



January 26, 2016

Compliance Coordinator  
Nevada Division of Environmental Protection  
Bureau of Water Pollution Control  
901 South Stewart Street, Suite 4001  
Carson City, Nevada 89701-5249

**Subject: Groundwater Discharge Permit NEV2001515  
Discharge Monitoring Report - 4th Quarter 2015**

Dear Compliance Coordinator:

The Nevada Environmental Response Trust (NERT or Trust) maintains Groundwater Discharge Permit #NEV2001515 (Permit), which covers the synthetically double-lined ponds GW-11 and AP-5 at the NERT site in Henderson, Nevada. During 4th quarter 2015, no water was discharged directly to a receiving water body from either GW-11 or AP-5. Treated water from the perchlorate treatment system at the NERT site is discharged to Las Vegas Wash pursuant to NPDES Permit #NV0023060. A groundwater extraction and treatment system (GWETS) at the NERT site is operated by Envirogen Technologies Inc. (ETI).

#### **AP-5**

The Trust is in the process of decommissioning the AP-5 pond. Activities related to decommissioning are overseen by the Nevada Division of Environmental Protection (NDEP), Bureau of Industrial Site Cleanup. In the interim, water is periodically added to keep the pond solids moist (Table 1b).

No leakage rate testing in the leak detection sump was conducted during the 4th quarter 2015. NERT temporarily suspended leakage rate testing in the leak detection sump while a new pump was installed, as initially documented in a letter from the Trust to the NDEP Bureau of Water Pollution Control, dated July 24, 2015. Leakage rate testing will resume using the new pump and an associated standard operating procedure, anticipated to occur in January 2016. NERT also suspended access on the pond liner due to potential safety concerns. Pond water level measurements, therefore, were not conducted during November and December 2015.

#### **GW-11**

Liquid was detected in three of four GW-11 corner leak detection wells during the 4<sup>th</sup> quarter 2015. The northeast corner well detected no leakage during the quarter. Currently, pumps do not reach the bottom of the northeast and southeast detection wells. Tetra Tech, Inc. evaluated alternatives to correct deficiencies in the wells with a procedure to repair the northeast riser pipe, reinforce the riser pipes in each of the other corners of GW-11, and re-position the northeast and southeast pumps. The Trust is in discussion with ETI to implement the proposed repairs.

Tetra Tech

1489 W Warm Springs Road, Suite 110, Henderson, NV 89014  
Tel 702.966.8340 [www.tetrattech.com](http://www.tetrattech.com)

Attachment 1 provides October, November, and December 2015 Discharge Monitoring Reports (DMRs). Attachment 2 provides pond monitoring tables with water balance and leak detection monitoring information.

### Photos

Section I.B.2.a of the groundwater permit requires the permittee to submit labeled and dated photographs of the holding ponds together with the 4<sup>th</sup> quarter DMR. Attachment 3 provides photos of AP-5 and GW-11 obtained on October 27, 2015.

### 5-year Plot

Section I.B.2.a of the groundwater permit requires the permittee to submit a plot of monitoring parameters versus date for each quarterly monitoring parameter for the preceding 5 years. Attachment 4 provides plots of 5-year data for influent, pond water levels, storage volumes, discharge to the FBR, and water balance.

Please contact me at (702) 966-8340 or [kyle.hansen@tetrattech.com](mailto:kyle.hansen@tetrattech.com) for any questions regarding this report.

Sincerely



Kyle S. Hansen, CEM  
Field Operations Manager/Geologist  
CEM 2167, exp. 9/18/16  
Overnight Mail

Attachments:

Attachment 1: Discharge Monitoring Reports  
Attachment 2: Pond Monitoring Results

cc: Greg Lovato, Bureau of Corrective Actions, NDEP  
James Dotchin, Bureau of Corrective Actions, NDEP  
Weiquan Dong, Bureau of Corrective Actions, NDEP  
Nikita Lingenfelter, Bureau of Water Pollution Control, NDEP  
Nevada Environmental Response Trust  
Tanya O'Neill, Foley and Lardner LLP  
Todd Webster, Envirogen Technologies, Inc.  
Michael Delvecchio, Envirogen Technologies, Inc.  
Allan J. DeLorme, Ramboll Environ  
John Pekala, Ramboll Environ  
Frank Johns, Tetra Tech, Inc.  
Derek Amidon, Tetra Tech, Inc.

**Discharge Permit NEV2001515 – 4th Quarter 2015 DMR  
CEM Certification**

I hereby certify that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been provided in a manner consistent with the current standards of the profession and, to the best of my knowledge, comply with all applicable federal, state and local statutes, regulations and ordinances.



---

Kyle S. Hansen  
CEM 2167, expires 9-18-16

# **ATTACHMENT 1**

## **Discharge Monitoring Reports**

**October 2015**

**November 2015**

**December 2015**



PERMITTEE NAME/ADDRESS:

NAME: Nevada Environmental Response Trust  
 ADDRESS: c/o Envirogen Technologies  
 510 Fourth Street  
 Henderson, NV 89015

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

**DISCHARGE MONITORING REPORT (DMR)**

NEV2001515  
 PERMIT NUMBER

001  
 DISCHARGE NUMBER

FACILITY: Nevada Environmental Response Trust  
 LOCATION: Henderson, NV  
 ATTN: Kyle Hansen

MONITORING PERIOD

FROM: 15 | 10 | 01 TO: 15 | 10 | 31

NO DISCHARGE:

NOTE: Read instructions before completing this form.

PARAMETER	X	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE	
		AVERAGE	MAXIMUM	UNITS	30 Day Ave (mg/l)	7 Day Ave (mg/l)	30 Day Ave (lb/day)	UNIT				
<b>Flow</b> Influent	SAMPLE MEASUREMENT	See attached Tables 1a and b			MGD	-----	-----	-----		0	Monthly	Flow Meter
	PERMIT REQUIREMENT	Monitor and Report				----	----	----				
<b>Leak Detection Information</b>	SAMPLE MEASUREMENT	See attached Tables 2a and b			gallons	-----	-----	-----		0	Bi-Monthly	Discrete-Field Measurement
	PERMIT REQUIREMENT	Monitor and Report				----	----	----				
<b>Pond Water Level</b>	SAMPLE MEASUREMENT	See attached Tables 1a and b			feet	-----	-----	-----		0	Bi-Monthly	Discrete-Field Measurement
	PERMIT REQUIREMENT	Monitor and Report				----	----	----				
<b>Storage Volume</b>	SAMPLE MEASUREMENT	See attached Tables 1a and b			gallons	-----	-----	-----		0	Bi-Monthly	Calculation
	PERMIT REQUIREMENT	-----	GW-11: 76,100,000 AP-5: 1,817,000			----	----	----				
<b>Discharge to FBR</b>	SAMPLE MEASUREMENT	See attached Tables 1a and b			gallons	-----	-----	-----		0	Bi-Monthly	Flow Meter
	PERMIT REQUIREMENT	Monitor and Report				----	----	----				
<b>Water Balance Information</b>	SAMPLE MEASUREMENT	See attached Tables 1a and b			gallons	-----	-----	-----		0	Monthly	Calculation
	PERMIT REQUIREMENT	Monitor and Report				----	----	----				
	SAMPLE MEASUREMENT											
	PERMIT REQUIREMENT											

NAME / TITLE PRINCIPAL EXECUTIVE OFFICER  
**Kyle Hansen**  
 CEM 2167, exp 9-18-16  
 TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: 702-966-8340  
 DATE: 16 | 01 | 26  
AREA CODE NUMBER YEAR MO DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS  
 Ponds GW-11 and AP-5

(Reference all attachments here)

PERMITTEE NAME/ADDRESS:

NAME: Nevada Environmental Response Trust  
 ADDRESS: c/o Envirogen Technologies  
 510 Fourth Street  
 Henderson, NV 89015

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

**DISCHARGE MONITORING REPORT (DMR)**

NEV2001515  
 PERMIT NUMBER

001  
 DISCHARGE NUMBER

FACILITY: Nevada Environmental Response Trust  
 LOCATION: Henderson, NV  
 ATTN: Kyle Hansen

**MONITORING PERIOD**

FROM: 15 | 11 | 01 TO: 15 | 11 | 30

NO DISCHARGE:

NOTE: Read instructions before completing this form.

PARAMETER	SAMPLE MEASUREMENT / PERMIT REQUIREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE	
		AVERAGE	MAXIMUM	UNITS	30 Day Ave (mg/l)	7 Day Ave (mg/l)	30 Day Ave (lb/day)	UNIT				
<b>Flow</b> Influent	SAMPLE MEASUREMENT	See attached Tables 1a and b			MGD	-----	-----	-----		0	Monthly	Flow Meter
	PERMIT REQUIREMENT	Monitor and Report				----	----	----				
<b>Leak Detection Information</b>	SAMPLE MEASUREMENT	See attached Tables 2a and b			gallons	-----	-----	-----		0	Bi-Monthly	Discrete-Field Measurement
	PERMIT REQUIREMENT	Monitor and Report				----	----	----				
<b>Pond Water Level</b>	SAMPLE MEASUREMENT	See attached Tables 1a and b			feet	-----	-----	-----		0	Bi-Monthly	Discrete-Field Measurement
	PERMIT REQUIREMENT	Monitor and Report				----	----	----				
<b>Storage Volume</b>	SAMPLE MEASUREMENT	See attached Tables 1a and b			gallons	-----	-----	-----		0	Bi-Monthly	Calculation
	PERMIT REQUIREMENT	-----	GW-11: 76,100,000 AP-5: 1,817,000			----	----	----				
<b>Discharge to FBR</b>	SAMPLE MEASUREMENT	See attached Tables 1a and b			gallons	-----	-----	-----		0	Bi-Monthly	Flow Meter
	PERMIT REQUIREMENT	Monitor and Report				----	----	----				
<b>Water Balance Information</b>	SAMPLE MEASUREMENT	See attached Tables 1a and b			gallons	-----	-----	-----		0	Monthly	Calculation
	PERMIT REQUIREMENT	Monitor and Report				----	----	----				
	SAMPLE MEASUREMENT											
	PERMIT REQUIREMENT											

NAME / TITLE PRINCIPAL EXECUTIVE OFFICER  
**Kyle Hansen**  
 CEM 2167, exp 9-18-16  
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SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: 702-966-8340  
 DATE: 16 | 01 | 26  
AREA CODE NUMBER YEAR MO DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS  
 Ponds GW-11 and AP-5

(Reference all attachments here)

PERMITTEE NAME/ADDRESS:

NAME: Nevada Environmental Response Trust  
 ADDRESS: c/o Envirogen Technologies  
 510 Fourth Street  
 Henderson, NV 89015

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

**DISCHARGE MONITORING REPORT (DMR)**

NEV2001515  
 PERMIT NUMBER

001  
 DISCHARGE NUMBER

FACILITY: Nevada Environmental Response Trust  
 LOCATION: Henderson, NV  
 ATTN: Kyle Hansen

MONITORING PERIOD  
 FROM: 15 | 12 | 01 TO: 15 | 12 | 31

NO DISCHARGE:

NOTE: Read instructions before completing this form.

PARAMETER	SAMPLE MEASUREMENT / PERMIT REQUIREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	30 Day Ave (mg/l)	7 Day Ave (mg/l)	30 Day Ave (lb/day)	UNIT			
<b>Flow</b> Influent	SAMPLE MEASUREMENT	See attached Tables 1a and b		MGD	-----	-----	-----		0	Monthly	Flow Meter
	PERMIT REQUIREMENT	Monitor and Report			----	----	----				
<b>Leak Detection Information</b>	SAMPLE MEASUREMENT	See attached Tables 2a and b		gallons	-----	-----	-----		0	Bi-Monthly	Discrete-Field Measurement
	PERMIT REQUIREMENT	Monitor and Report			----	----	----				
<b>Pond Water Level</b>	SAMPLE MEASUREMENT	See attached Tables 1a and b		feet	-----	-----	-----		0	Bi-Monthly	Discrete-Field Measurement
	PERMIT REQUIREMENT	Monitor and Report			----	----	----				
<b>Storage Volume</b>	SAMPLE MEASUREMENT	See attached Tables 1a and b		gallons	-----	-----	-----		0	Bi-Monthly	Calculation
	PERMIT REQUIREMENT	-----	GW-11: 76,100,000 AP-5: 1,817,000		----	----	----				
<b>Discharge to FBR</b>	SAMPLE MEASUREMENT	See attached Tables 1a and b		gallons	-----	-----	-----		0	Bi-Monthly	Flow Meter
	PERMIT REQUIREMENT	Monitor and Report			----	----	----				
<b>Water Balance Information</b>	SAMPLE MEASUREMENT	See attached Tables 1a and b		gallons	-----	-----	-----		0	Monthly	Calculation
	PERMIT REQUIREMENT	Monitor and Report			----	----	----				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME / TITLE PRINCIPAL EXECUTIVE OFFICER  
**Kyle Hansen**  
 CEM 2167, exp 9-18-16  
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TELEPHONE: 702-966-8340  
 DATE: 16 | 01 | 26  
AREA CODE NUMBER YEAR MO DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS  
 Ponds GW-11 and AP-5

(Reference all attachments here)

## **ATTACHMENT 2**

### **Pond Monitoring Results**

**4<sup>th</sup> Quarter 2015**





## Pond Monitoring Results

**Table 1a – GW-11 Pond Level and Storage Volume**

Date	Flow Into GW-11 (MGD)	Pond Water Level (vertical depth in feet)	Storage Volume (thousand gallons)	Discharge to FBRs (million gallons)	Water Balance (million gallons)
10/6/15	1.09	13.0	44,678	10.32 (010/1/15 - 10/16/15)	-0.3
10/23/15		12.8	44,020	19.39 (10/16/15 - 10/31/15)	
11/3/15	1.35	12.6	43,216	19.22 (11/1/15 - 11/15/15)	-1.2
11/25/15		12.6	43,105	19.84 (11/15/15 - 11/30/15)	
12/8/15	1.12	12.6	43,216	15.20 (12/1/15 - 12/16/15)	0.2
12/20/15		12.7	43,439	18.71 (12/16/15 - 12/31/15)	

MGD = million gallons per day

**Table 1b – AP-5 Pond Monitoring Information**

Date	Flow Into Pond <sup>1</sup> (MGD)	Pond Level <sup>(2)</sup> (vertical depth in feet and inches)	Storage Volume (thousand gallons)	Discharge to FBRs (gallons)	Water Balance (million gallons)
10/13/15	0.015	4'2"	382.9	0	-0.31
10/27/15		4'4"	413.0	0	
11/2015	0.004	NA <sup>3</sup>	NA <sup>3</sup>	0	0.05
		NA <sup>3</sup>	NA <sup>3</sup>	0	
12/2015	0.001	NA <sup>3</sup>	NA <sup>3</sup>	0	-0.01
		NA <sup>3</sup>	NA <sup>3</sup>	0	

**Notes:**

<sup>1</sup>The AP-5 pond is in the process of being decommissioned. There is no routine flow into or out of AP-5 except to keep the solids moist. The flow into AP-5 has been expressed as a rate, per the requirements of Table 1 of the permit.

<sup>2</sup>The depth includes pond solids and added water.

<sup>3</sup> October 27, 2015 was the last volume measurement collected in 2015 due to potential safety concerns related to access on the pond liners.

**Table 2a – GW-11 Pond Leak Detection Monitoring**

Dates <sup>1</sup>	Volume in Detection Wells (gallons)
10/13/15 – 10/15/15	NW – 0
“	NE – 0
“	SW – 623
“	SE – 155
10/27/15 – 10/29/15	NW – 0
“	NE – 0
“	SW – 0
“	SE – 0
11/11/15 – 11/13/15	NW – 0
“	NE – 0
“	SW – 266
“	SE – 0
11/23/15 – 11/25/15	NW – 5
“	NE – 0
“	SW – 1159
“	SE – 0
12/9/15 – 12/11/15	NW – 0
“	NE – 0
“	SW – 250
“	SE – 0
12/29/15 – 12/31/15	NW – 0
“	NE – 0
“	SW – 582
“	SE – 0

<sup>1</sup>Twice monthly pumping activities each occur over a 3-day period to evaluate the leakage rates in GW-11, in accordance with procedures specified in a letter to NDEP-BWPC, dated May 28, 2015. The procedure is comprised of: days 1 and 2 consist of pumping the well content dry. Day 3 provides the monitoring day for the gallons per day recharge rate. The value reported here represents the cumulative volume pumped during all 3 days. During the reporting period, the leakage rate did not exceed 125 gallons/acre-day.

**Table 2b – AP-5 Pond Leak Detection Monitoring**

Date	Volume in Detection Well (gallons)
NA <sup>1</sup>	NA <sup>1</sup>
NA <sup>1</sup>	NA <sup>1</sup>
NA <sup>1</sup>	NA <sup>1</sup>
NA <sup>1</sup>	NA <sup>1</sup>
NA <sup>1</sup>	NA <sup>1</sup>
NA <sup>1</sup>	NA <sup>1</sup>

<sup>1</sup>No leakage rate testing in the leak detection sump was conducted during the 4th quarter 2015. NERT temporarily suspended leakage rate testing in the leak detection sump while a new pump was installed, as initially documented in a letter from the Trust to the NDEP Bureau of Water Pollution Control, dated July 24, 2015.

# **ATTACHMENT 3**

## **Photos**

### **GW-11 and AP-5**

**2015**





Figure 1. GW-11 Pond (October 27, 2015)



Figure 2. AP-5 Pond (October 27, 2015)

# **ATTACHMENT 4**

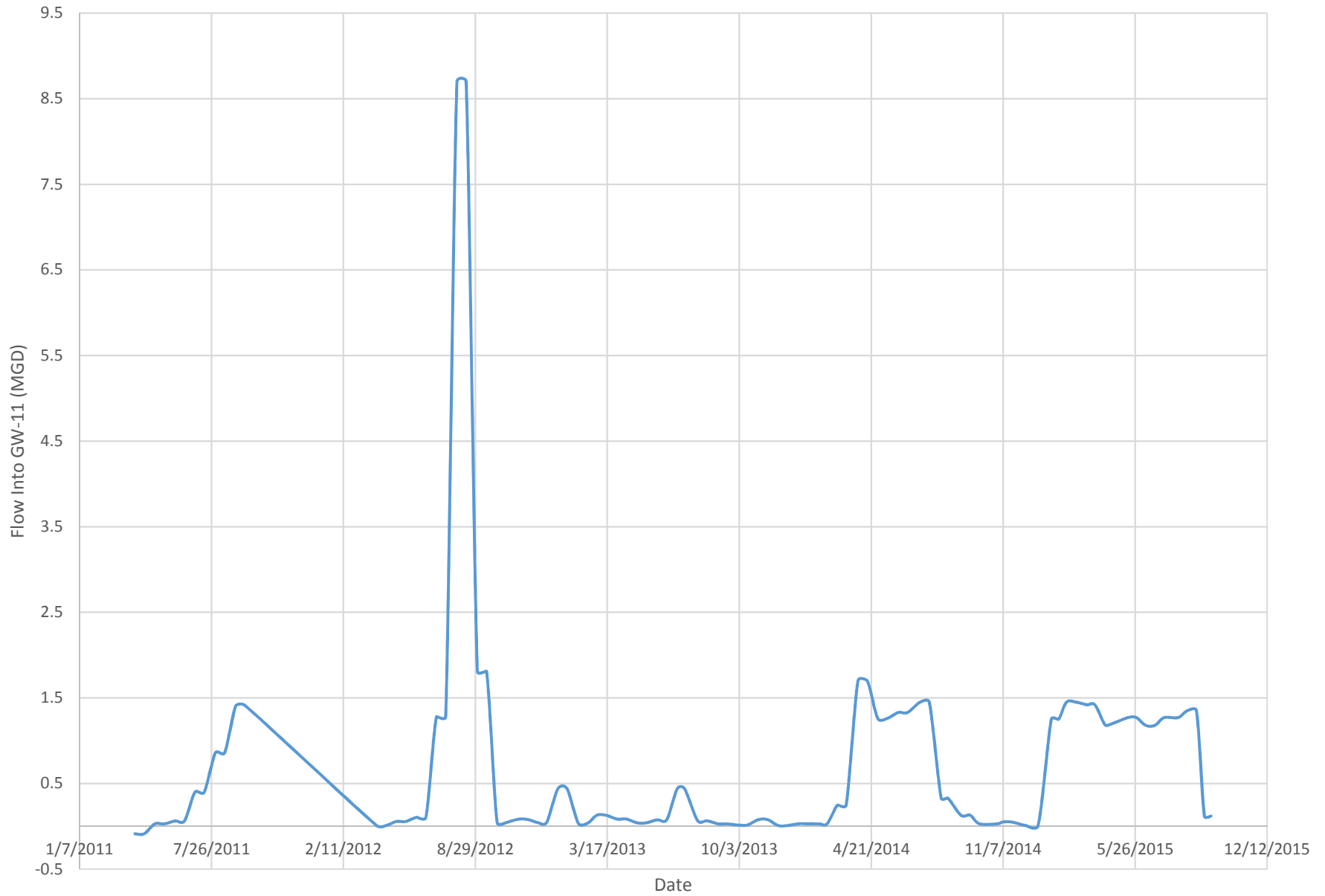
## **5-Year Plots**

### **Pond Monitoring Data**

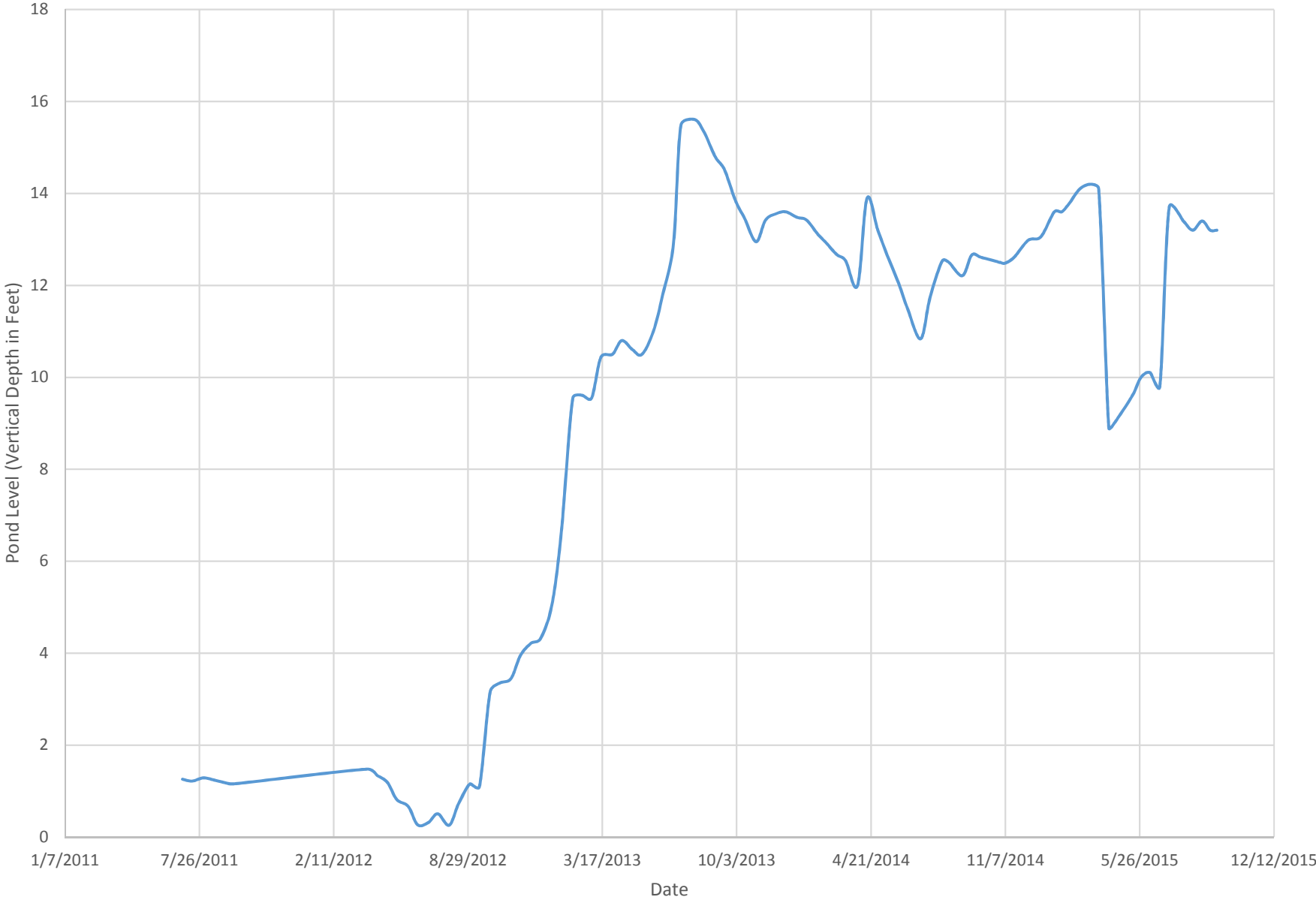
**January 2011 – December 2015**



GW-11 Flow Into Pond (MGD)

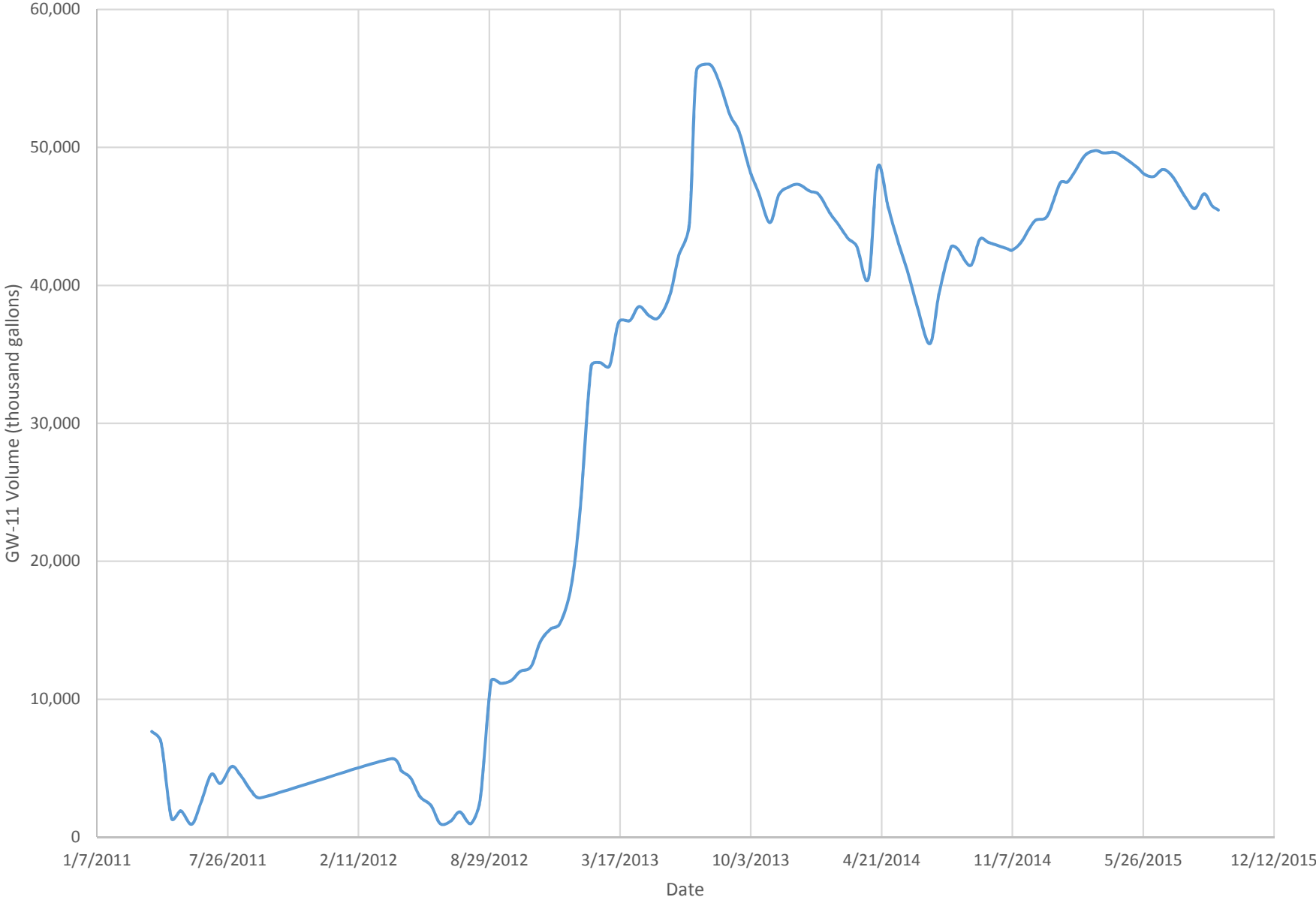


GW-11 Pond Level

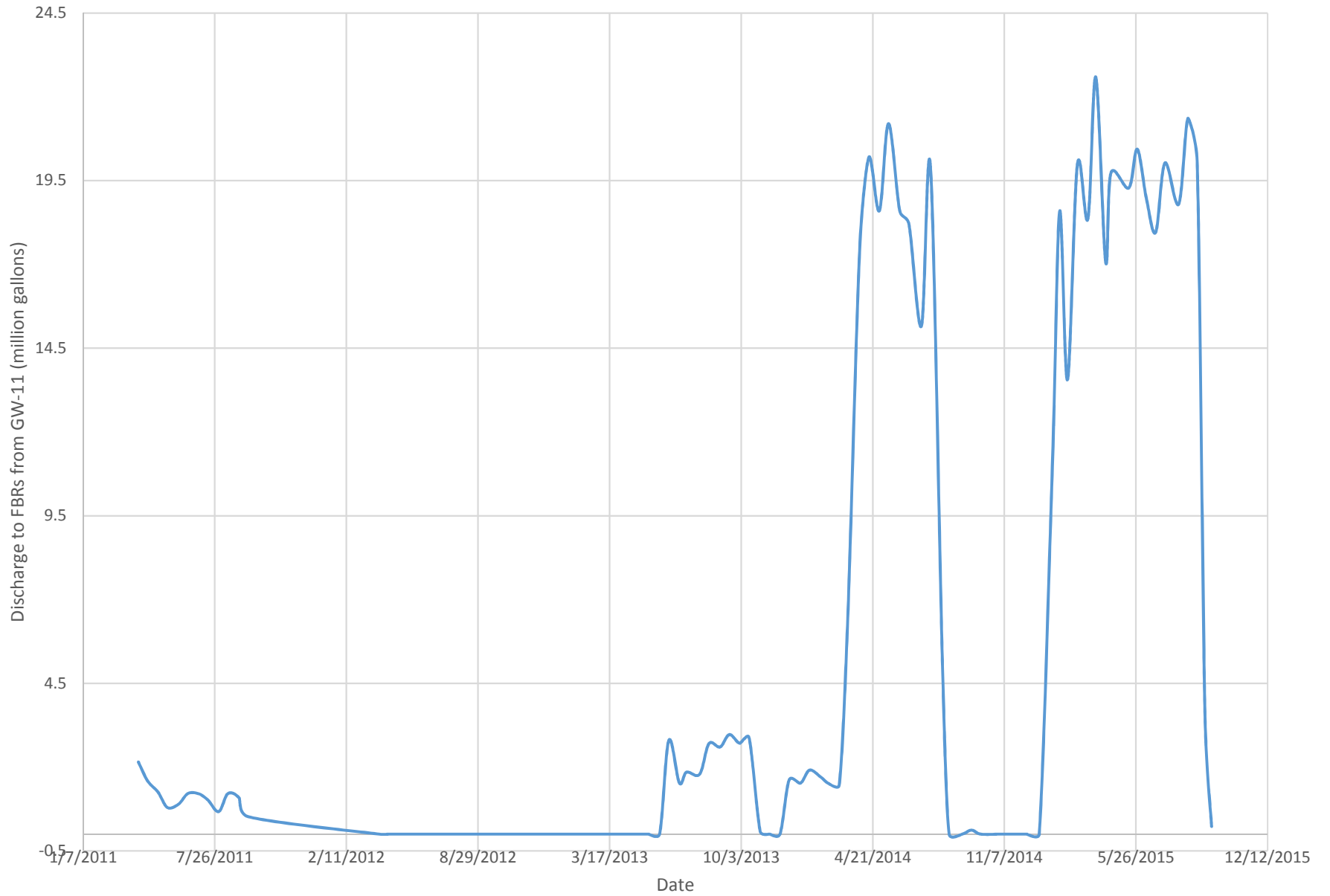




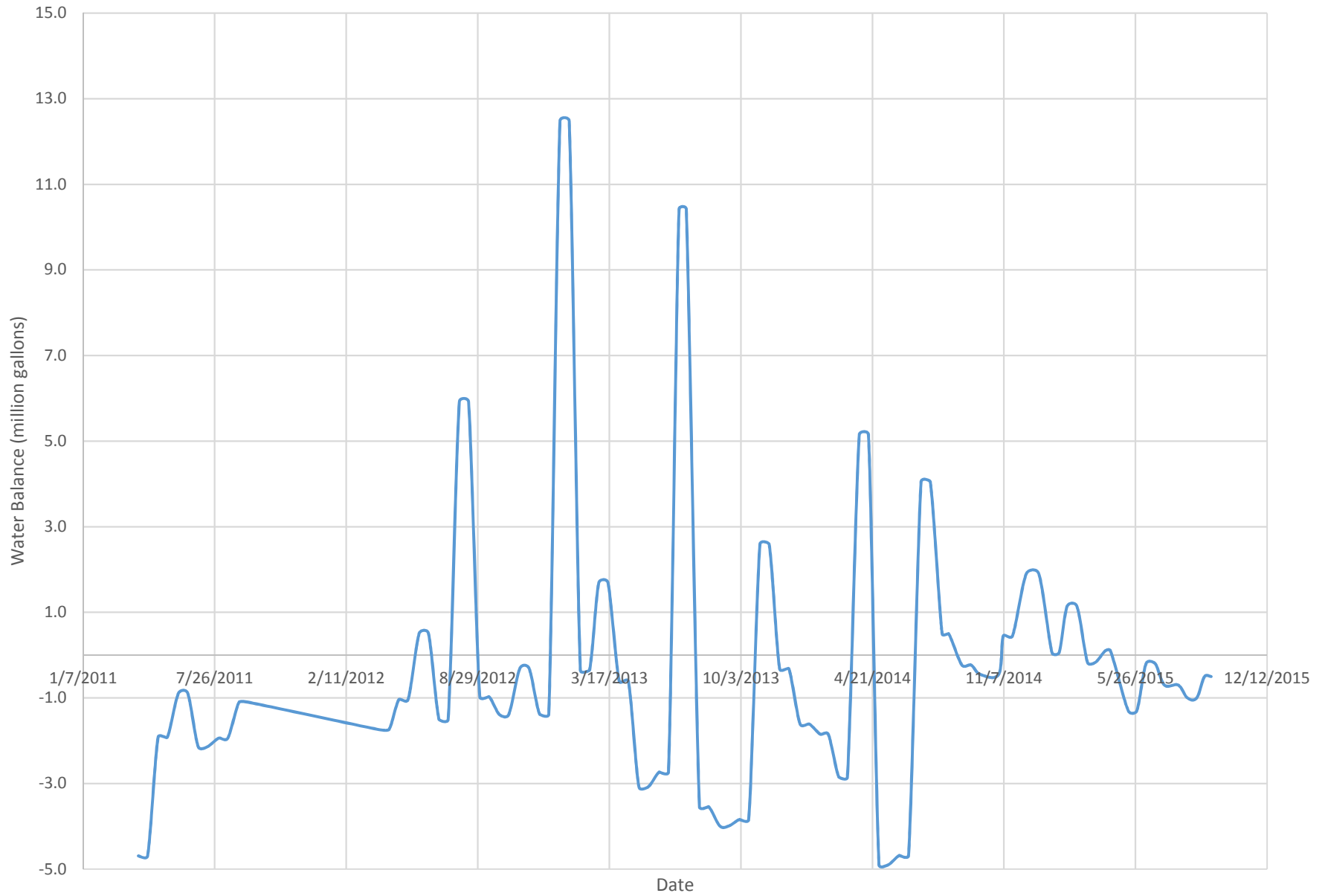
GW-11 Storage Volume



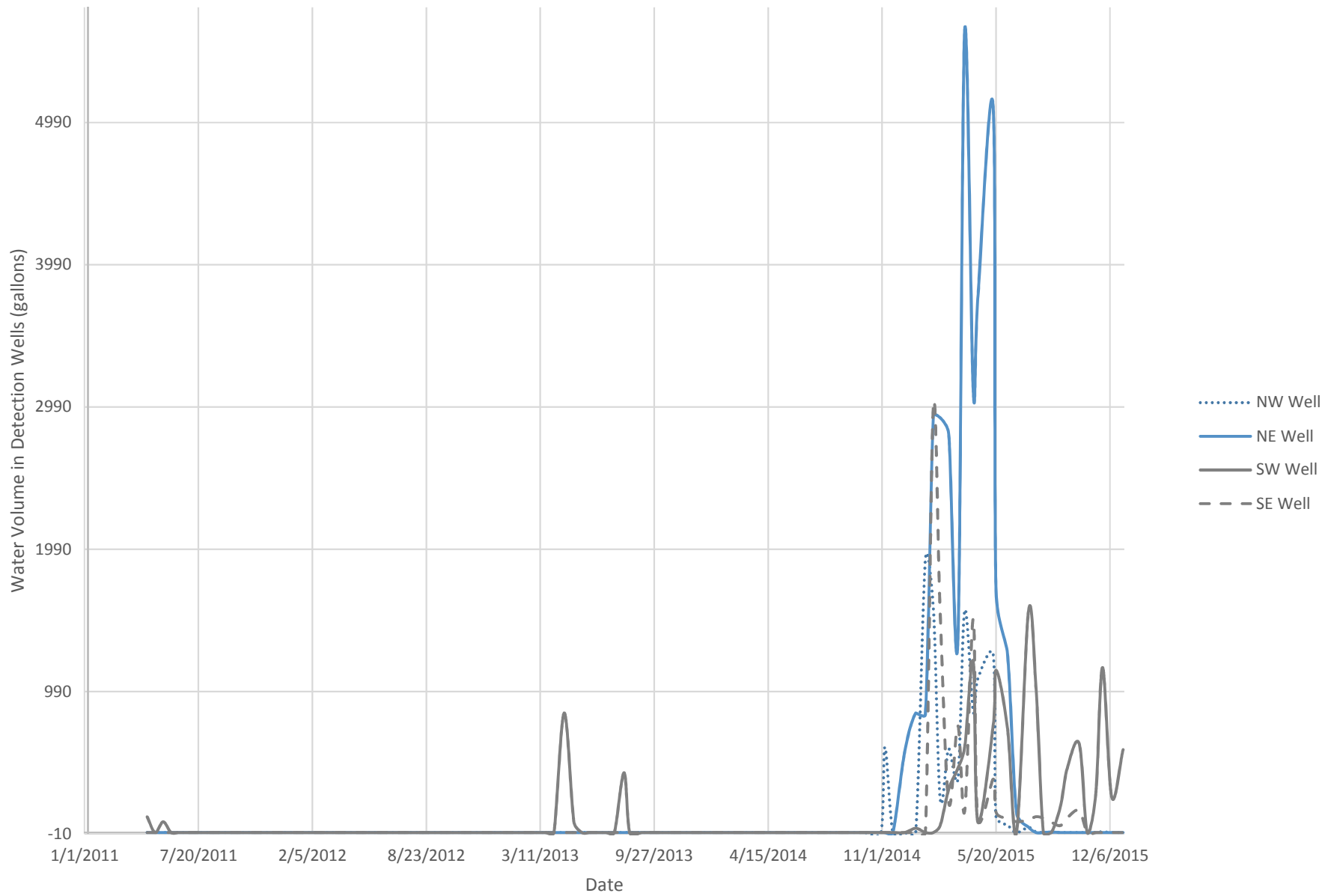
### GW-11 Discharge to FBRs



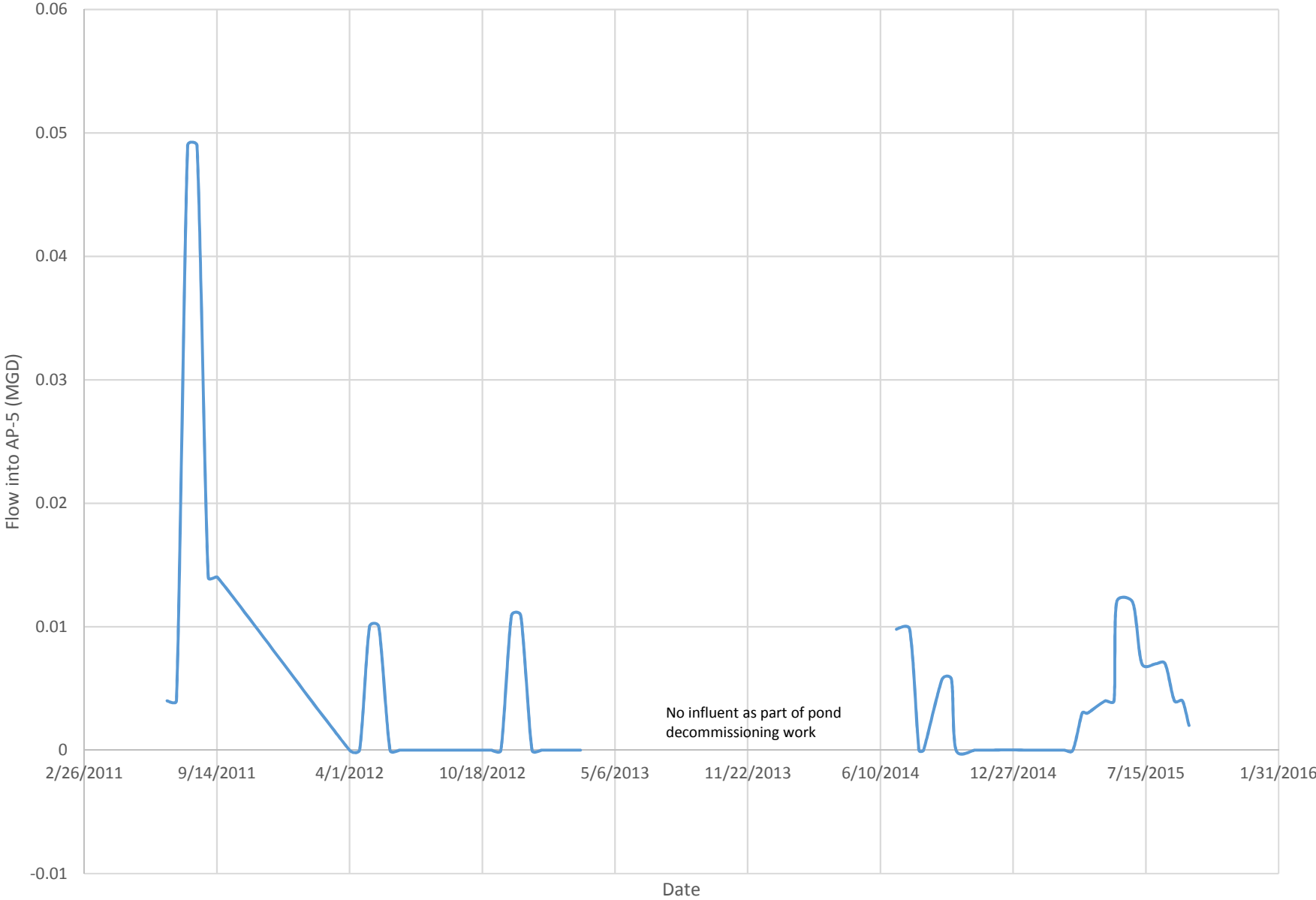
### GW-11 Water Balance



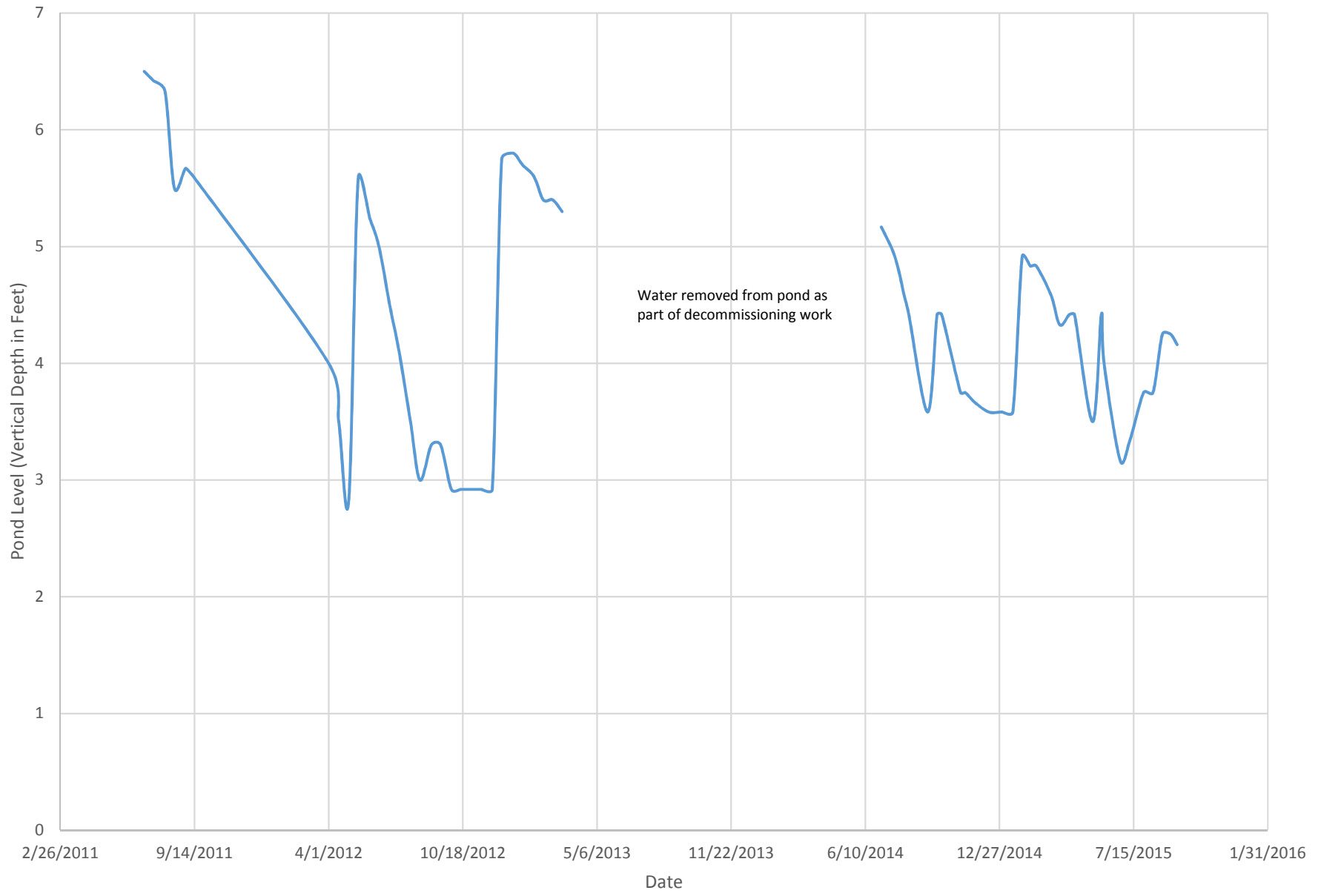
# GW-11 Leak Detection



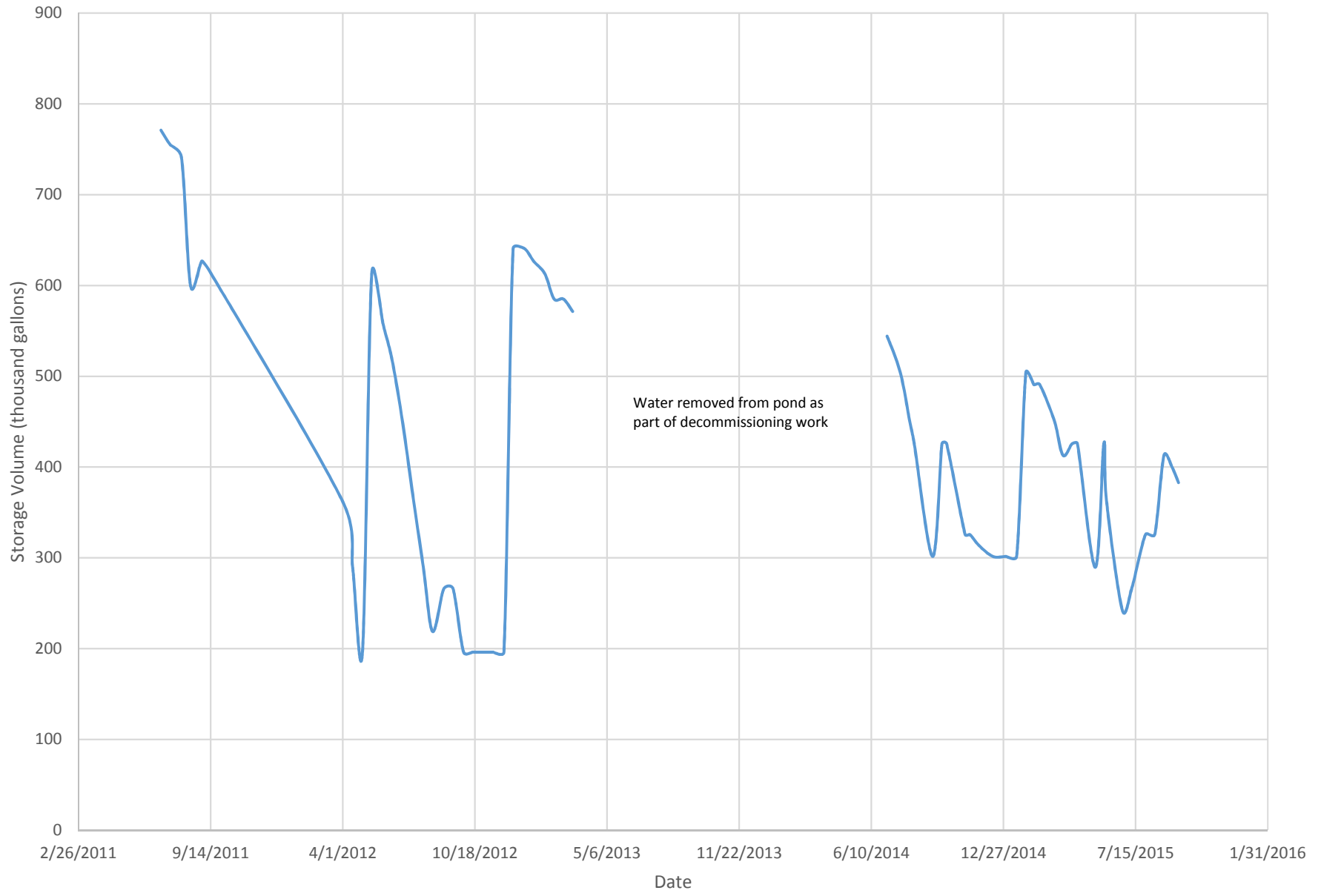
### AP-5 Flow into Pond



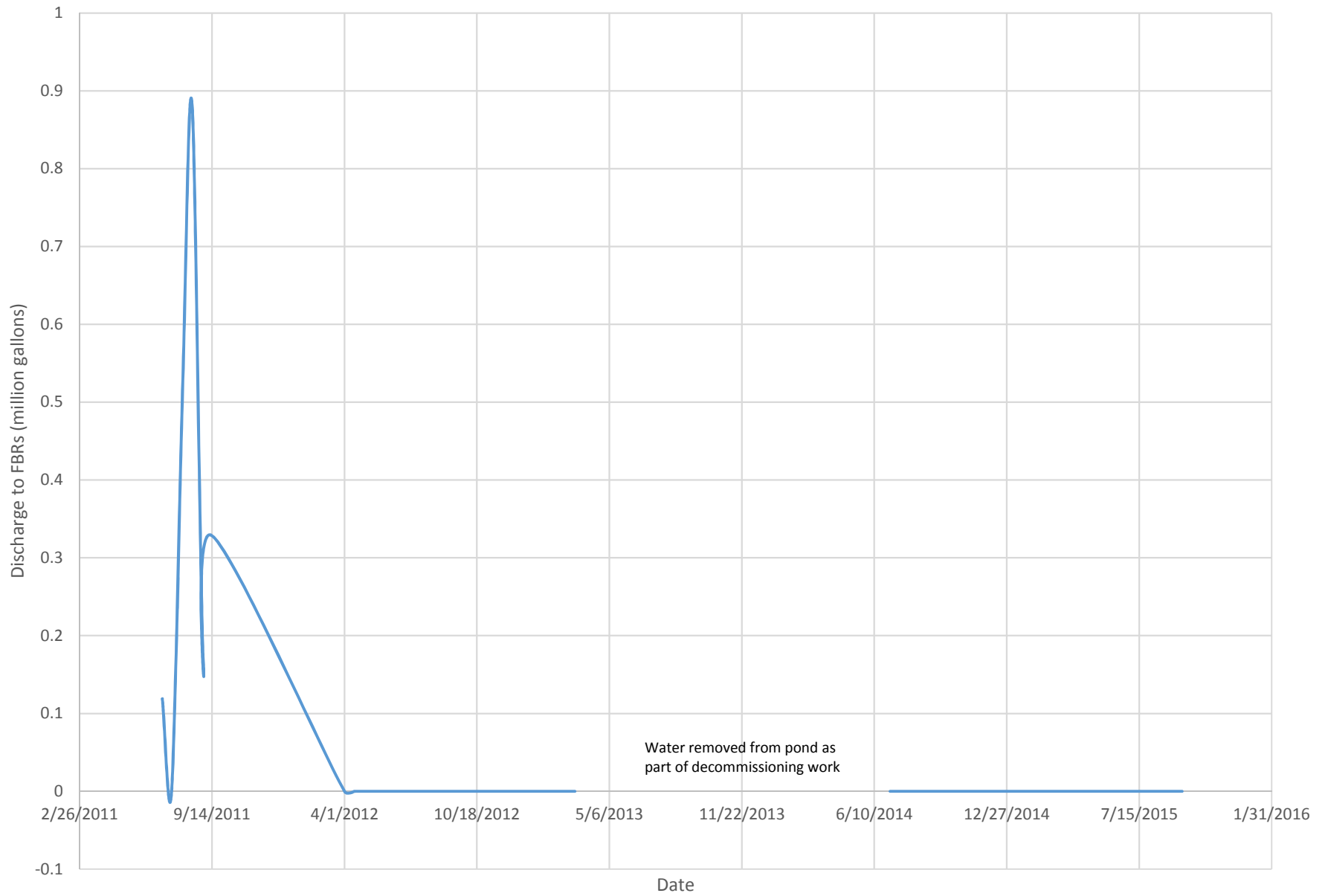
### AP-5 Pond Level



### AP-5 Storage Volume

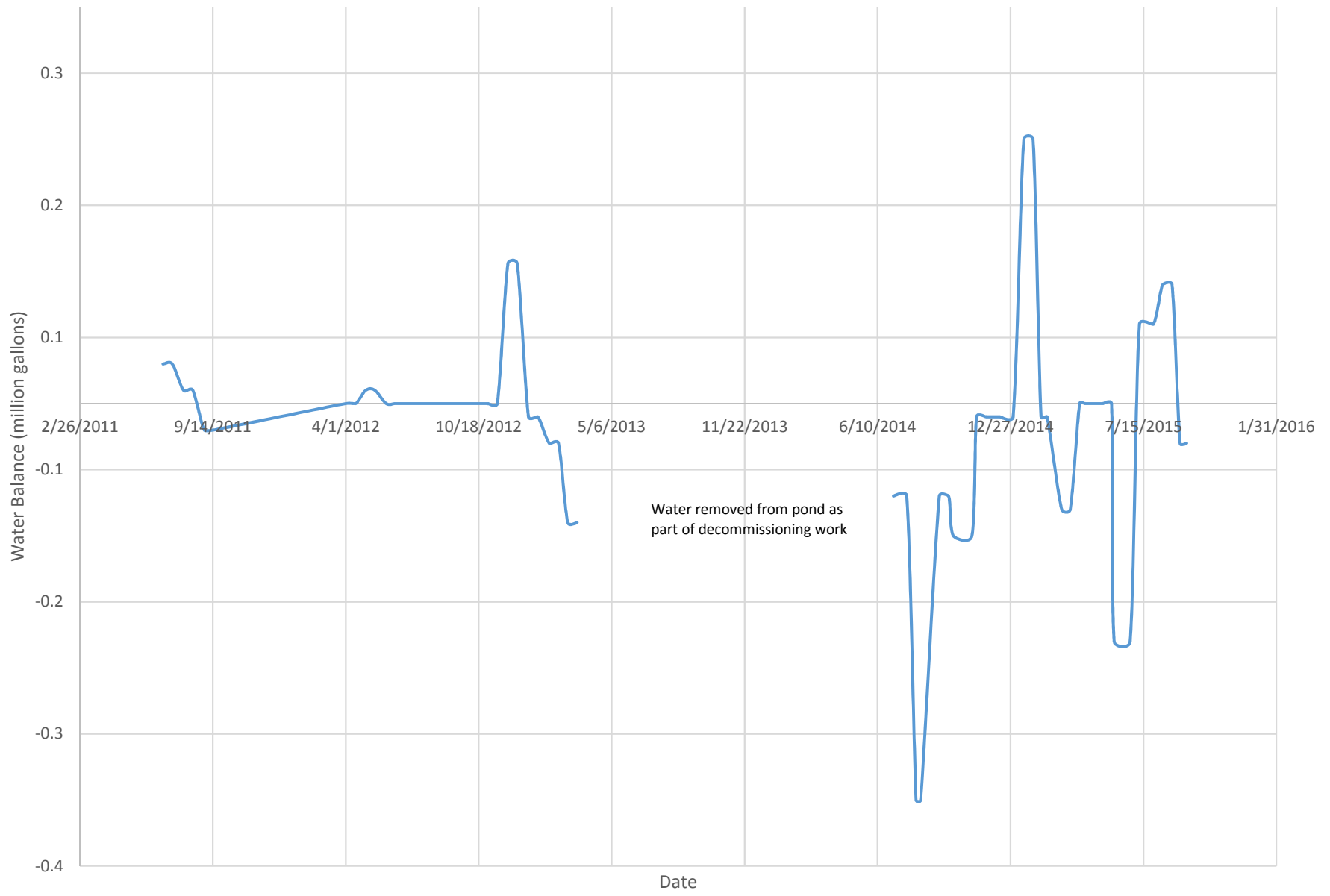


### AP-5 Flow to GW-11





### AP-5 Water Balance



### AP-5 Leak Detection

