

**Instructions on page 5
Due February 1, annually**

Submittal date: 1/26/2023
(mm/dd/yyyy)

Approval date: 3/22/2023 Minnesota Pollution Control Agency (MPCA) approver: Dustin Kashmark
(mm/dd/yyyy)

I. Project information

Project title: Red and Upper Mississippi Watershed Pollutant Load Monitoring

TEMPO Agency Interest ID: 187607 TEMPO Activity ID: PRO20200005

SWIFT number: 173604 Purchase order number: _____

Local partner information:

Organization name: International Water Institute (IWI)

Primary contact name: Danni Halvorson Phone: 218-280-0515 Email address: danni@iwinst.org

Reporting period:

Start date: 1/1/2022 End date: 12/31/2022
(mm/dd/yyyy) (mm/dd/yyyy)

Project location:

Basin (check all that apply):

Red River Rainy River Lake Superior Minnesota Lower Mississippi St. Croix Upper Mississippi

Major watershed(s): Mustinka, Bois De Sioux, Otter Tail, Marsh, Sandhill, Clearwater, Red Lake, Thief, Snake, Tamarac, Two, Roseau, Mississippi River (Headwaters-Lake Winnibigoshish), Leech Lake River, Mississippi River (Grand Rapids) Hydrologic unit code(s): 09020101, 09020102, 09020103, 09020107, 09020301, 09020303, 09020304, 09020305, 09020309, 09020311, 09020312, 09020314, 07010101, 07010102, 07010103

Name of eligible laboratory: RMB Environmental Laboratories, Inc.

How many full-time equivalents (FTEs) worked on this project in the report period (hours/2,088 hours): 1.5

II. Activities completed

Table 1: Workplan activities

- Please list activities completed during the report period under the current contract. Include task level detail as appropriate. Refer to the instructions on the last page for an example. (Insert more rows as needed by hitting the tab key in the last row/column.)**

Objective/task	Description
Task A	There were no trainings offered by MPCA or DNR during the reporting period.
Task B	4 reimbursement requests were completed and submitted to the MPCA project manager during the reporting period.

Task C	This report is the Interim progress report and will be submitted prior to the February 1, 2023 deadline and will be posted to the IWI website upon approval.
Task D	Field staff and Director of Monitoring attended scheduled MPCA conference calls with each staff missing 1-2 calls throughout the reporting period.
Task E	Monitoring sites were assigned to staff who were trained in sampling protocols including AIS sampling. Monitoring supplies and equipment were purchased or requested from the PM. Coordinated with RMB Labs for sample bottles and maintained a current copy of the <i>Permit to Appropriate and Transport Water for Water Quality Sampling</i> .
Task F	The previously completed site hydrograph analyses were used in conjunction with the Cooperative Stream Gaging Website and weather forecasting sites to determine when sampling should occur. Lab results were reviewed for anomalies and sample re-runs were requested when appropriate.
Task G	Field meters were calibrated weekly or as needed throughout the sample season. Temperature probe checks were also completed. Calibration and temperature probe check information was entered into the calibration log sheets. Calibration logs were submitted to the PM.
Task H	913 lab samples were collected at 39 sites in the Red River and Upper Mississippi Basins during the reporting period. All of the samples collected were shipped or delivered to RMB Labs. The sampling hydrographs within section IV below show the number of samples collected at each site. Replicate and equipment blank collections are summarized below.

2022 Replicates

Site	Date 1	Date 2	Date 3	Site	Date 1	Date 2	Date 3
S000-185 Snake outlet MN220	7/27/2022	8/17/2022		S001-897 Miss at Bemidji	7/12/22	9/27/22	
S000-031 RLR @ Fisher	7/26/2022	8/15/2022	9/6/2022	S002-034 Miss at Bemidji (Power Dam)	7/12/22	9/27/22	
S002-009 SH @ Climax	7/26/2022	8/15/2022	9/6/2022	S006-262 Boy River	7/13/22	9/12/22	
S002-365 SB Two @ LB	7/27/2022	8/17/2022		S004-407 Willow River	7/13/22	9/12/22	
S000-115 Roseau nr Caribou	7/27/2022	8/17/2022	9/7/2022	S001-922 Swan River	7/13/22	9/12/22	
S002-118 Clearwater @ RLFs	7/26/2022	8/15/2022	9/6/2022	S007-944 Prairie River	7/13/22	10/25/22	
S002-079 TR nr TRFs	7/27/2022	8/17/2022	9/7/2022	S003-656 Miss at Grand Rapids	7/13/22	10/25/2022	12/7/22
S003-136 SH nr Fertile	7/26/2022	8/15/2022		S007-127 Red @ Emerson	7/26/2022	9/6/22	9/27/22
S003-172 RLR nr RLFs	7/26/2022	8/15/2022		S000-569 Two Outlet nr Hallock	7/20/22	9/6/22	9/27/22
S002-088 TR nr Holt	7/27/2022	8/17/2022		S000-008 Red @ GF	7/26/22	9/6/22	9/27/22
S002-124 CW @ Plummer	7/26/2022	8/15/2022		S002-127 Marsh nr Shelly	7/26/22	9/6/22	
S002-133 Lost nr Brooks	7/26/2022	8/15/2022		S000-700 Middle @ Argyle	7/26/22	9/27/22	
S002-078 Mud nr Grygla	7/27/2022	8/17/2022		S003-101 Snake nr Warren	7/26/22		
S002-077 RLR @ High Landing	7/26/2022	8/15/2022		S005-387 SB Two @ Hallock	7/20/22	9/6/22	
S002-000 Otter Tail	8/15/2022	9/26/2022		S016-642 NB Two nr Northcote	7/20/22	9/6/22	
S000-553 Bois de Sioux	8/16/2022			S006-994 Tamarac nr Florian	7/26/22	9/6/22	
S003-677 Mustinka River	8/16/2022			2022 Equipment Blanks			
S003-124 Twelvemile	7/27/2022	8/16/2022		*AK Equipment Blank (1 per year/person)		10/25/2022	
S003-107 Bois de Sioux	8/16/2022	9/6/2022	9/26/2022	*PO Equipment Blank (1 per year/person)		10/26/2022	
S000-556 Pelican	7/7/2022	9/26/2022	10/26/2022	*TL Equipment Blank (1 per year/person)		9/27/2022	
S005-142 Otter Tail	7/7/2022	9/26/2022		*LN Equipment Blank (1 per year/person)		10/26/2022	

Task I Field measurements, observations and photos were collected at each visit. Water Sample, field data, and observations were entered into GoCanvas with hard copy field sheets submitted to the PM.

2. Please answer the following questions relating to the deliverables for the project. If deadlines were missed, please provide comments. Dates should be entered in the mm/dd/yy format.

a. Quality Assurance Project Plan (QAPP) approval date: 11/16/20

b. Was the QAPP revised during this reporting period? Yes No

Revised date: _____ Reason for revision(s): _____

c. Was the field meter calibration log submitted by January 1? Yes No

If no, submittal date: 1/6/23 Comments: 3 of 4 staff submitted calibration log prior to the deadline.

d. Were GoCanvas submissions completed by the 1st and 15th of each month (check one)?

Rarely (9+ missed deadlines) Sometimes (3-8 missed deadlines)

Almost always (1-2 missed deadlines) Always

Comments: 4 field staff with late submissions (3-8 missed deadlines each). Total > 9 deadlines missed.

e. Please list the submittal dates for the field sheets, field books, and extra pictures.

Deadline January 1. Submittal date: 1/5/20 Comments: Latest date of submission (4 staff)

Deadline May 1. Submittal date: 5/2/22 Comments: Latest date of submission (4 staff)

Deadline August 1. Submittal date: 9/16/22 Comments: Latest date of submission (4 staff)

Deadline November 1. Submittal date: 11/1/22 Comments: Latest date of submission (4 staff)

f. If applicable, were pollutant loads submitted by deadline (within 60 days of receiving the .xml)?

Rarely Sometimes Almost Always Always

Comments: NA- Did not calculate FLUX32 Loads.

g. Were project staff able to attend the check in telephone conferences during the reporting period?

Rarely (9+ missed meetings) Sometimes (3-8 missed meetings)

Almost always (1-2 missed meetings) Never missed a meeting

Comments: _____

3. Was a backup sampler used to collect any of the samples? Yes No

If yes, please describe when, who, if they were trained, and any other details:

Four field staff covered for each other during the year when needed.

4. Were you comfortable with your level of training and current ability to complete the obligations of your workplan?

Yes

5. Describe in detail any problems, delays, or difficulties that occurred in fulfilling the requirements of the workplan. How did you resolve these problems?

Delay in receiving ordered equipment from the supplier. New sondes were ordered March 2022 and are still not in use because of a delay in receiving the needed probes.

6. Were there any change orders and/or amendments to the contract and workplan? Yes No

If yes, summarize the changes:

One change order (6/7/2022) was completed and the contract was amended (03/16/2022).

Change Order #3 :Due to high water levels in the Red River Basin, the Thief River near Holt, CSAH7 (S002-088, H65017001) primary sampling site was inaccessible. On May 19, 2022, Kelli Nerem, MPCA authorized IWI the ability to sample at S004-052 Thief near Holt, CSAH12 (W65016001) when the primary site was inaccessible. In the workplan, changes were accepted.

Contract Ammendment: Contract was ammended to extend end date to June 30, 2024.

7. Please provide any constructive feedback regarding the WPLMN (training, deliverables, deadlines, program directives):

III. Budget Information

Please copy the information on the Invoice tab from the Microsoft Excel Invoice workbook and paste into this Interim Progress Report template. See Instructions for details. If budget information does not encompass all expenditures through December 31, please provide the date in the Comments. The documented amounts should be within 30 days of December 31.

Line item	MPCA funds awarded	MPCA funds expended prior to this invoice	MPCA funds expended this invoice	MPCA funds expended	Balance	Budget expended (%)
Personnel	\$563,912.81	\$368,444.81	\$18,586.00	\$387,030.81	\$176,882.00	69%
Laboratory	\$242,375.00	\$161,849.00	\$1,106.00	\$162,955.00	\$79,420.00	67%
Mileage	\$90,534.72	\$63,043.73	\$1,001.88	\$64,045.61	\$26,489.11	71%
Lodging	\$1,000.00	\$131.95	\$0.00	\$131.95	\$868.05	13%
Meals	\$6,534.00	\$3,938.00	\$66.00	\$4,004.00	\$2,530.00	61%
Shipping	\$8,811.24	\$6,004.24	\$91.00	\$6,095.24	\$2,716.00	69%
Equipment and supplies	\$36,618.23	\$20,340.55	\$53.43	\$20,393.98	\$16,224.25	56%
Total:	\$949,786.00	\$623,752.28	\$20,904.31	\$644,656.59	\$305,129.41	68%

Comments:

IV. Hydrographs

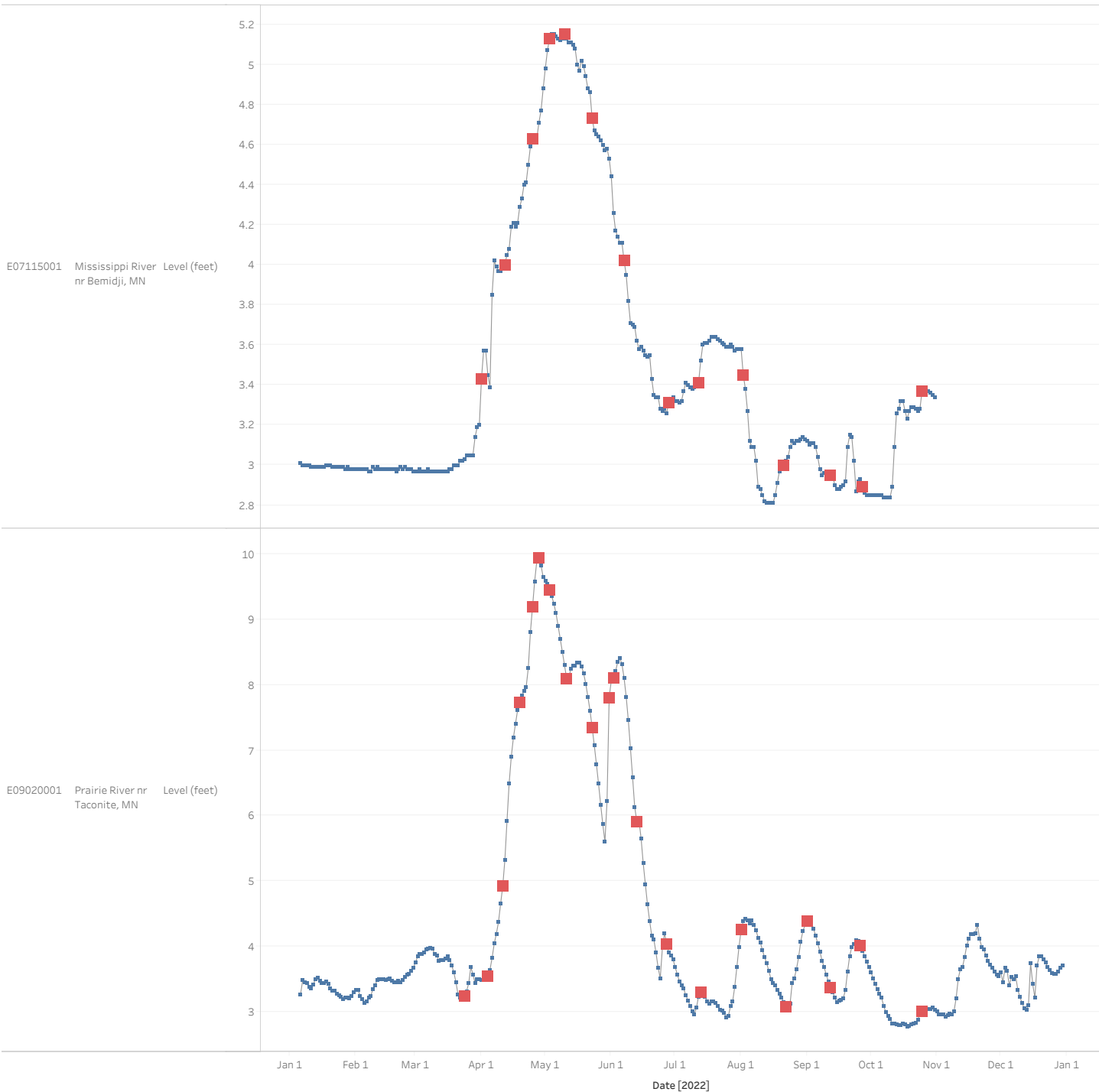
Please note hydrographs are provisional.

Comments:

Missing hydrographs (Red nr Emerson, Alternate site Red at Grand Forks) are due to issues downloading report from Tableau.

Watershed Pollutant Load Monitoring Network (WPLMN) sample hydrograph and field data viewer - Data for previous 12 months

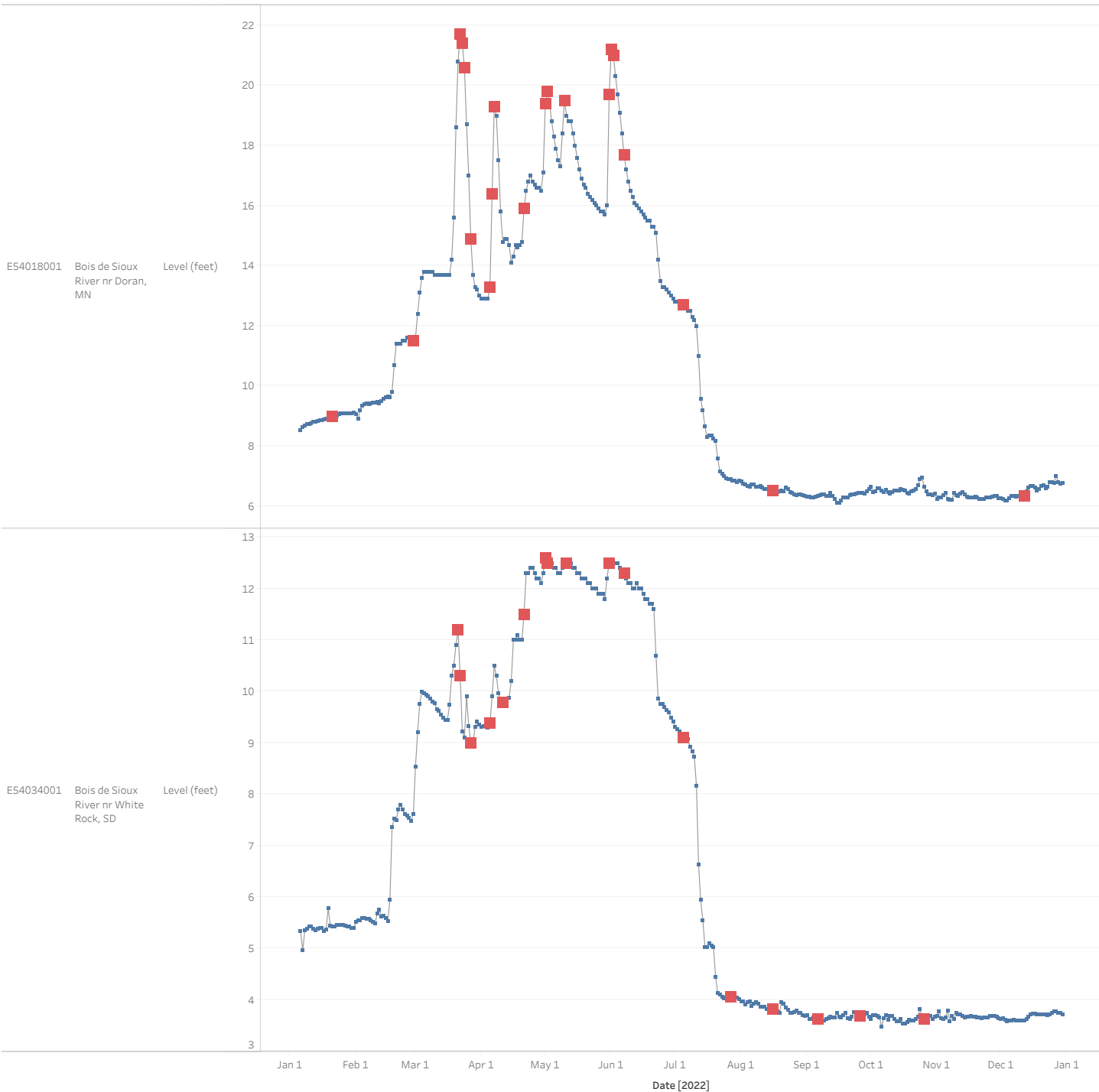
WISKI exported data at All and Tableau loaded it at 1/5/2023 1:07:54 PM.



Sample collected: ● Sample collected
 Alternate station: ▲ Alternate station
 Primary station: ■ Primary station
 Daily flow or level: ● Daily flow or level

Watershed Pollutant Load Monitoring Network (WPLMN) sample hydrograph and field data viewer - Data for previous 12 months

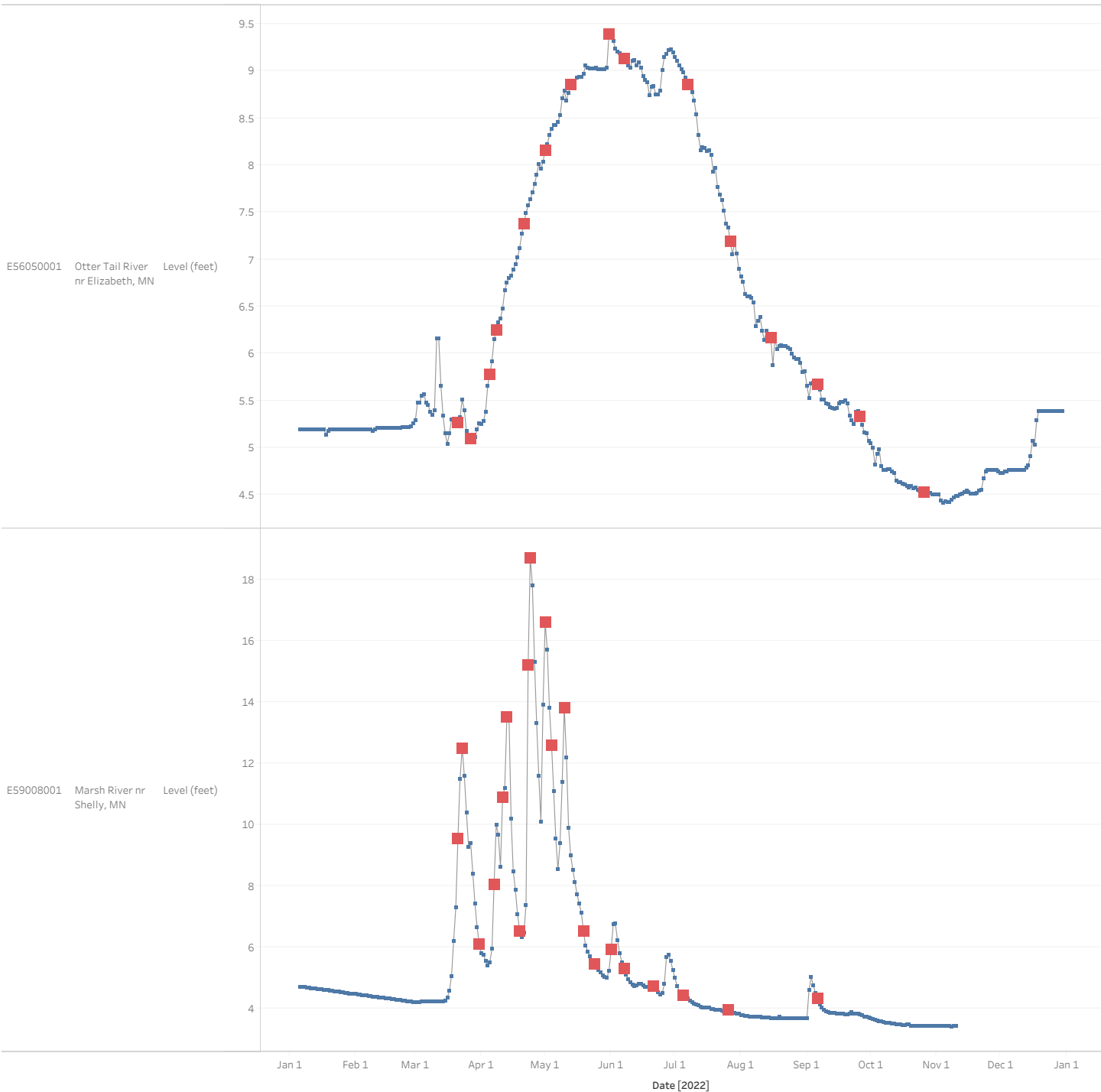
WISKI exported data at All and Tableau loaded it at 1/5/2023 1:07:54 PM.



Sample collected ● Alternate station ▲ Sample collected ■
● Daily flow or level ■ Primary station ■ Daily flow or level

Watershed Pollutant Load Monitoring Network (WPLMN) sample hydrograph and field data viewer - Data for previous 12 months

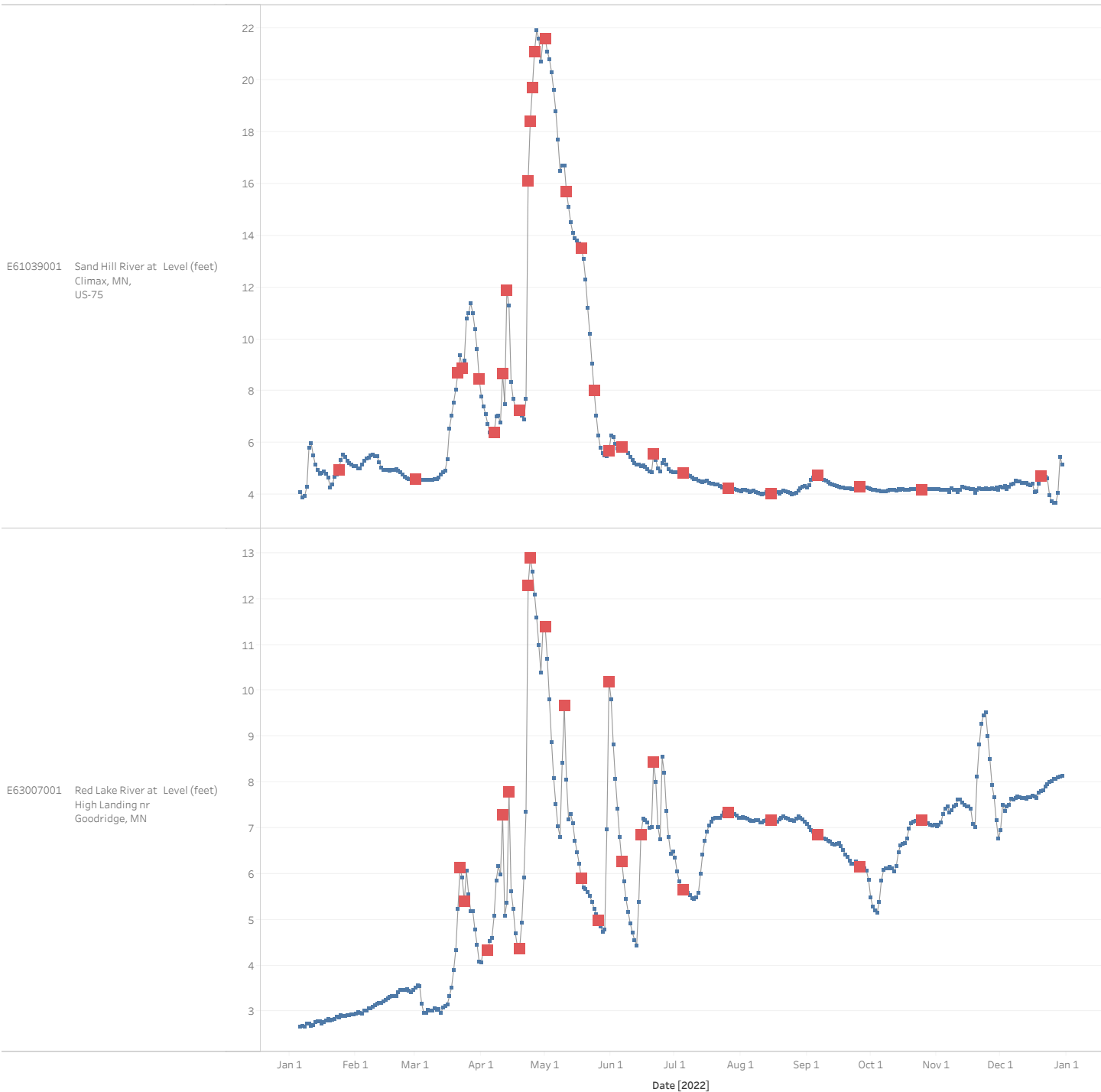
WISKI exported data at All and Tableau loaded it at 1/5/2023 1:07:54 PM.



- | | | |
|-----------------------|---------------------|-----------------------|
| Sample collected | Alternate station | Sample collected |
| ● Sample collected | ▲ Alternate station | ■ Sample collected |
| ○ Daily flow or level | ■ Primary station | ■ Daily flow or level |

Watershed Pollutant Load Monitoring Network (WPLMN) sample hydrograph and field data viewer - Data for previous 12 months

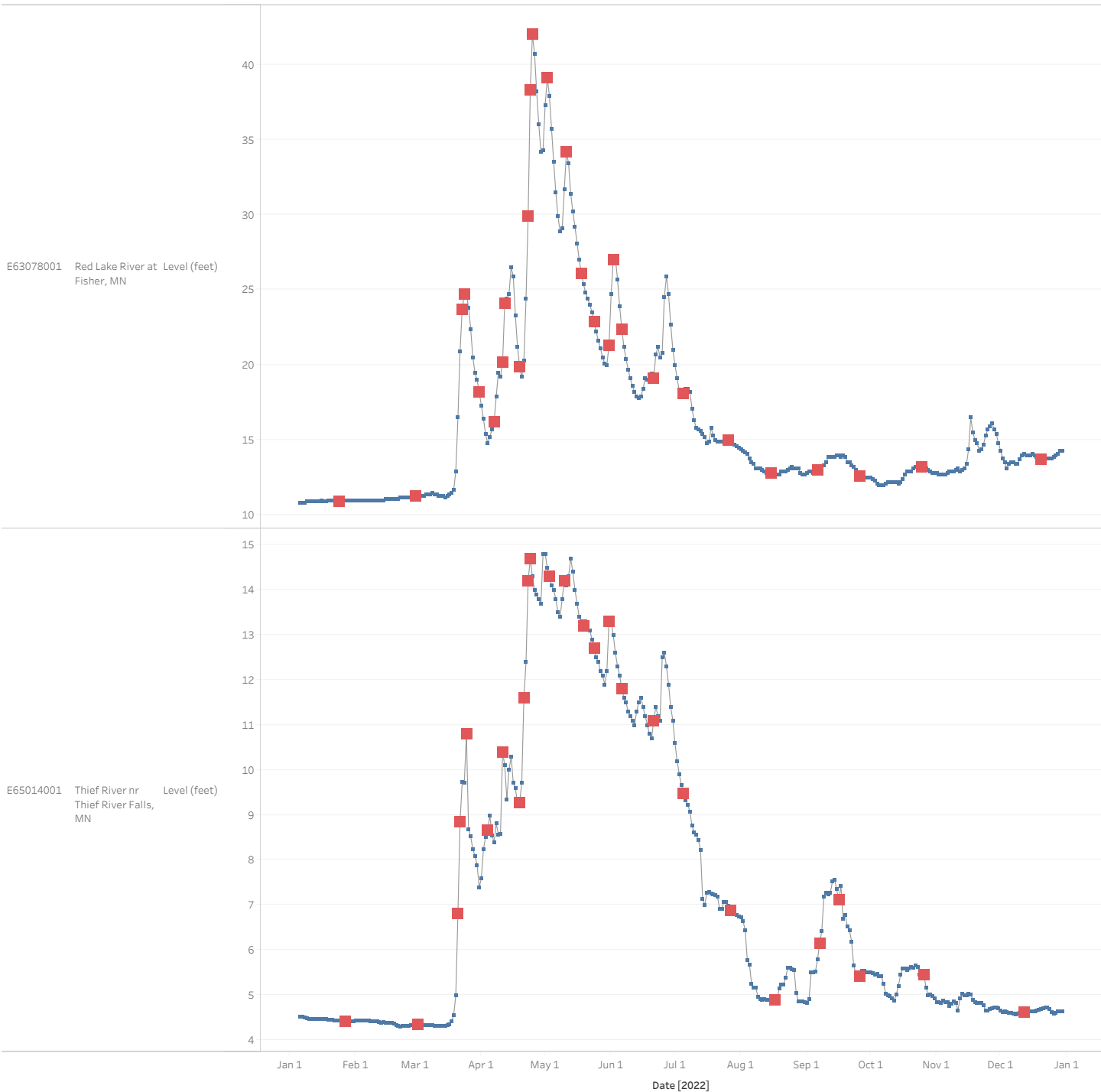
WISKI exported data at All and Tableau loaded it at 1/5/2023 1:07:54 PM.



Sample collected (grey circle) Alternate station (black triangle) Sample collected (red square)
 Daily flow or level (grey dot) Primary station (black square) Daily flow or level (blue square)

Watershed Pollutant Load Monitoring Network (WPLMN) sample hydrograph and field data viewer - Data for previous 12 months

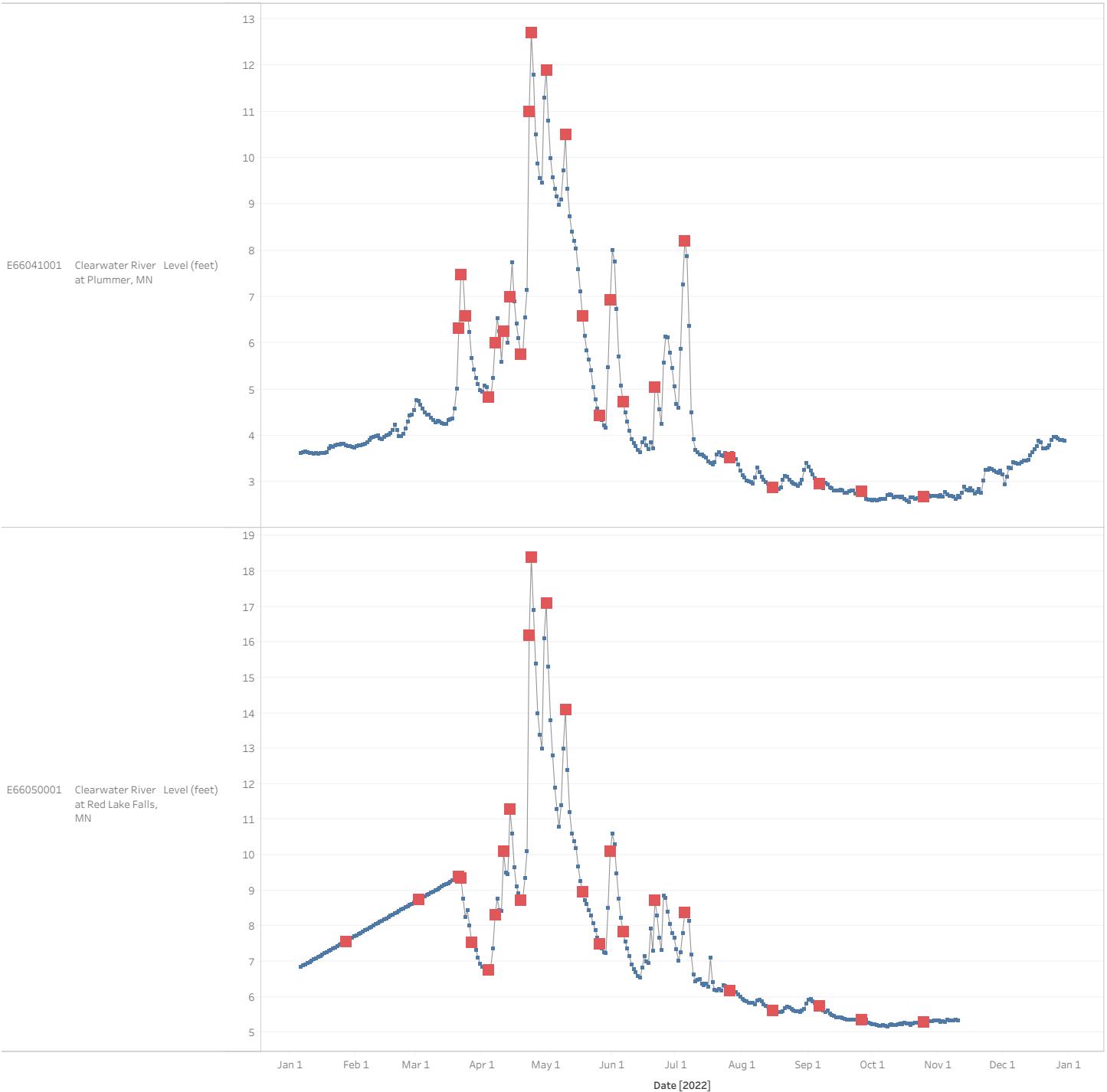
WISKI exported data at All and Tableau loaded it at 1/5/2023 1:07:54 PM.



Sample collected (grey circle) Alternate station (black triangle) Sample collected (red square)
 Daily flow or level (grey dot) Primary station (black square) Daily flow or level (blue square)

Watershed Pollutant Load Monitoring Network (WPLMN) sample hydrograph and field data viewer - Data for previous 12 months

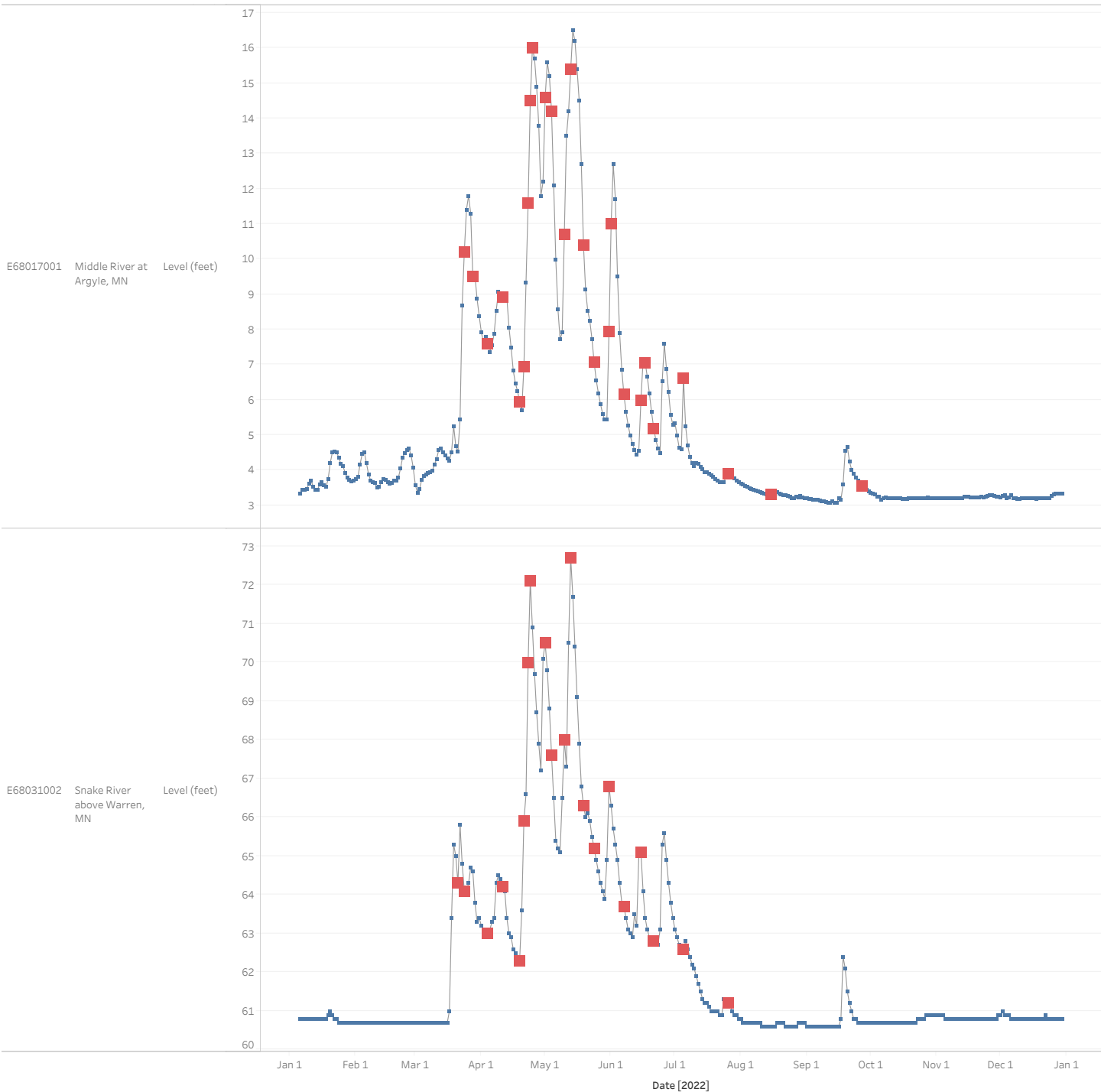
WISKI exported data at All and Tableau loaded it at 1/5/2023 1:07:54 PM.



Sample collected	Alternate station	Sample collected
● Sample collected	▲ Alternate station	■ Sample collected
● Daily flow or level	■ Primary station	■ Daily flow or level

Watershed Pollutant Load Monitoring Network (WPLMN) sample hydrograph and field data viewer - Data for previous 12 months

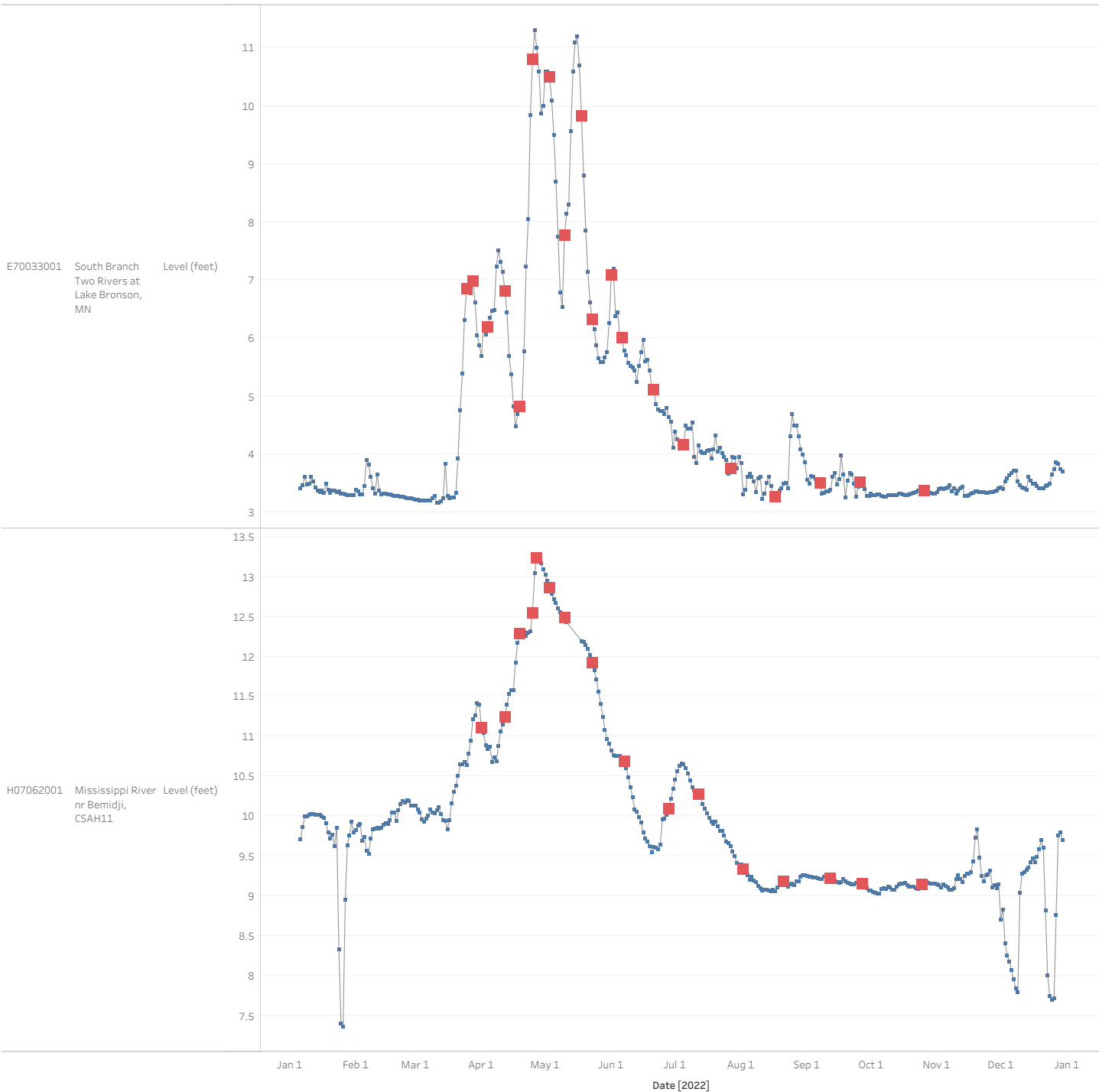
WISKI exported data at All and Tableau loaded it at 1/5/2023 1:07:54 PM.



Sample collected	Alternate station	Sample collected
● Sample collected	▲ Alternate station	■ Sample collected
● Daily flow or level	■ Primary station	■ Daily flow or level

Watershed Pollutant Load Monitoring Network (WPLMN) sample hydrograph and field data viewer - Data for previous 12 months

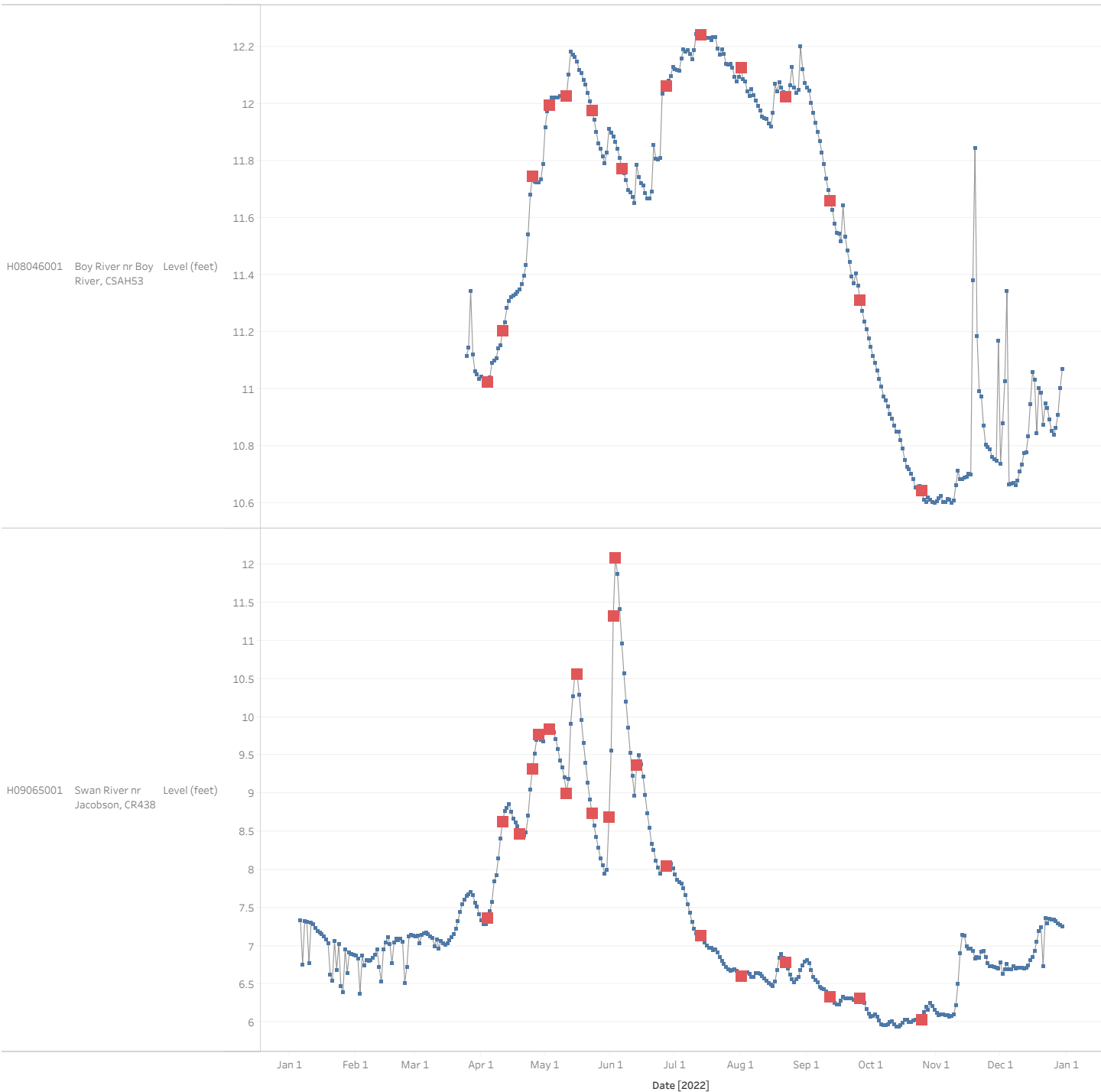
WISKI exported data at All and Tableau loaded it at 1/5/2023 1:07:54 PM.



Sample collected (Grey circle)
 Alternate station (Black triangle)
 Primary station (Black square)
 Sample collected (Red square)
 Daily flow or level (Blue square)

Watershed Pollutant Load Monitoring Network (WPLMN) sample hydrograph and field data viewer - Data for previous 12 months

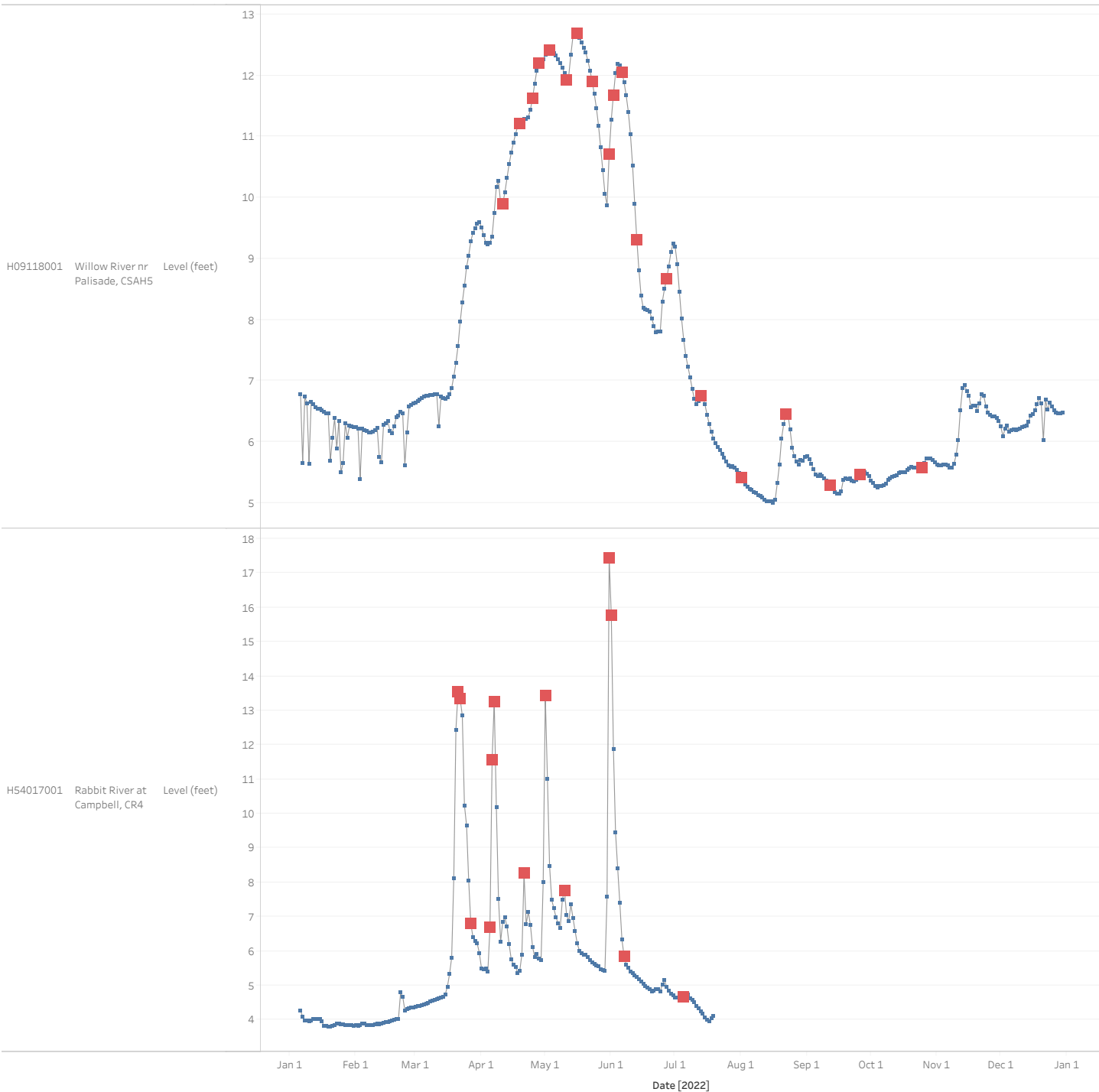
WISKI exported data at All and Tableau loaded it at 1/5/2023 1:07:54 PM.



Sample collected ● Alternate station ▲ Sample collected ■
● Daily flow or level ■ Primary station ■ Daily flow or level

Watershed Pollutant Load Monitoring Network (WPLMN) sample hydrograph and field data viewer - Data for previous 12 months

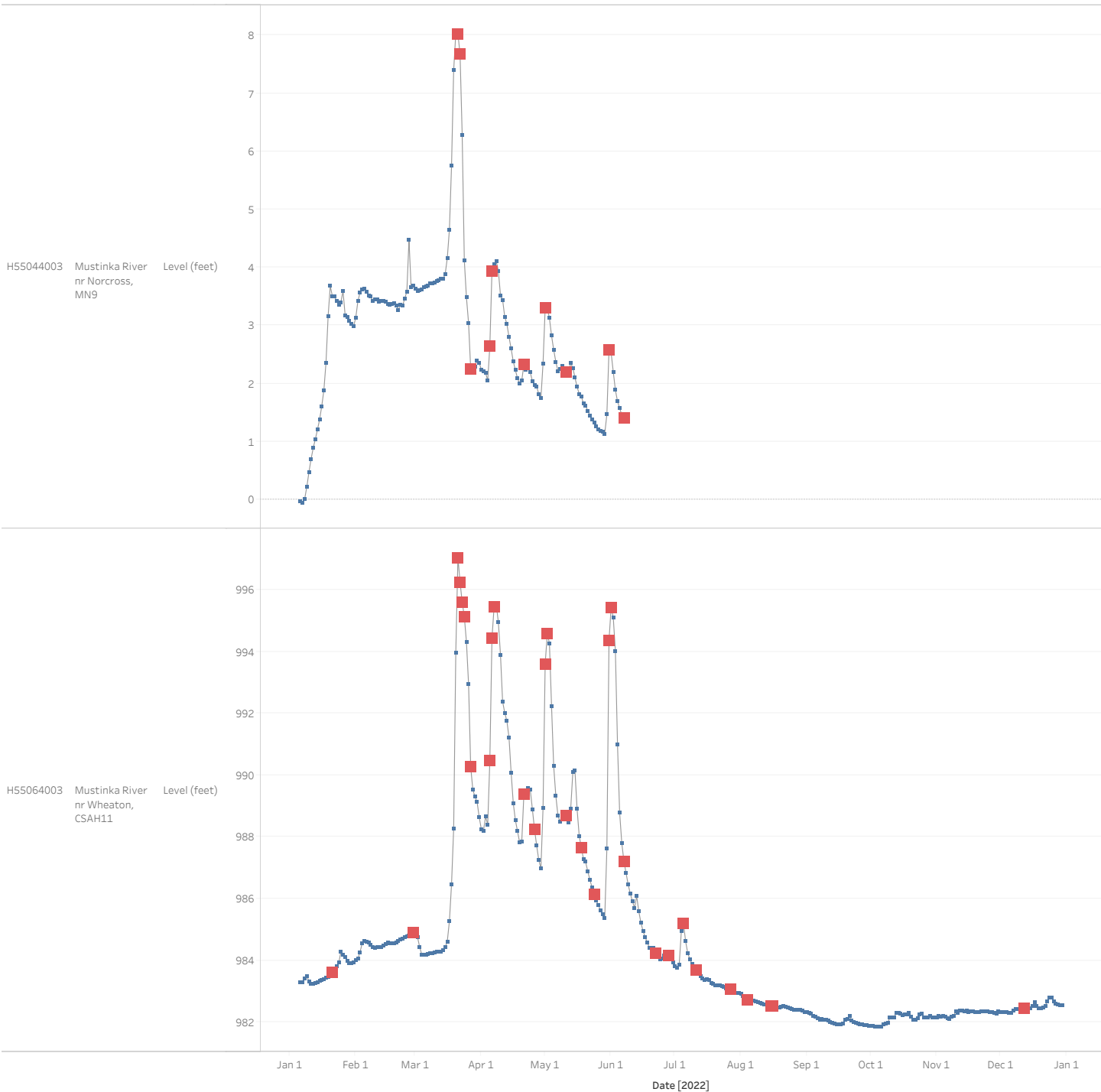
WISKI exported data at All and Tableau loaded it at 1/5/2023 1:07:54 PM.



Sample collected: ● Sample collected
 Alternate station: ▲ Alternate station
 Primary station: ■ Primary station
 Daily flow or level: ● Daily flow or level

Watershed Pollutant Load Monitoring Network (WPLMN) sample hydrograph and field data viewer - Data for previous 12 months

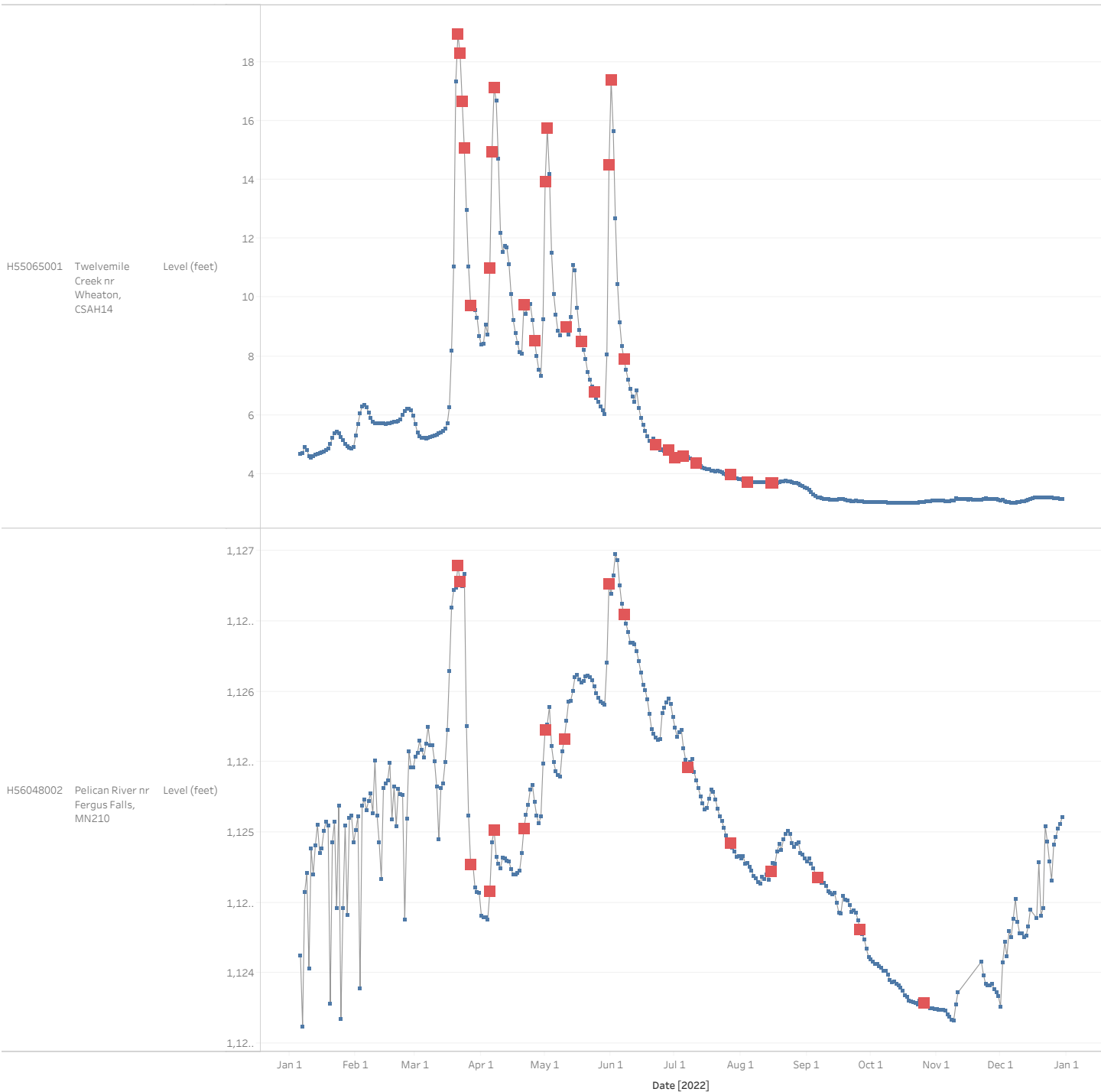
WISKI exported data at All and Tableau loaded it at 1/5/2023 1:07:54 PM.



Sample collected	Alternate station	Sample collected
● Sample collected	▲ Alternate station	■ Sample collected
● Daily flow or level	■ Primary station	■ Daily flow or level

Watershed Pollutant Load Monitoring Network (WPLMN) sample hydrograph and field data viewer - Data for previous 12 months

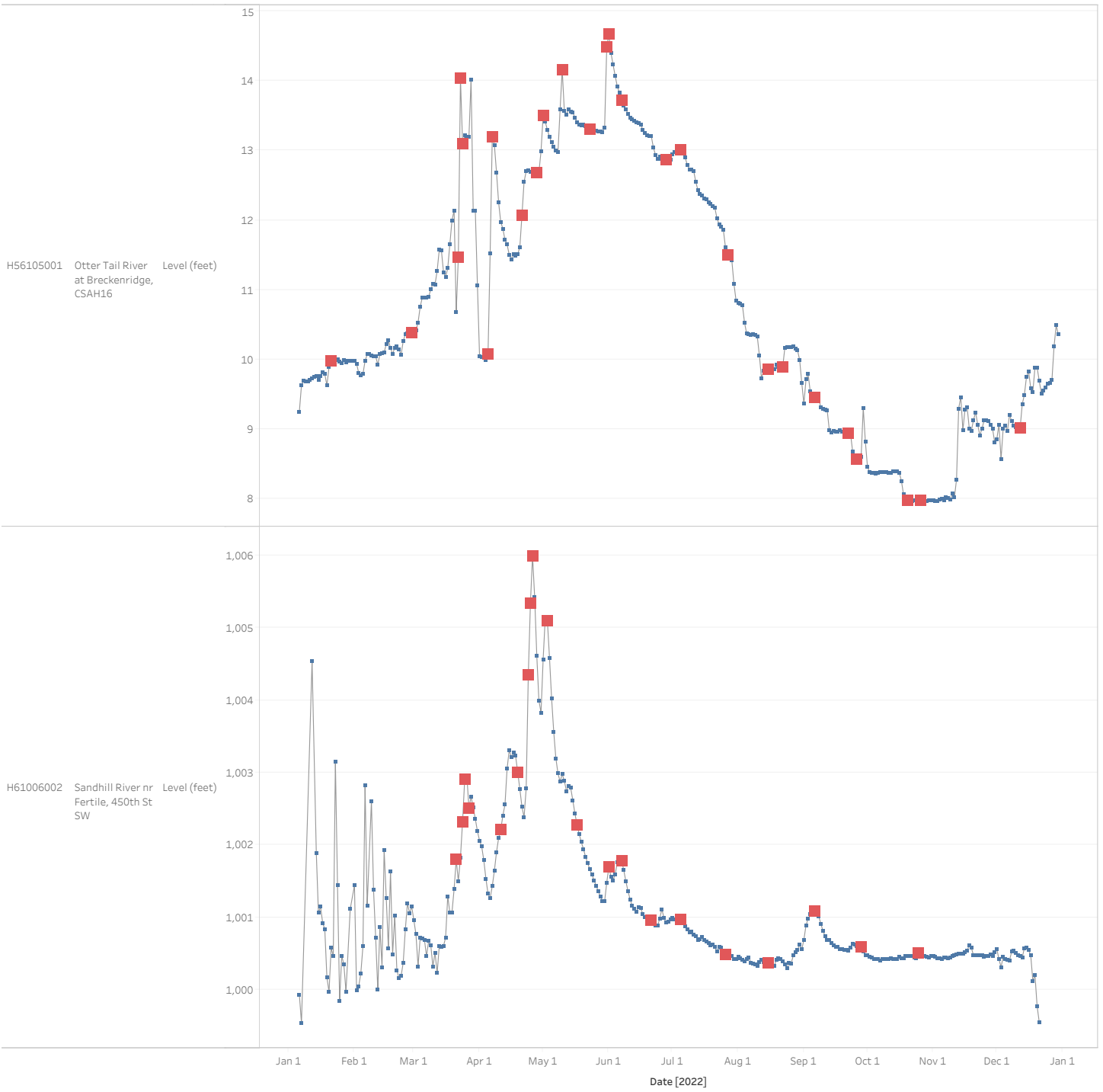
WISKI exported data at All and Tableau loaded it at 1/5/2023 1:07:54 PM.



Sample collected (Grey circle)
 Alternate station (Black triangle)
 Primary station (Black square)
 Sample collected (Red square)
 Daily flow or level (Blue line)

Watershed Pollutant Load Monitoring Network (WPLMN) sample hydrograph and field data viewer - Data for previous 12 months

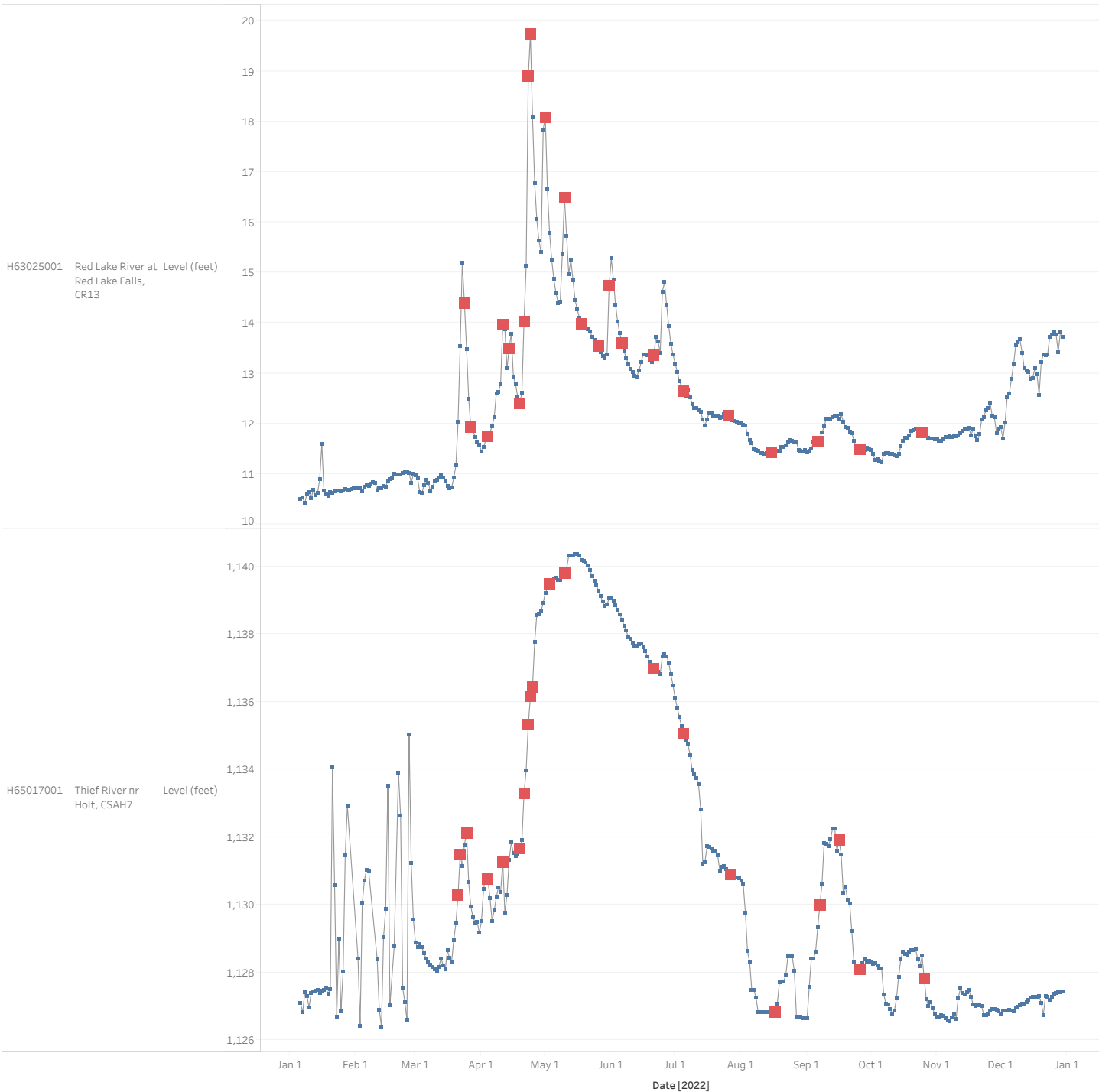
WISKI exported data at All and Tableau loaded it at 1/5/2023 1:07:54 PM.



Sample collected: ● Sample collected
 Alternate station: ▲ Alternate station
 Primary station: ■ Primary station
 Daily flow or level: ● Daily flow or level

Watershed Pollutant Load Monitoring Network (WPLMN) sample hydrograph and field data viewer - Data for previous 12 months

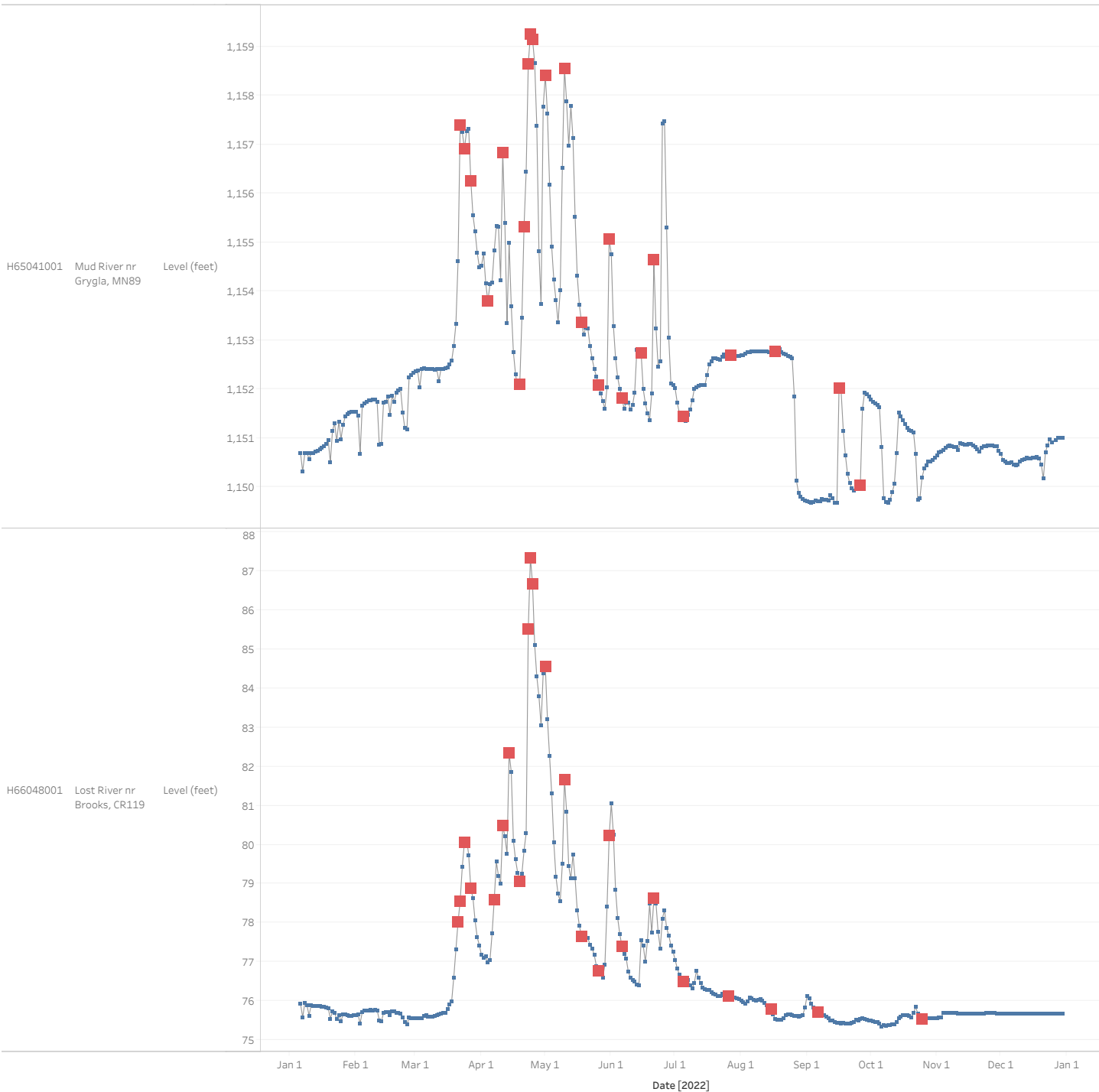
WISKI exported data at All and Tableau loaded it at 1/5/2023 1:07:54 PM.



Sample collected: ● Sample collected
 Alternate station: ▲ Alternate station
 Primary station: ■ Primary station
 Daily flow or level: ● Daily flow or level

Watershed Pollutant Load Monitoring Network (WPLMN) sample hydrograph and field data viewer - Data for previous 12 months

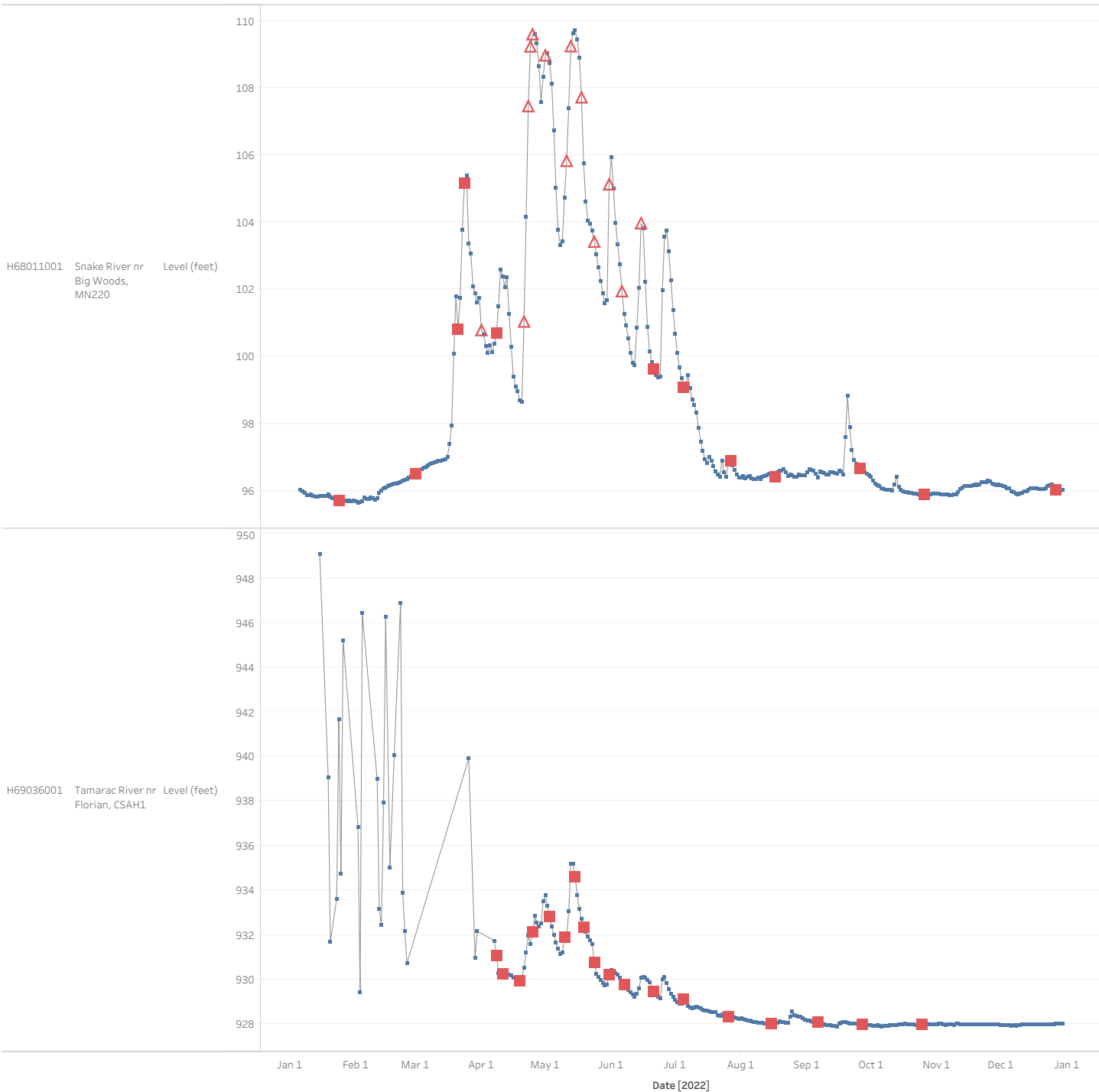
WISKI exported data at All and Tableau loaded it at 1/5/2023 1:07:54 PM.



Sample collected ● Alternate station ▲ Sample collected ■
● Daily flow or level ■ Primary station ■ Daily flow or level

Watershed Pollutant Load Monitoring Network (WPLMN) sample hydrograph and field data viewer - Data for previous 12 months

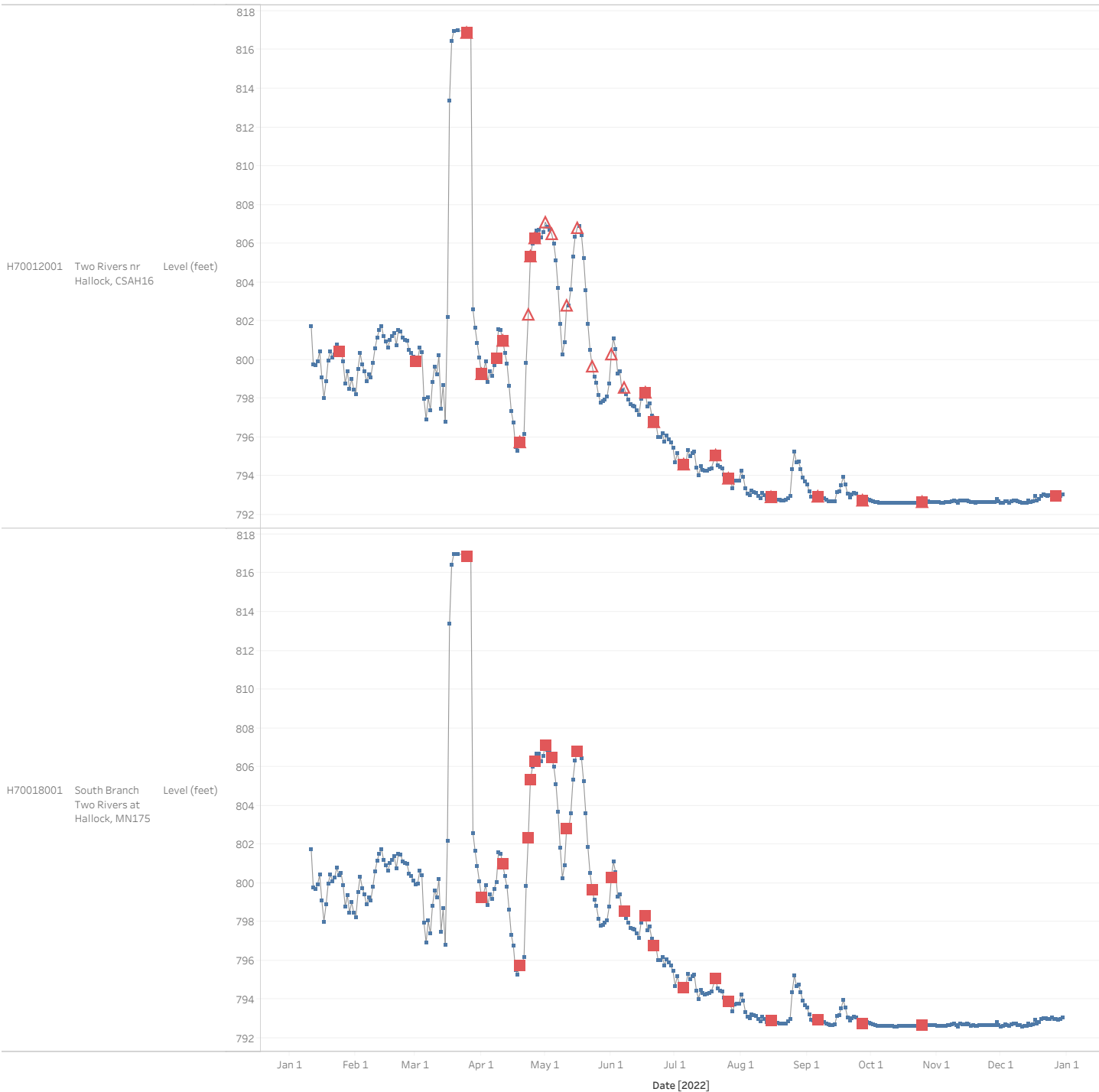
WISKI exported data at All and Tableau loaded it at 1/5/2023 1:07:54 PM.



Sample collected (grey circle)
 Alternate station (red triangle)
 Sample collected (red square)
 Primary station (black square)
 Daily flow or level (blue line)

Watershed Pollutant Load Monitoring Network (WPLMN) sample hydrograph and field data viewer - Data for previous 12 months

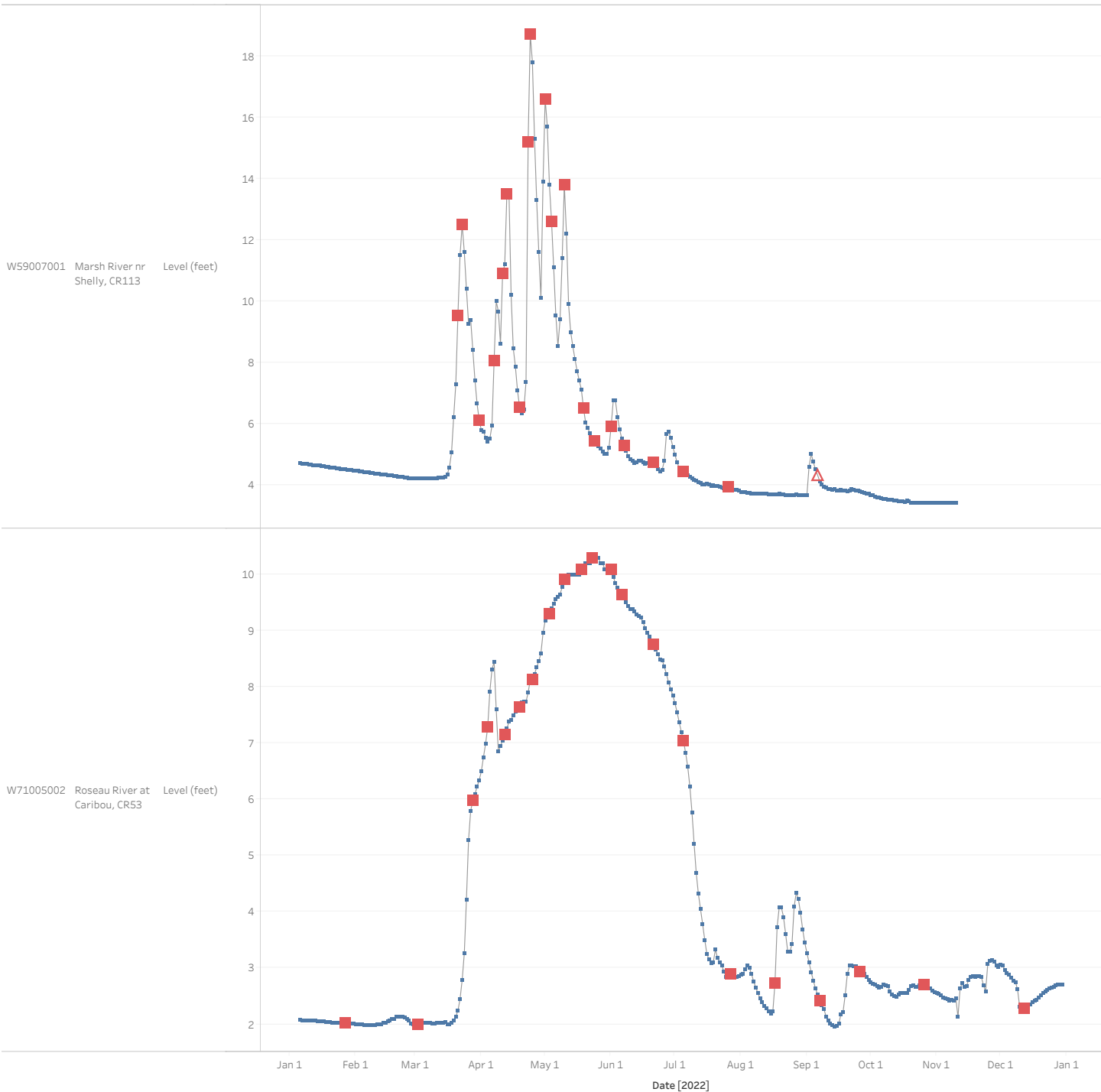
WISKI exported data at All and Tableau loaded it at 1/5/2023 1:07:54 PM.



Sample collected	Alternate station	Sample collected
● Sample collected	▲ Alternate station	■ Sample collected
○ Daily flow or level	■ Primary station	■ Daily flow or level

Watershed Pollutant Load Monitoring Network (WPLMN) sample hydrograph and field data viewer - Data for previous 12 months

WISKI exported data at All and Tableau loaded it at 1/5/2023 1:07:54 PM.



Sample collected	Alternate station	Sample collected
● Sample collected	▲ Alternate station	■ Sample collected
● Daily flow or level	■ Primary station	■ Daily flow or level