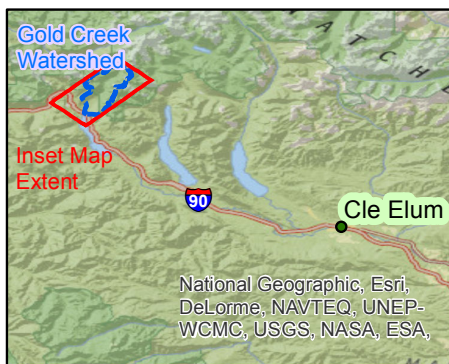
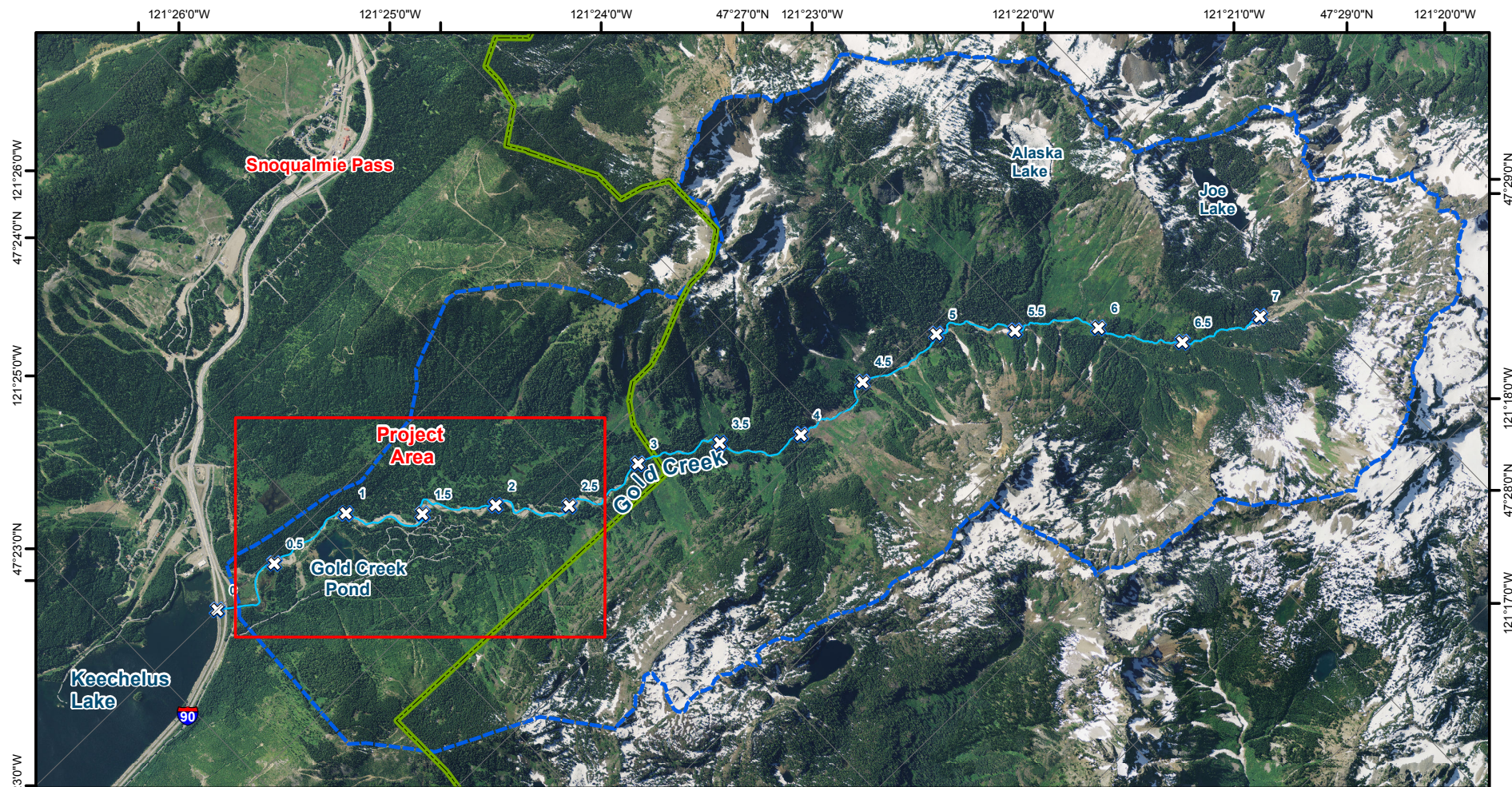
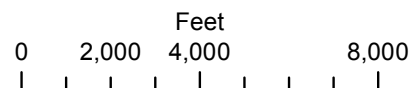




Legend

- River Miles
- Main Channel
- Roads
- Railroad
- Wilderness Boundary
- Watershed Boundary



Data sources:
USDA National Agriculture Imagery Program
USGS National Hydrography Dataset



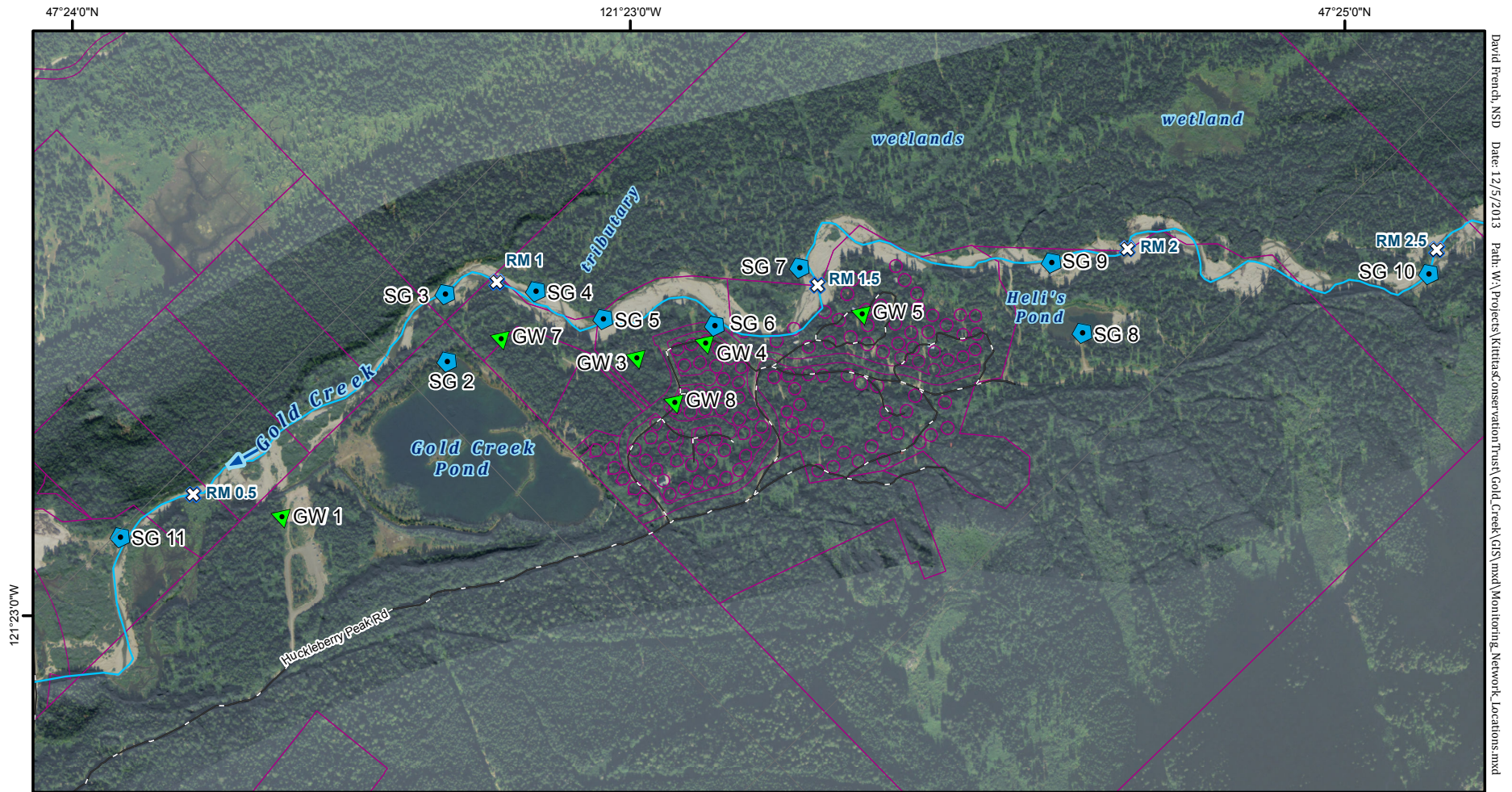
**Gold Creek
Project Site Area**

**Northeast of Snoqualmie Pass
Kittitas County, Washington**

FIGURE I – Gold Creek project site map

Gold Creek Habitat Assessment & Conceptual Design



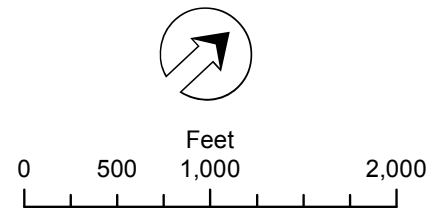


David French, MSD Date: 12/5/2013 Path: \\A:\Projects\Kittitas\conservation\trush Gold Creek GIS\mxd\Monitoring_Network_Locations.mxd



Legend

- +15 River Miles
- ▲ Groundwater Well
- Surface Gauge
- ~ Streams
- Roads
- Parcel Boundary



Data sources:
USDA National Agriculture Imagery Program 2011
2012 LiDAR from Watershed Sciences, Inc.



**Gold Creek
Monitoring Network Locations**
**Northeast of Snoqualmie Pass
Kittitas County, Washington**

FIGURE 2 – Monitoring network locations

Gold Creek Habitat Assessment & Conceptual Design



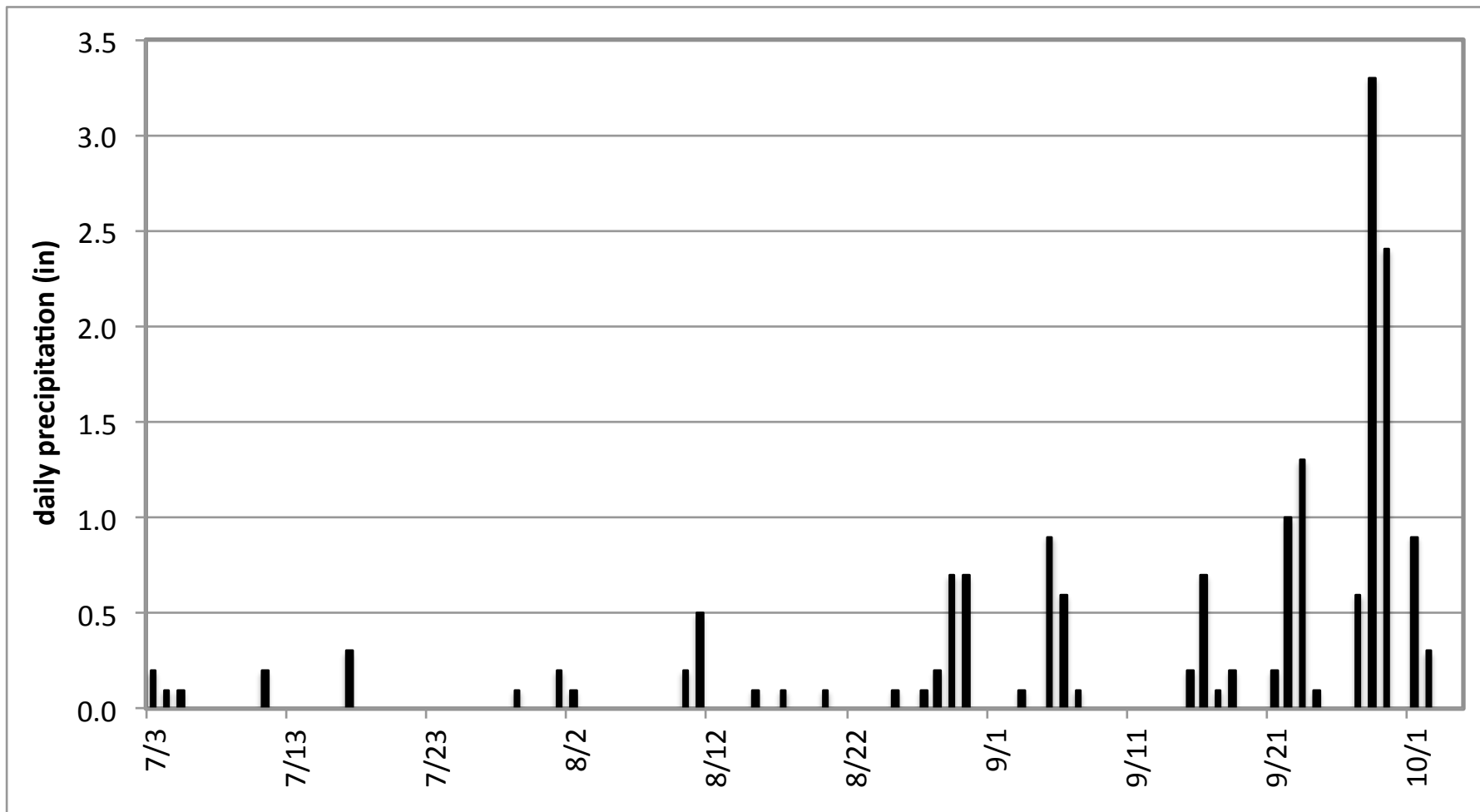


FIGURE 3 – Rainfall during monitoring period (NOAA SNOTEL station OMWW1)

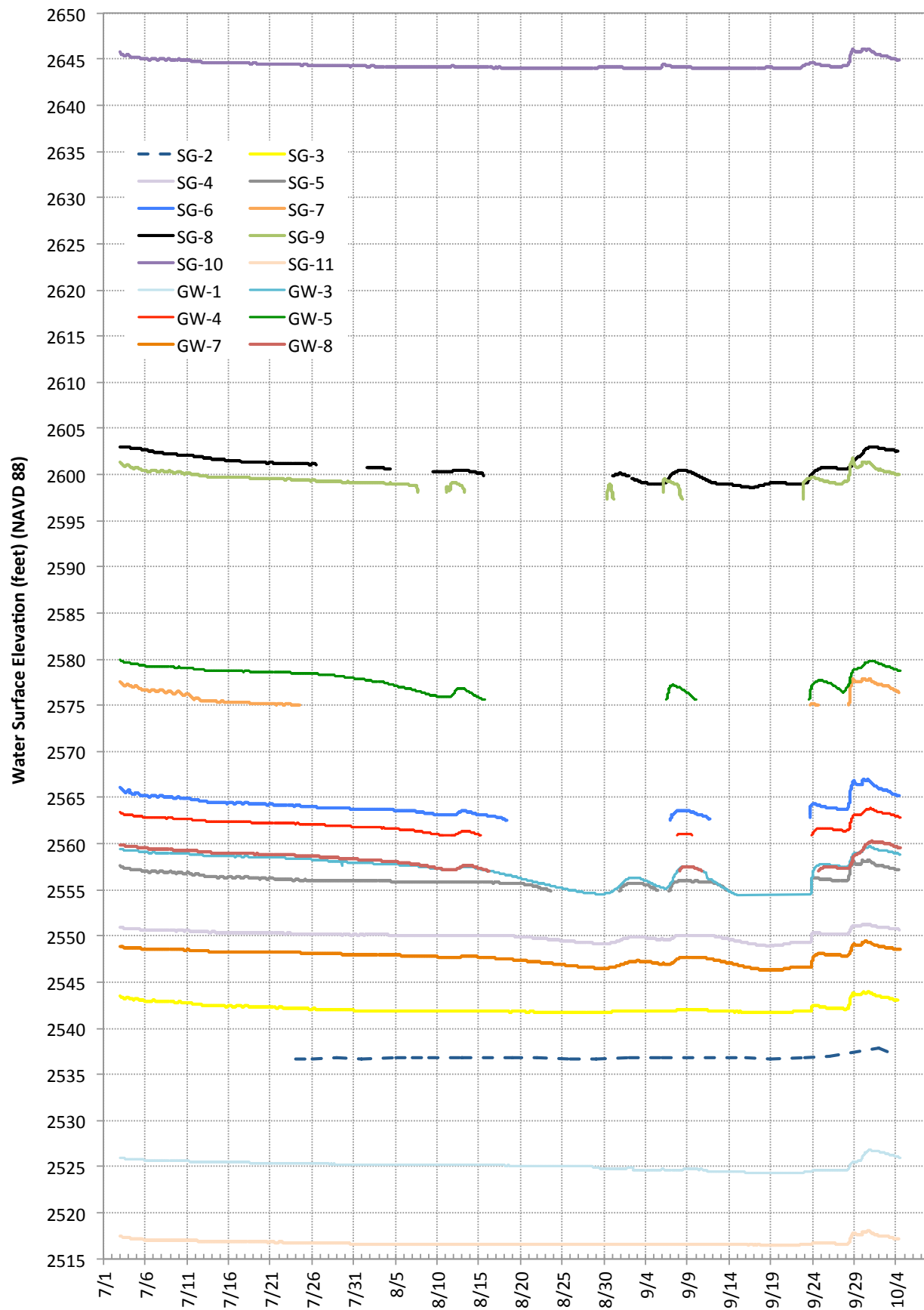


FIGURE 4 – Water surface elevations at all monitoring locations for the entire monitoring period

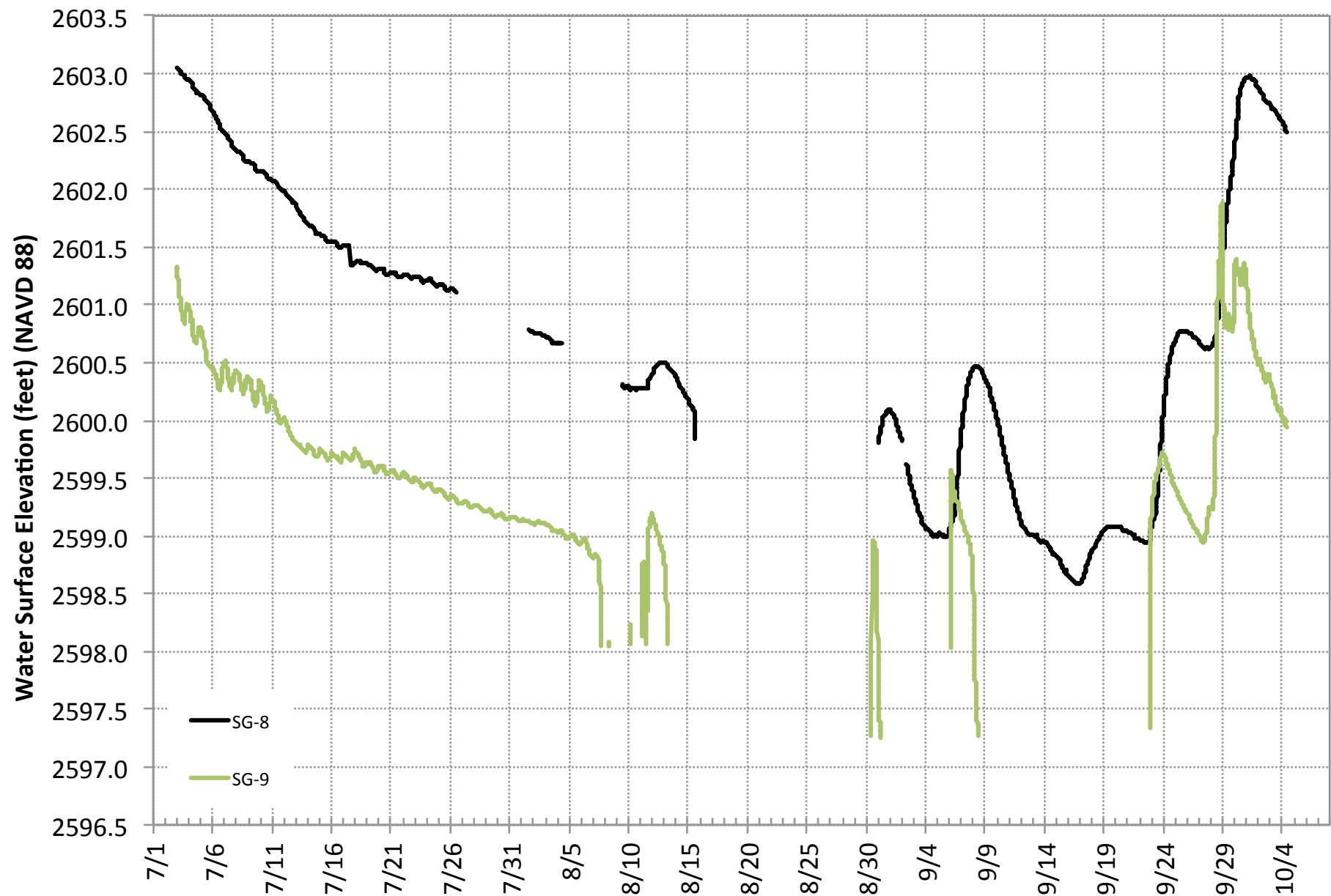


FIGURE 5 – WSE at SG 8 and 9 for the entire monitoring period

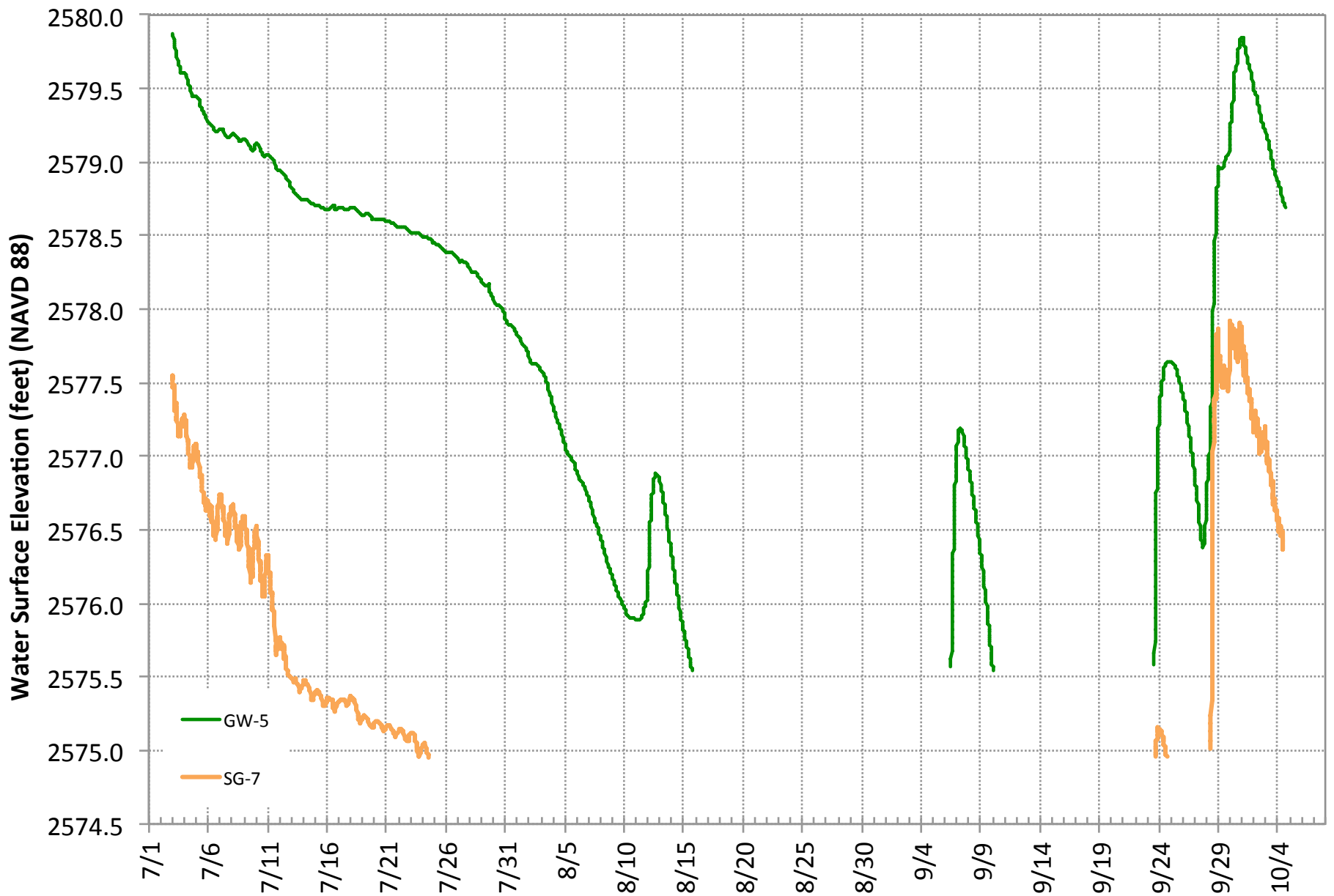


FIGURE 6 – WSE at SG 8 and GW 5 for the entire monitoring period

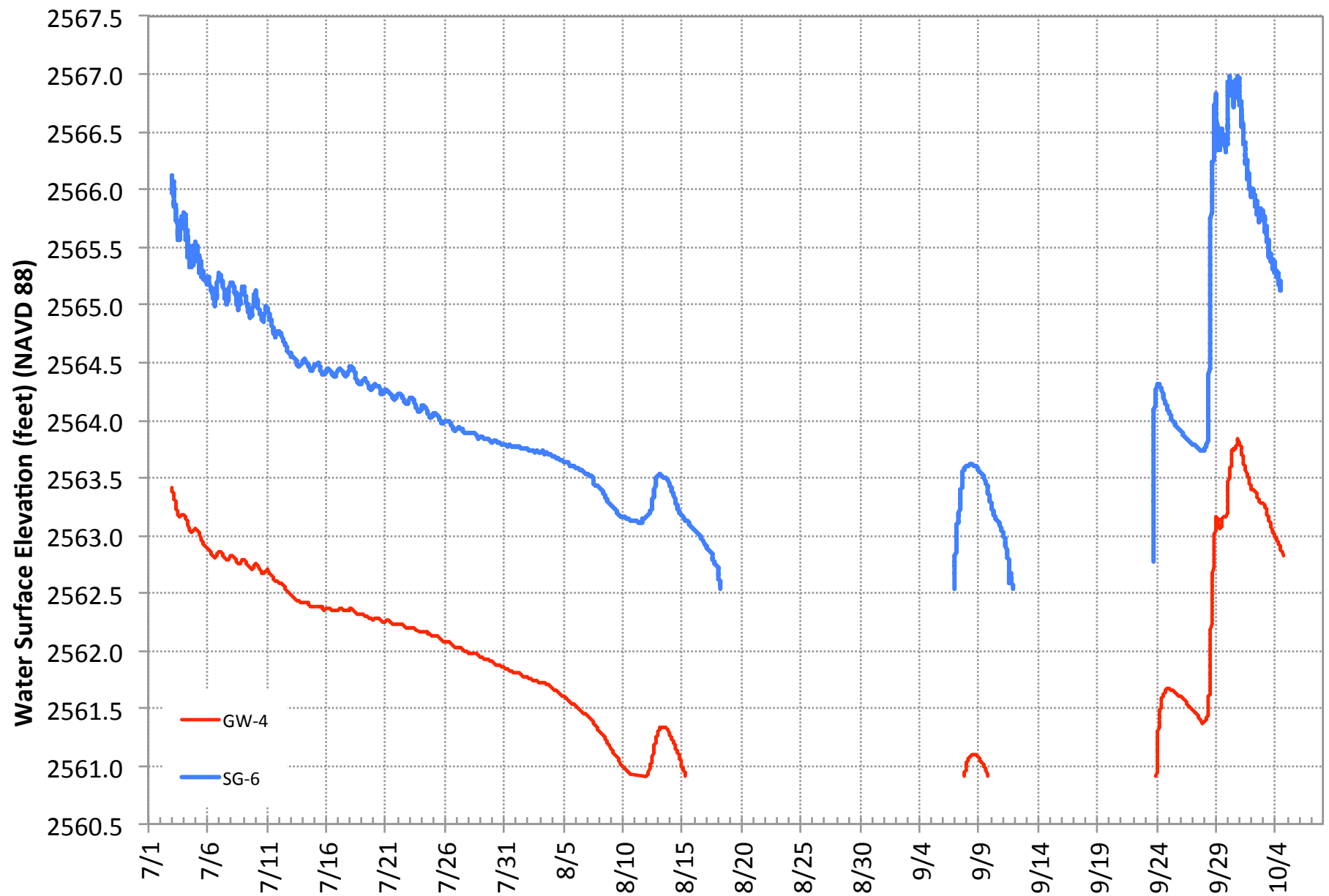


FIGURE 7 – WSE at SG 6 and GW 4 for the entire monitoring period

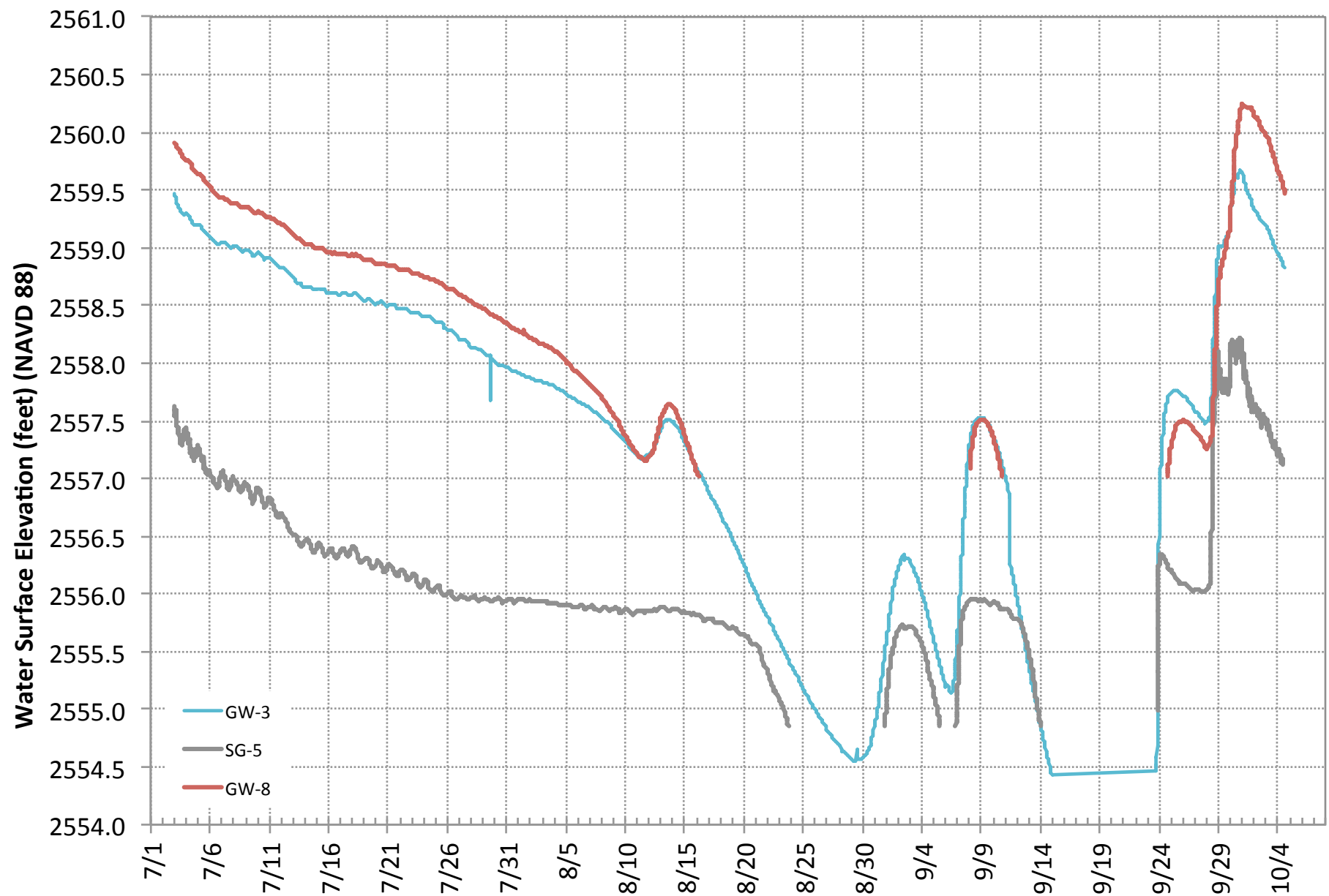


FIGURE 8 – WSE at SG 5, and GW 3 and 8 for the entire monitoring period

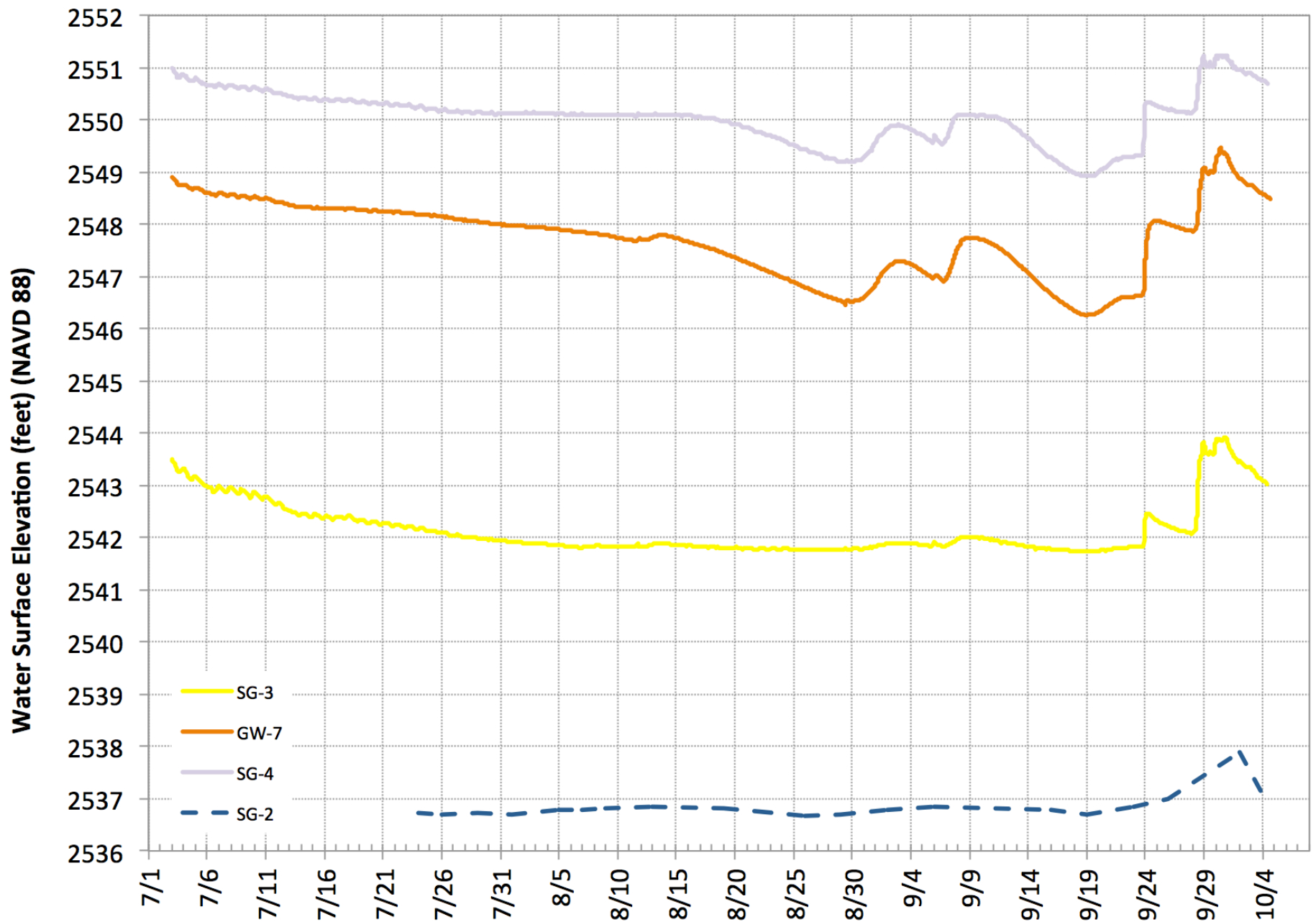


FIGURE 9 – WSE at SG 2, 3, and 4, and GW 7 for the entire monitoring period

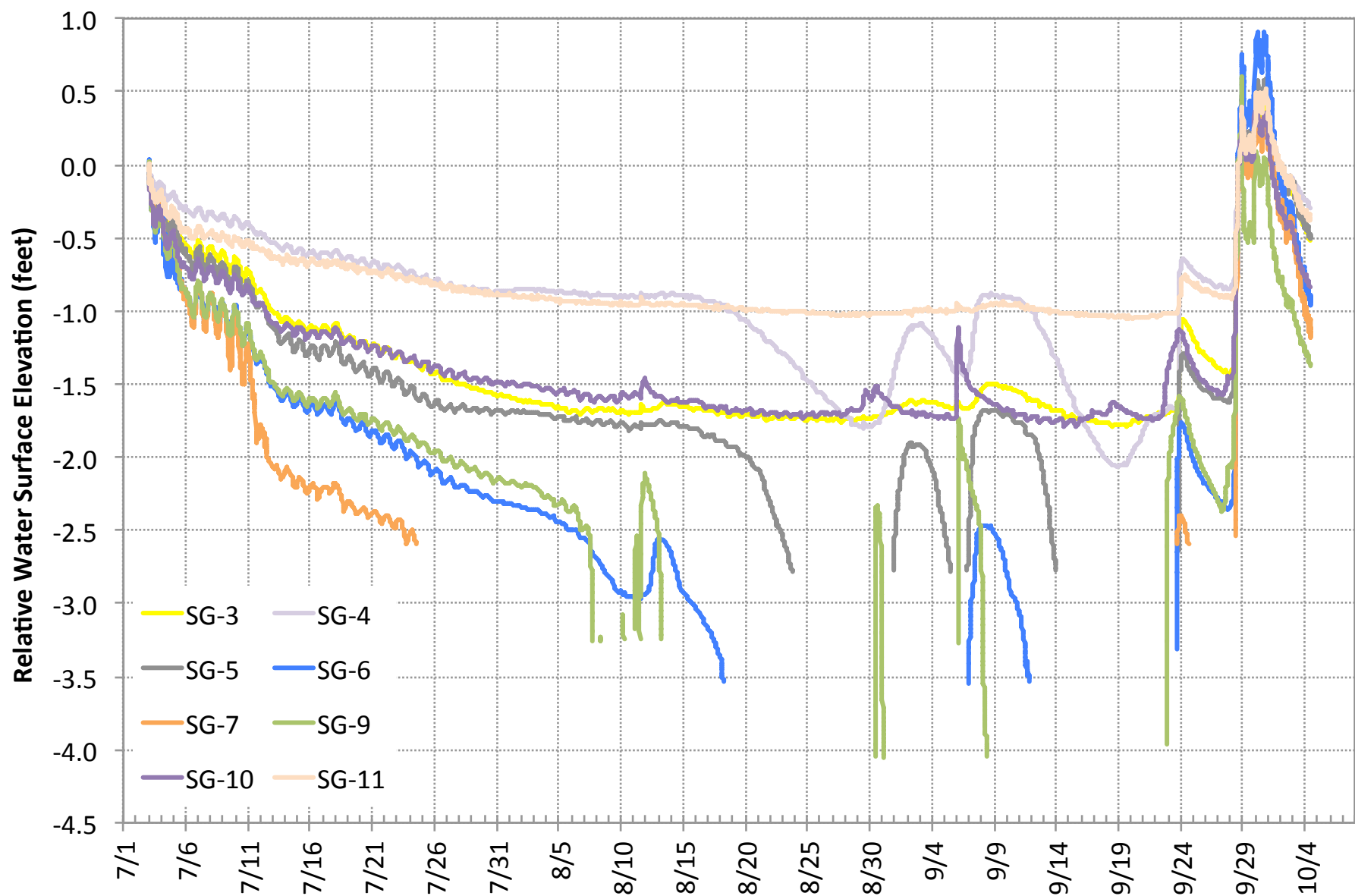


FIGURE 10 – Relative WSE at all surface water stations for the entire monitoring period

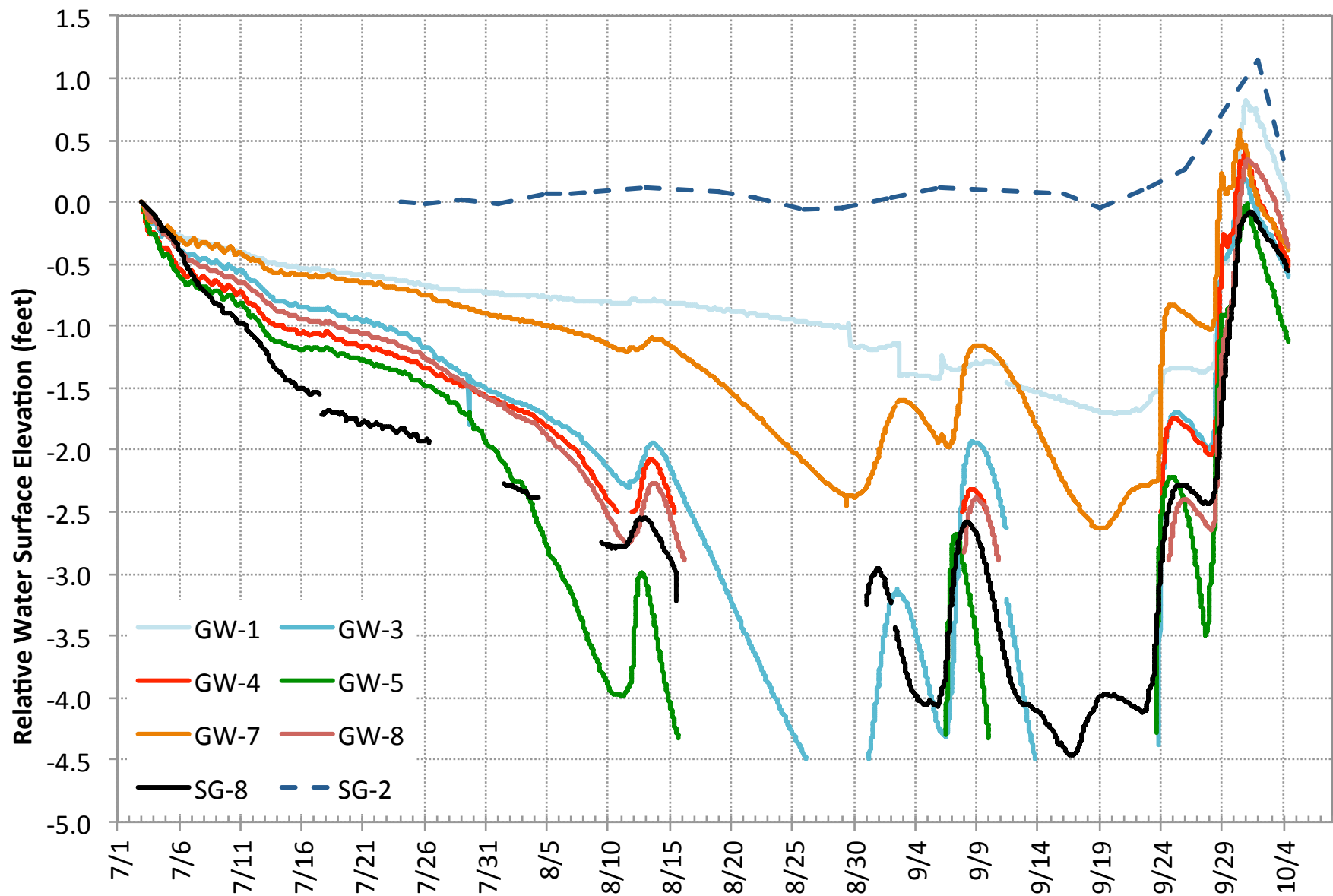


FIGURE 11 – Relative WSE at all groundwater wells for the entire monitoring period

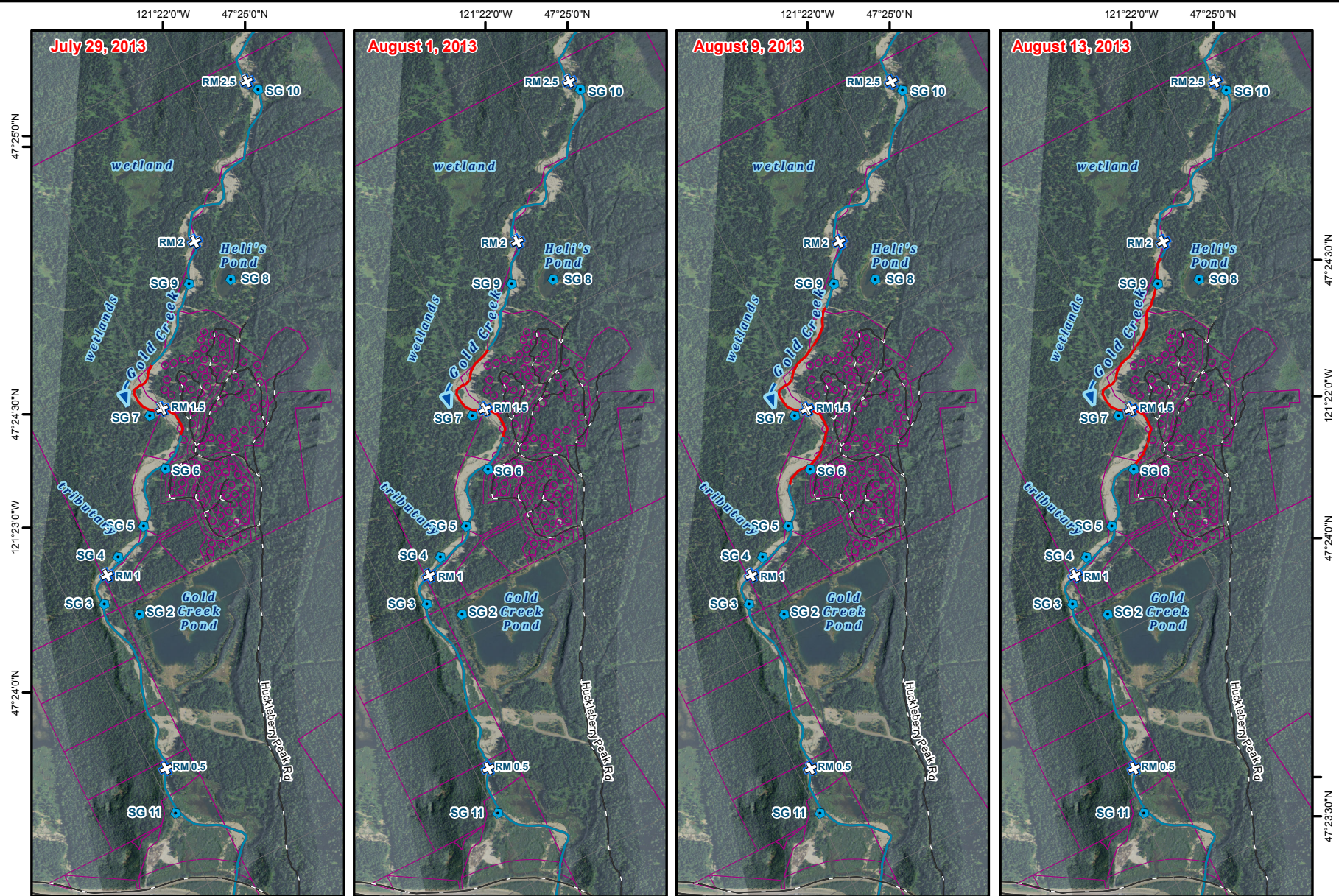
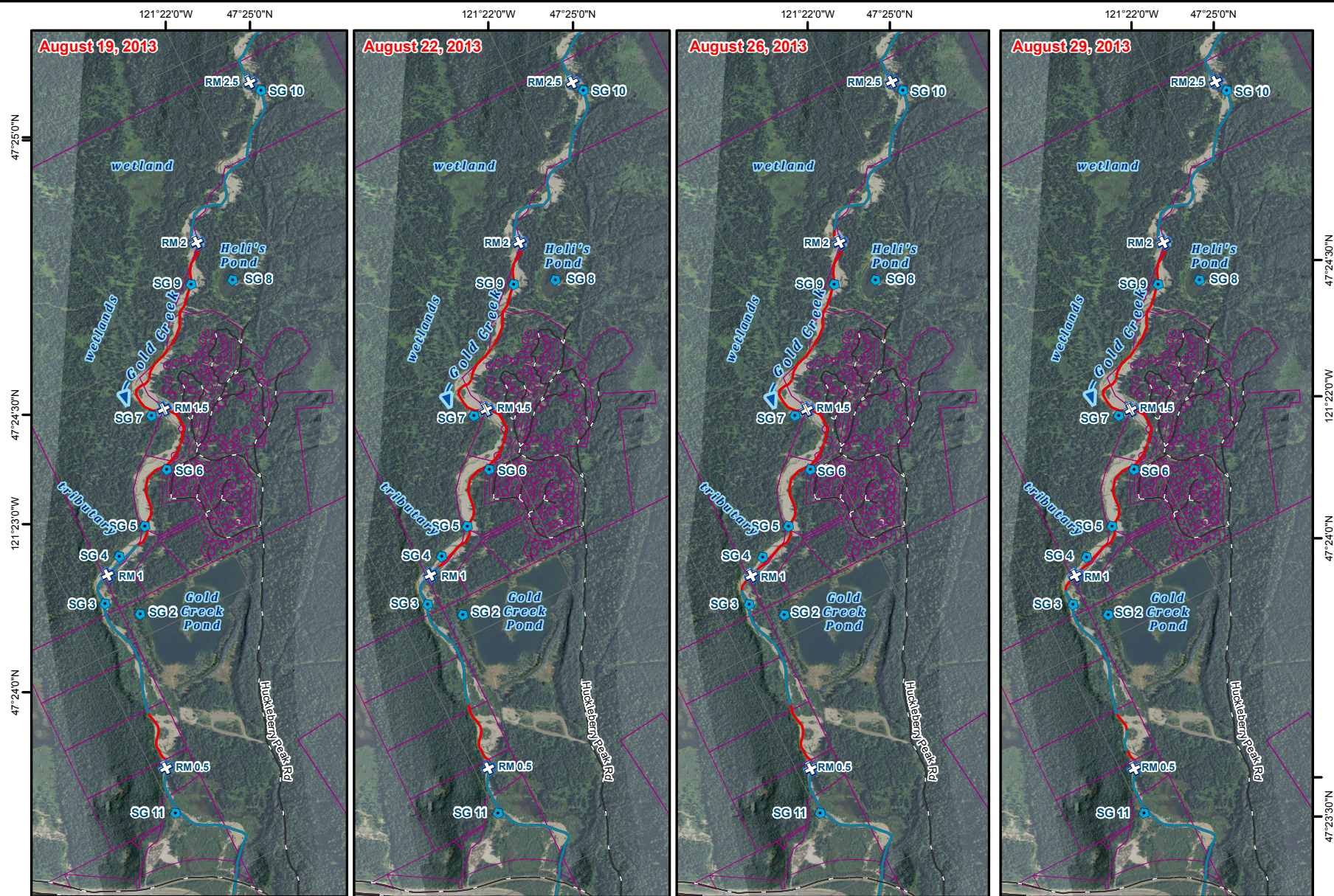


FIGURE 12 – Extent of dewatered channel between July 29th and August 13th

Gold Creek Habitat Assessment & Conceptual Design



Gold Creek Hydrologic Assessment Channel Dewatering Maps

Data sources: 2012 LiDAR Watershed Sciences, Inc.; USDA NAIP
2011; WA DNR
Lambert conformal conic projection, NAD 1983
State Plane Coordinate System (WA South Zone)



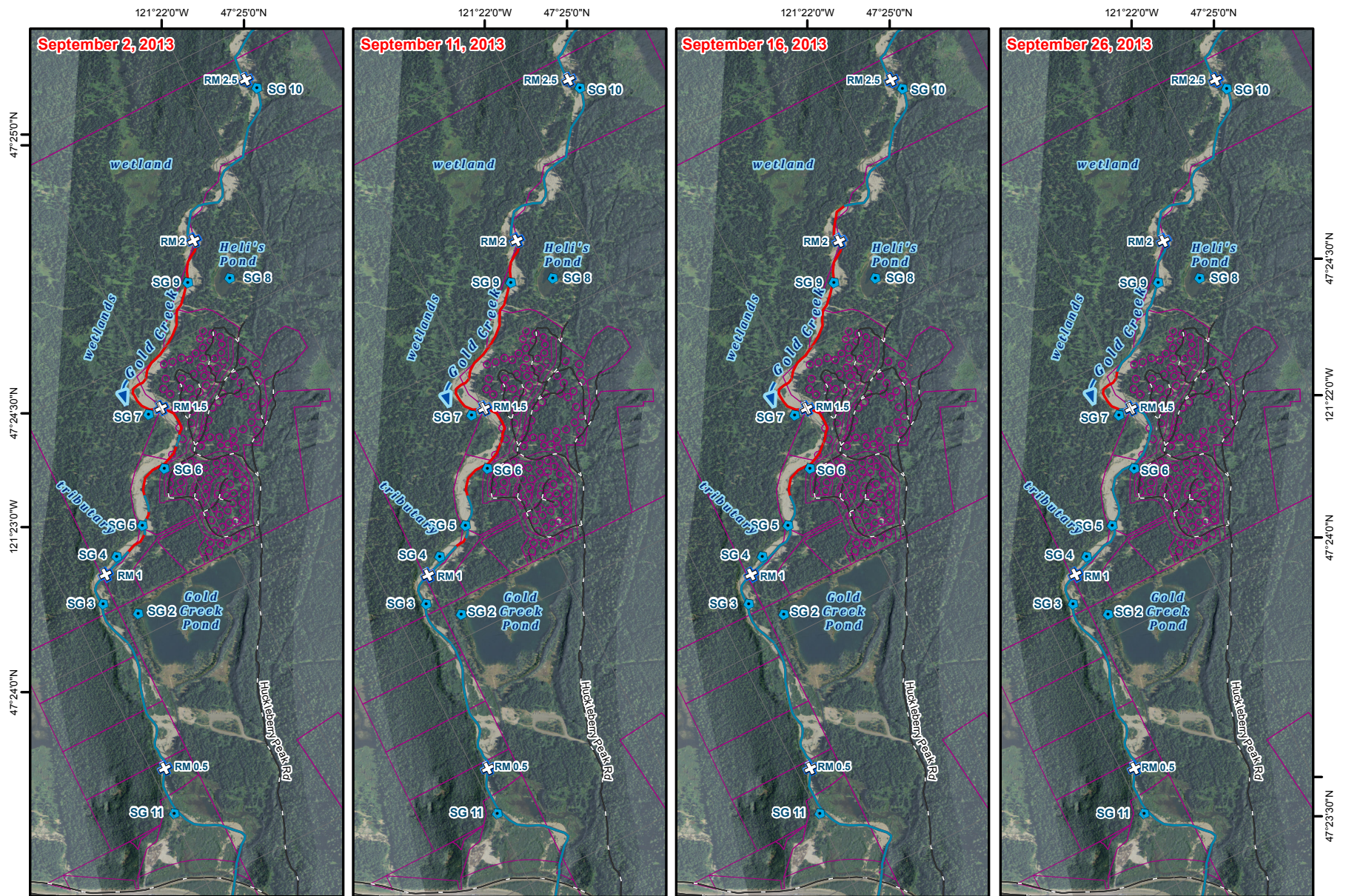
**KITTITAS
CONSERVATION
TRUST**

Natural Systems Design

FIGURE 13 – Extent of dewatered channel between August 19th and August 29th

Gold Creek Habitat Assessment & Conceptual Design

Natural Systems Design
P.O. Box 15609
Seattle, WA 98115



Gold Creek Hydrologic Assessment Channel Dewatering Maps

Data sources: 2012 LiDAR Watershed Sciences, Inc.; USDA NAIP
2011; WA DNR
Lambert conformal conic projection, NAD 1983
State Plane Coordinate System (WA South Zone)



FIGURE 14 – Extent of dewatered channel between September 2nd and September 26th

Gold Creek Habitat Assessment & Conceptual Design



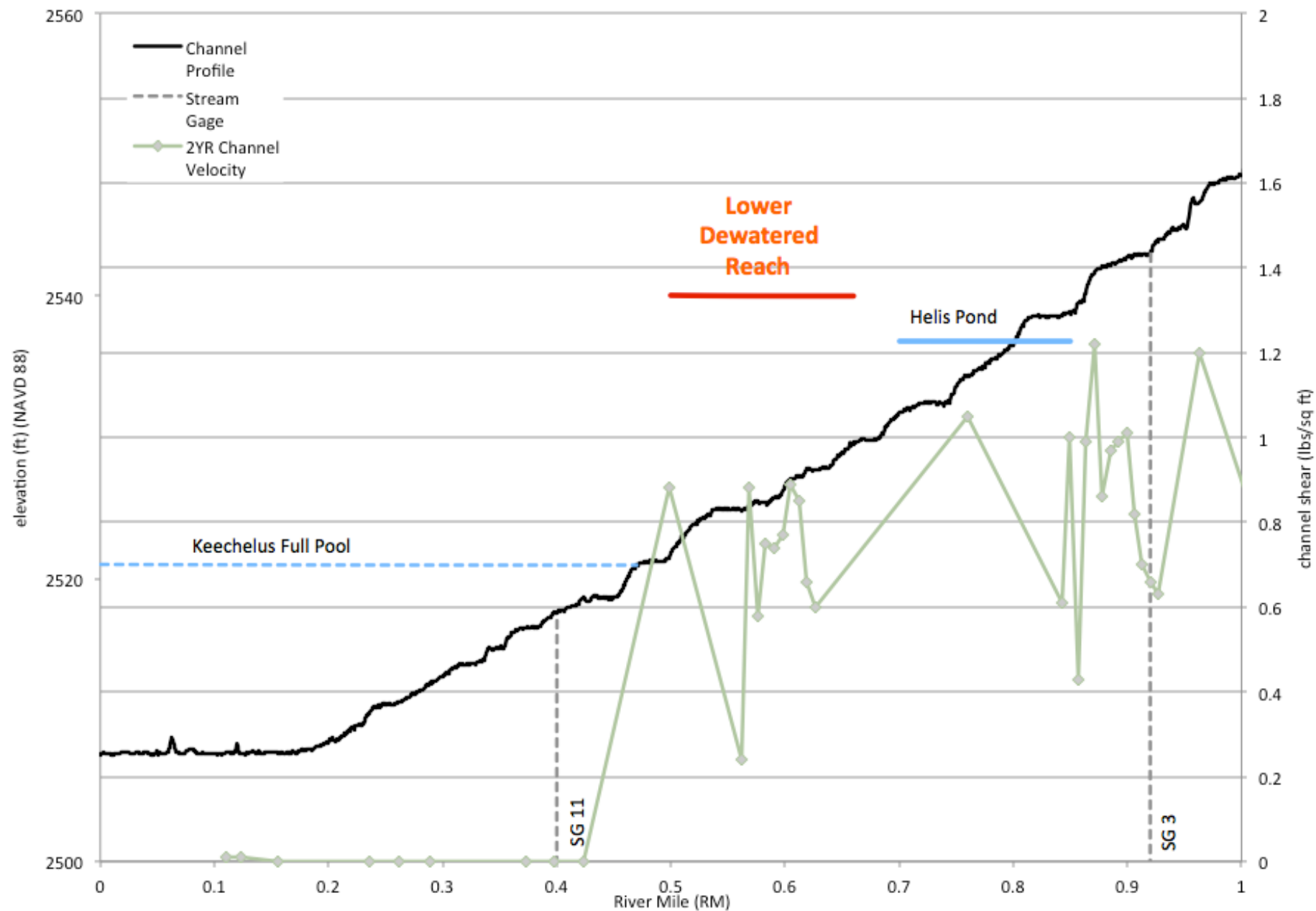


FIGURE 15 – Existing condition hydraulics near Keechelus full pool elevation

121°22'30"W

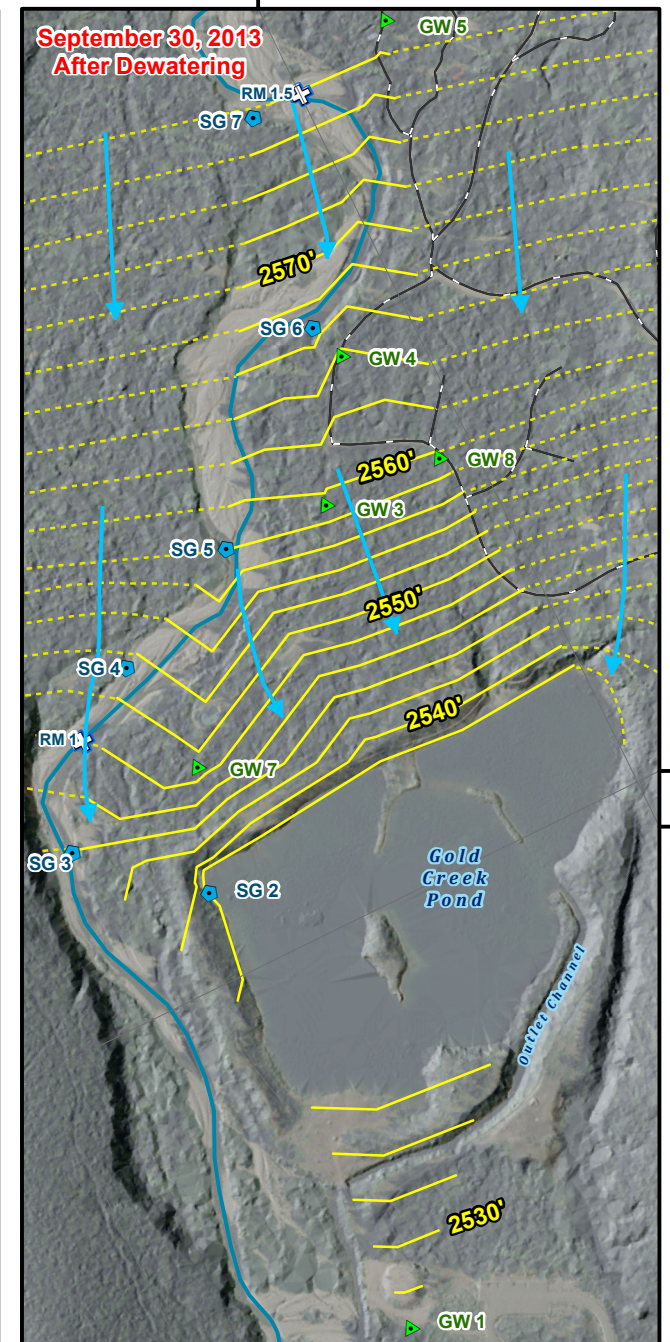
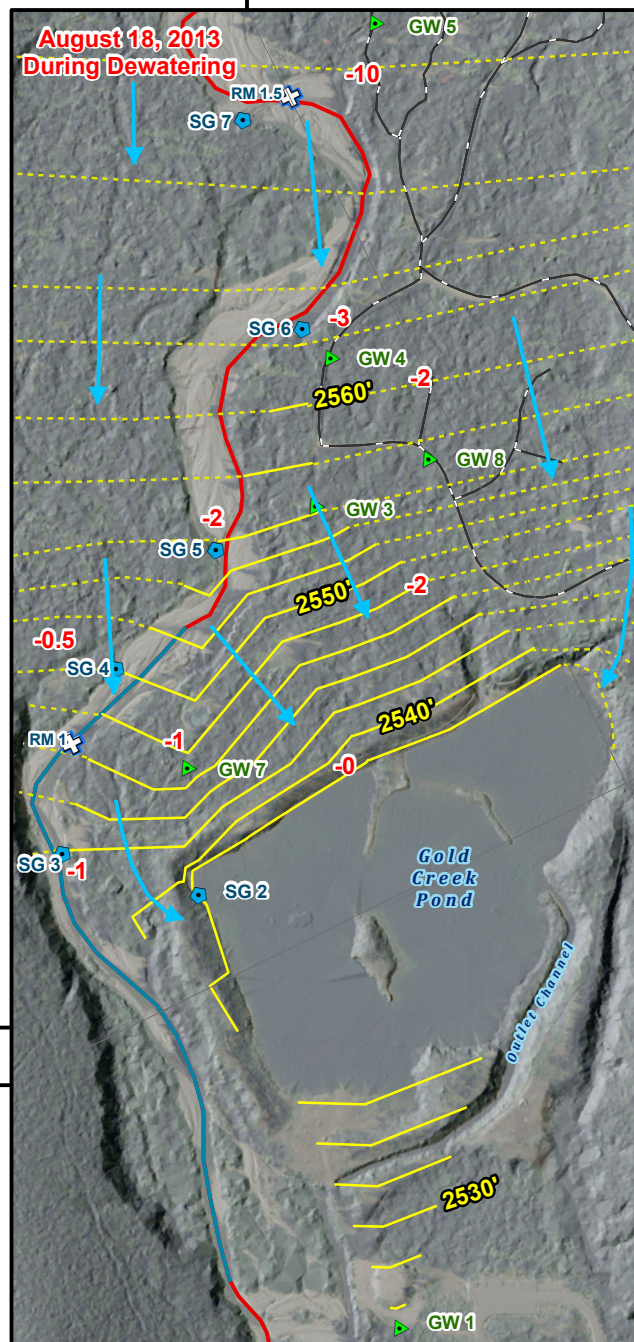
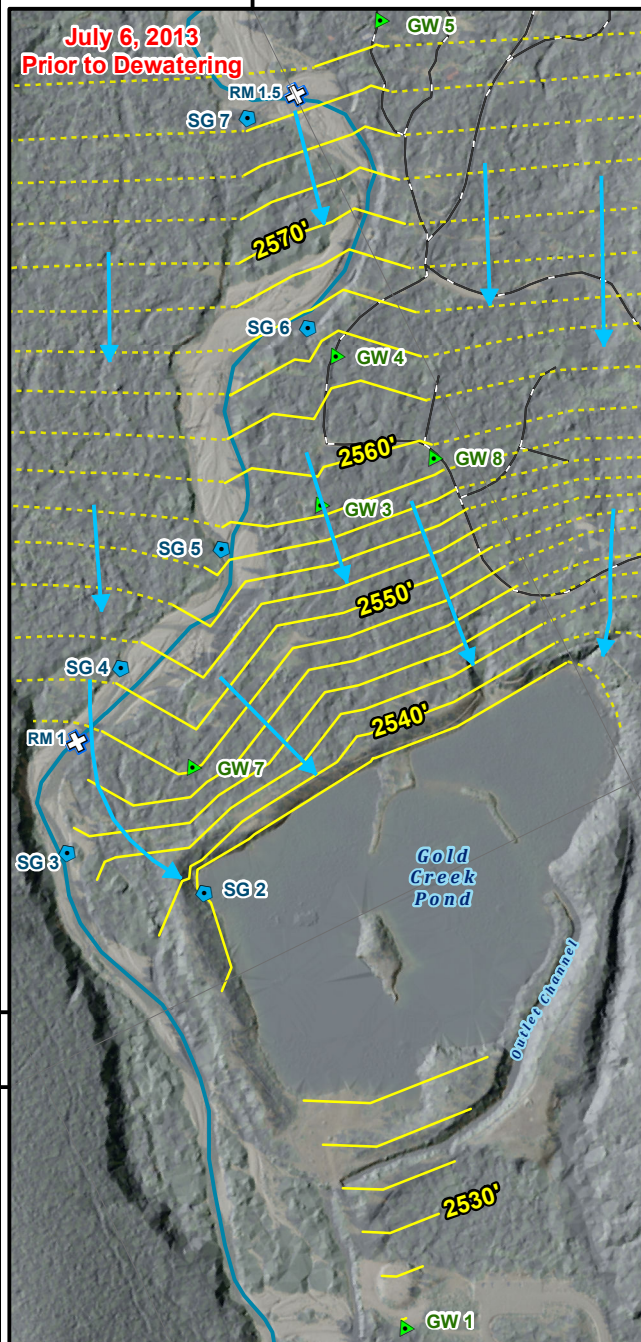
121°22'30"W

121°22'30"W

July 6, 2013
Prior to Dewatering

August 18, 2013
During Dewatering

September 30, 2013
After Dewatering



Gold Creek Hydrologic Assessment

Water Surface Elevation Maps

FIGURE 16 – WSE prior to and during dewatering, and after dewatering

Data sources: 2012 LiDAR Watershed Sciences, Inc.;

USDA NAIP 2011; WA DNR

Land Use/cover data from 2011

State Plane Coordinate System (WA South Zone)

15
River Mile
Water Contour
Dewatered Channel



Surface Gauge



Groundwater Well

2 ft Water Surface Contour

Extrapolated 2 ft Water Surface Contour



0

1,000 Feet

INITITAS
CONSERVATION
TRUST

Natural Systems Design
15609
Seattle, WA 98115

47°24'0"N

47°24'0"N

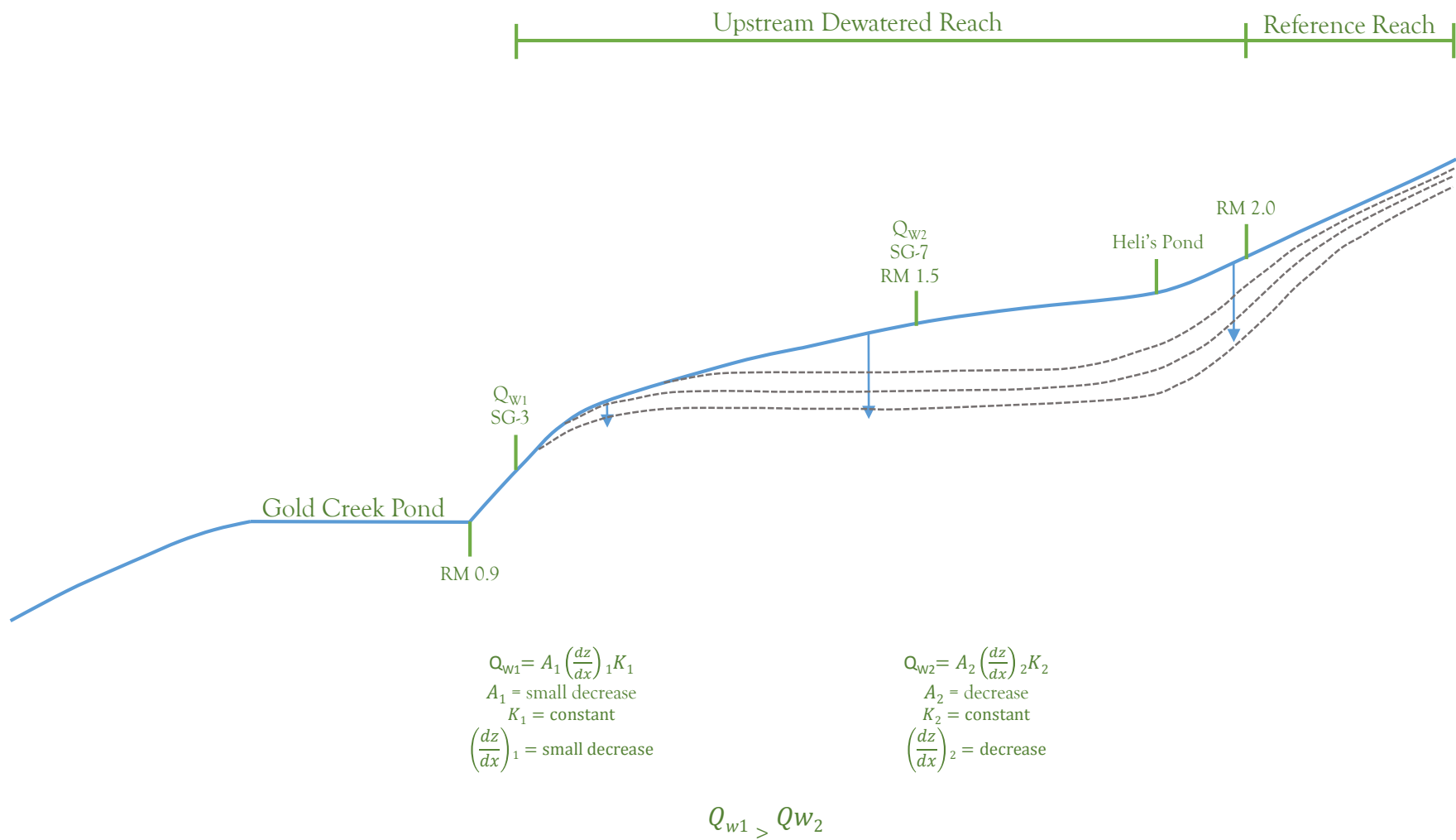


FIGURE 17 – Conceptual profile of groundwater elevation through the project reach

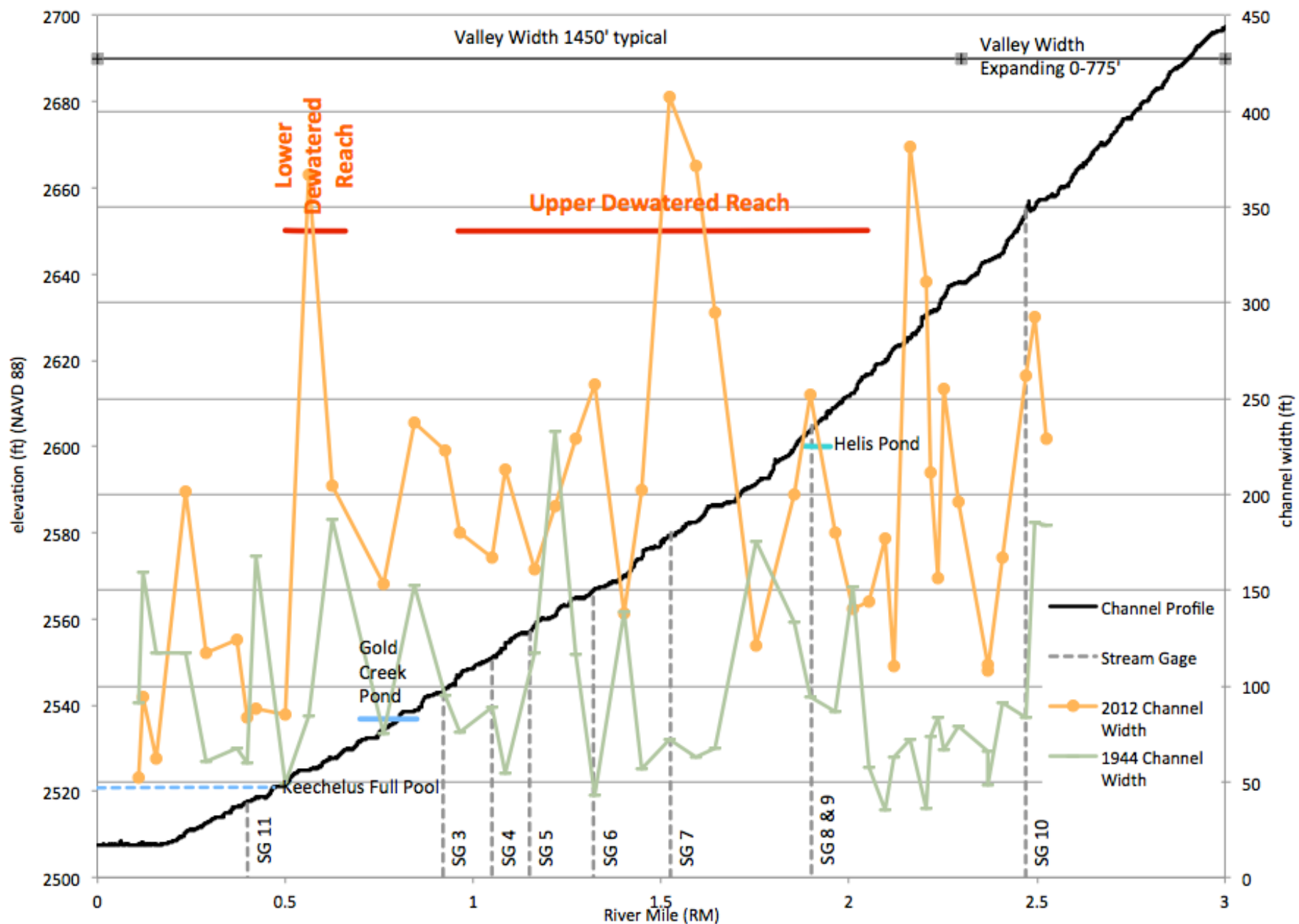
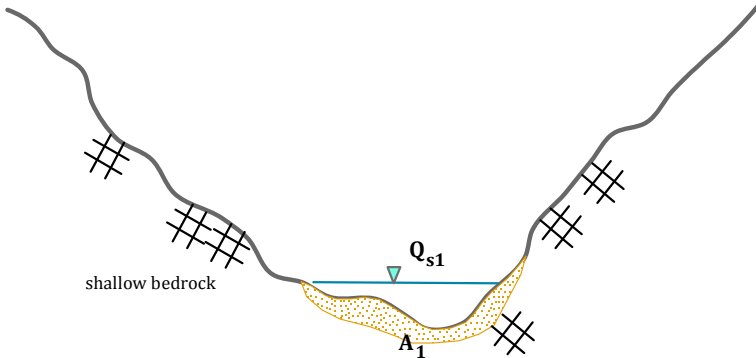


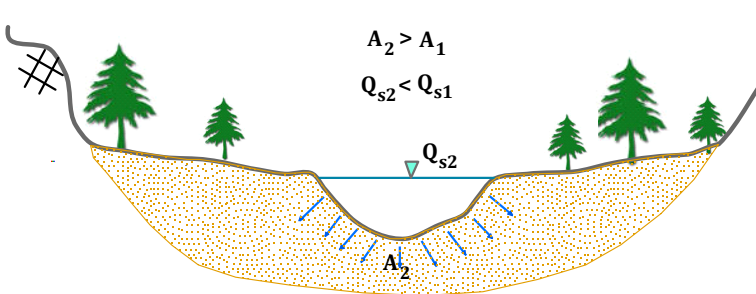
FIGURE 18 – Profile with current and historic channel widths through the project reach

Q_s surface flow in creek
 A infiltration area in horizontal plane (plan view)

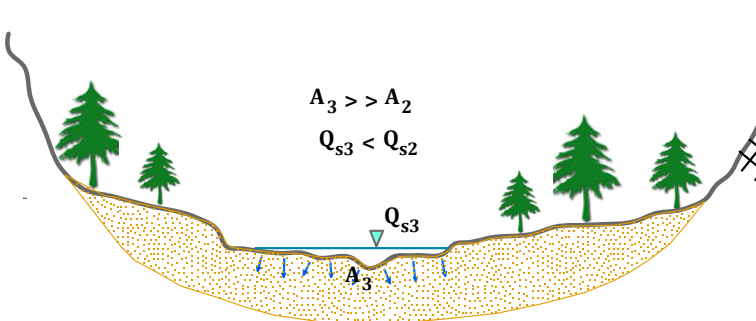
Cross Section #1 - Confined Reach



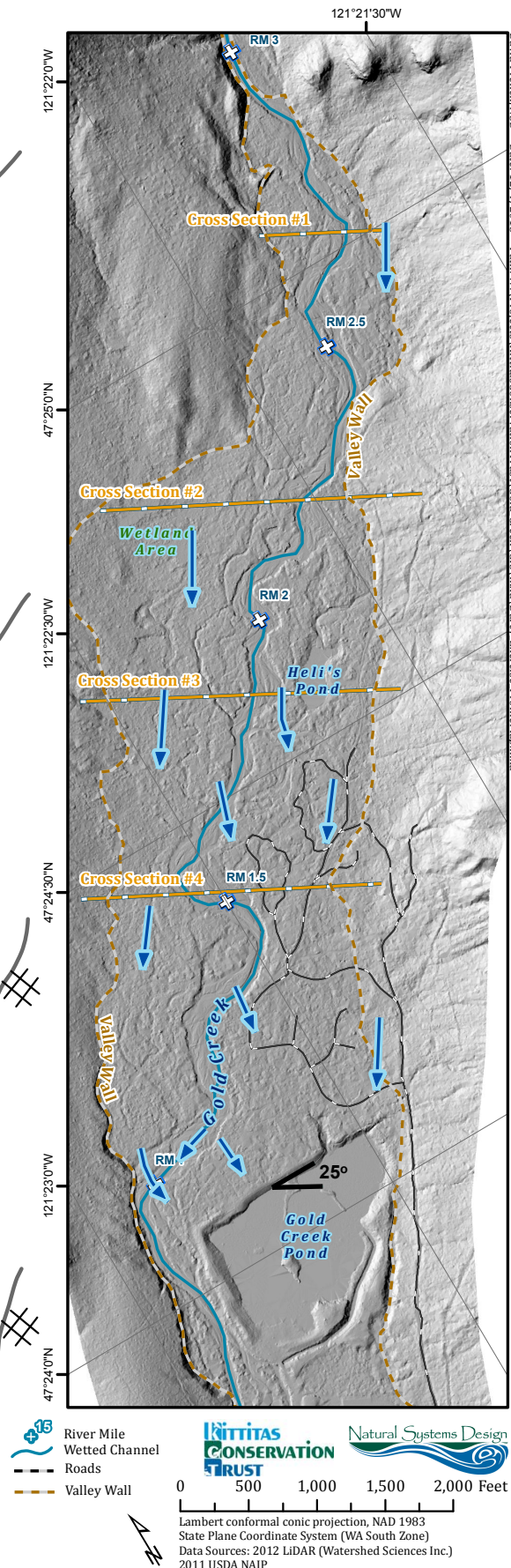
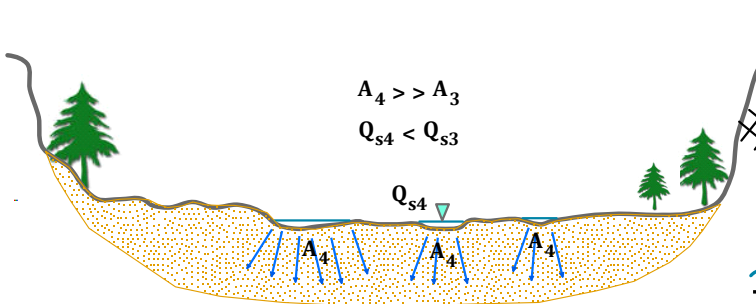
Cross Section #2 - Narrow Alluvial Reach



Cross Section #3 - Wide Alluvial Reach



Cross Section #4 - Wide Alluvial Reach



David French NSD Date: 12/4/2013 Path: \\VA\Projects\KittitasConservationTrust\Gold_Creek\GIS\mxd\Darcy_Exercise_Profile.mxd

FIGURE 19 – Valley-wide conceptual groundwater flow and infiltration loss

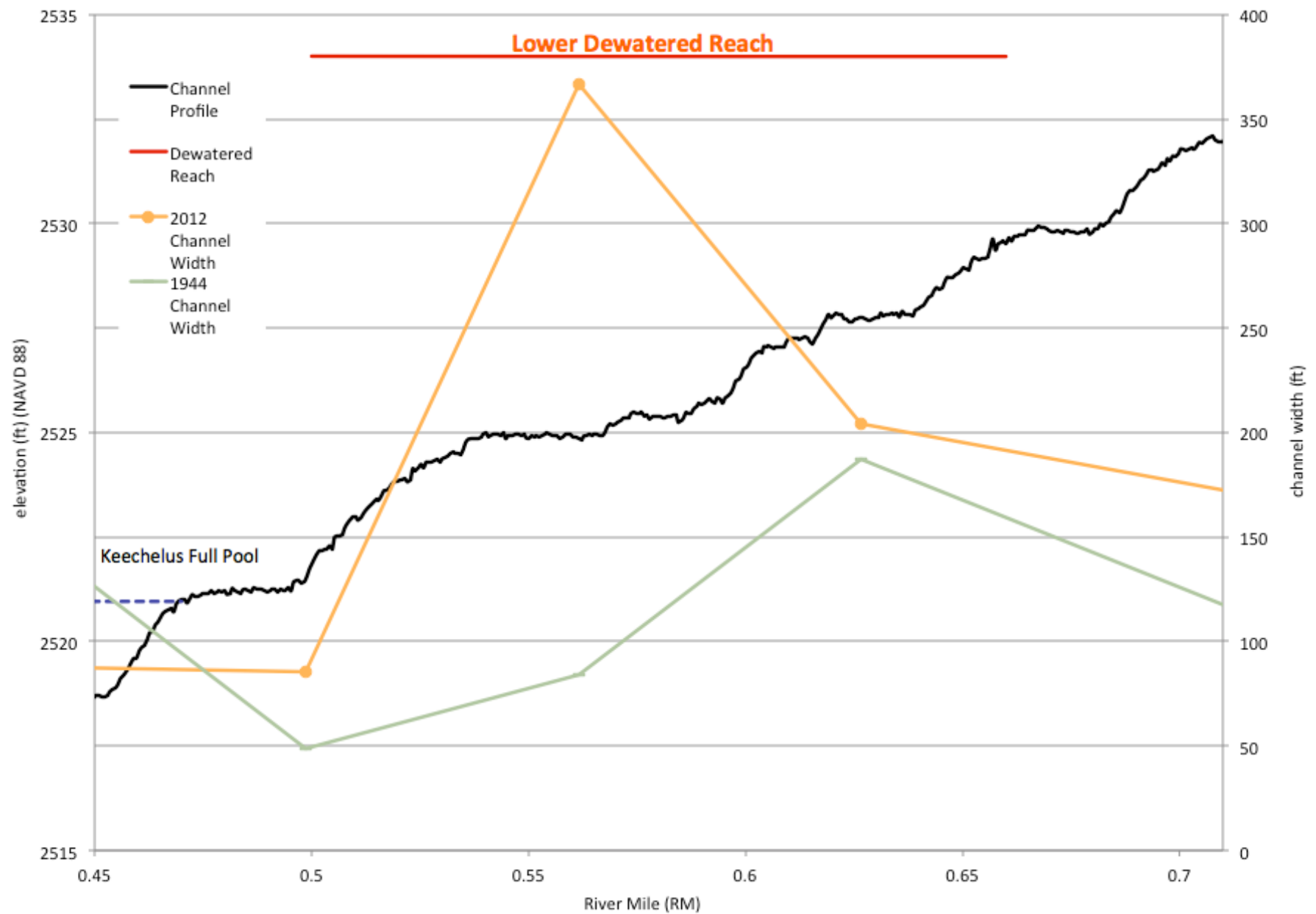


FIGURE 20 – Profile with current and historic channel widths through the lower dewatered reach