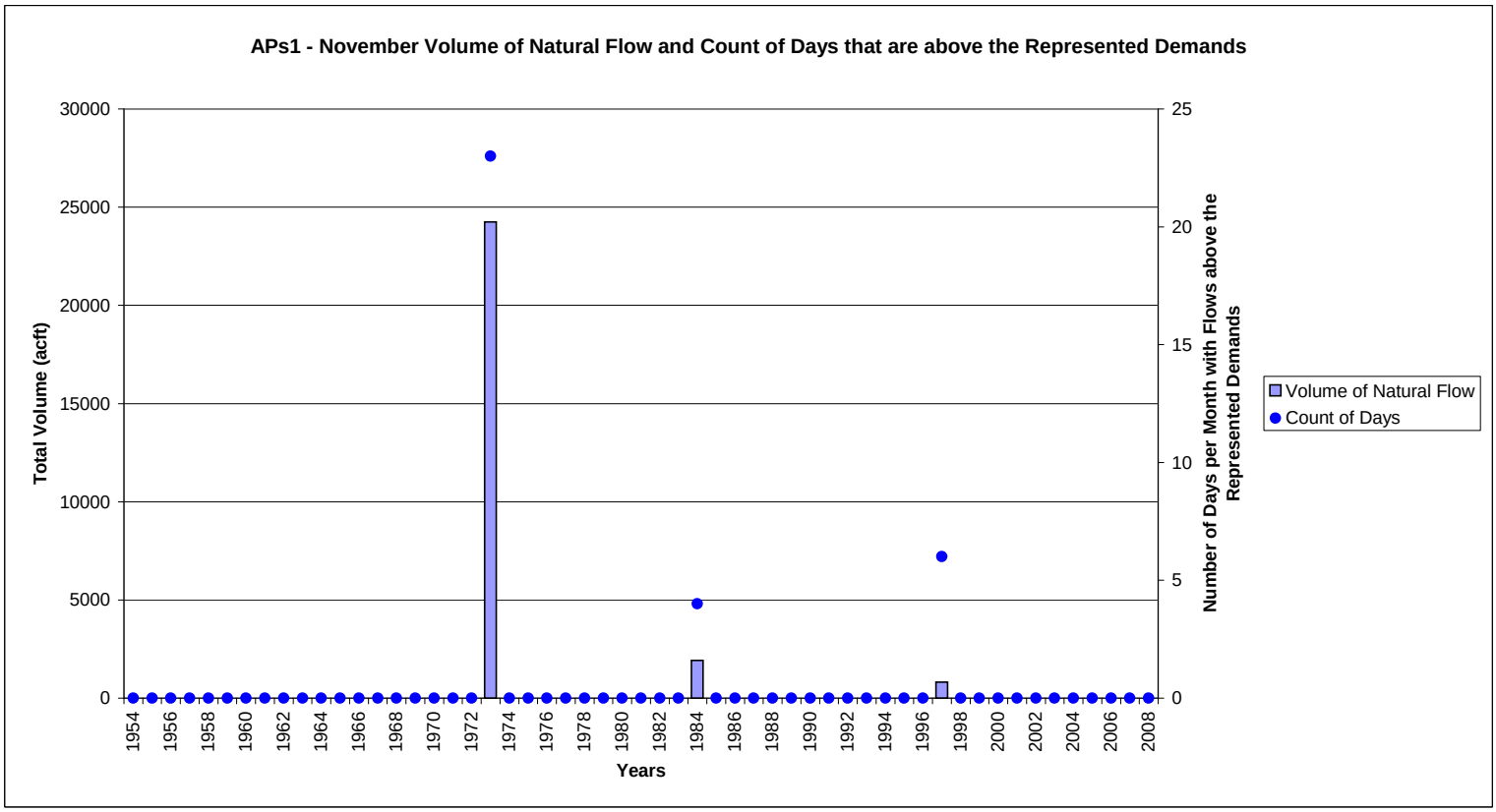

APs1 - June Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
100000
200000
300000
400000
500000
600000
700000
800000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

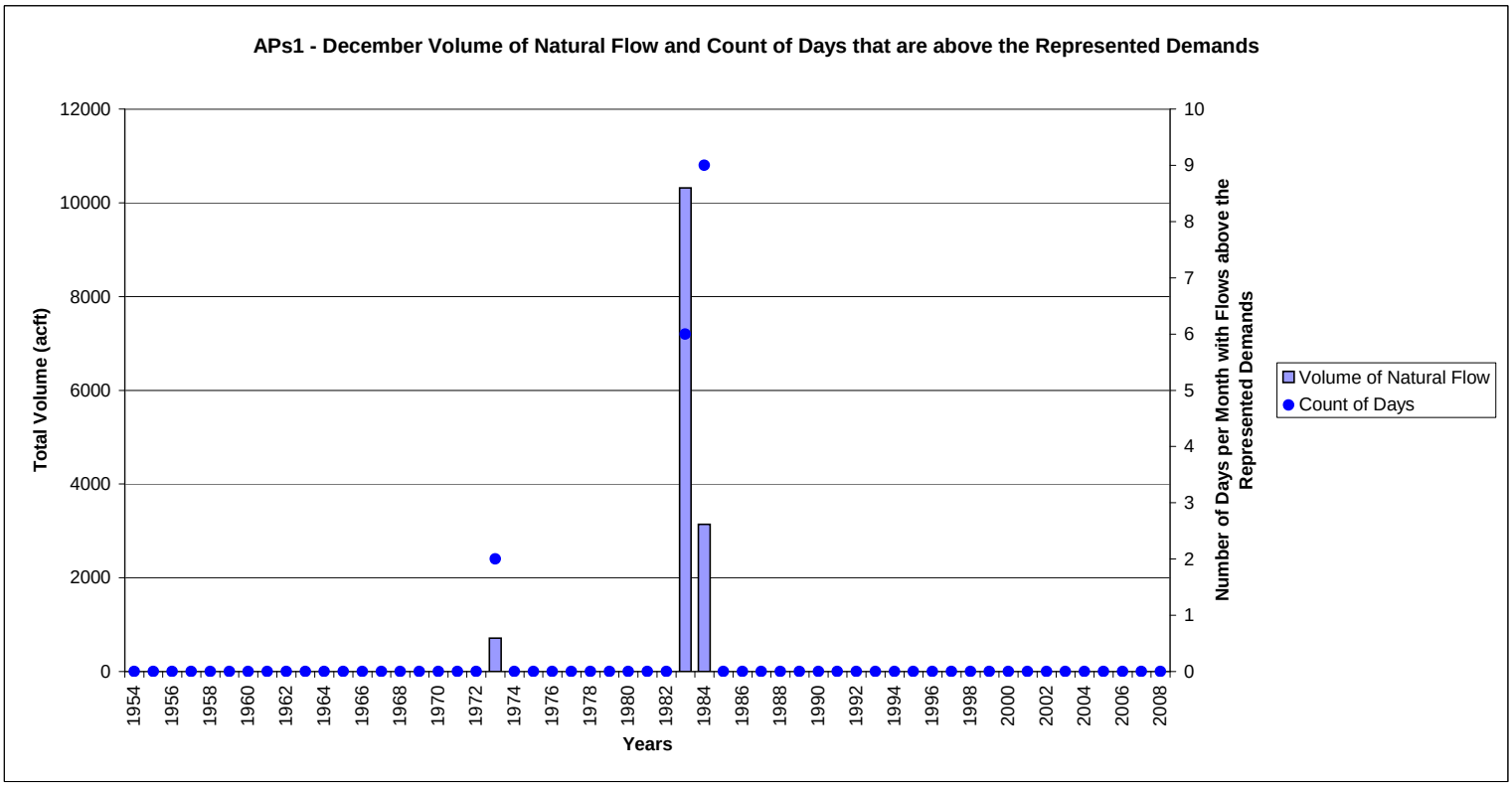

APs1 - July Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
250000
200000
150000
100000
50000
0
Number of Days per Month with Flows above the Represented Demands
30
25
20
15
10
5
0
1954 1956 1958 1960 1962 1964 1966 1968 1970 1972 1974 1976 1978 1980 1982 1984 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008
Years
Volume of Natural Flow
Count of Days

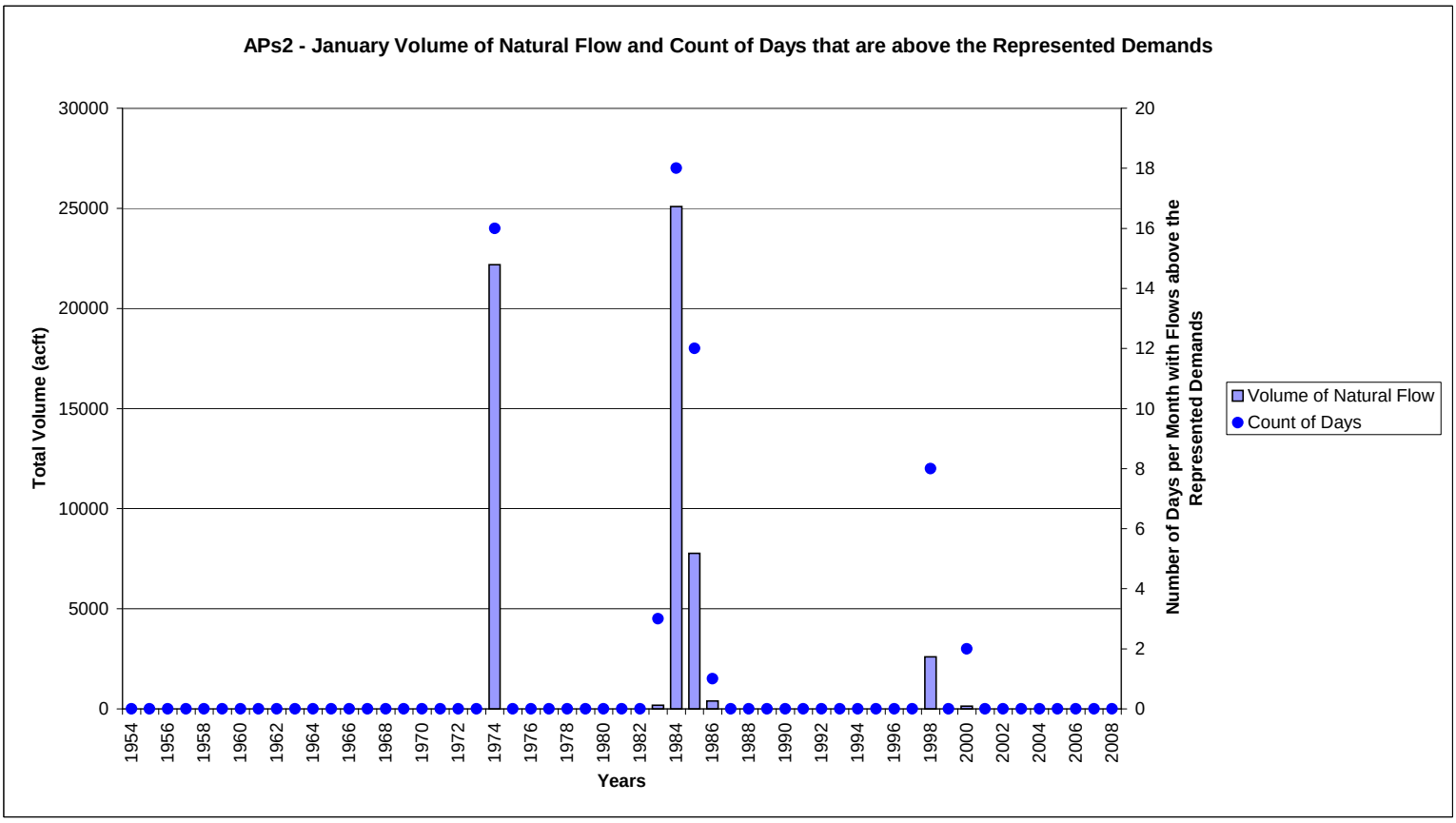

APs1 - August Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
80000
70000
60000
50000
40000
30000
20000
10000
0
Number of Days per Month with Flows above the Represented Demands
35
30
25
20
15
10
5
0
1954 1956 1958 1960 1962 1964 1966 1968 1970 1972 1974 1976 1978 1980 1982 1984 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008
Years
Volume of Natural Flow
Count of Days

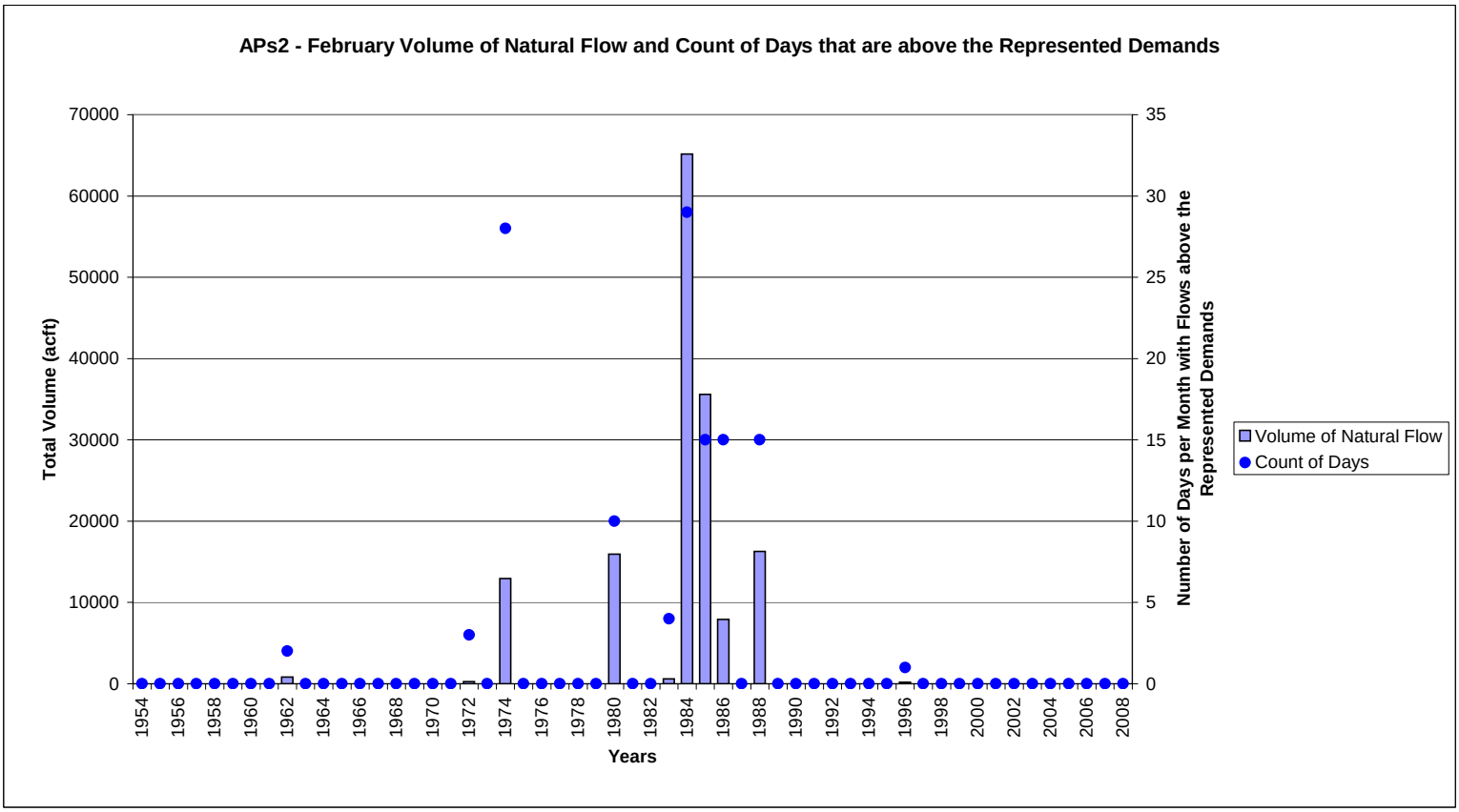

APs1 - September Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

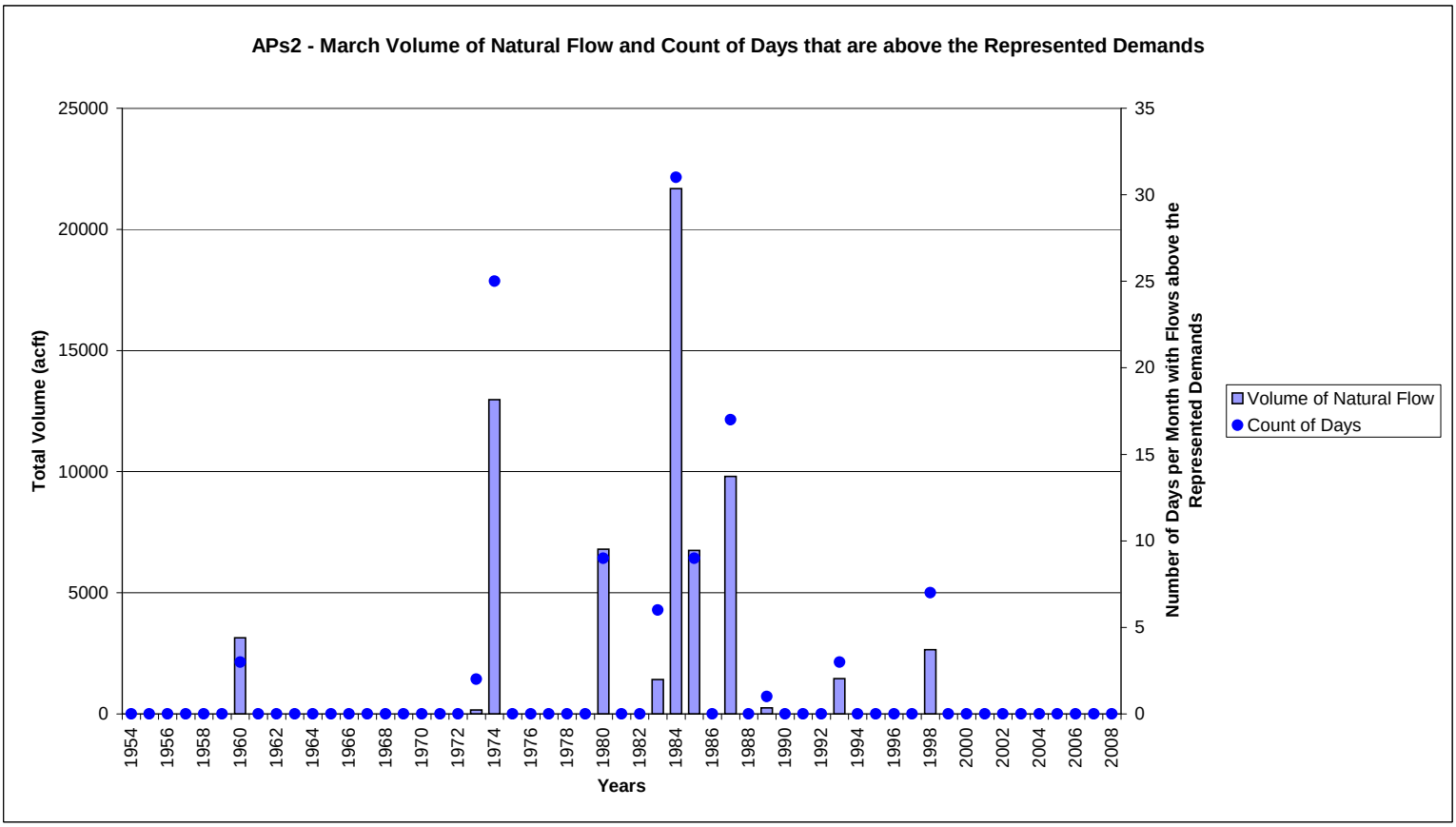

APs1 - October Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

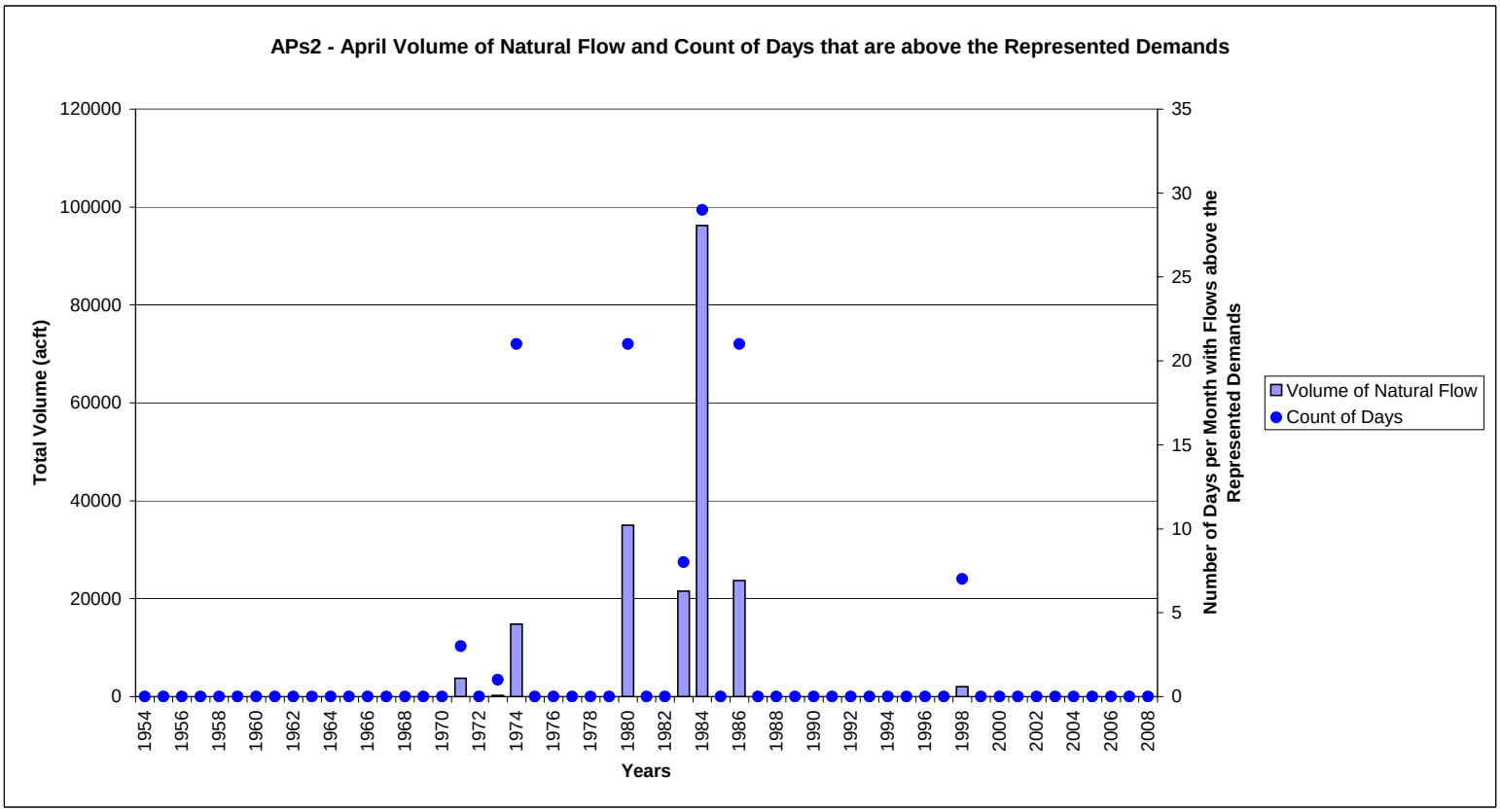

APs1 - November Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
5000
10000
15000
20000
25000
30000
0
5
10
15
20
25
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

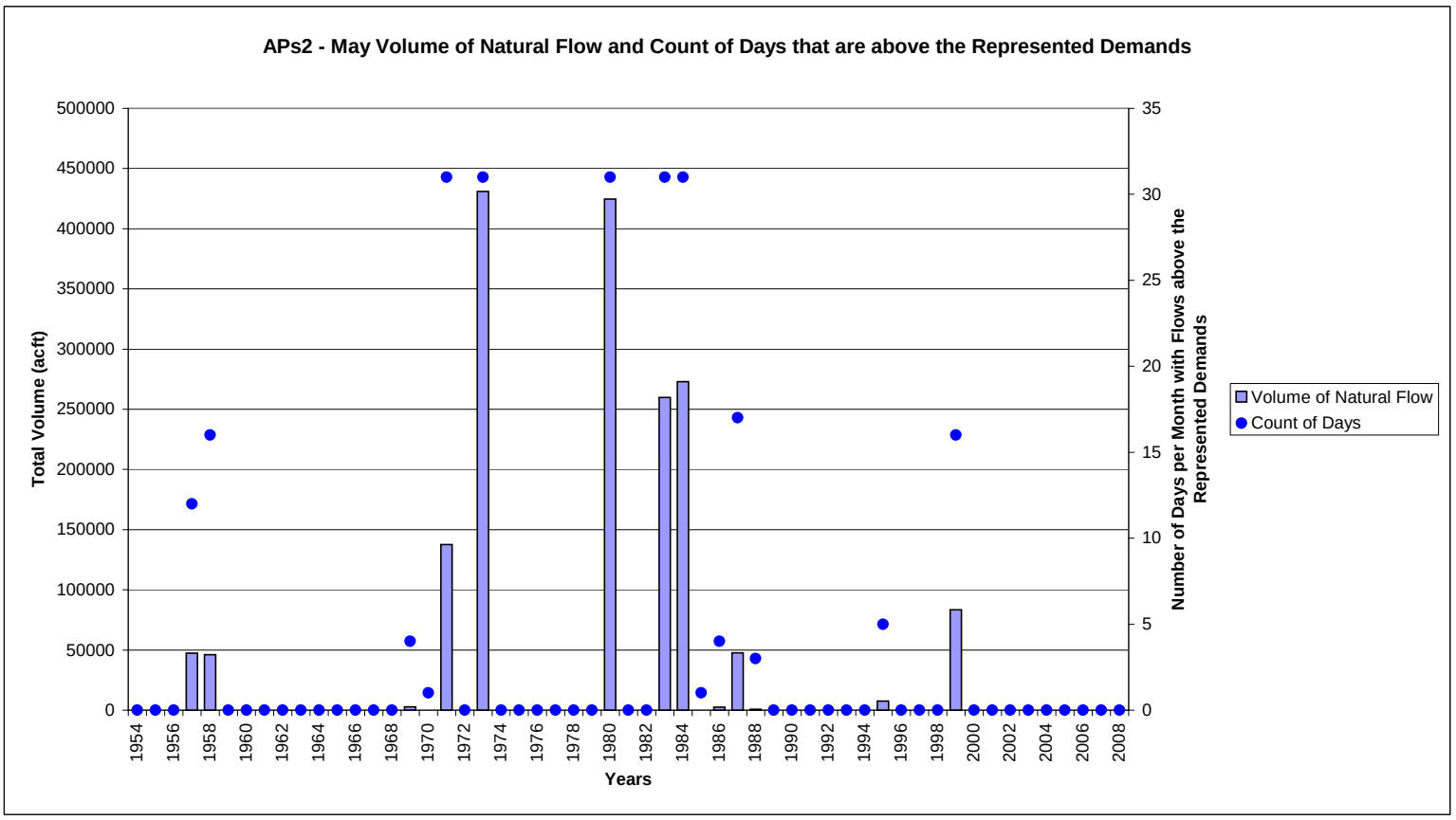

APs1 - December Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
2000
4000
6000
8000
10000
12000
0
1
2
3
4
5
6
7
8
9
10
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

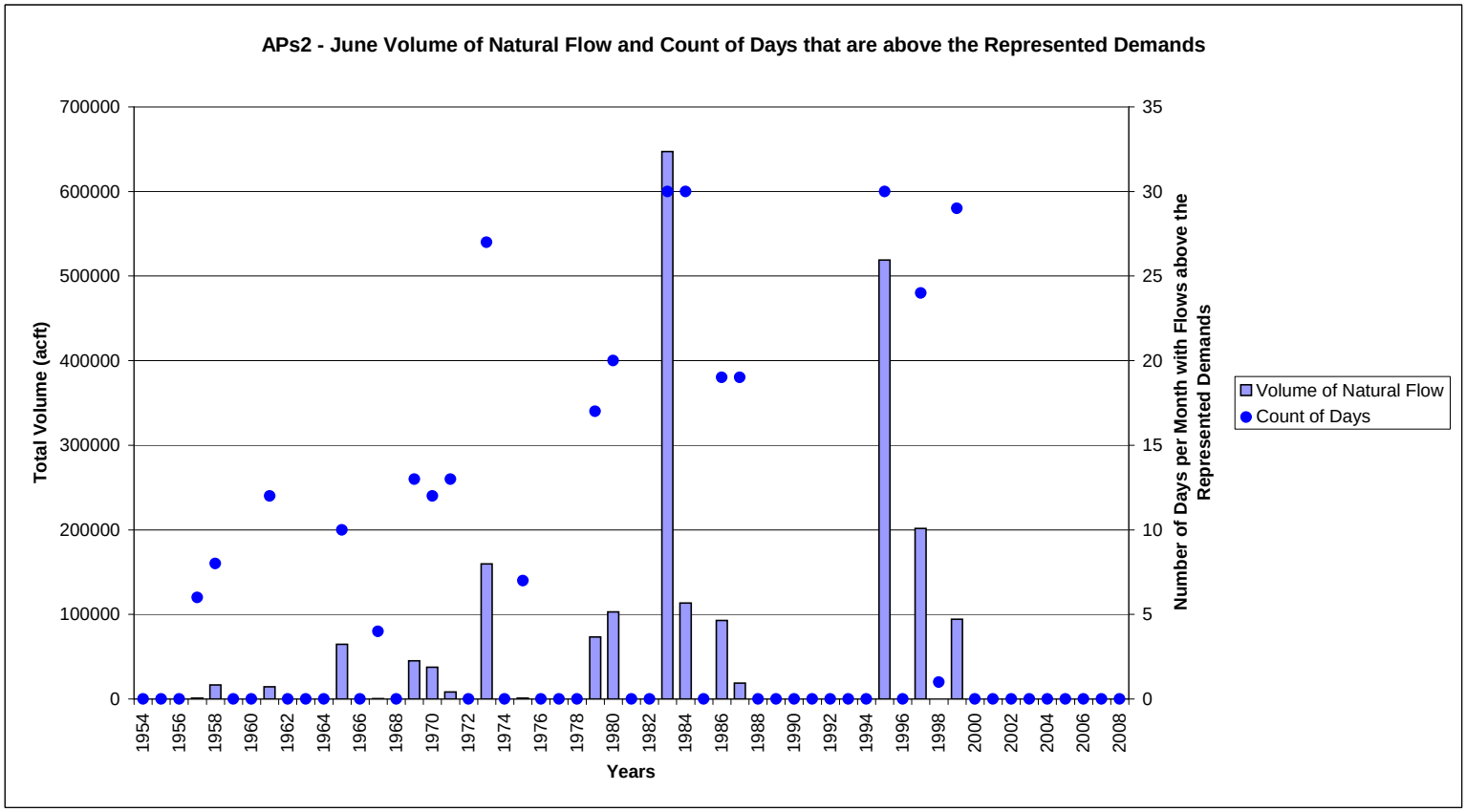

APs2 - January Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

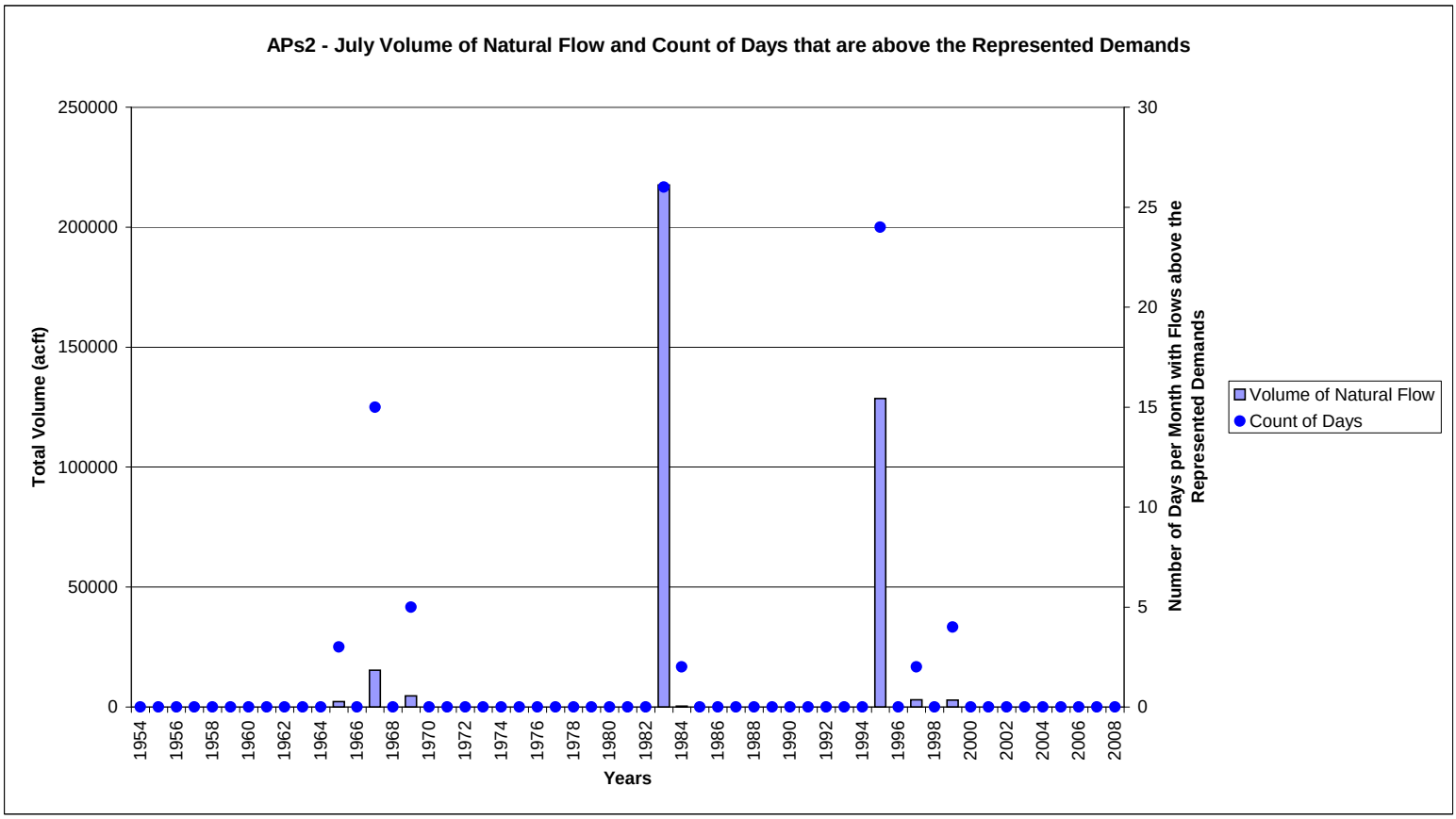

APs2 - February Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

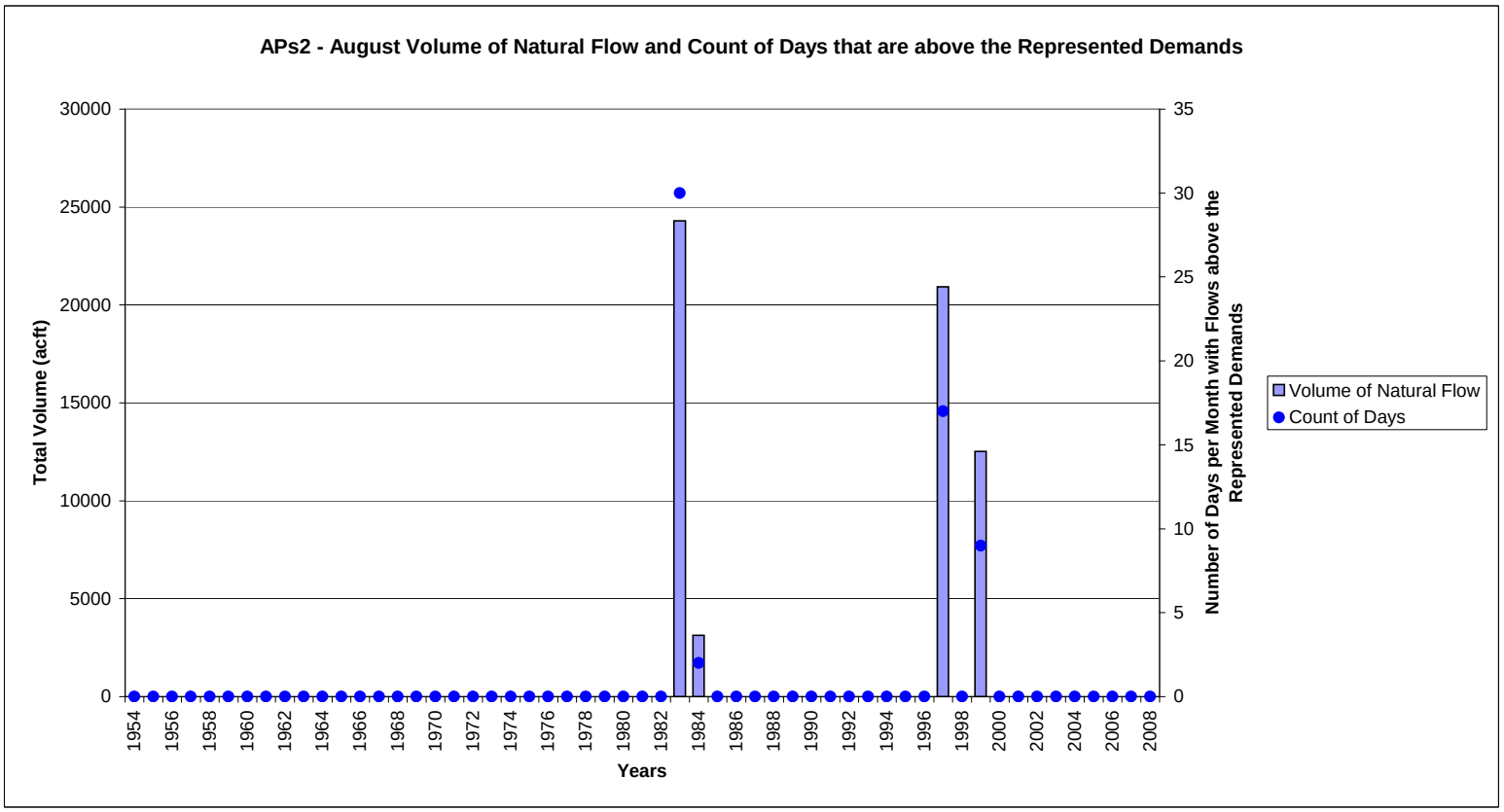

APs2 - March Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

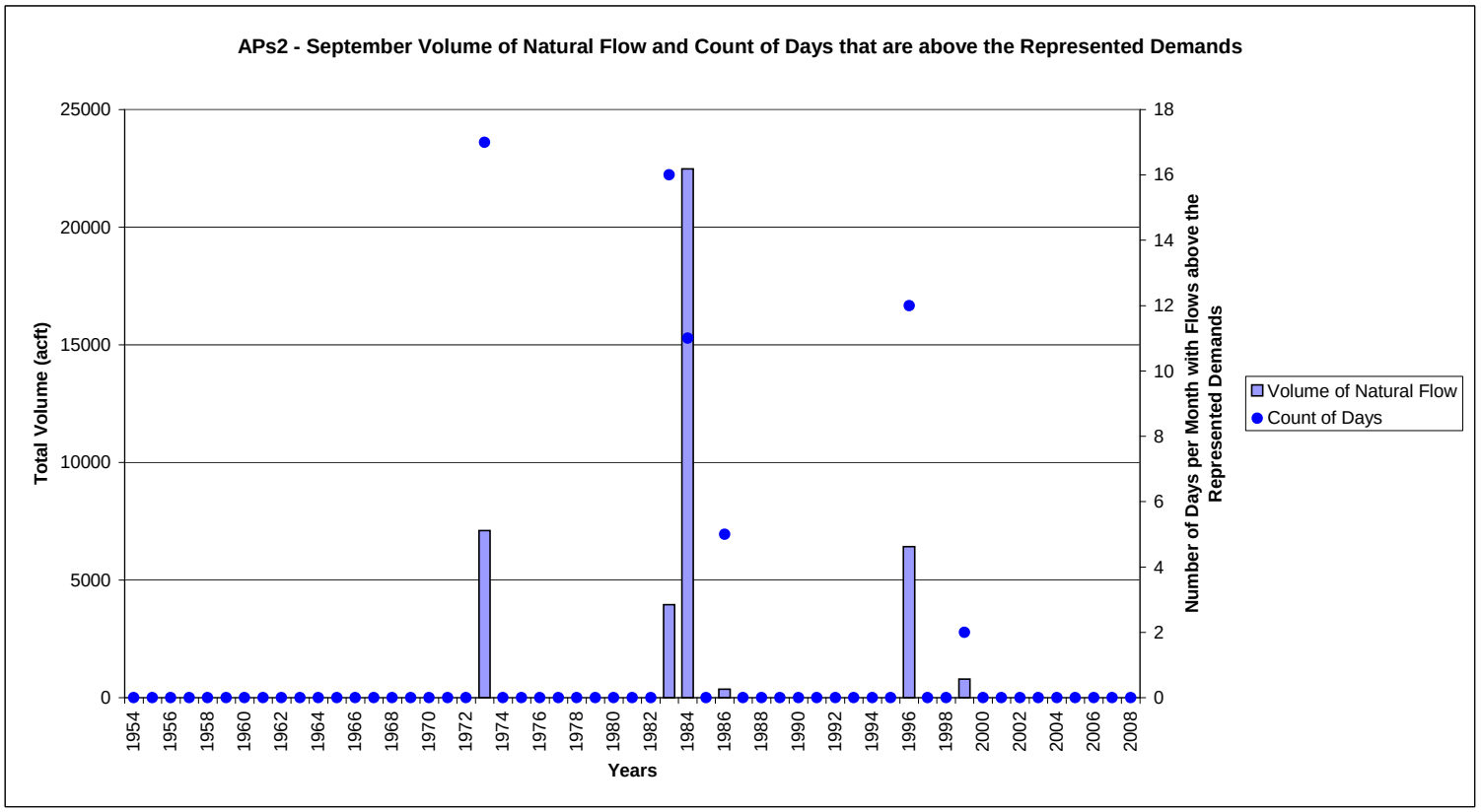

APs2 - April Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

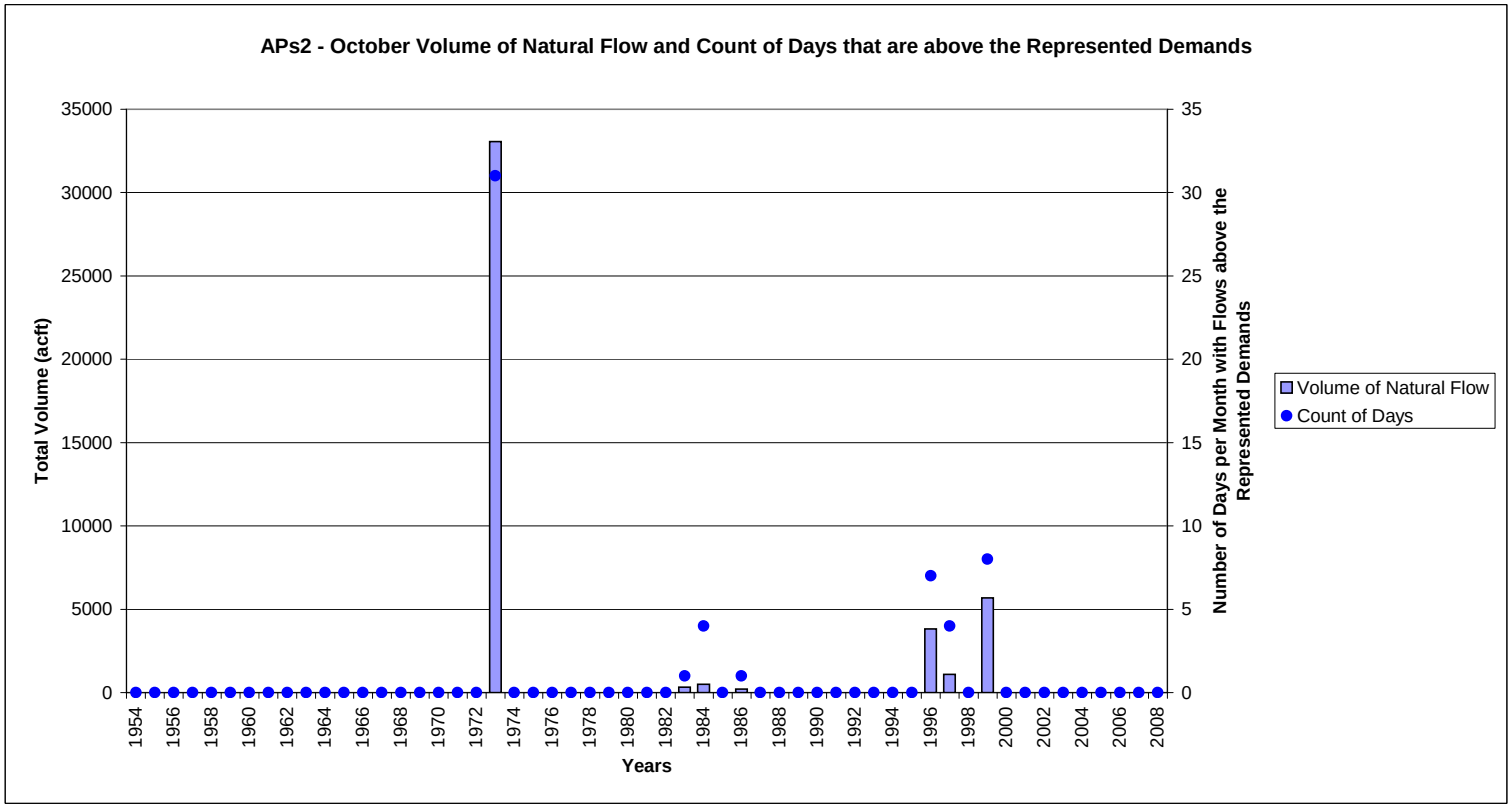

APs2 - May Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

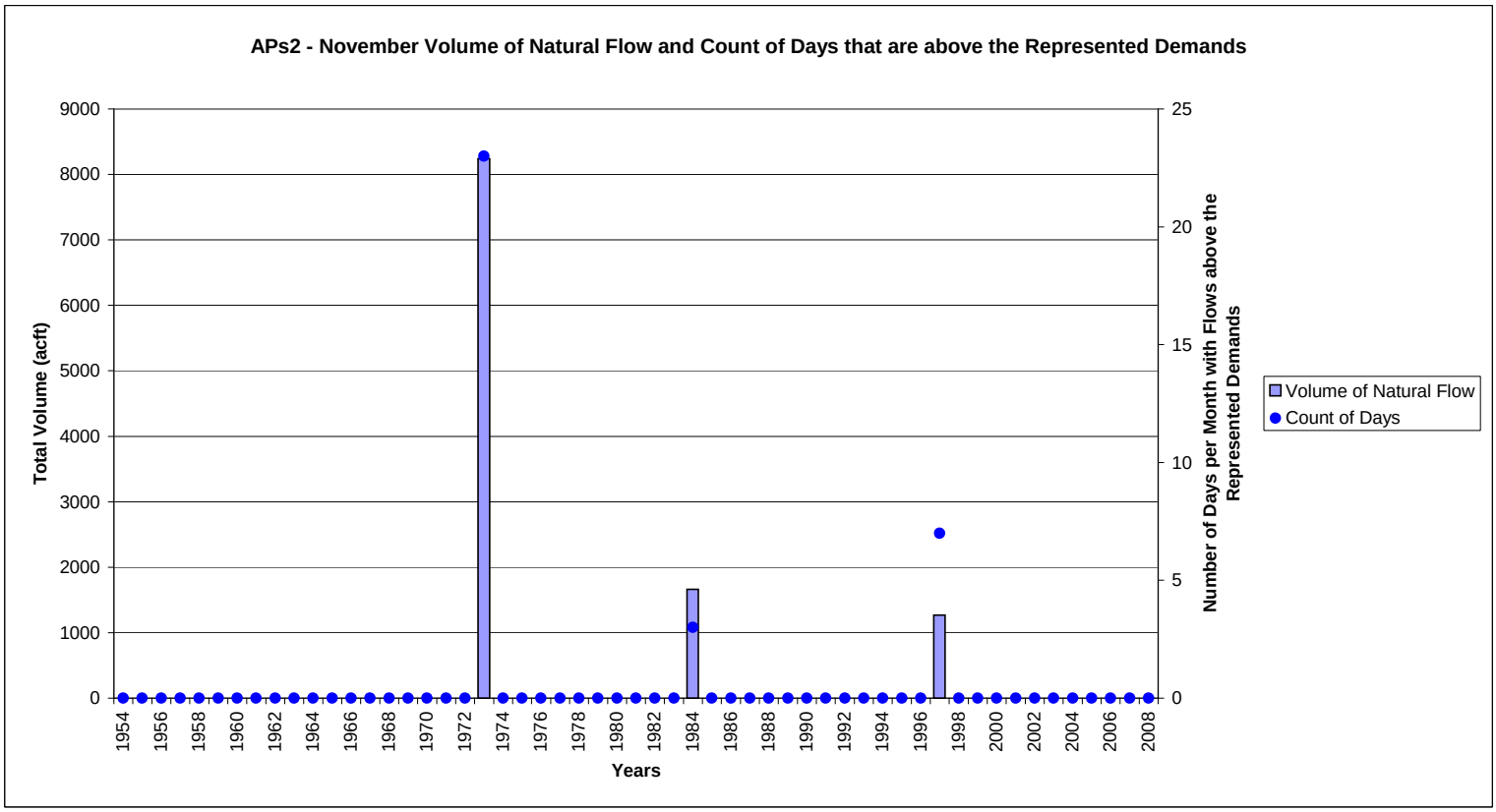

APs2 - June Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

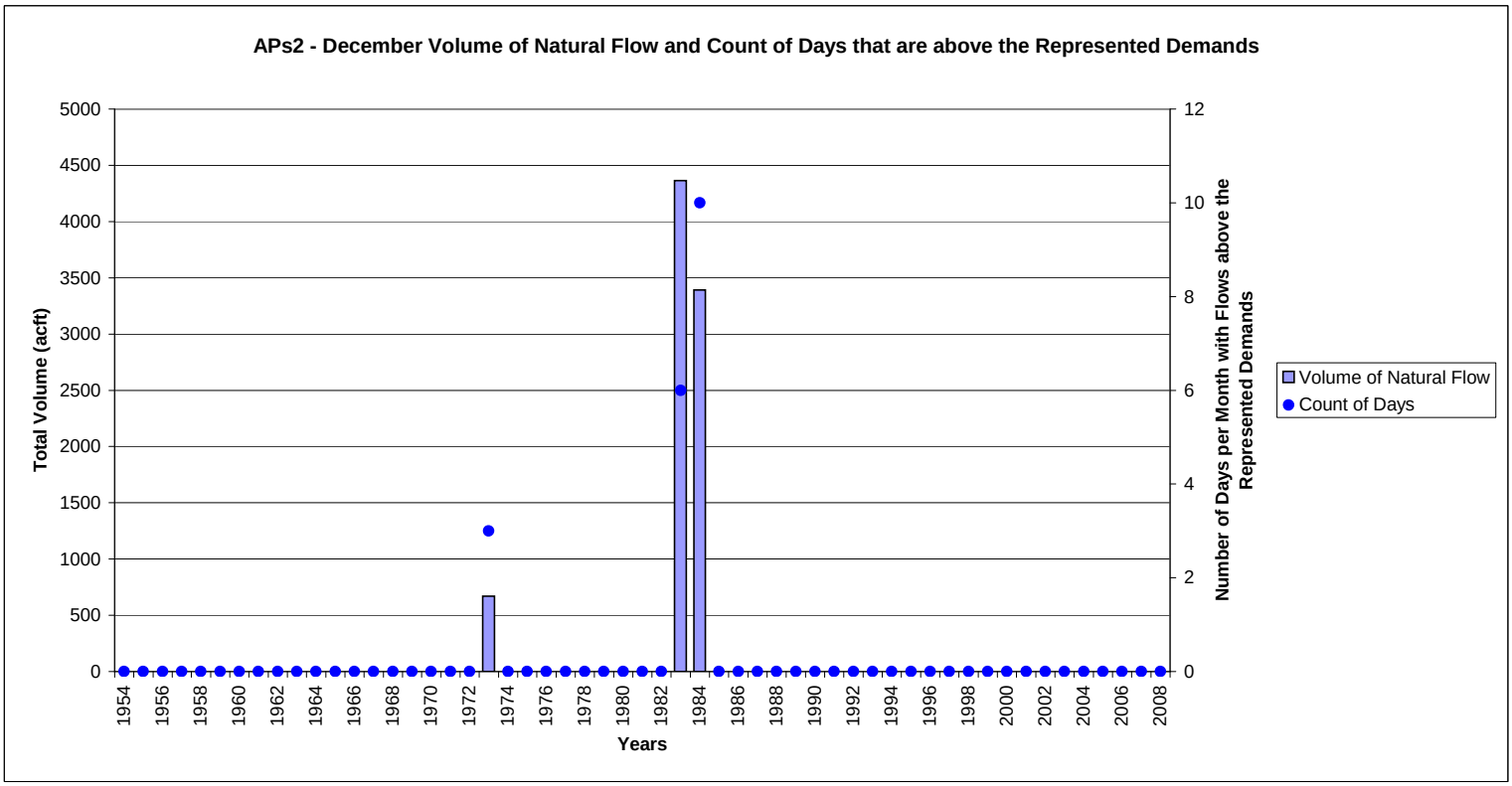

APs2 - July Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
250000
200000
150000
100000
50000
0
30
25
20
15
10
5
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

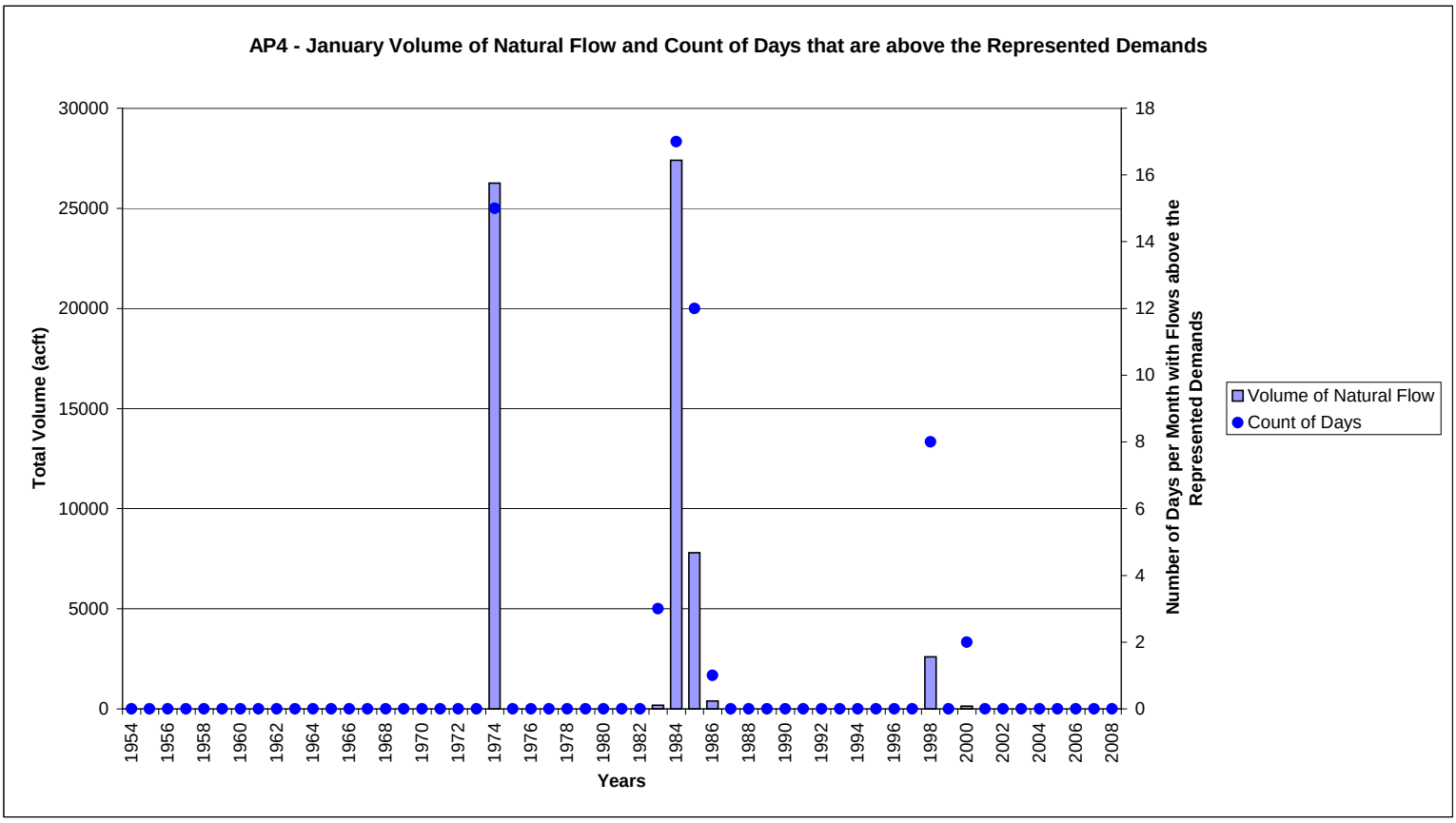

APs2 - August Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
30000
25000
20000
15000
10000
5000
0
35
30
25
20
15
10
5
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

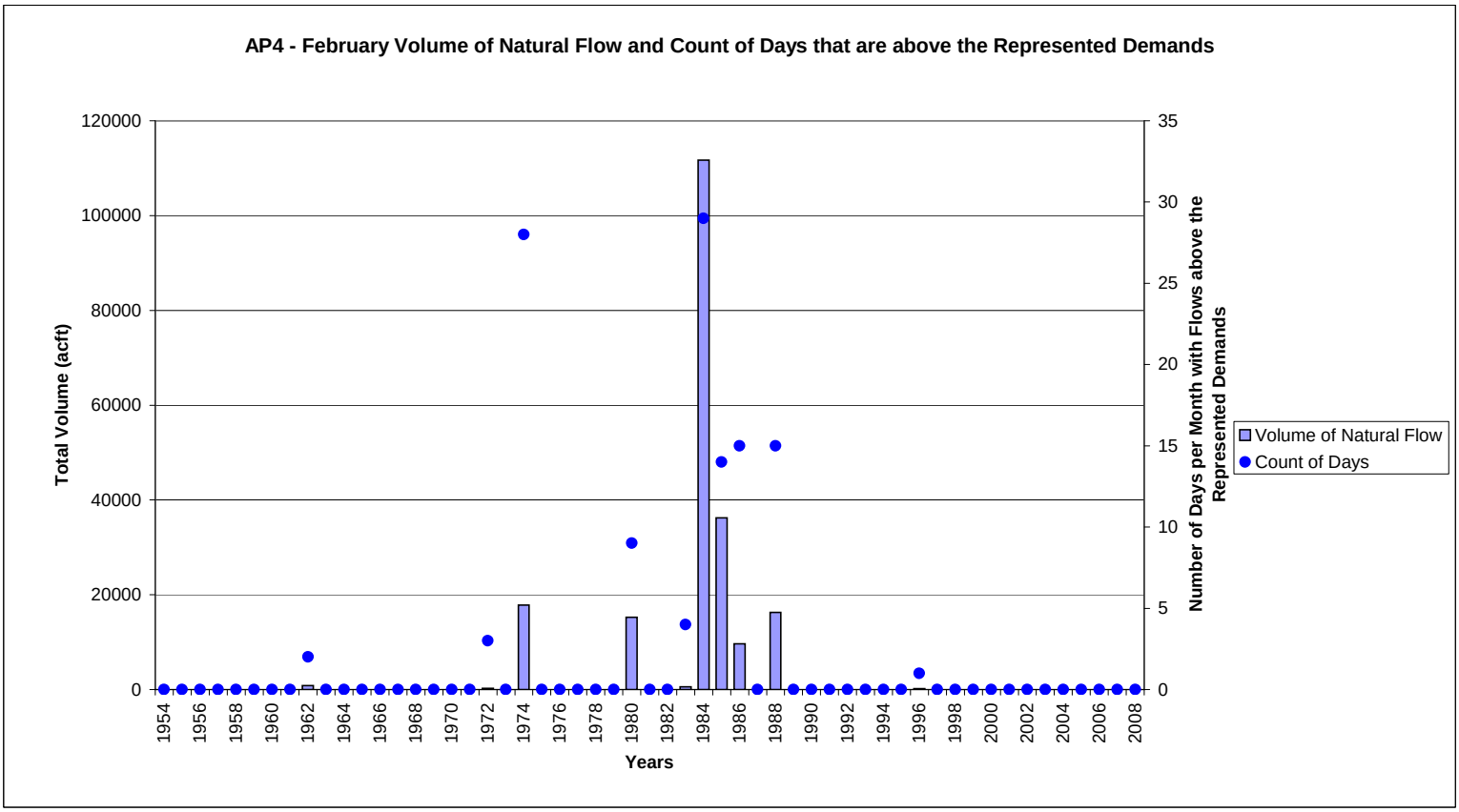

APs2 - September Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
5000
10000
15000
20000
25000
0
2
4
6
8
10
12
14
16
18
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

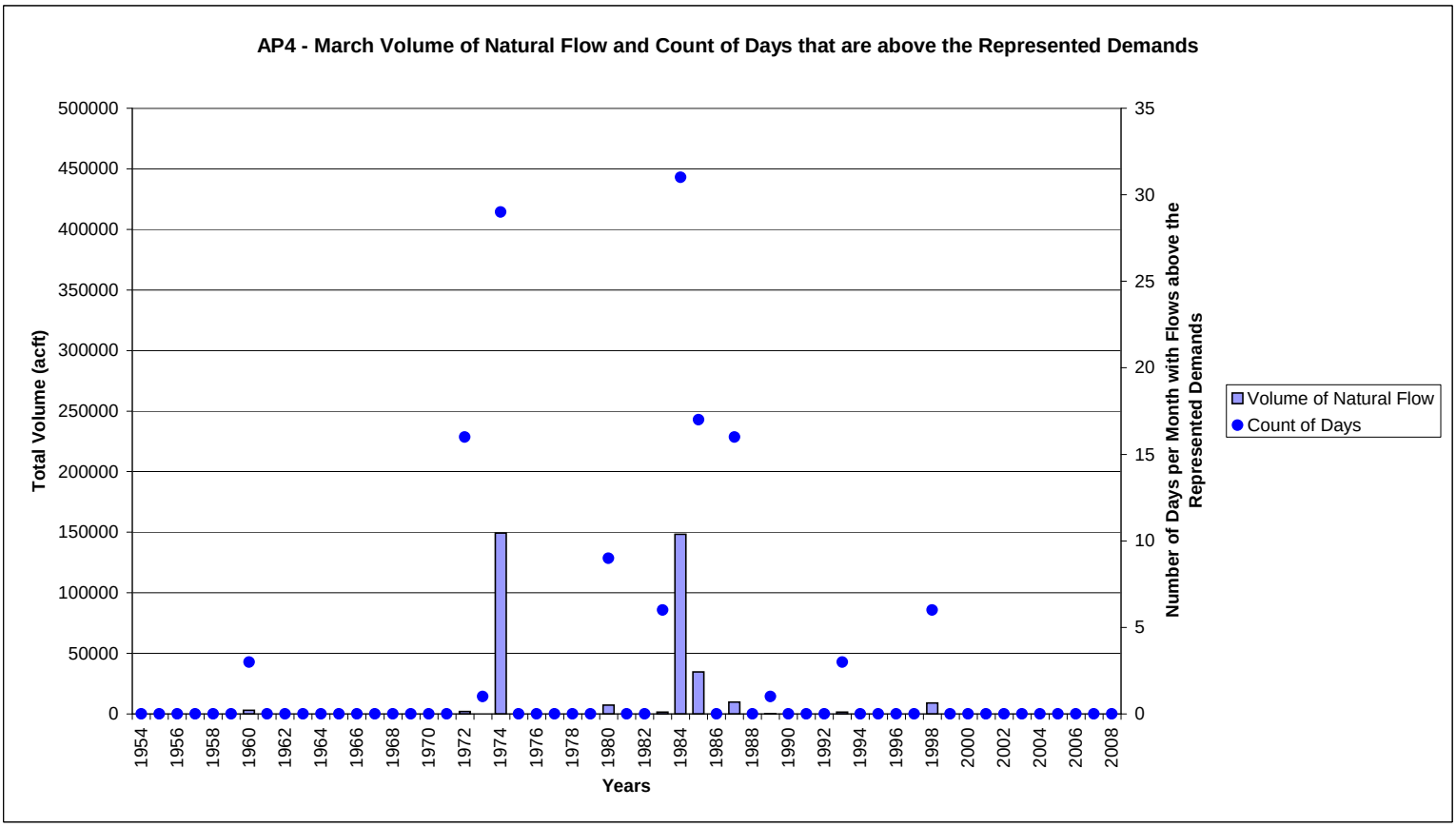

APs2 - October Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
5000
10000
15000
20000
25000
30000
35000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

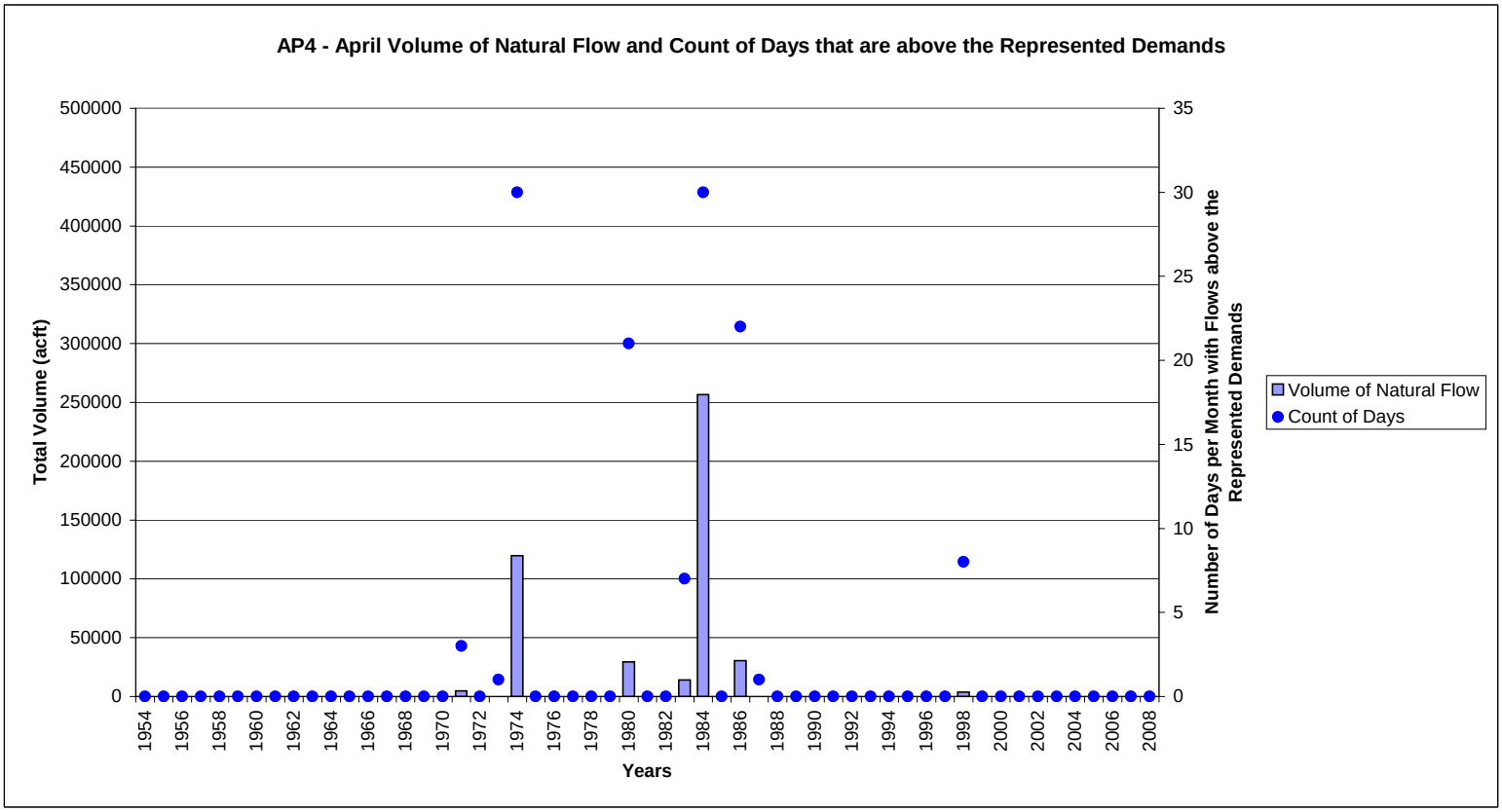

APs2 - November Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
0
5
10
15
20
25
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

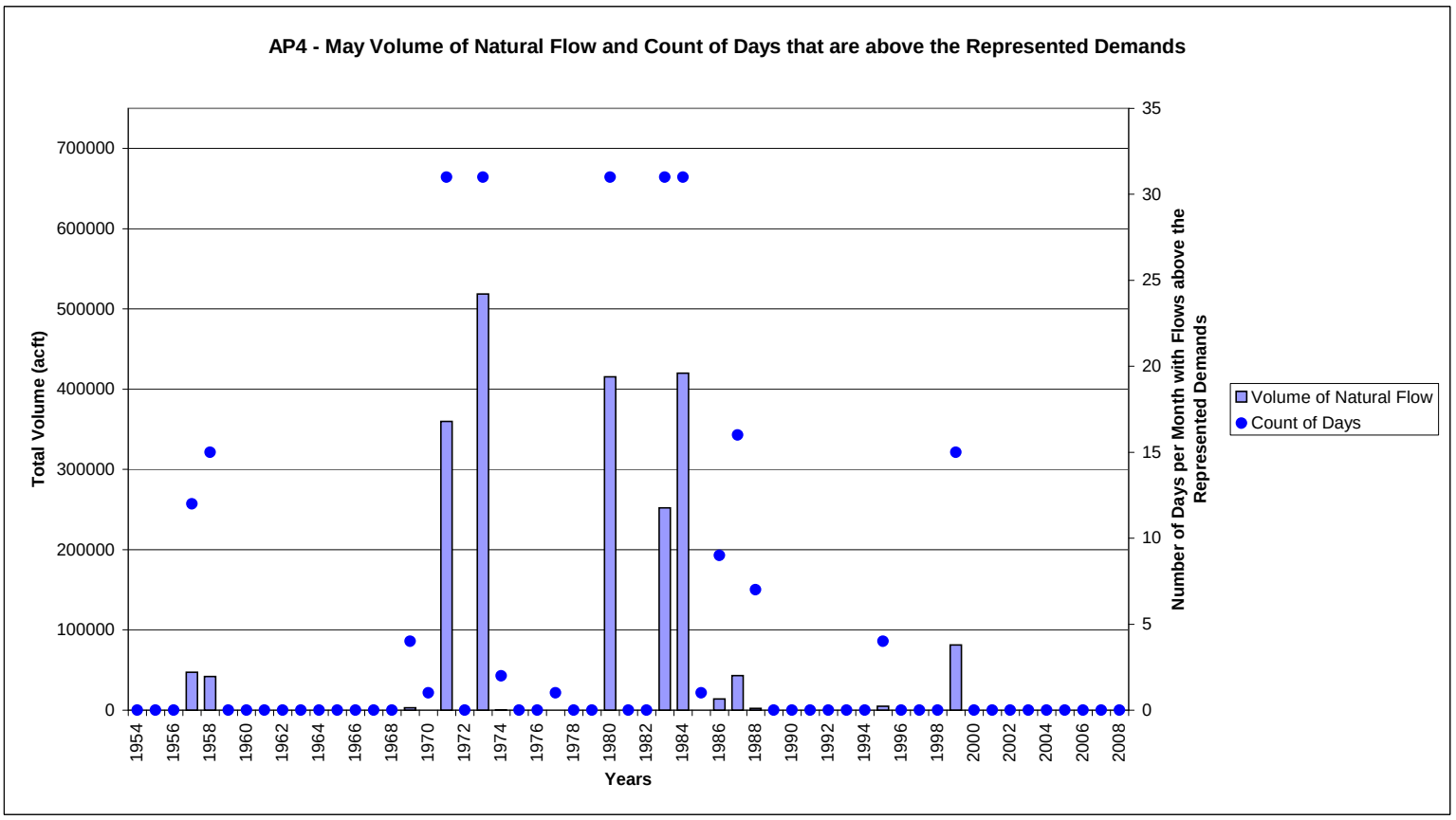

APs2 - December Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
0
2
4
6
8
10
12
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

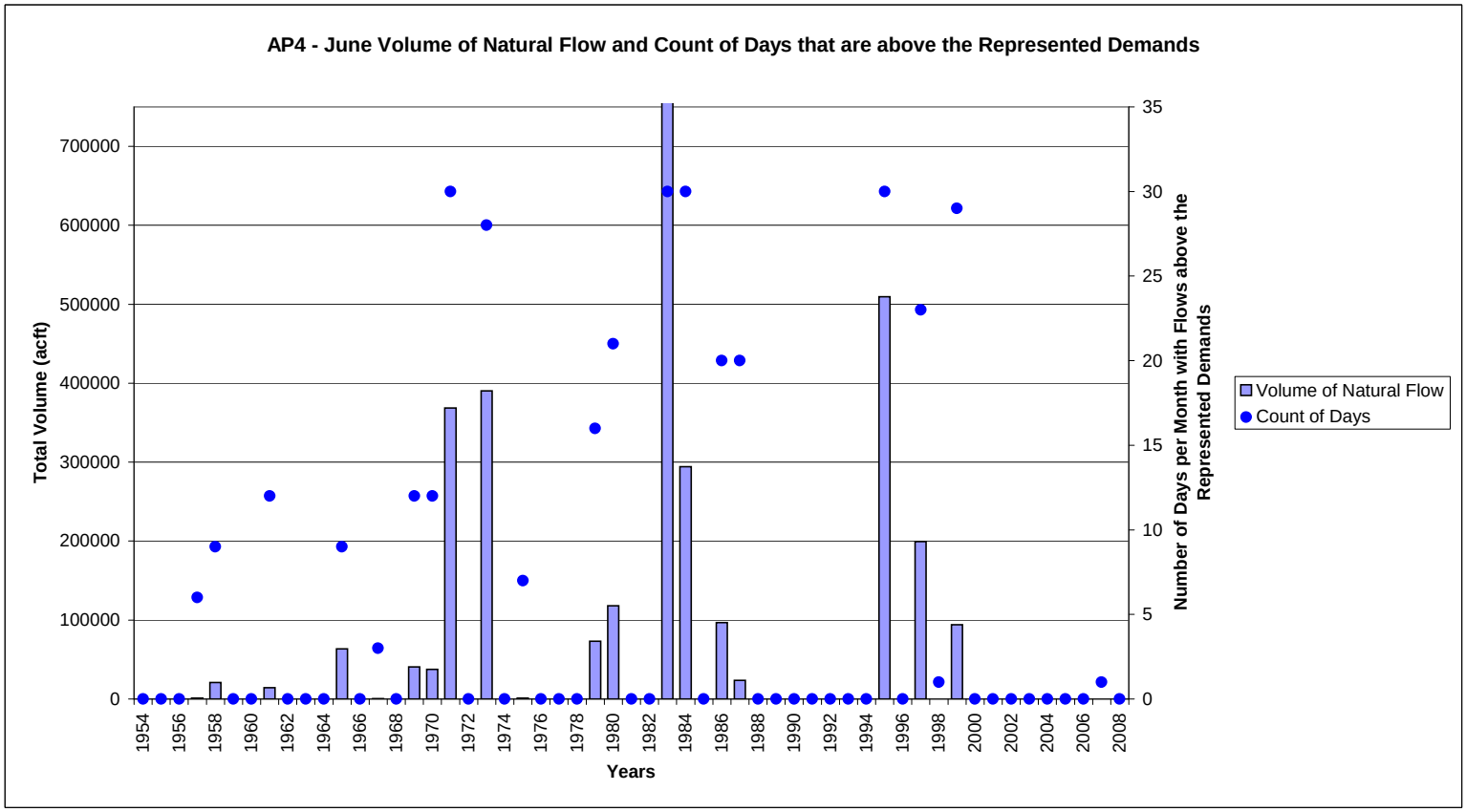

AP4 - January Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

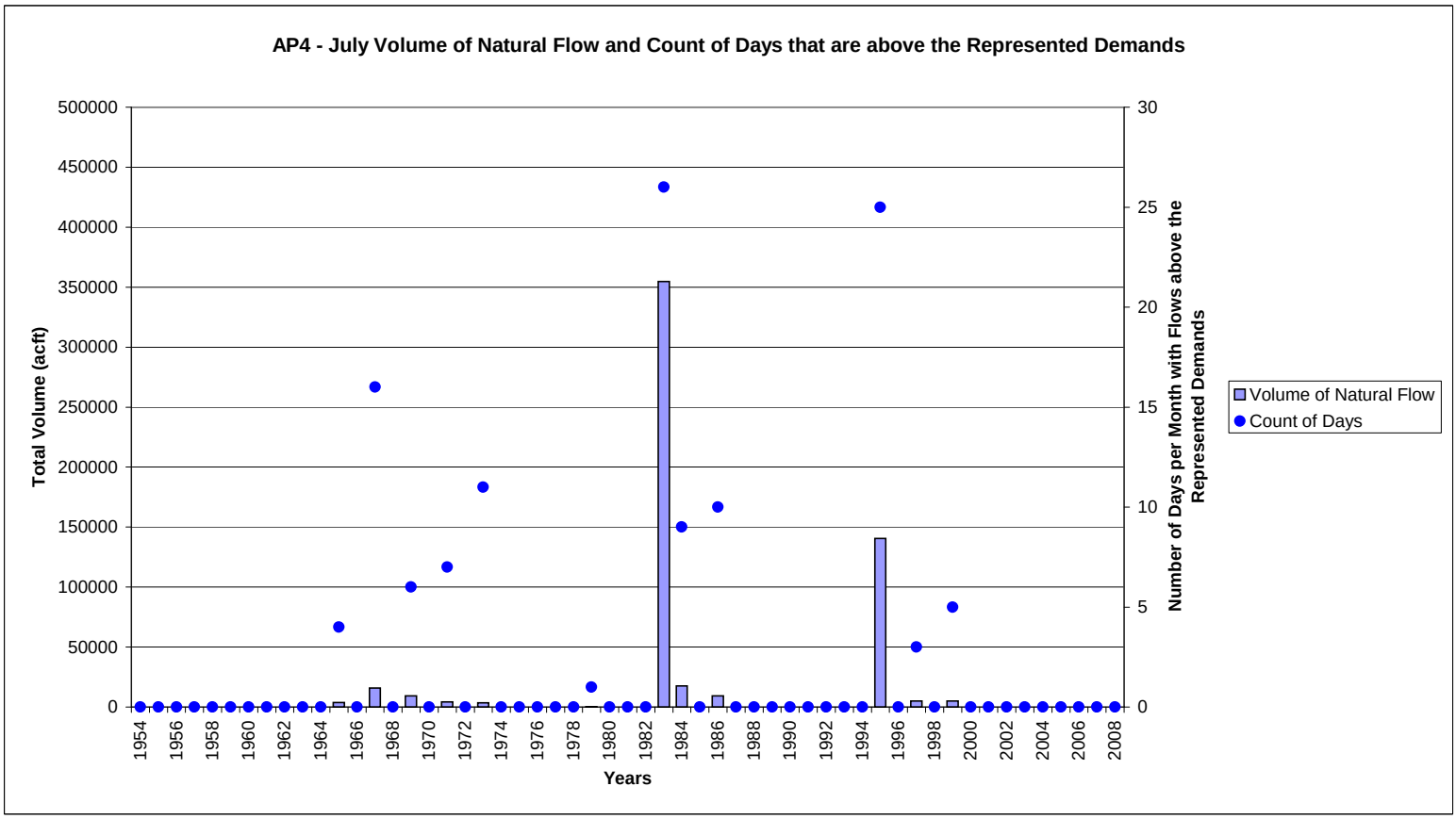

AP4 - February Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

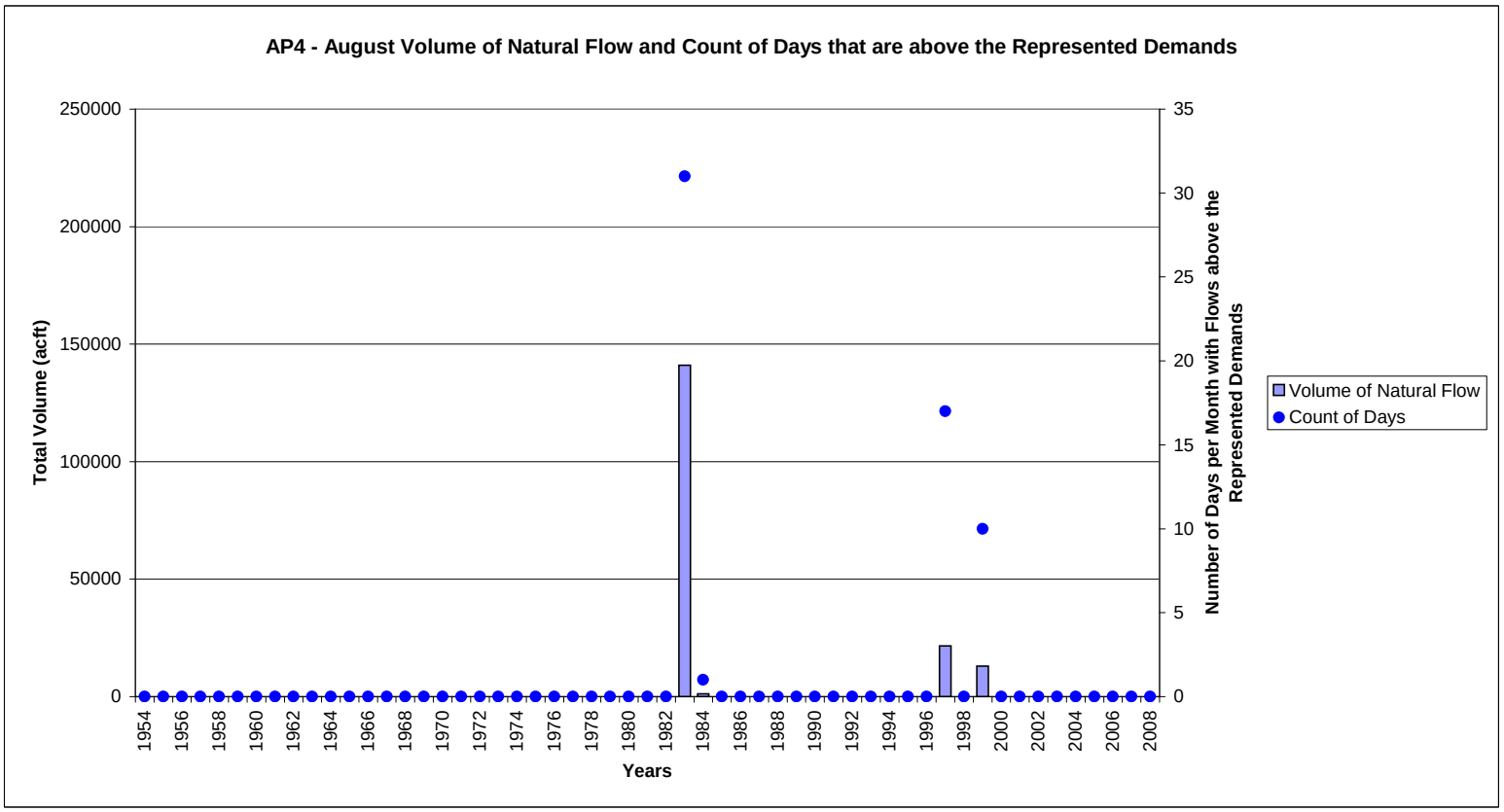

AP4 - March Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

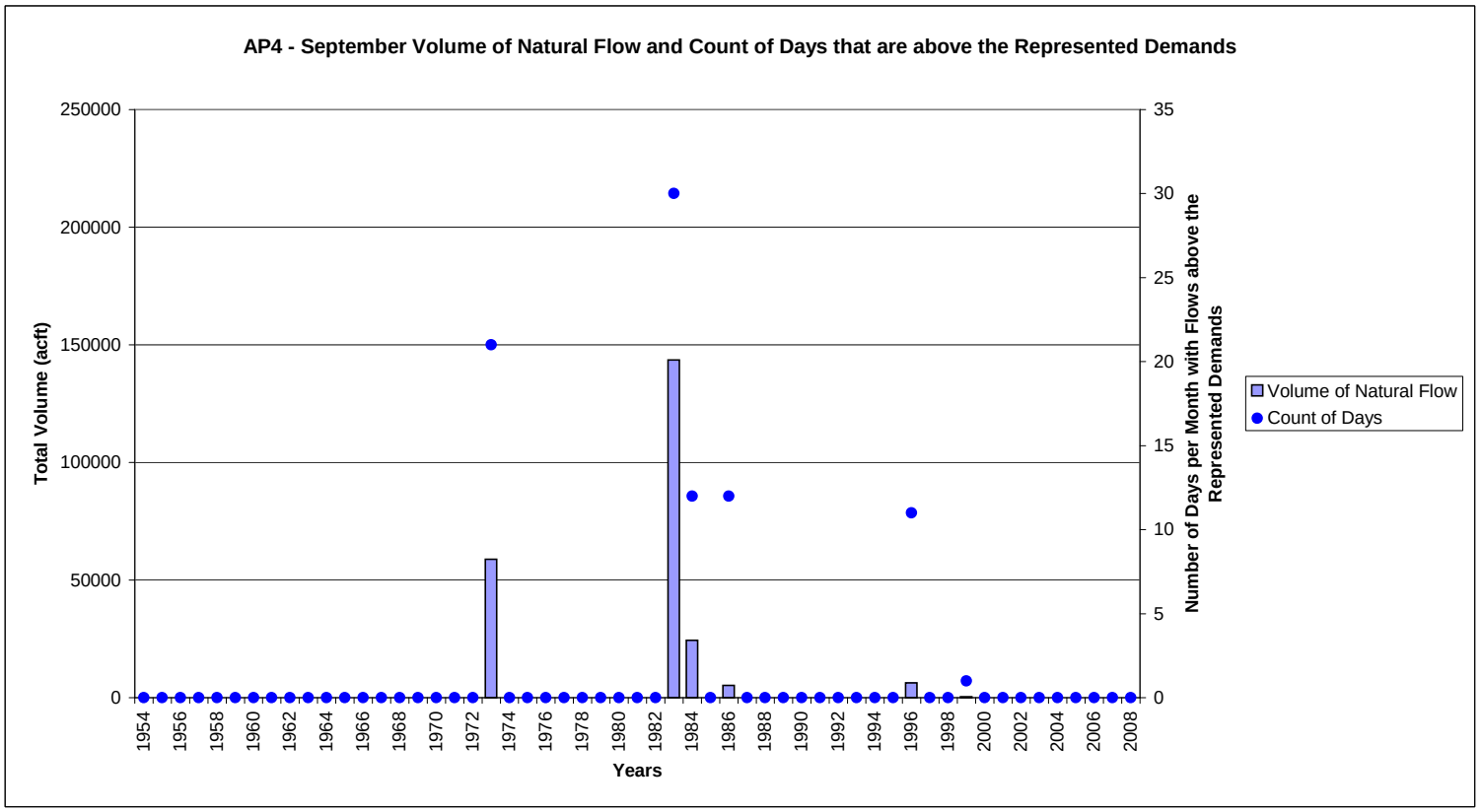

AP4 - April Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

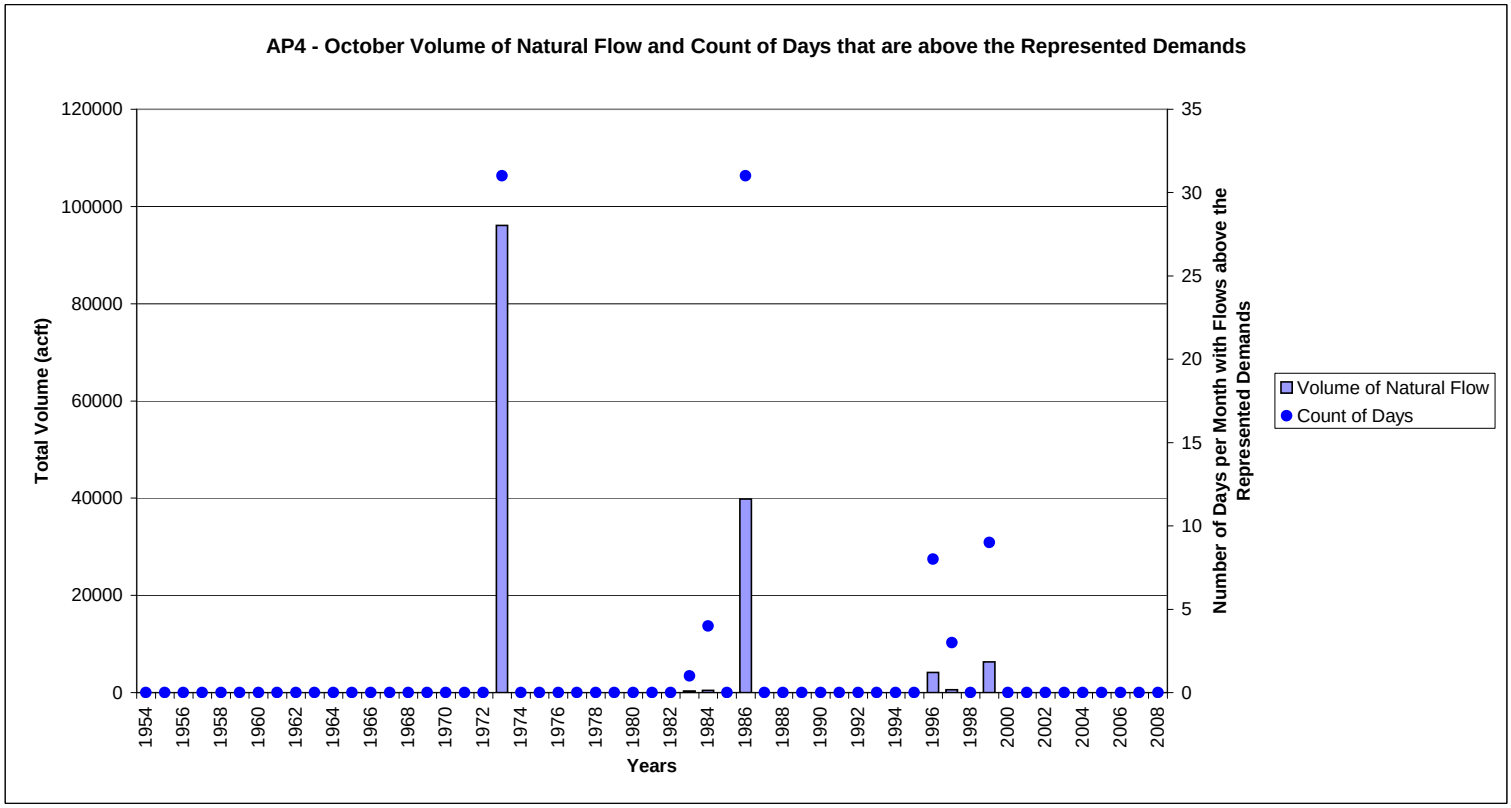

AP4 - May Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

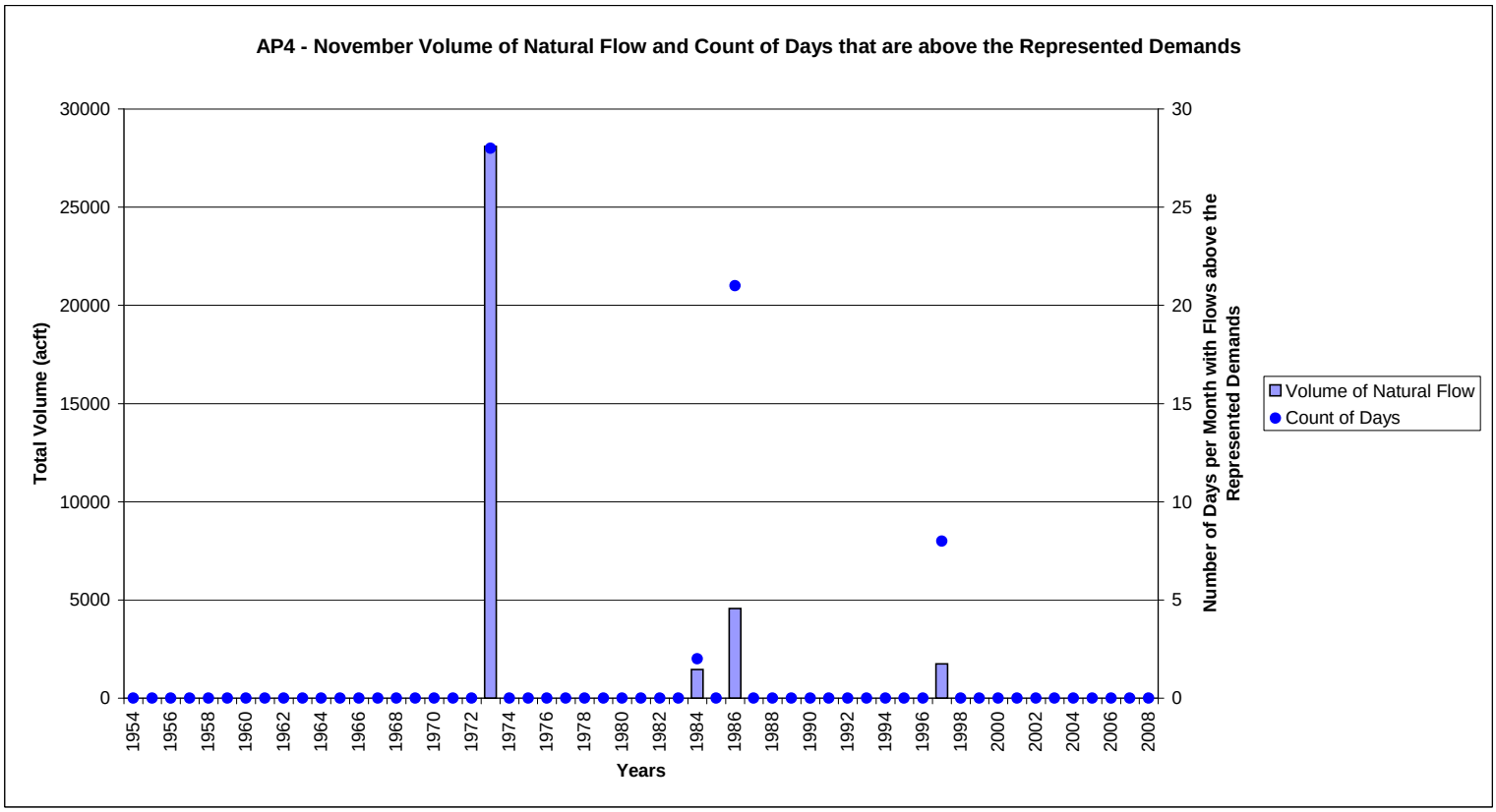

AP4 - June Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

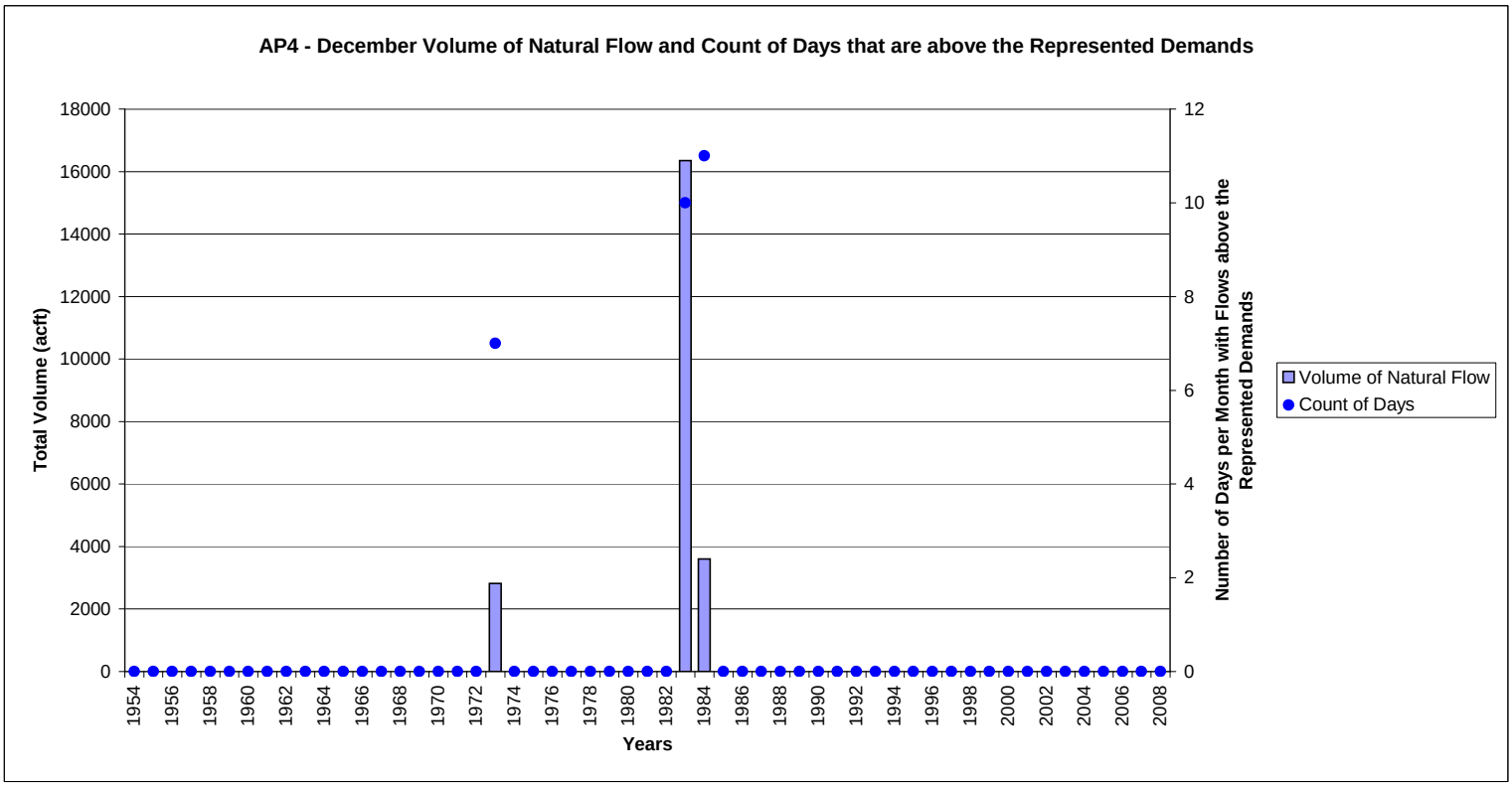

AP4 - July Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

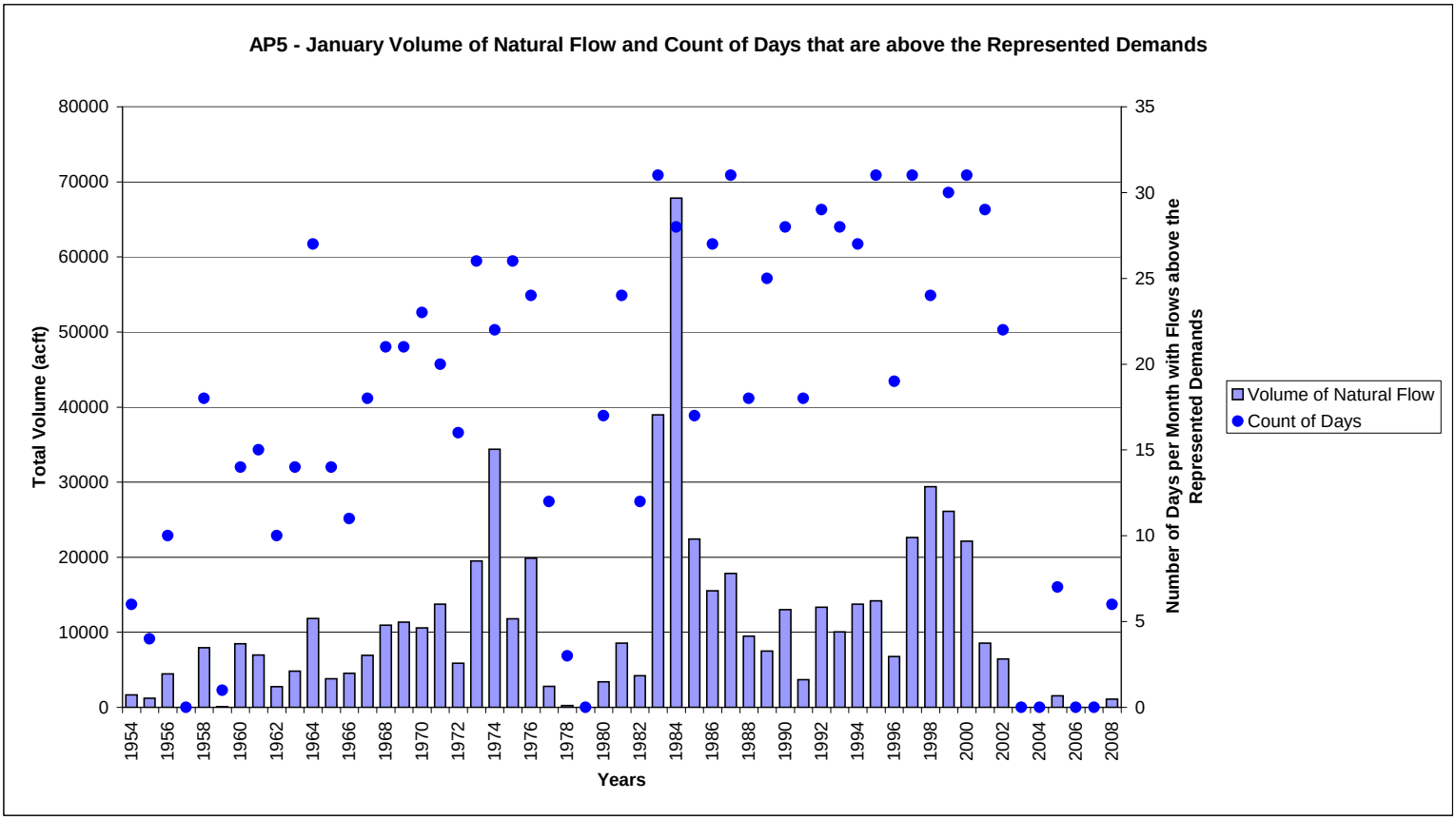

AP4 - August Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

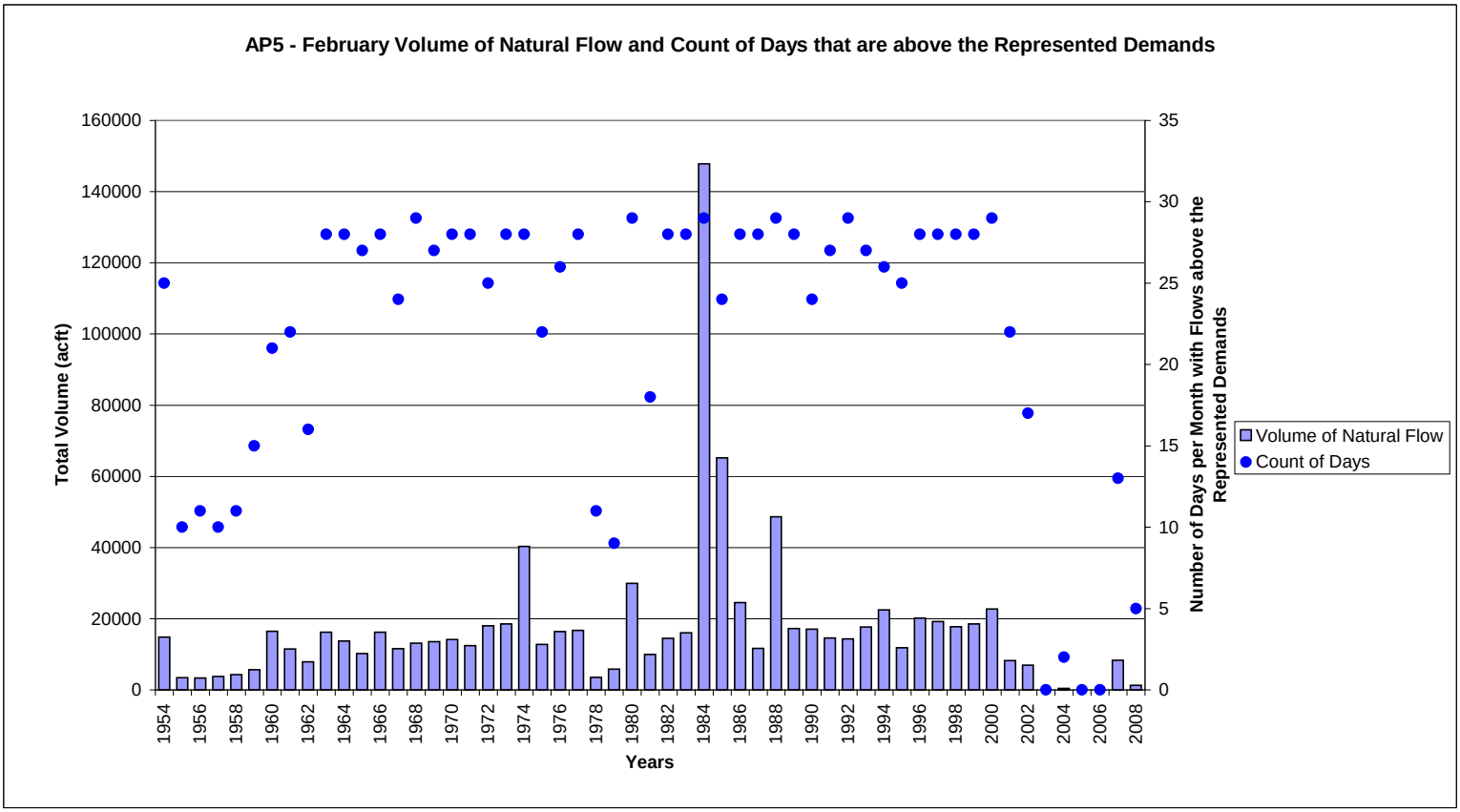

AP4 - September Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

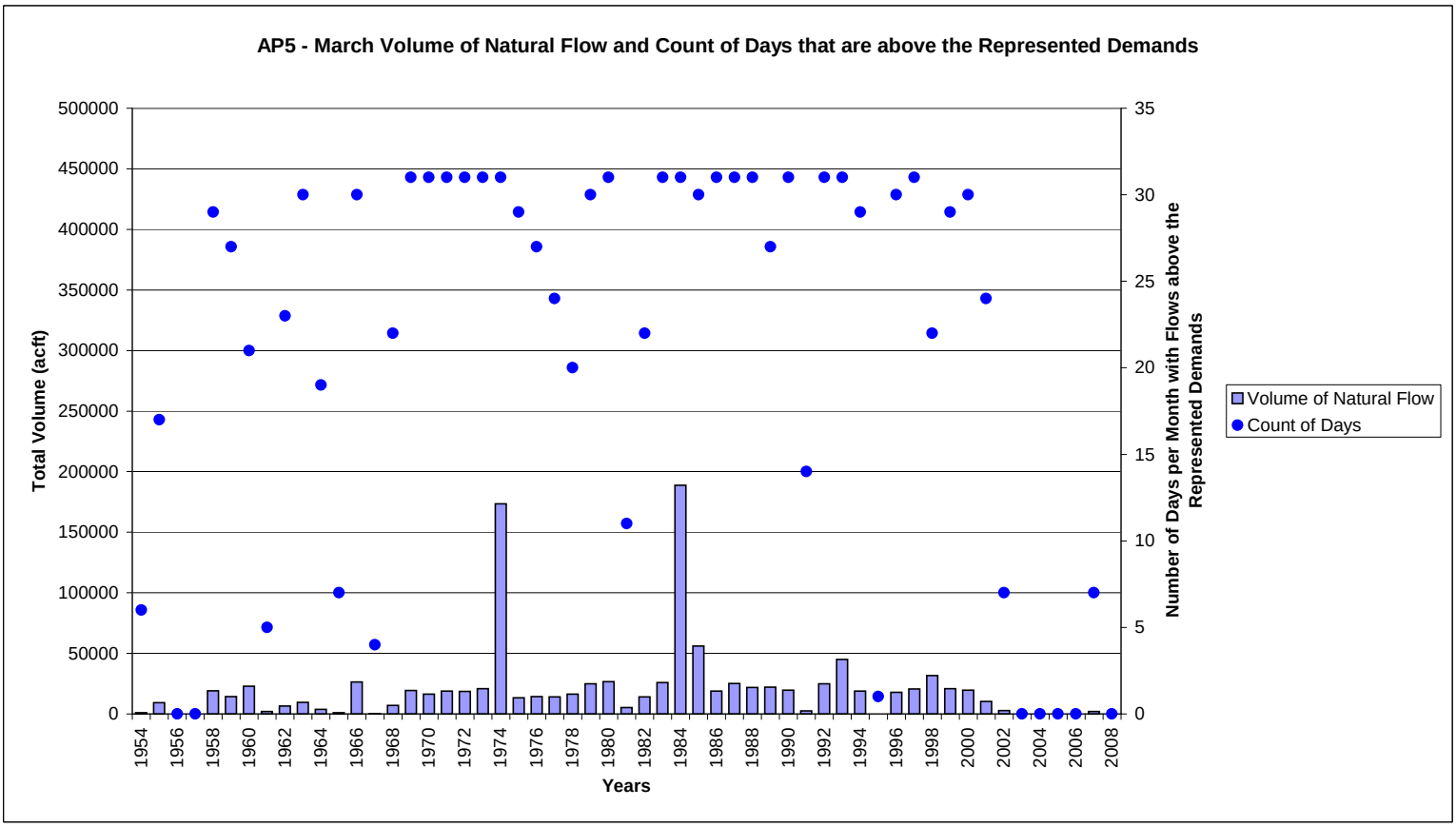

AP4 - October Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

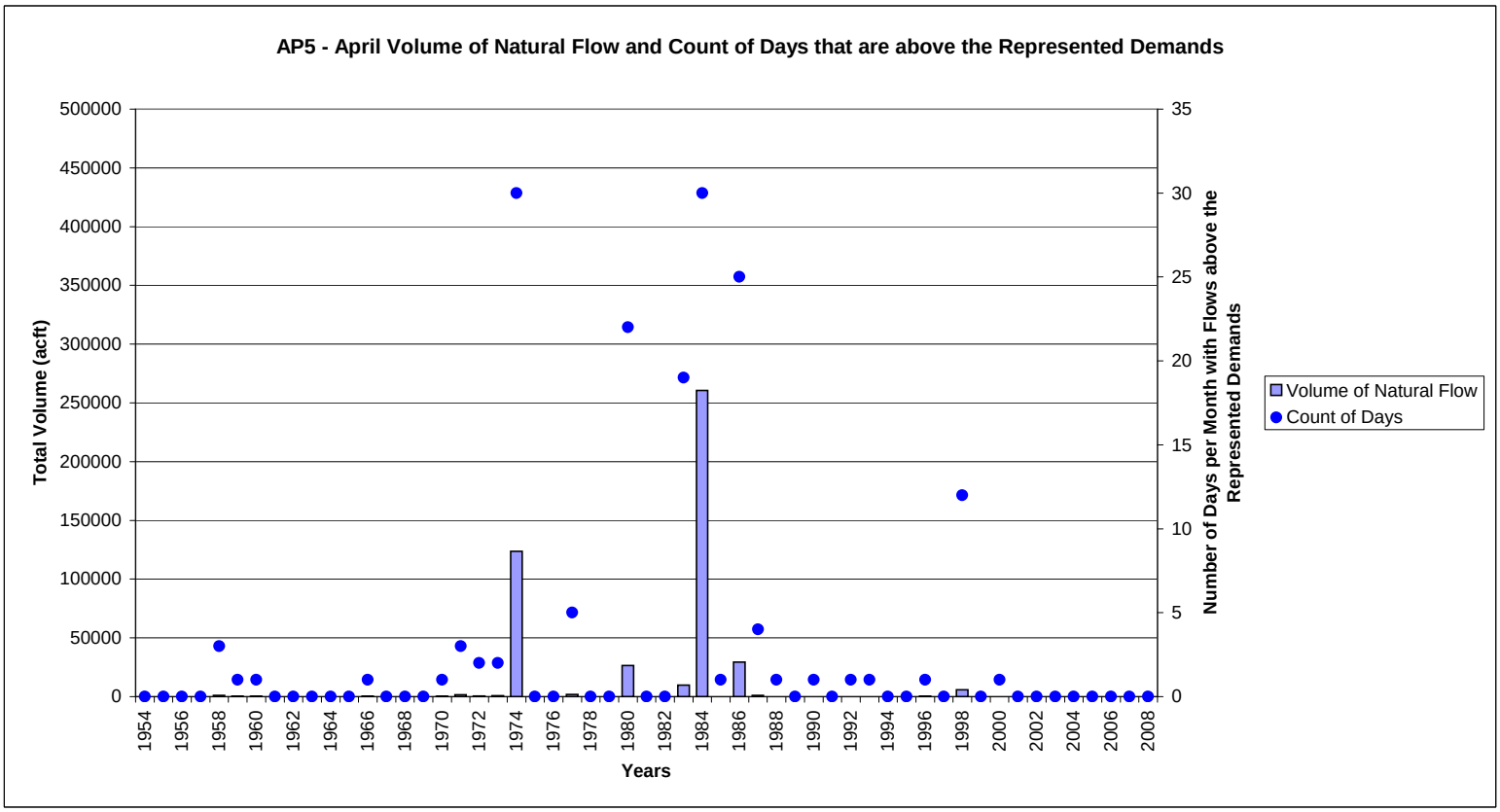

AP4 - November Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
5000
10000
15000
20000
25000
30000
0
5
10
15
20
25
30
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

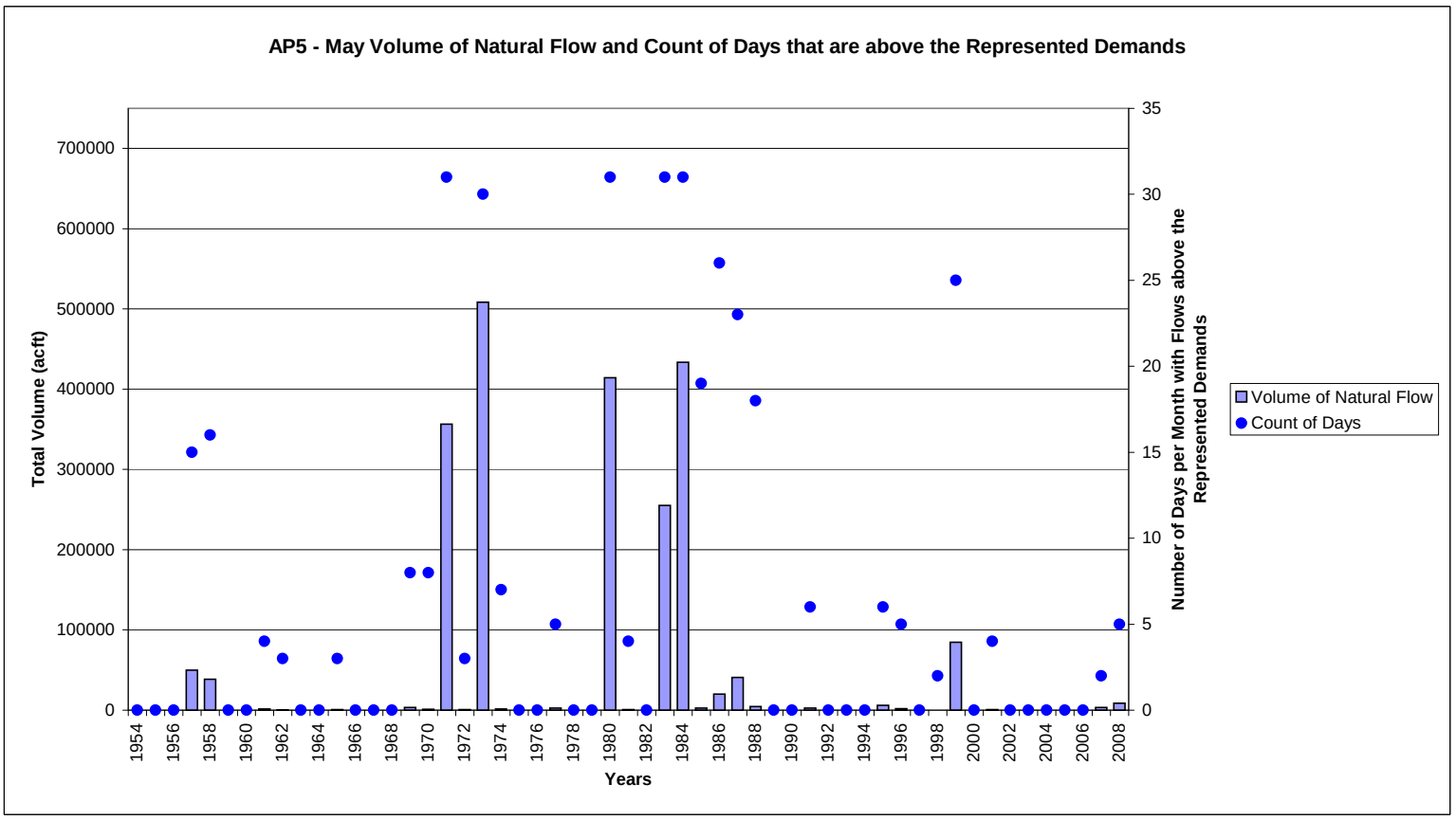

AP4 - December Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
0
2
4
6
8
10
12
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

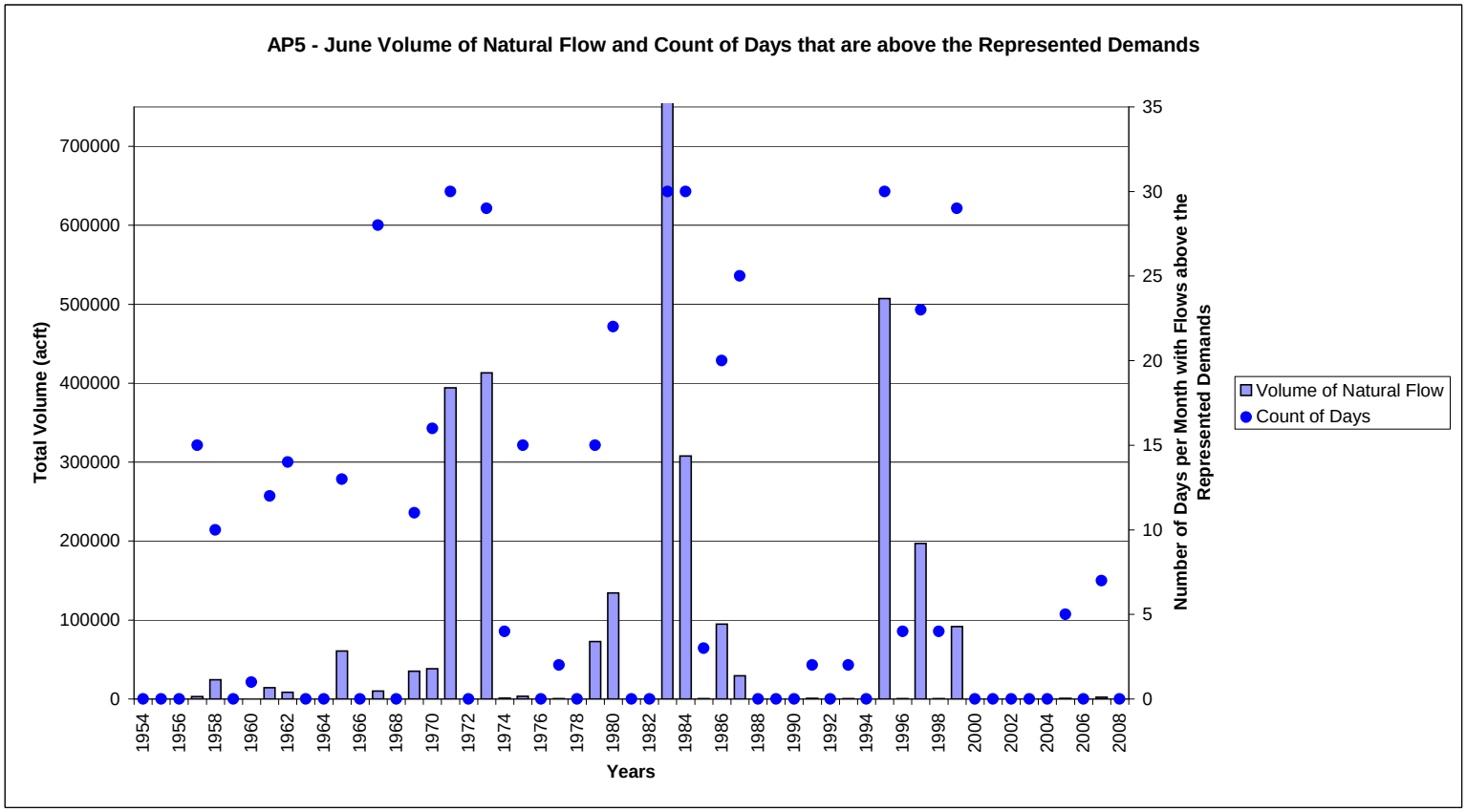

AP5 - January Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

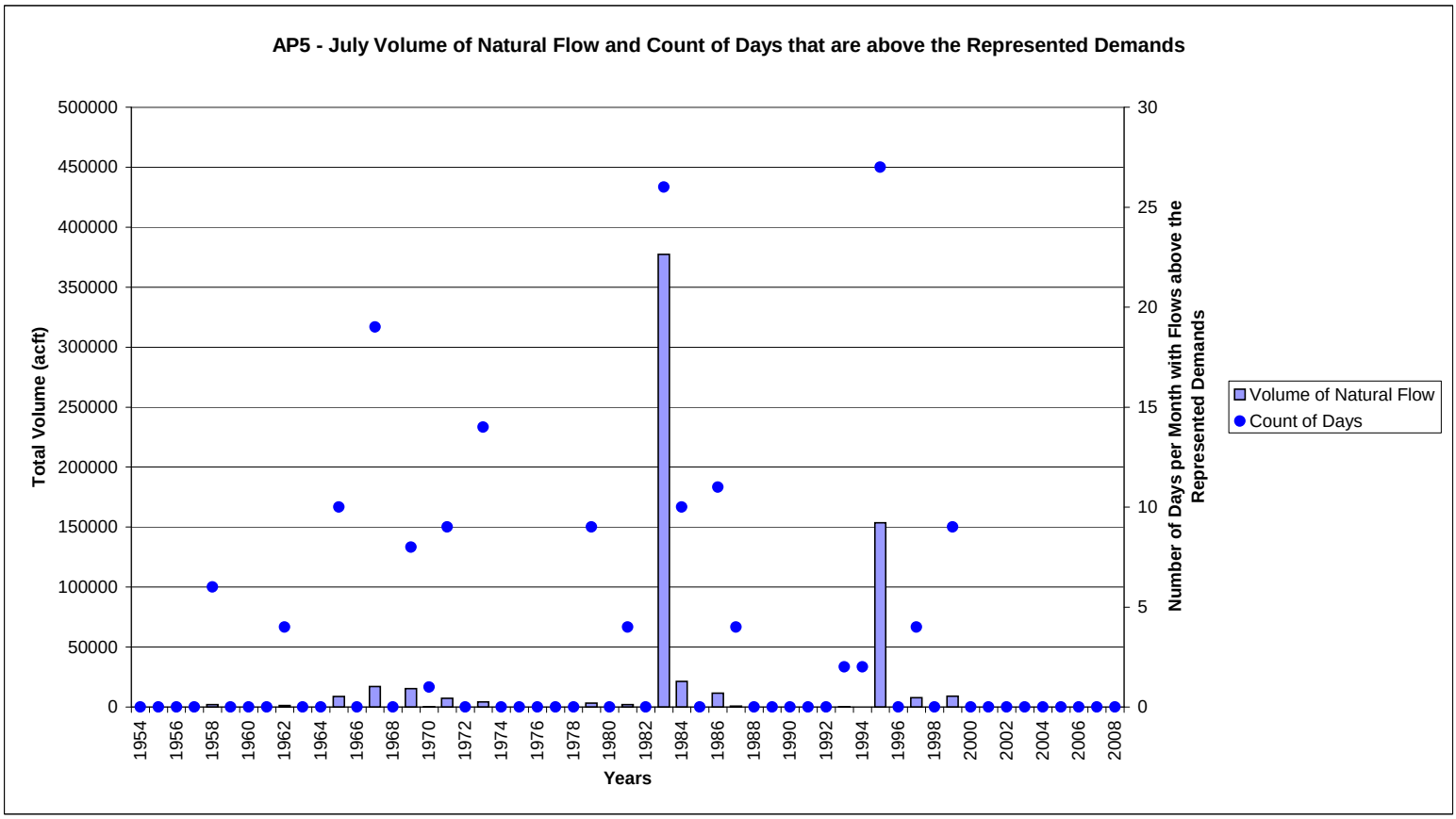

AP5 - February Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

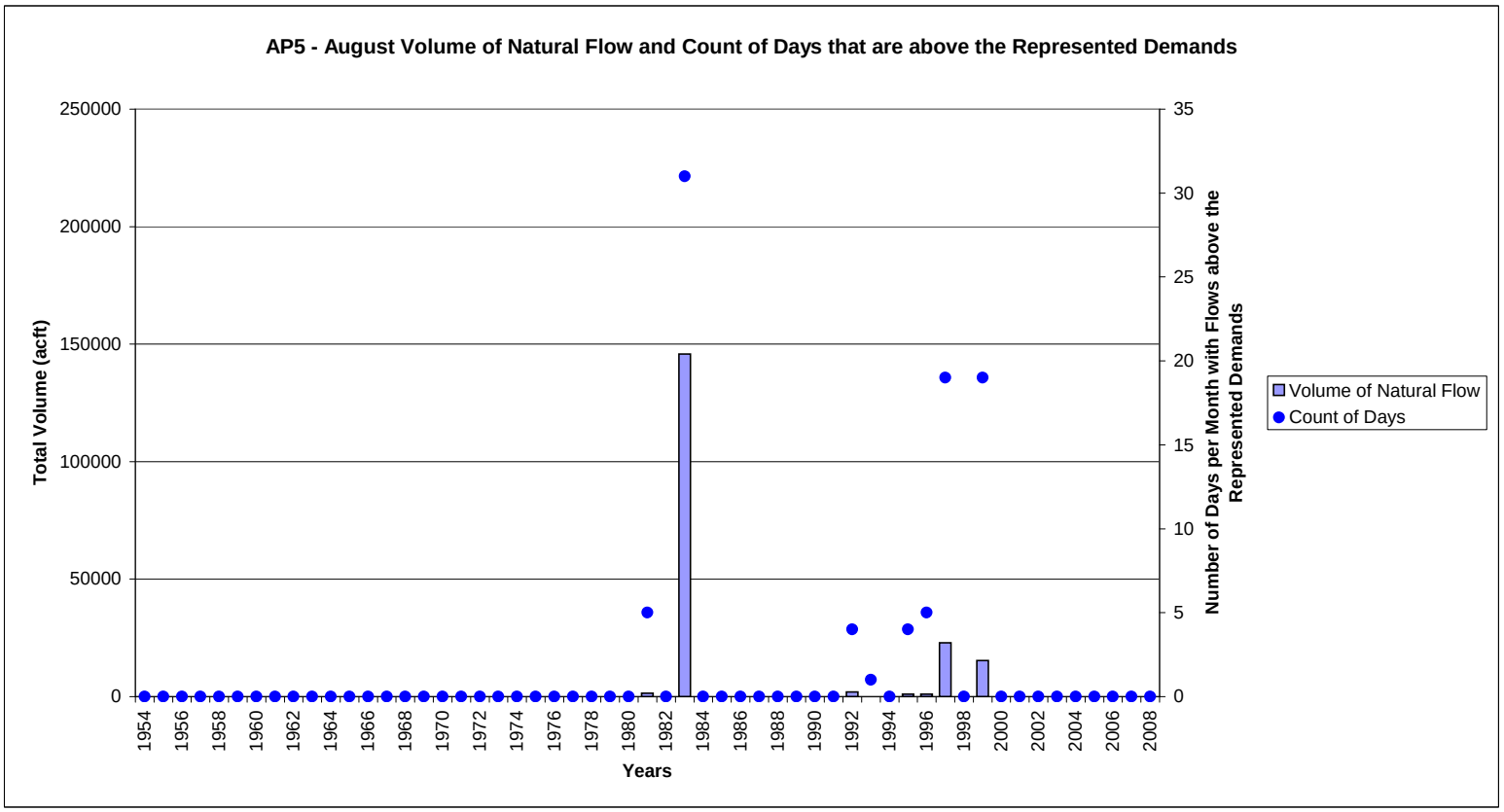

AP5 - March Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

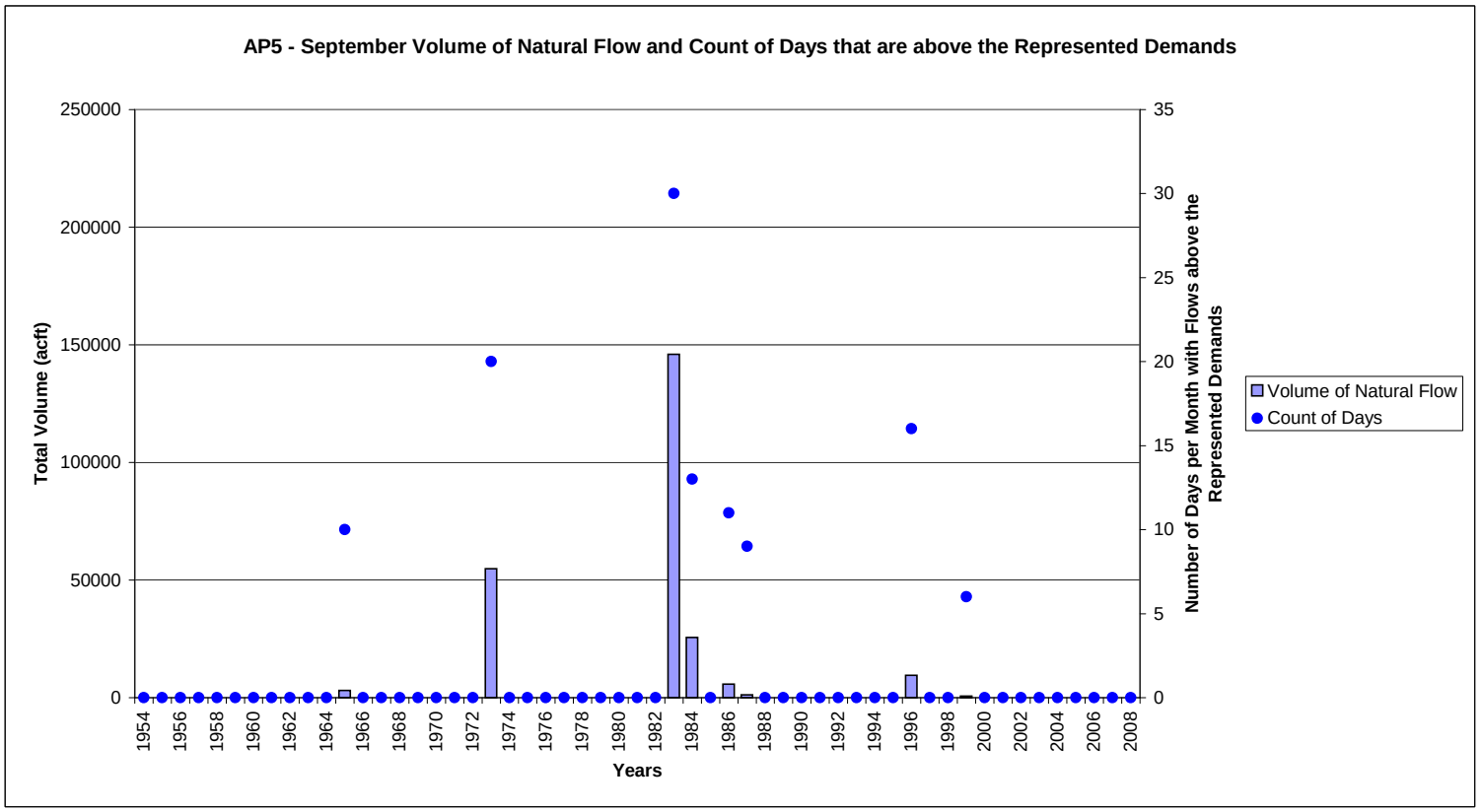

AP5 - April Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

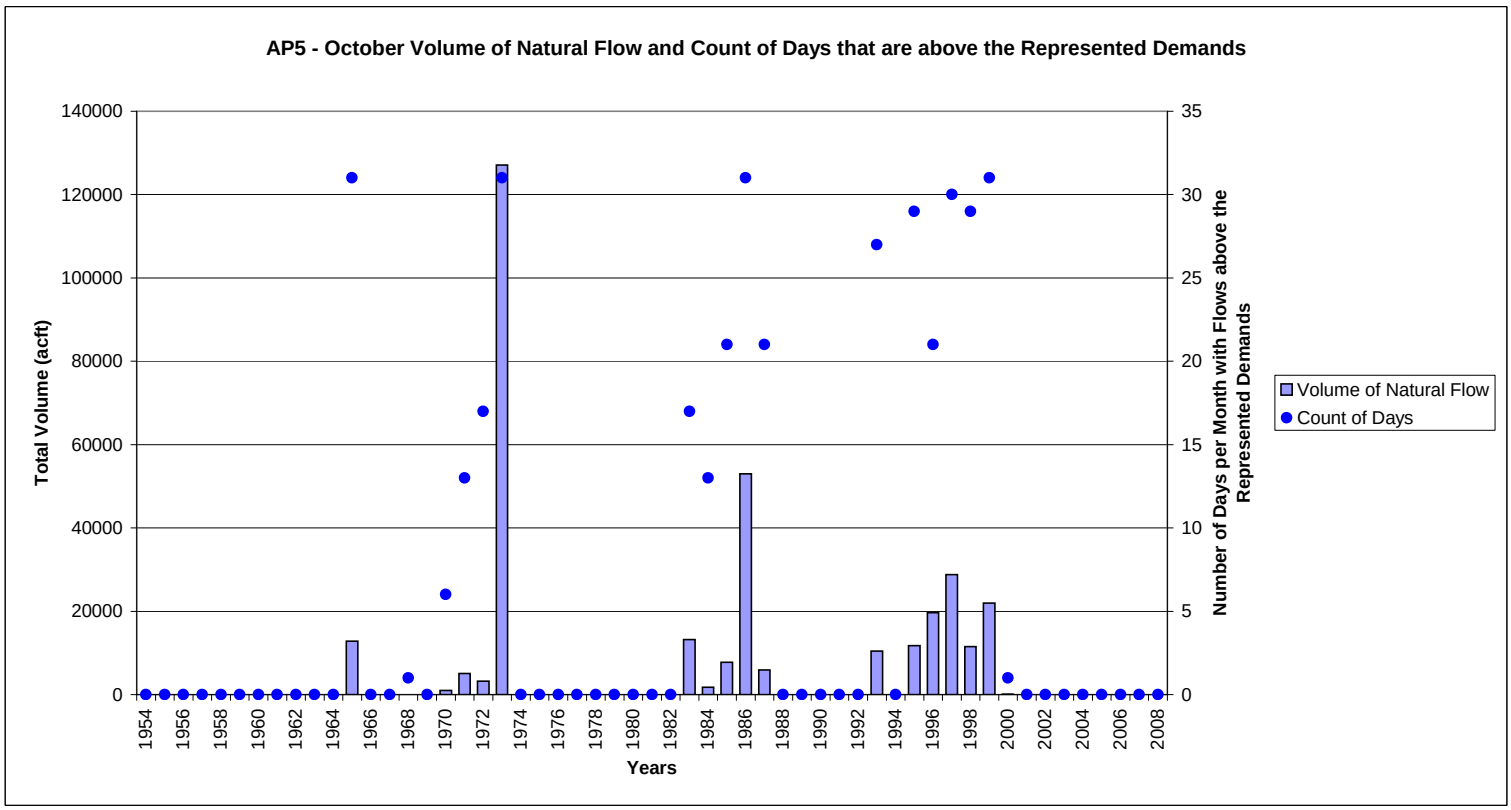

AP5 - May Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

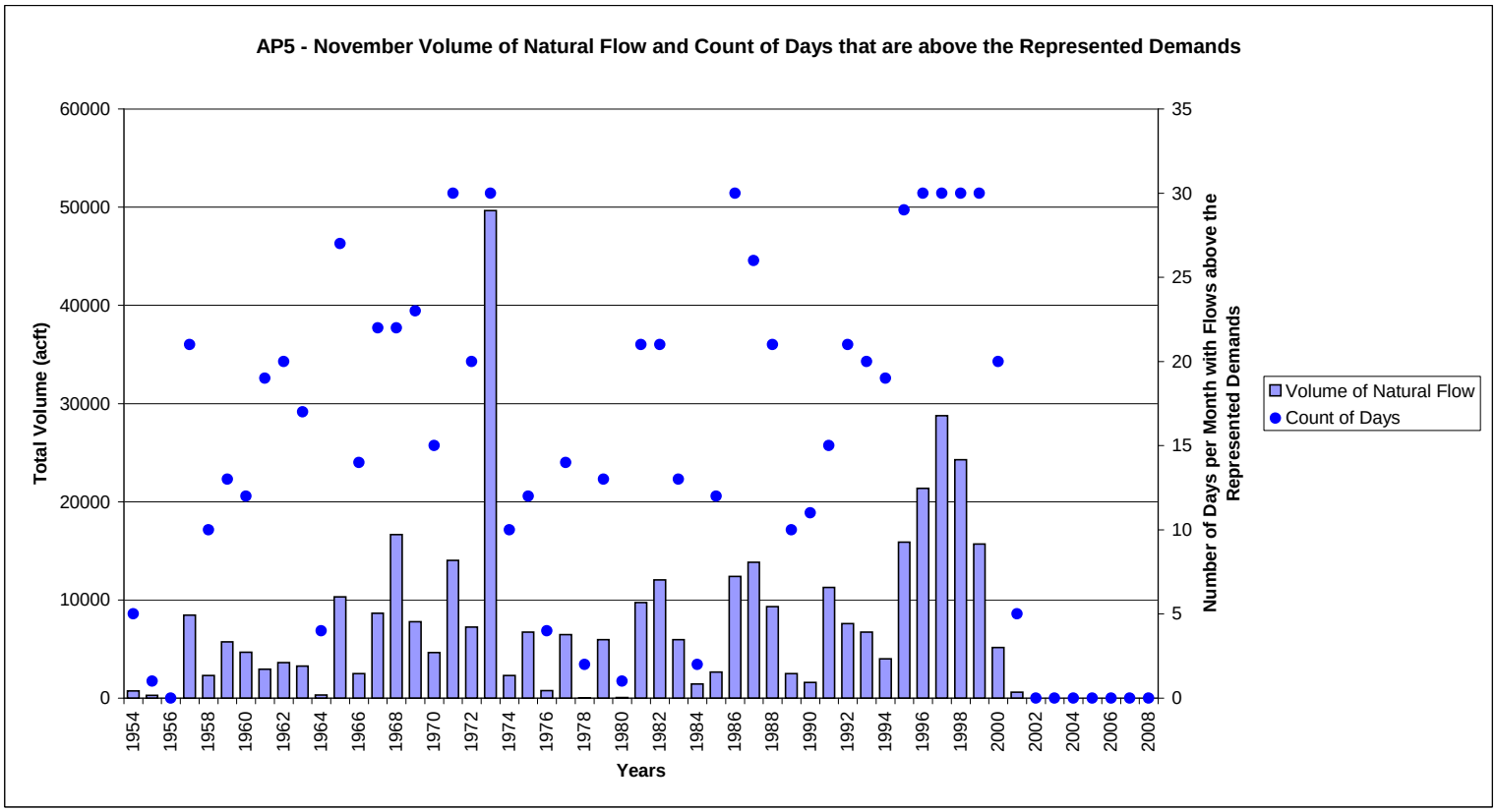

AP5 - June Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

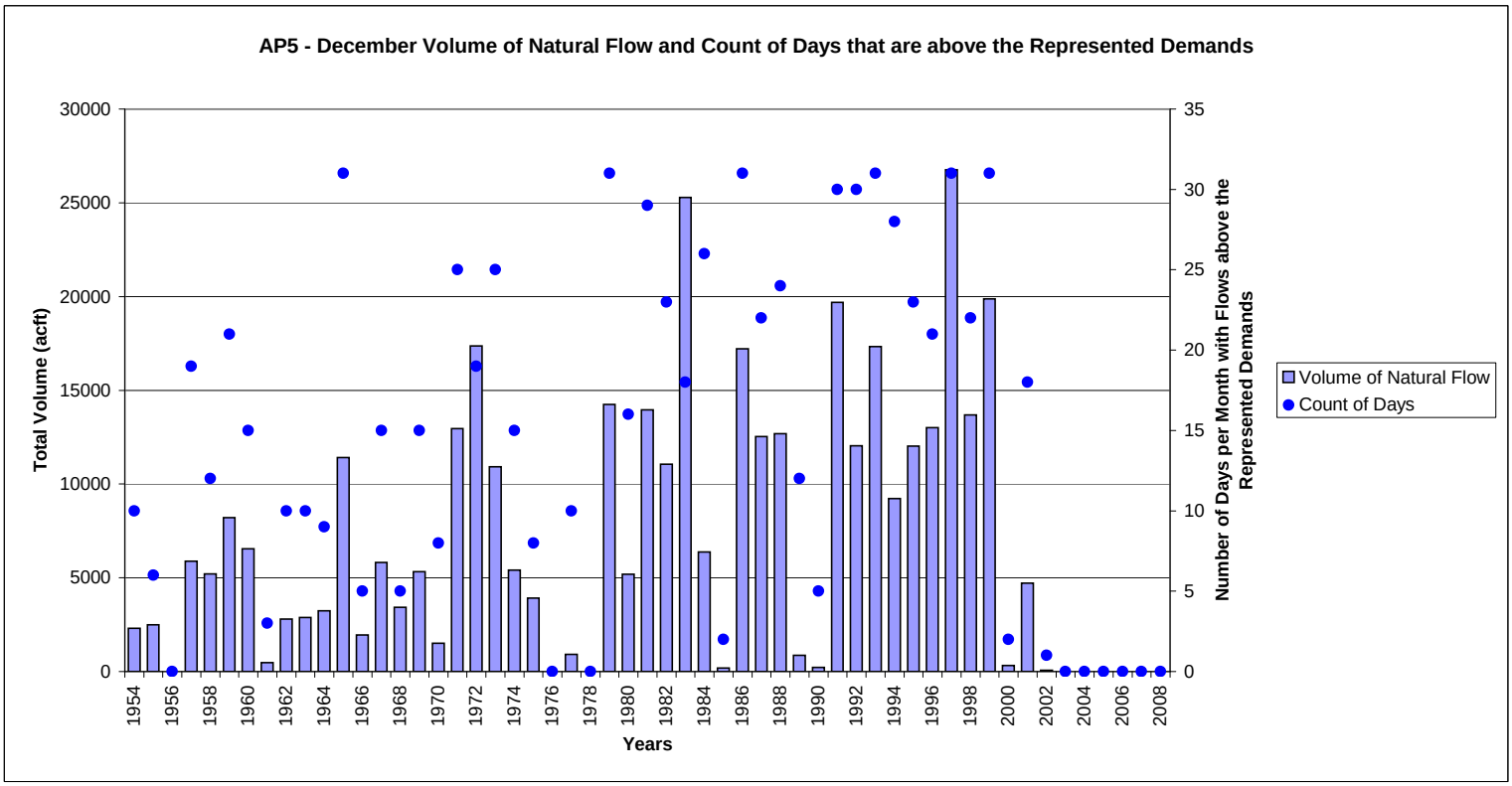

AP5 - July Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

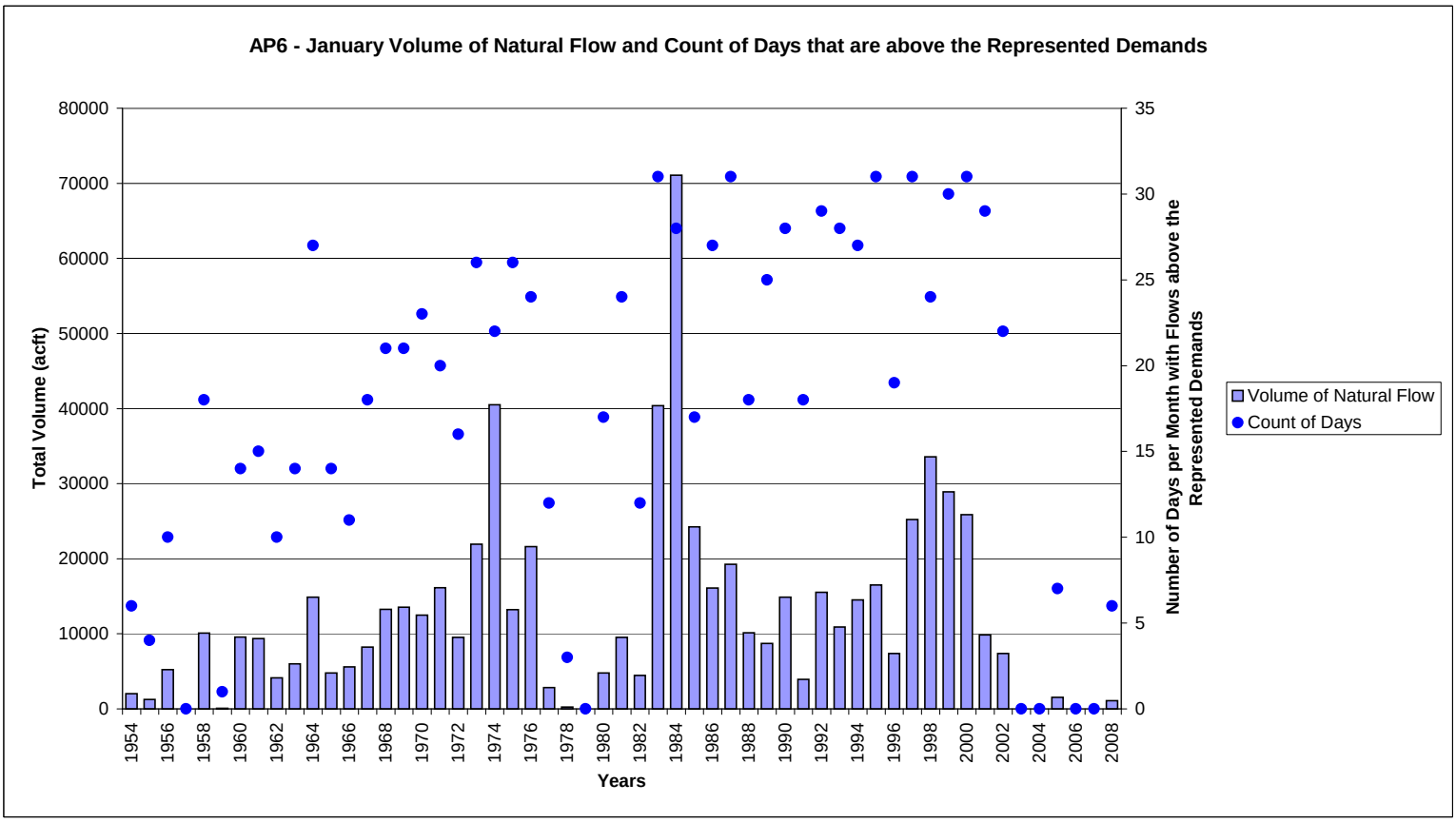

AP5 - August Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

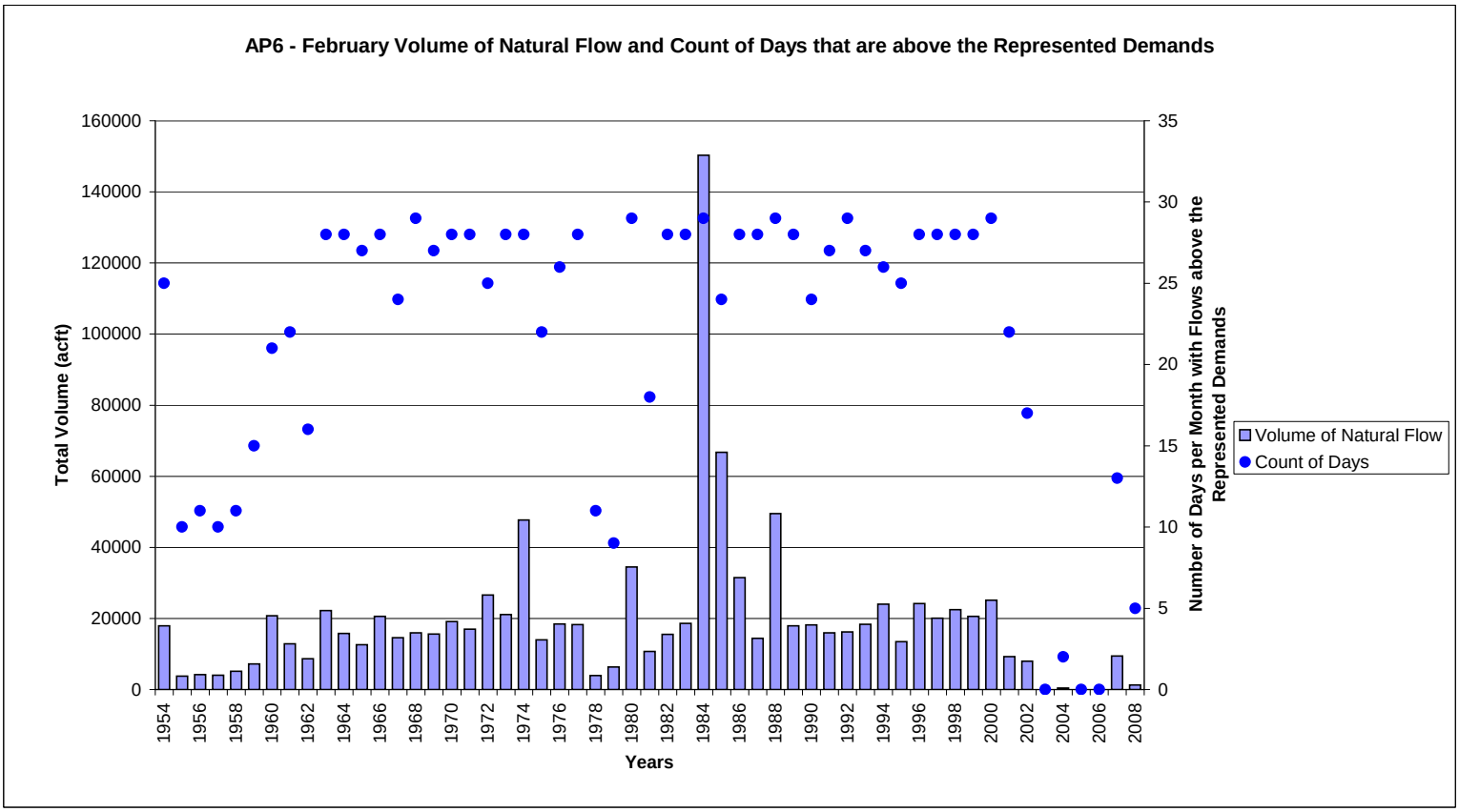

AP5 - September Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

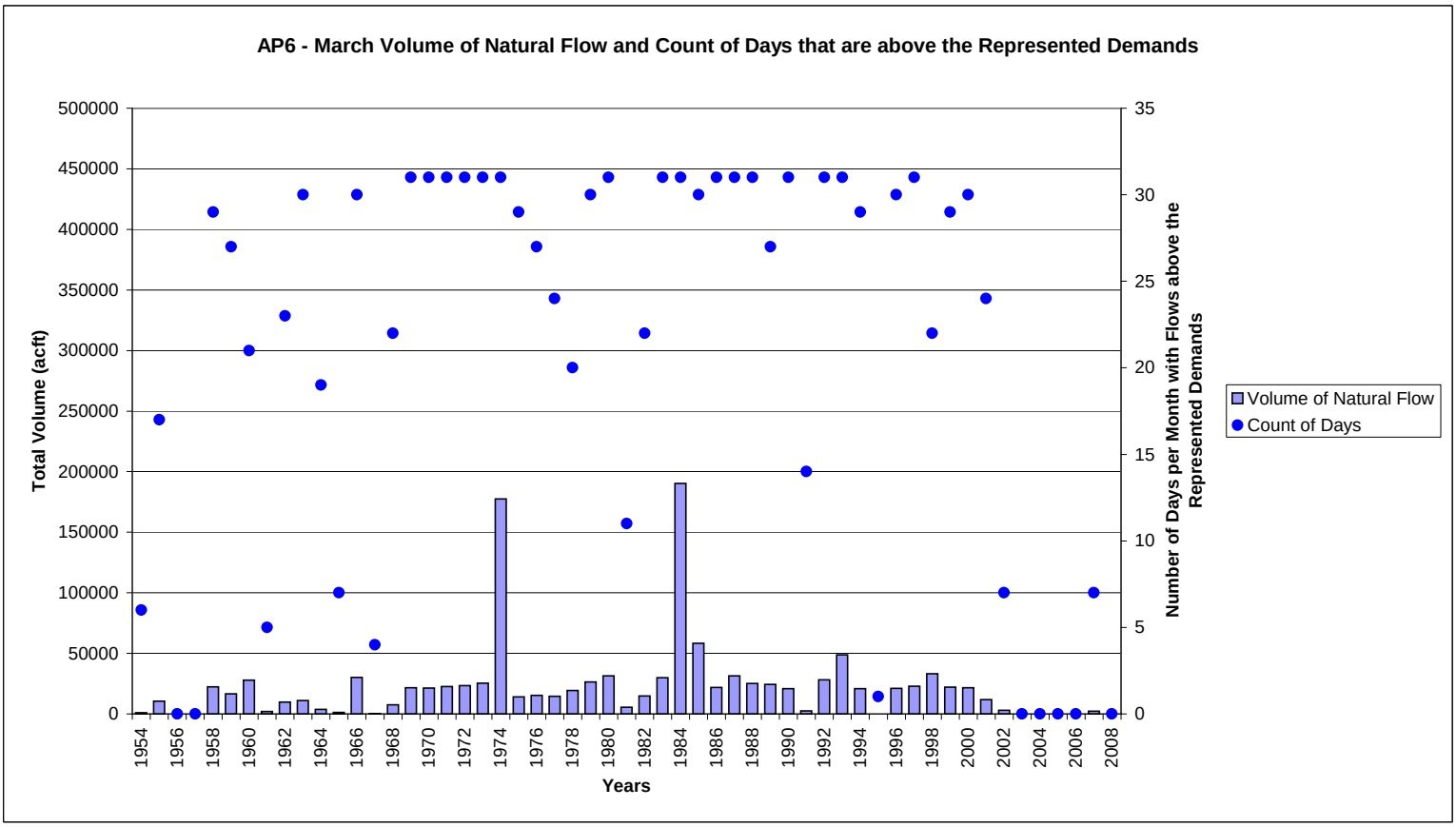

AP5 - October Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

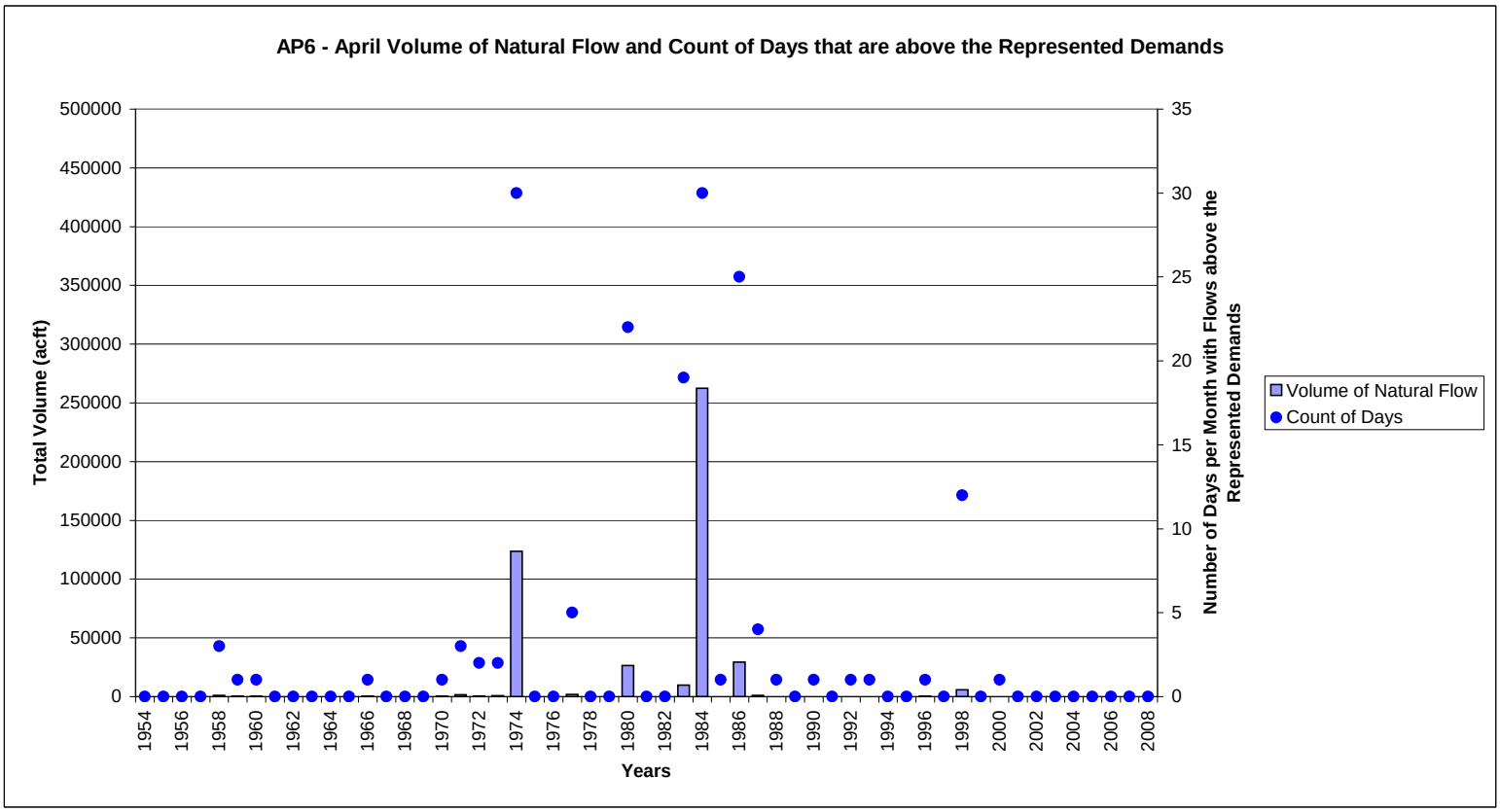

AP5 - November Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

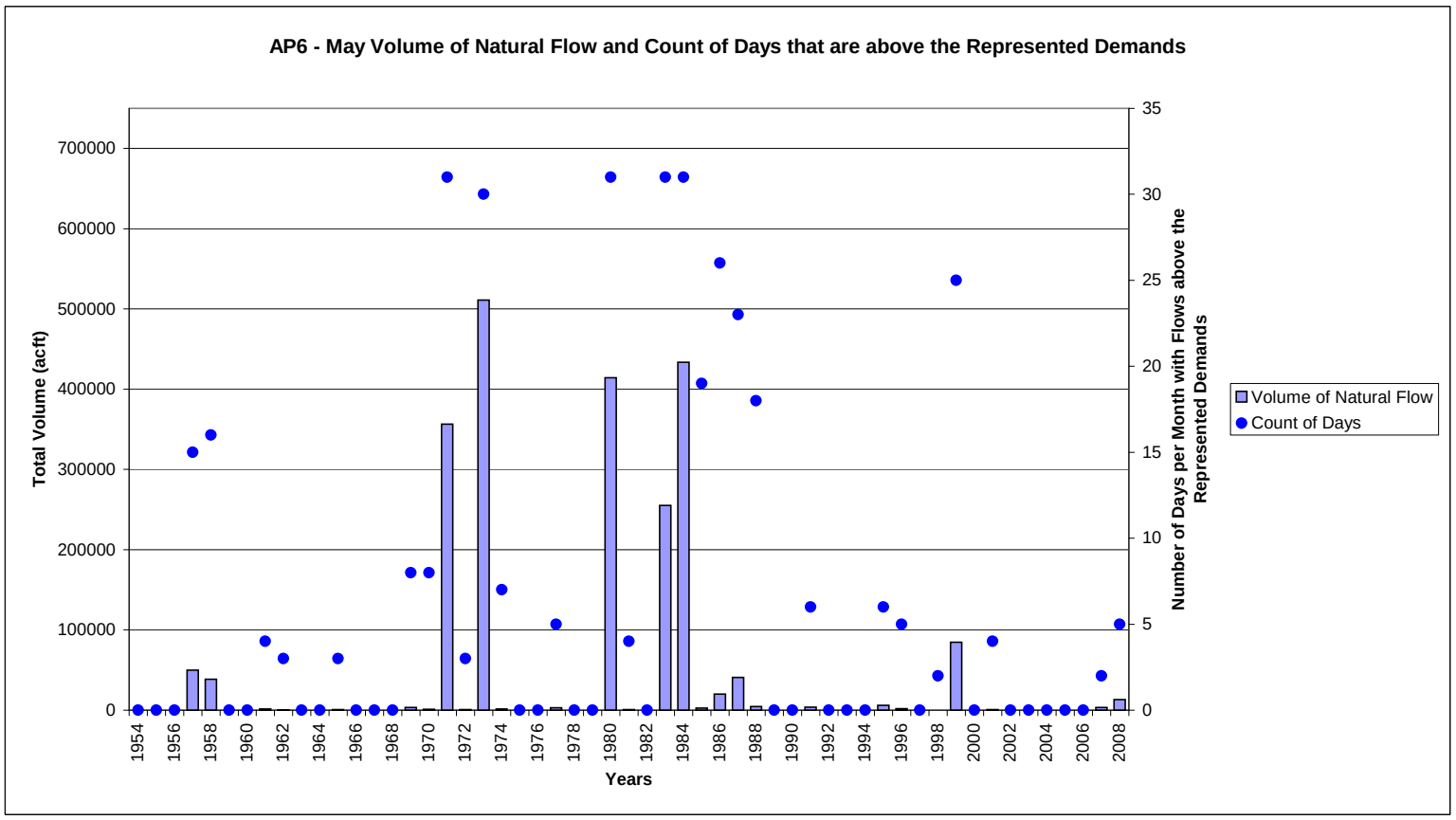

AP5 - December Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

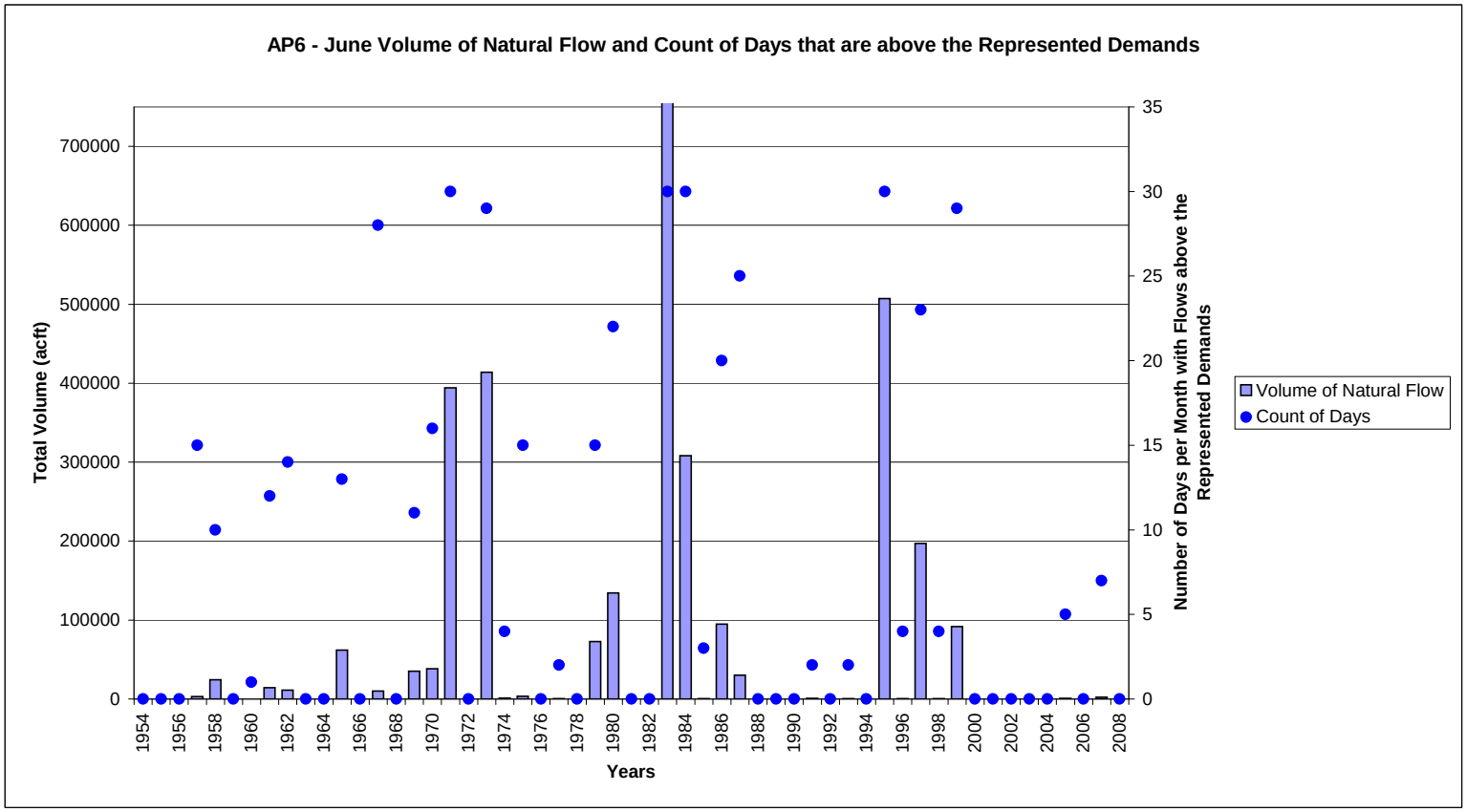

AP6 - January Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

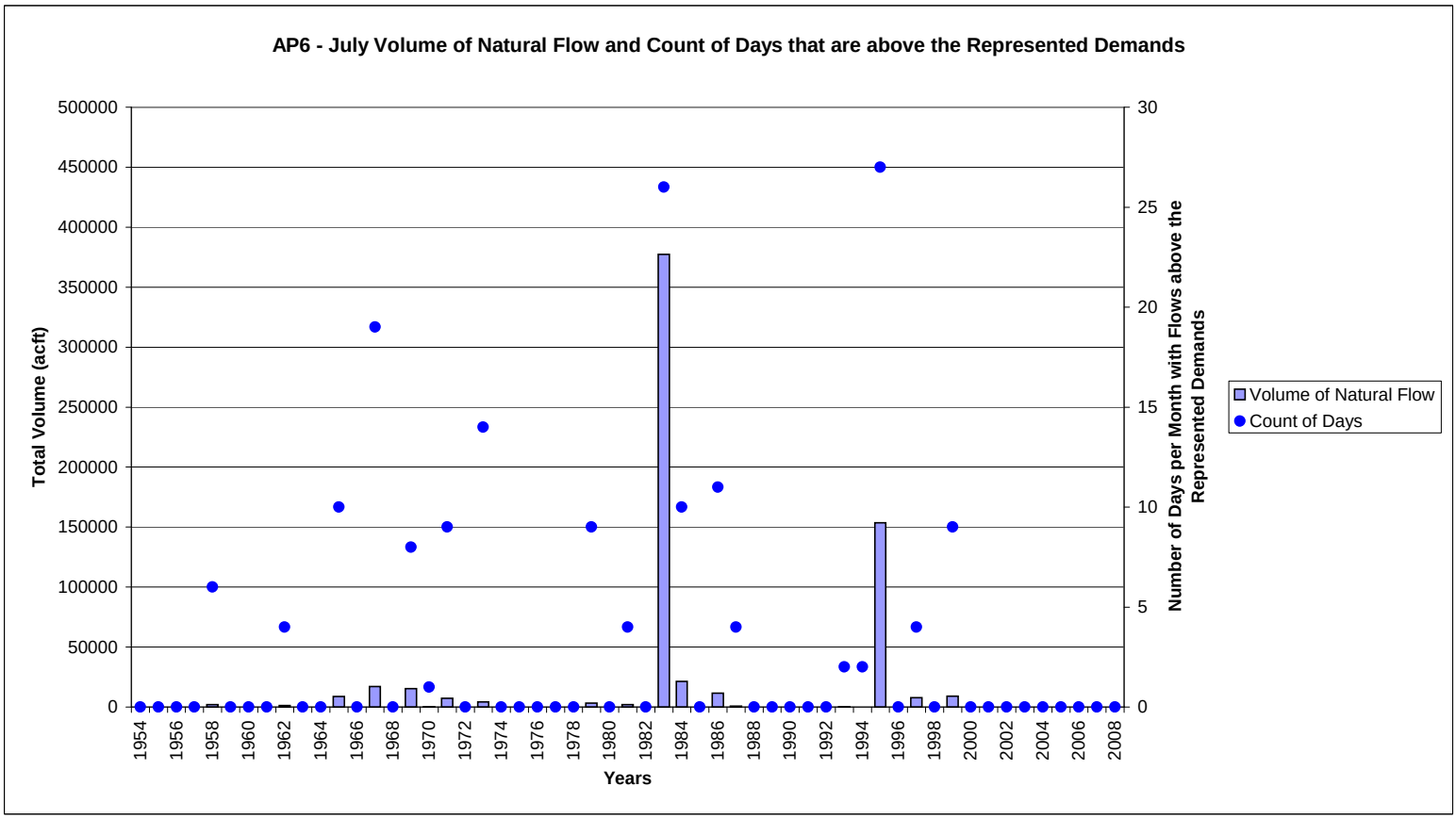

AP6 - February Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

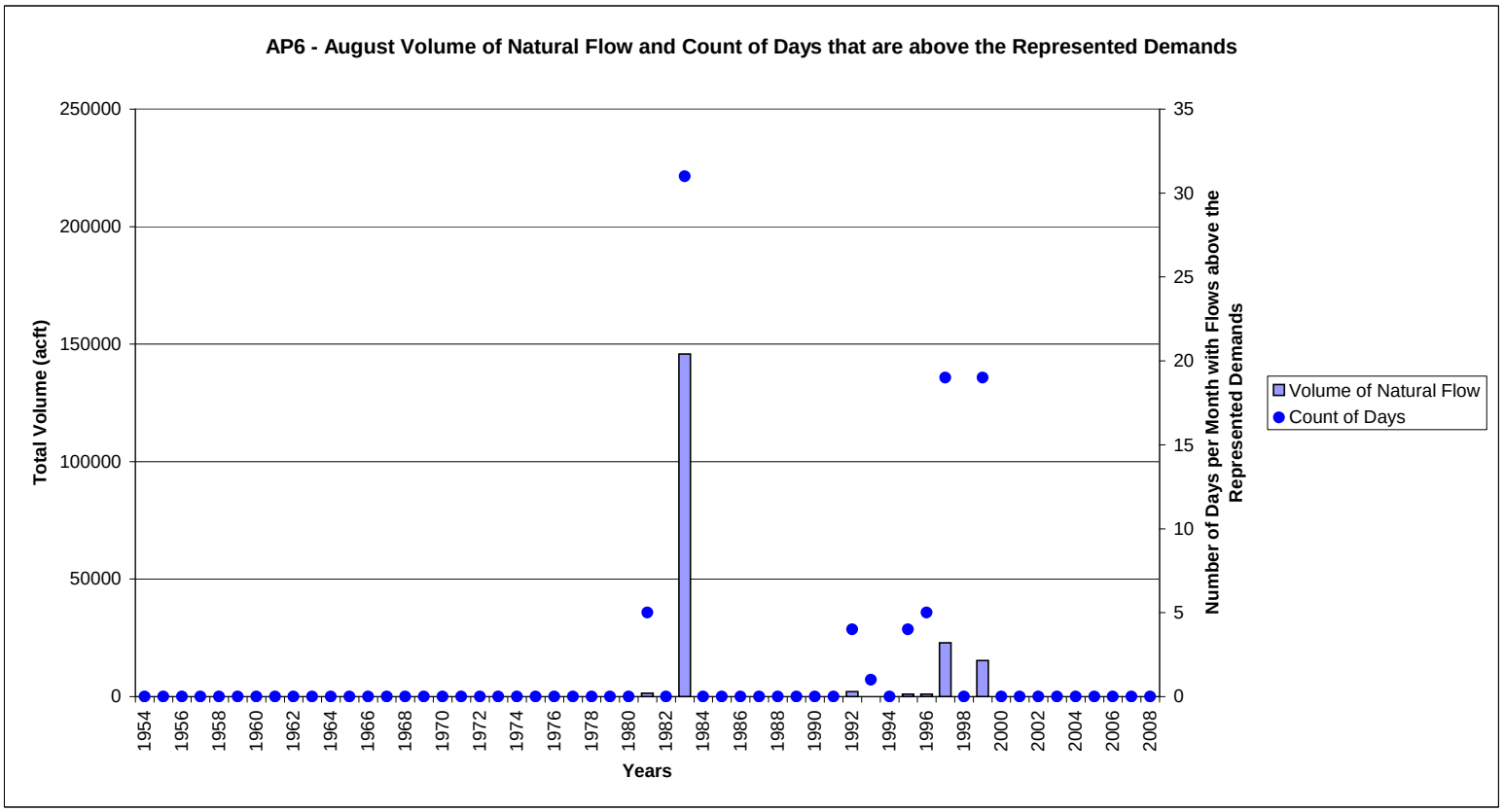

AP6 - March Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

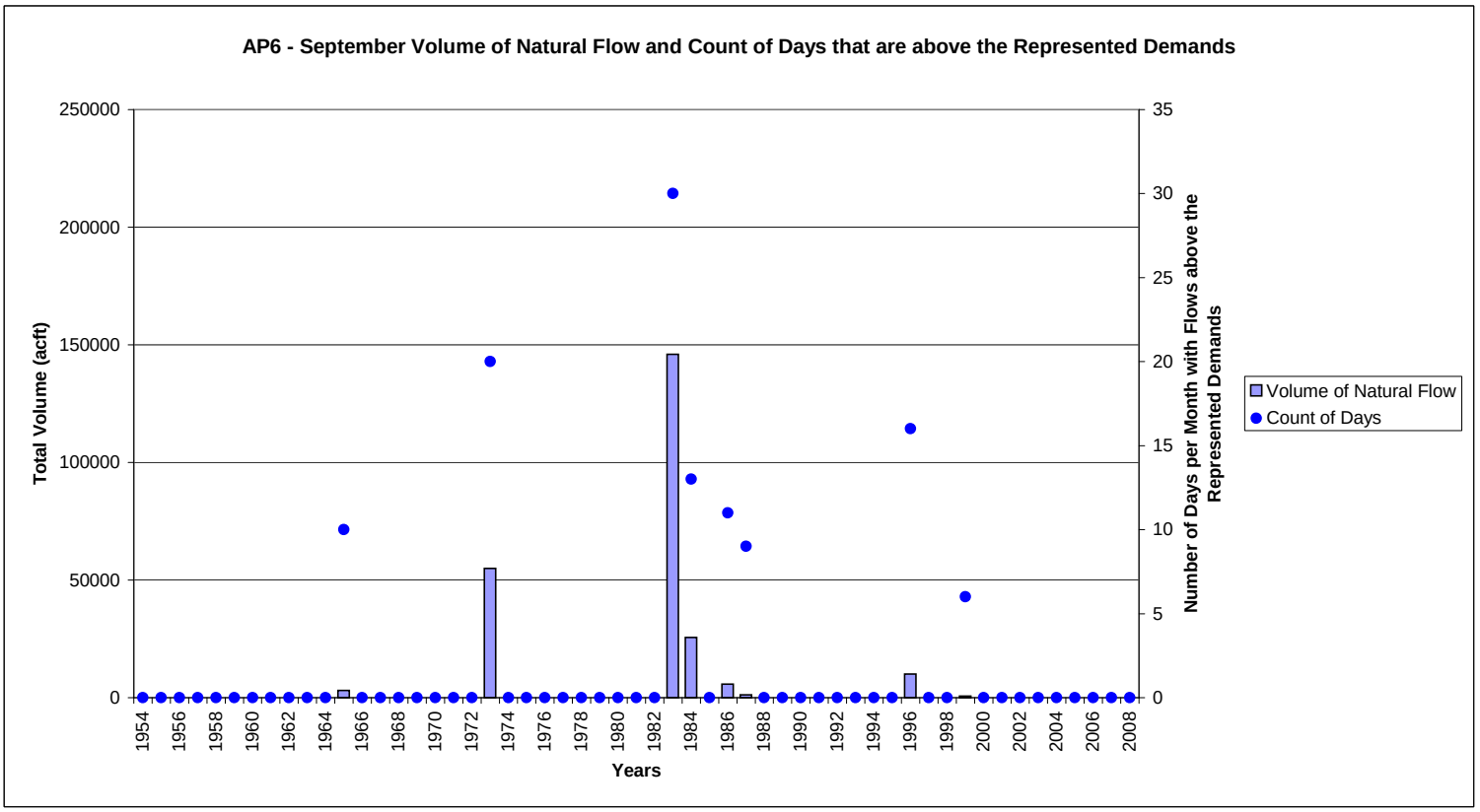

AP6 - April Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

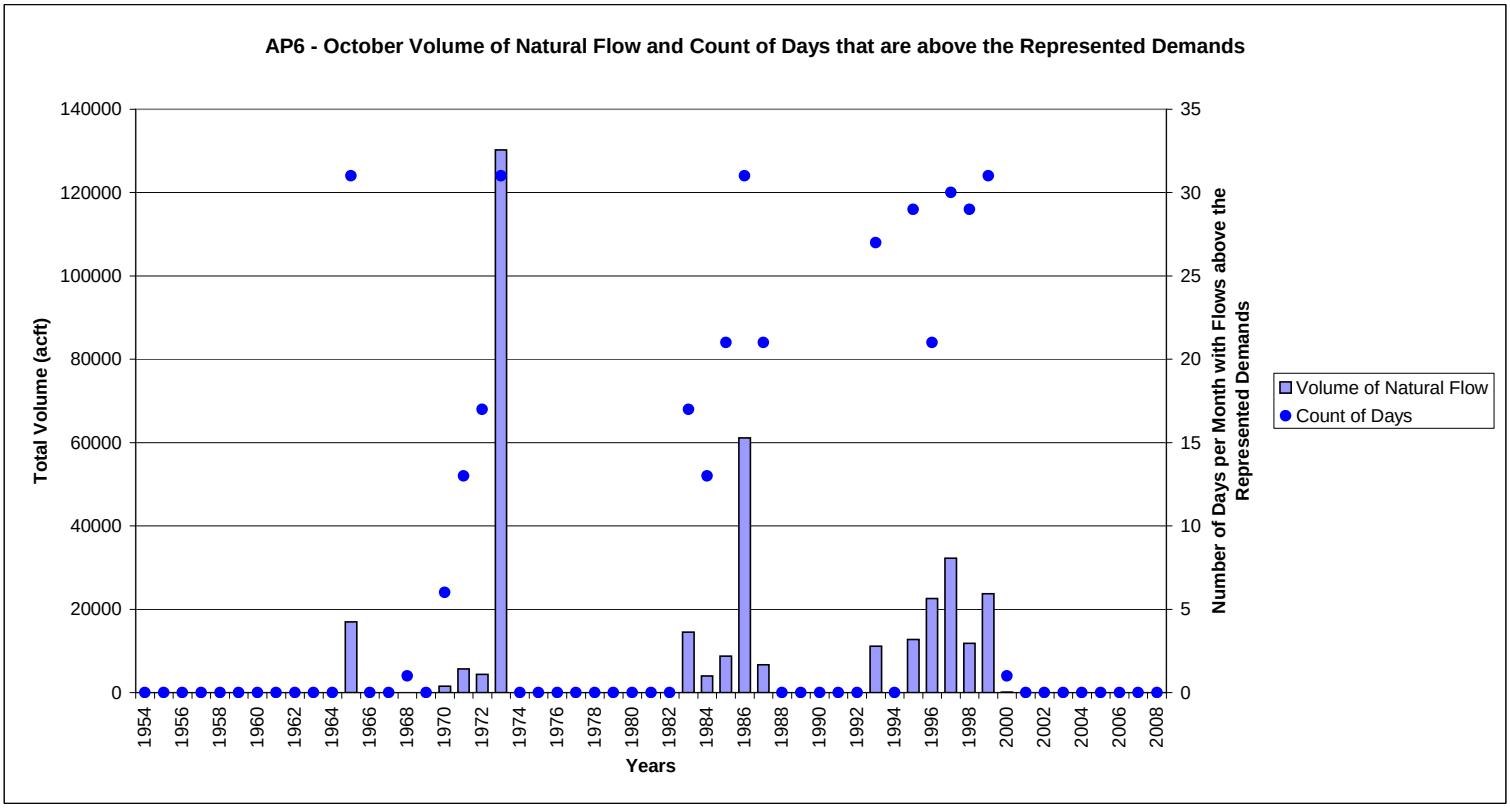

AP6 - May Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

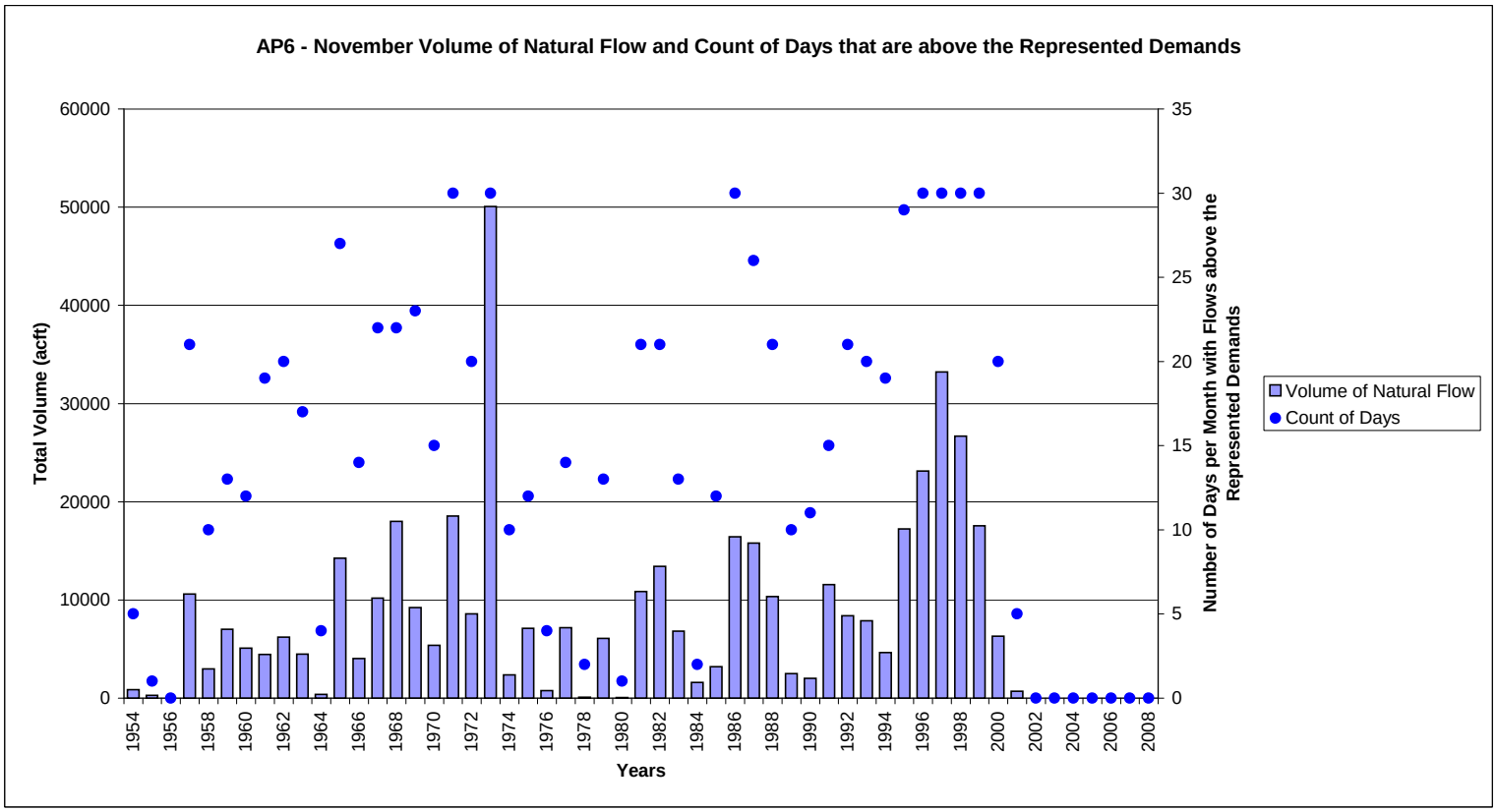

AP6 - June Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

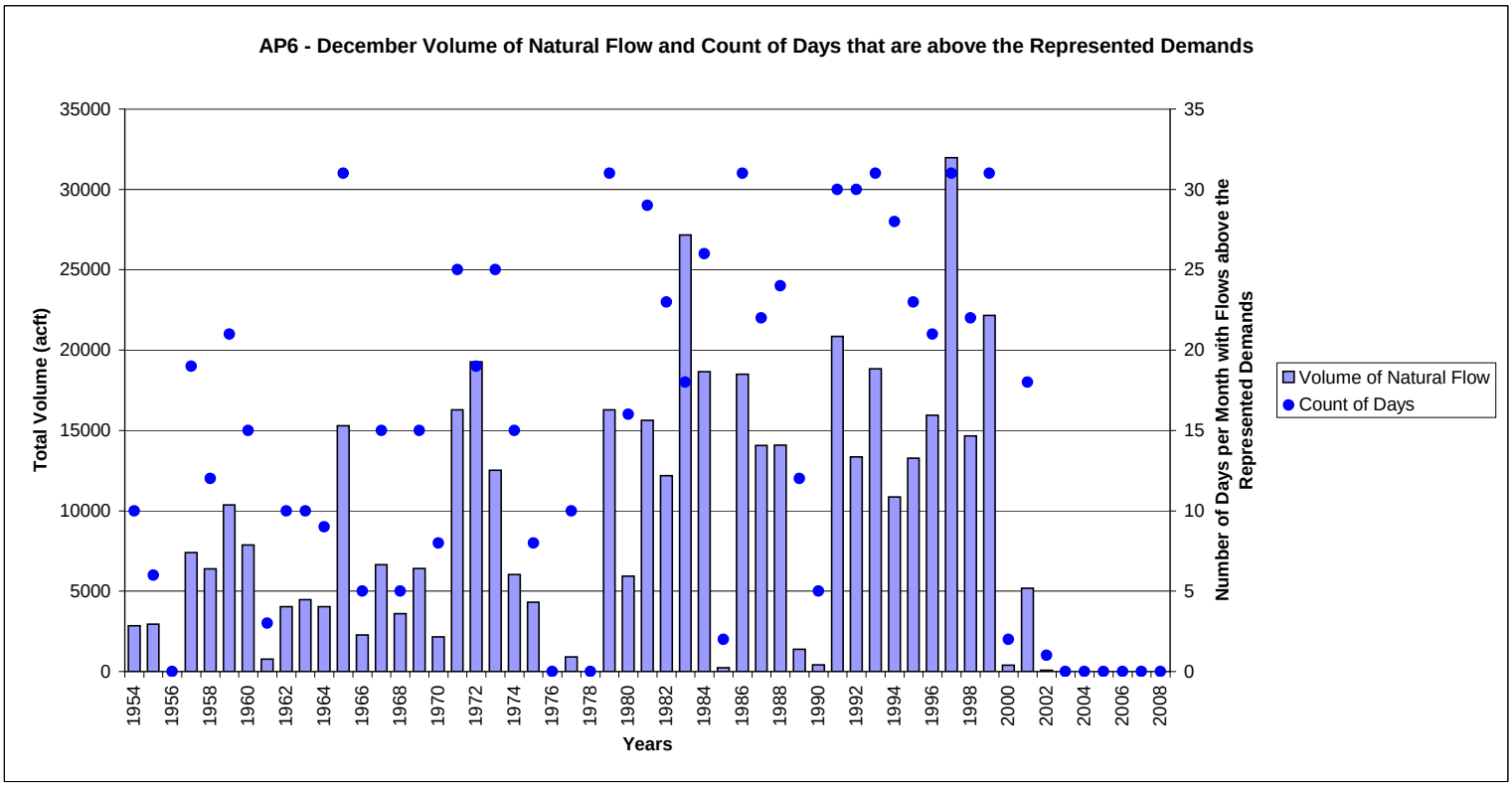

AP6 - July Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

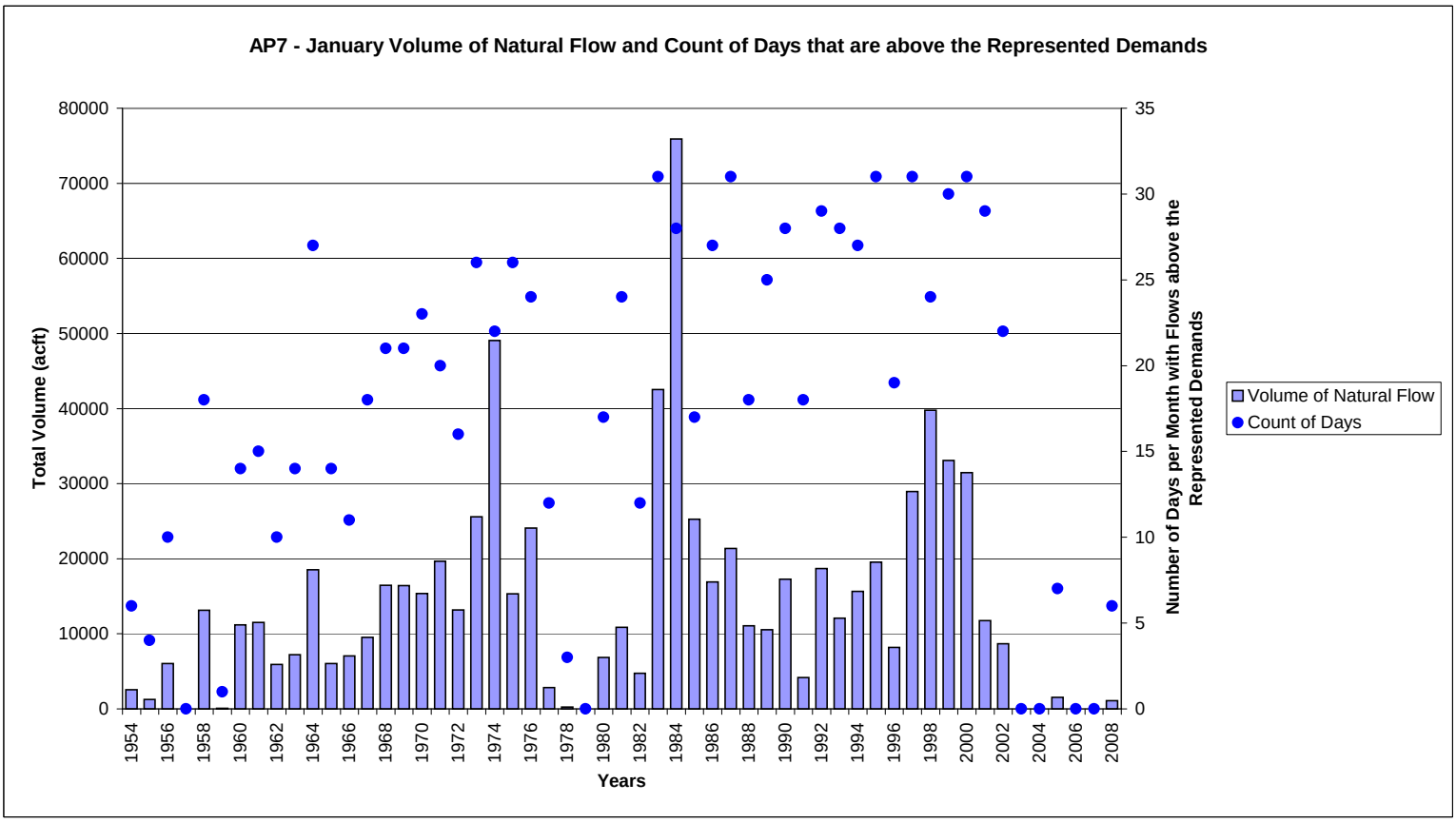

AP6 - August Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

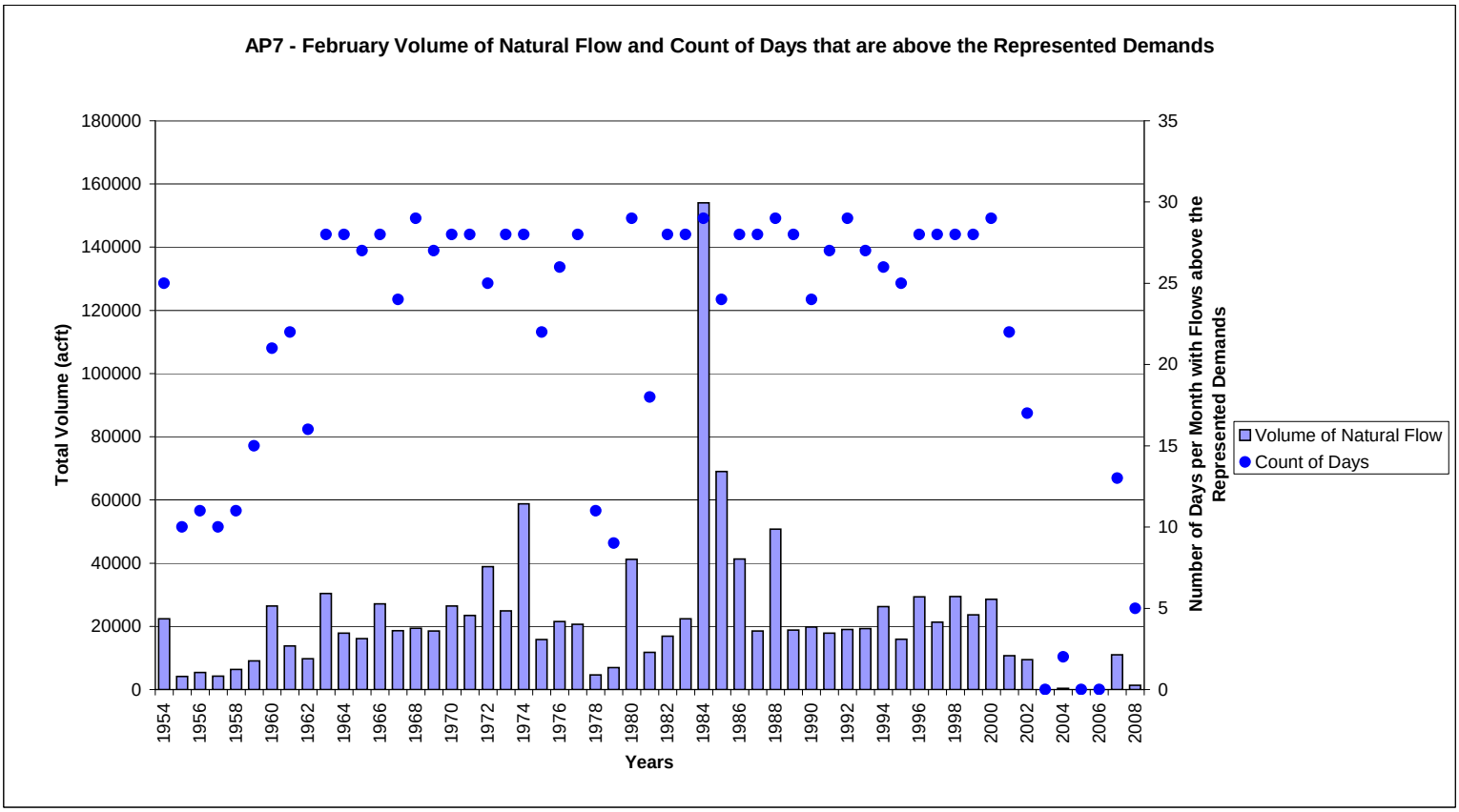

AP6 - September Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
50000
100000
150000
200000
250000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

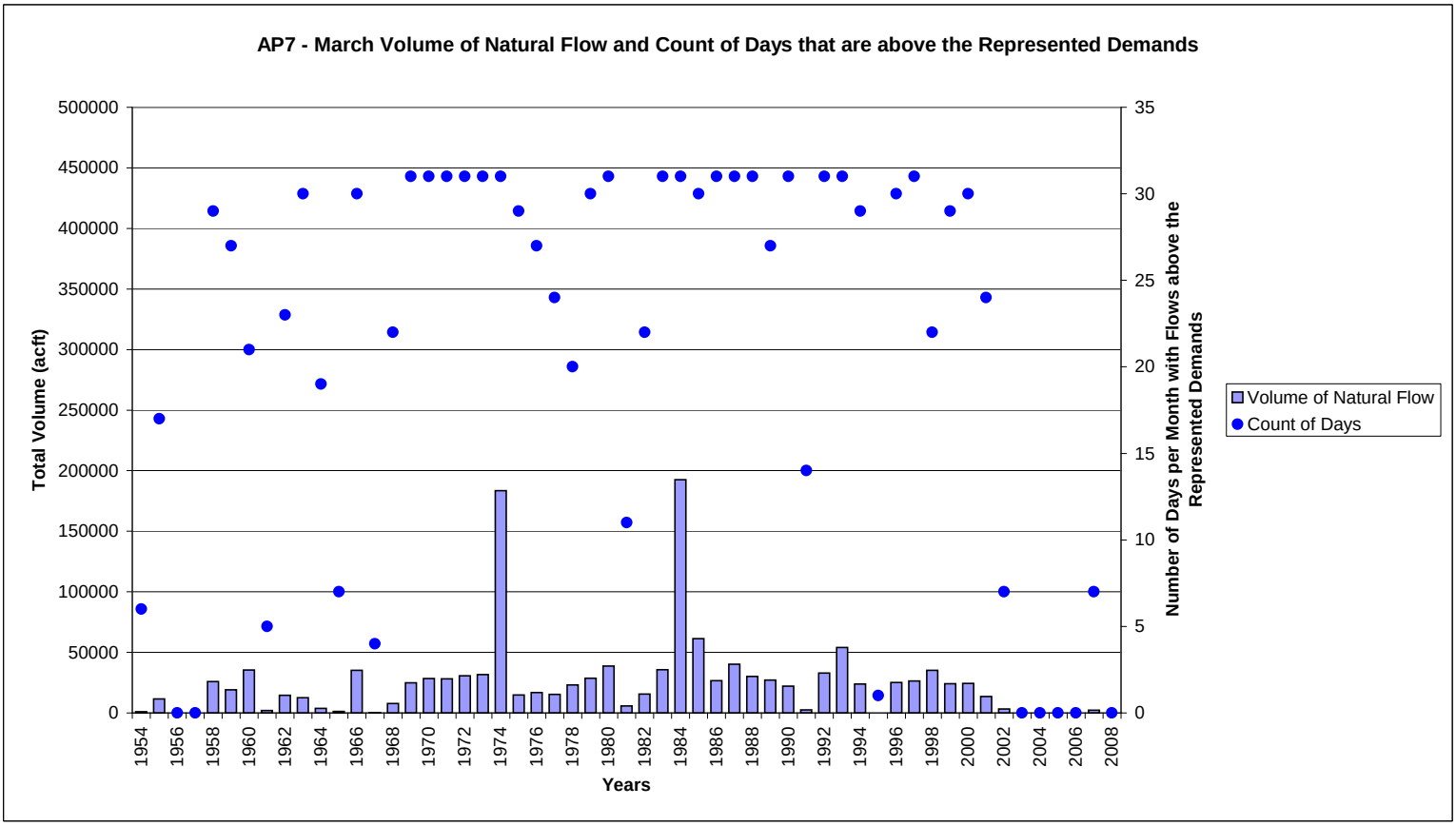

AP6 - October Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
20000
40000
60000
80000
100000
120000
140000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

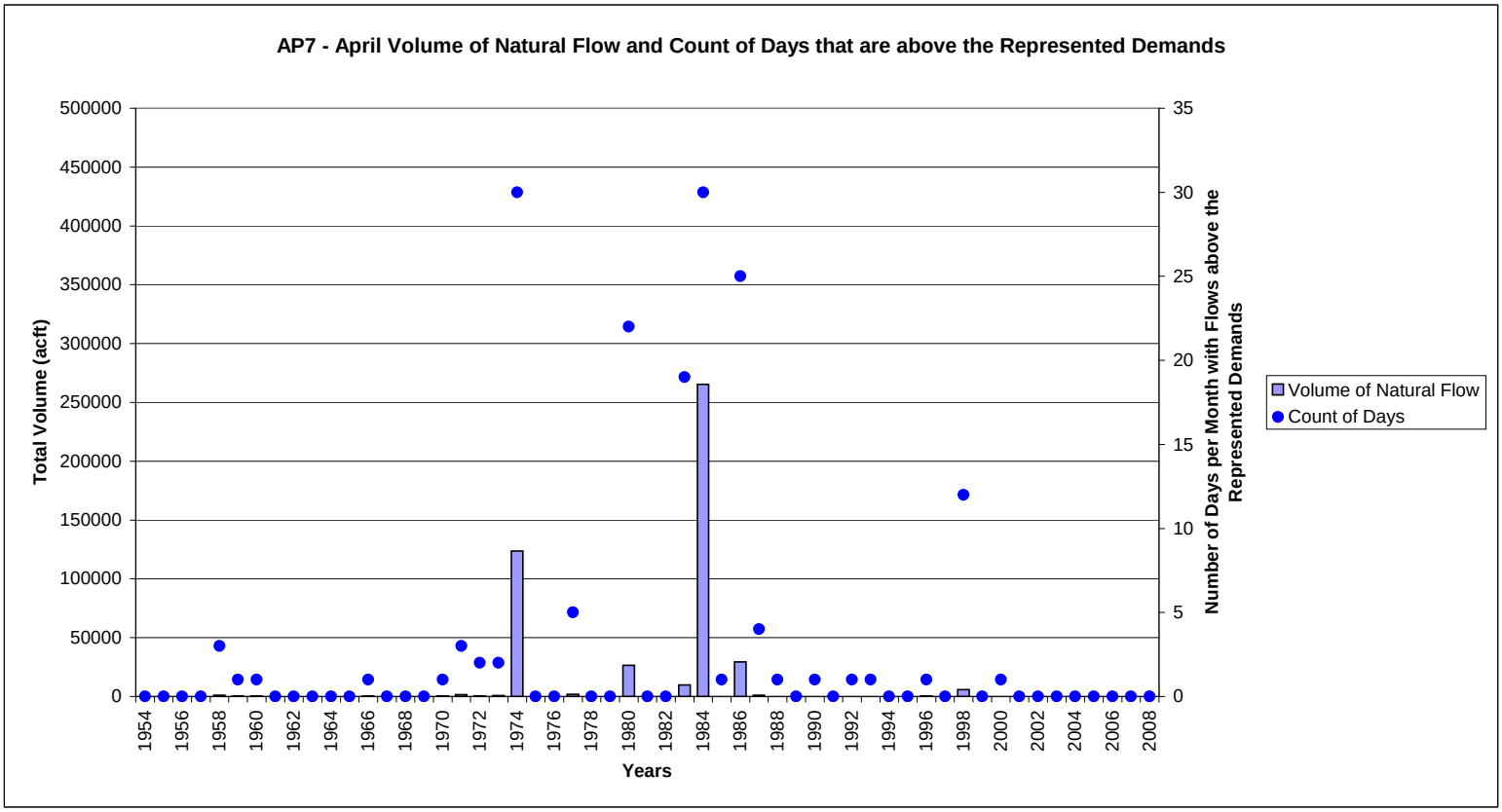

AP6 - November Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
10000
20000
30000
40000
50000
60000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

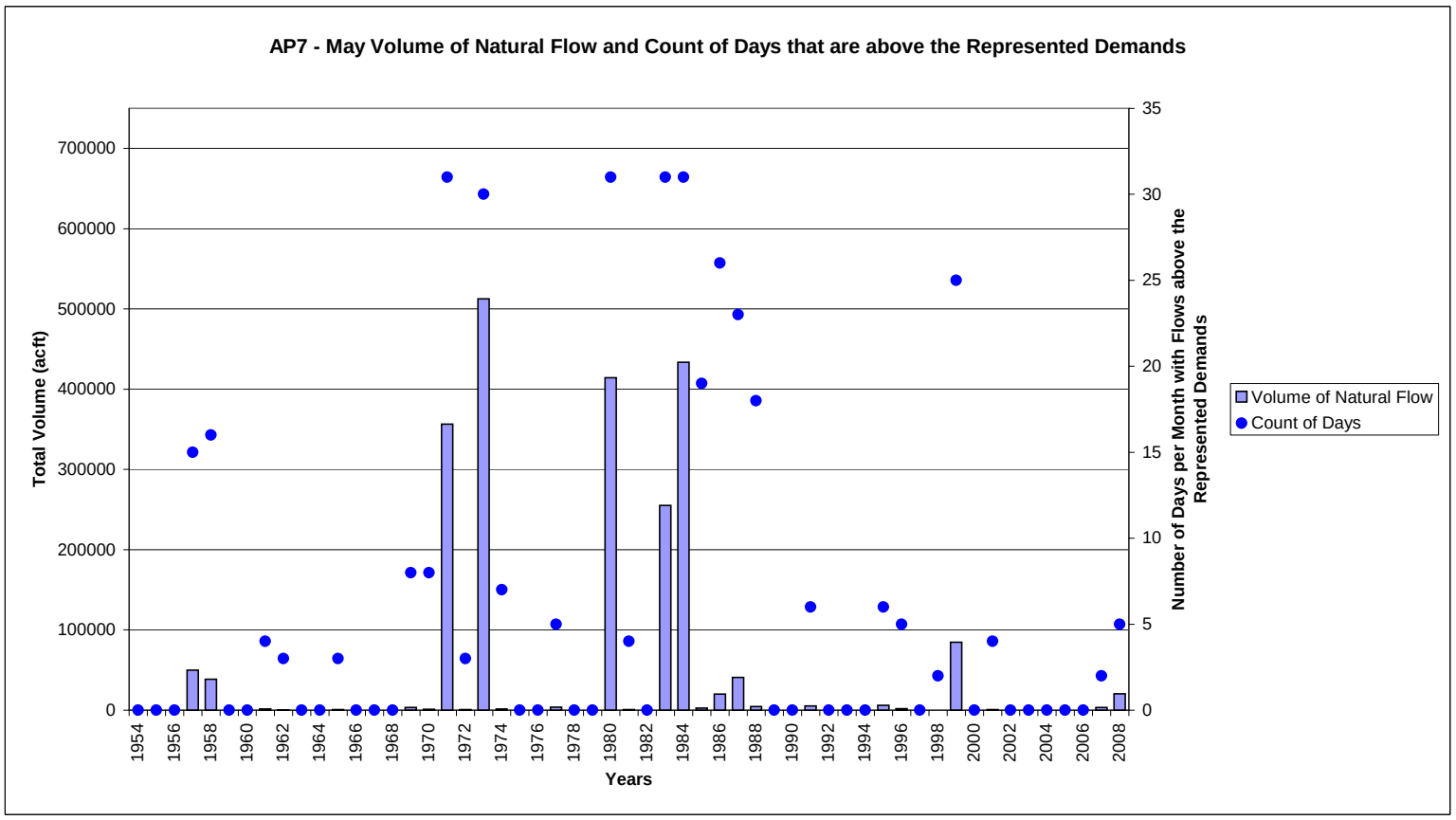

AP6 - December Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
5000
10000
15000
20000
25000
30000
35000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

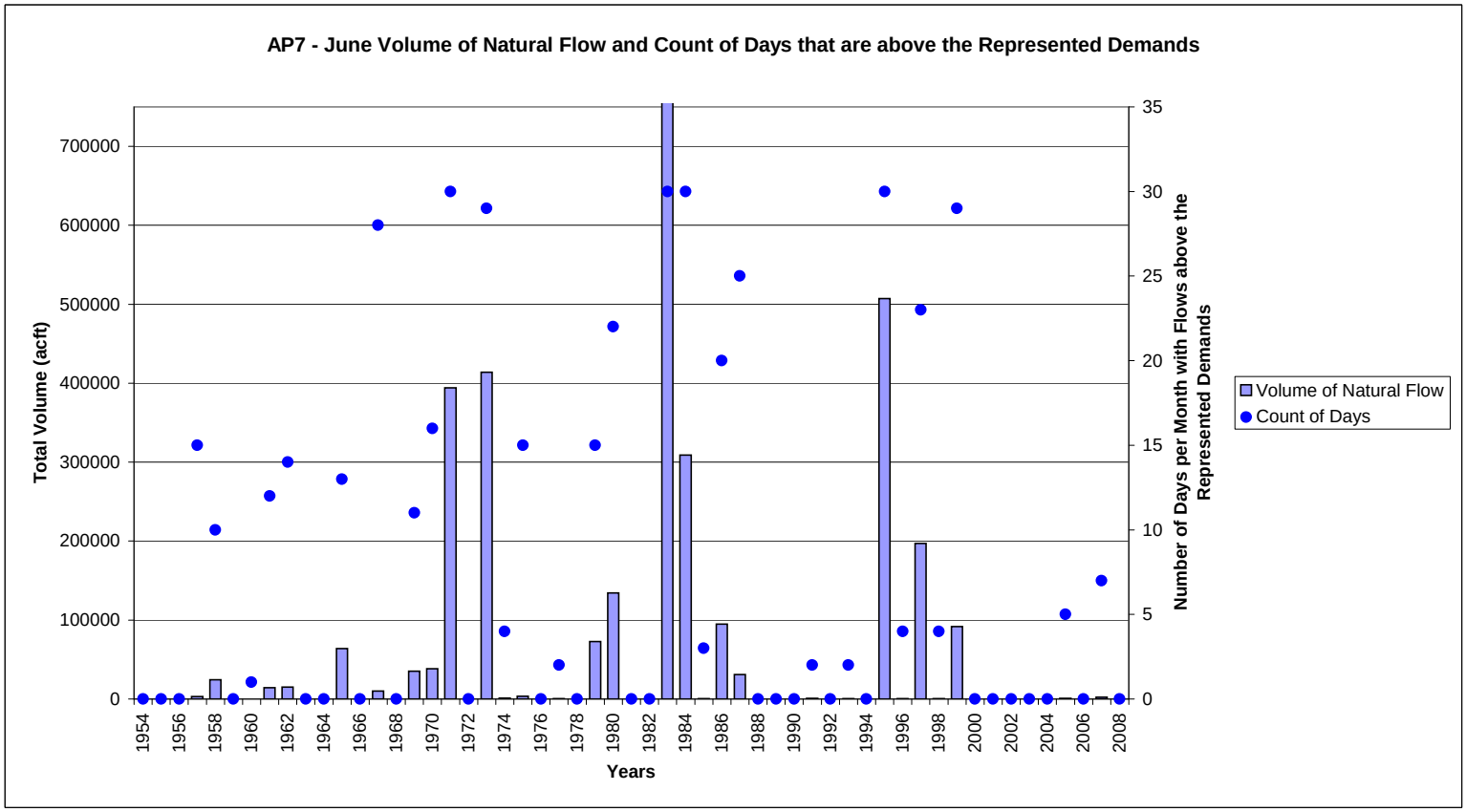

AP7 - January Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

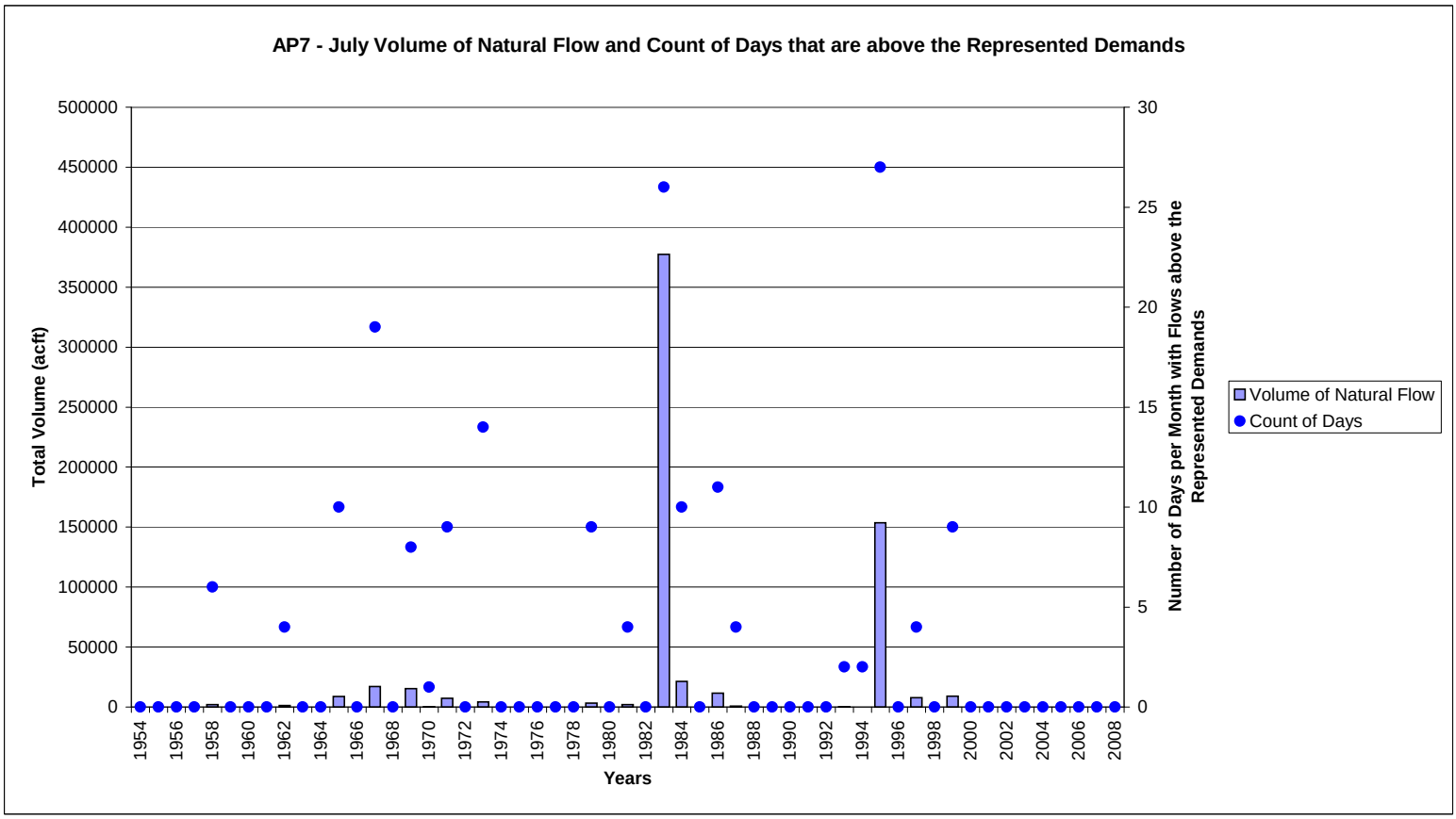

AP7 - February Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

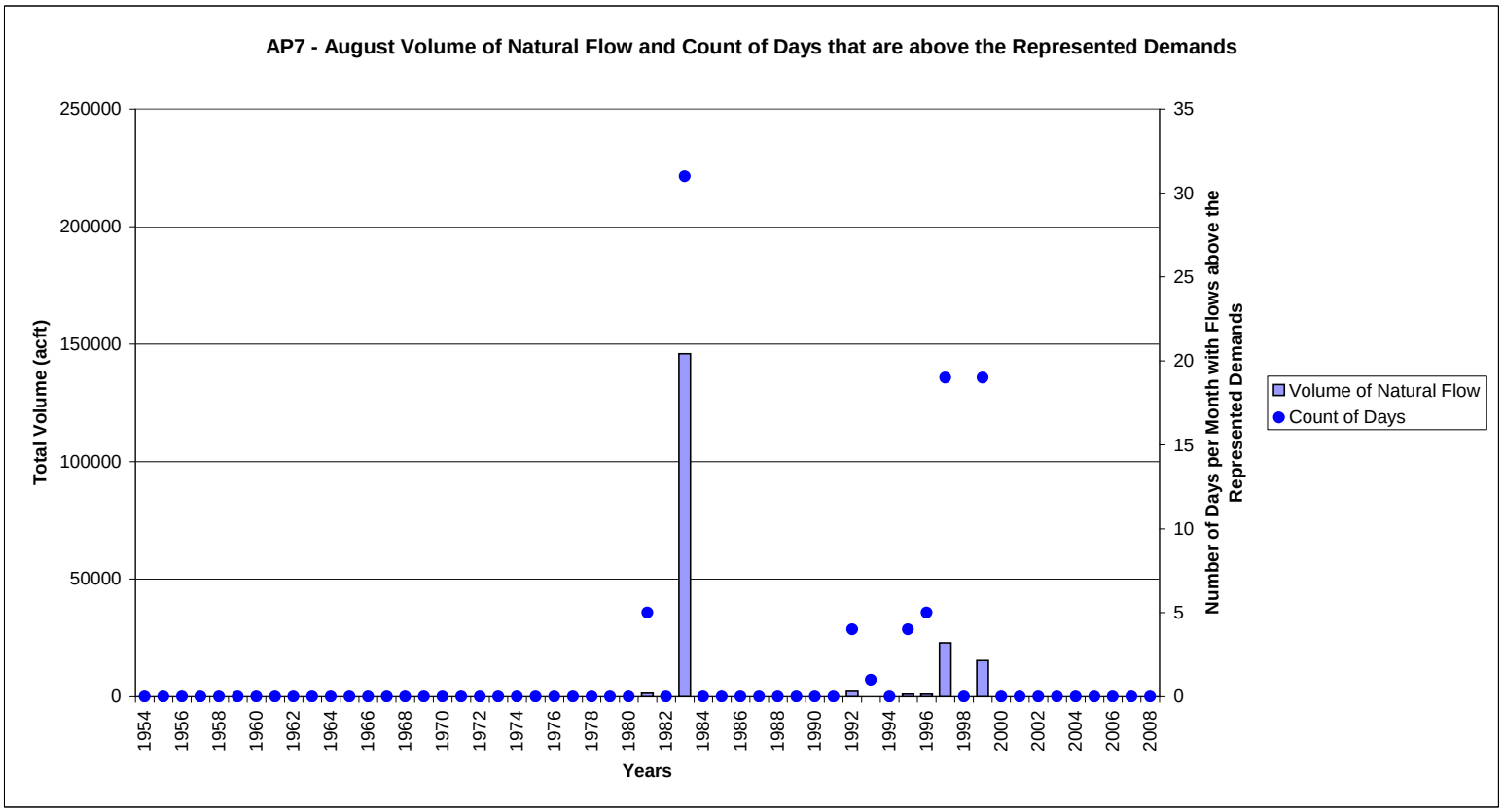

AP7 - March Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

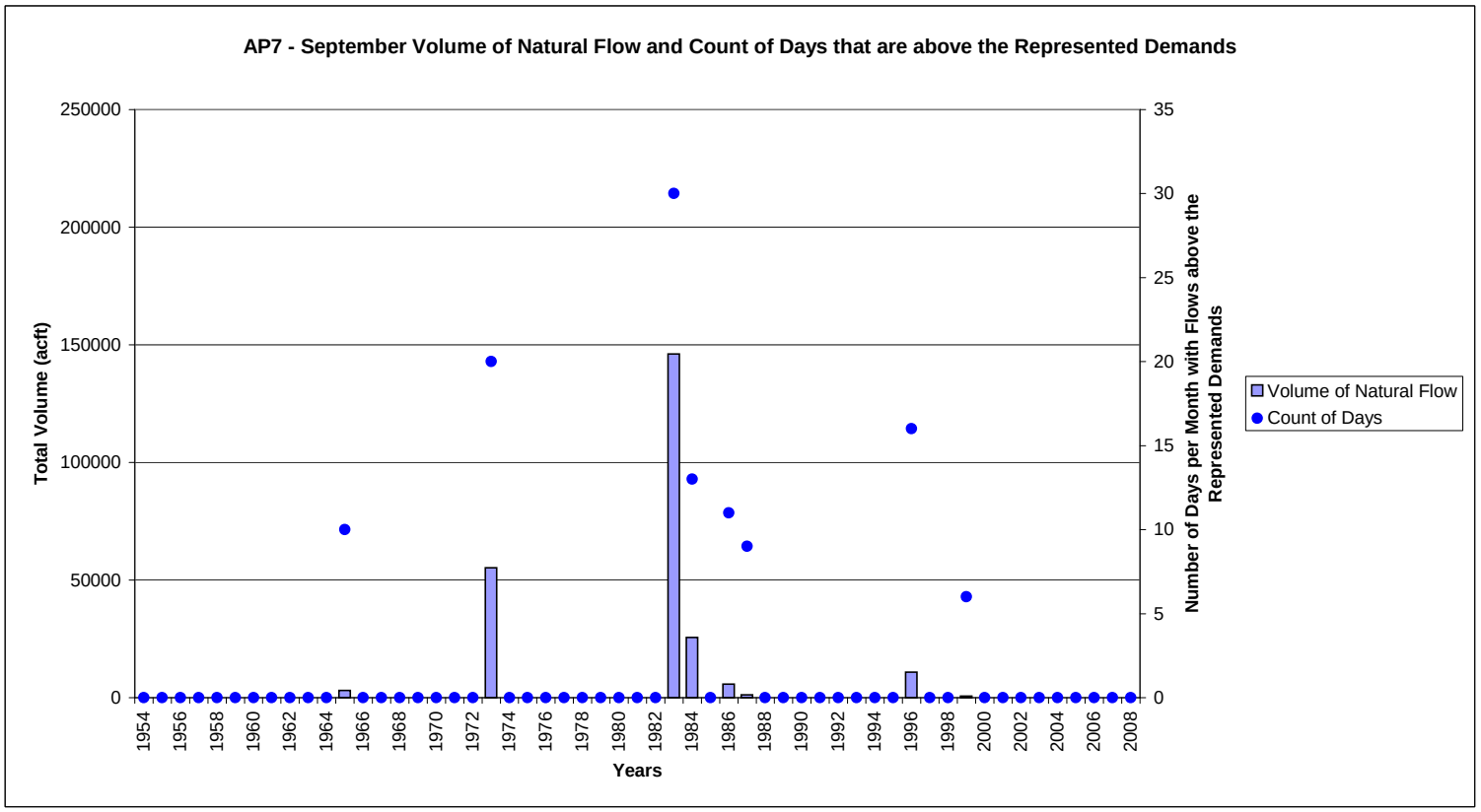

AP7 - April Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

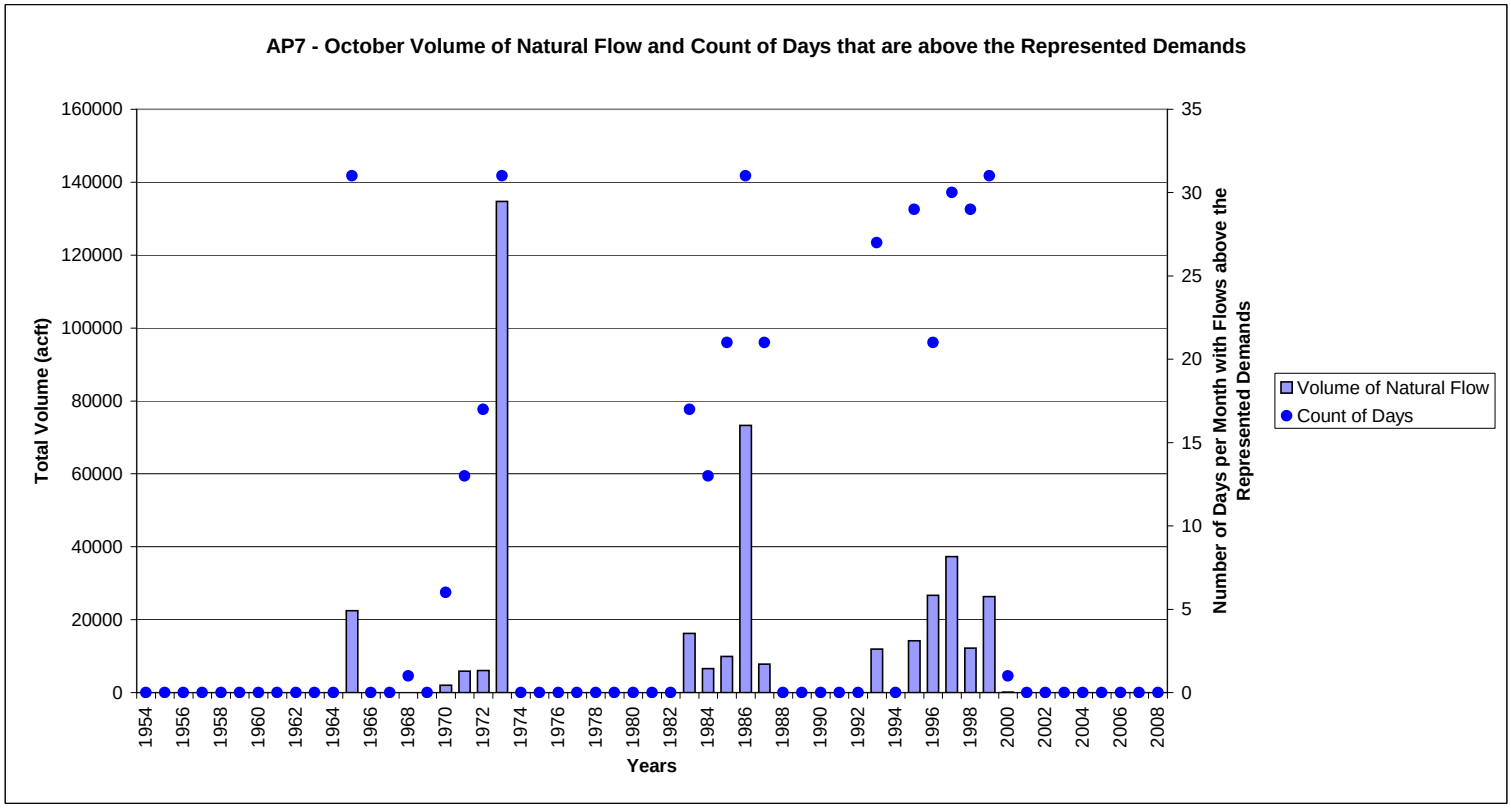

AP7 - May Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

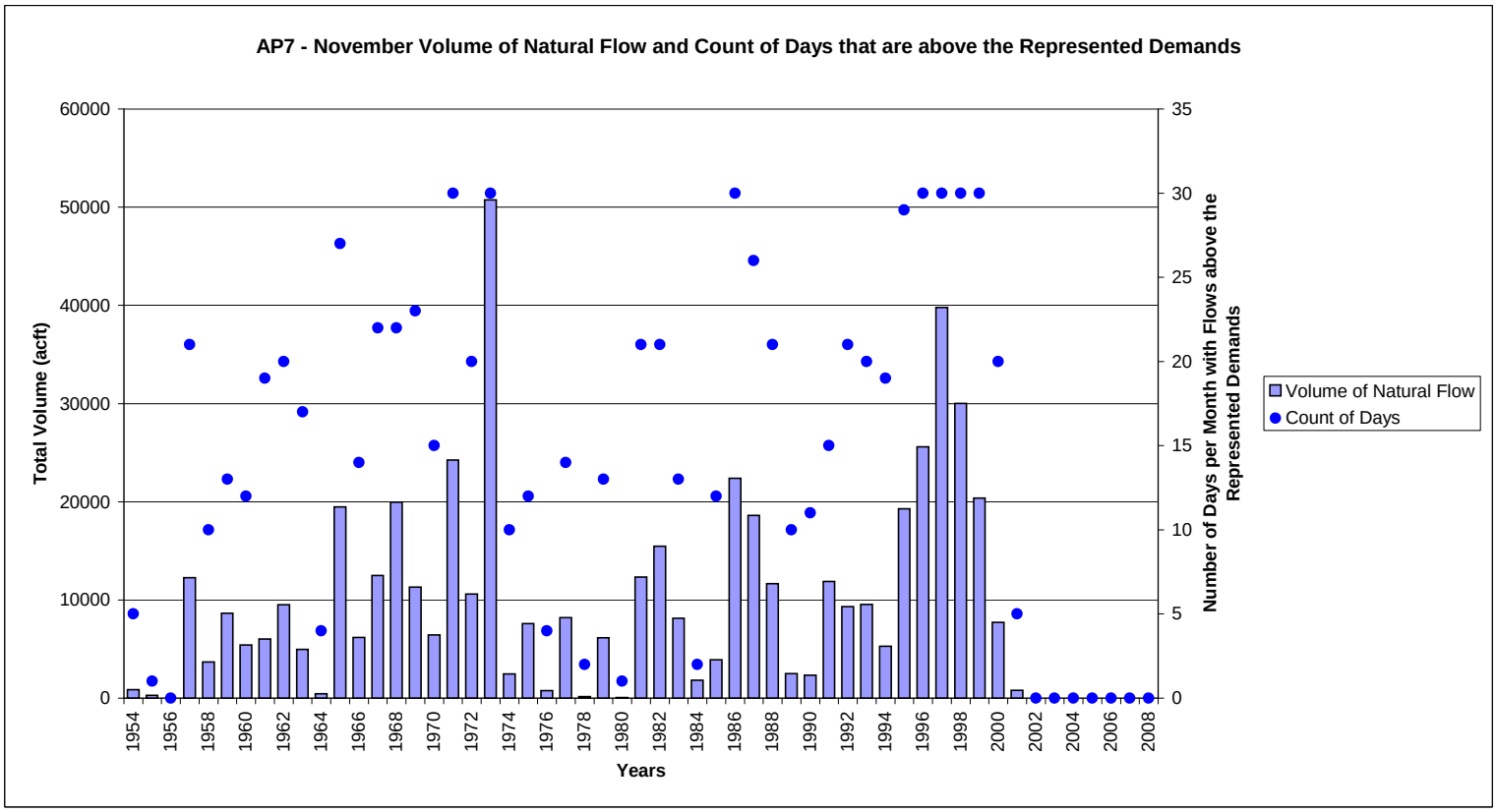

AP7 - June Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

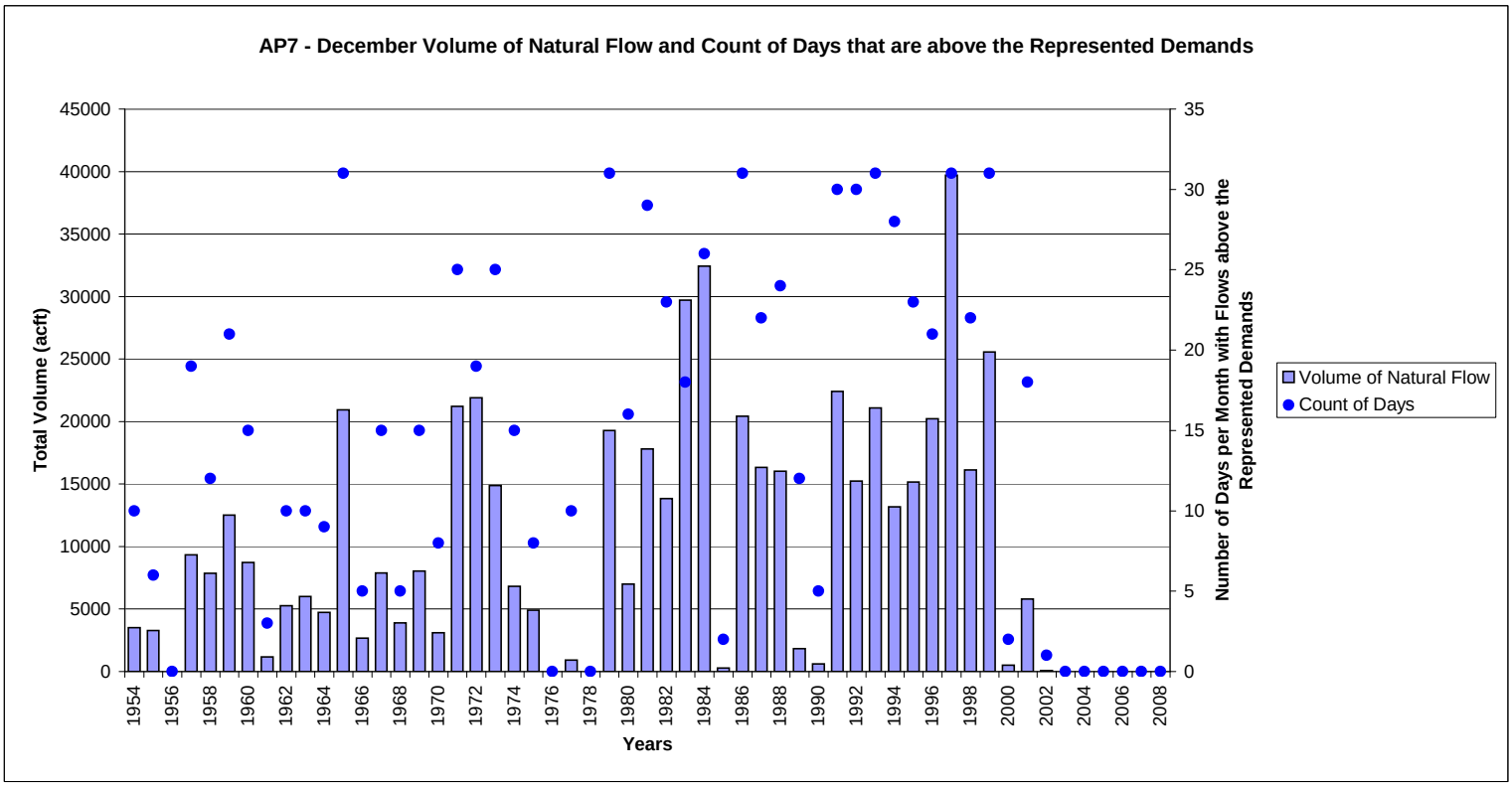

AP7 - July Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

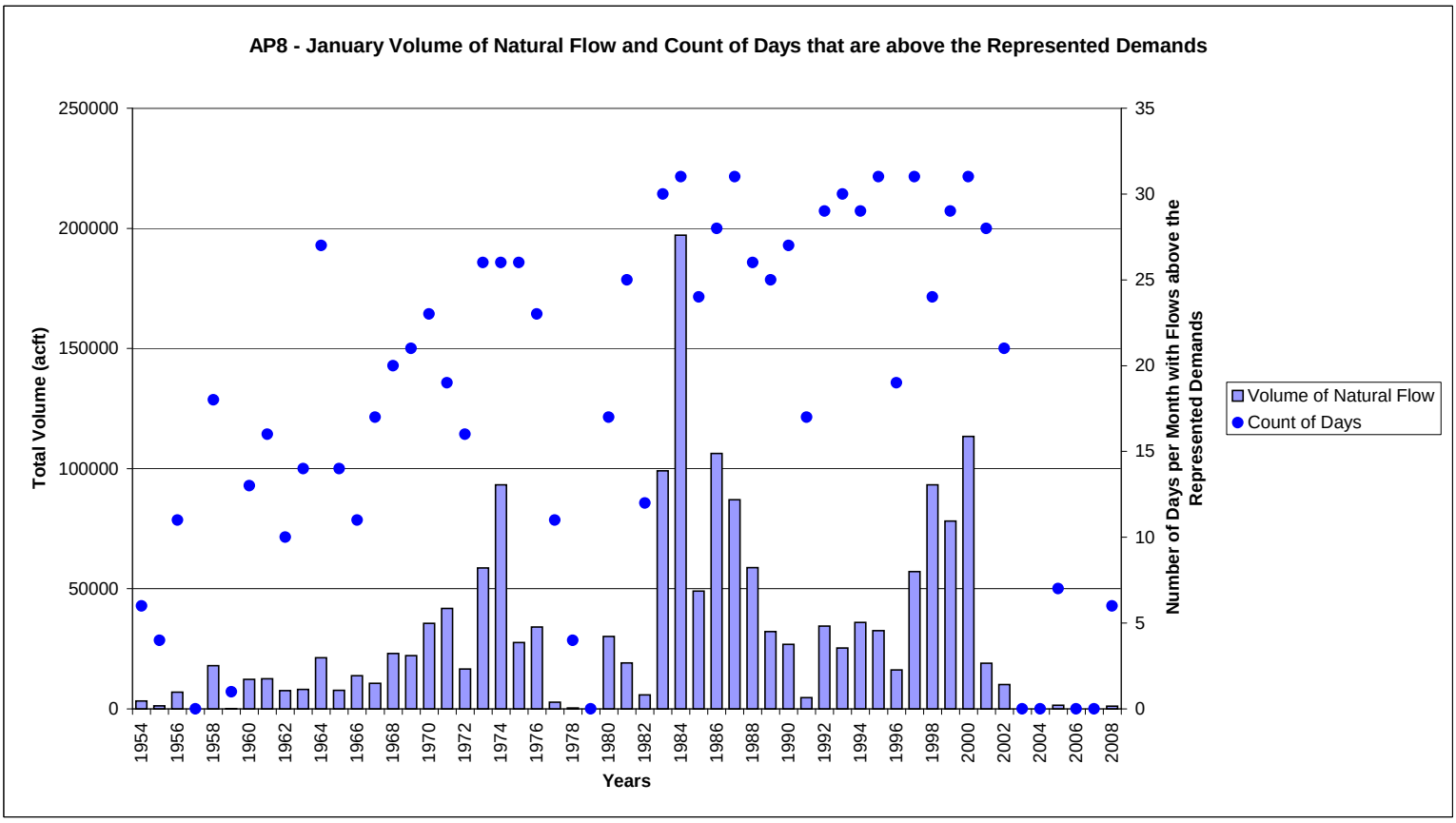

AP7 - August Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

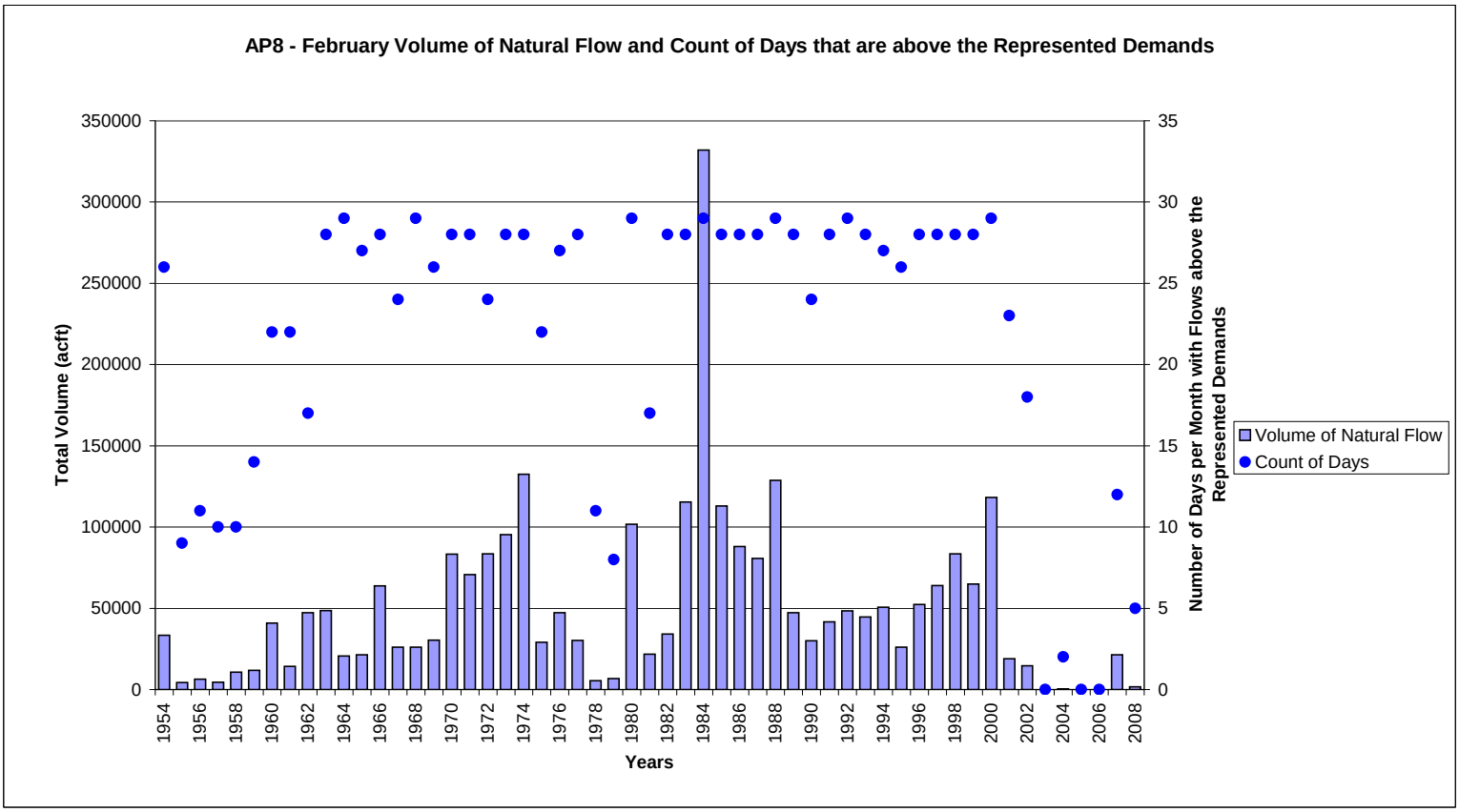

AP7 - September Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

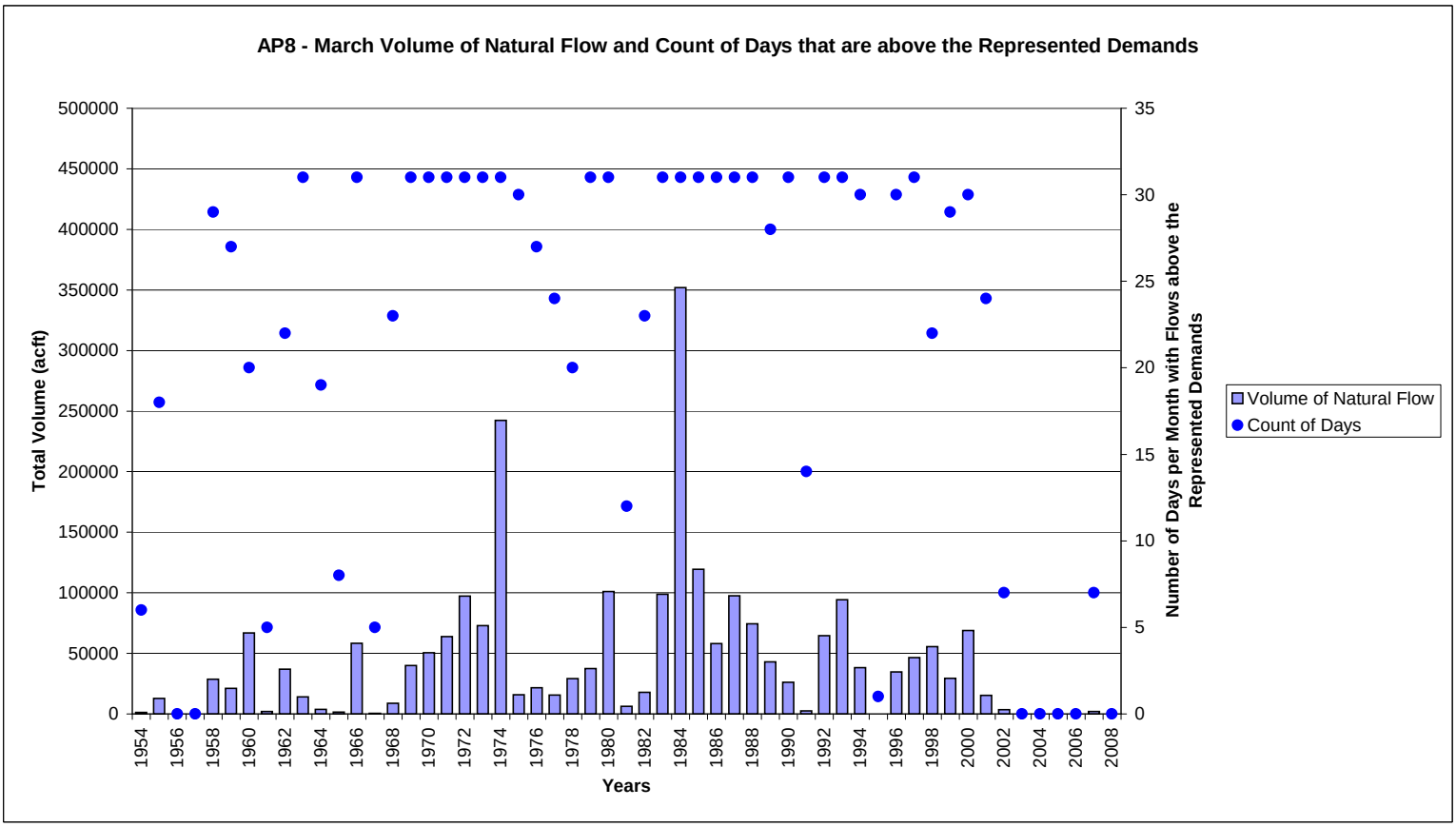

AP7 - October Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

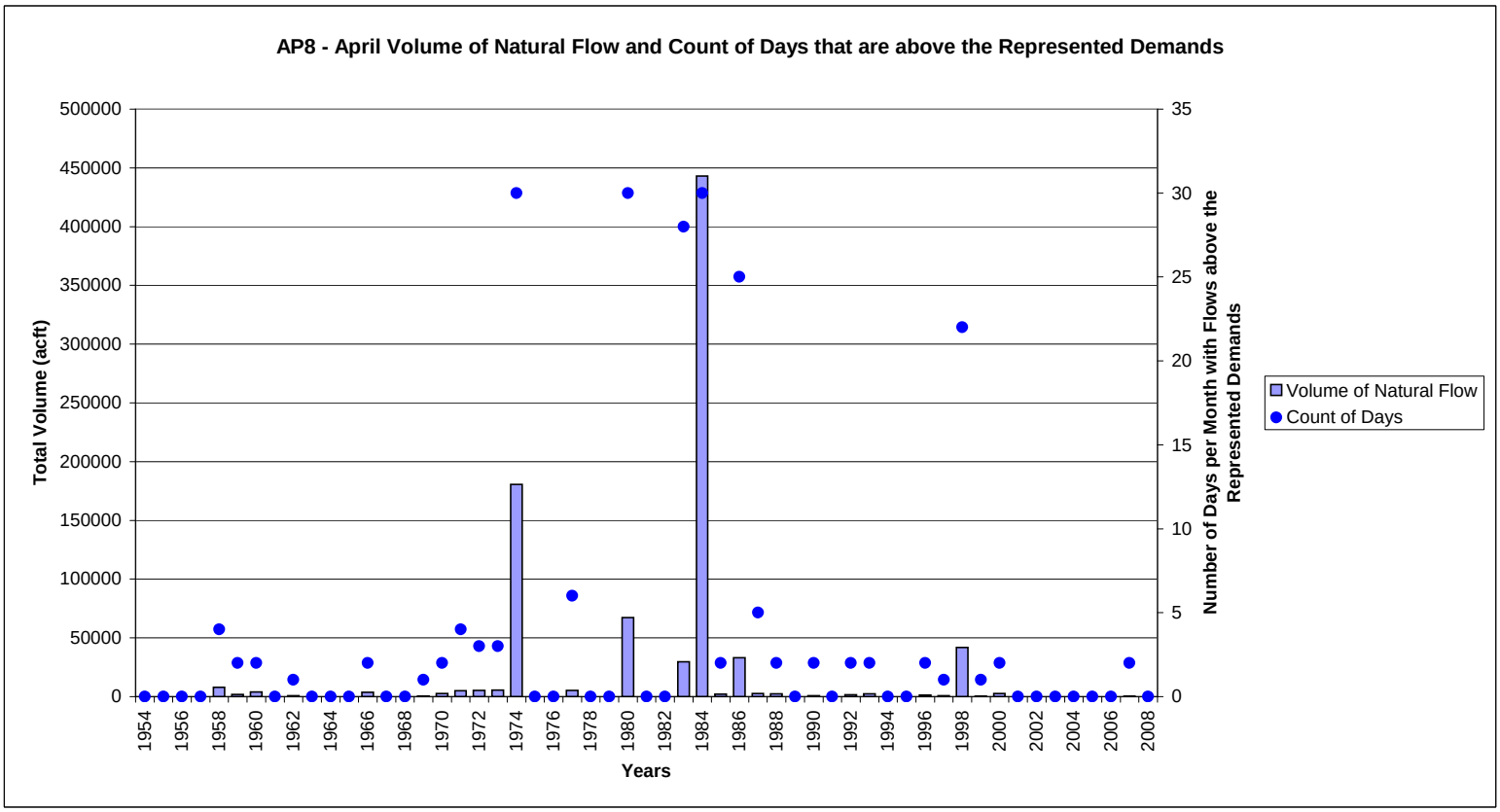

AP7 - November Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

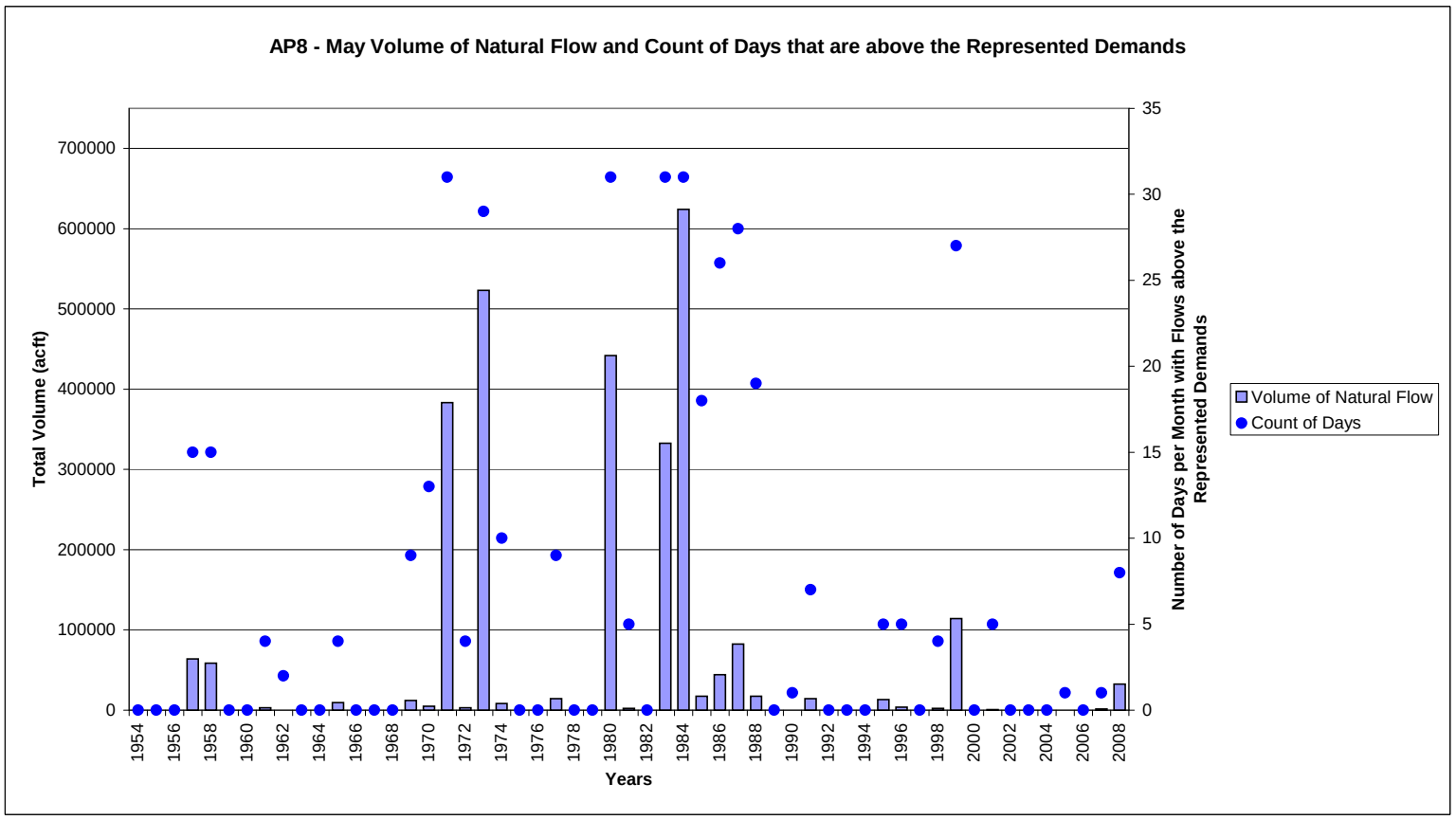

AP7 - December Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

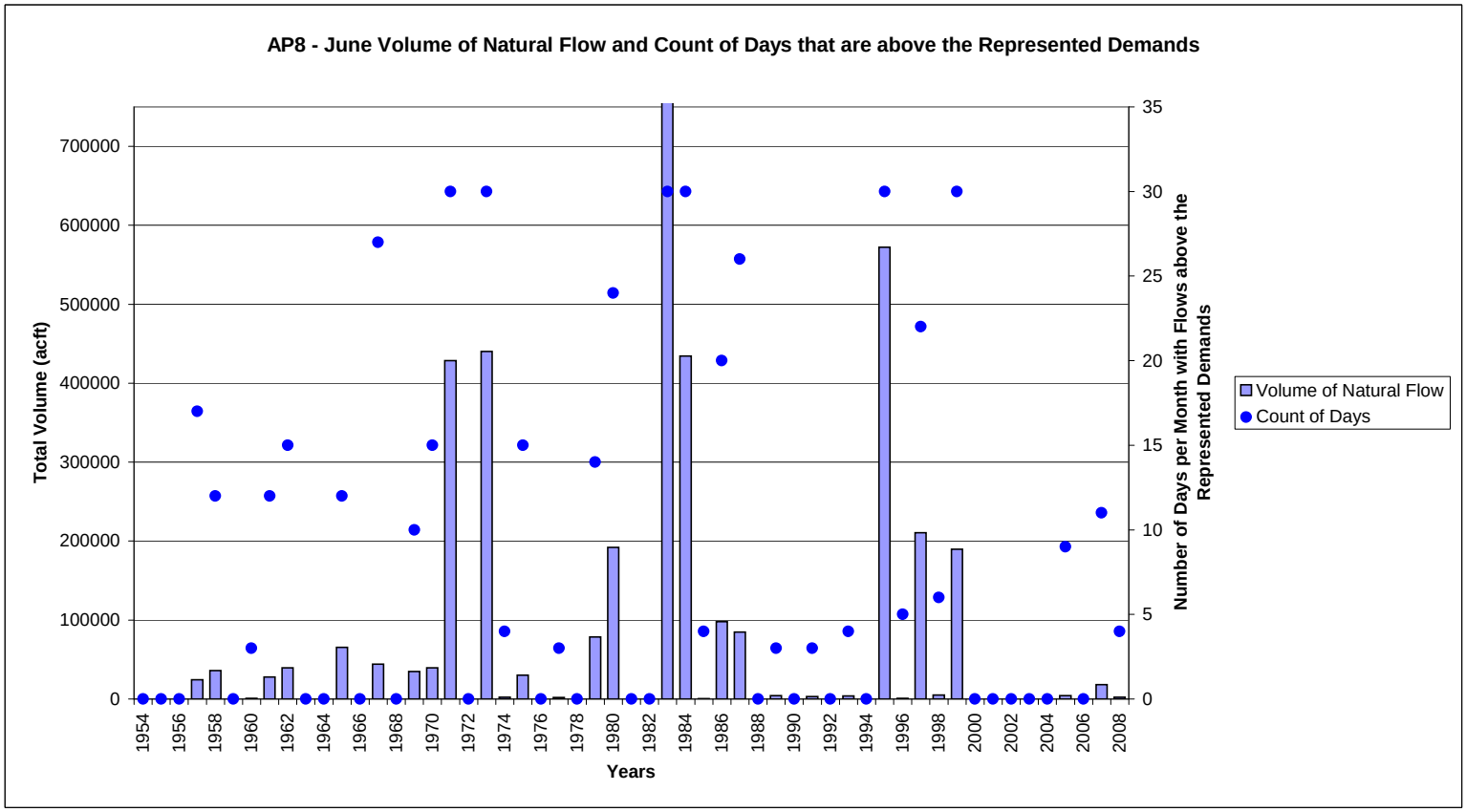

AP8 - January Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

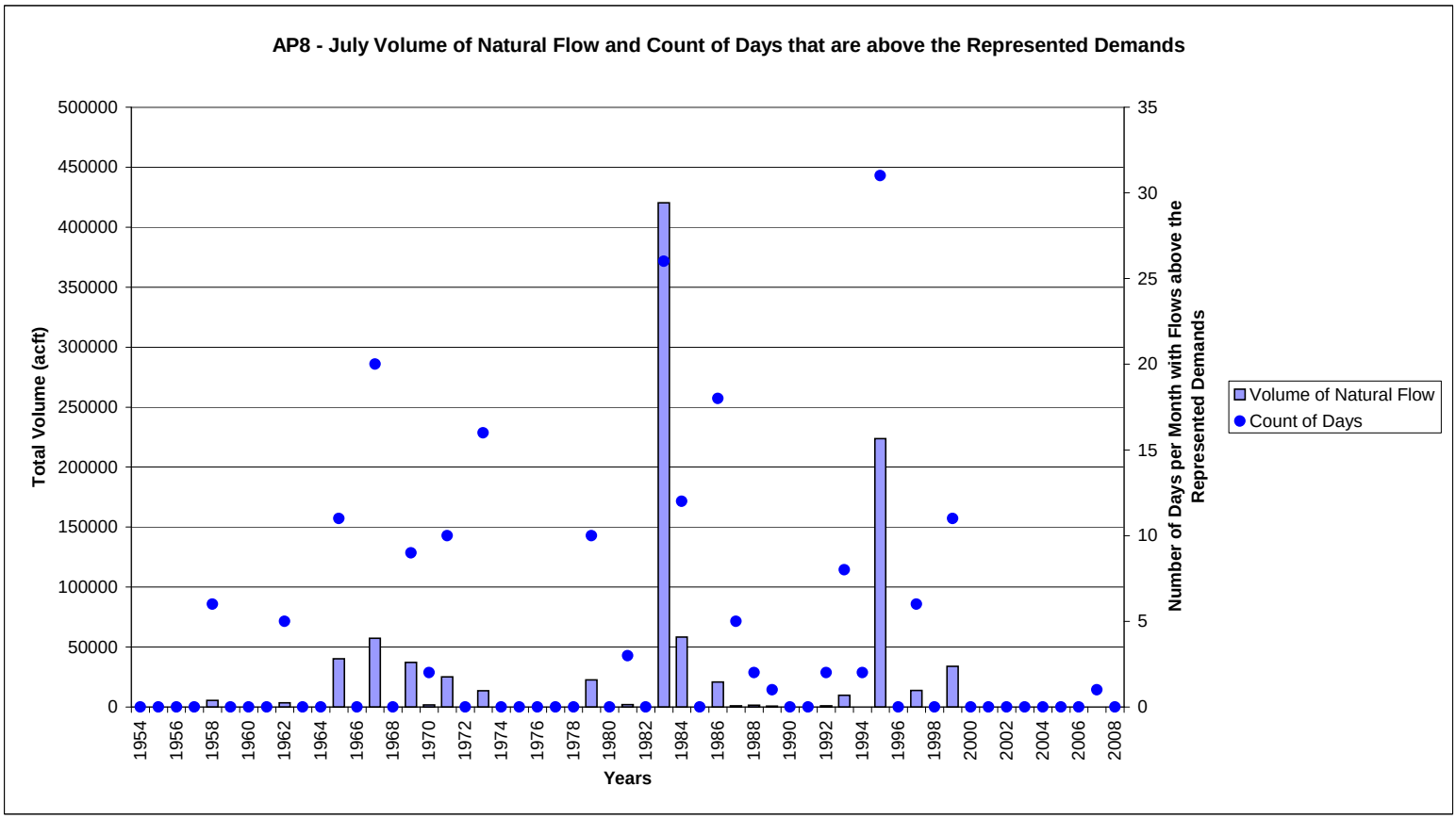

AP8 - February Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

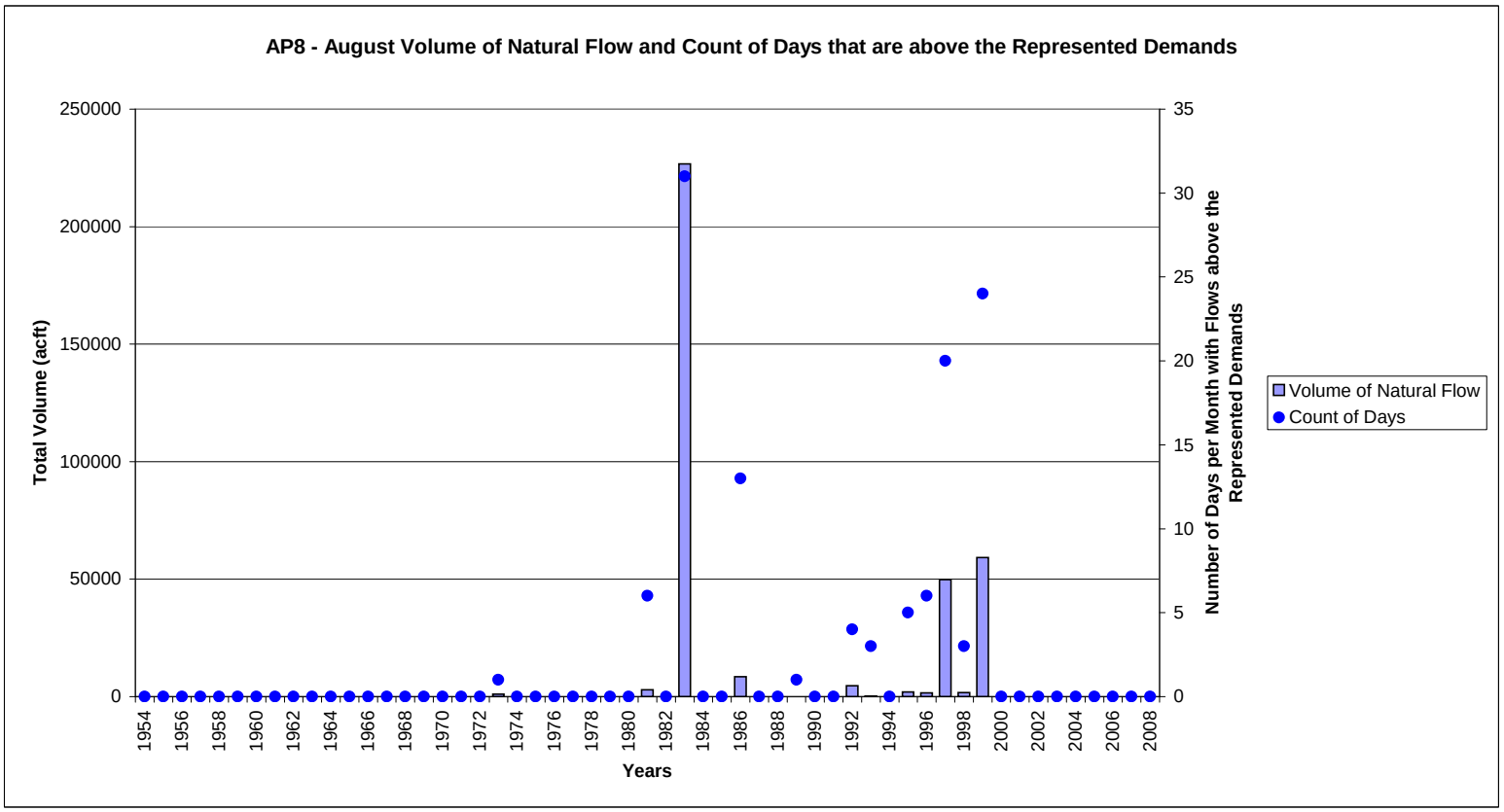

AP8 - March Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
50000
100000
150000
200000
250000
300000
350000
400000
450000
500000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

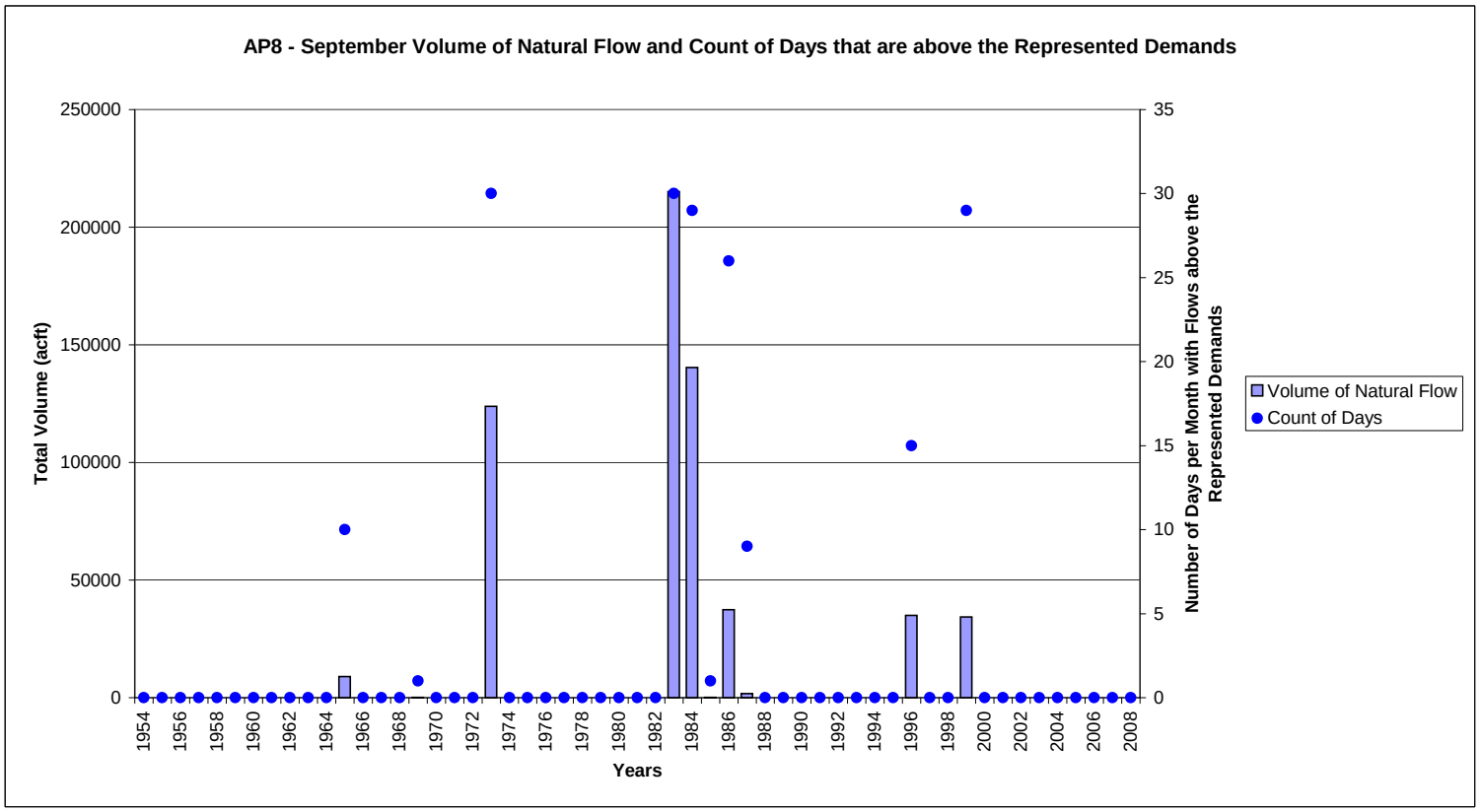

AP8 - April Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
50000
100000
150000
200000
250000
300000
350000
400000
450000
500000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

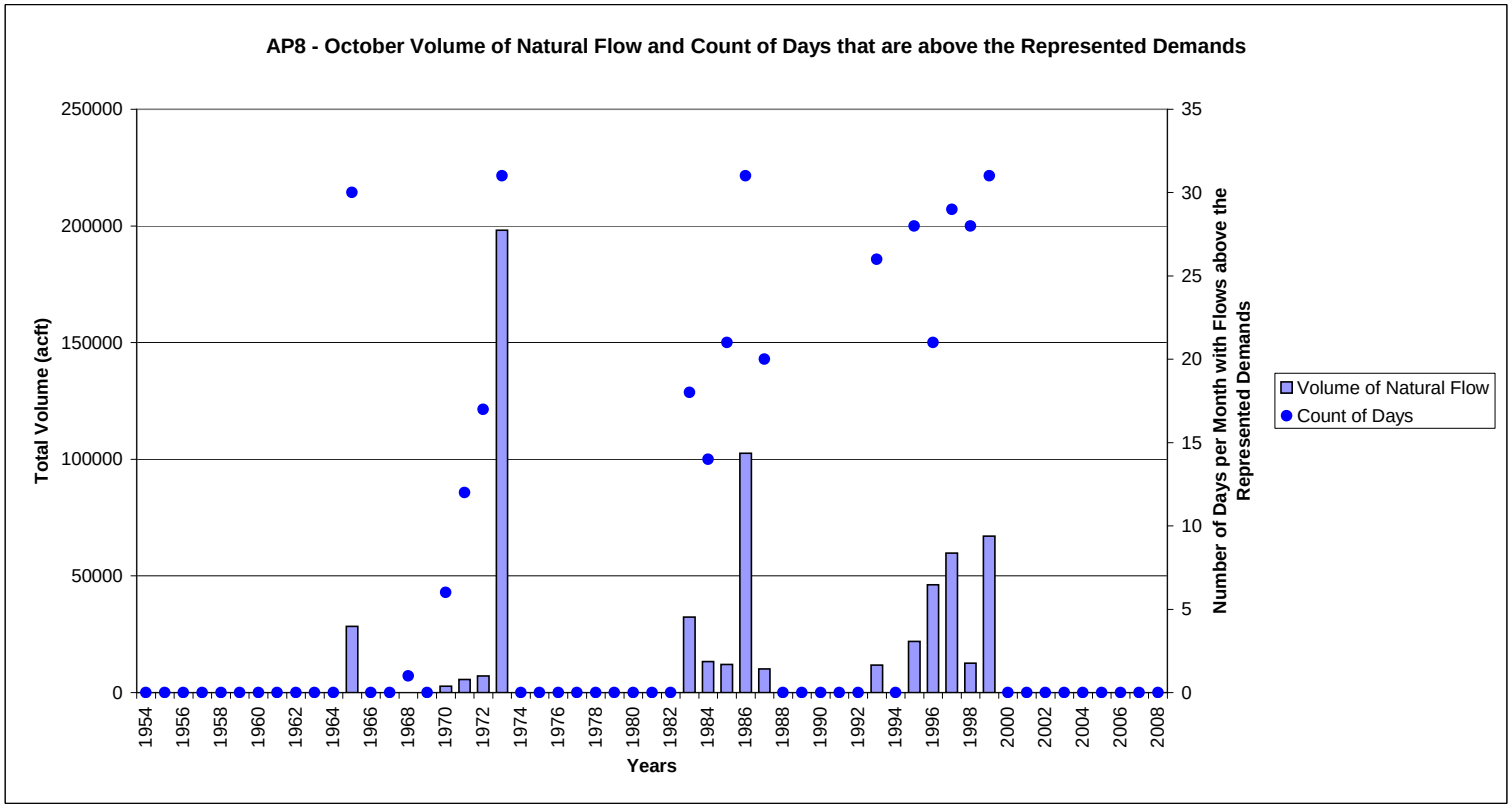

AP8 - May Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

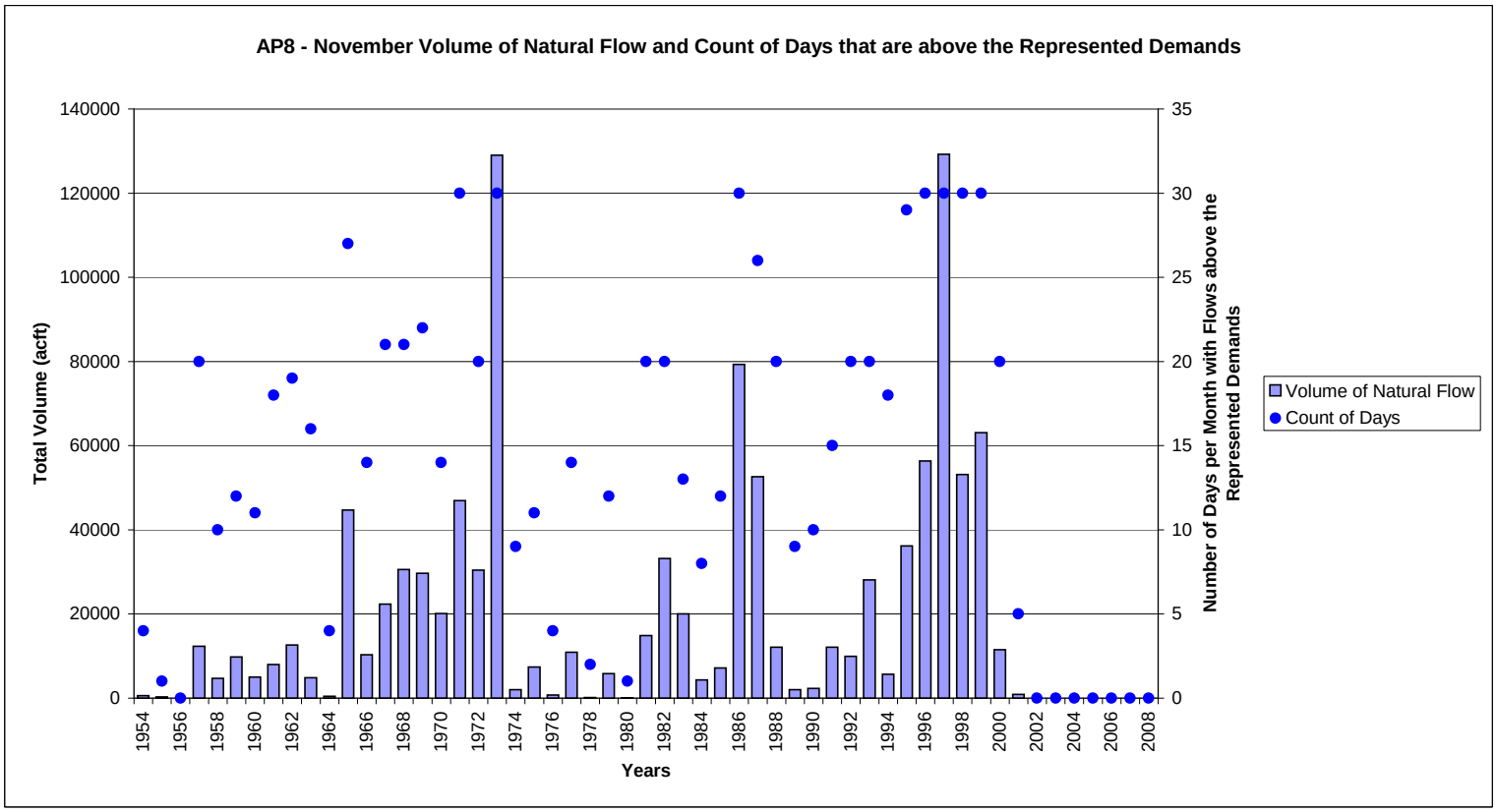

AP8 - June Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

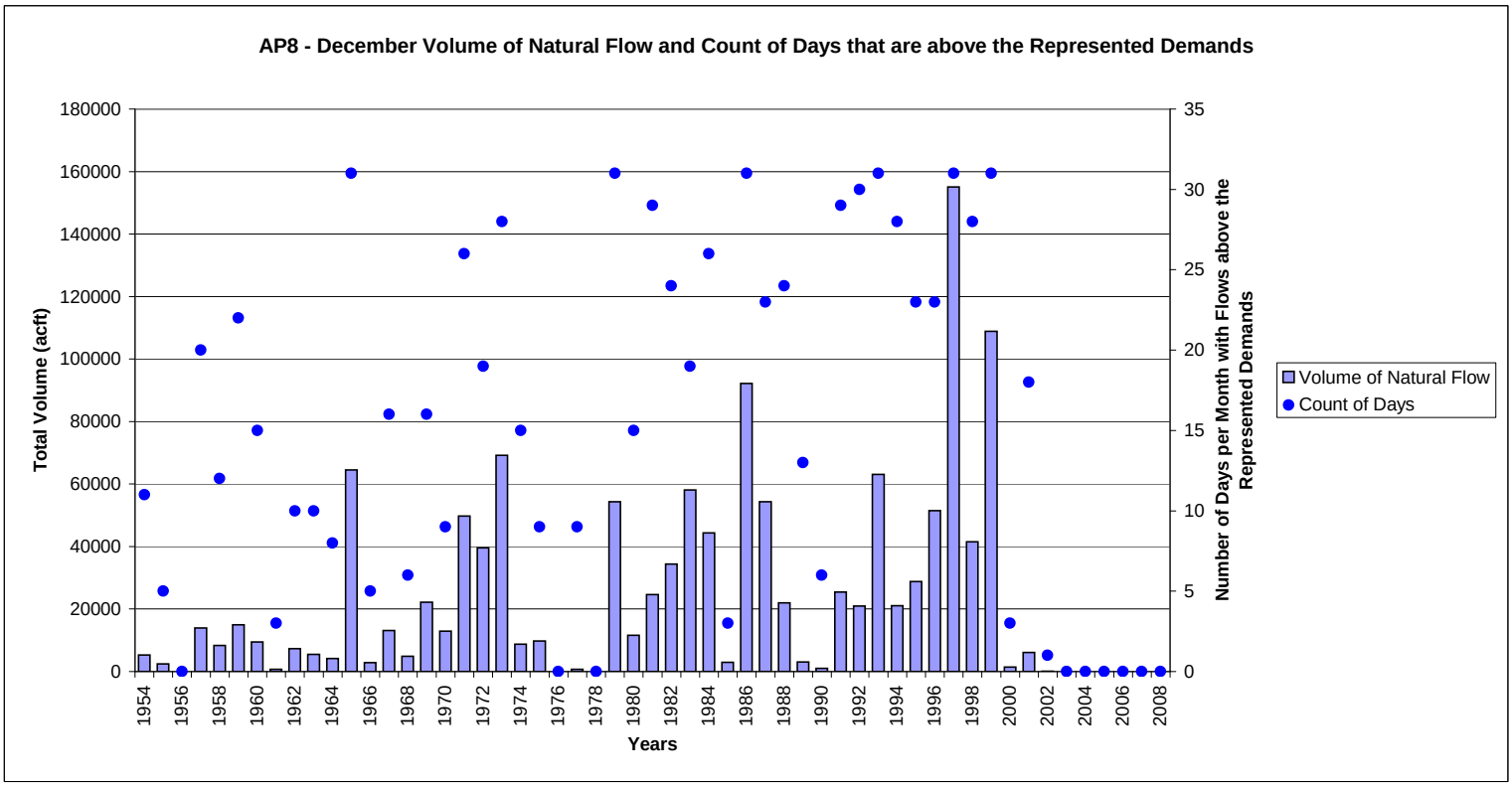

AP8 - July Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

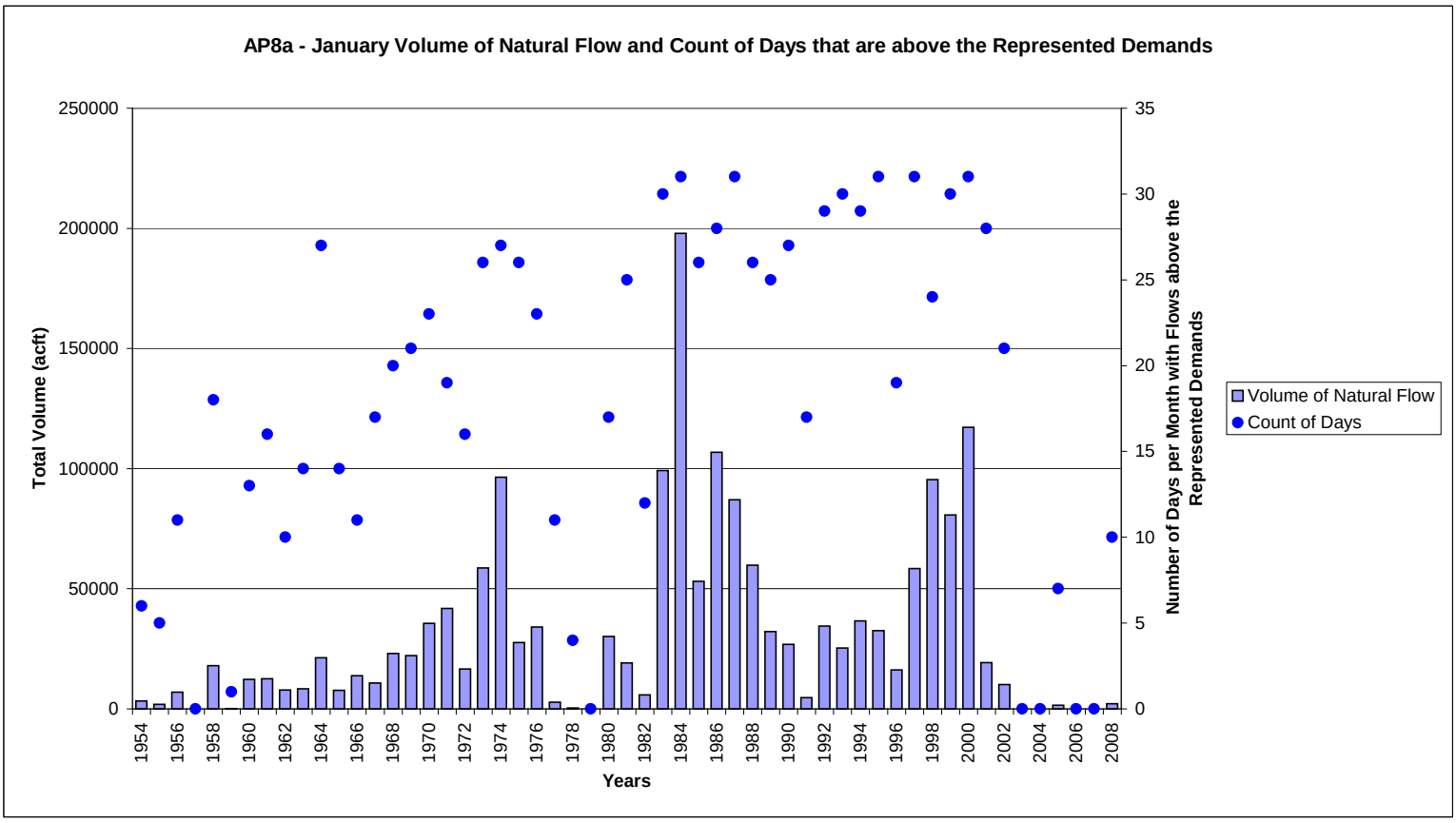

AP8 - August Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

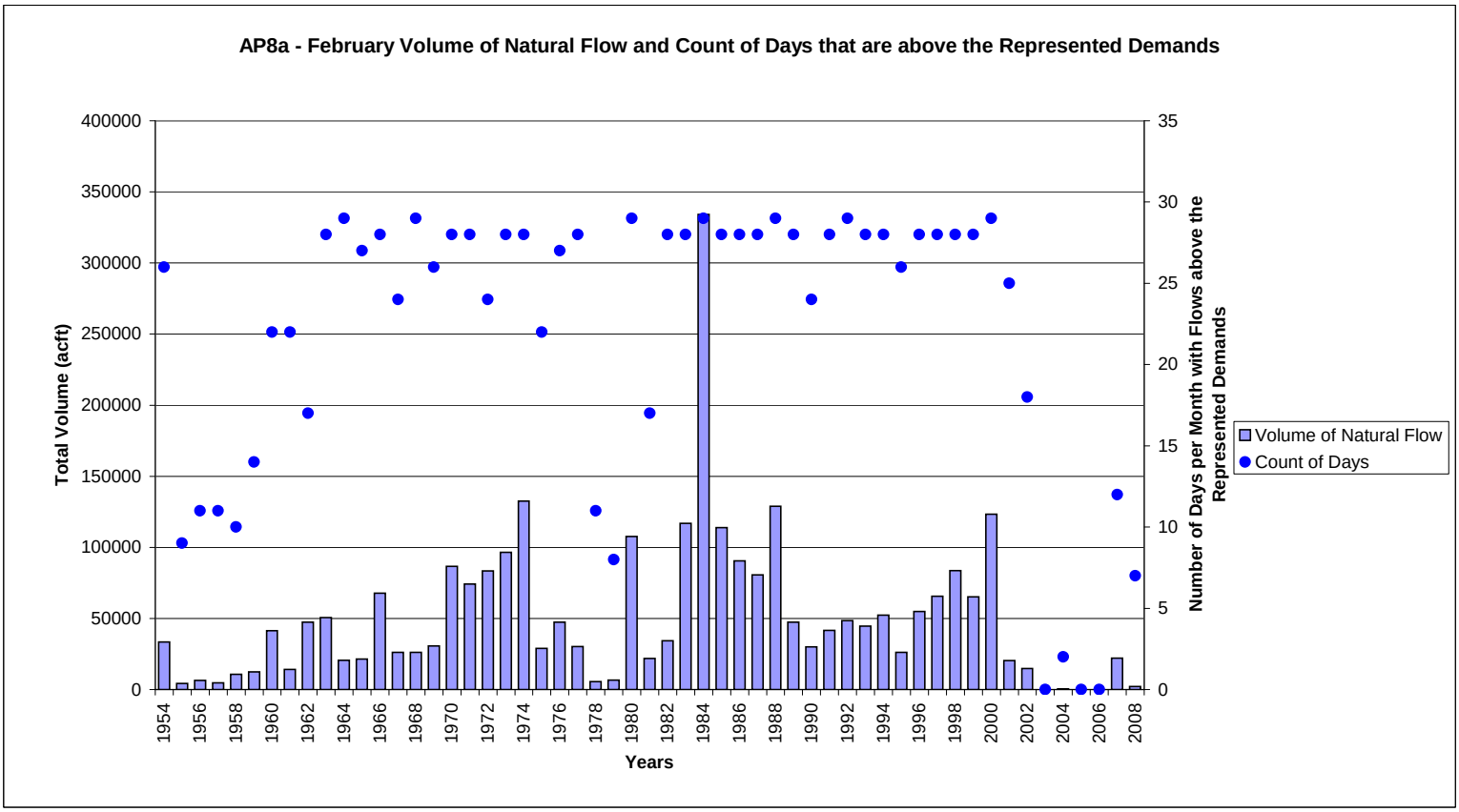

AP8 - September Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
50000
100000
150000
200000
250000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

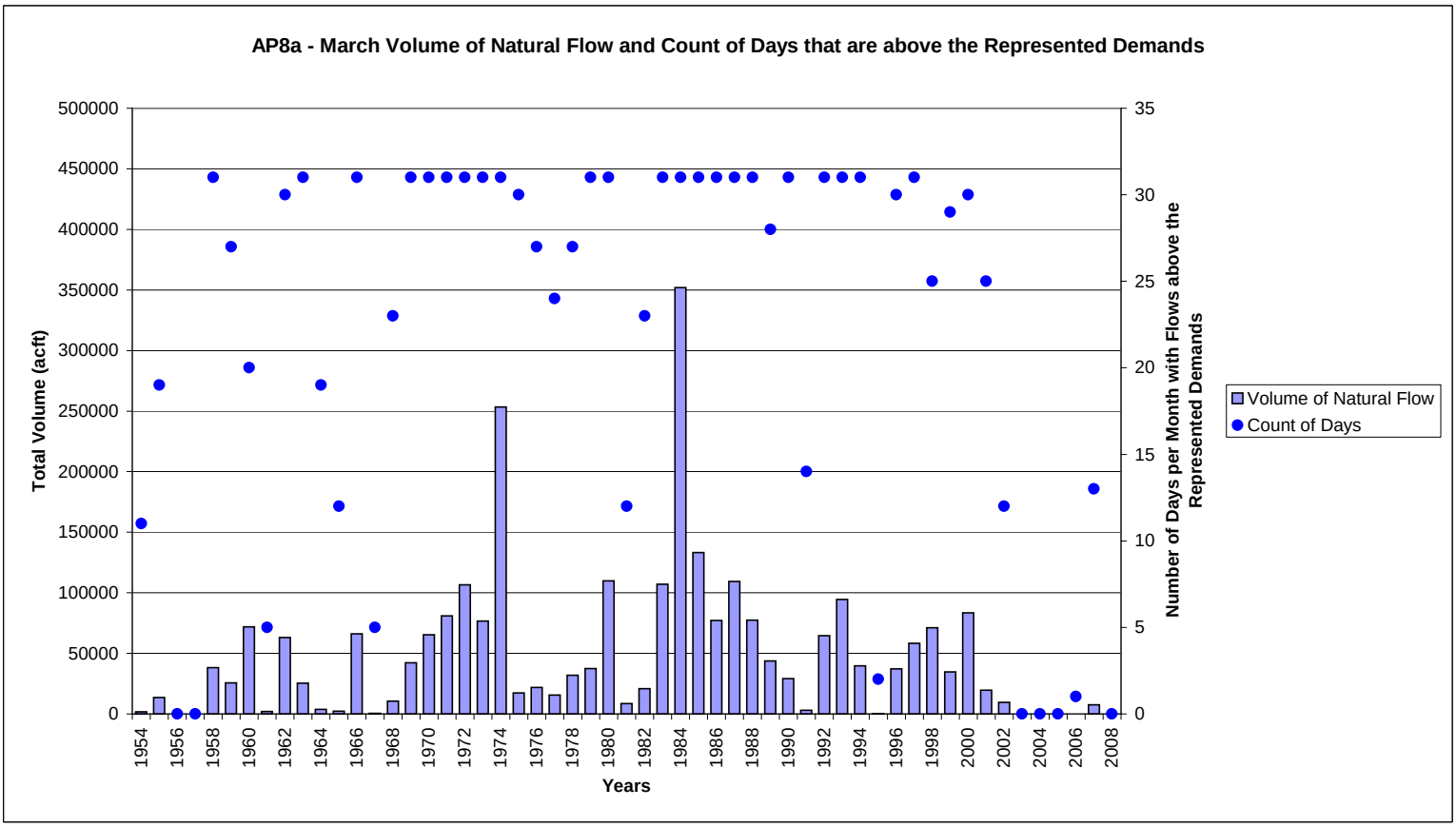

AP8 - October Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
50000
100000
150000
200000
250000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

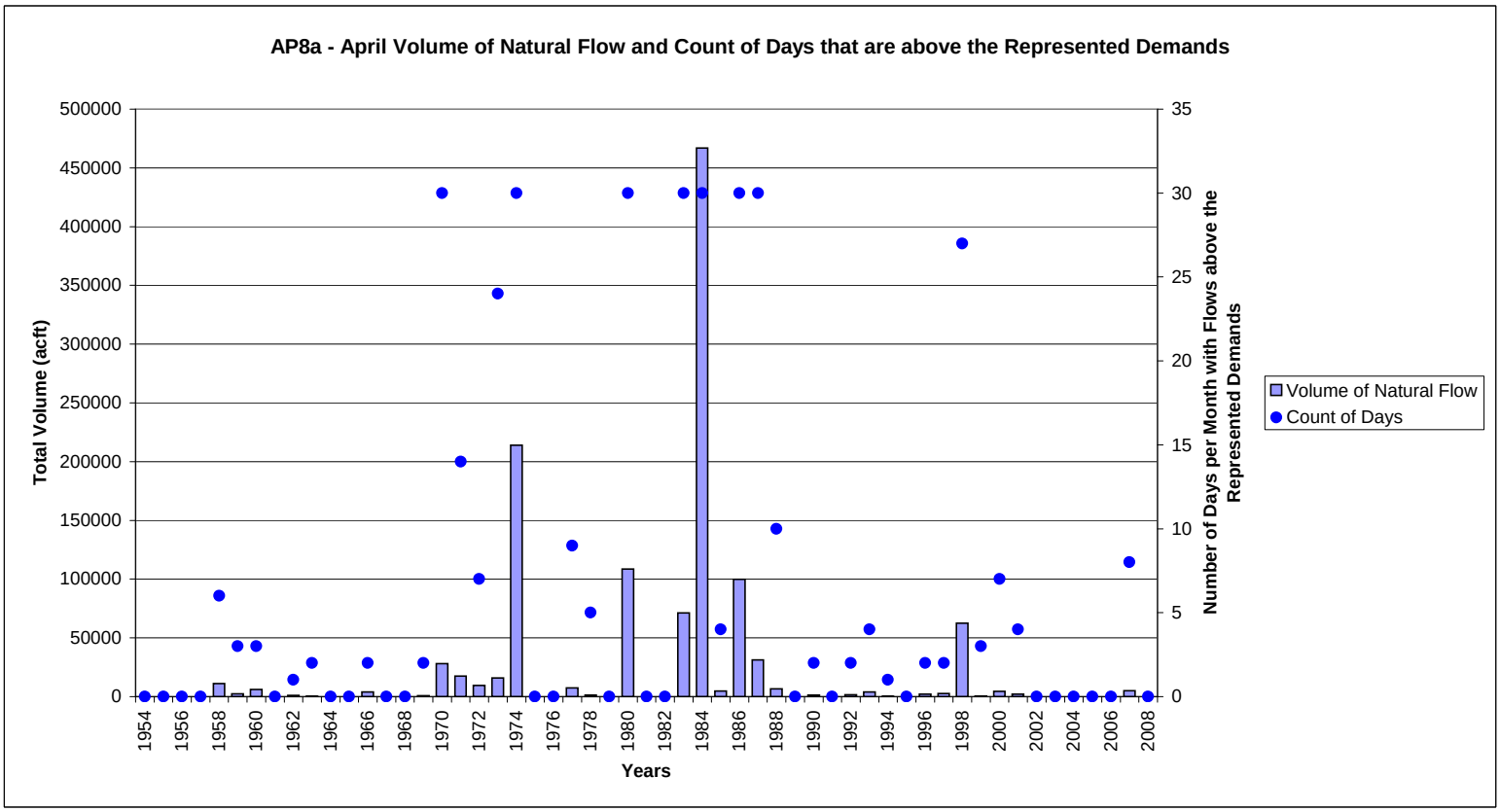

AP8 - November Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
20000
40000
60000
80000
100000
120000
140000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

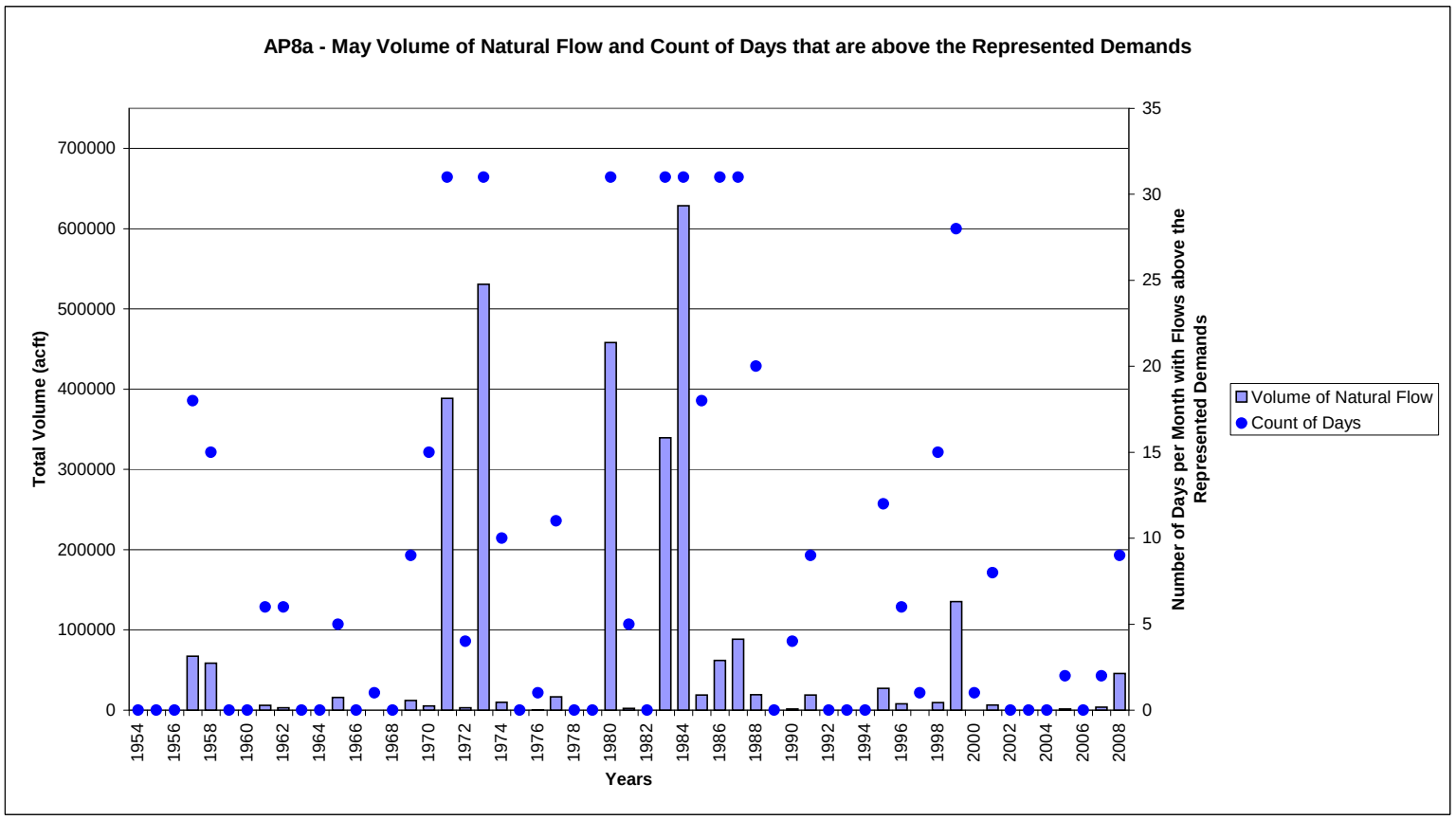

AP8 - December Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
20000
40000
60000
80000
100000
120000
140000
160000
180000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

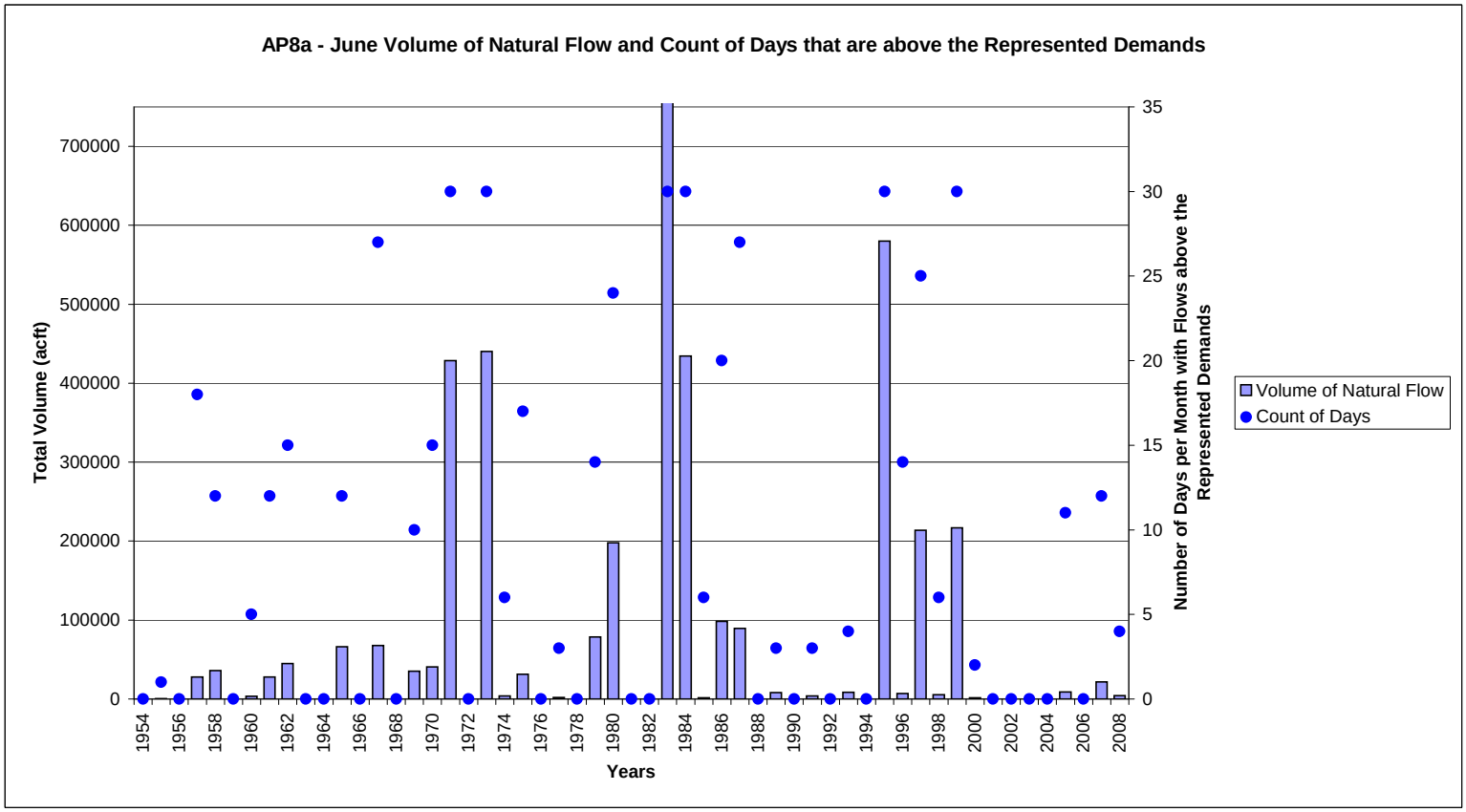

AP8a - January Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
250000
200000
150000
100000
50000
0
35
30
25
20
15
10
5
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

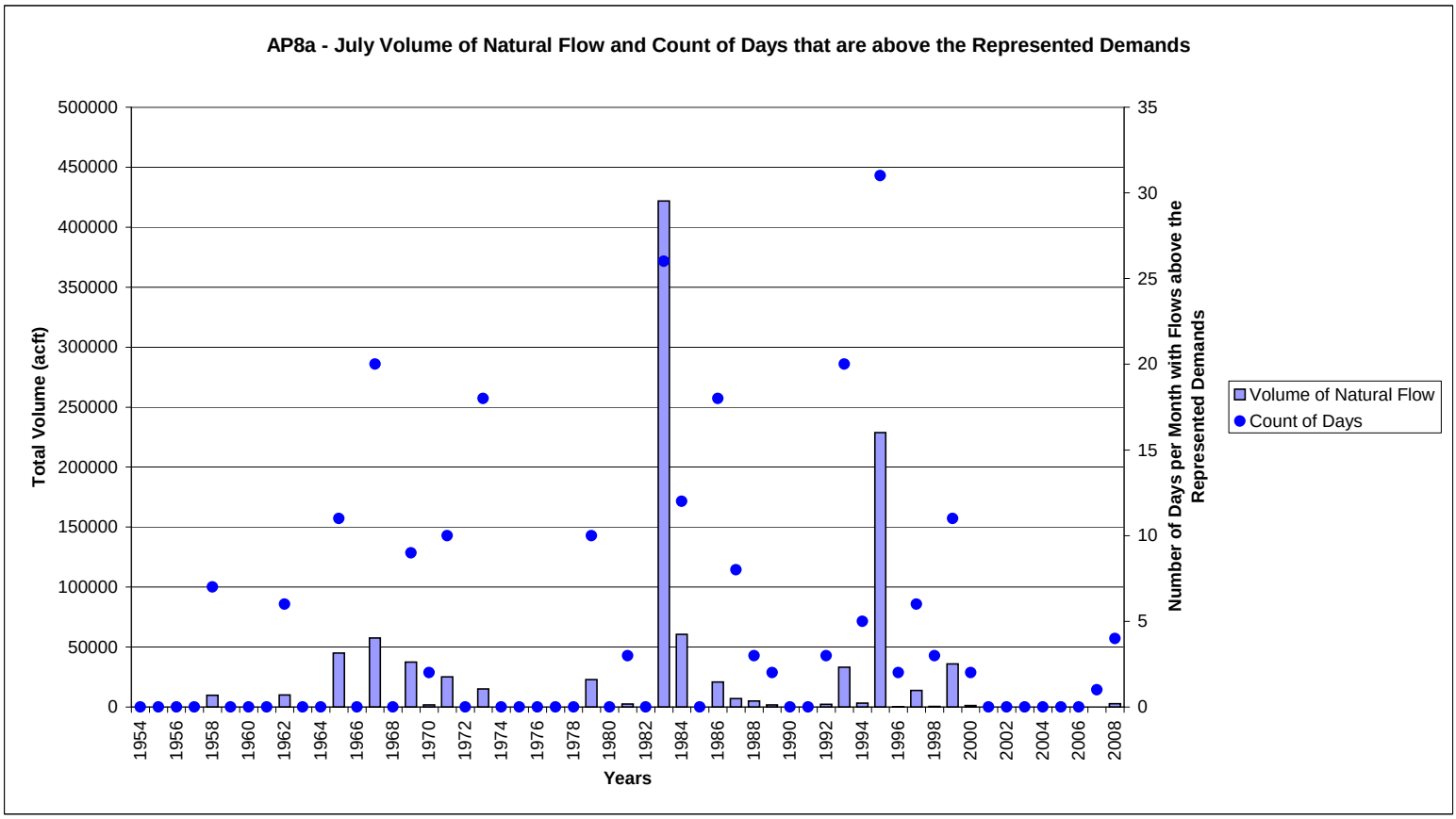

AP8a - February Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
400000
350000
300000
250000
200000
150000
100000
50000
0
35
30
25
20
15
10
5
0
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

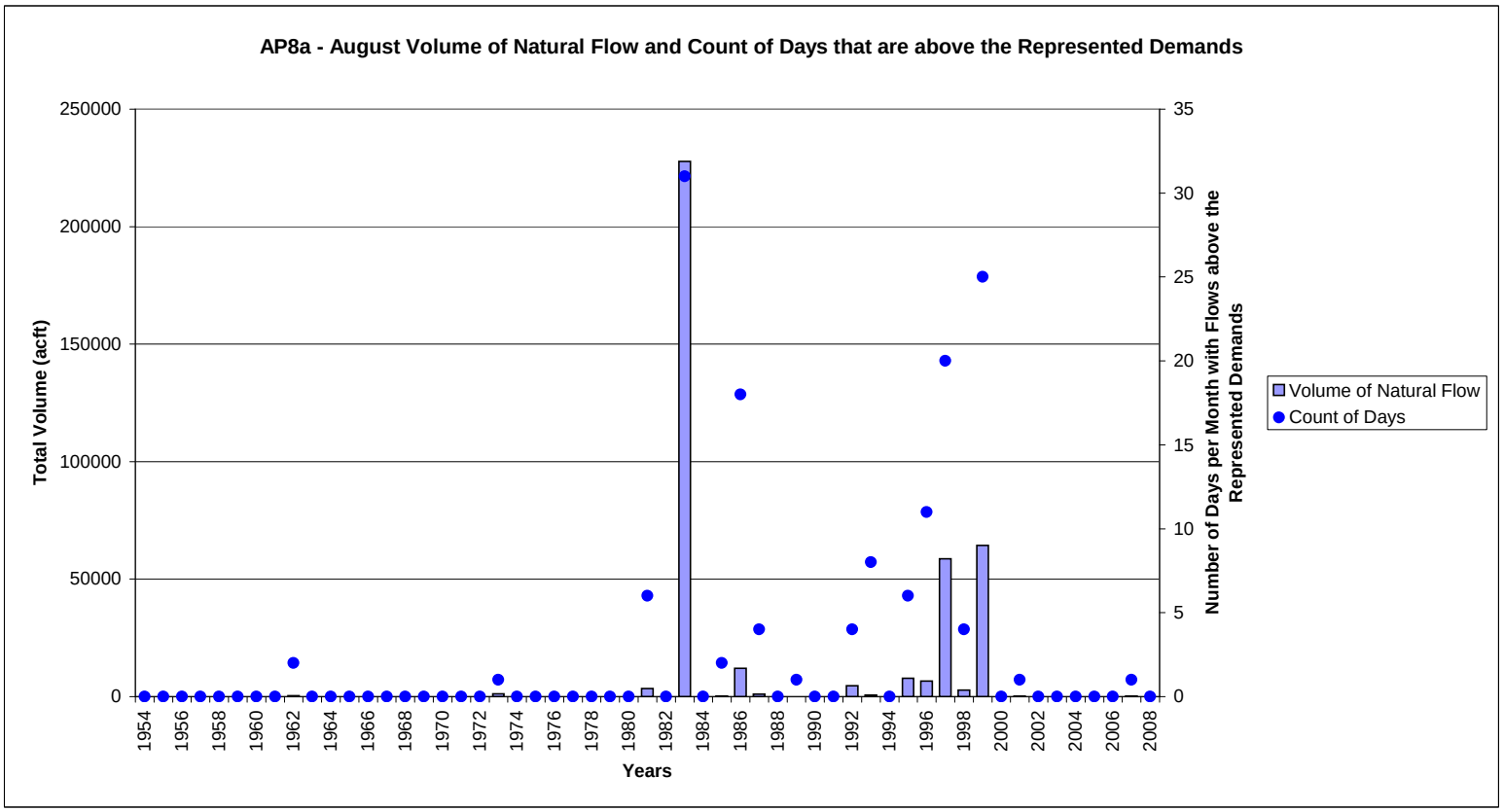

AP8a - March Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

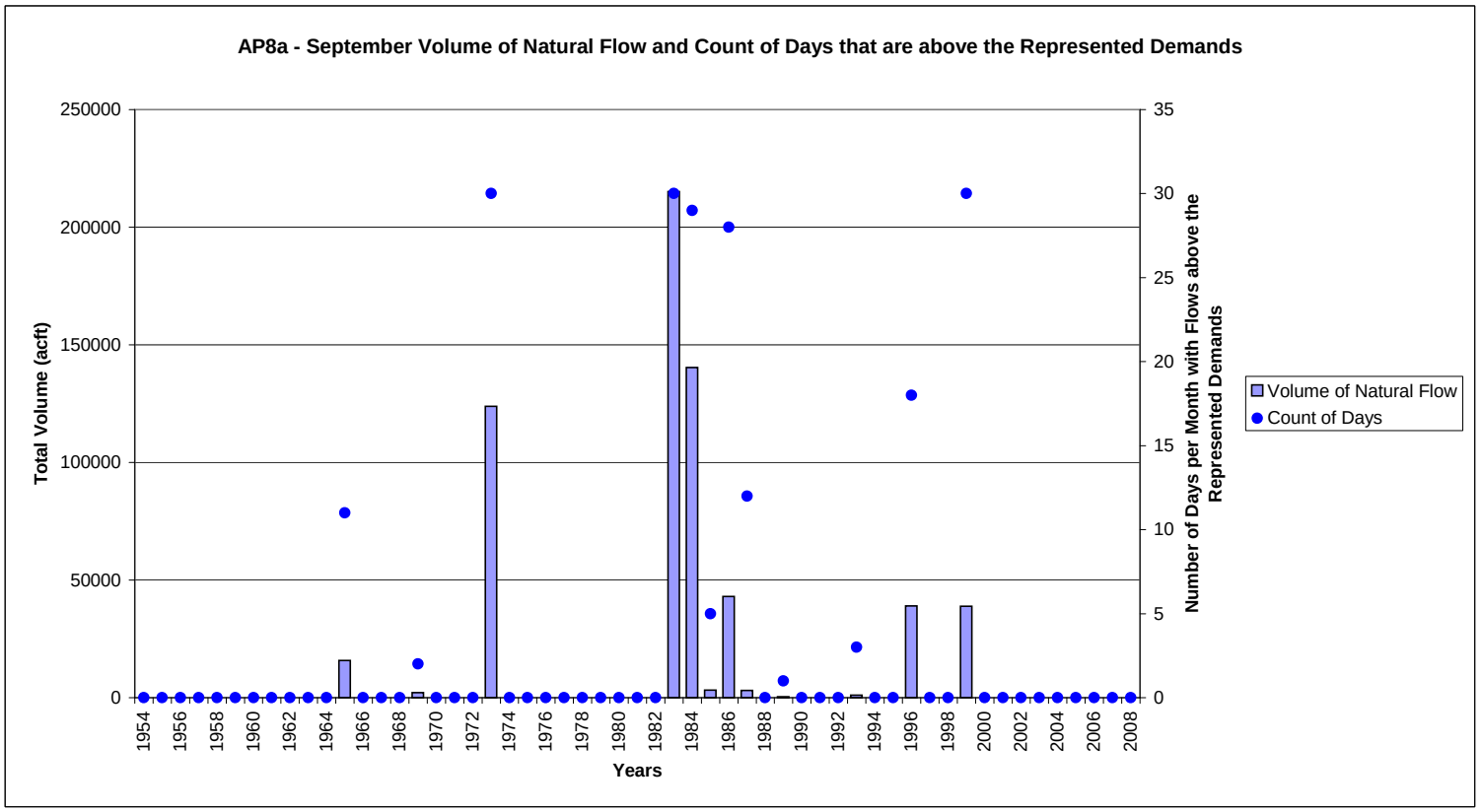

AP8a - April Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

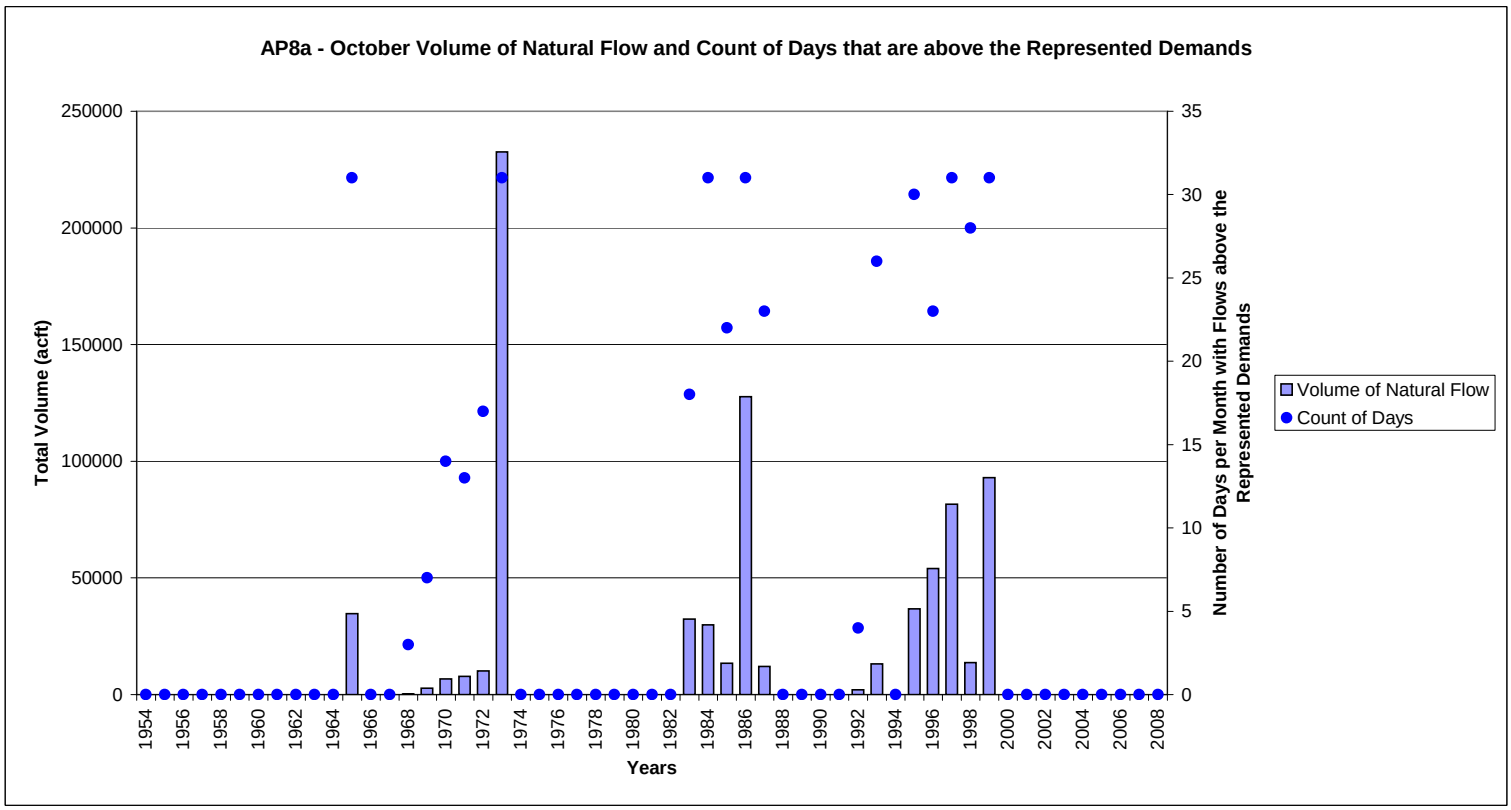

AP8a - May Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

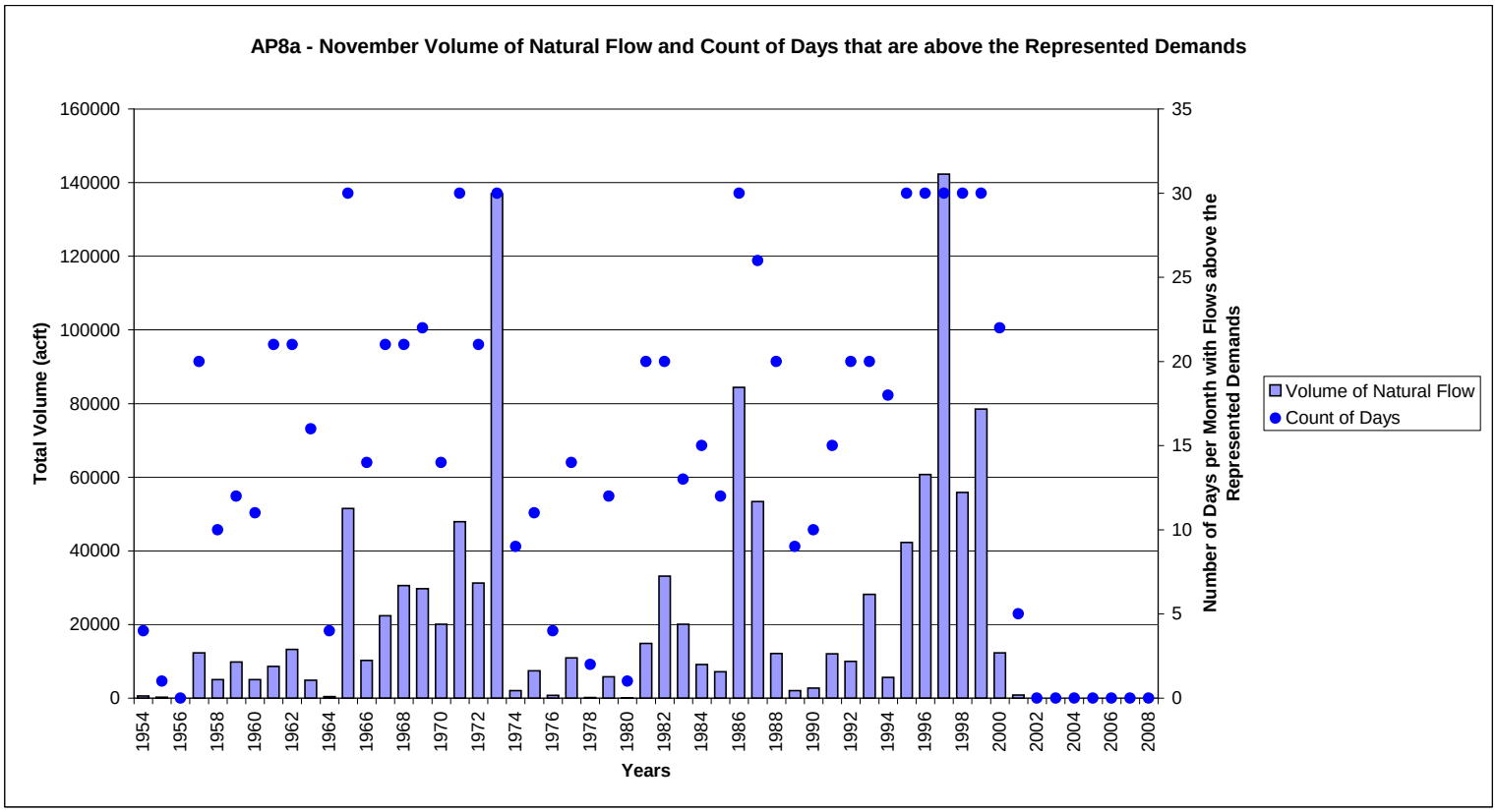

AP8a - June Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

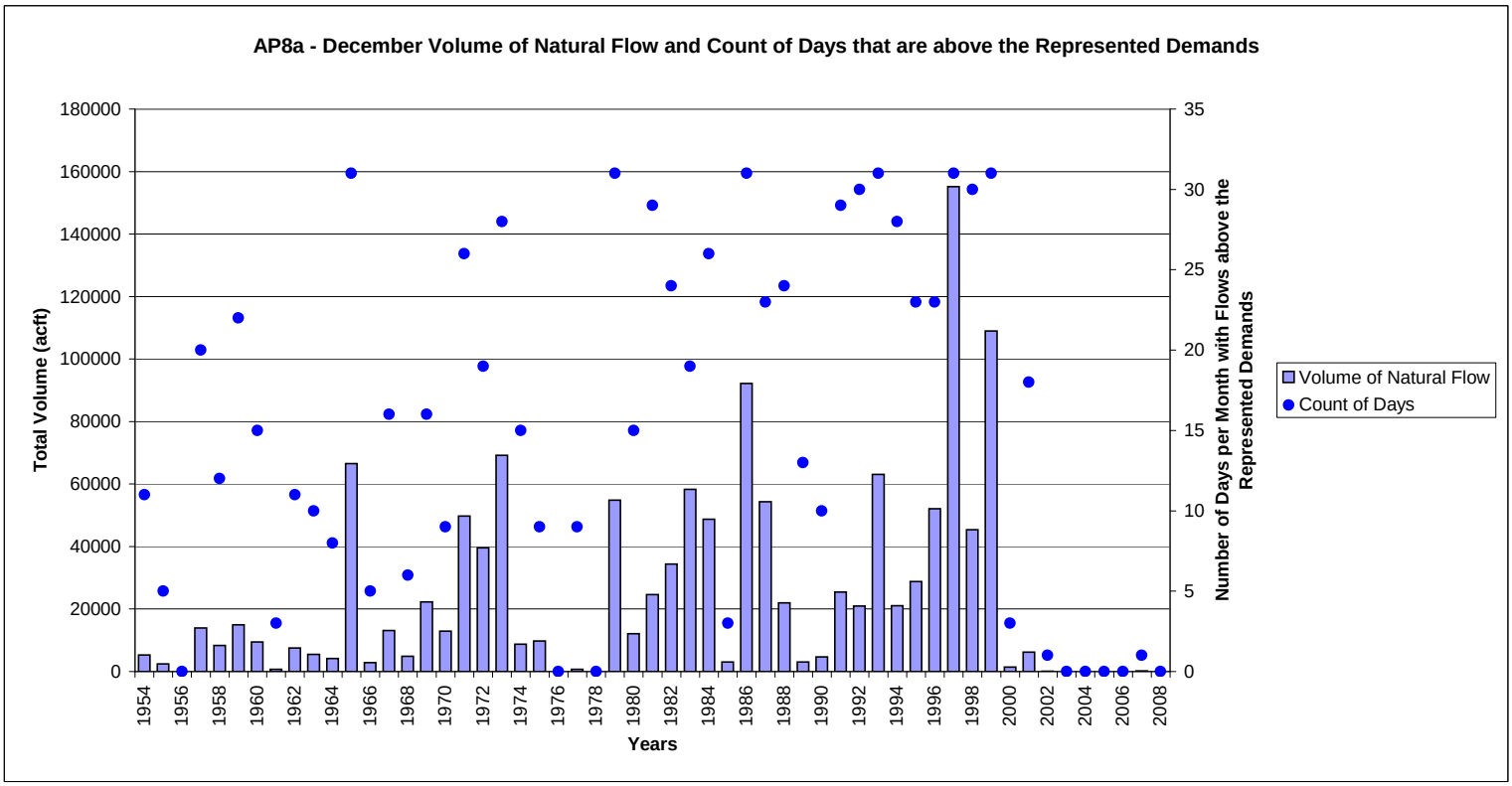

AP8a - July Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

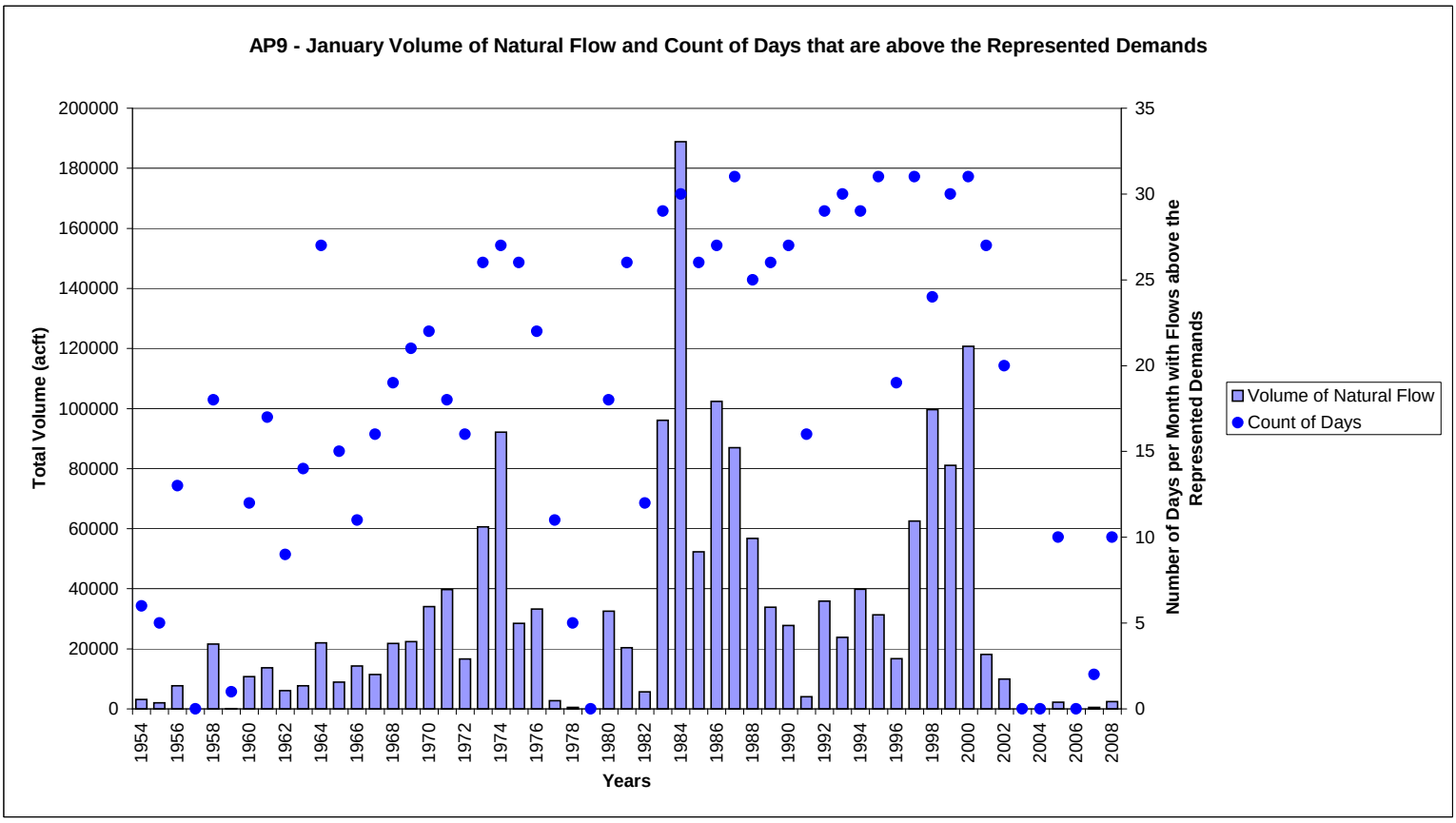

AP8a - August Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

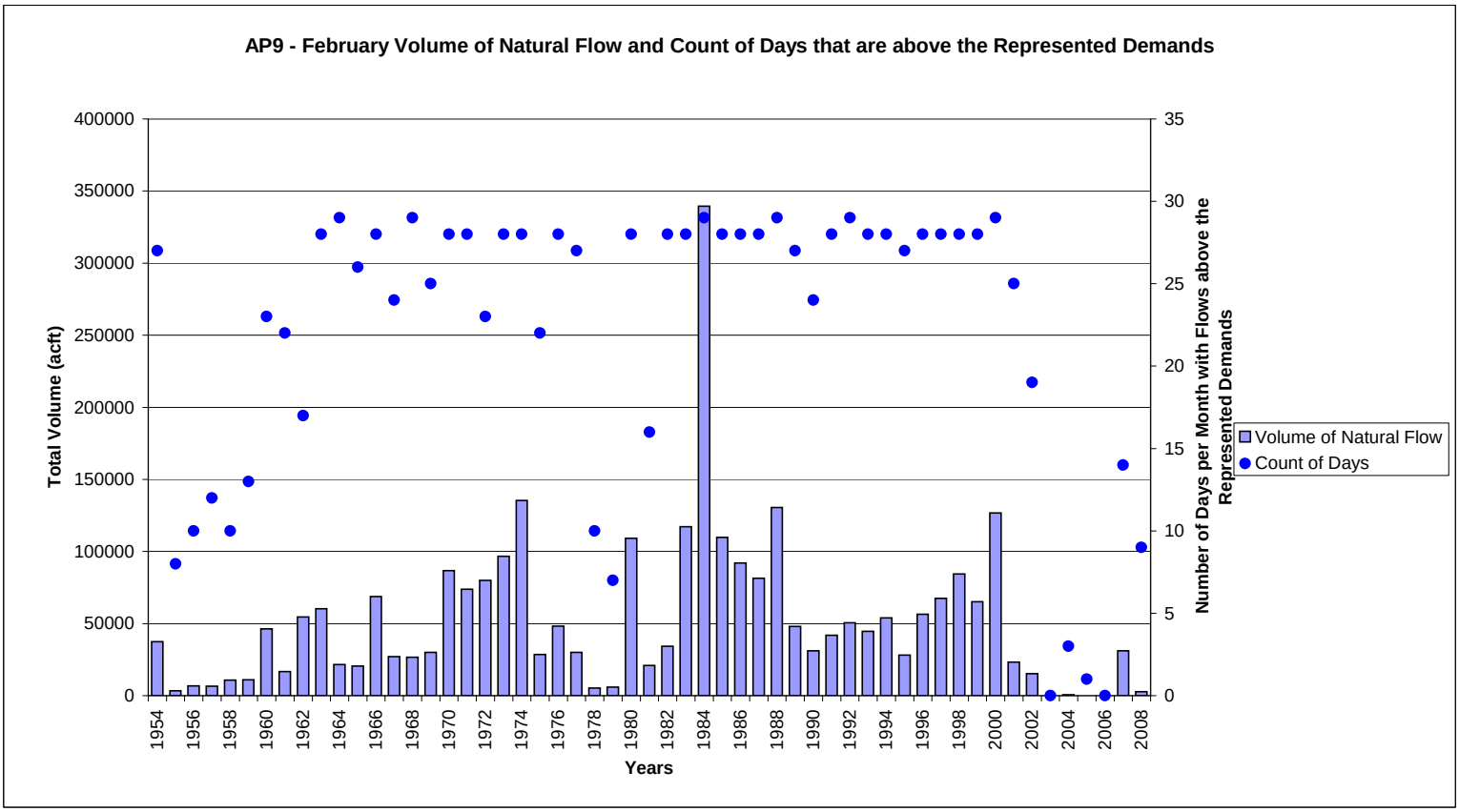

AP8a - September Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

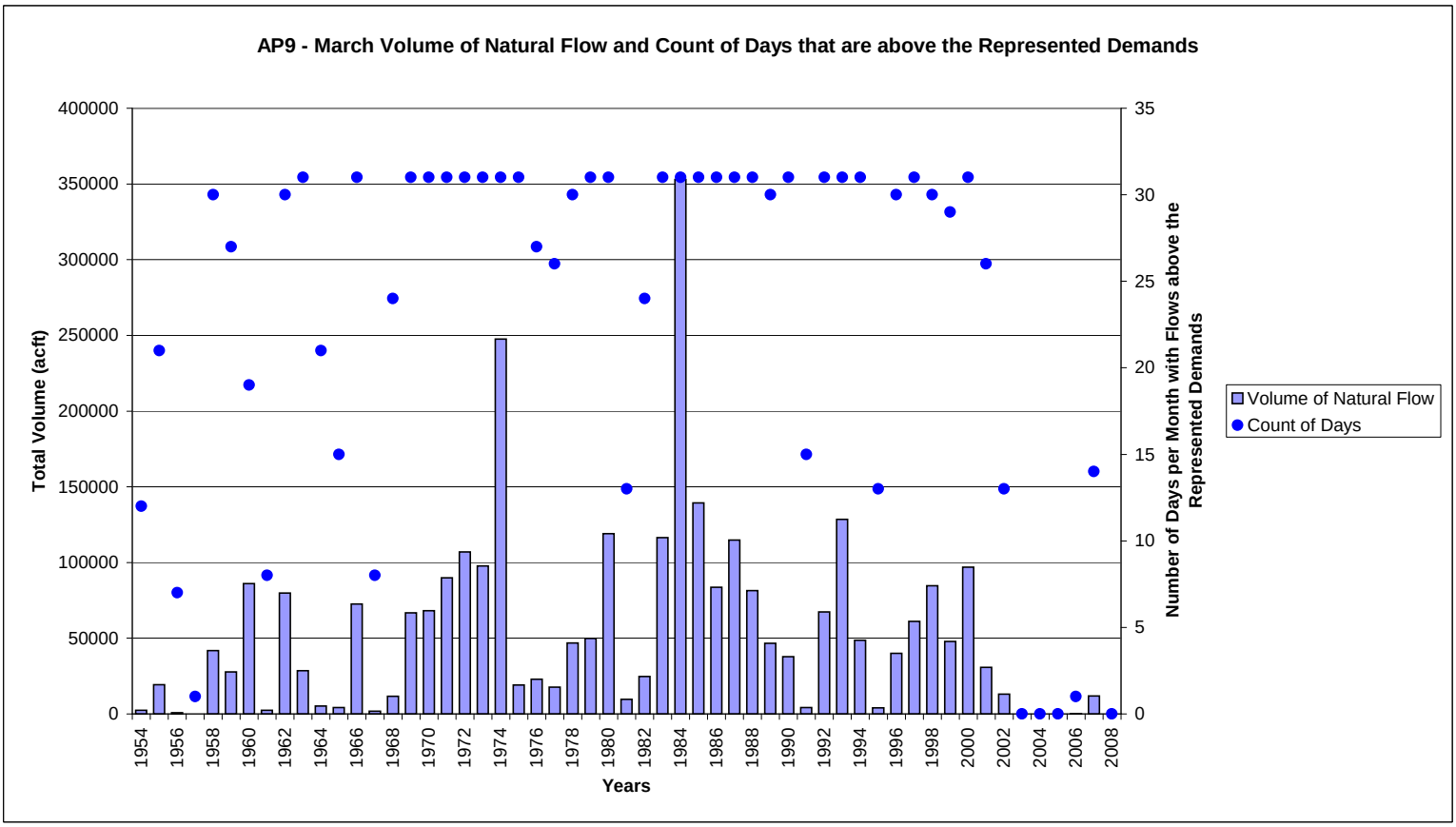

AP8a - October Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

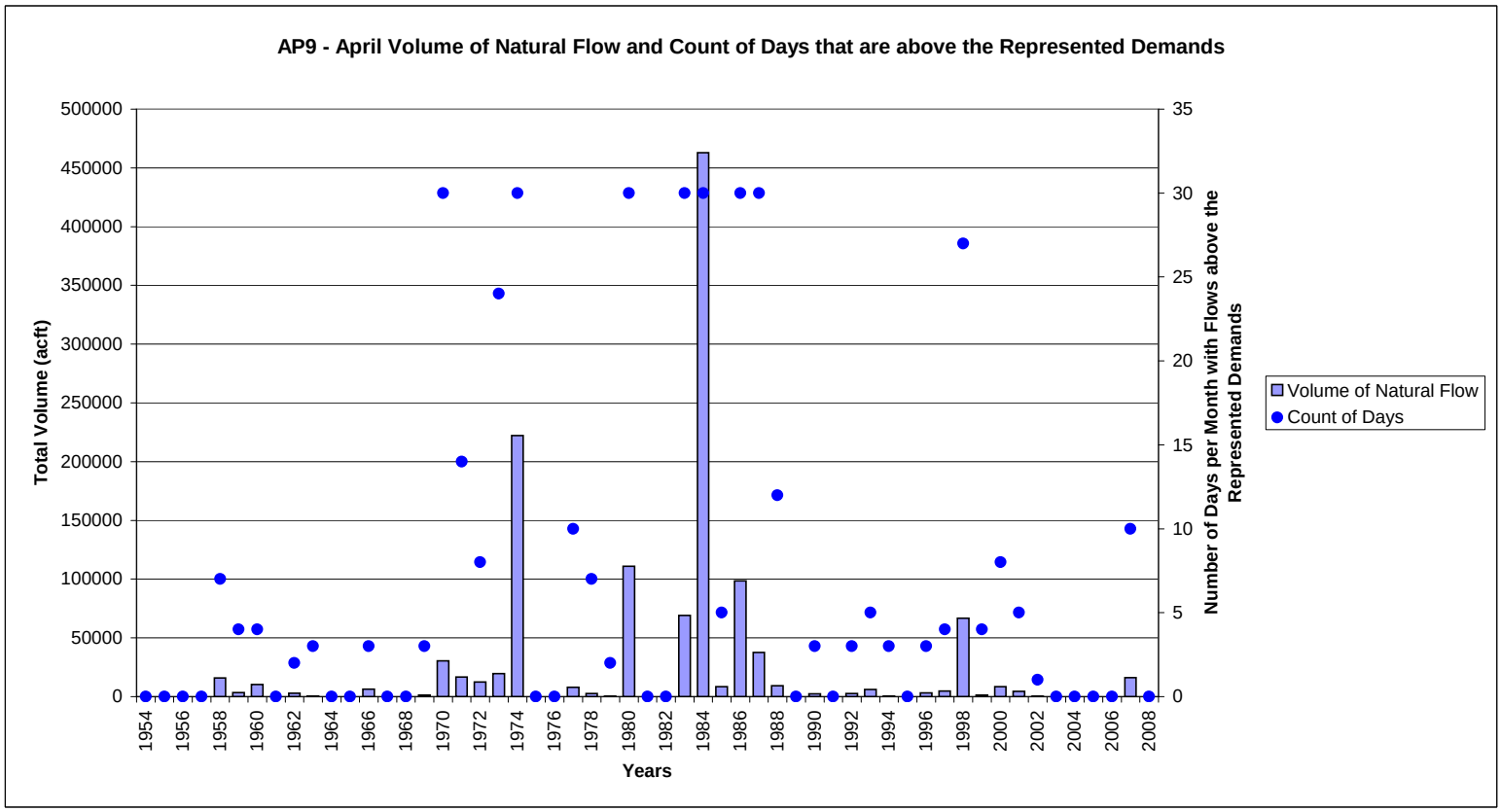

AP8a - November Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

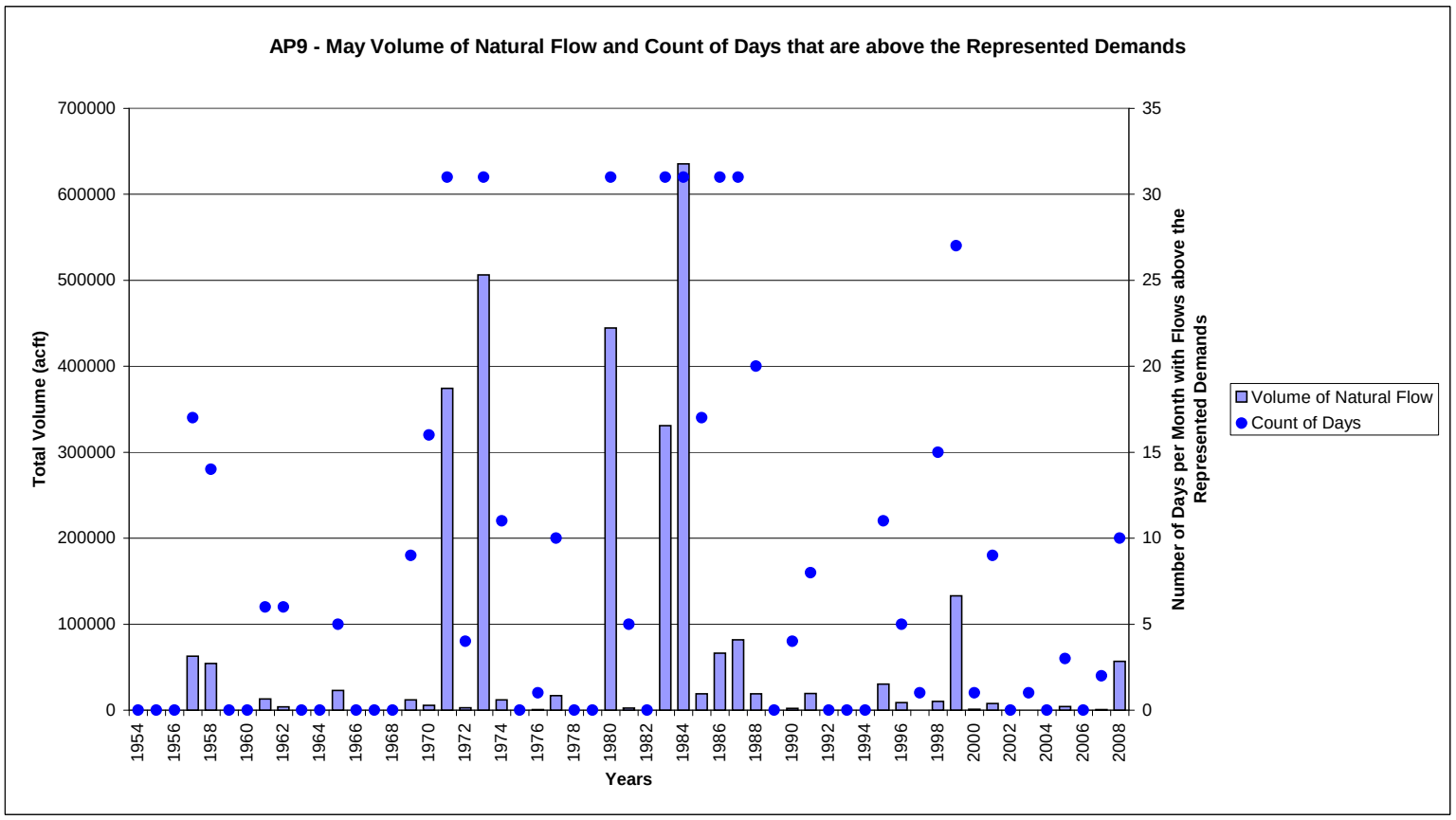

AP8a - December Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

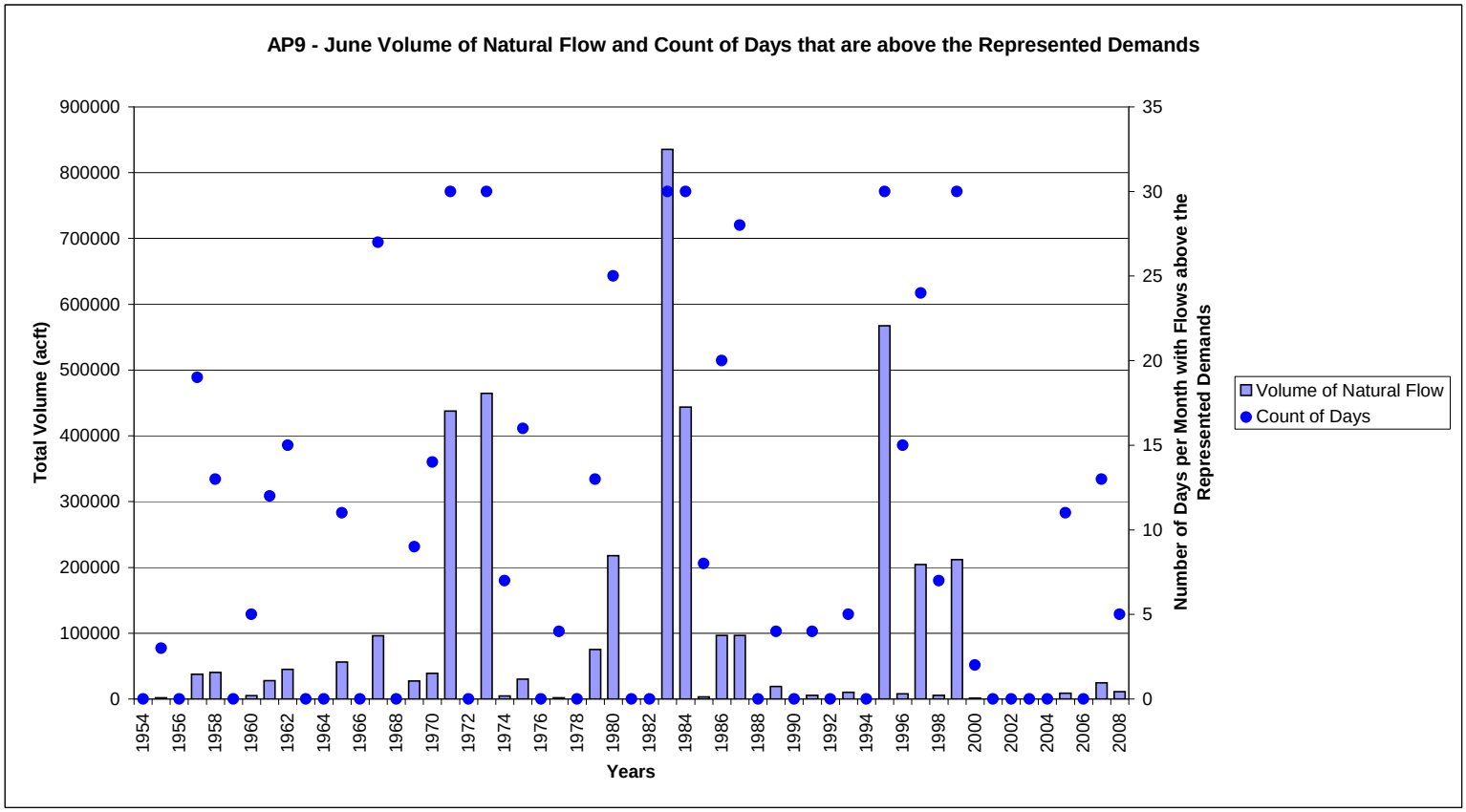

AP9 - January Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

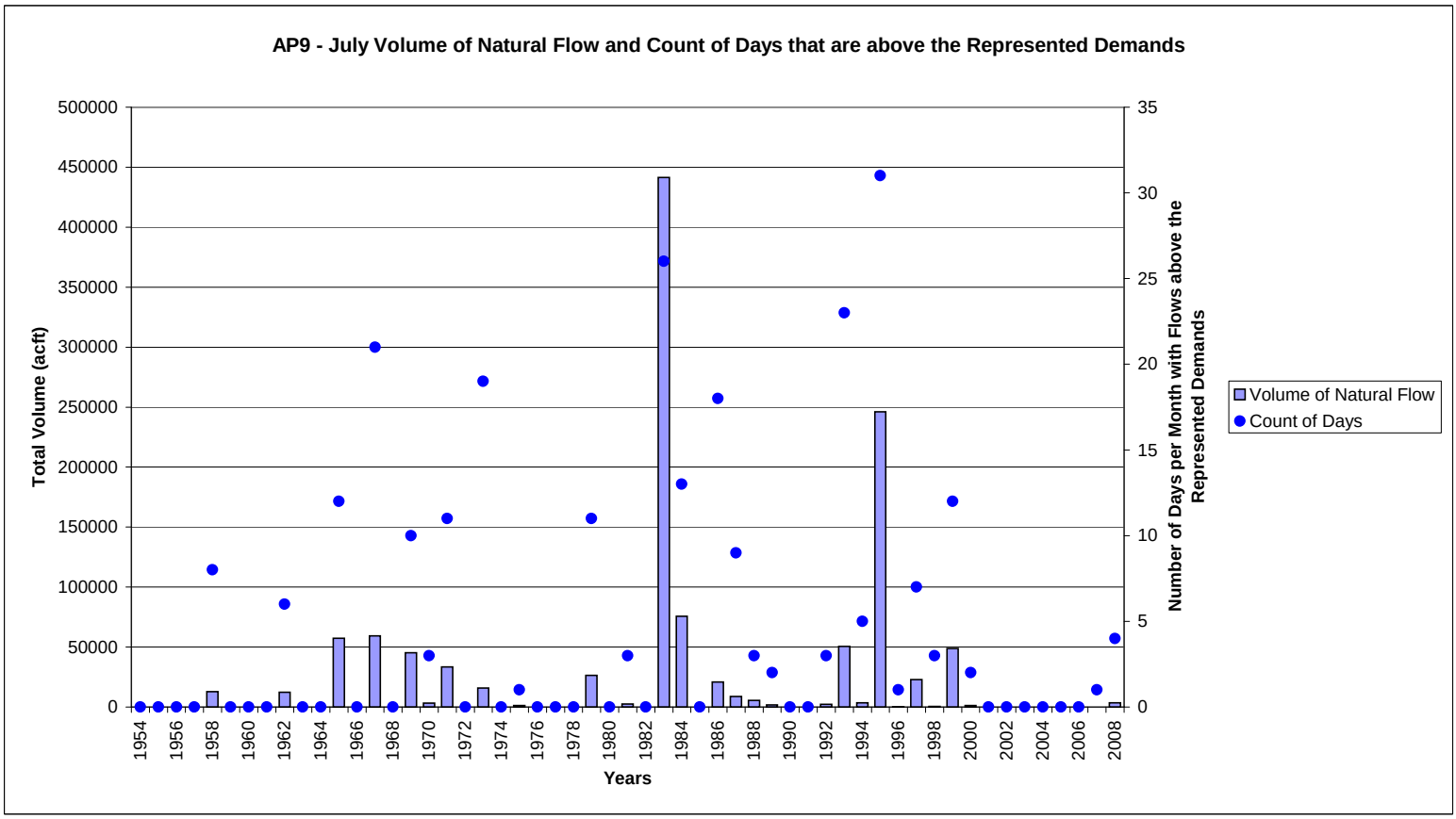

AP9 - February Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

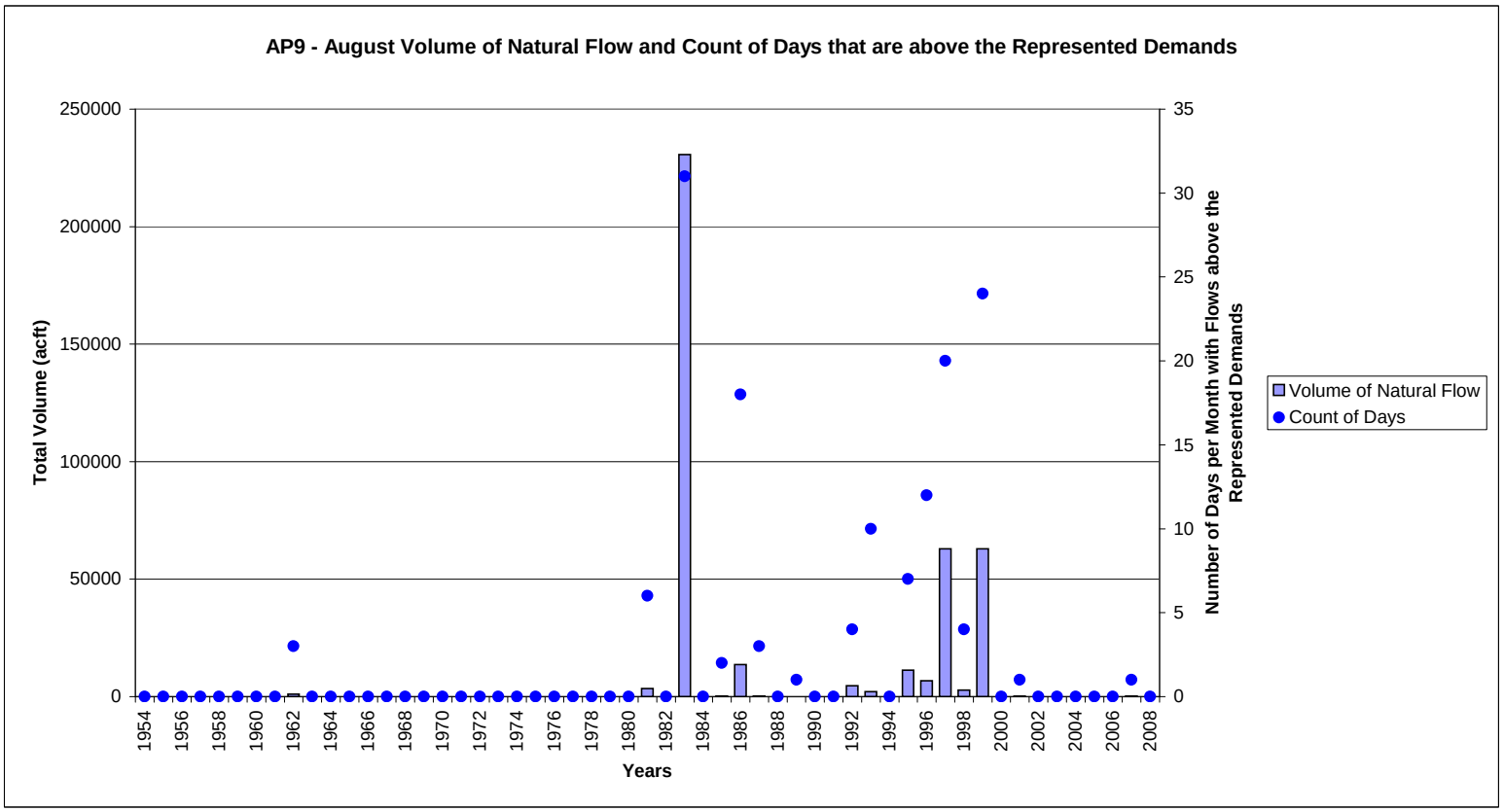

AP9 - March Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
50000
100000
150000
200000
250000
300000
350000
400000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

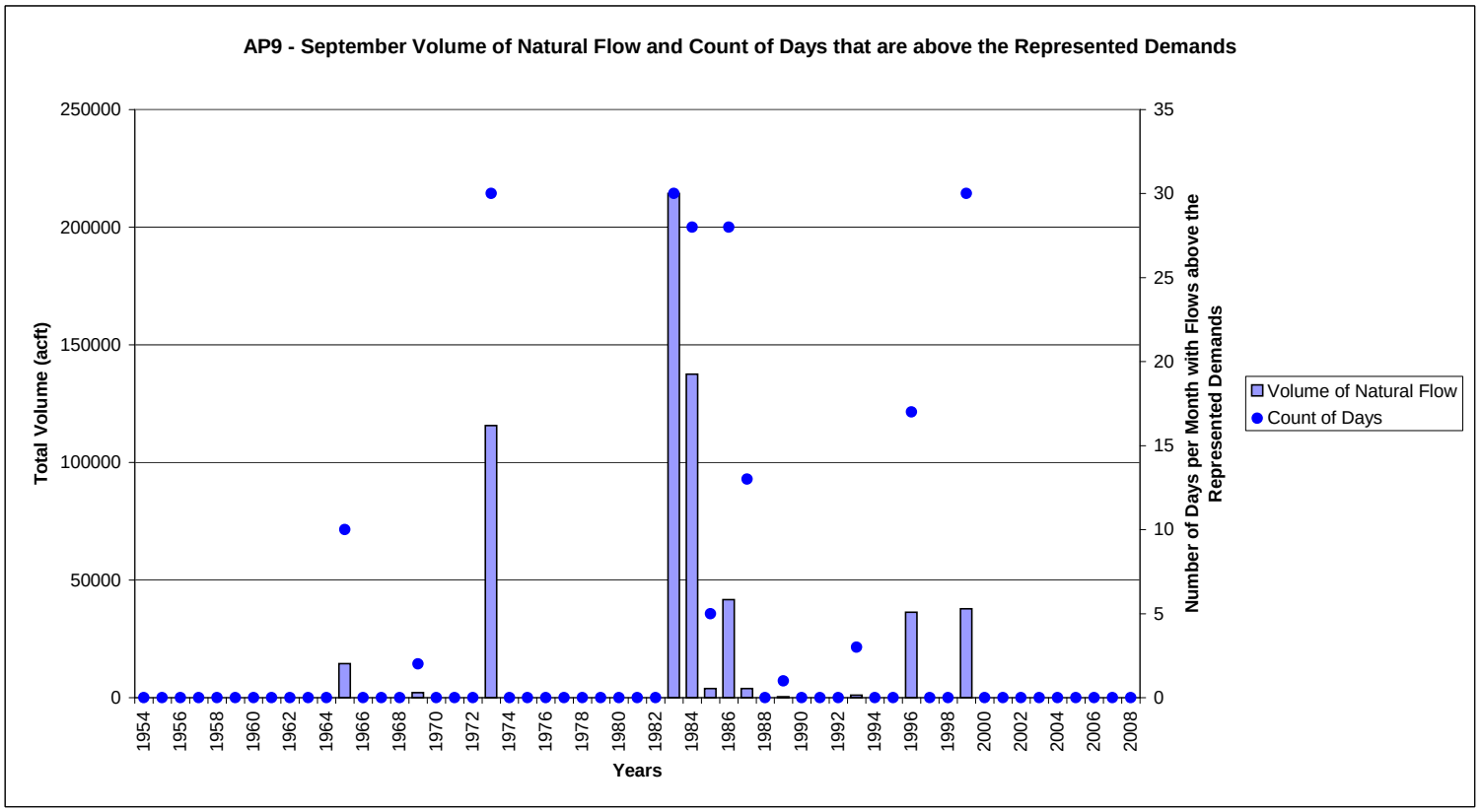

AP9 - April Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
50000
100000
150000
200000
250000
300000
350000
400000
450000
500000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

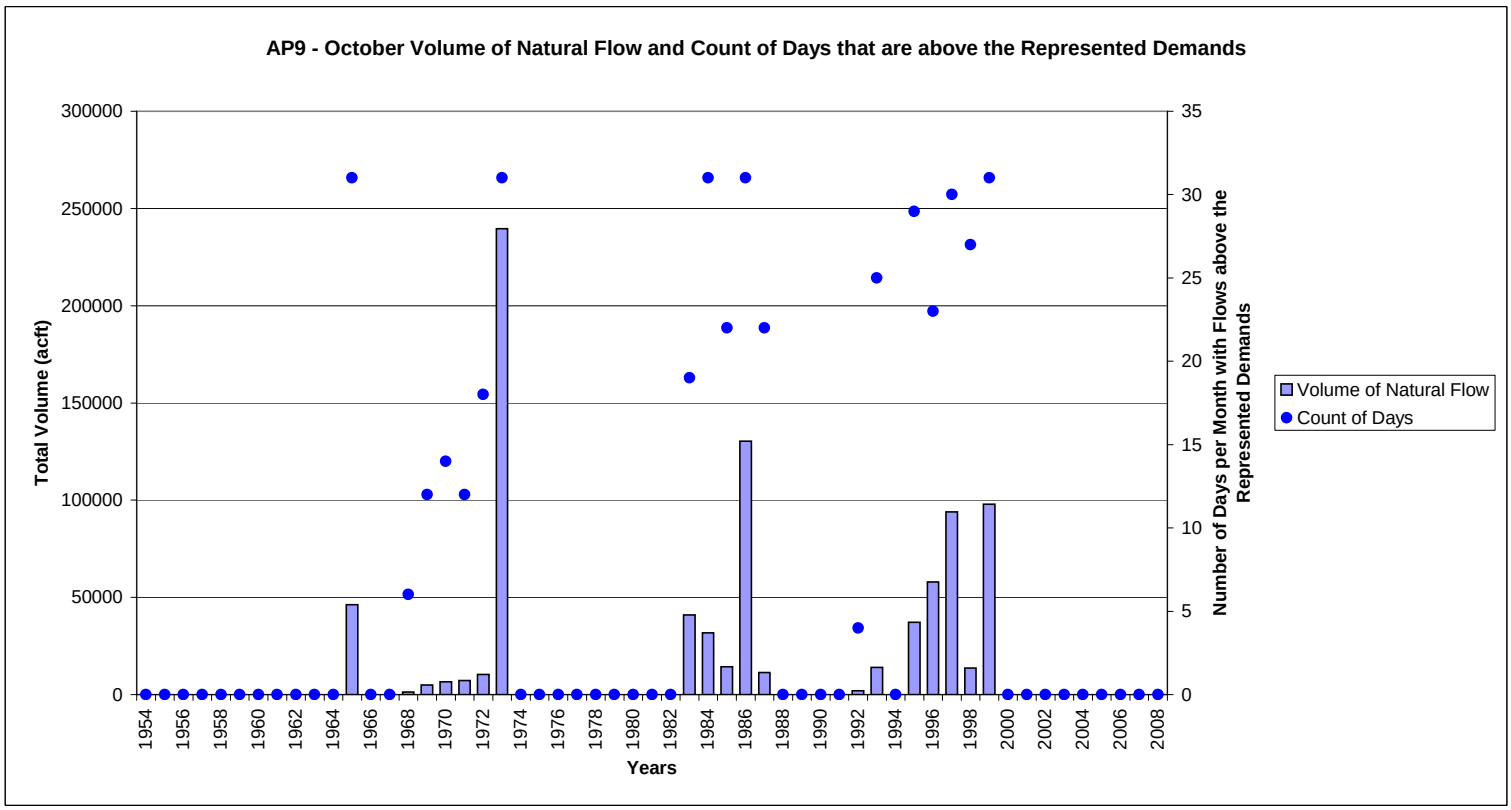

AP9 - May Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

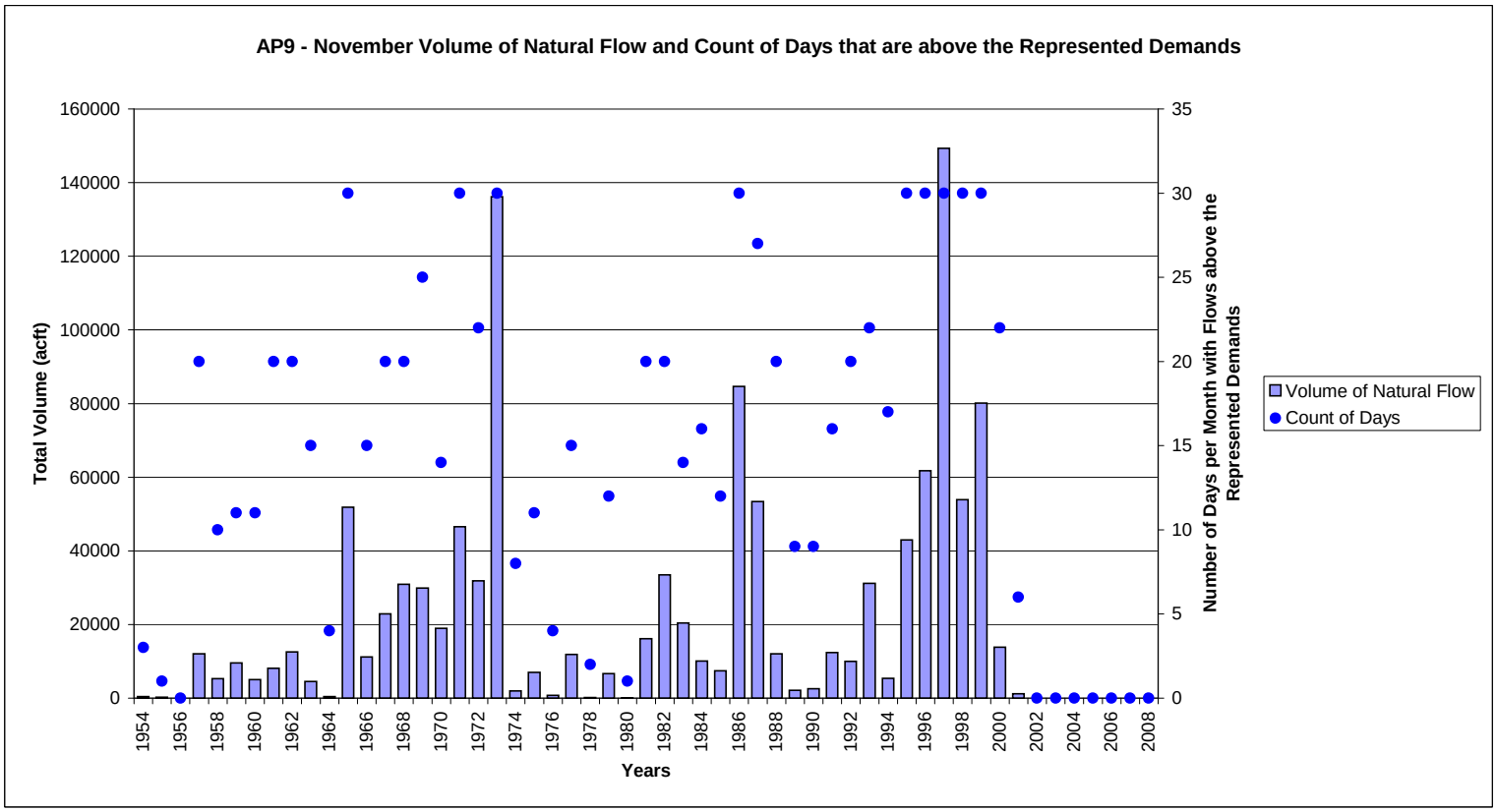

AP9 - June Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

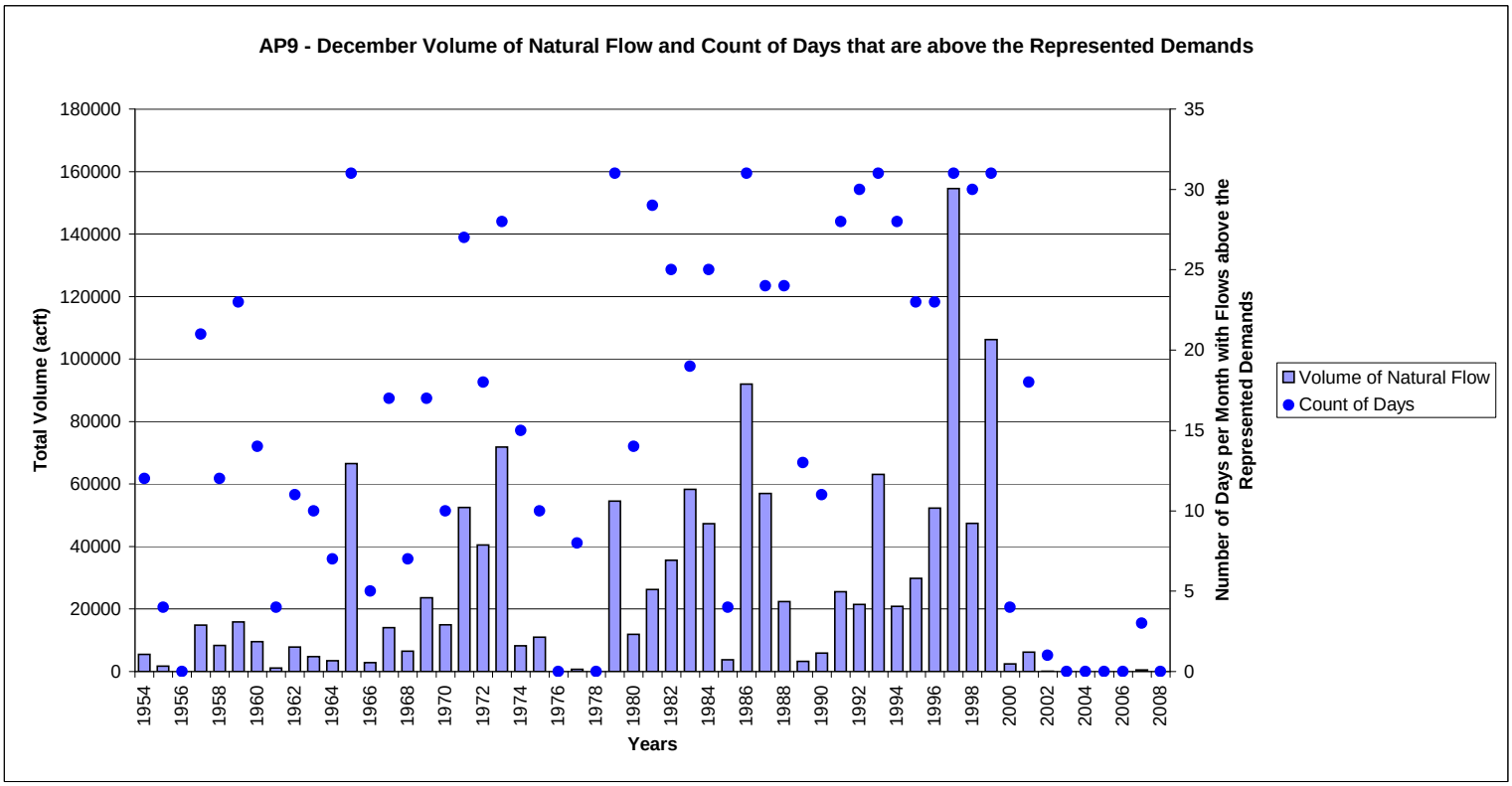

AP9 - July Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

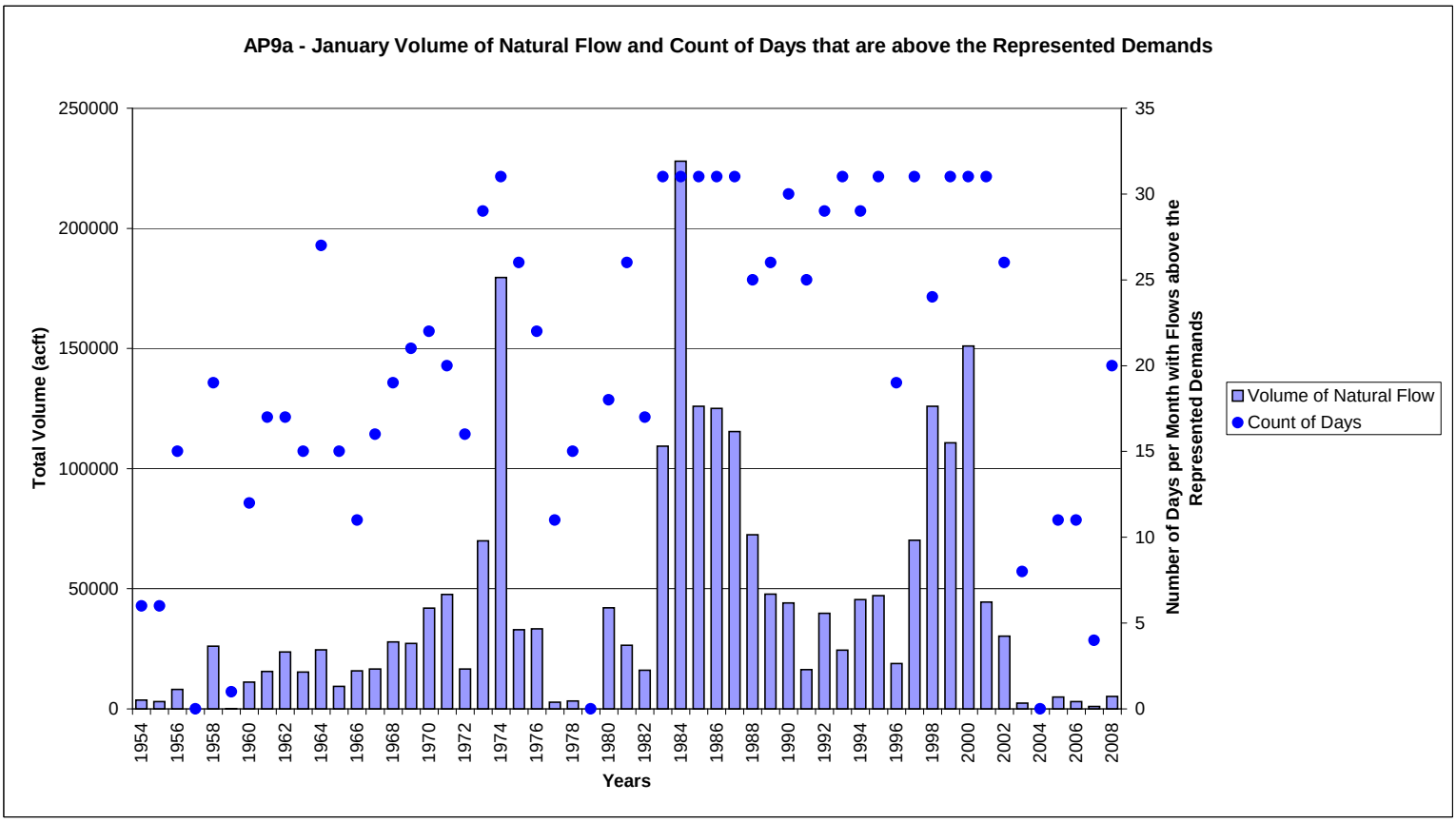

AP9 - August Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

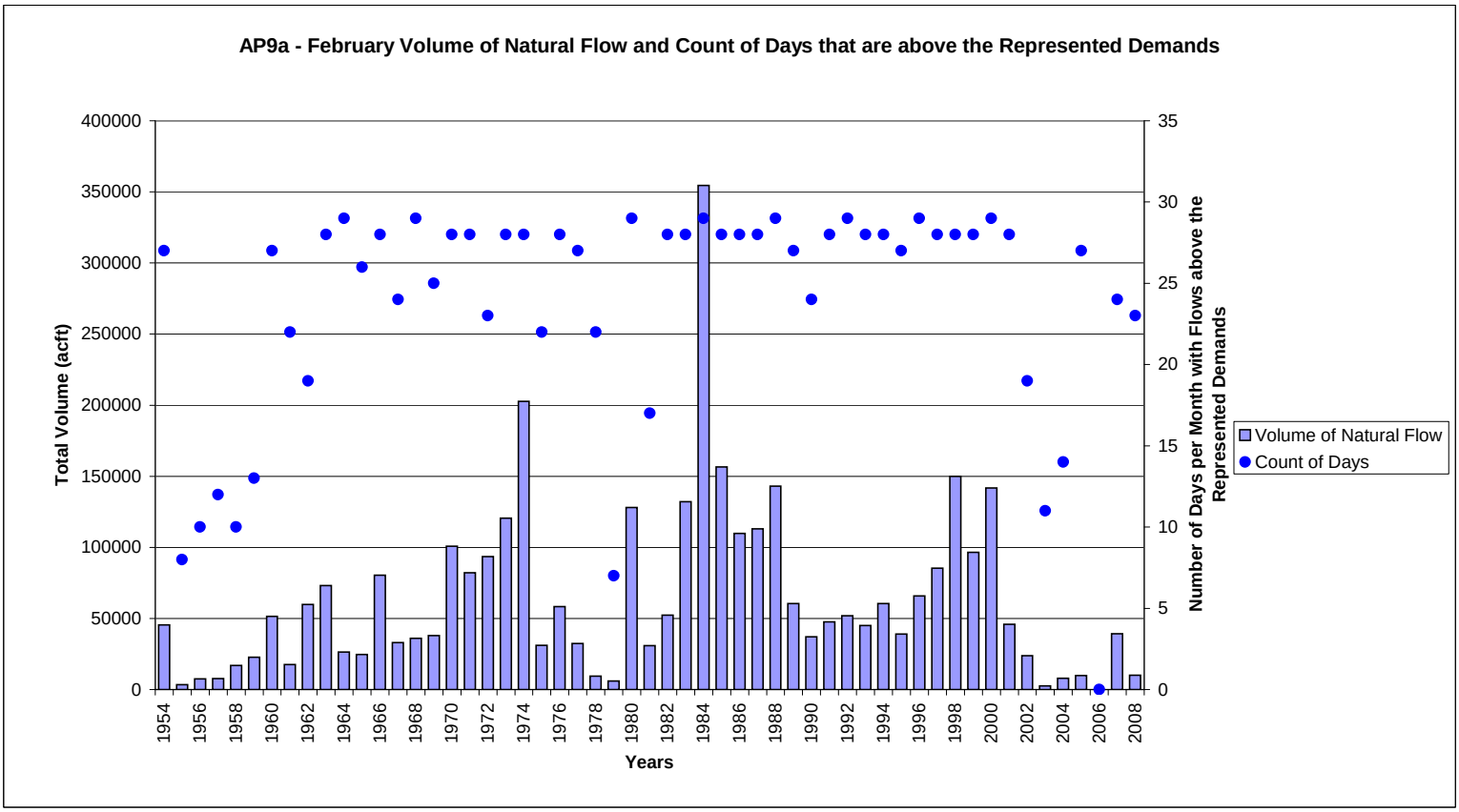

AP9 - September Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

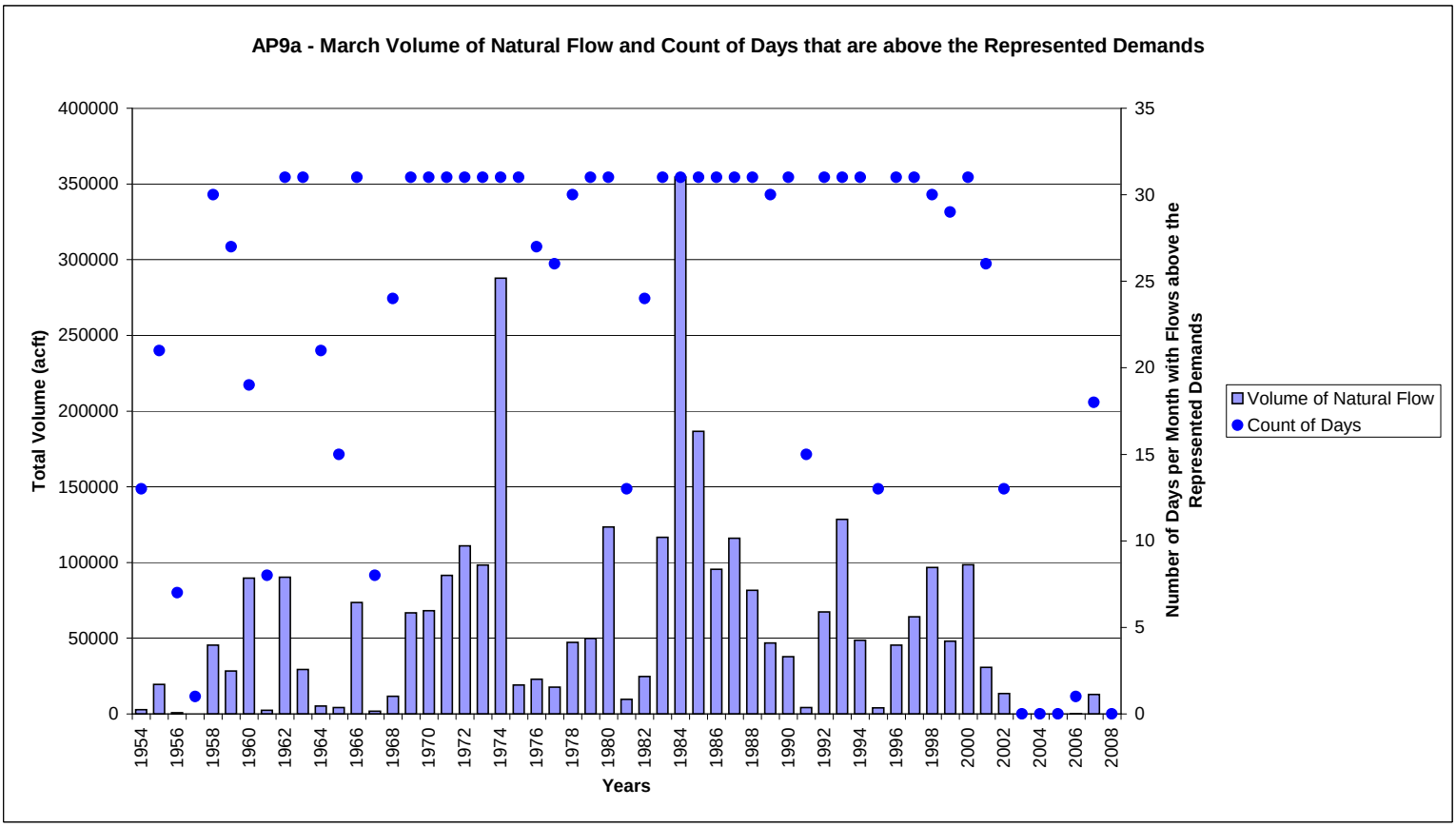

AP9 - October Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

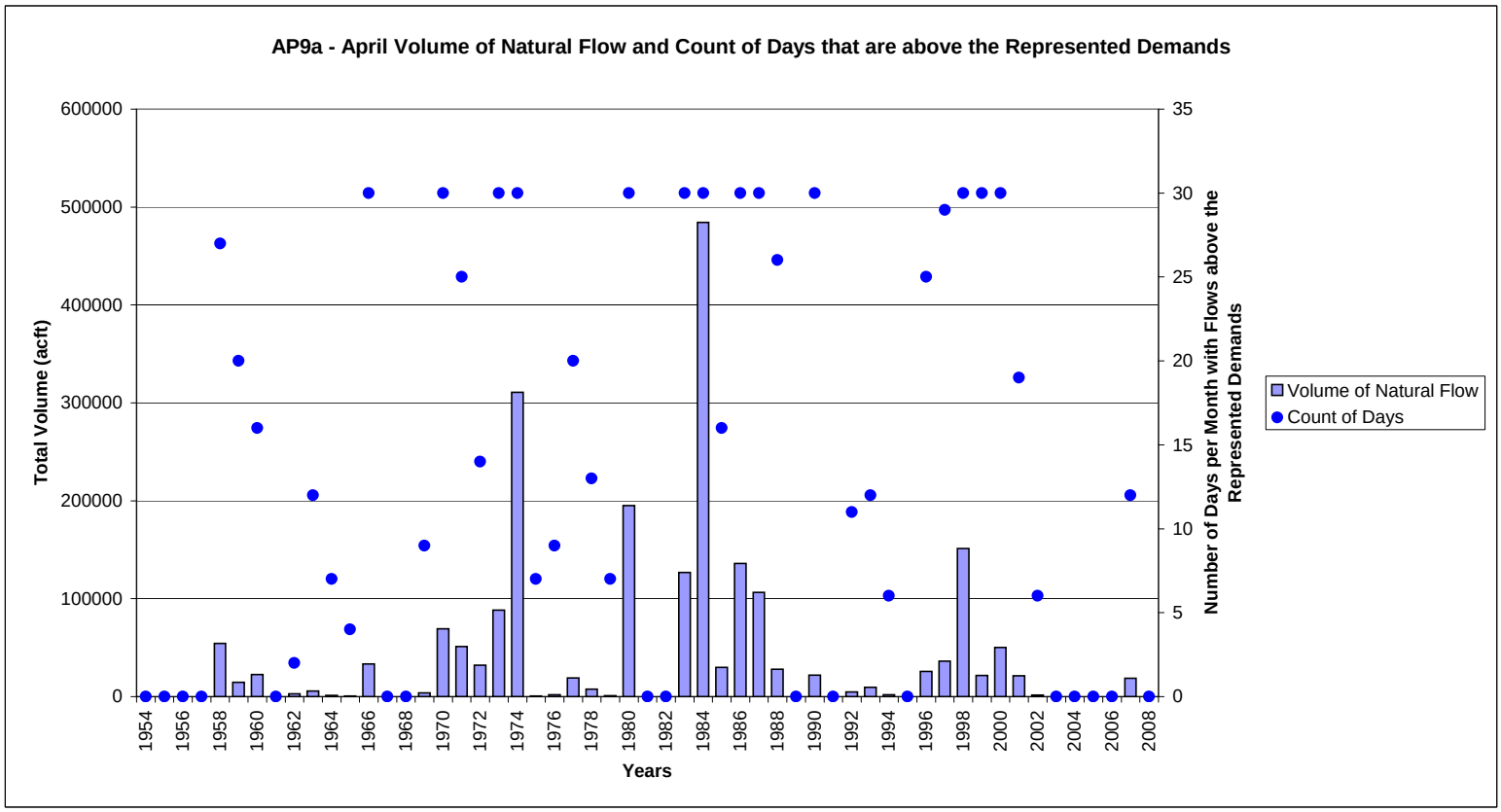

AP9 - November Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
20000
40000
60000
80000
100000
120000
140000
160000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

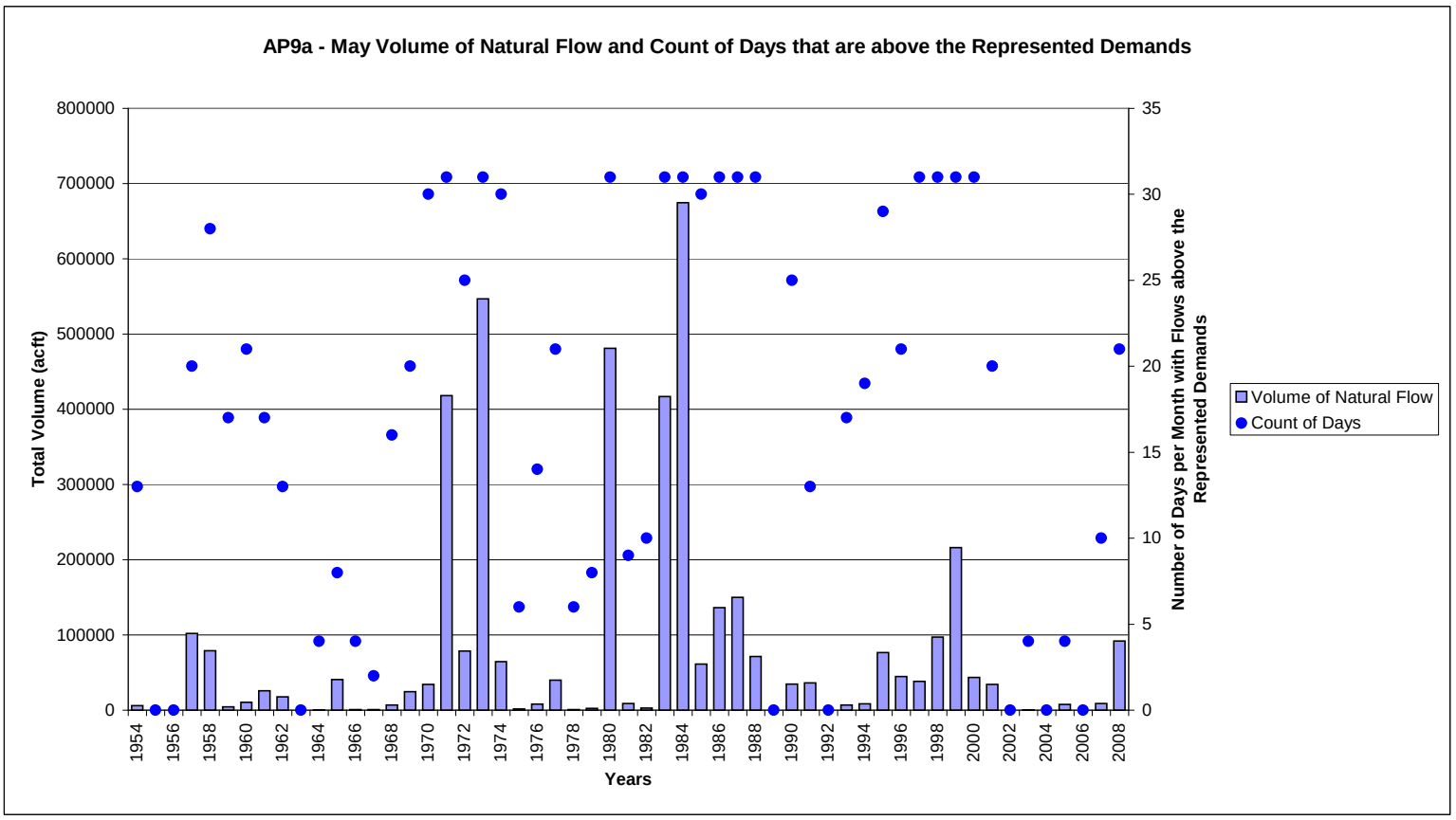

AP9 - December Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
20000
40000
60000
80000
100000
120000
140000
160000
180000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

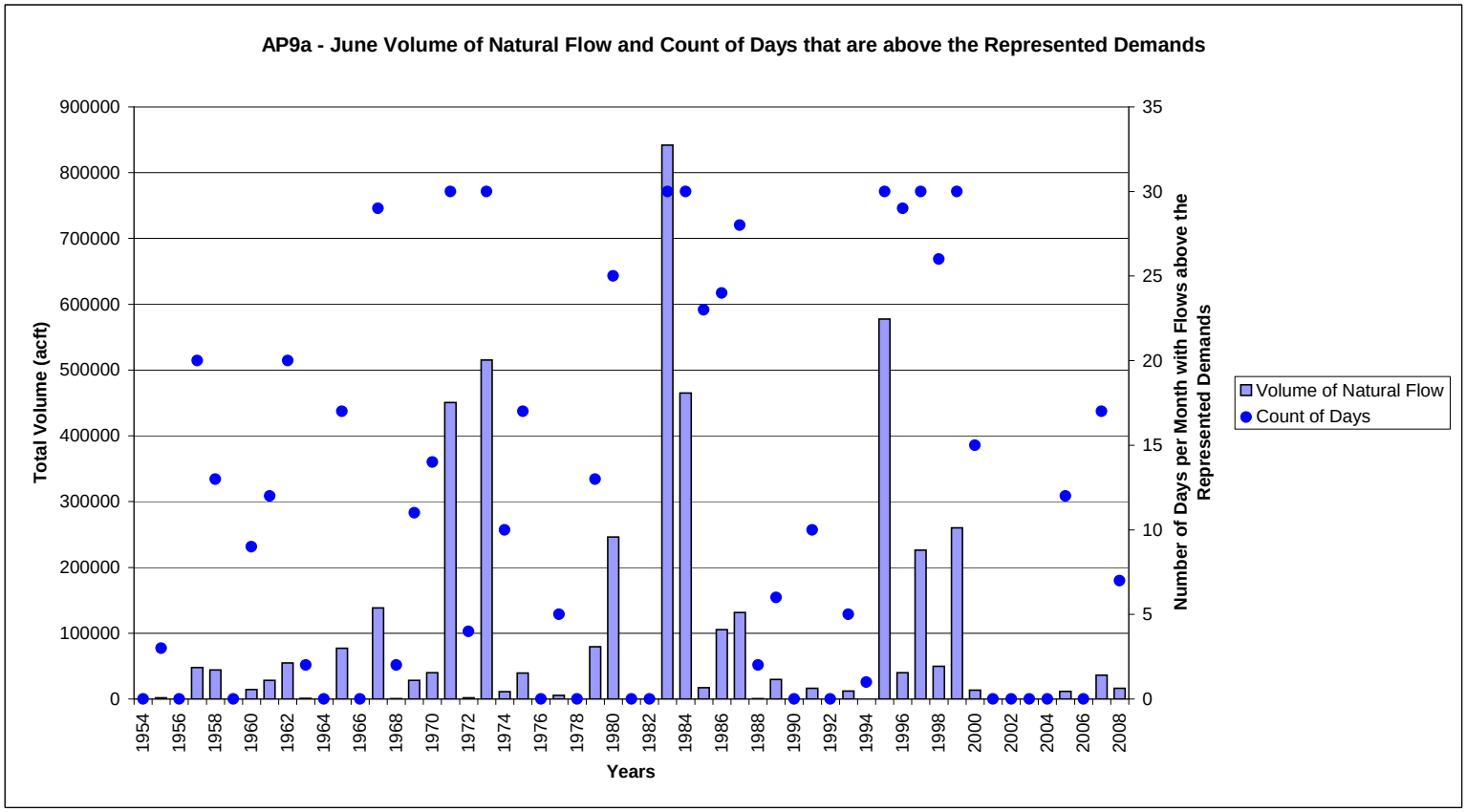

AP9a - January Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

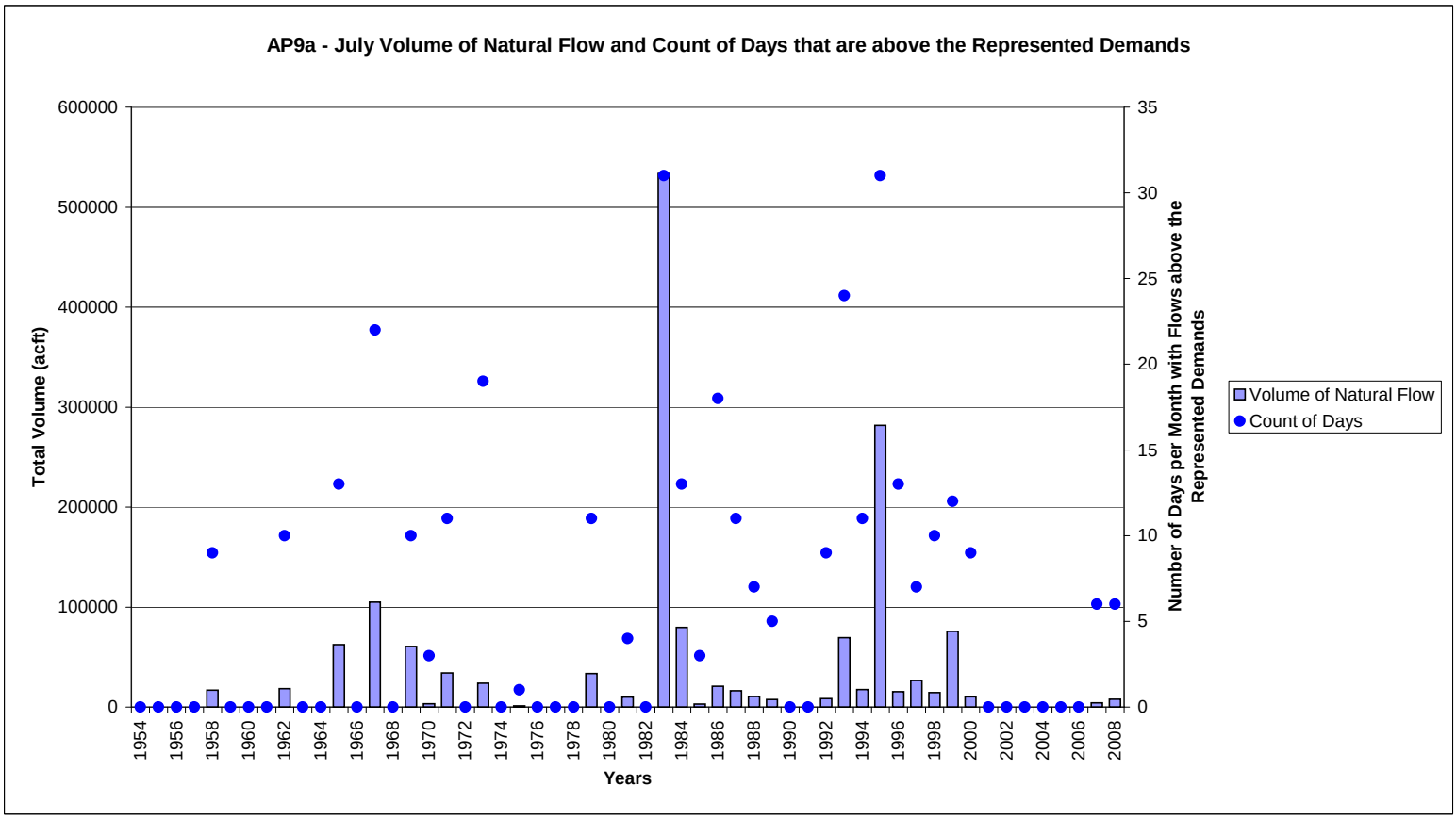

AP9a - February Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

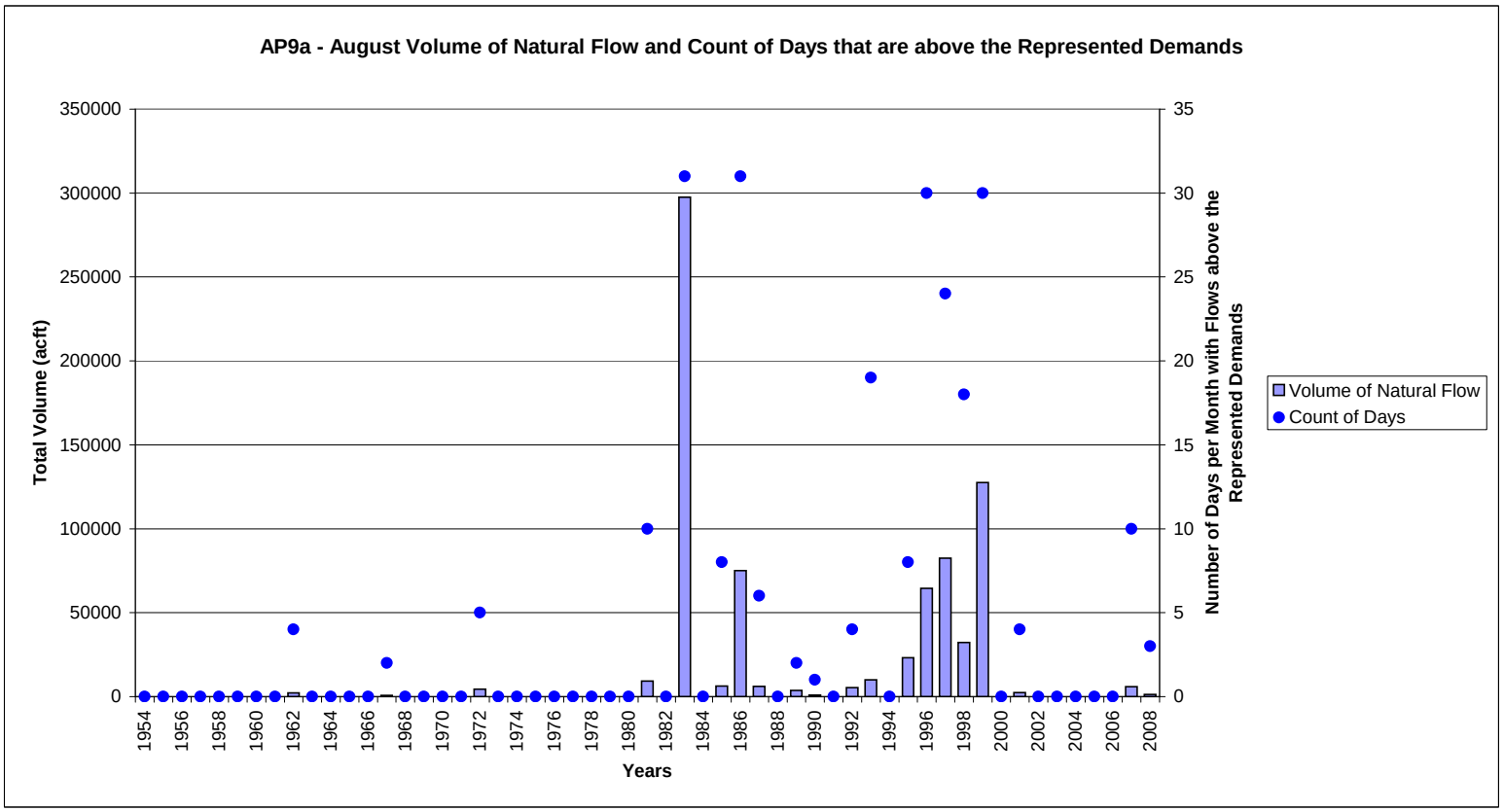

AP9a - March Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

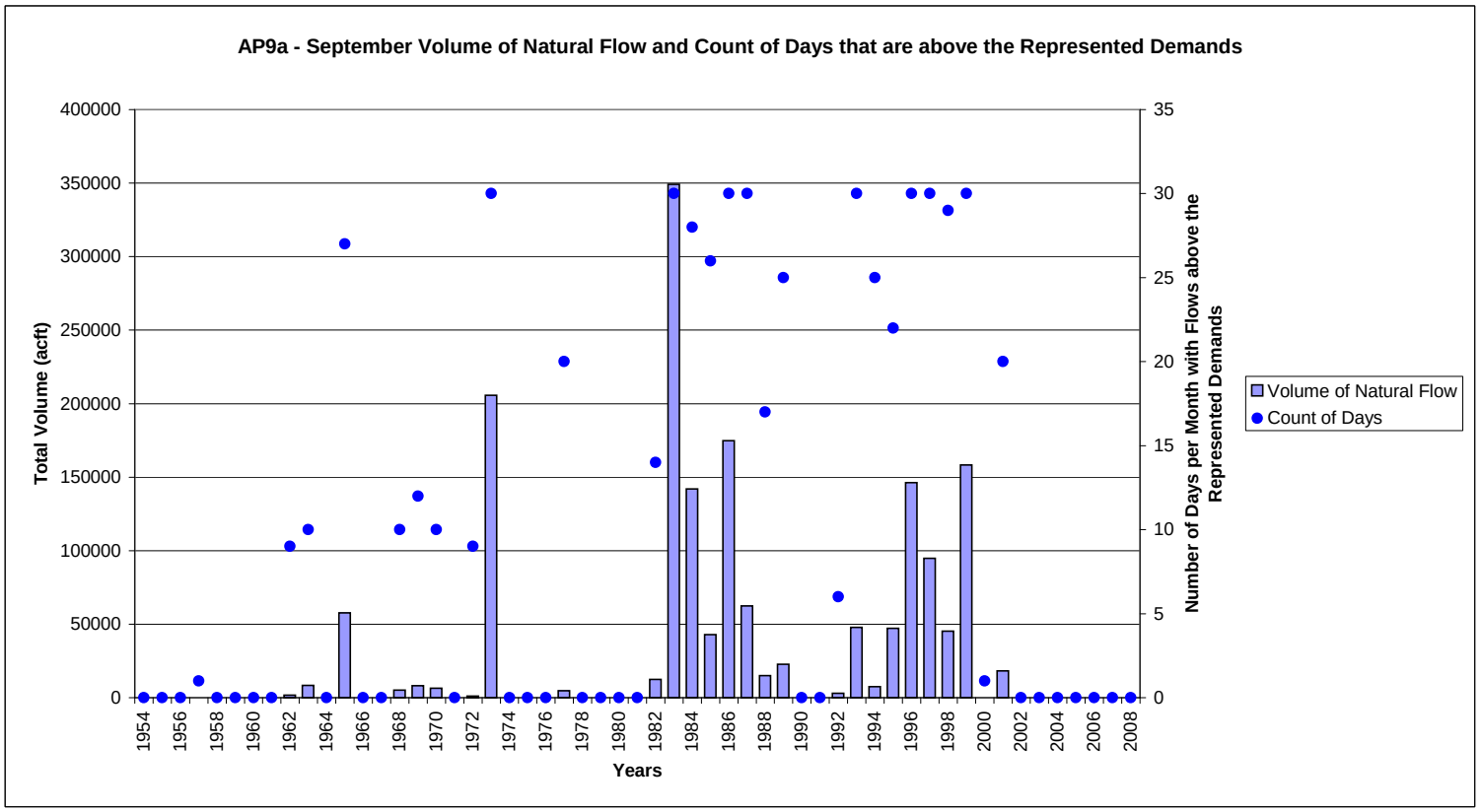

AP9a - April Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

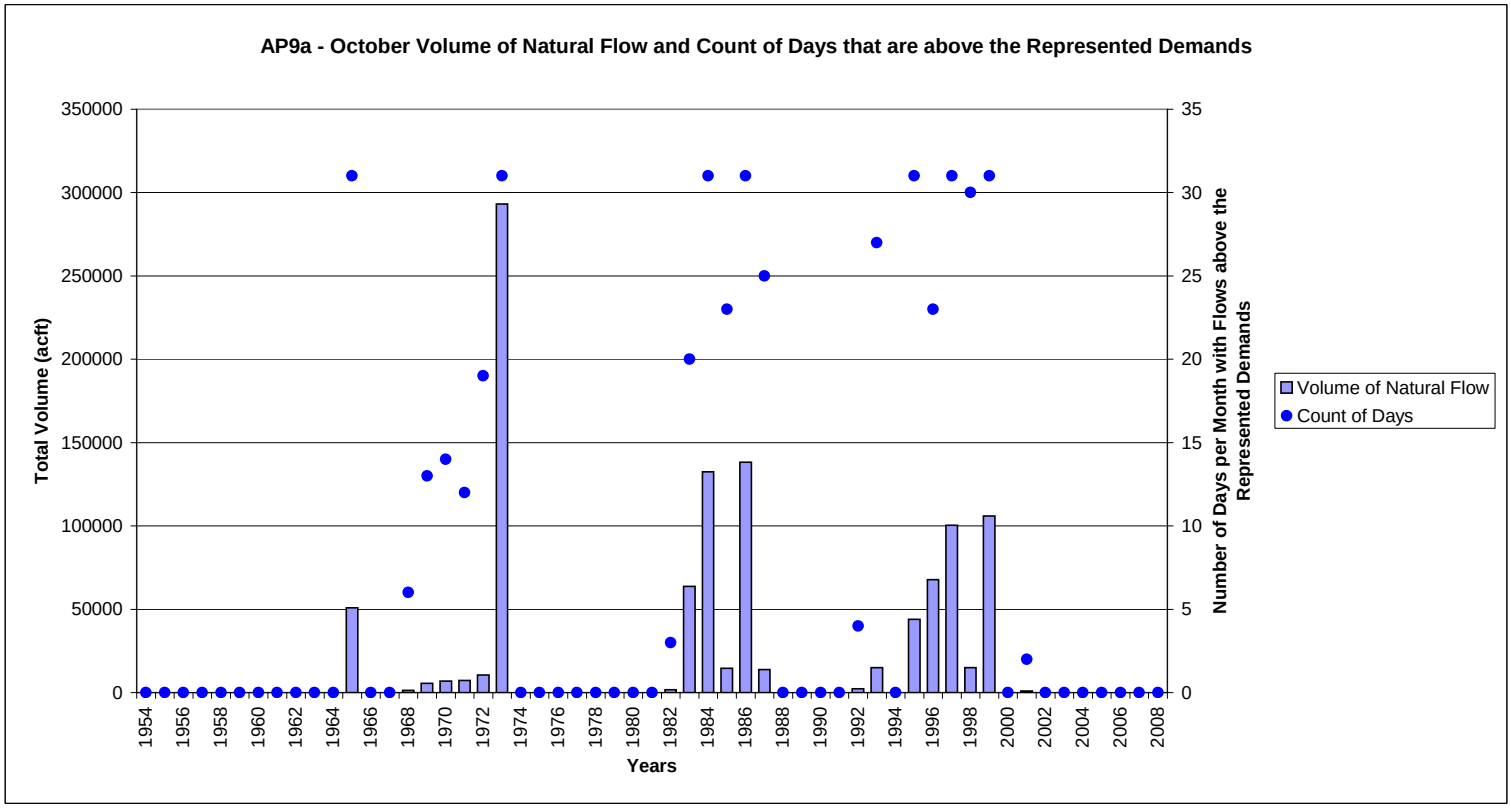

AP9a - May Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

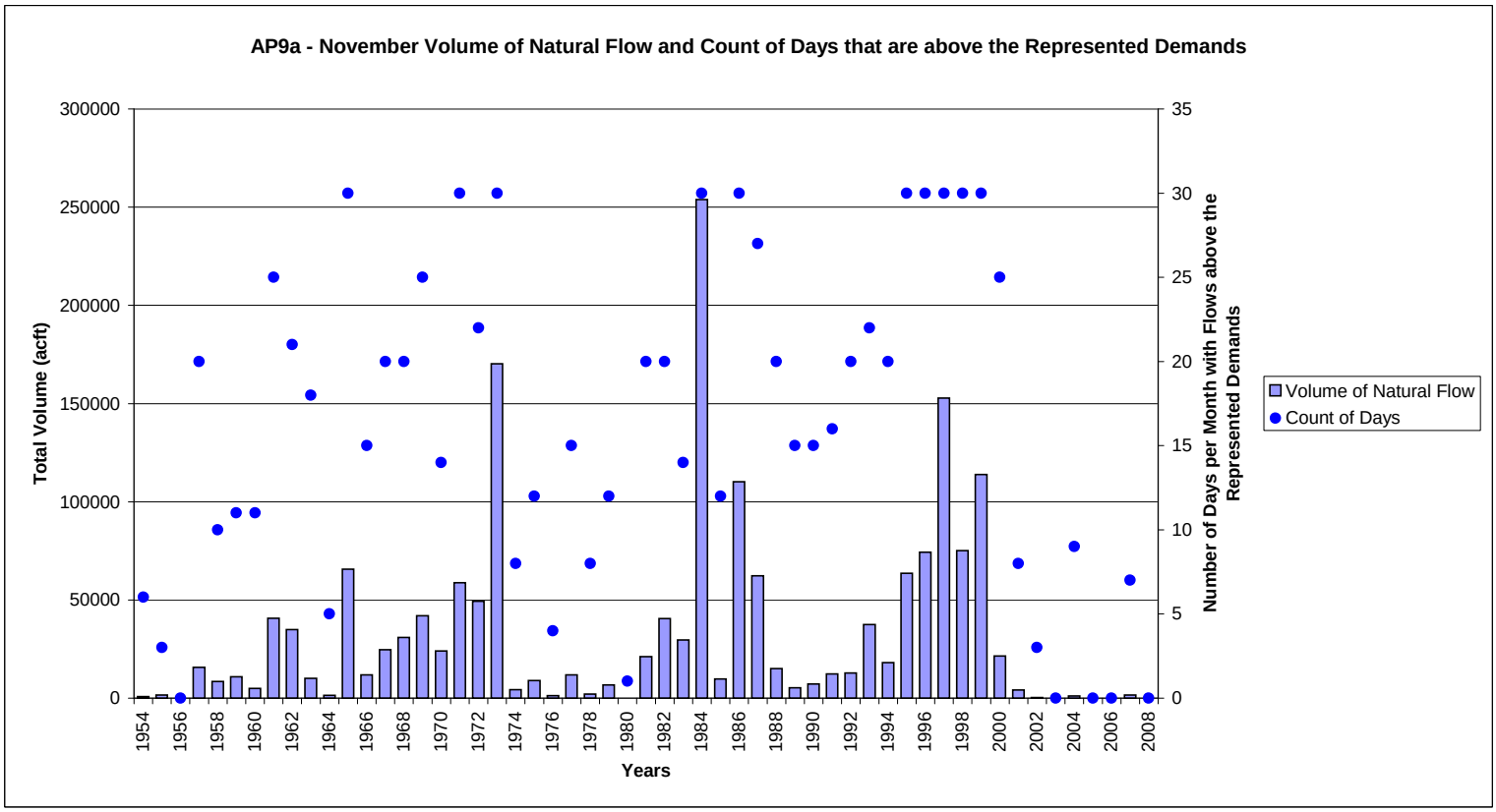

AP9a - June Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

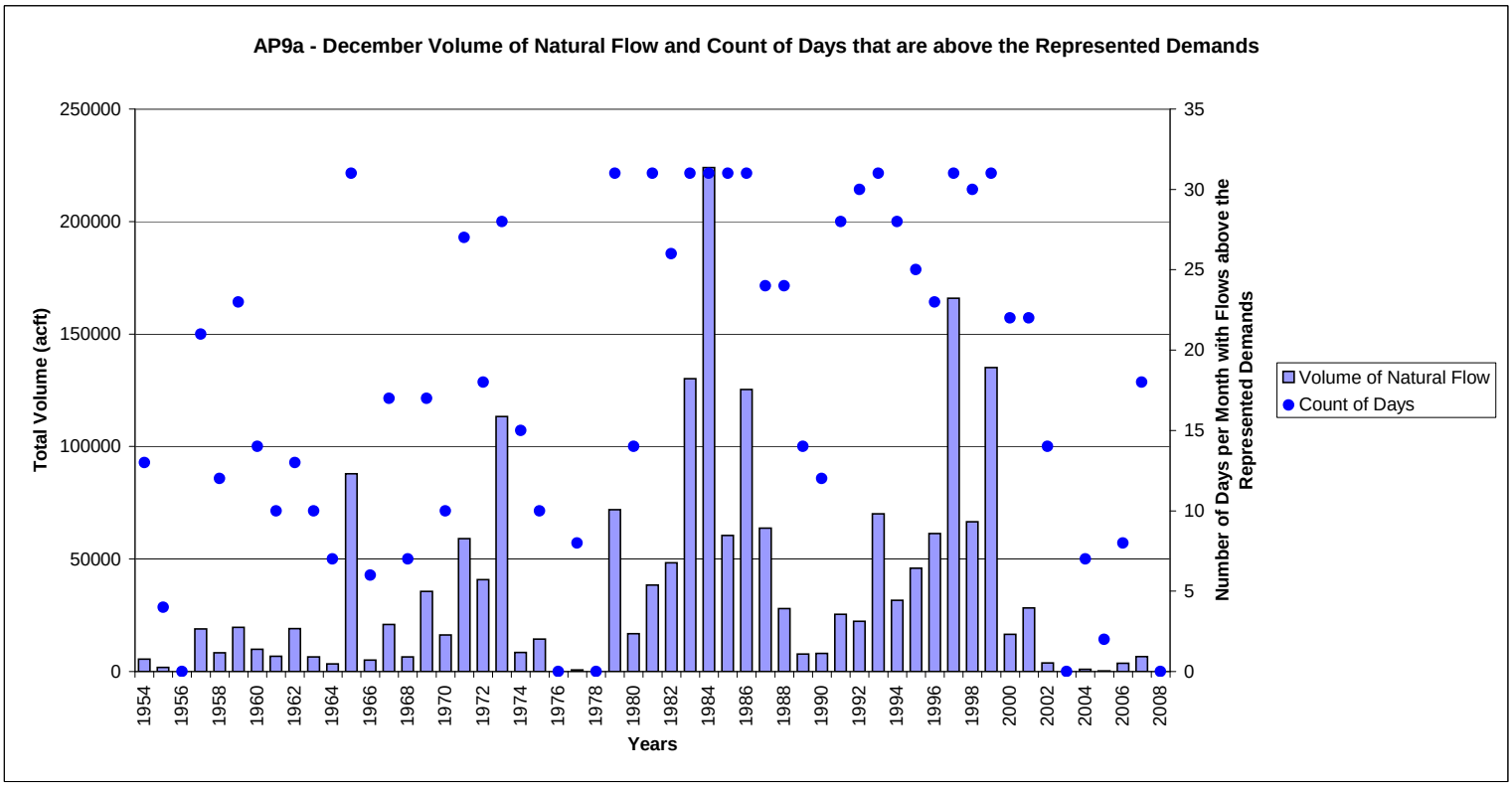

AP9a - July Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

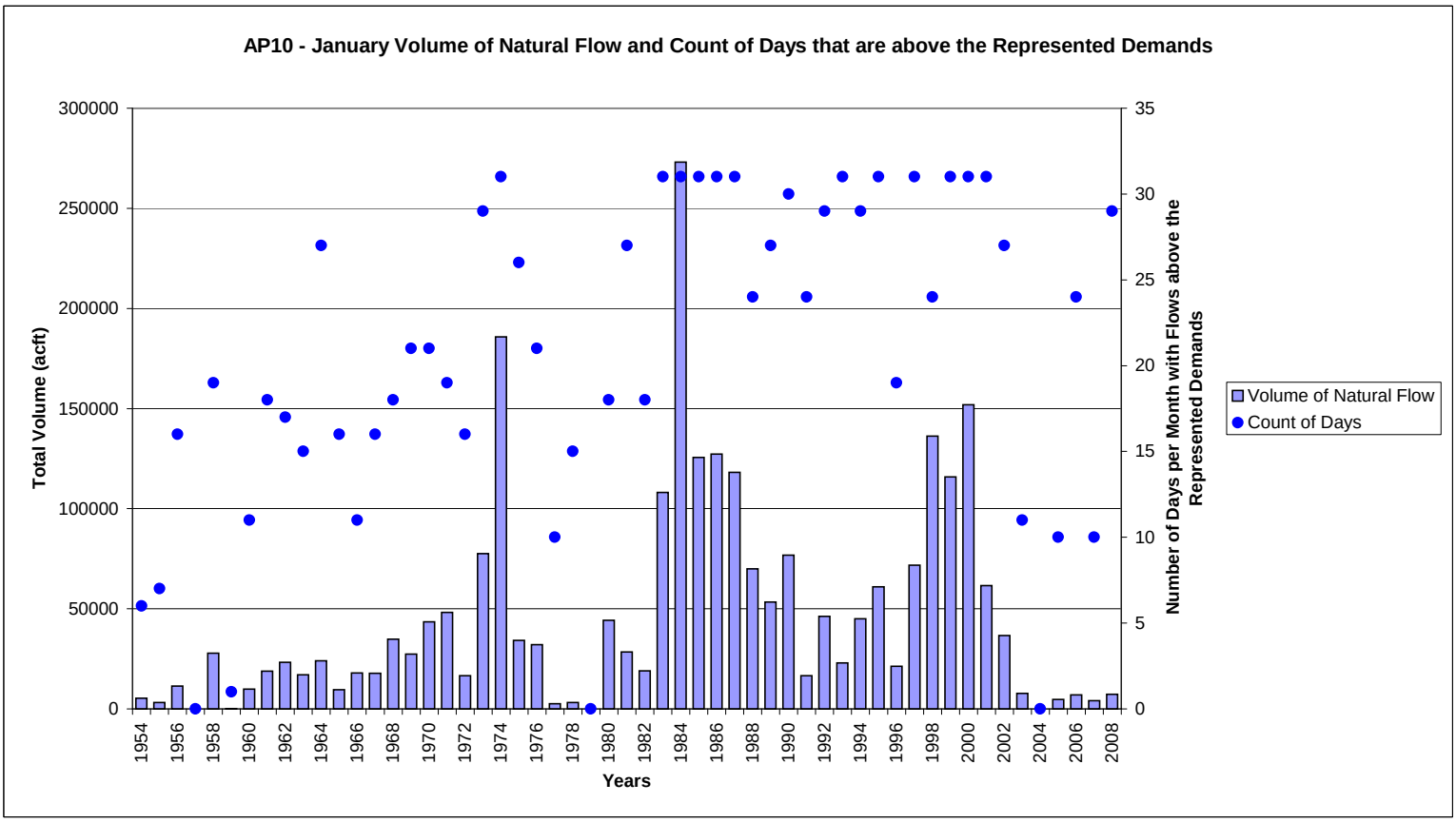

AP9a - August Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

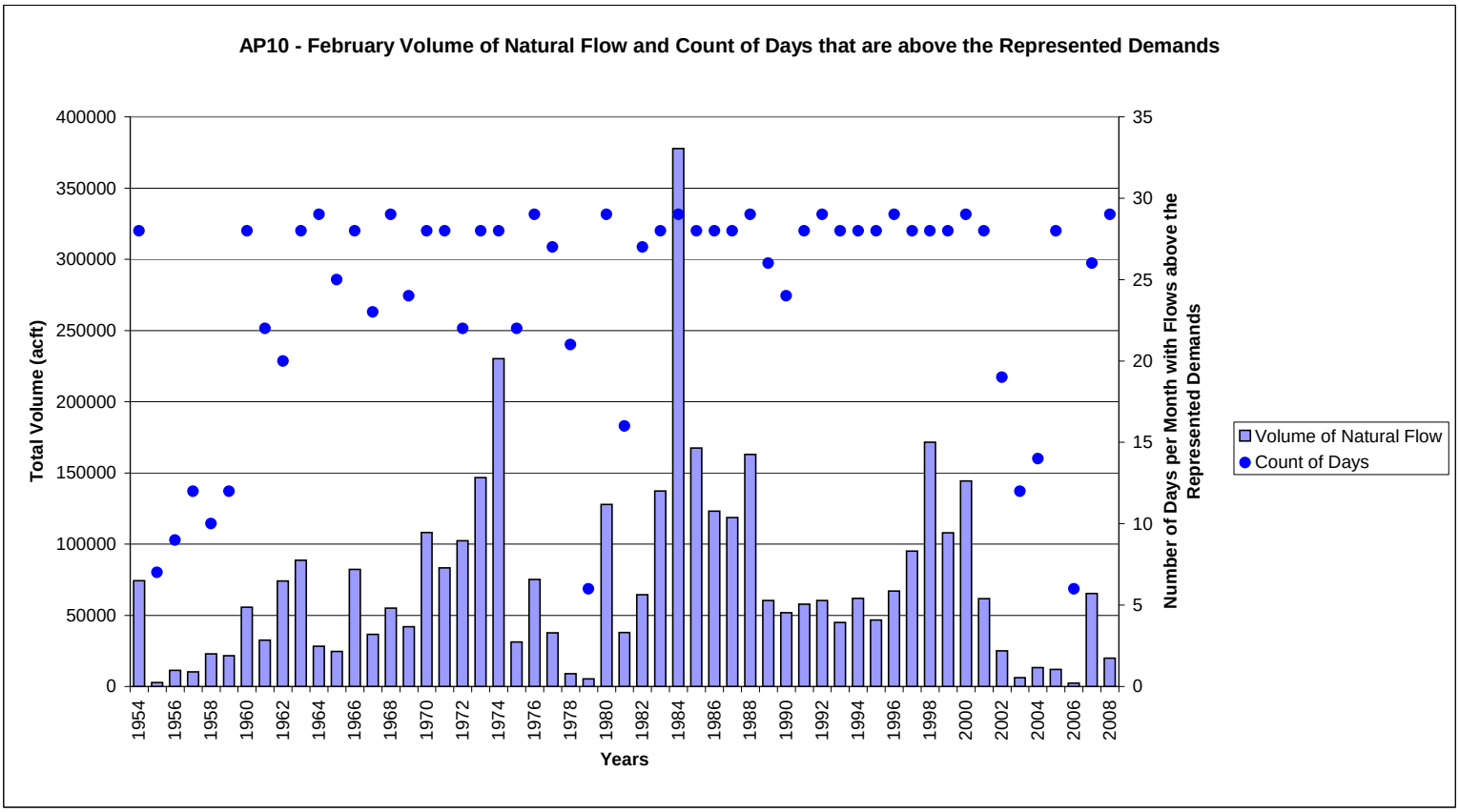

AP9a - September Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

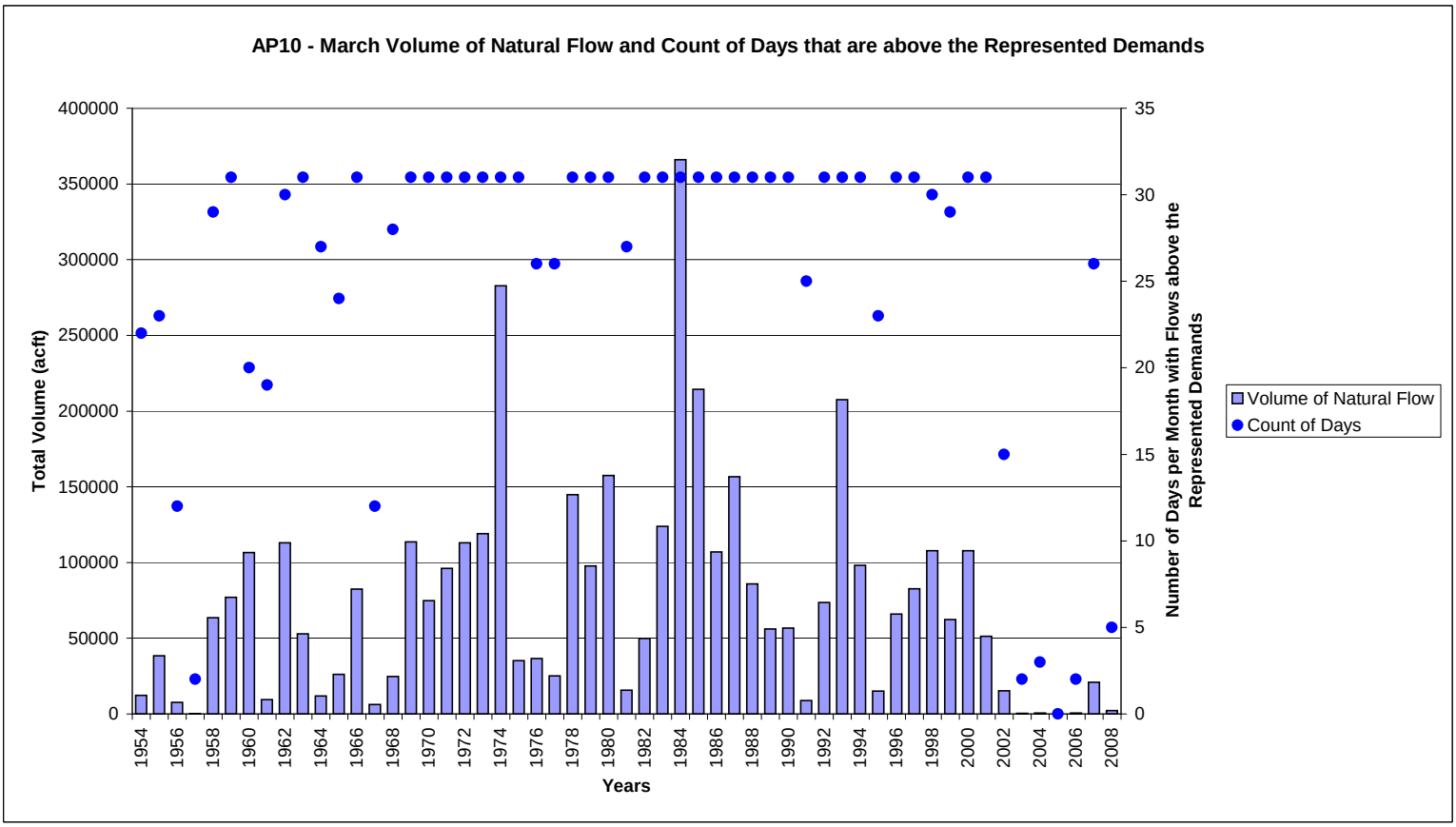

AP9a - October Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

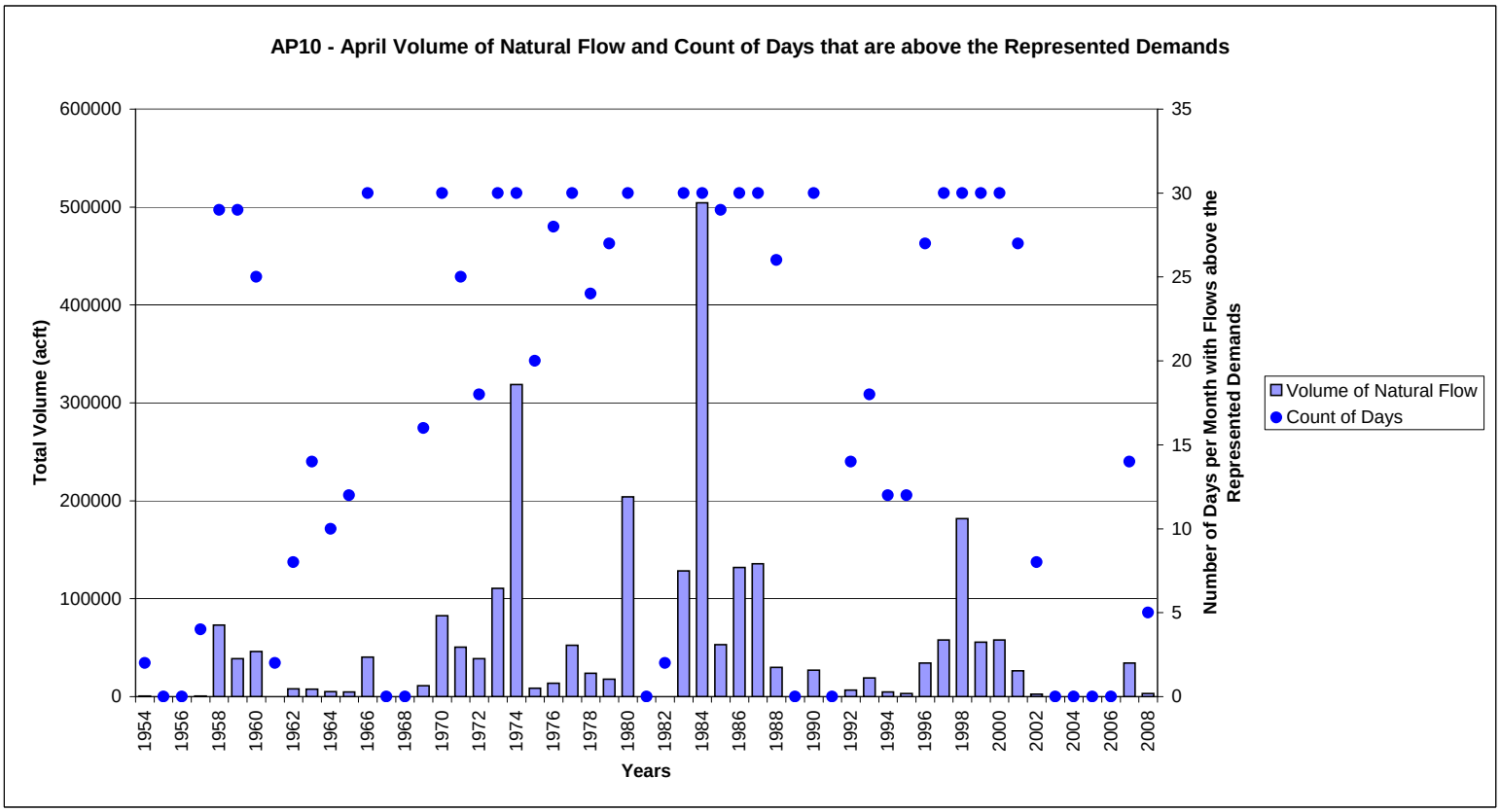

AP9a - November Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

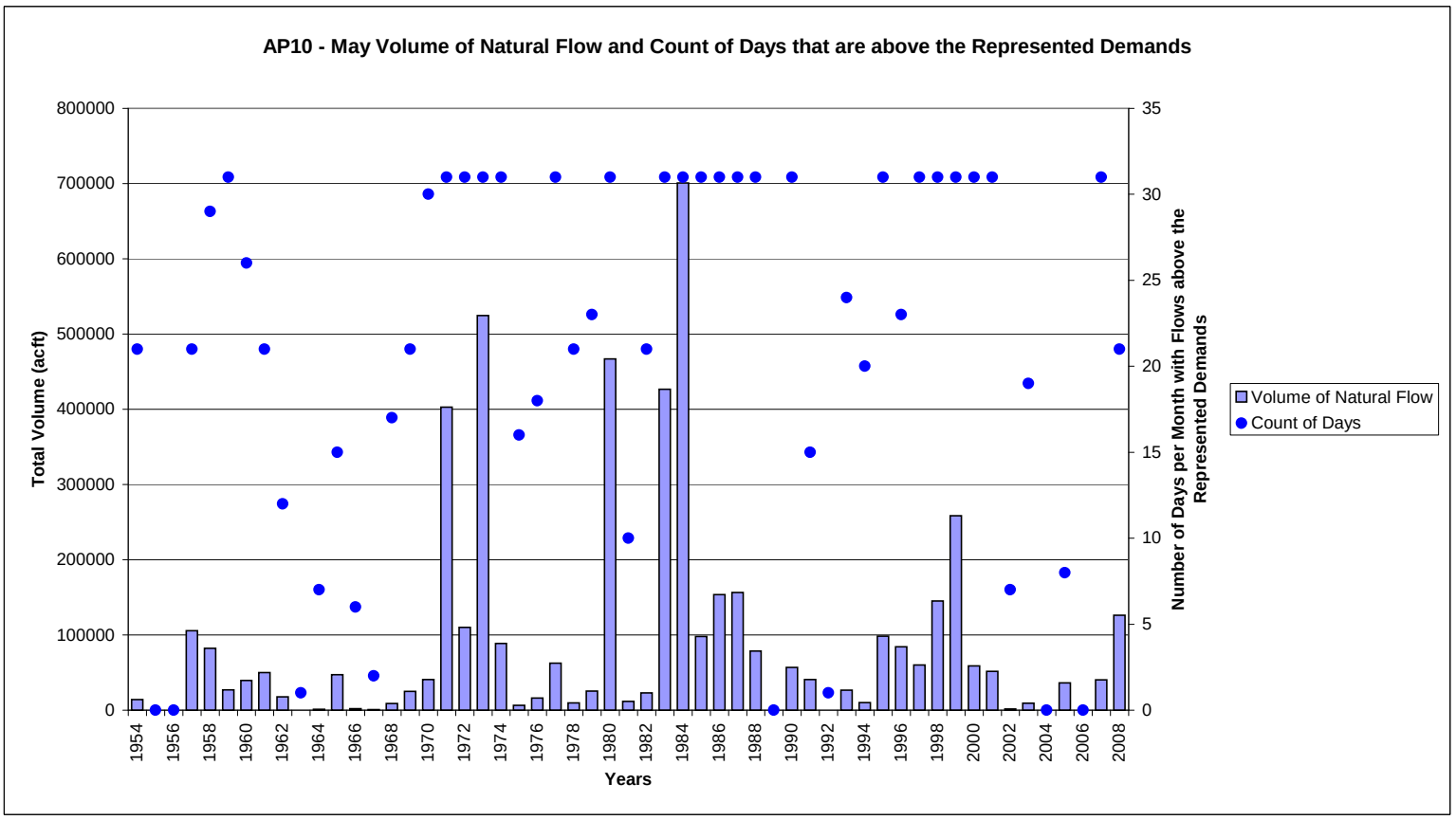

AP9a - December Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

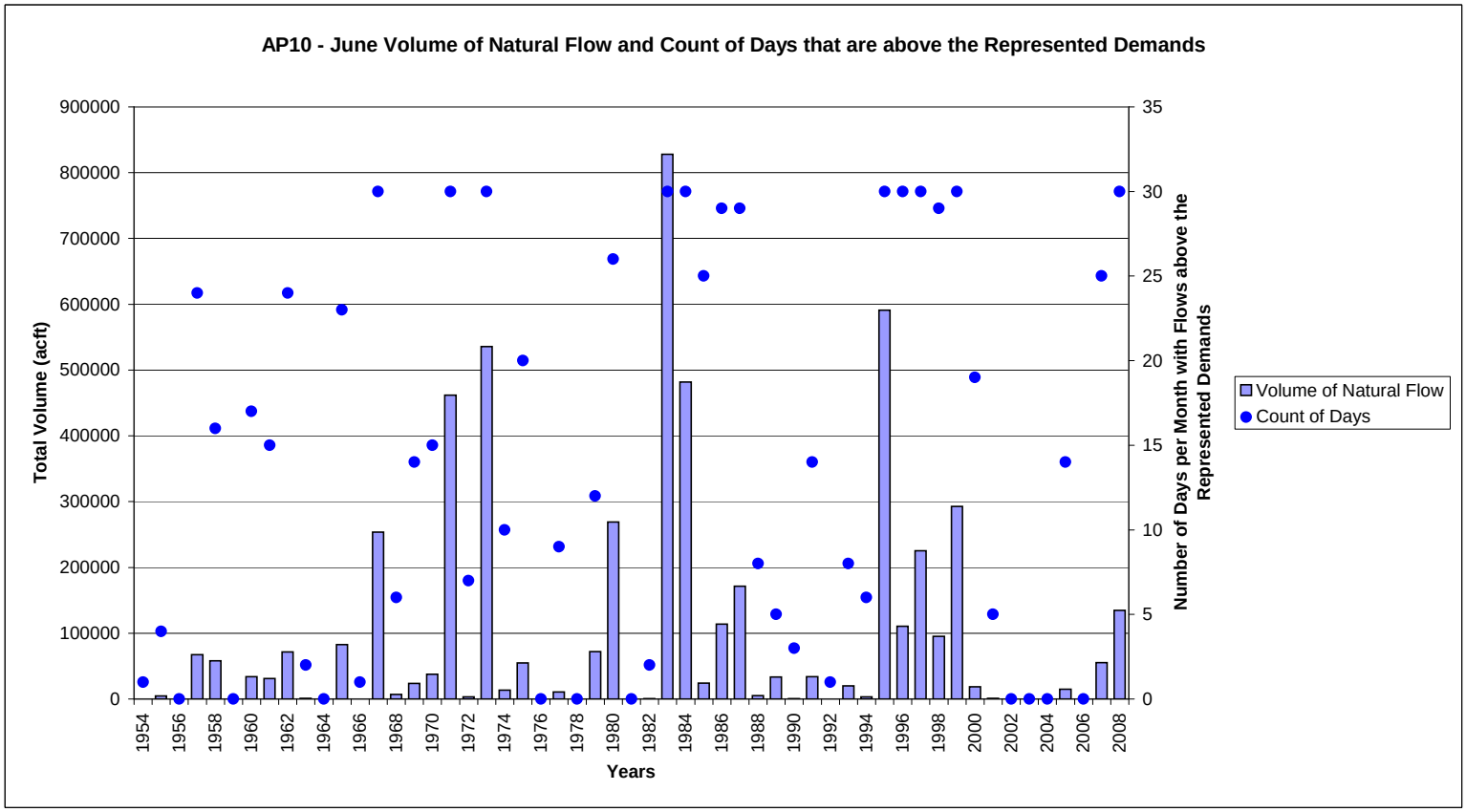

AP10 - January Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
50000
100000
150000
200000
250000
300000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

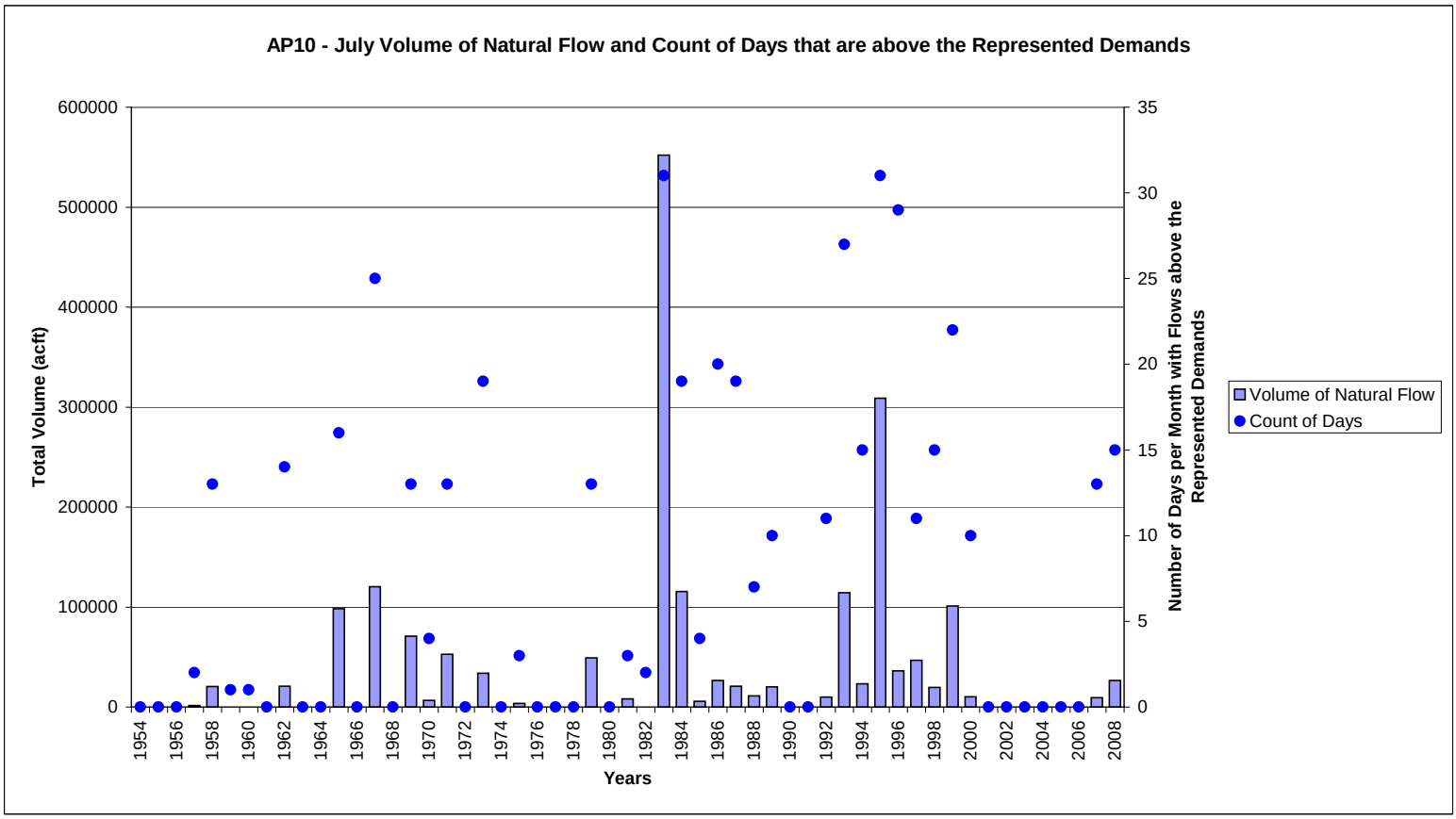

AP10 - February Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
50000
100000
150000
200000
250000
300000
350000
400000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

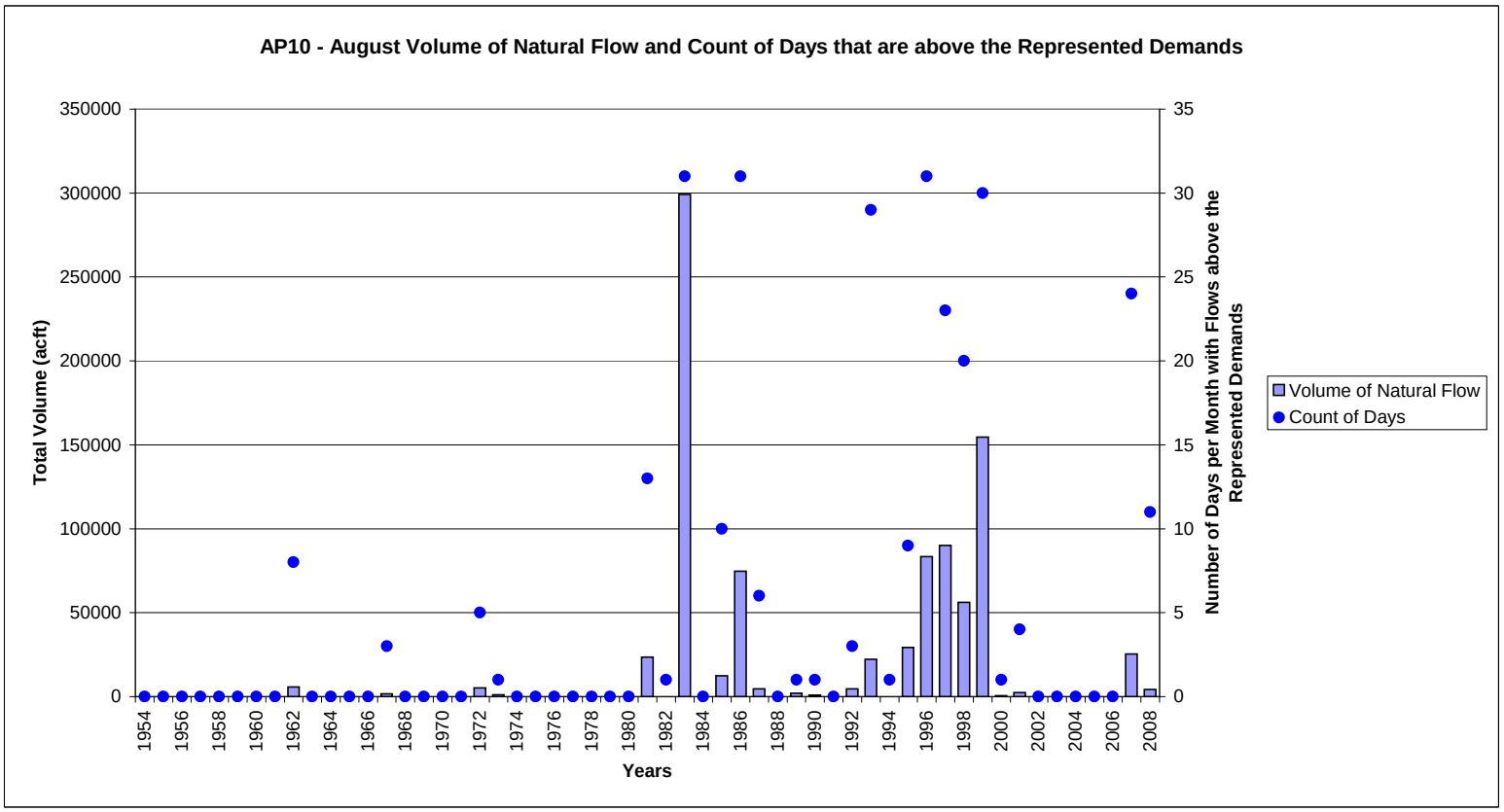

AP10 - March Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

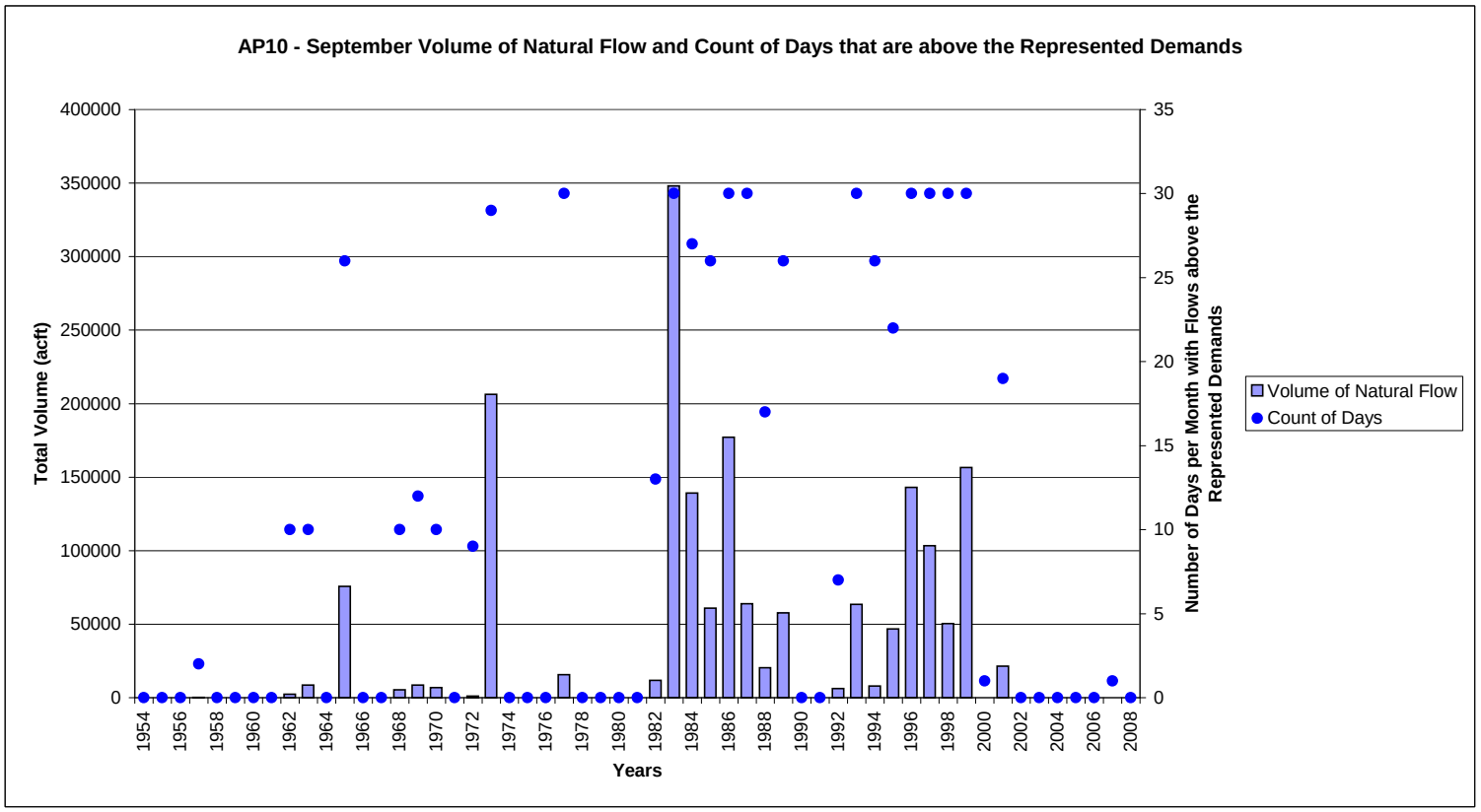

AP10 - April Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

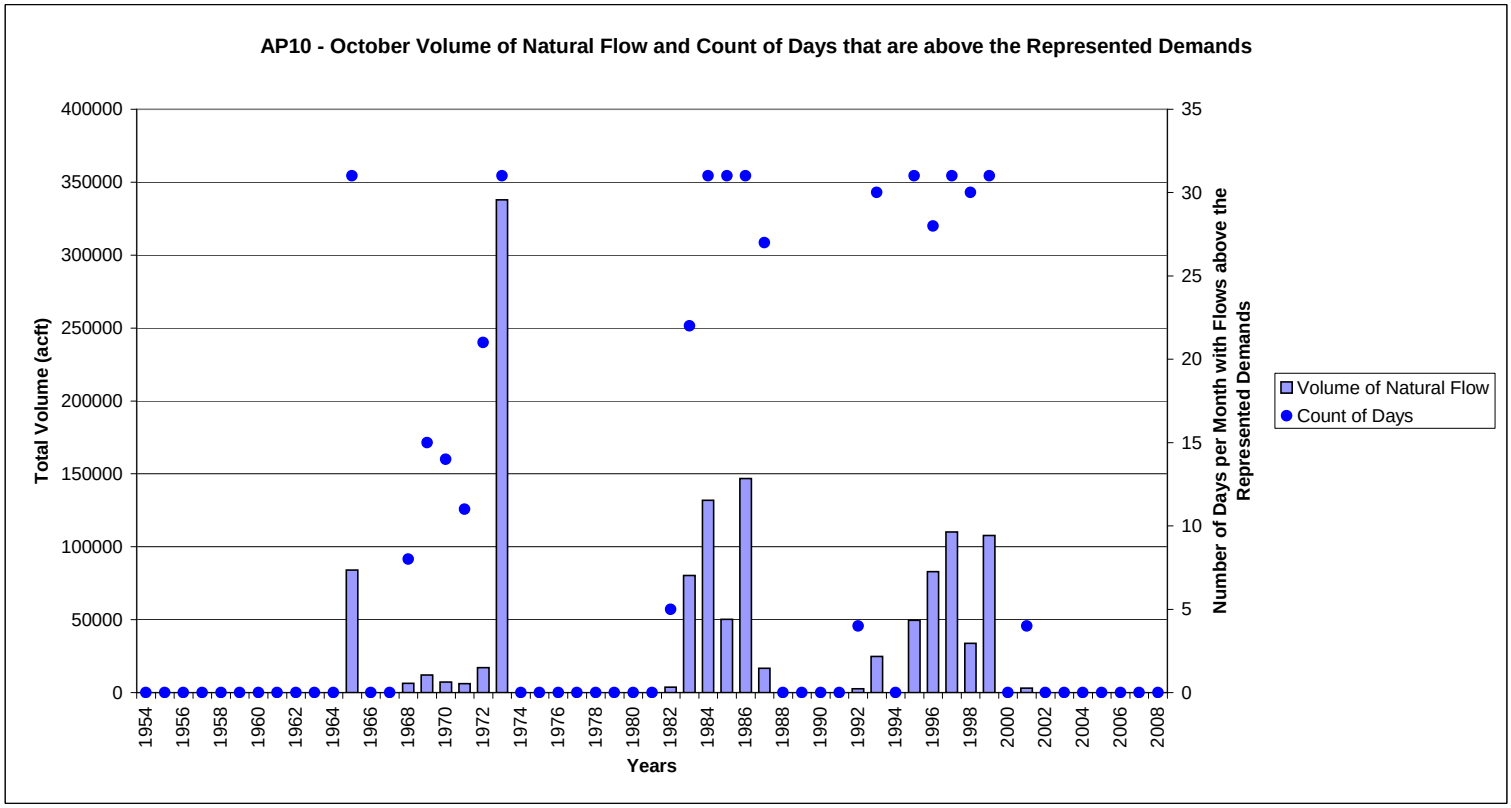

AP10 - May Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

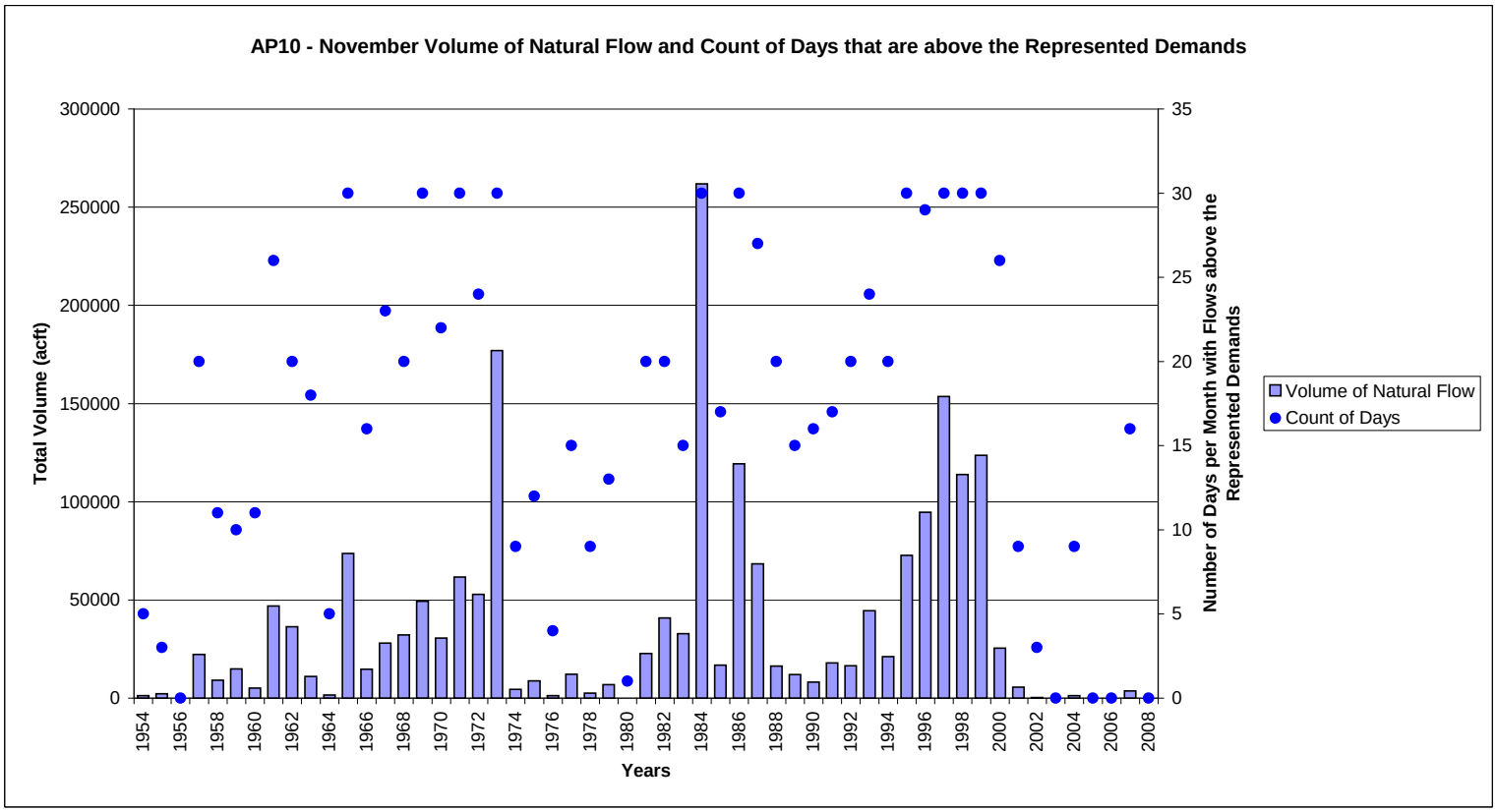

AP10 - June Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

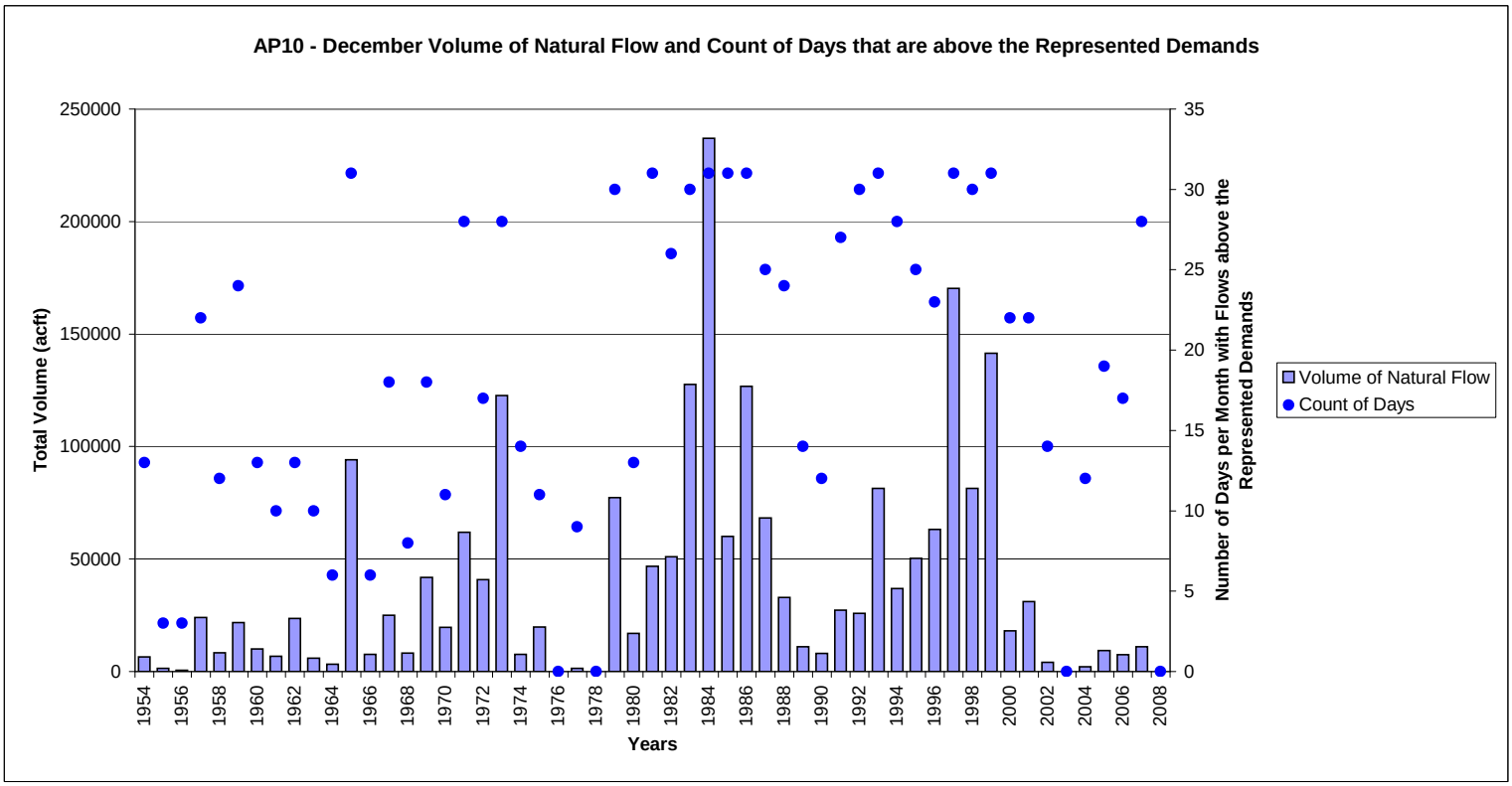

AP10 - July Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
100000
200000
300000
400000
500000
600000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

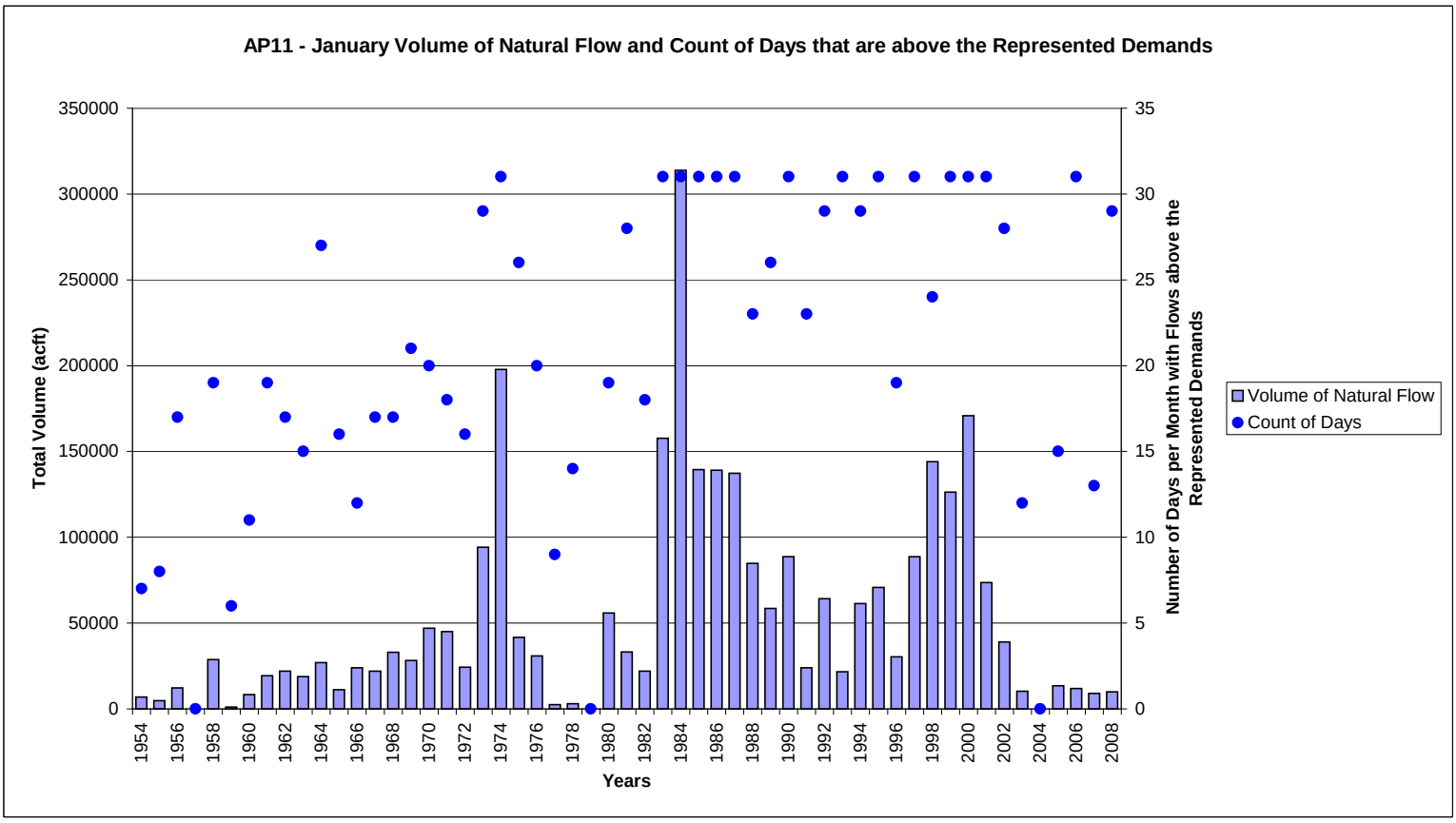

AP10 - August Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
50000
100000
150000
200000
250000
300000
350000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

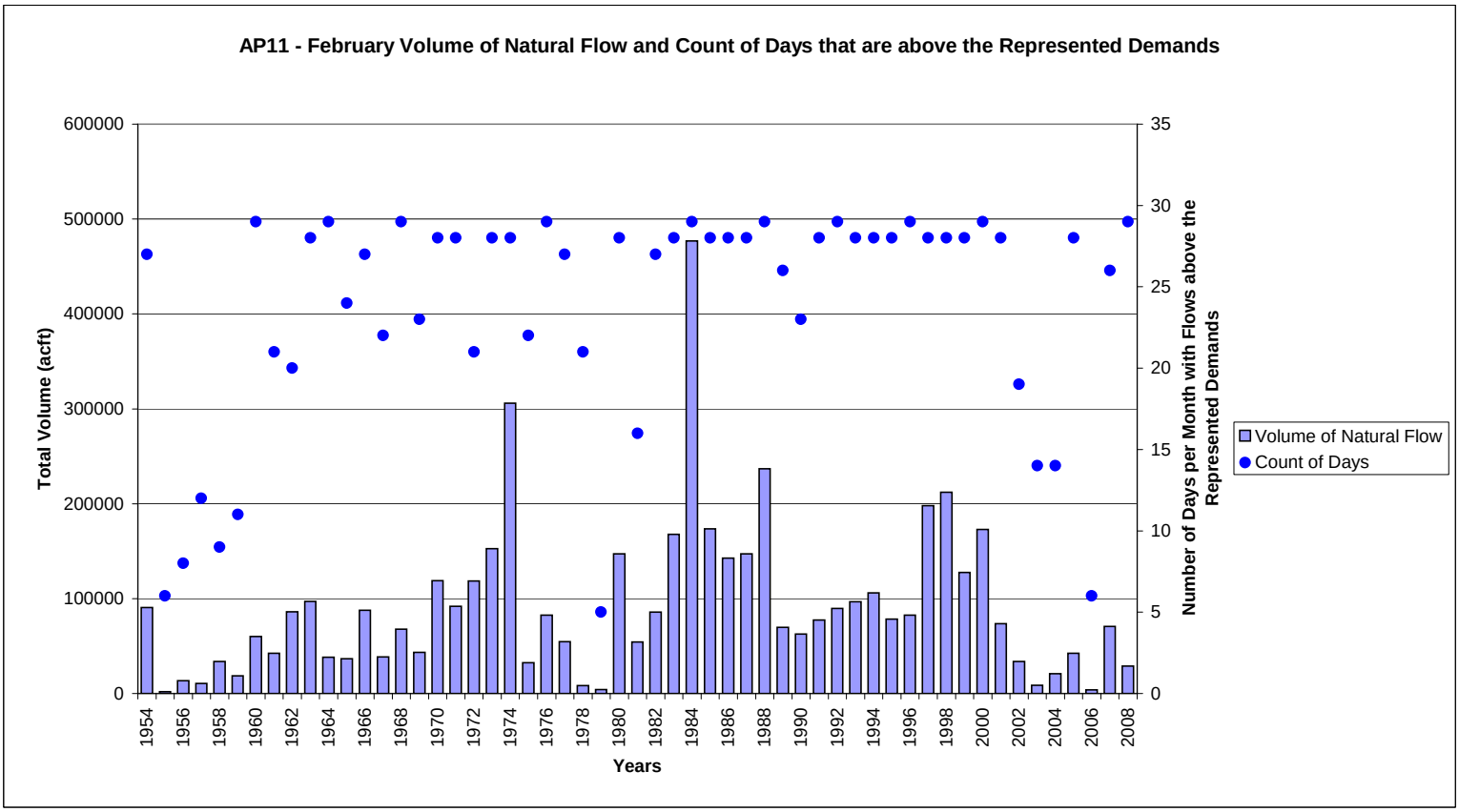

AP10 - September Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
50000
100000
150000
200000
250000
300000
350000
400000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

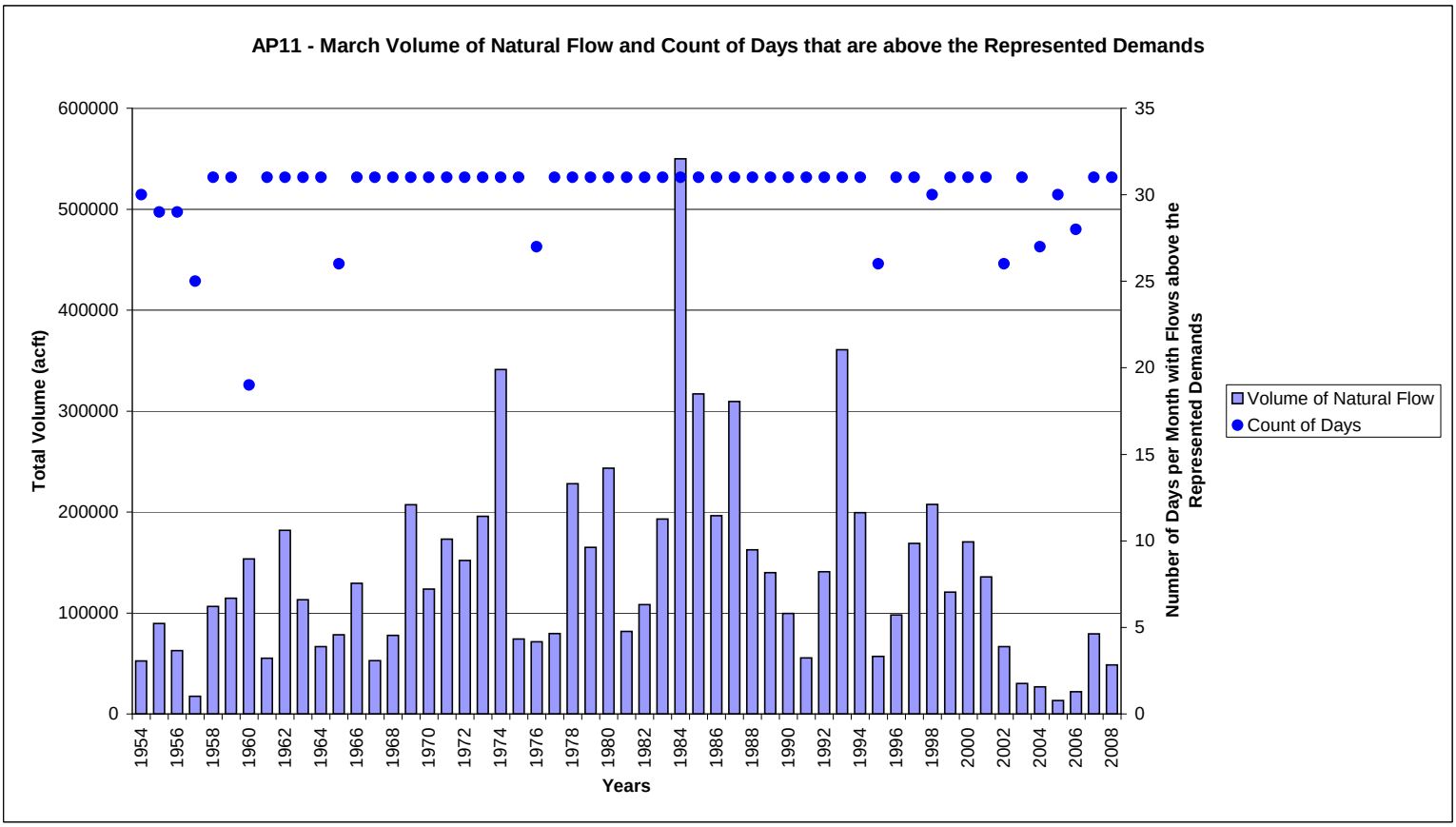

AP10 - October Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
50000
100000
150000
200000
250000
300000
350000
400000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

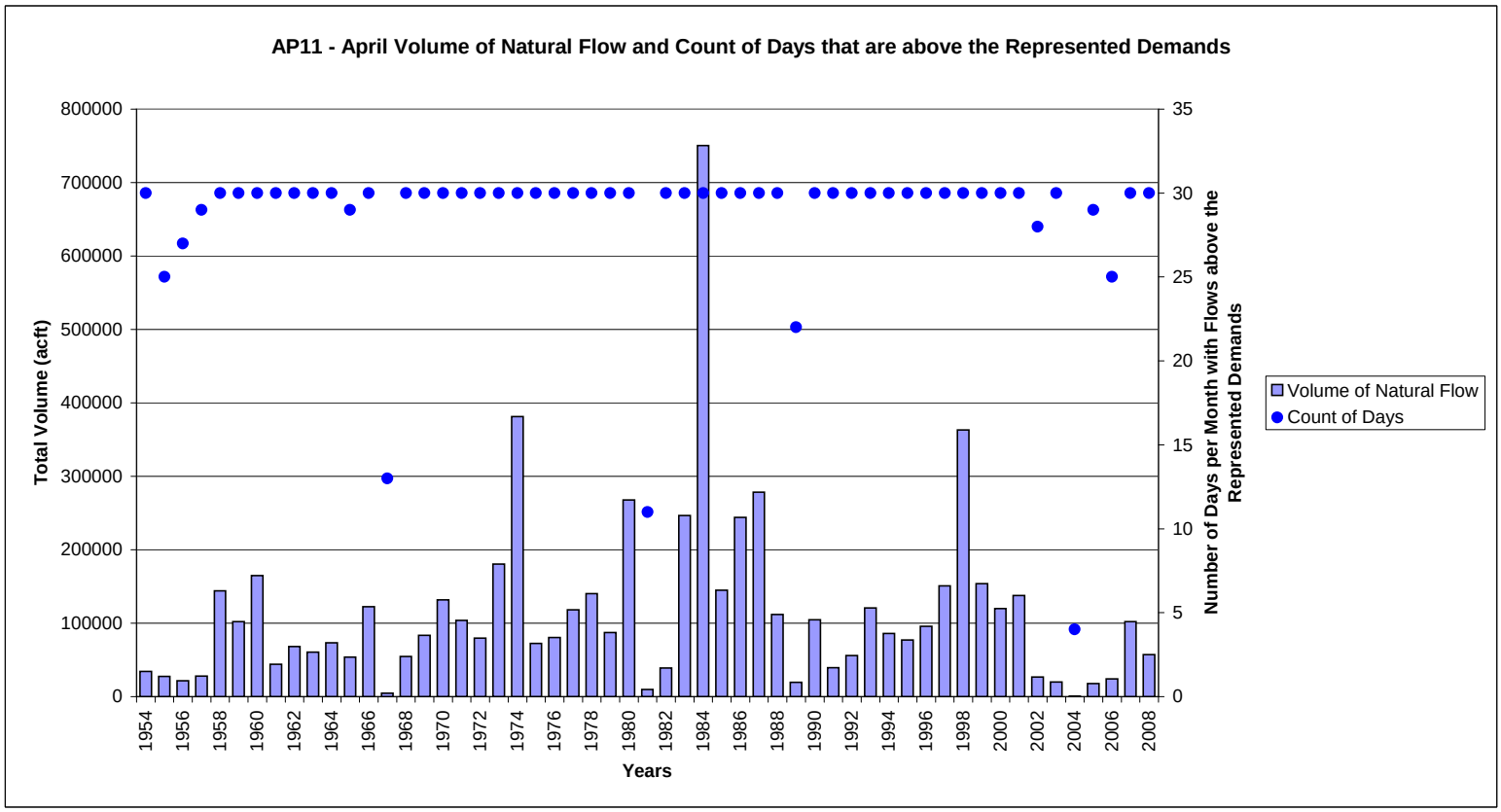

AP10 - November Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

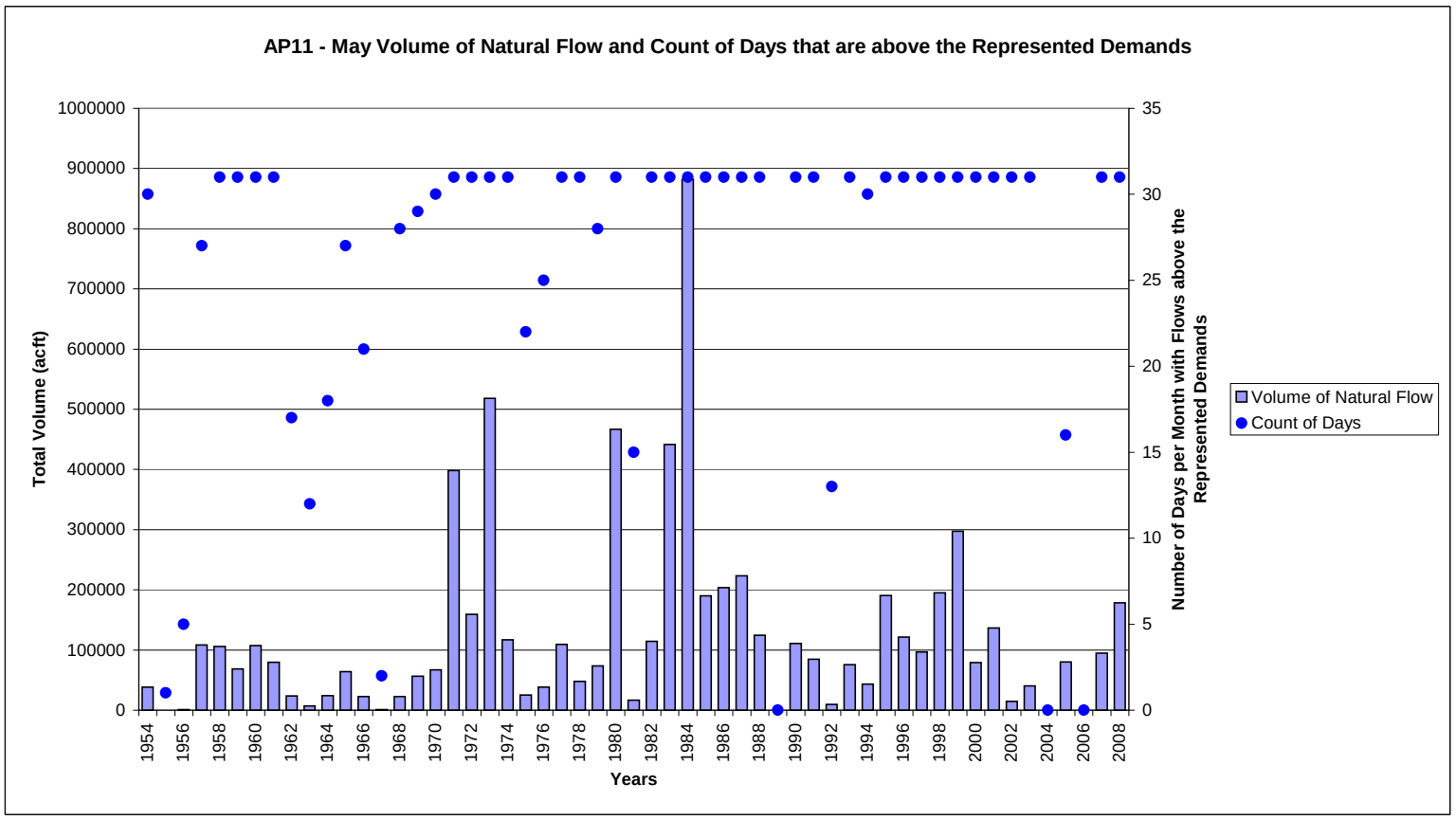

AP10 - December Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

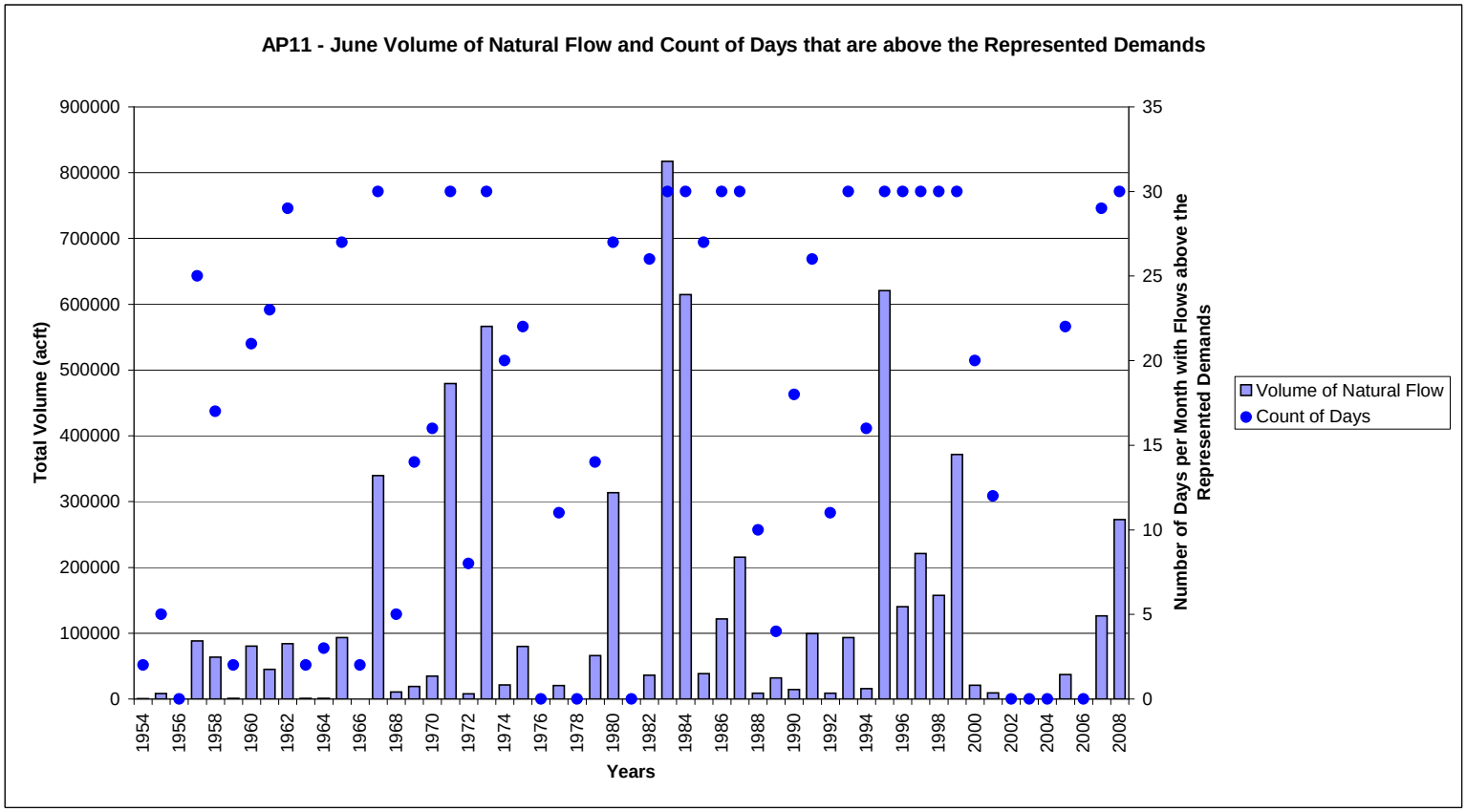

AP11 - January Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
50000
100000
150000
200000
250000
300000
350000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

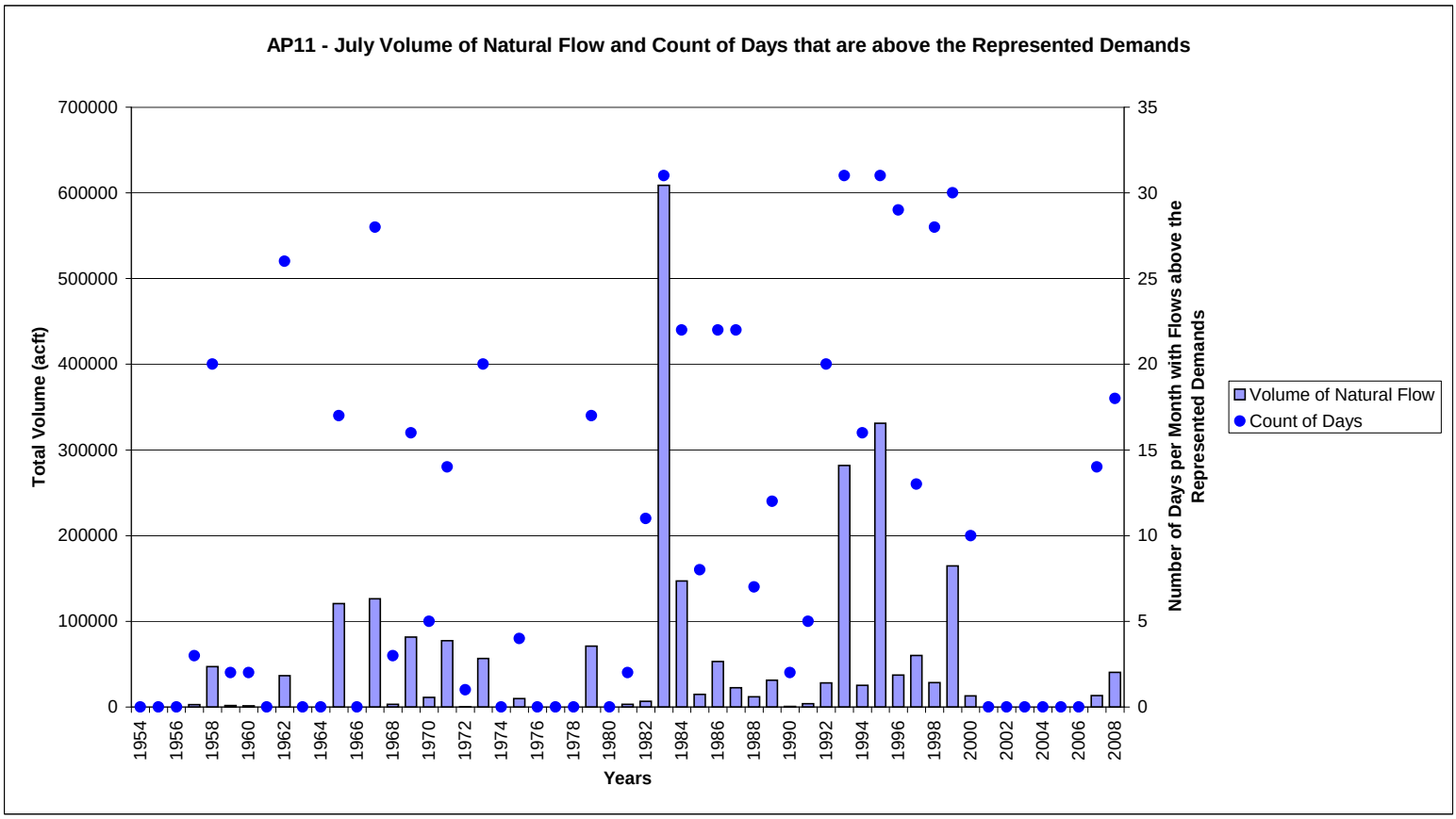

AP11 - February Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
100000
200000
300000
400000
500000
600000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

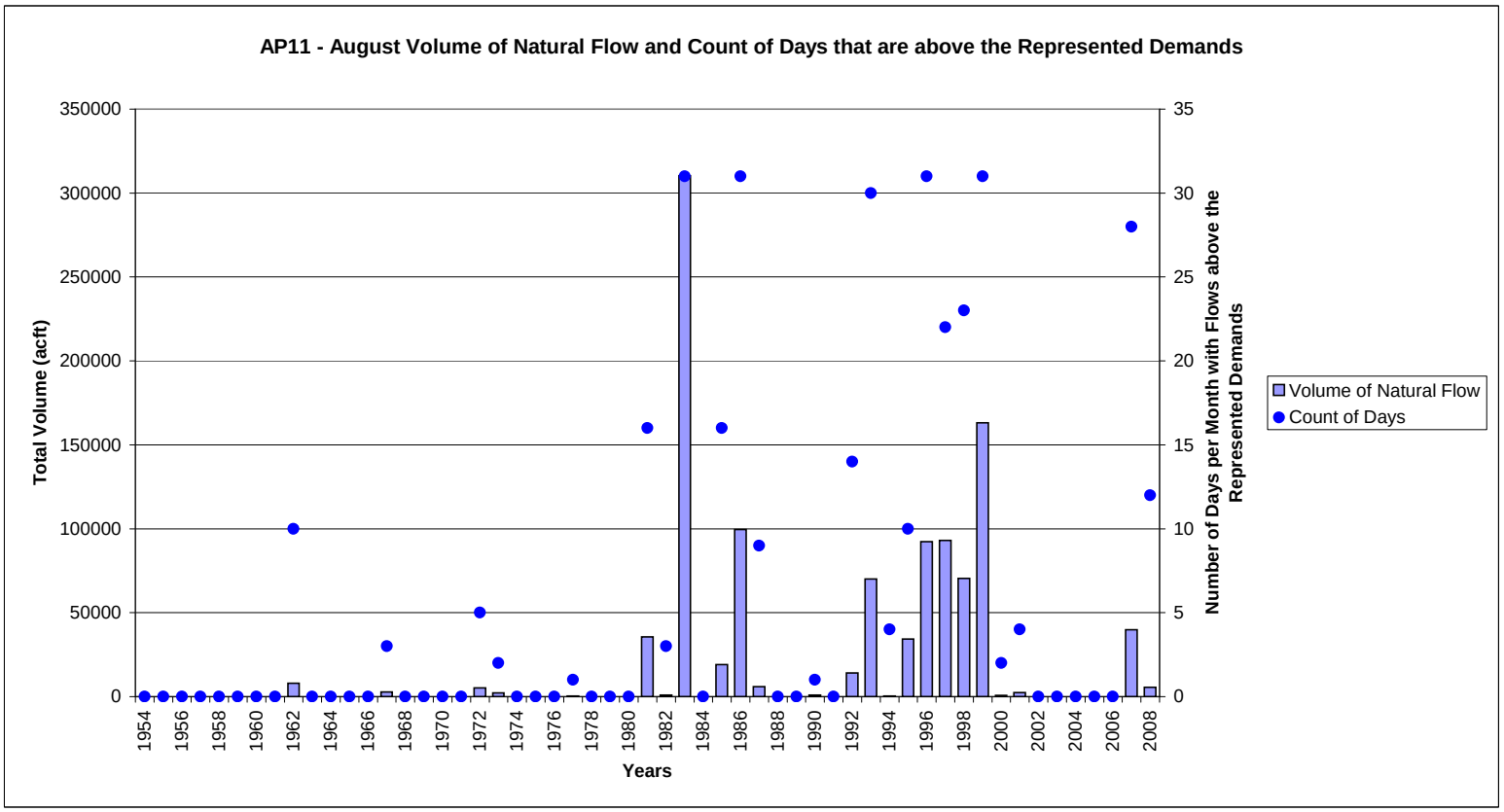

AP11 - March Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

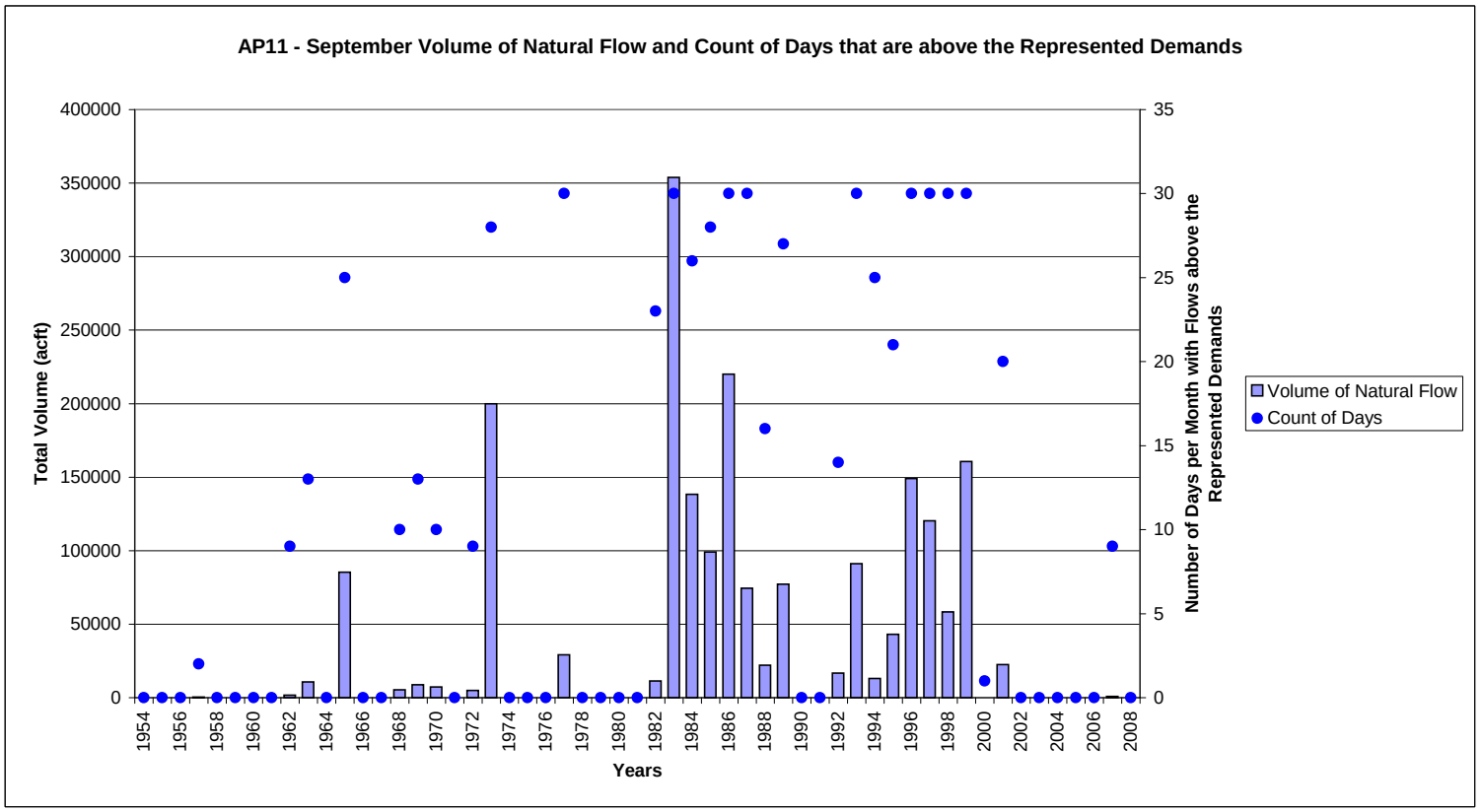

AP11 - April Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

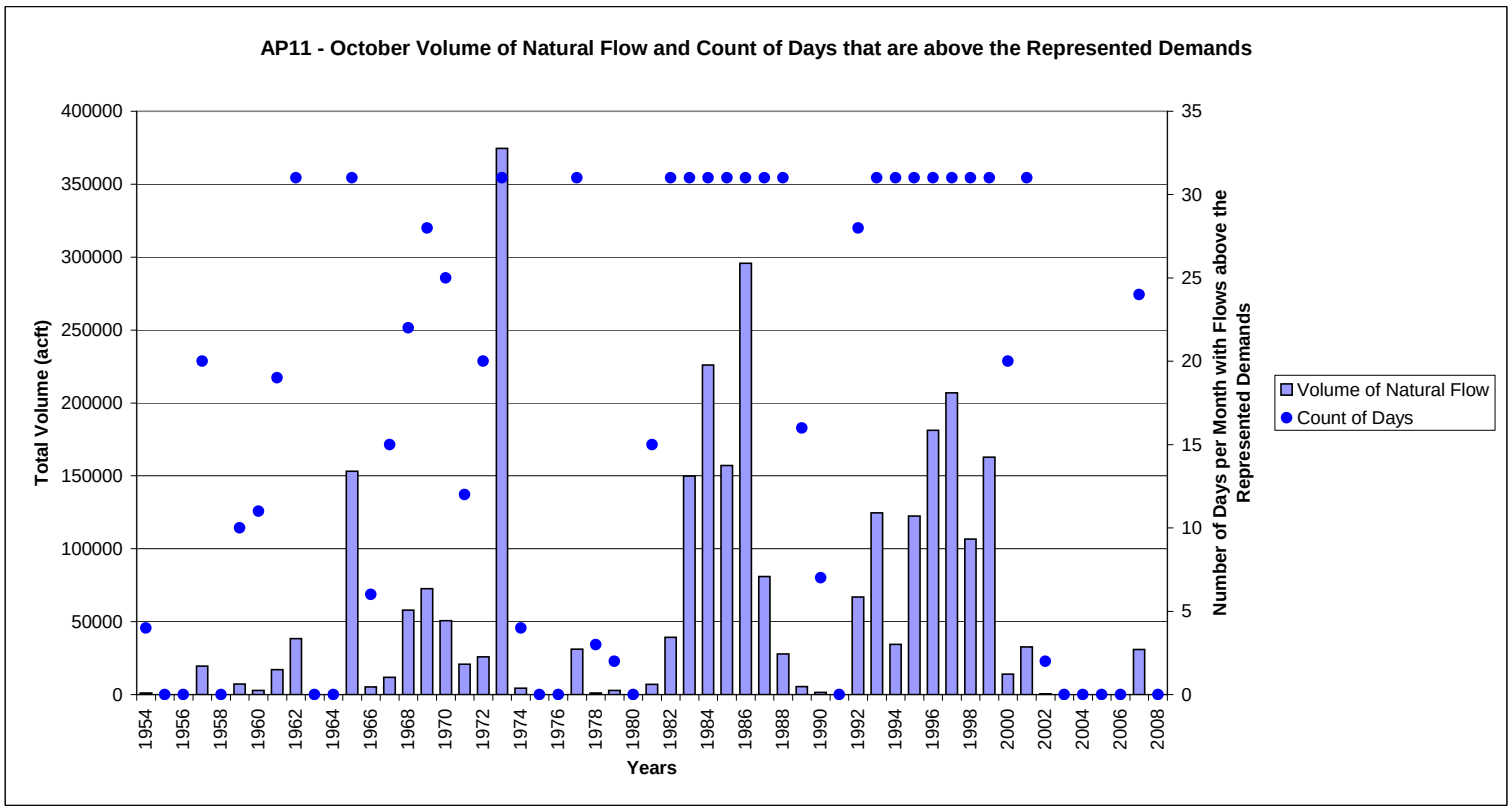

AP11 - May Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

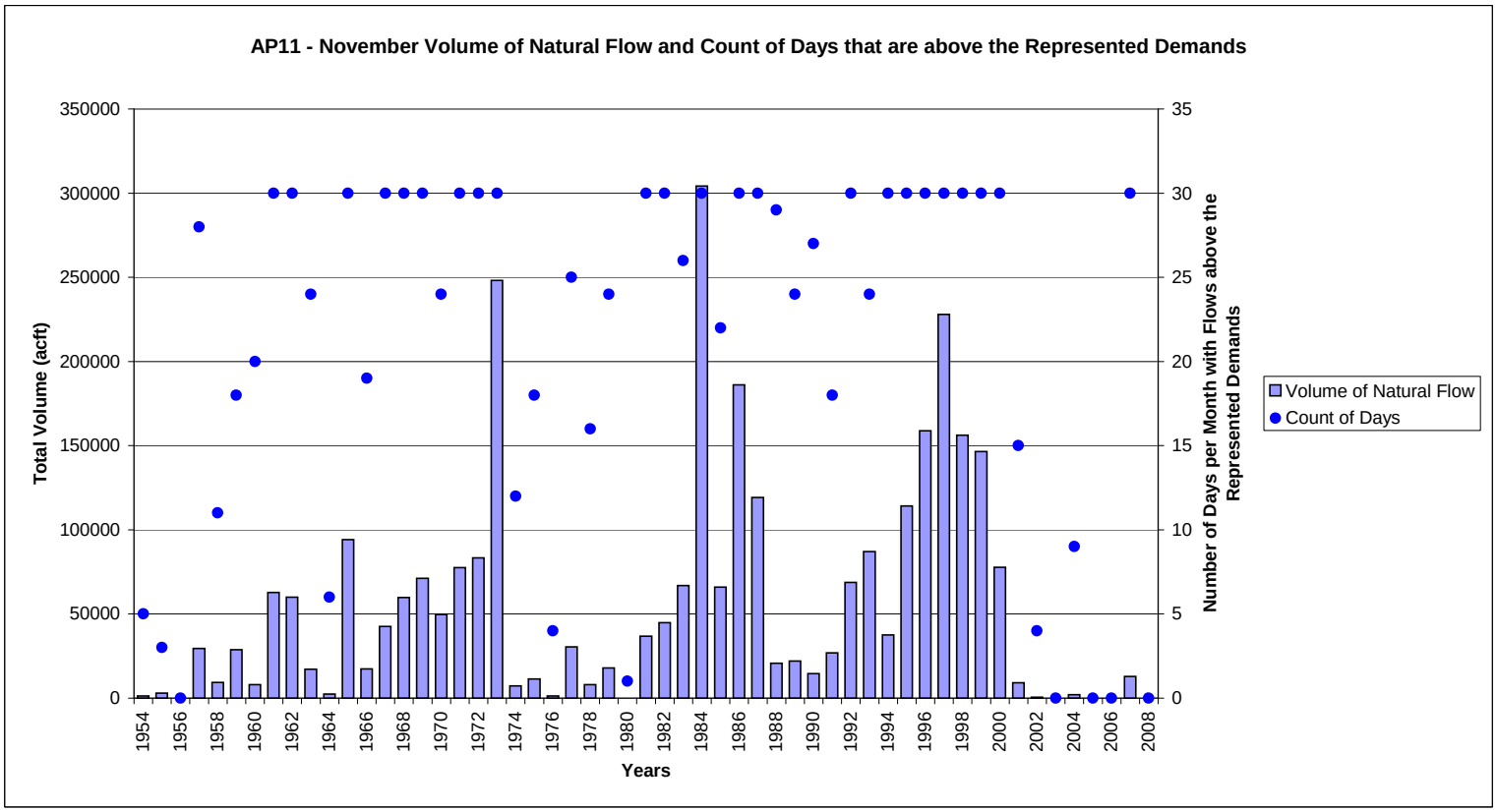

AP11 - June Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

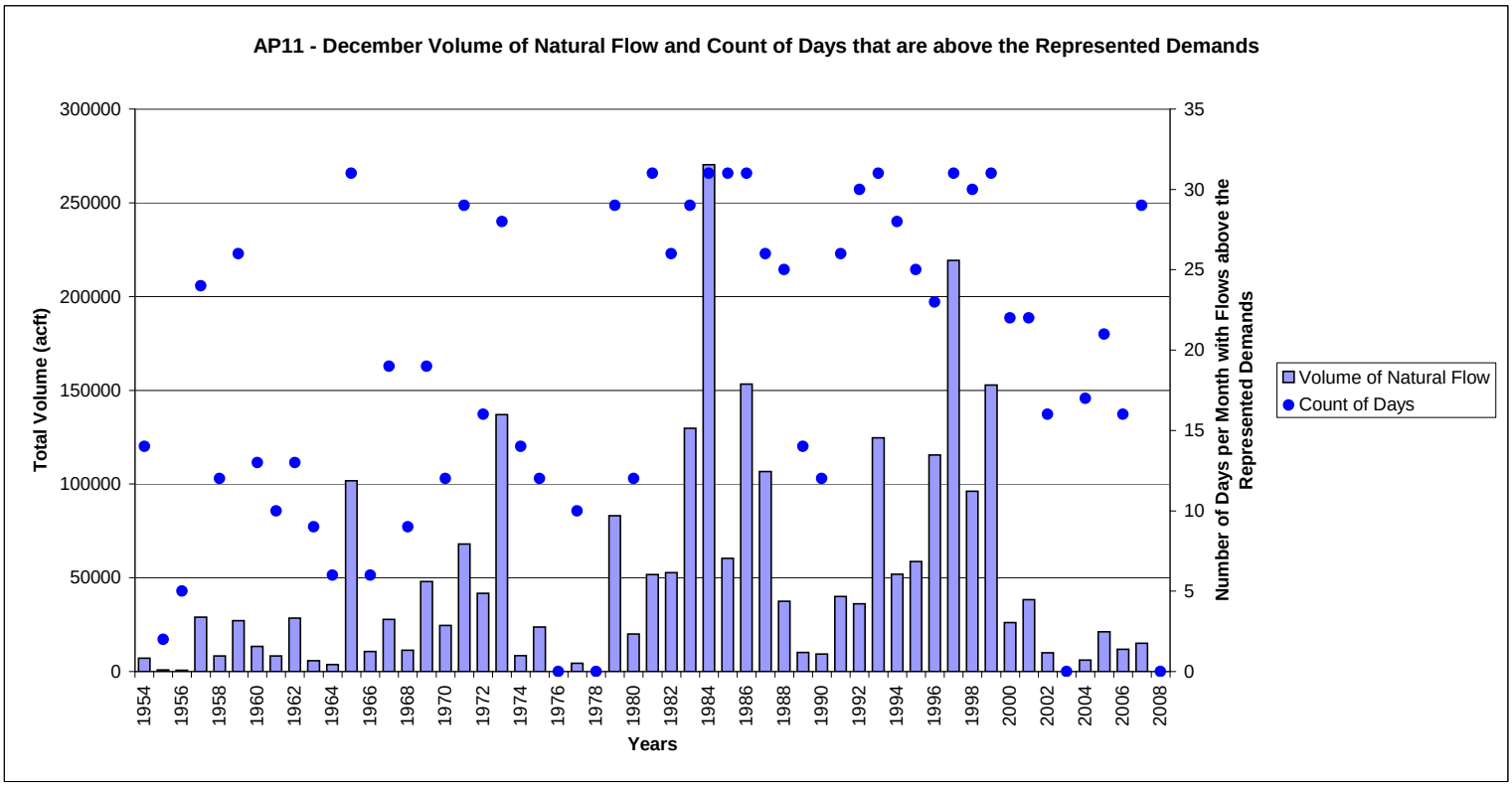

AP11 - July Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

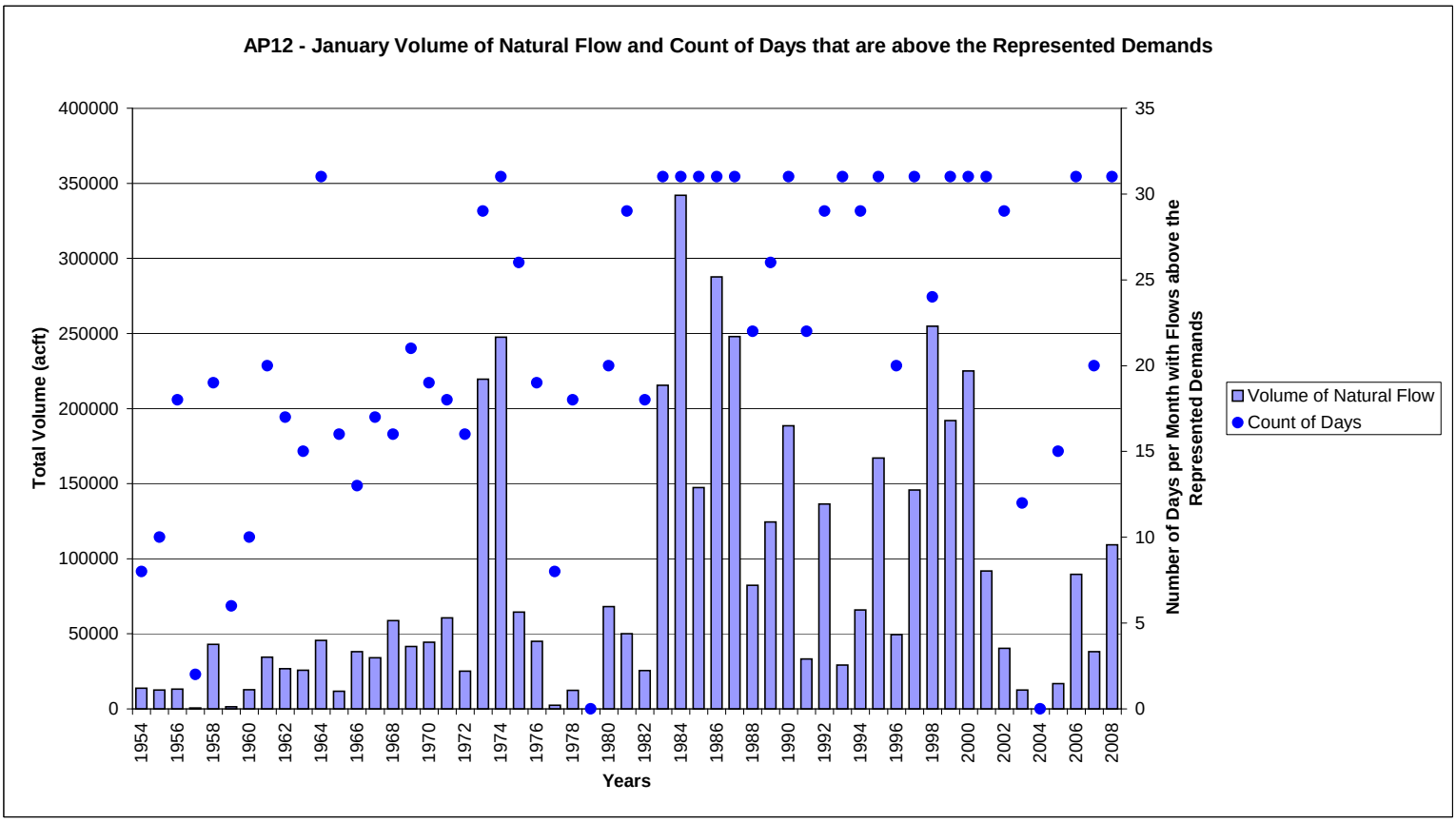

AP11 - August Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

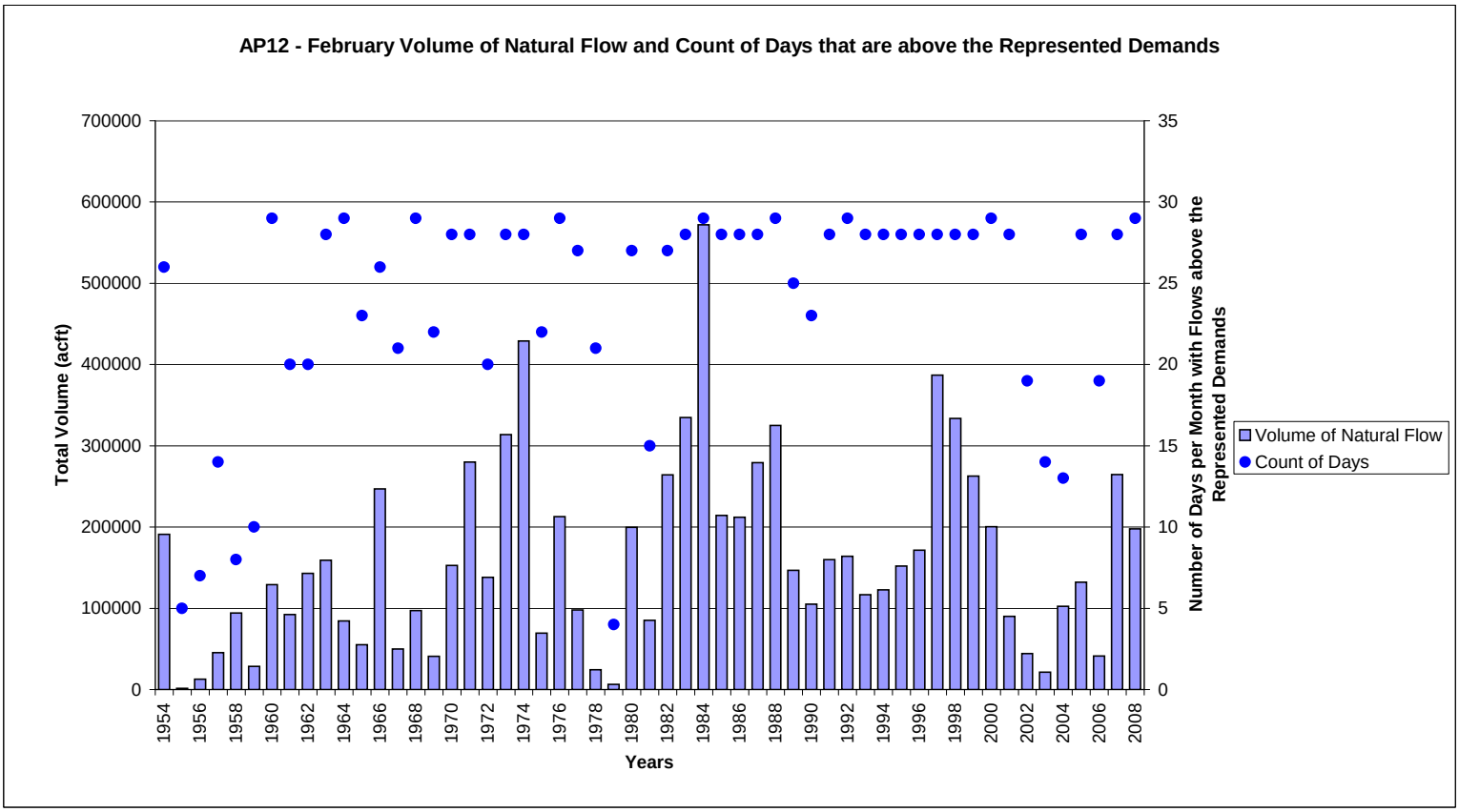

AP11 - September Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

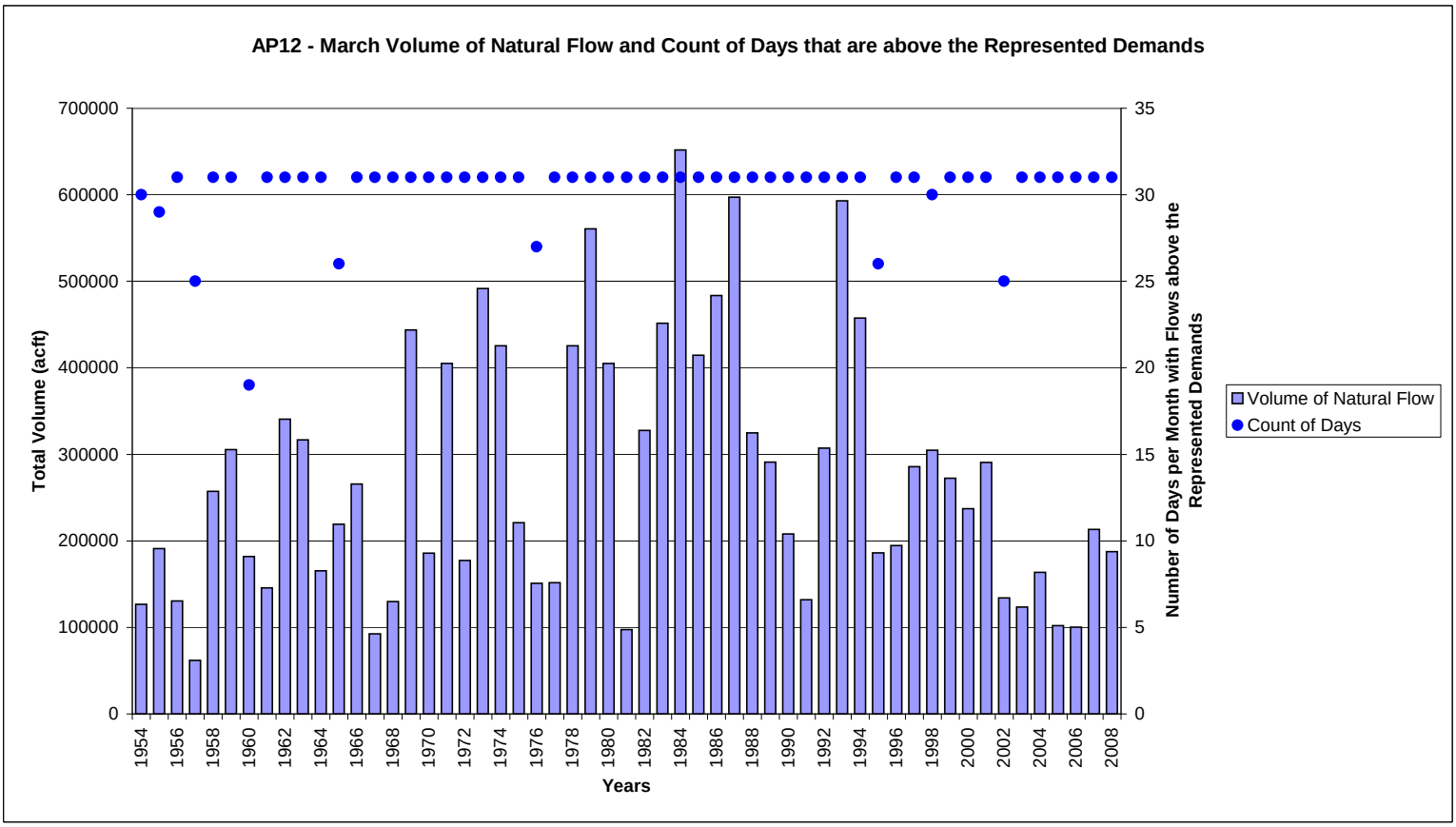

AP11 - October Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

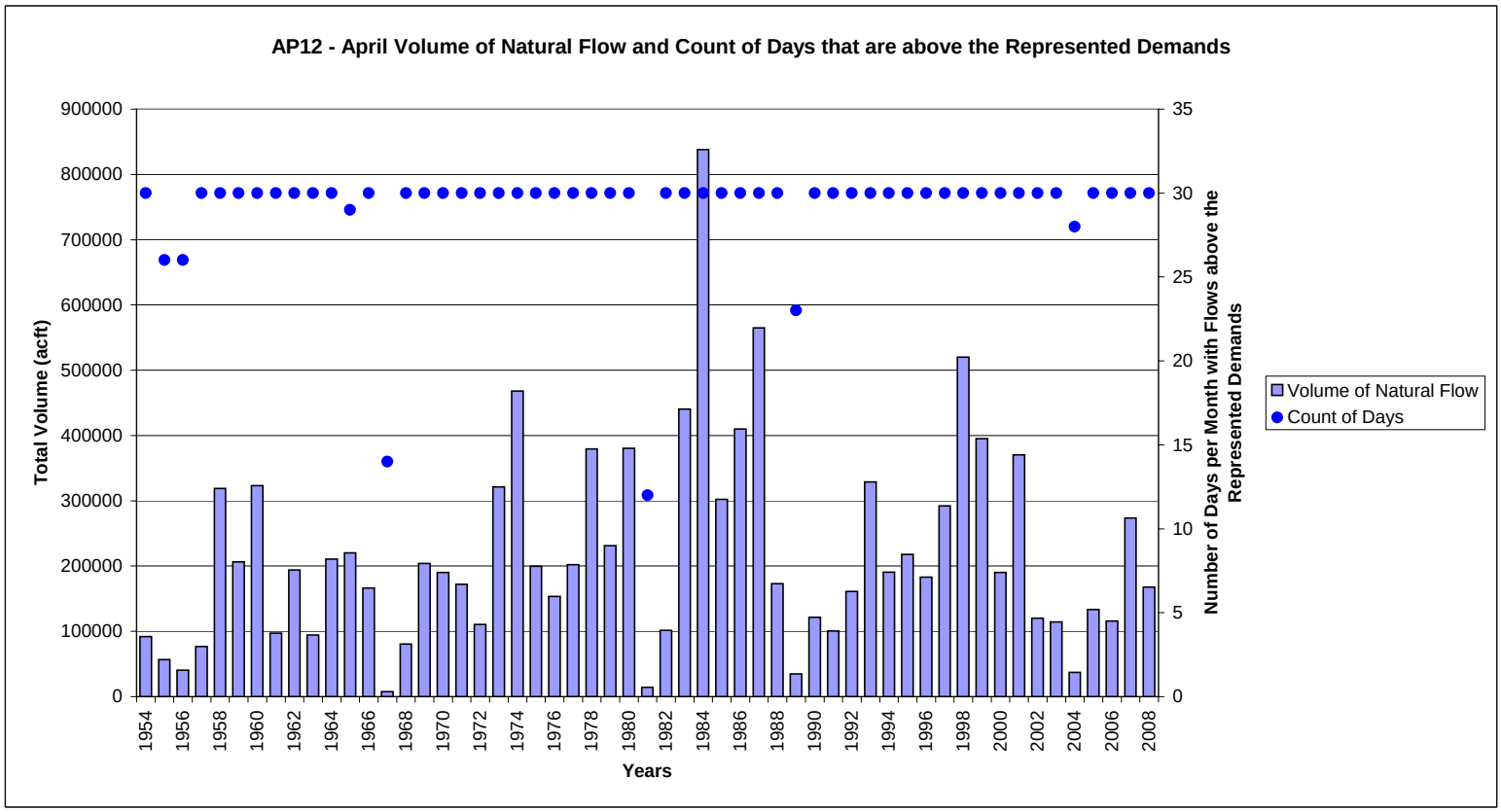

AP11 - November Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

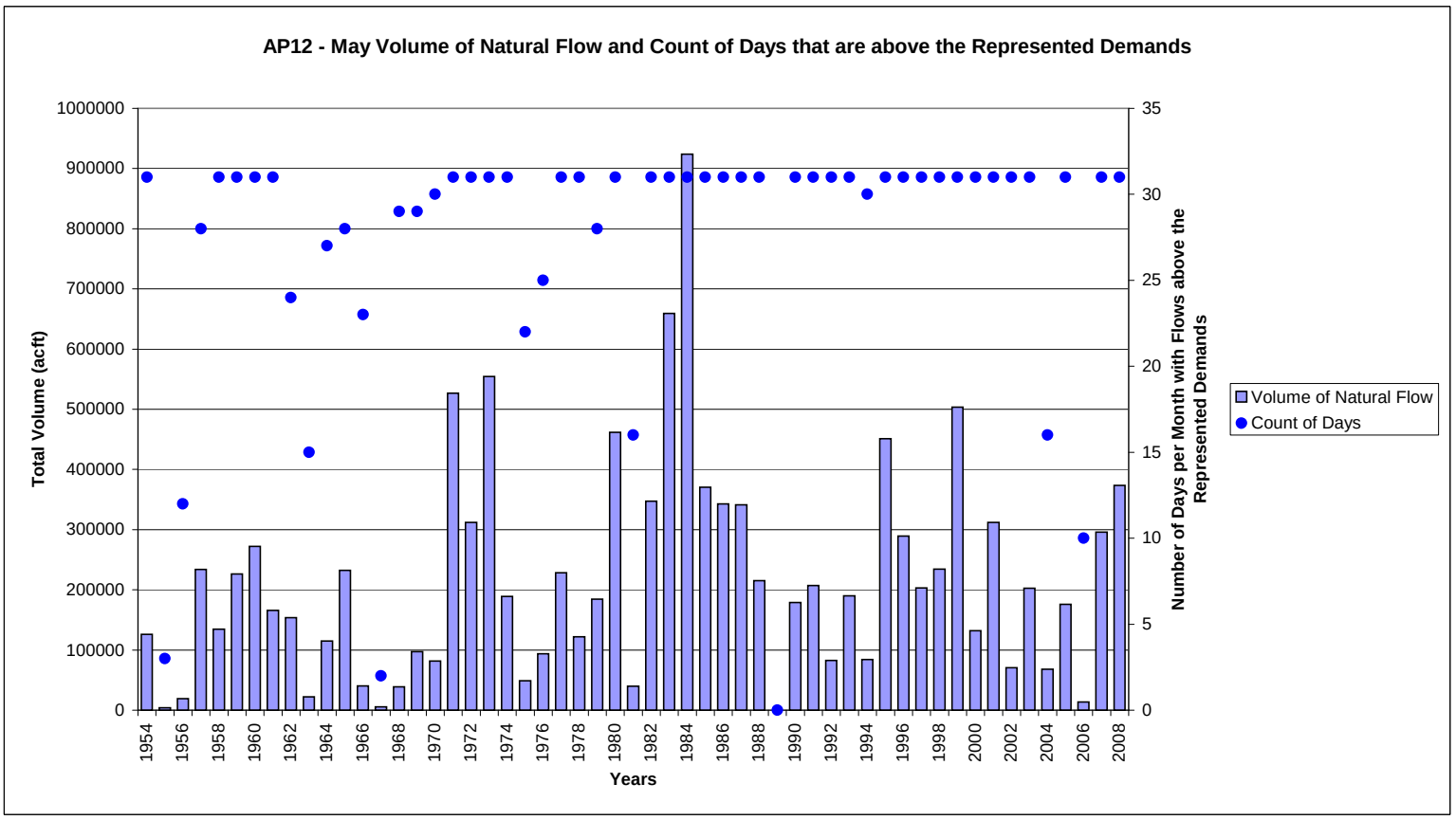

AP11 - December Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

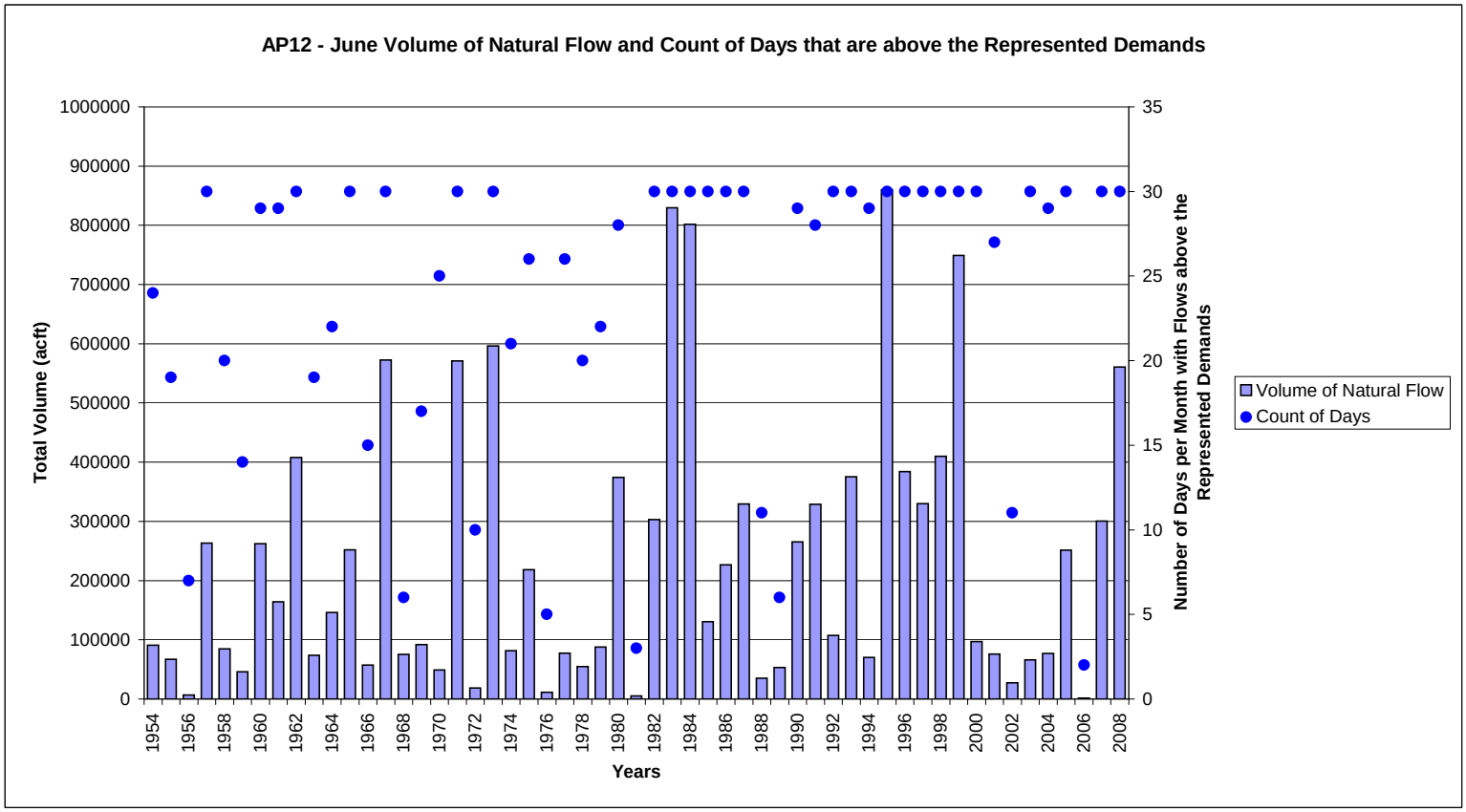

AP12 - January Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

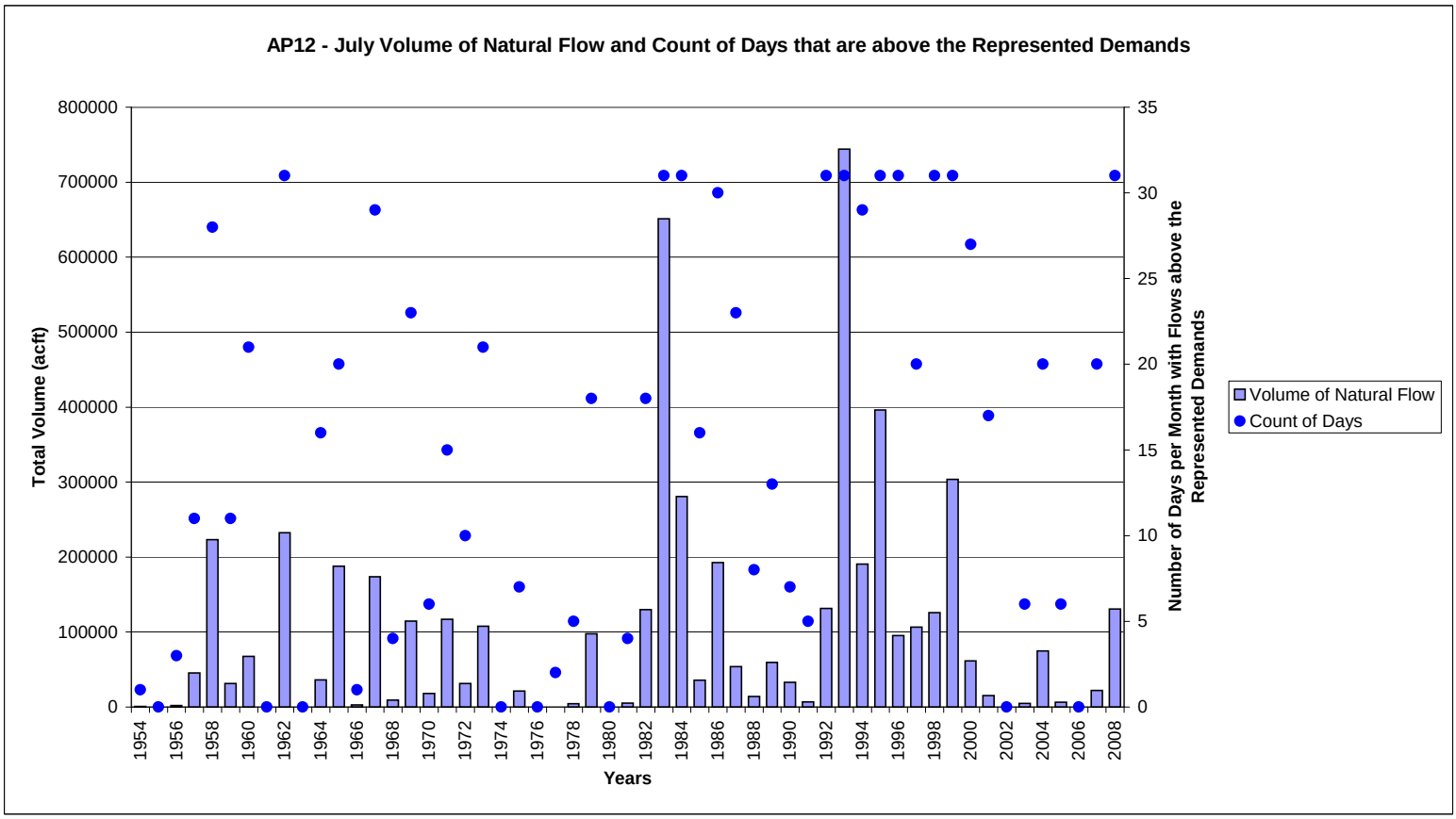

AP12 - February Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

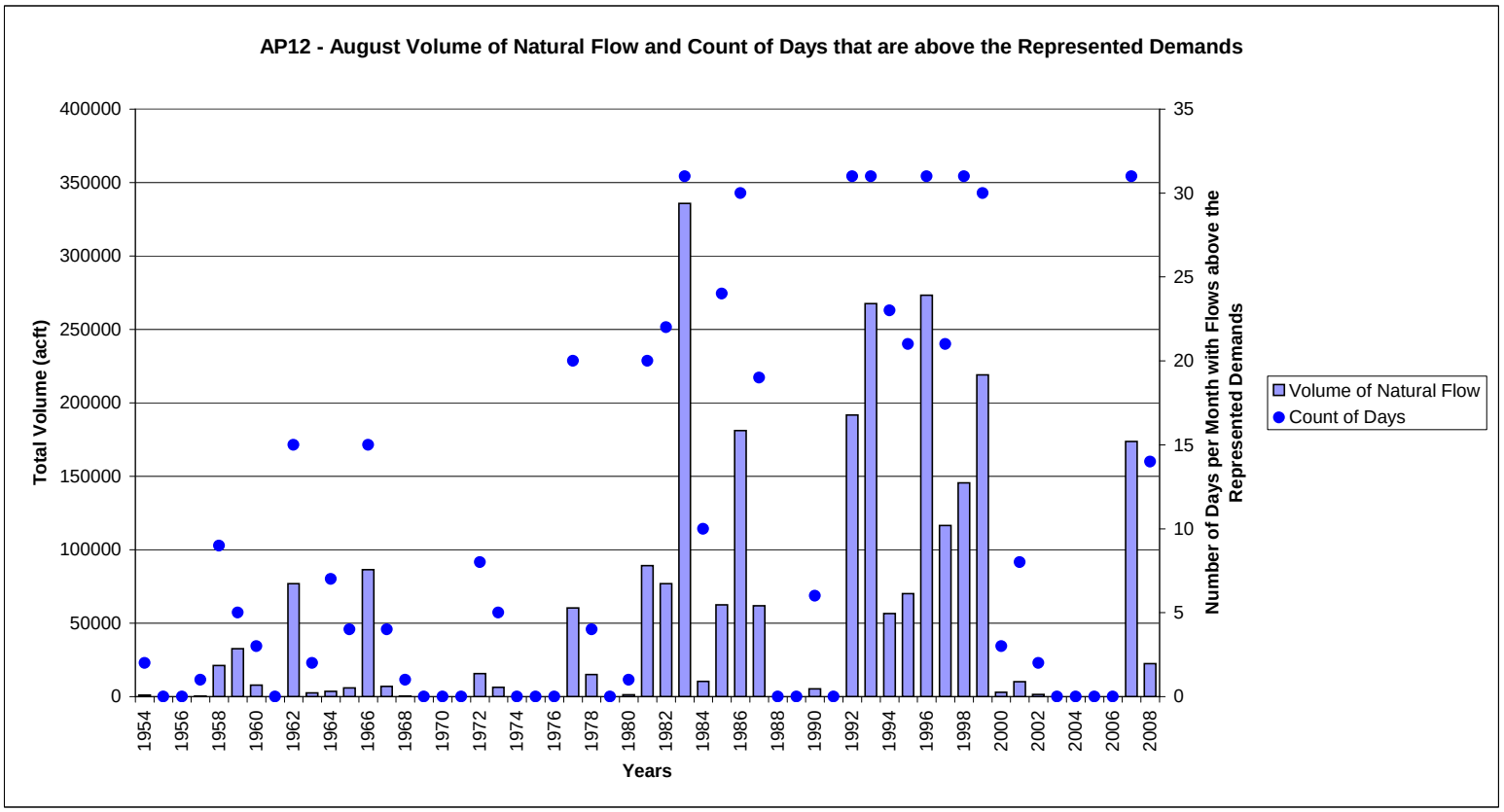

AP12 - March Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
100000
200000
300000
400000
500000
600000
700000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

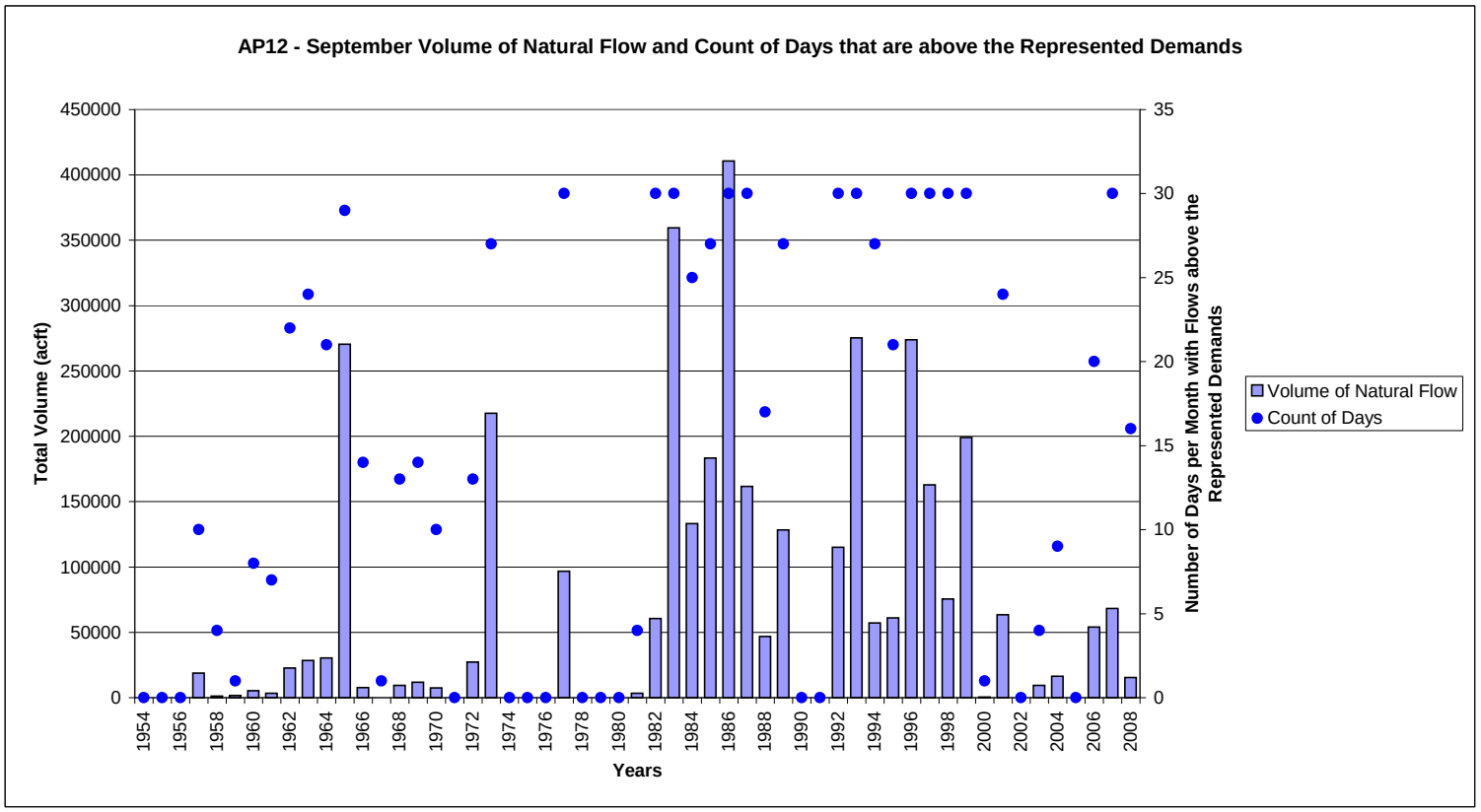

AP12 - April Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
100000
200000
300000
400000
500000
600000
700000
800000
900000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

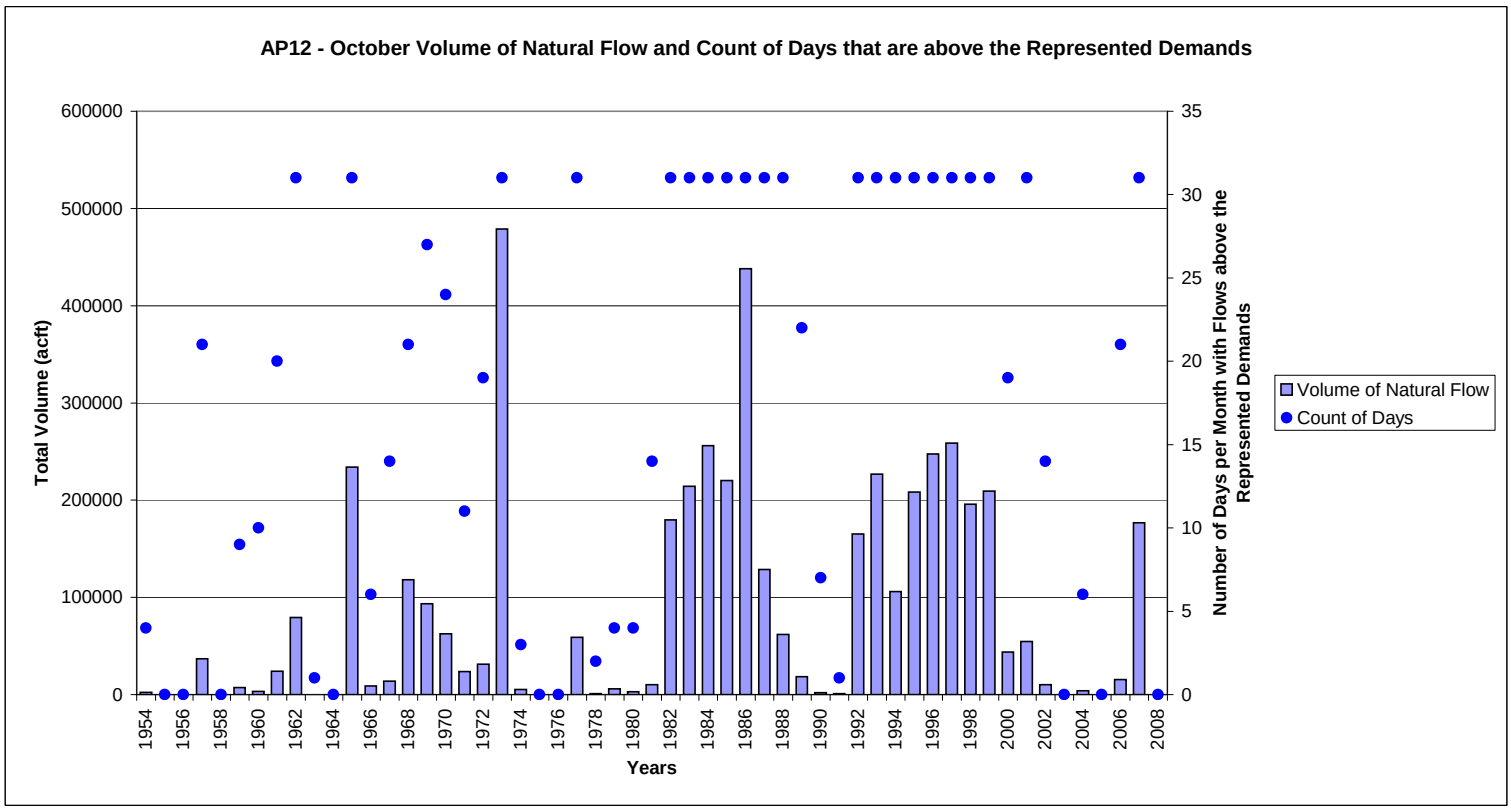

AP12 - May Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

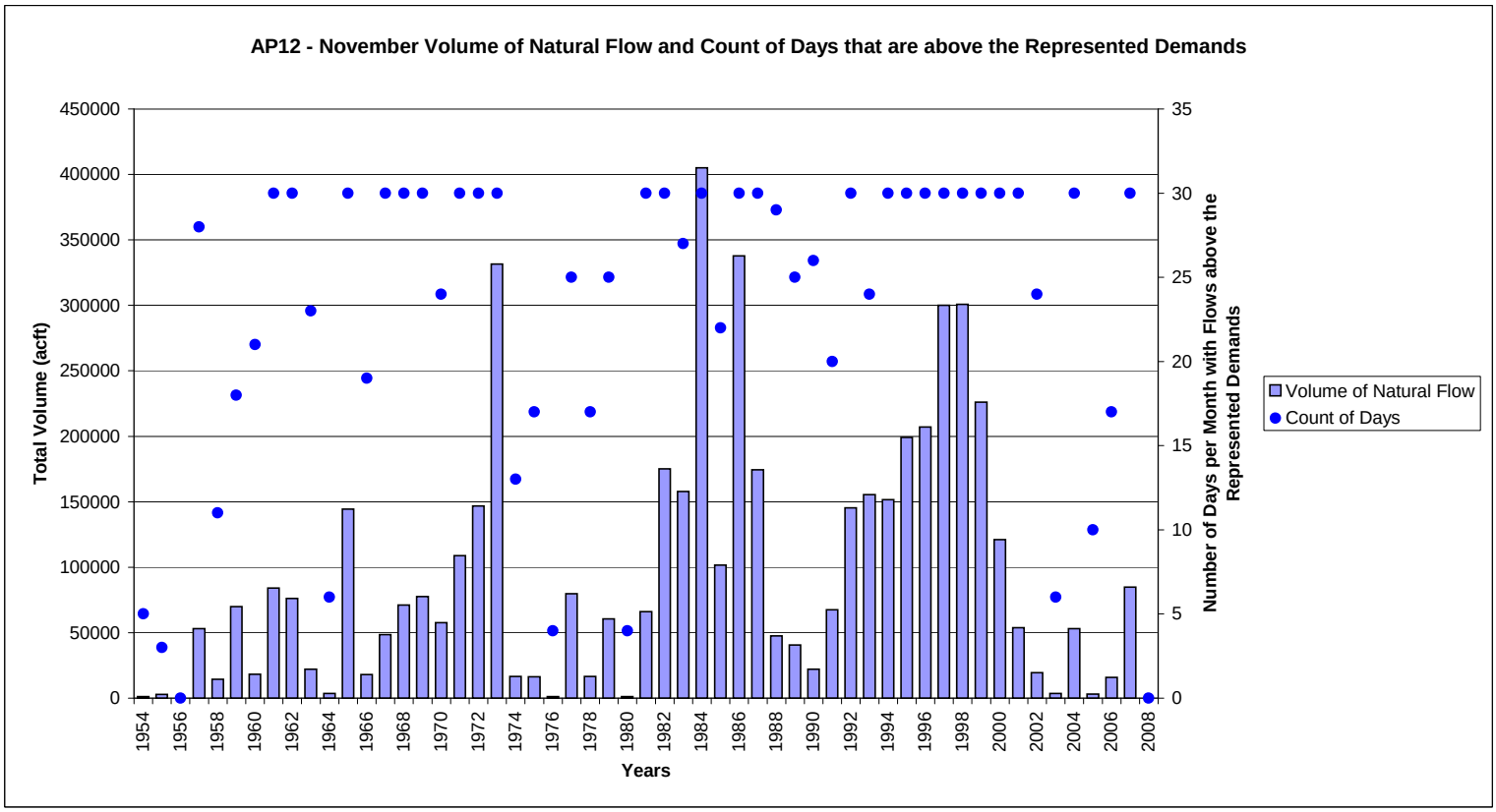

AP12 - June Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

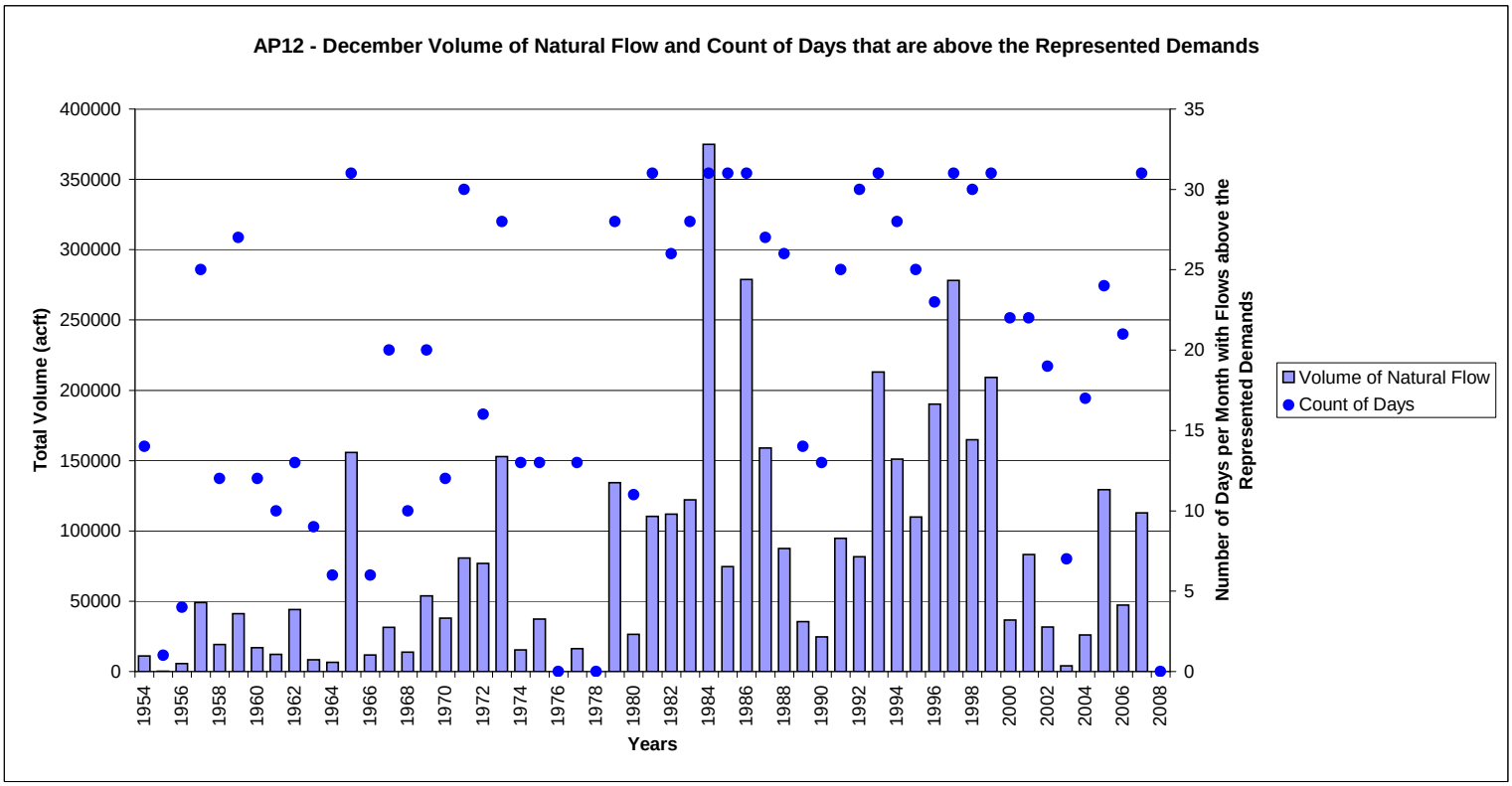

AP12 - July Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

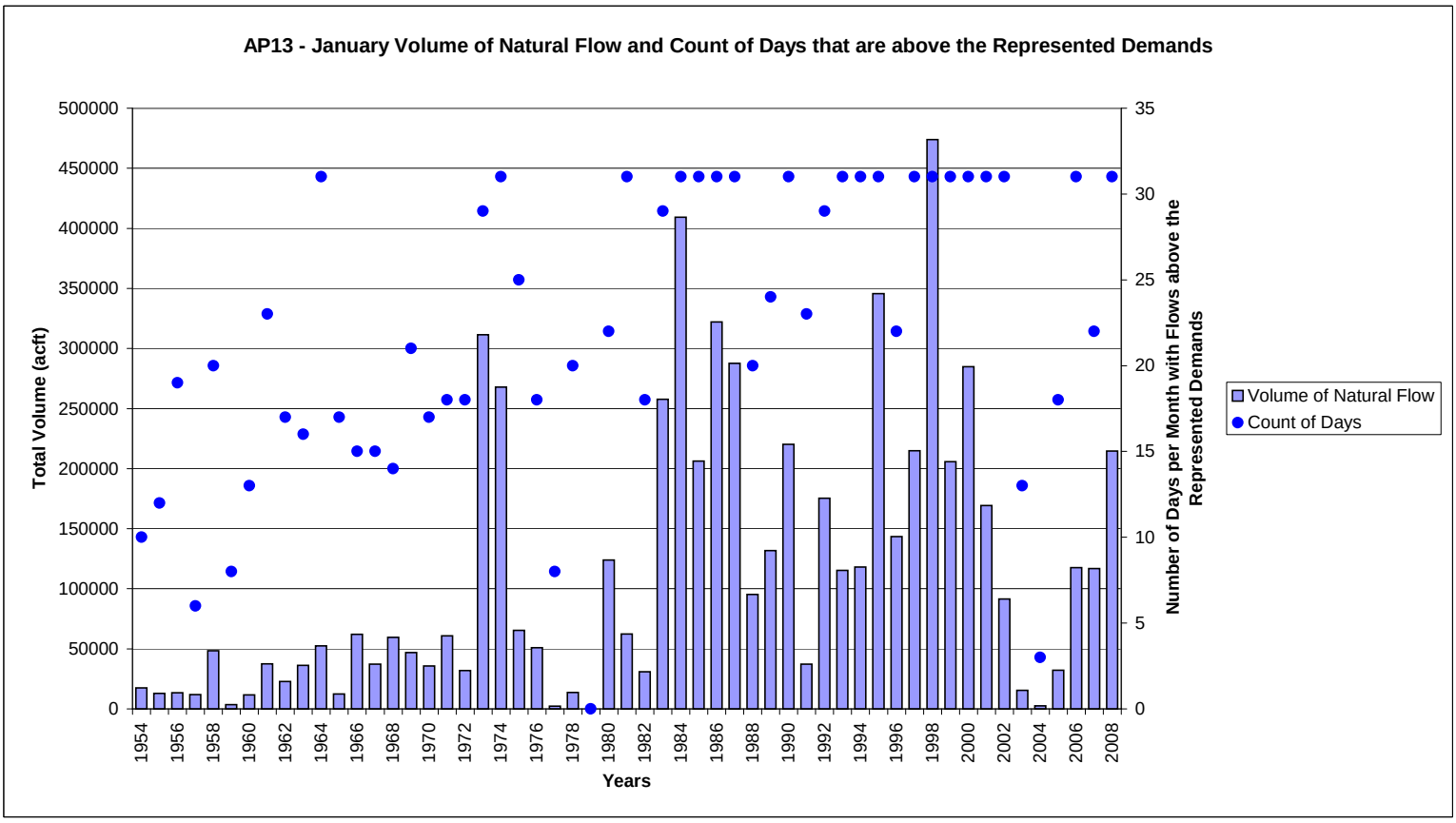

AP12 - August Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

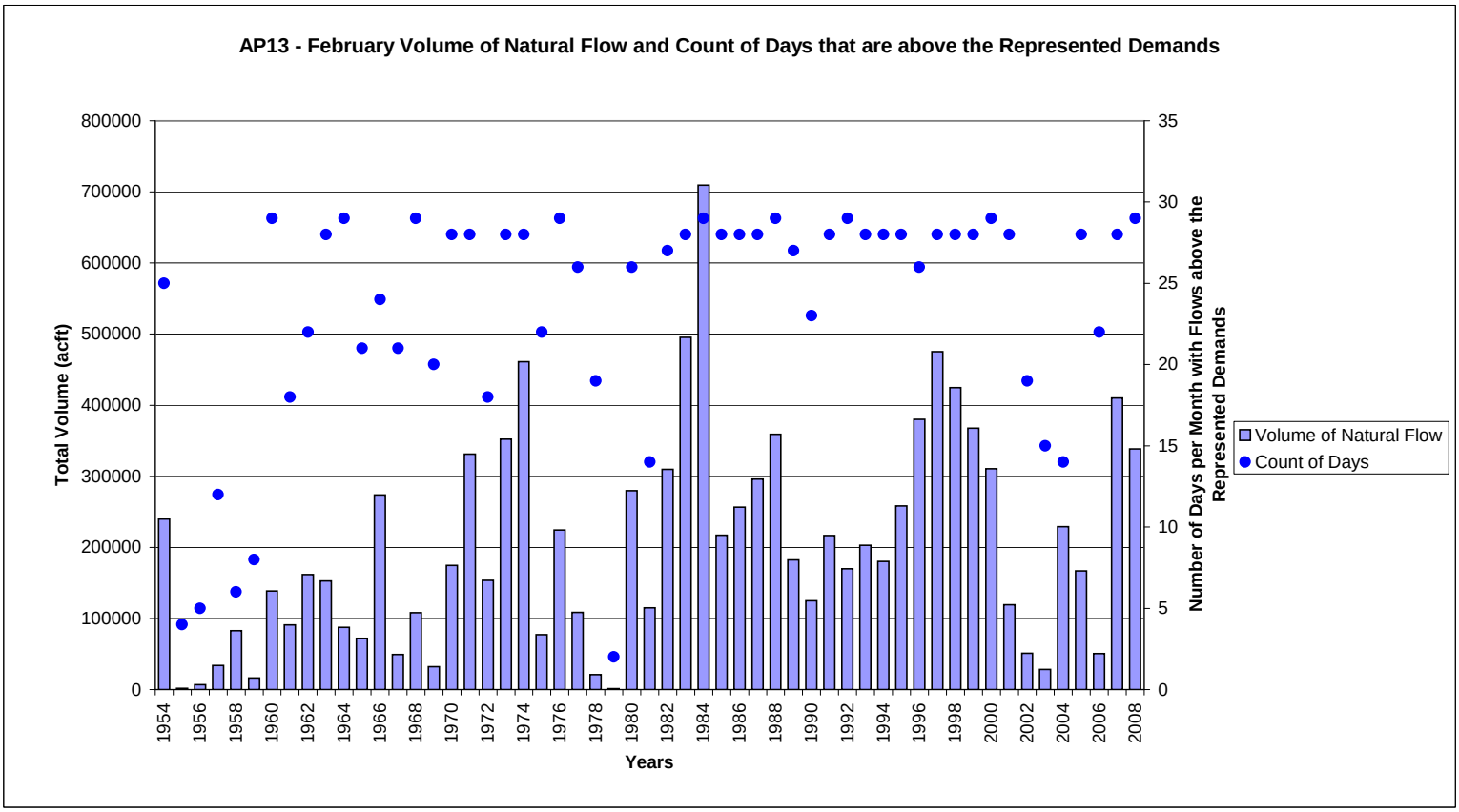

AP12 - September Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

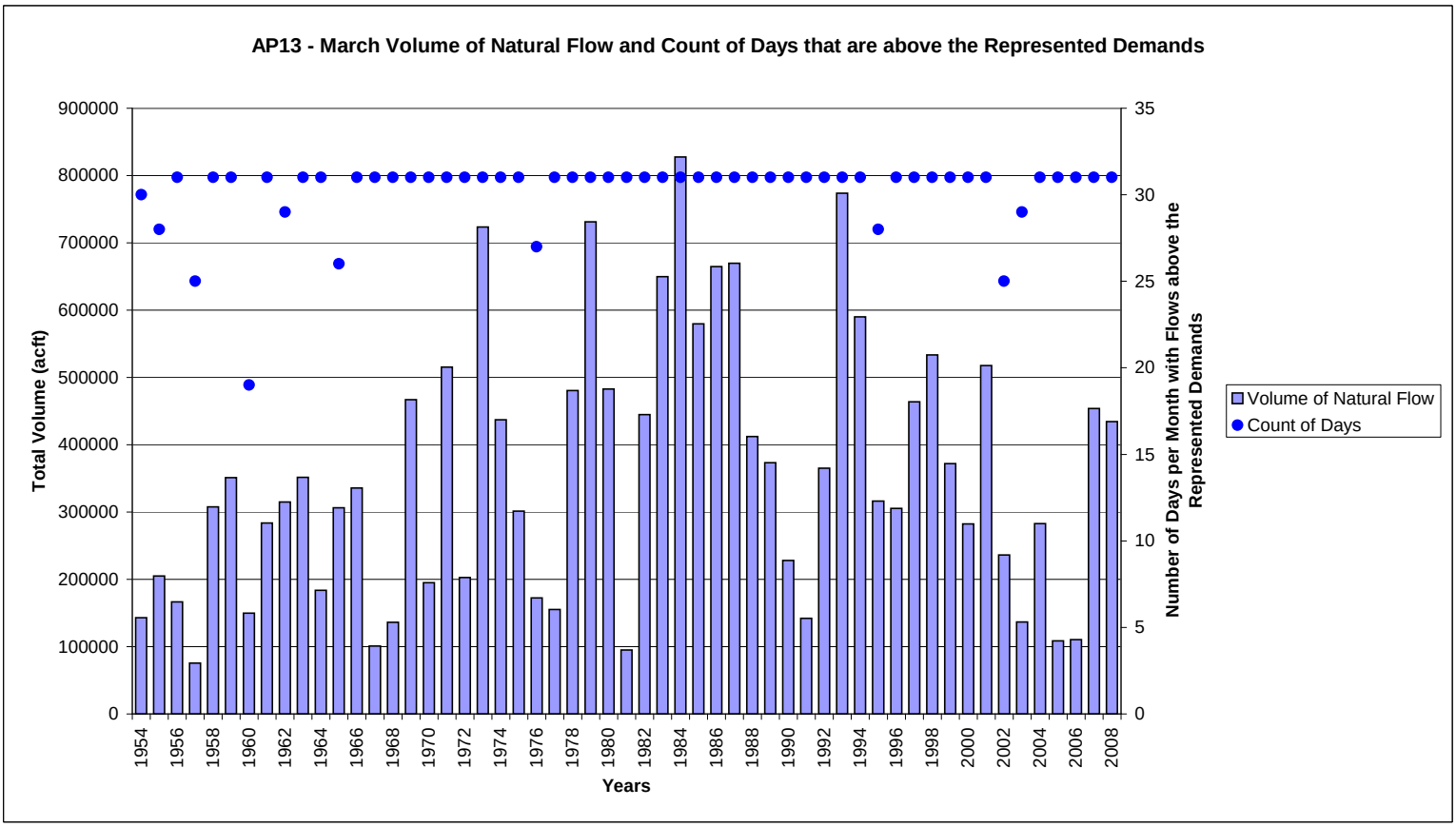

AP12 - October Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

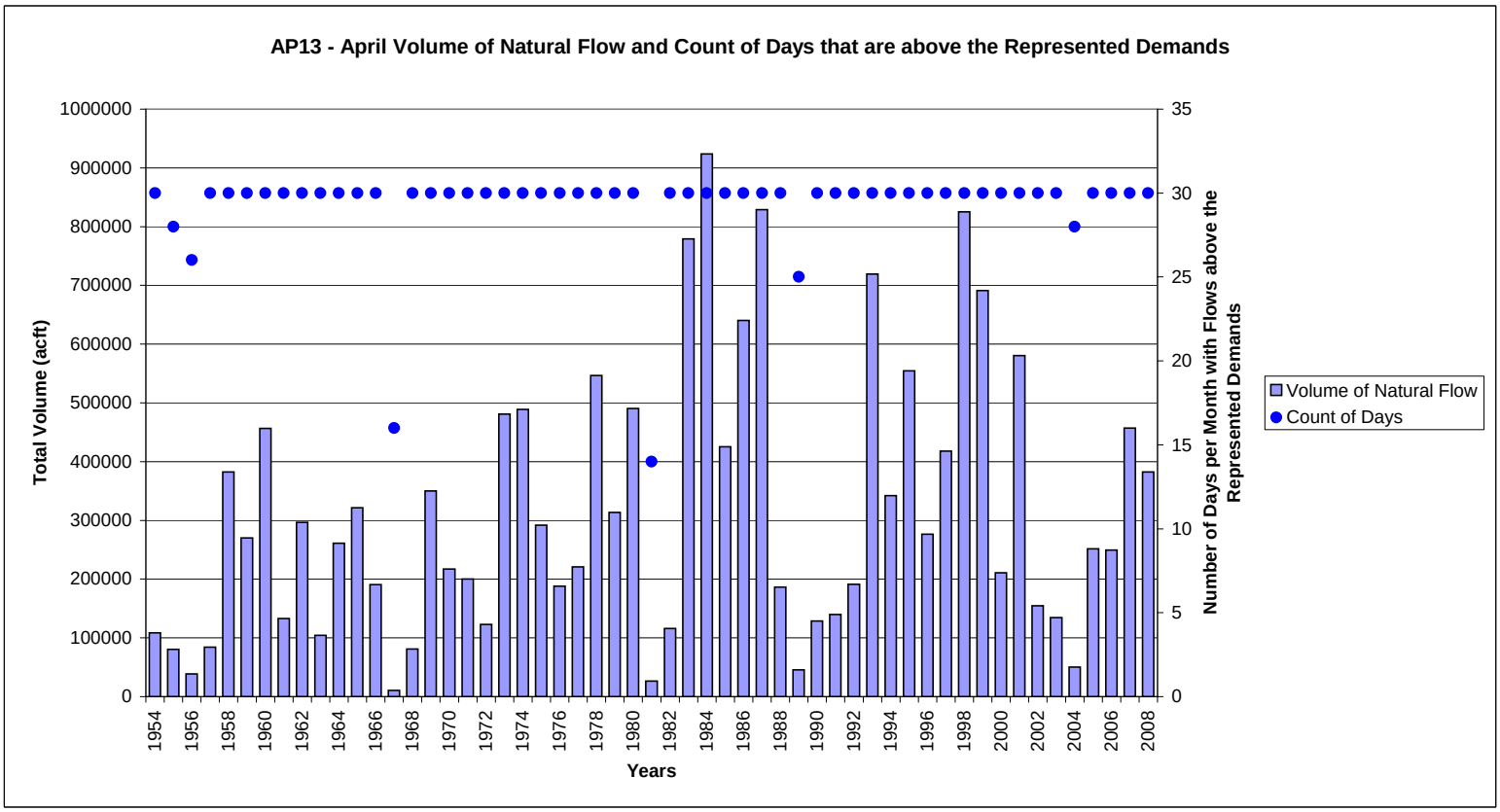

AP12 - November Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

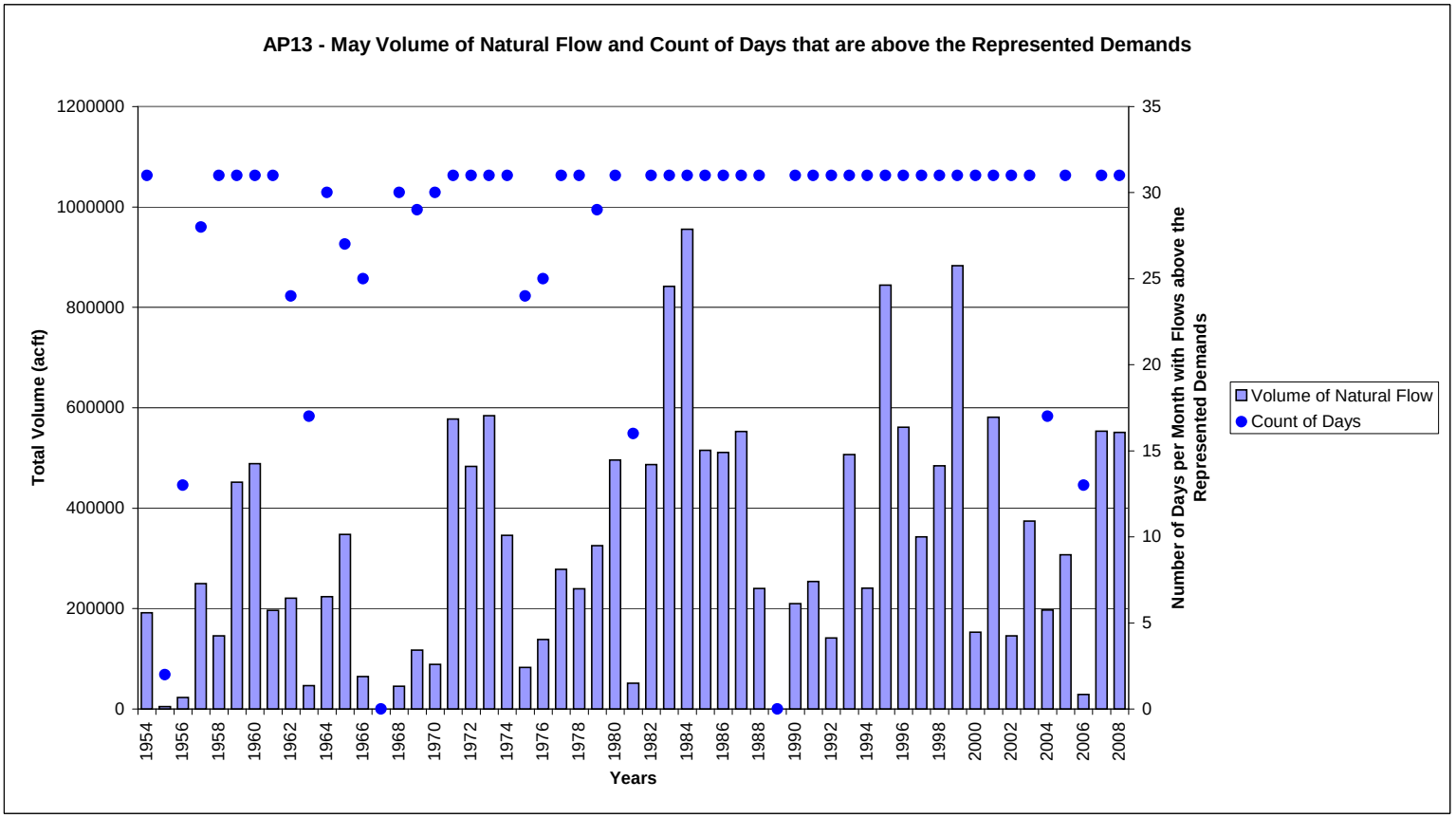

AP12 - December Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

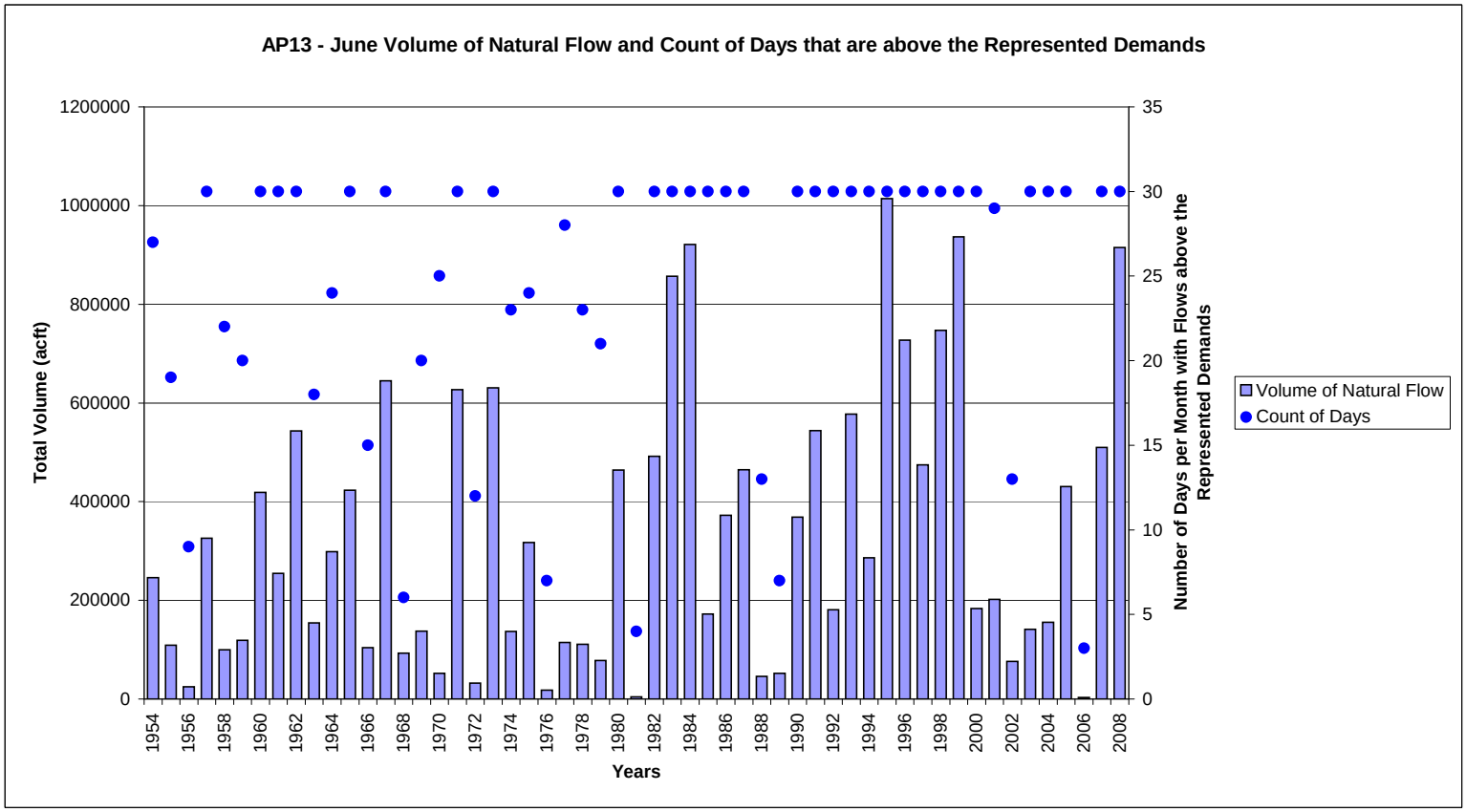

AP13 - January Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

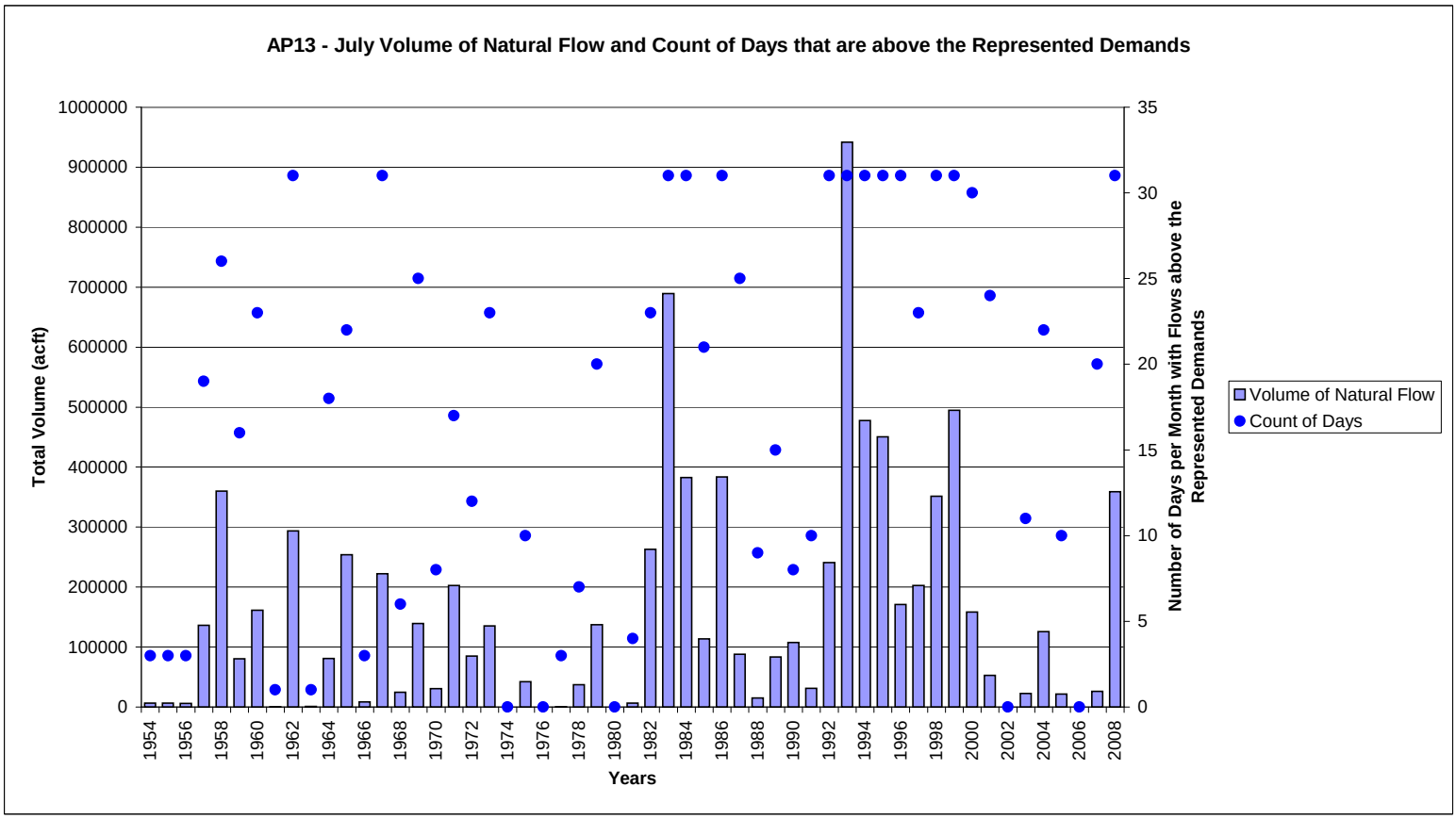

AP13 - February Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

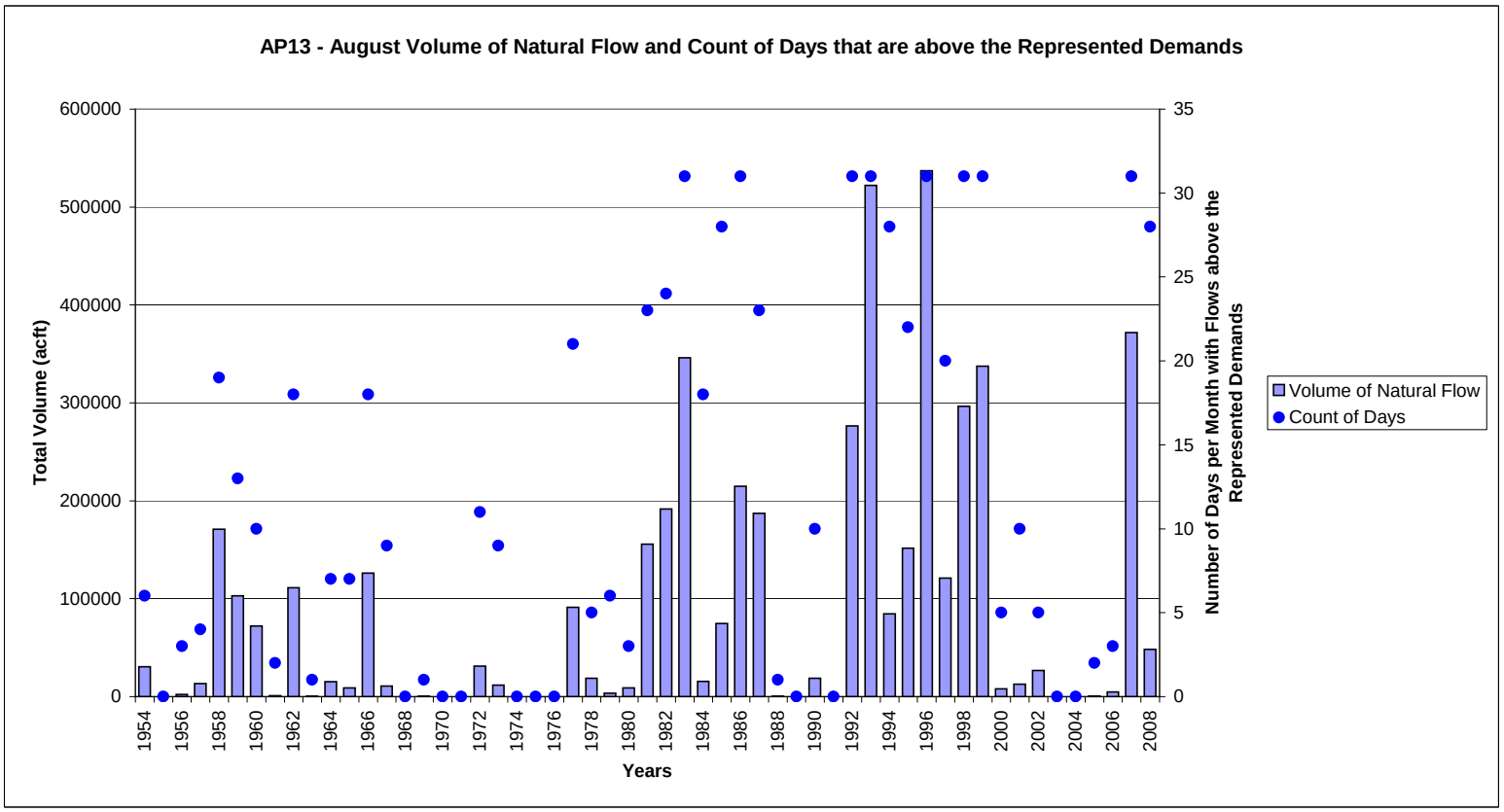

AP13 - March Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

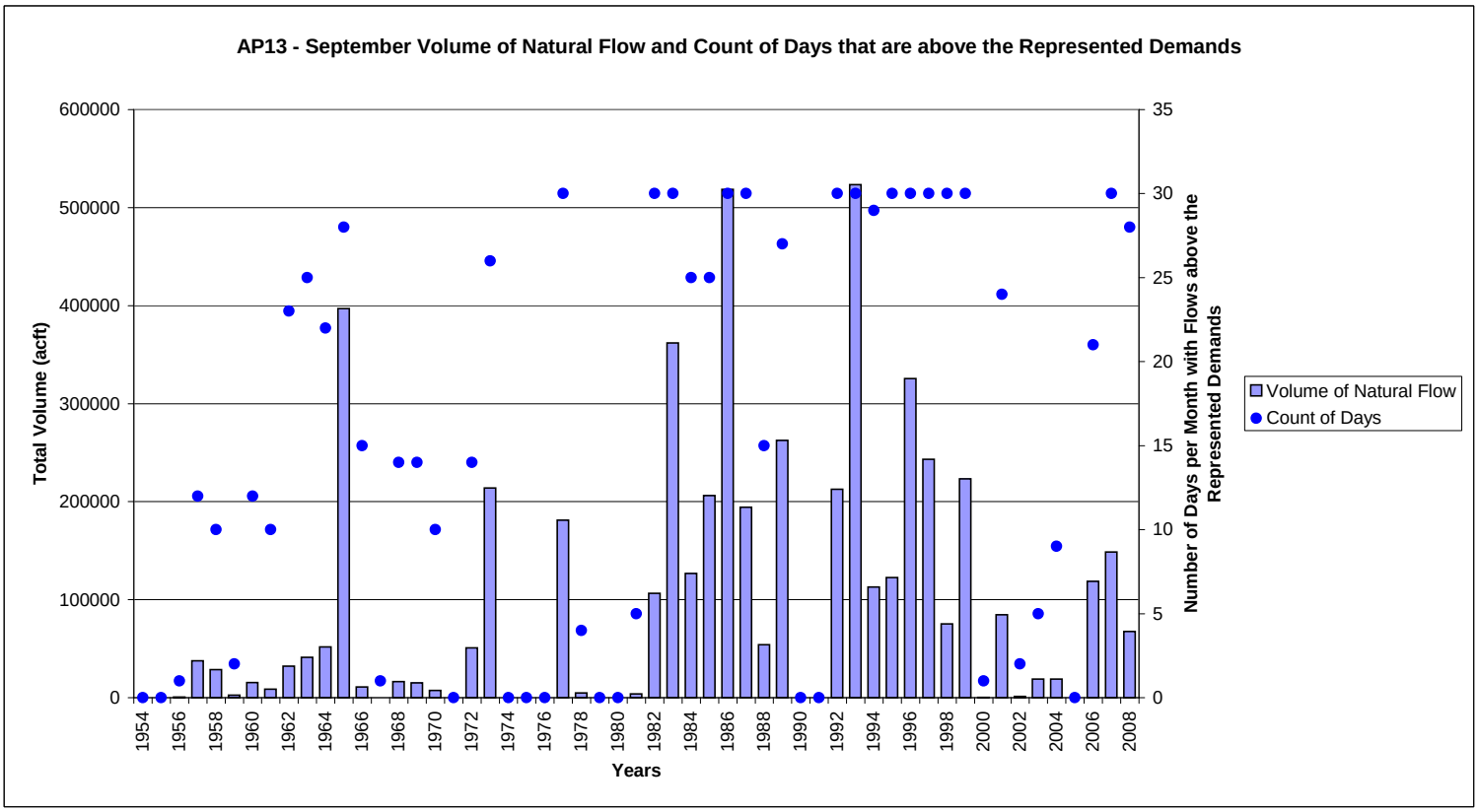

AP13 - April Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

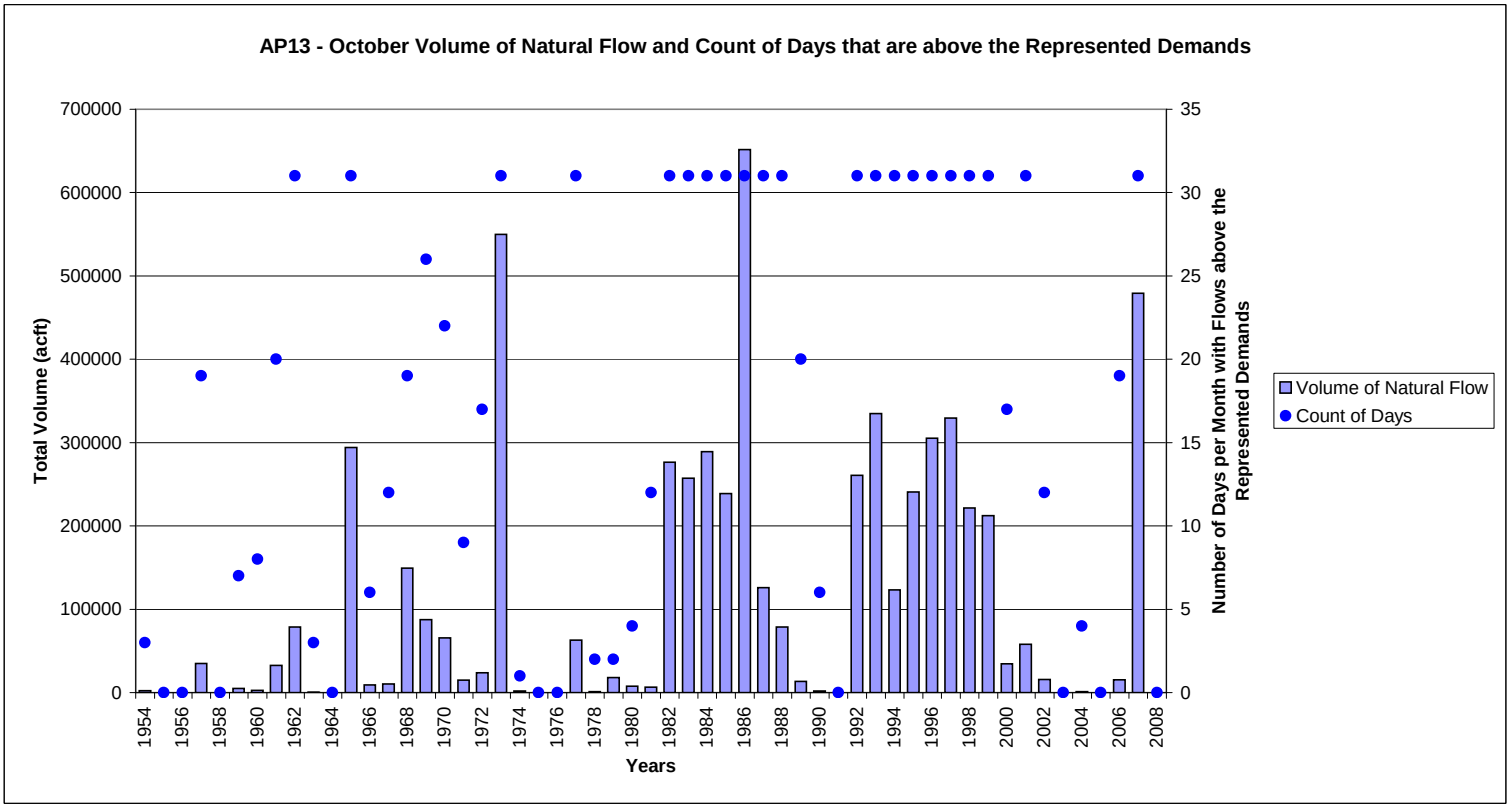

AP13 - May Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

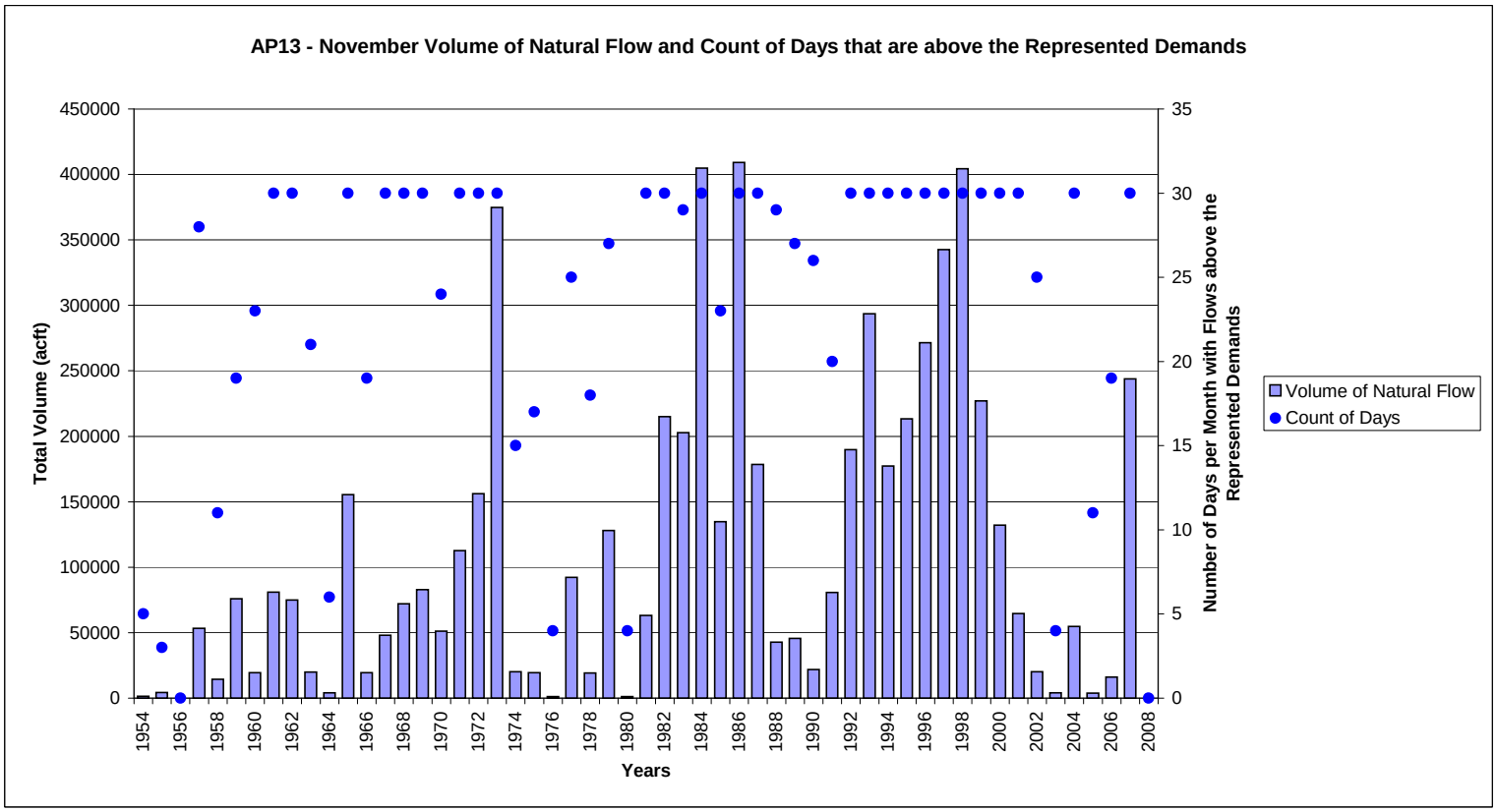

AP13 - June Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

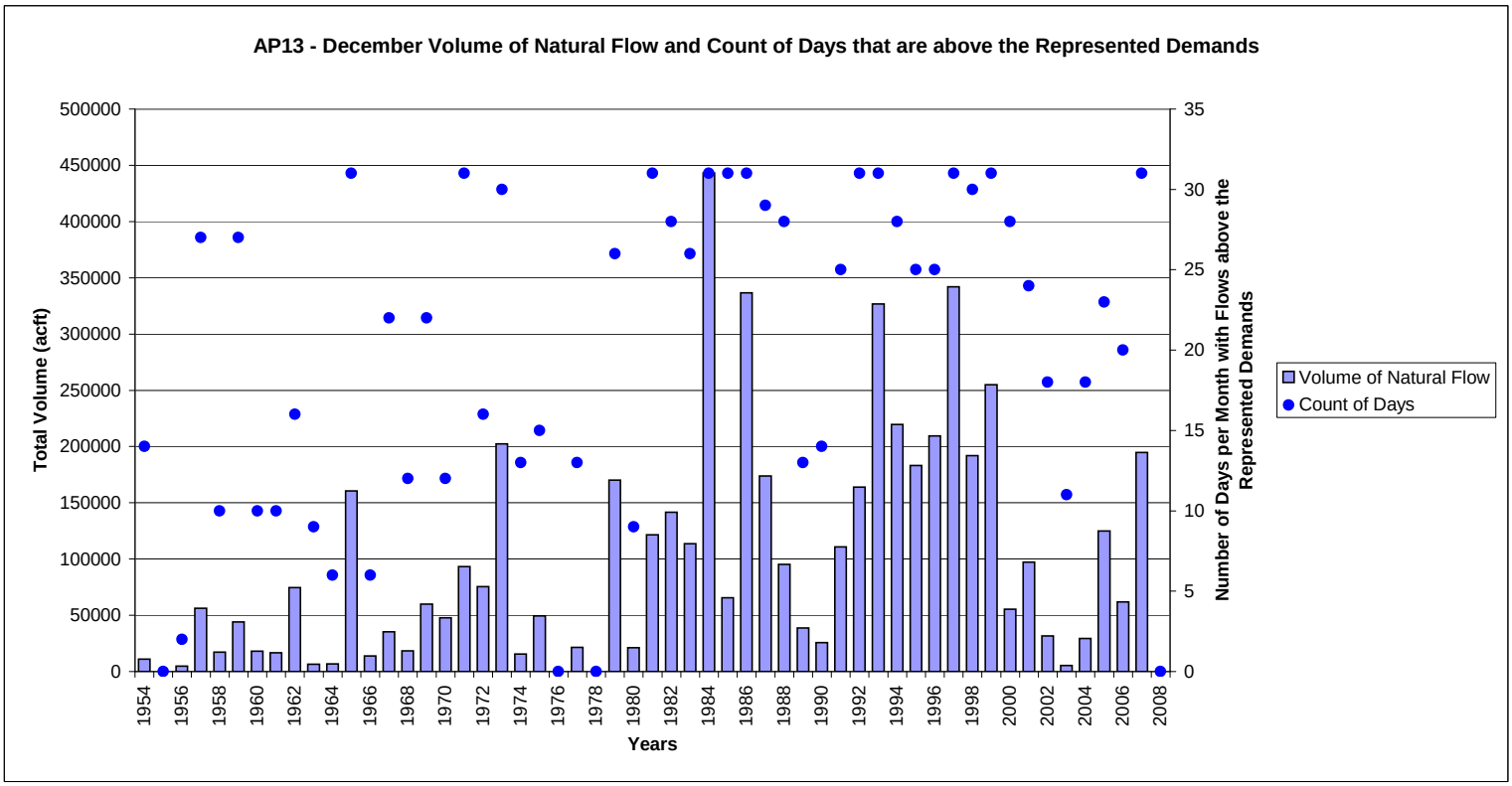

AP13 - July Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days


AP13 - August Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days


AP13 - September Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
100000
200000
300000
400000
500000
600000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008


AP13 - October Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days
0
100000
200000
300000
400000
500000
600000
700000
0
5
10
15
20
25
30
35
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

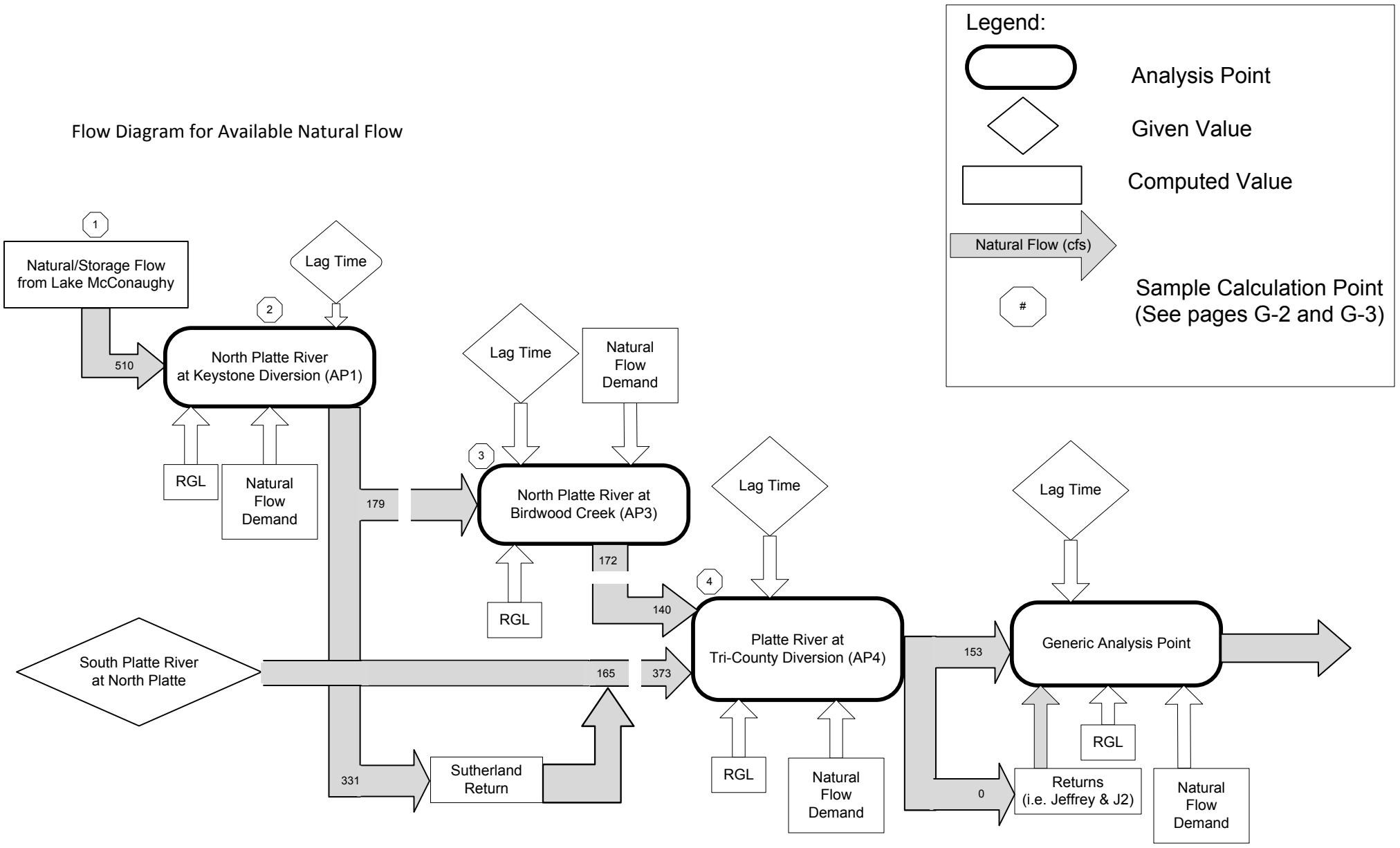

AP13 - November Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days


AP13 - December Volume of Natural Flow and Count of Days that are above the Represented Demands
Total Volume (acft)
Number of Days per Month with Flows above the Represented Demands
Years
Volume of Natural Flow
Count of Days

Appendix G – Flow Chart and Example Calculation for Available Natural Flow

Appendix G contains a conceptual flow chart and example calculation for determining available natural flow.

Flow Diagram for Available Natural Flow



Example Calculations for Flow Diagram for Available Natural Flow

1. 4/30/2003
   Lake McConaughy Inflow = North Platte River @ Lewellen + tributaries
   = 1006 cfs
   5/1/2003
   Historic Lake McConaughy Release = 510 cfs

   Natural Flow from Lake McConaughy = <u>510 cfs</u>
   (lesser value between historic inflow and historic release)

2. 5/1/2003
   Natural Flow from Lake McConaughy = 510 cfs
   Natural Flow Demand for North Platte Canals[1] = 386 cfs
   Reach Gain/Loss (Keystone – Birdwood), lagged 2 days = 207 cfs[2]

   Natural Flow Demand (adjusted for RGL) sent down river:
   386 – 207 = <u>179 cfs</u>

   Natural Flow down Keystone Canal (Sutherland):
   510 – 179 = <u>331 cfs</u>

3. 5/2/2003
   Natural Flow down river from Step 2 = 179 cfs
   (Assumed diverted into Keith-Lincoln, North Platte, and Paxton-Hershey Canals)
   Birdwood Creek Inflow = 172 cfs

   Natural Flow sent down river = <u>172 cfs</u>

4. 5/3/2003
   <u>North Platte River (from Step 3)</u>
   Natural Flow down river from Step 3 = 172 cfs
   Natural Flow Demand for North Platte Canals[3] = 136 cfs
   Reach Gain/Loss (Birdwood – North Platte) = 104 cfs[4]

   Natural Flow in North Platte River @ North Platte:
   172 – 136 + 104 = <u>140 cfs</u>

[1] Keith-Lincoln Canal, North Platte Canal, and Paxton-Hershey Canal
[2] 2/3 of total Reach Gain/Loss from Keystone to North Platte
[3] Suburban Canal and Cody-Dillon Canal
[4] 1/3 of total Reach Gain/Loss from Keystone to North Platte

South Platte River
South Platte River @ North Platte (historical) = 165 cfs
Natural Flow from Sutherland Canal, lagged 2 days = 331 cfs (see Step 2)
Historical Korty Canal Diversion, lagged 2 days = 85 cfs

Sutherland Return Natural Flow (assuming 50% system loss):
½(331) + ½(85) = 208 cfs

Natural Flow in South Platte River @ North Platte:
165 + 208 = 373 cfs

Platte River Natural Flow upstream of Tri-County Diversion:
140 + 373 = 513 cfs

NPPD Canal[5] Demands adjusted for Reach Gain/Loss (Brady – Cozad), lagged 1 day = 1,276 cfs

Since
1,276 > (513 + Reach Gain/Loss)

Then, all Natural Flow sent down river serving NPPD Canals[5], and zero (0) Natural Flow sent down Tri-County

[5] Gothenburg Canal, Thirty-Mile Canal, Six-Mile Canal, Cozad Canal, Orchard-Alfalfa Canal, and Dawson County Canal