

## Stormwater subsurface gravel wetland hydraulics, phosphorus retention, and chloride dynamics in cold climates

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## SUPPLEMENTARY MATERIALS



**Figure S1.** Fairview Drive SGW over time. Year 1 photos are on the top, and Year 2, 2021, on the bottom.



**Figure S2.** Kennedy Drive SGW over time. Year 1 photos are on the top, and Year 2, 2021, on the bottom.

**Table S1.** Rainfall and flow volumes for the storm events monitored in this study.

Site	Date	Rainfall (cm)	Inlet volume (m <sup>3</sup> )		Outlet volume (m <sup>3</sup> )
			Measured	Modelled	Measured
Fairview	June 25, 2020	0.66	69.0	3.7	0
Fairview	Aug 5, 2020	5.16	1626.5	1793.5	959.4
Fairview	Oct 1, 2020	4.75	991.1	1548.0	741.2
Fairview	Oct 8, 2020	1.35	365.7	56.7	99.0
Fairview	Oct 13, 2020	0.56	60.8	2.5	1.2
Fairview	Oct 22, 2020	1.19	237.5	33.3	187.6
Fairview	July 19, 2021	4.90	750.2	1638.1	180.5
Fairview	July 22, 2021	3.45	870.7	848.6	518.8
Fairview	July 30, 2021	0.46	272.5	2.5	0
Fairview	Aug 2, 2021	2.54	584.3	457.6	141.7
Fairview	Aug 20, 2021	2.06	442.3	257.8	87.9
Fairview	Oct 27, 2021	2.24	566.4	325.6	228.7
Kennedy	July 10, 2020	0.71	39.2	80.2	55.6
Kennedy	July 12, 2020	0.79	76.4	97.4	58.8
Kennedy	July 17, 2020	0.51	43.2	38.2	53.0
Kennedy	July 24, 2020	0.81	91.8	103.6	56.7
Kennedy	Aug 5, 2020	6.20	1268.2	1391.4	1057.0
Kennedy	Aug 26, 2020	0.81	124.3	103.6	85.8
Kennedy	Aug 29, 2020	1.52	300.6	301.0	279.1
Kennedy	Sept 14, 2020	0.53	34.8	41.9	35.3
Kennedy	Oct 1, 2020	5.49	1136.5	1216.2	1001.0
Kennedy	Oct 8, 2020	0.74	103.5	85.1	94.0
Kennedy	Oct 16, 2020	2.18	488.9	507.0	363.8
Kennedy	Oct 22, 2020	1.19	182.2	204.8	114.5
Kennedy	July 9, 2021	1.24	292.1	219.6	98.5
Kennedy	July 19, 2021	5.69	938.2	1265.5	865.7
Kennedy	July 22, 2021	2.46	623.3	597.0	531.7
Kennedy	July 30, 2021	1.91	317.6	418.1	297.2
Kennedy	Aug 2, 2021	1.80	393.9	387.3	366.1
Kennedy	Aug 20, 2021	3.07	540.4	626.6	531.3
Kennedy	Sept 10, 2021	3.23	669.7	663.6	657.8
Kennedy	Sept 24, 2021	2.59	521.2	509.4	429.1

## Seed Mixes used at Both Field Sites:

### Wet Meadow & Detention Basin Mix:

*Elymus virginicus* (Virginia wildrye)  
*Panicum virgatum* (Switchgrass)  
*Festuca rubra* (Creeping red fescue)  
*Carex vulpinoidea* (Fox sedge)  
*Verbena hastata* (Blue vervain)  
*Scirpus cyperinus* (Woolgrass)  
*Onoclea sensibilis* (Sensitive fern)  
*Bidens cernua* (Nodding bur marigold)  
*Eutrochium maculatum* (Joe-pye weed)  
*Juncus effusus* (Soft rush)  
*Symphyotrichum nova-angliae* (New England aster)

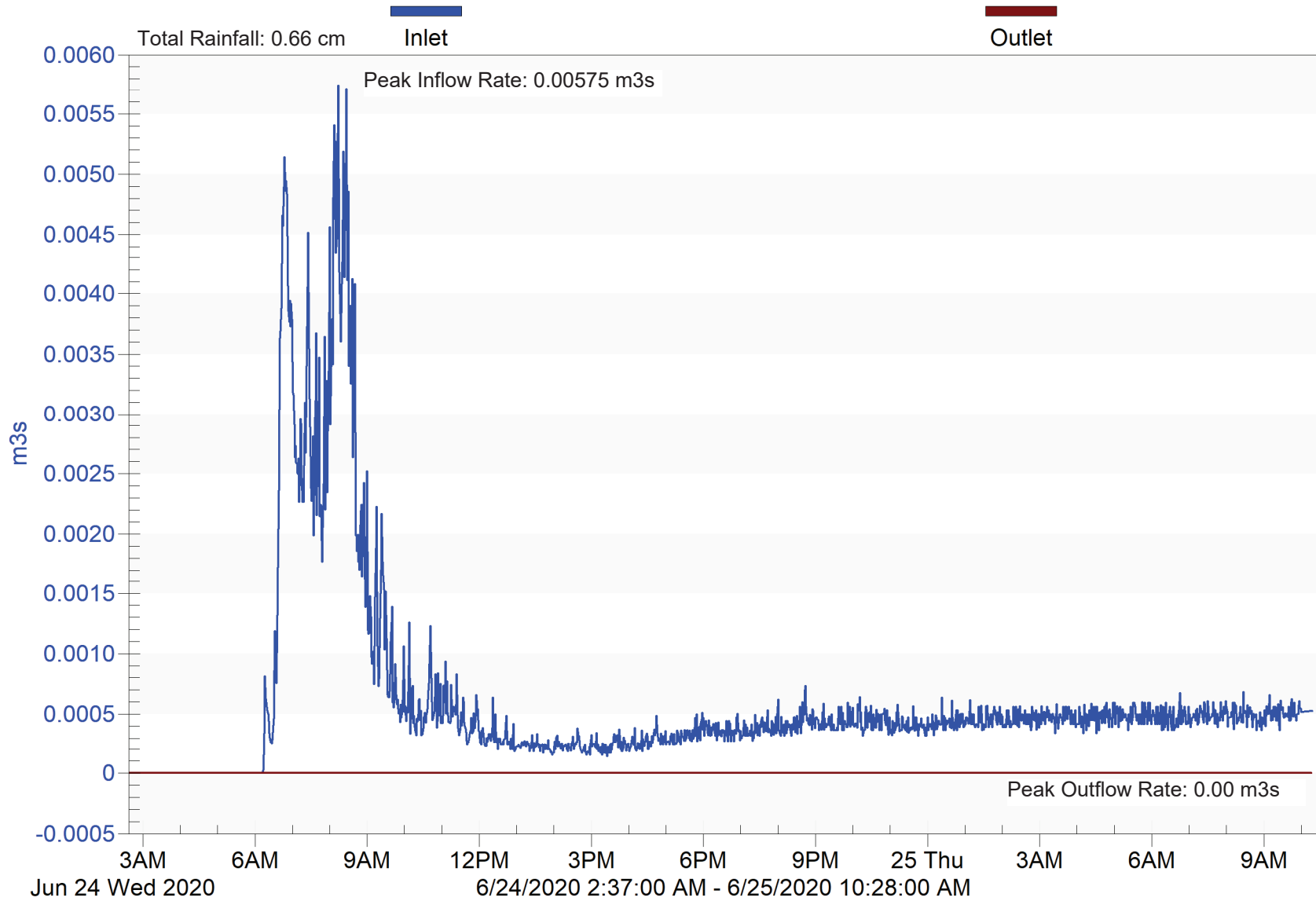
### Swamp, Bog, and Marsh Mix:

*Sparganium eurycarpum* (Broadfruited bur-reed)  
*Pontederia cordata* (Pickerelweed)  
*Verbena hastata* (Blue vervain)  
*Schoenoplectus tabernaemontani* (Softstem bulrush)  
*Alisma subcordatum* (Northern water plantain)  
*Eutrochium maculatum* (Joe-pye weed)  
*Scirpus atrovirens* (Green bulrush)  
*Asclepias incarnata* (Swamp milkweed)  
*Carex lurida* (Shallow sedge)  
*Iris versicolor* (Blueflag iris)  
*Acorus americanus* (Sweetflag)  
*Carex vulpinoidea* (Fox sedge)  
*Eupatorium perfoliatum* (Boneset)  
*Sagittaria latifolia* (Broadleaf arrowhead)

Next 32 Pages: Hydrographs from storms monitored during the field study

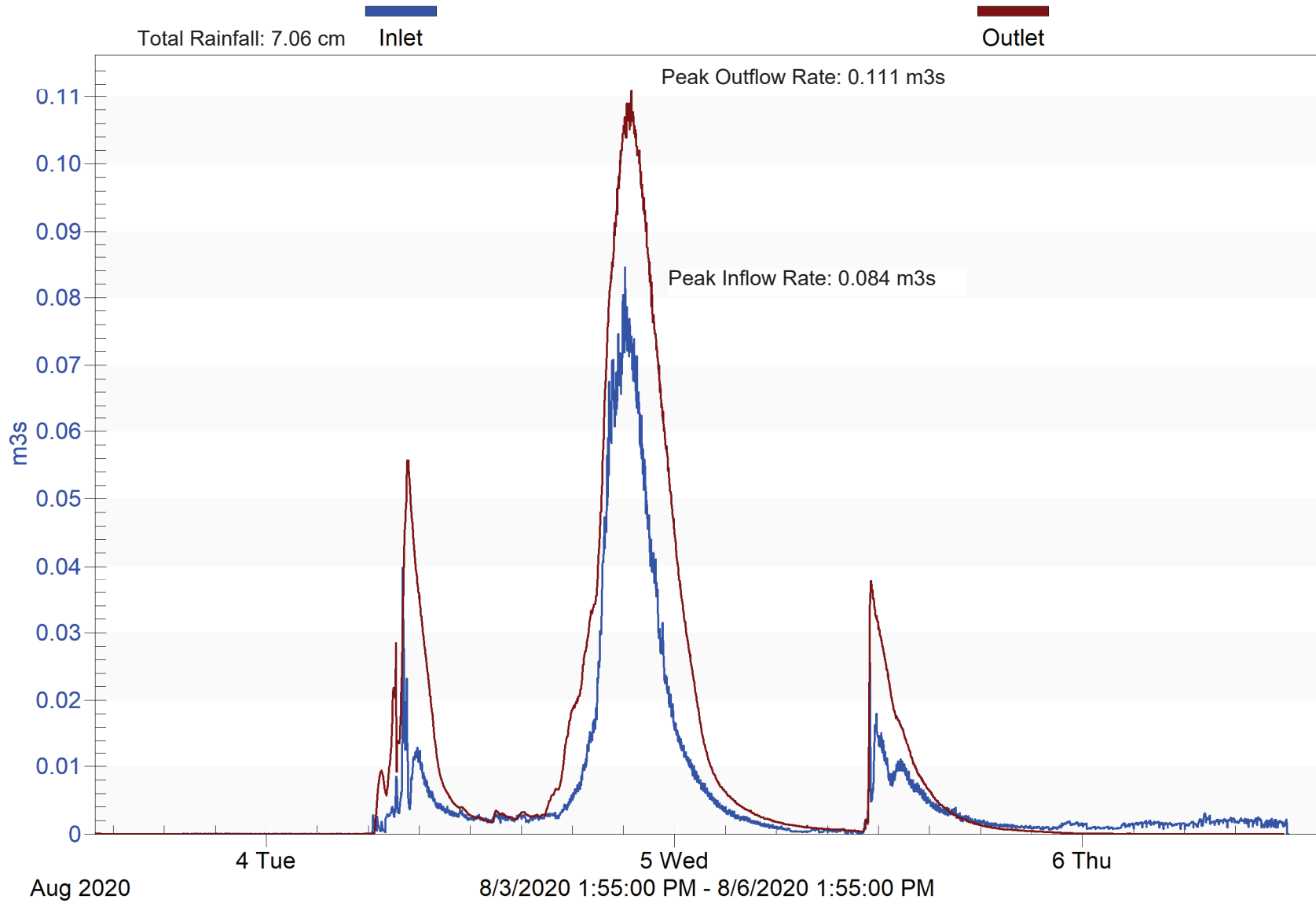
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Fairview Drive Wetland



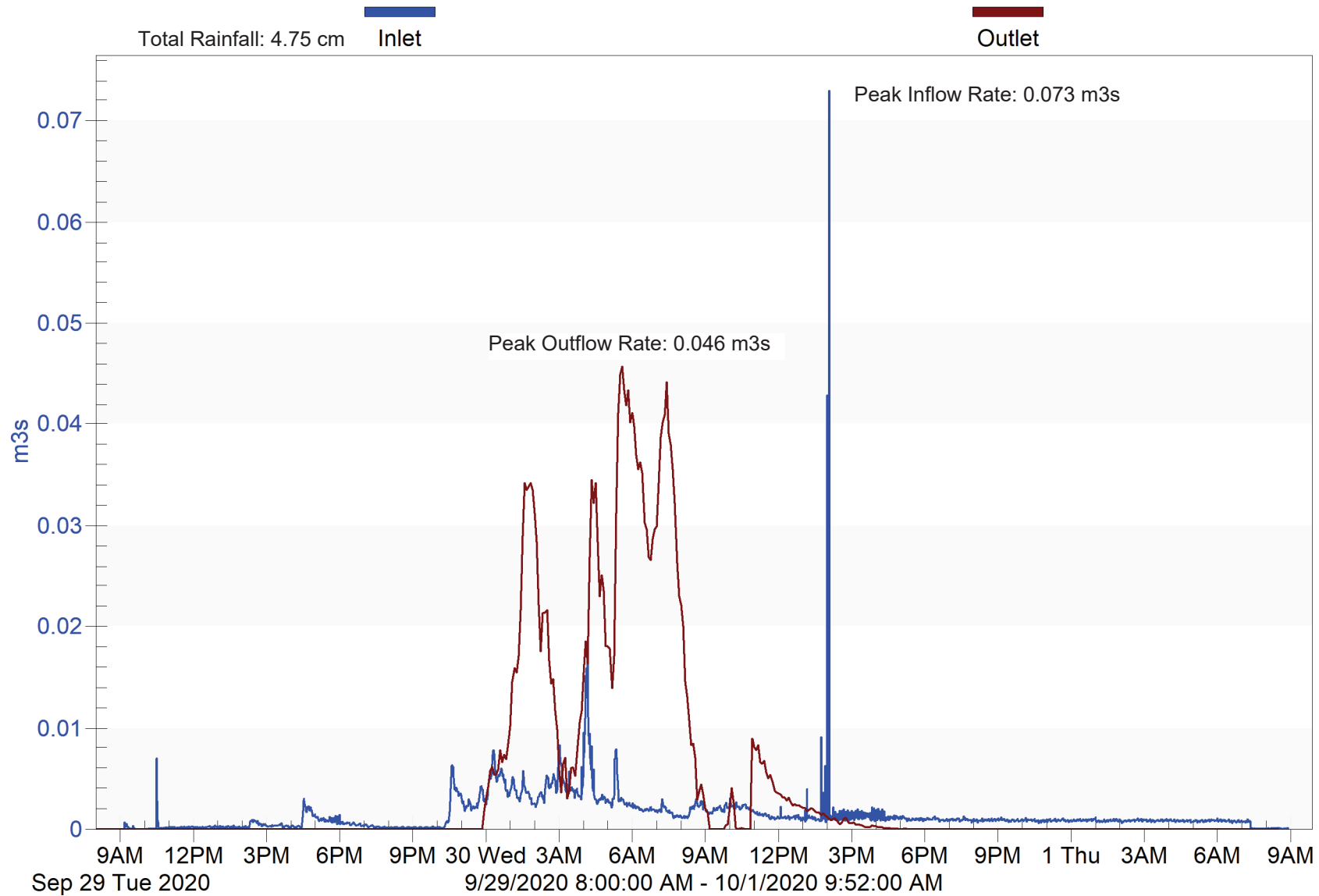
# Storm 6

Fairview Drive Wetland



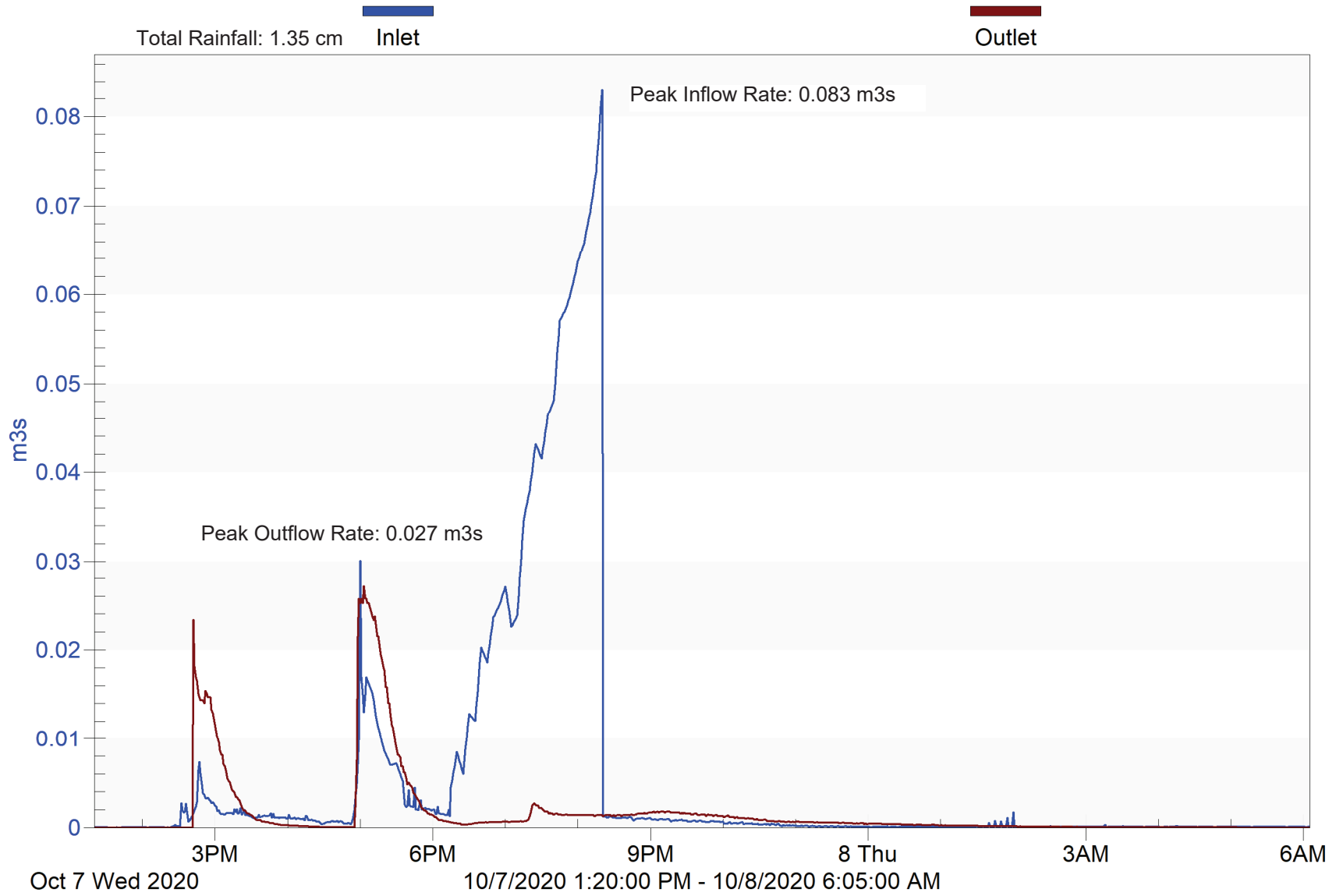
# Storm 11

Fairview Drive Wetland



# Storm 12

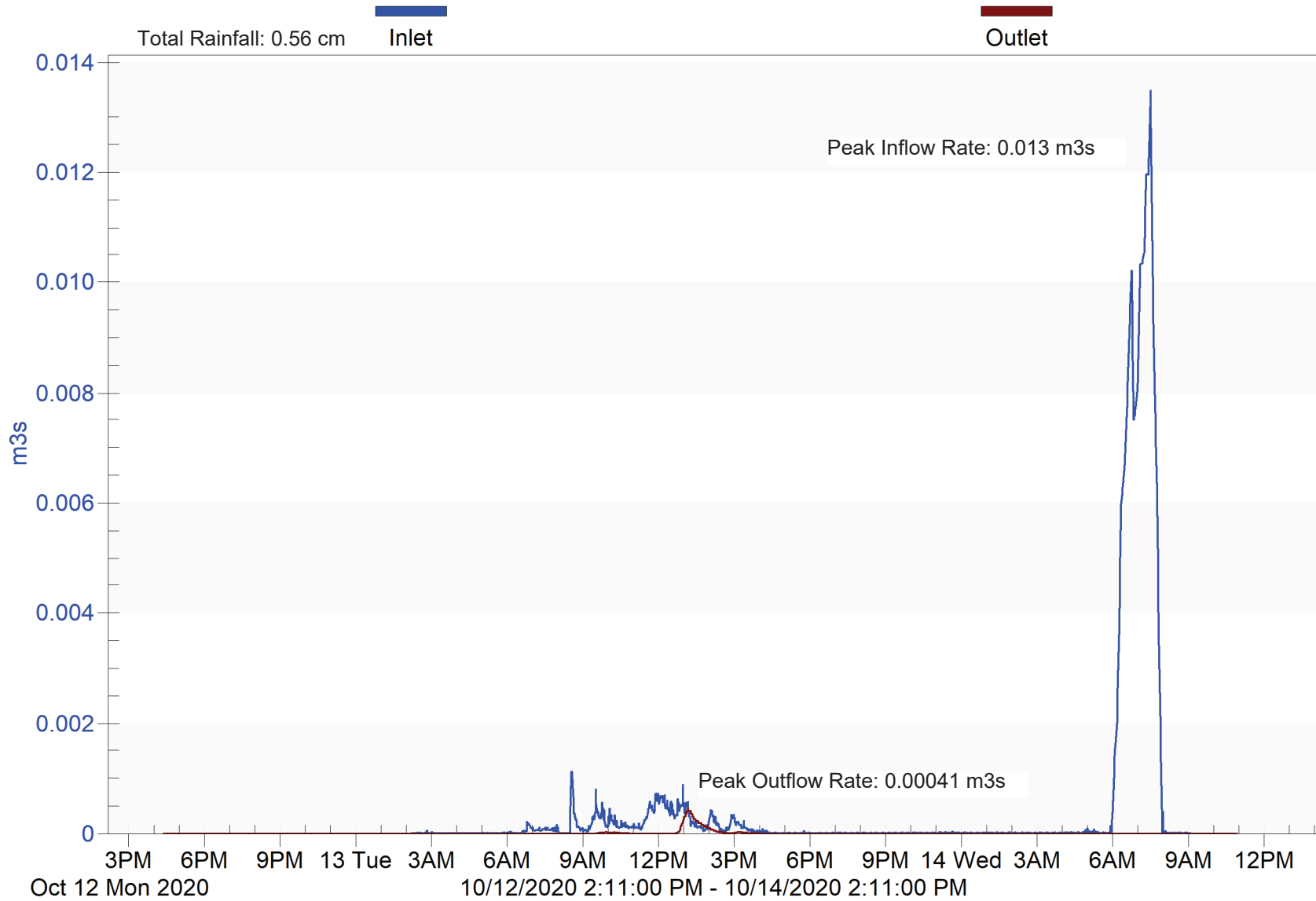
Fairview Drive Wetland





# Storm 13

Fairview Drive Wetland



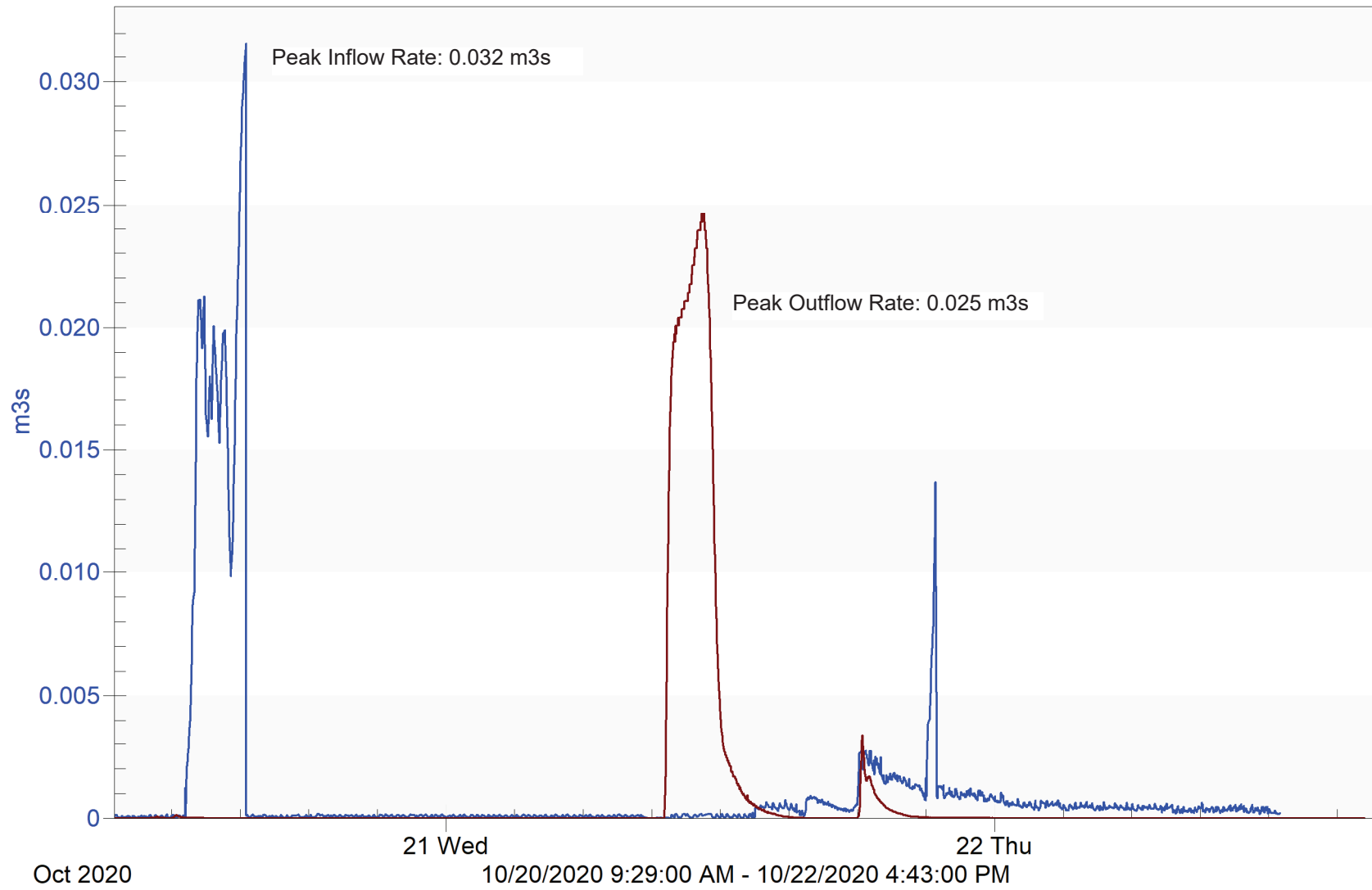
# Storm 15

## Fairview Drive Wetland

Total Rainfall: 1.19 cm

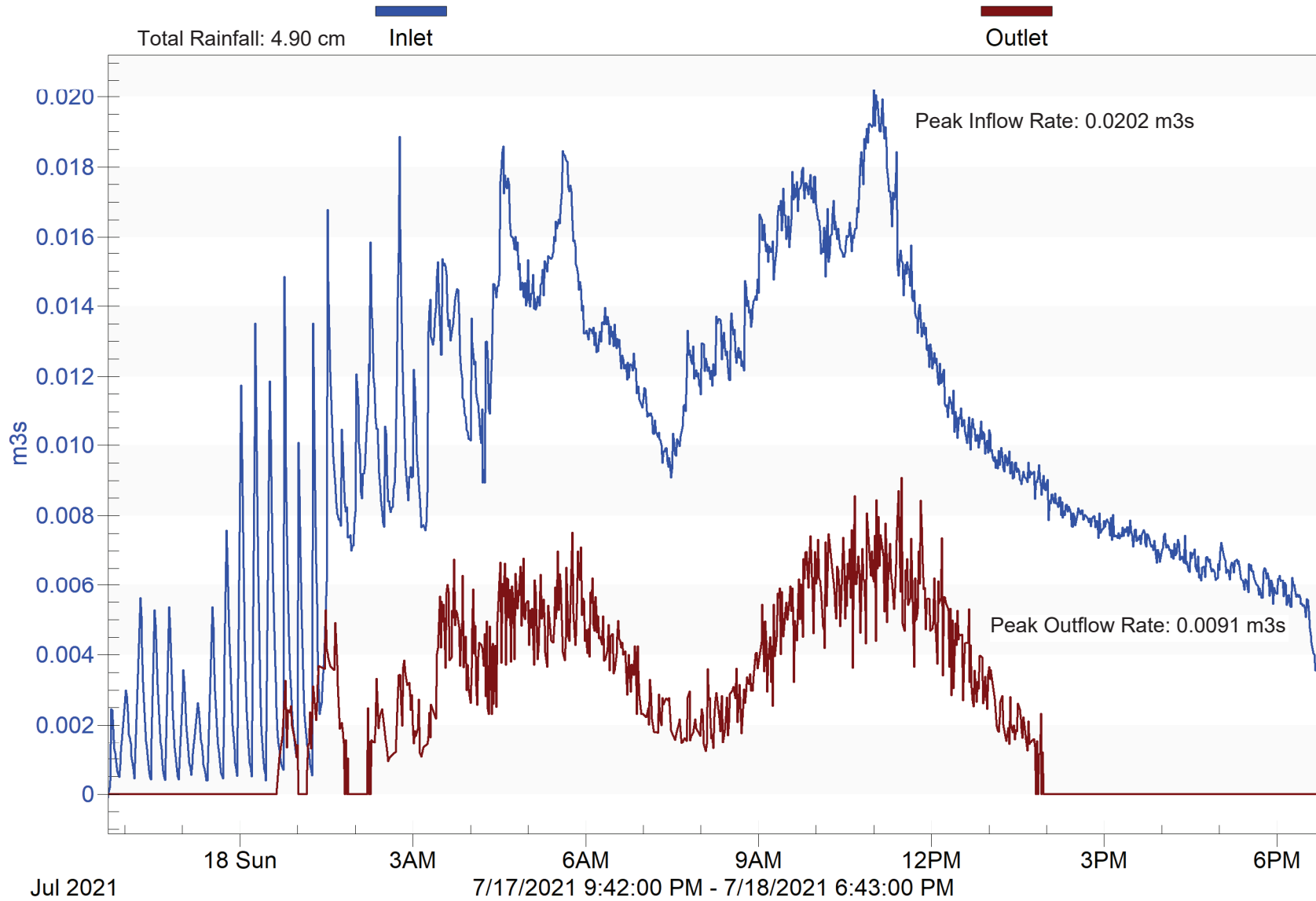
Inlet

## Outlet



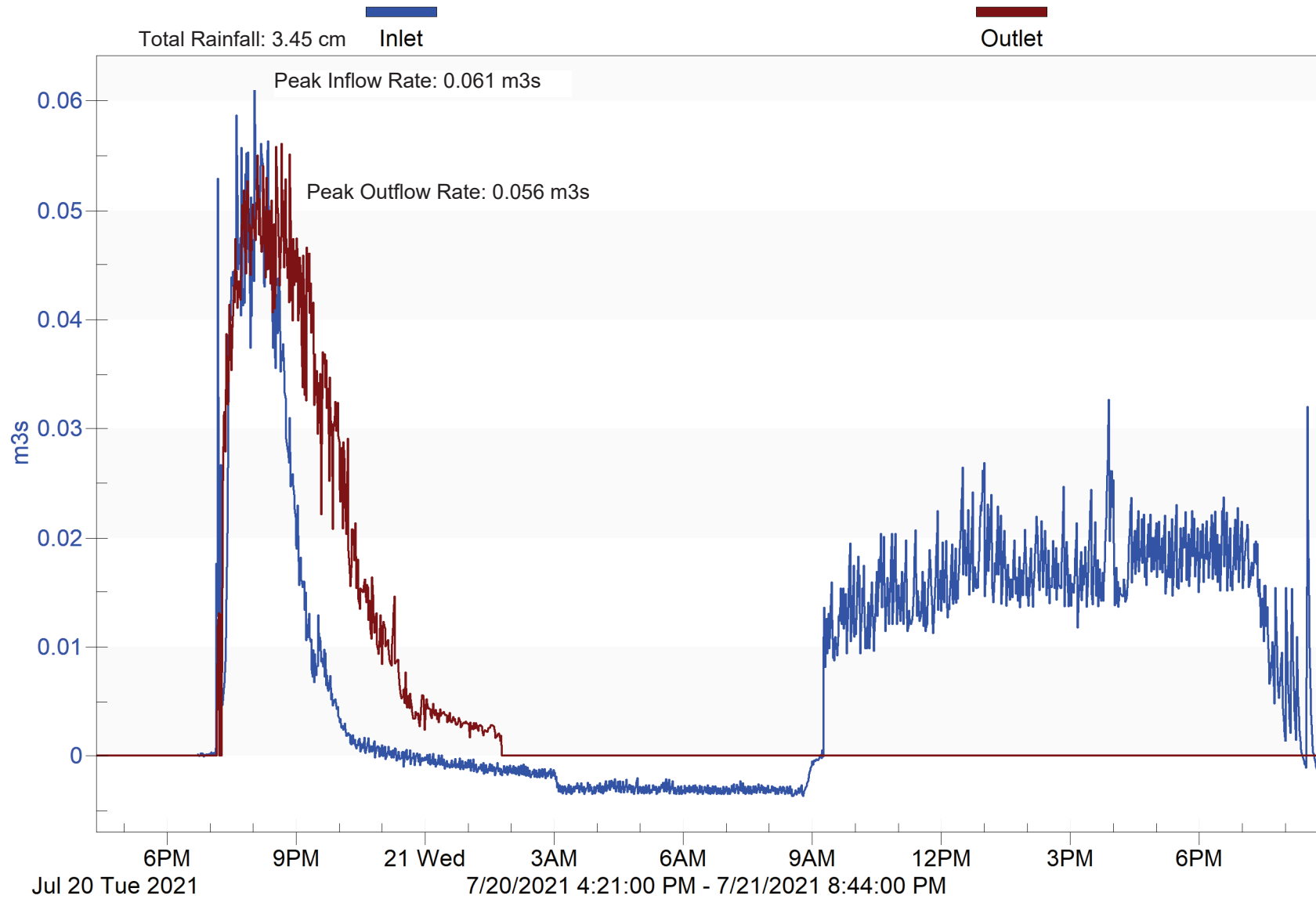
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Fairview Drive Wetland



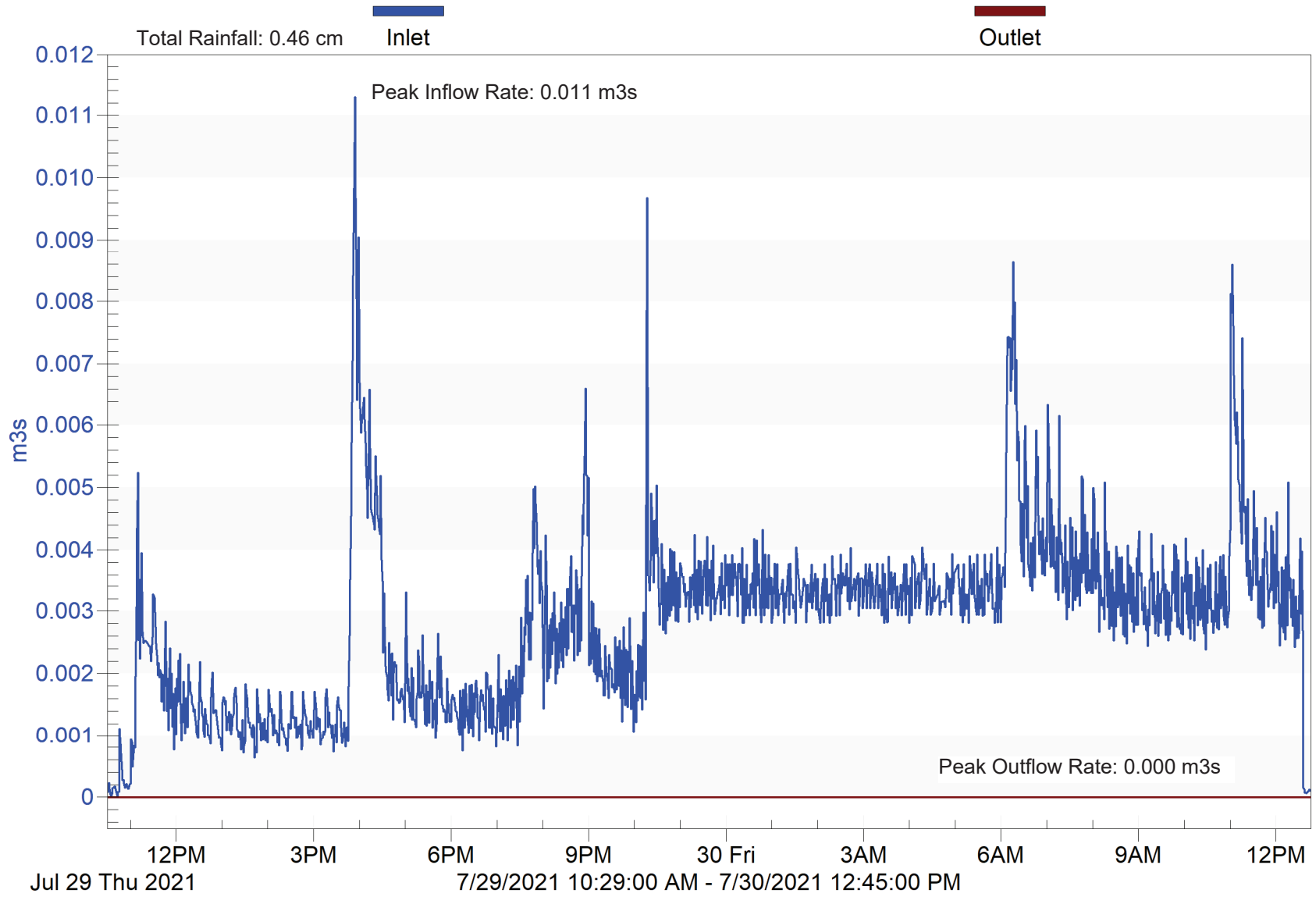
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Fairview Drive Wetland



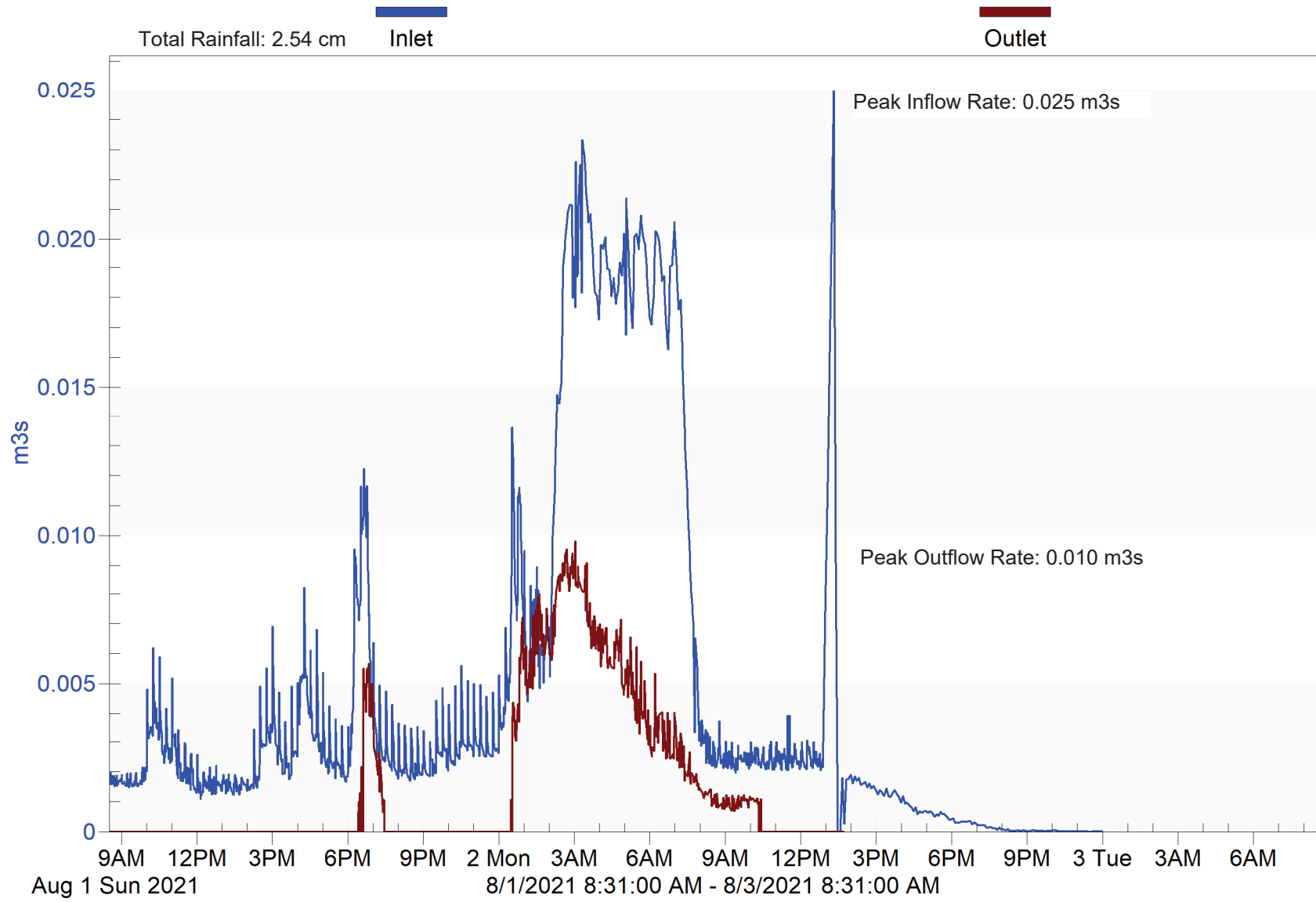
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Fairview Drive Wetland

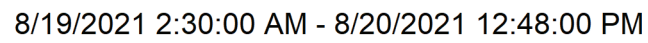


# Storm 7

Fairview Drive Wetland

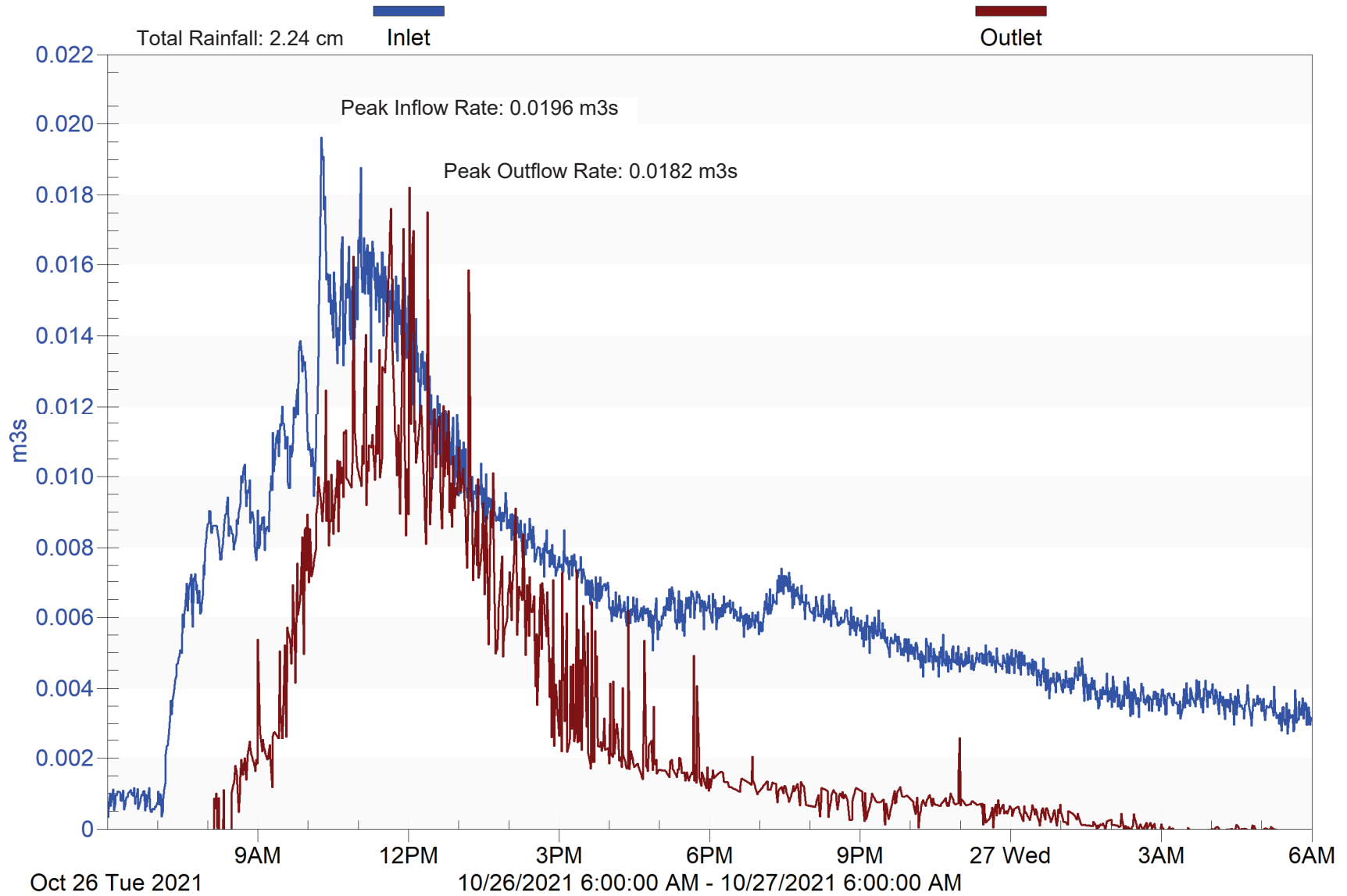


## Fairview Drive Wetland



# Storm 11

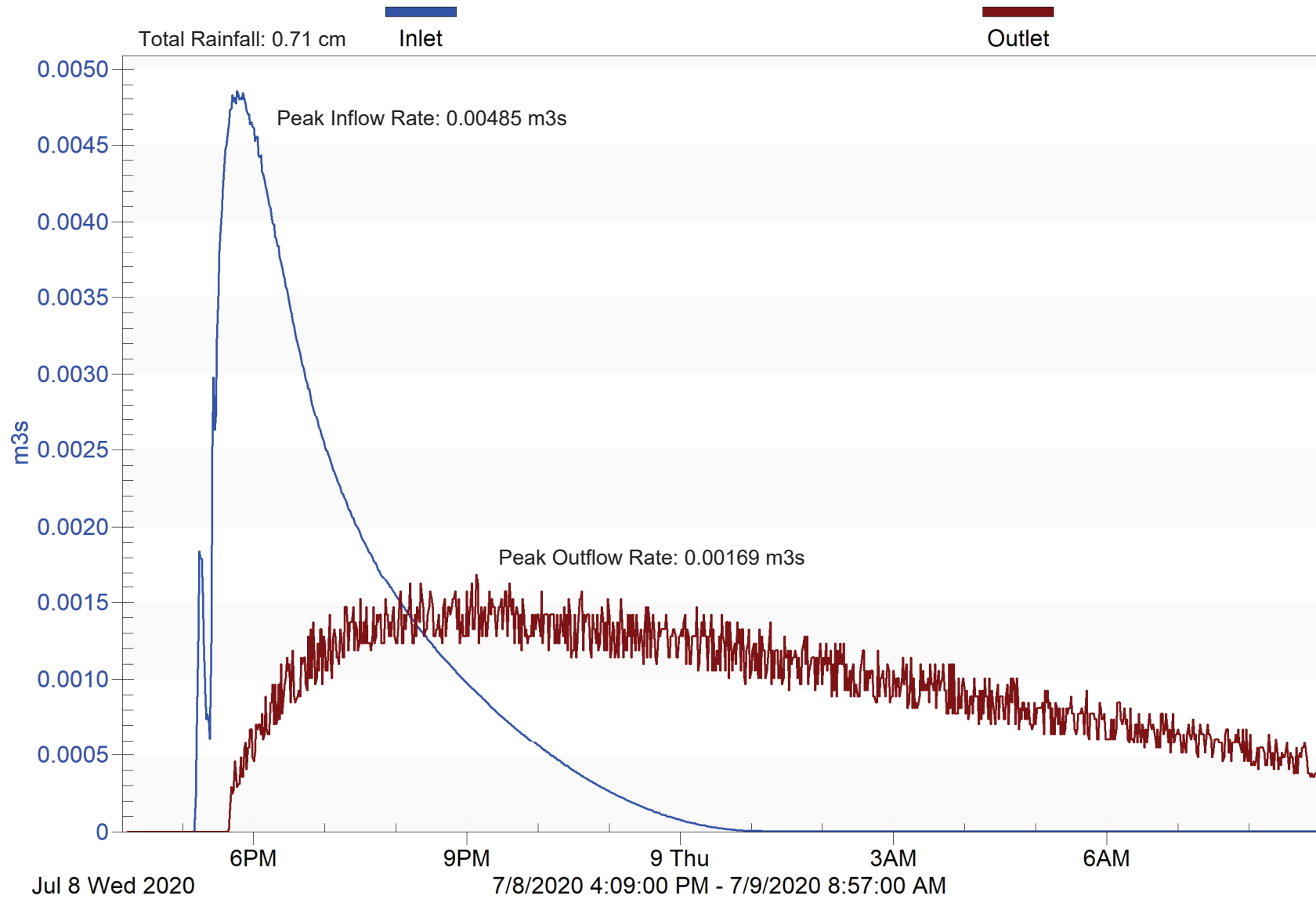
Fairview Drive Wetland





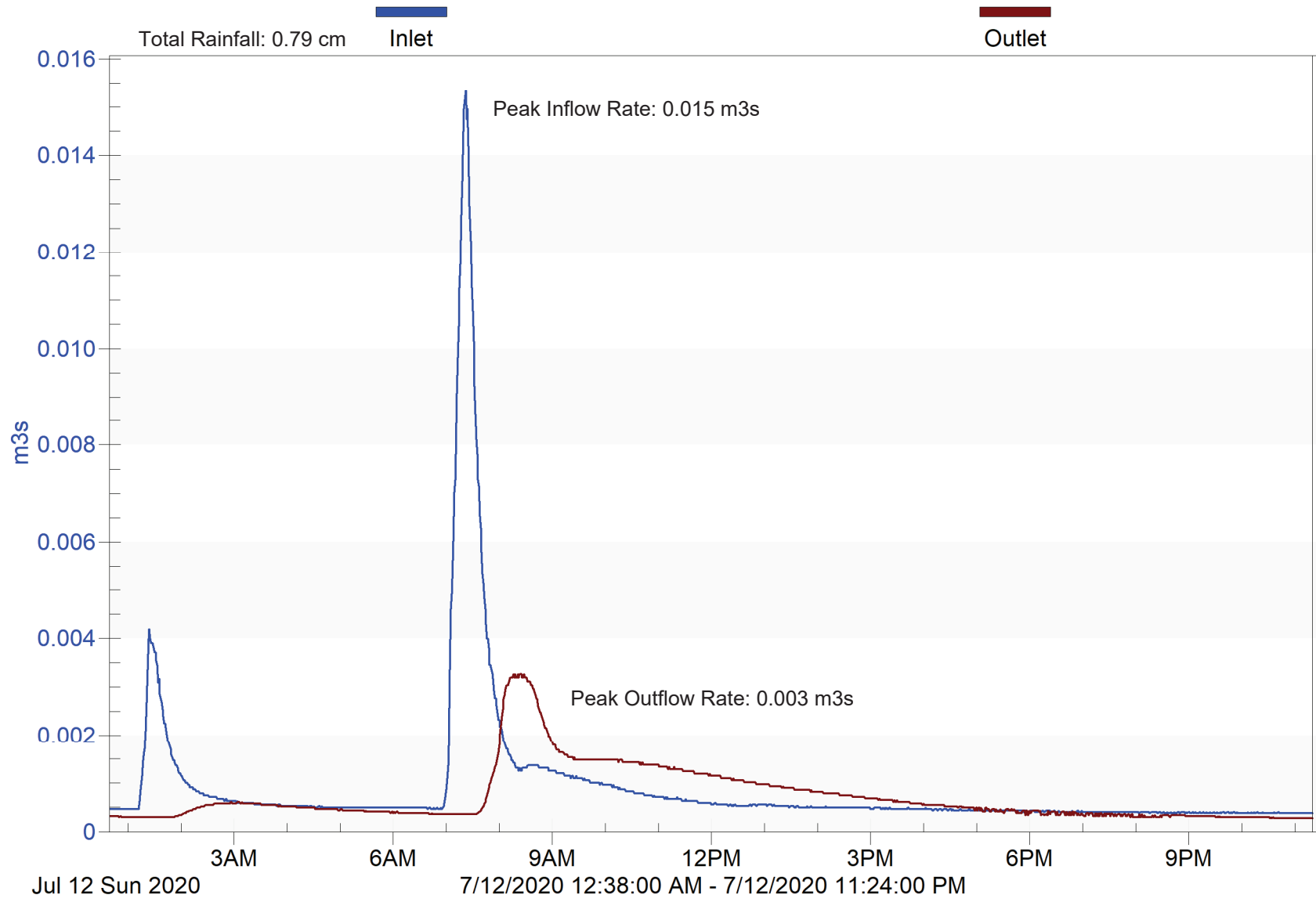
# Storm 2

Kennedy Drive Wetland



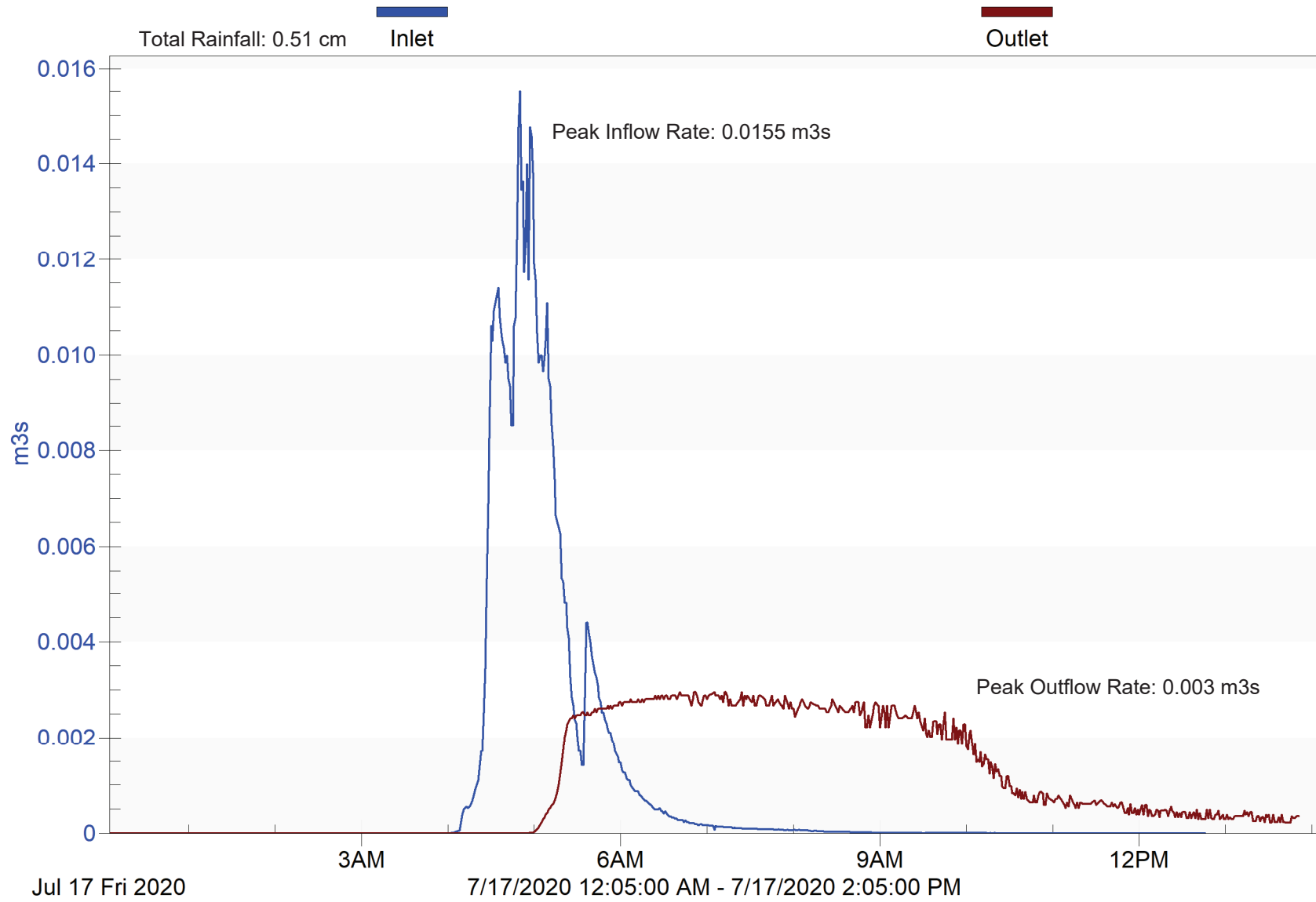
# Storm 3

Kennedy Drive Wetland



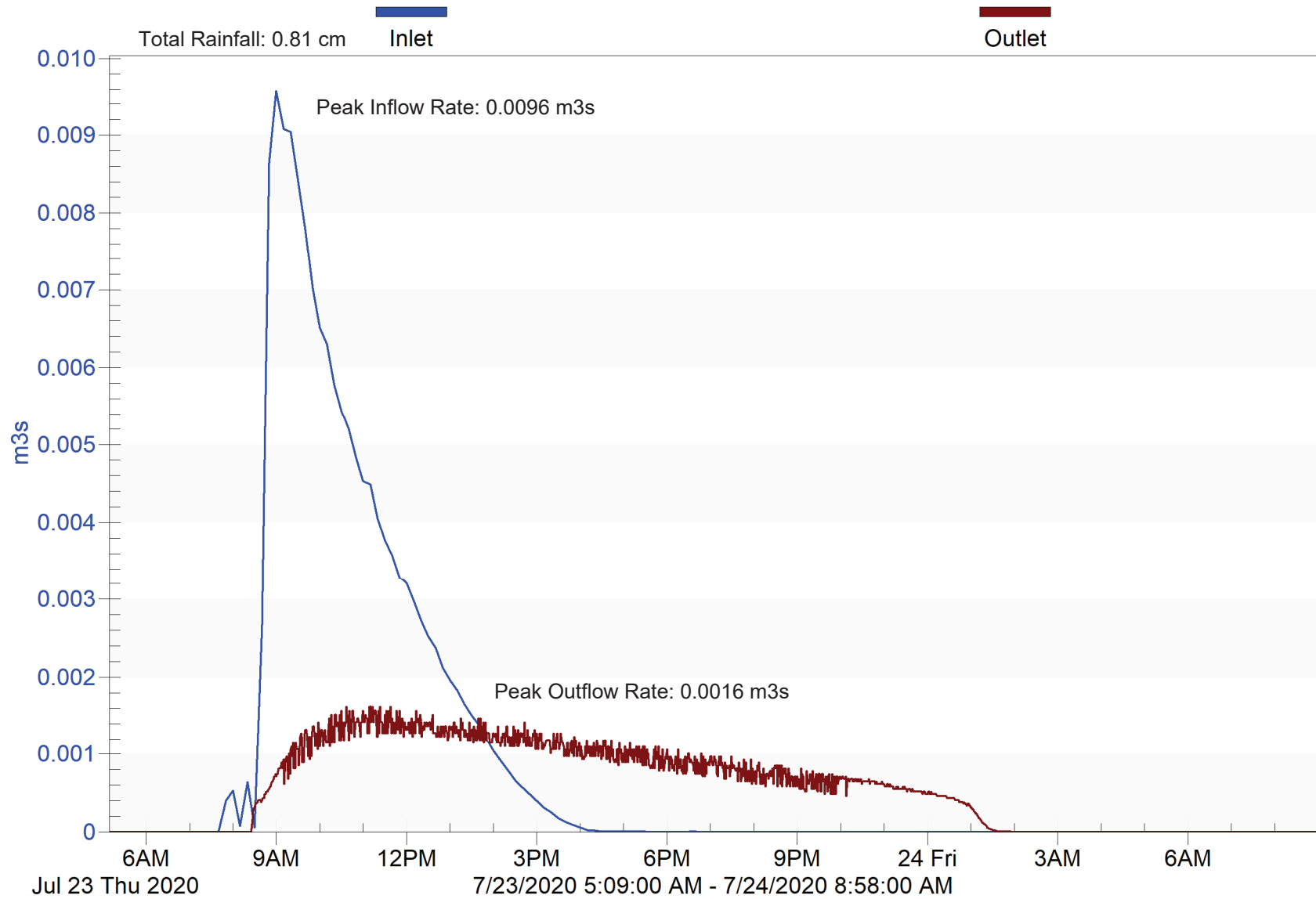
# Storm 4

Kennedy Drive Wetland



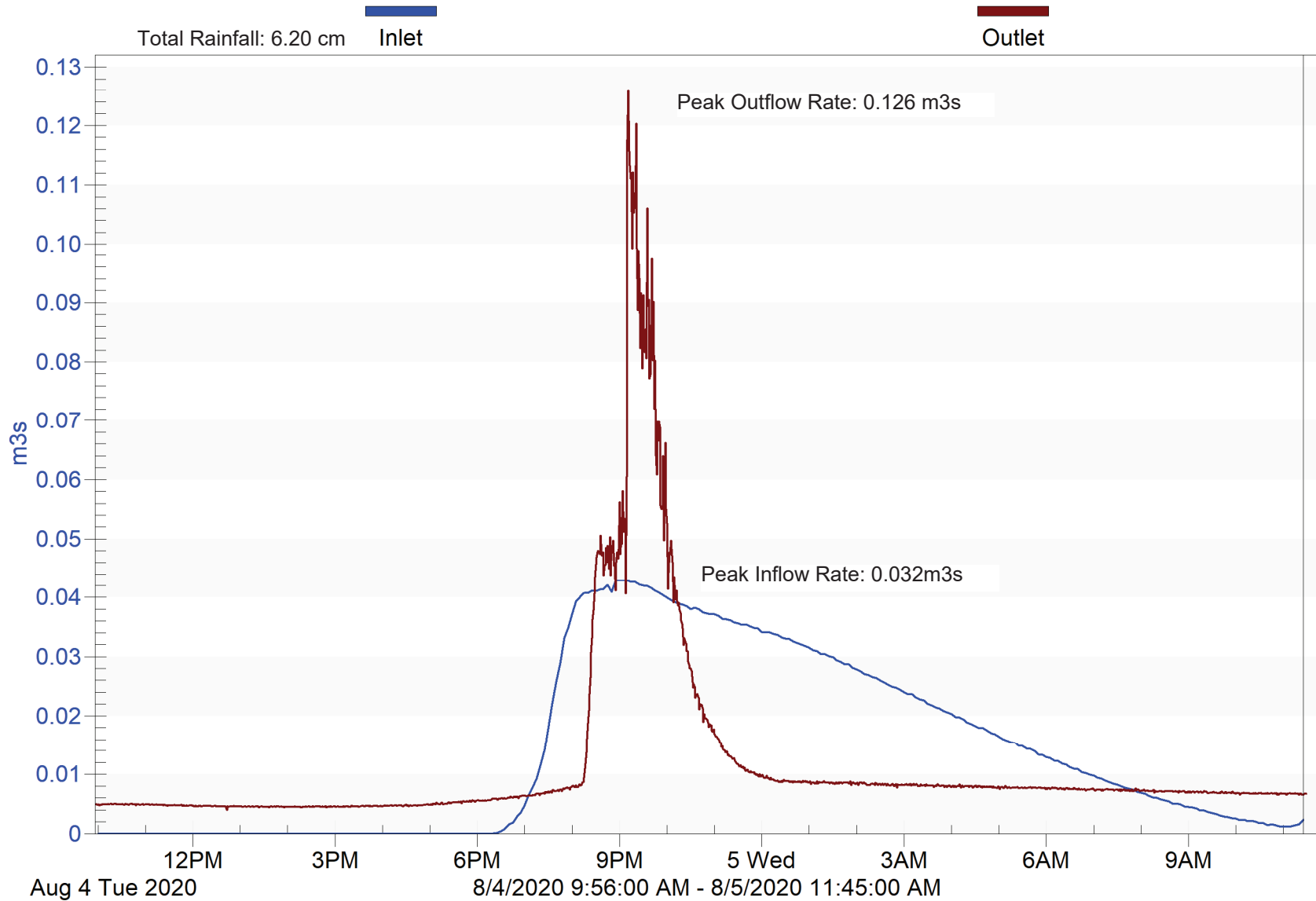
# Storm 5

Kennedy Drive Wetland



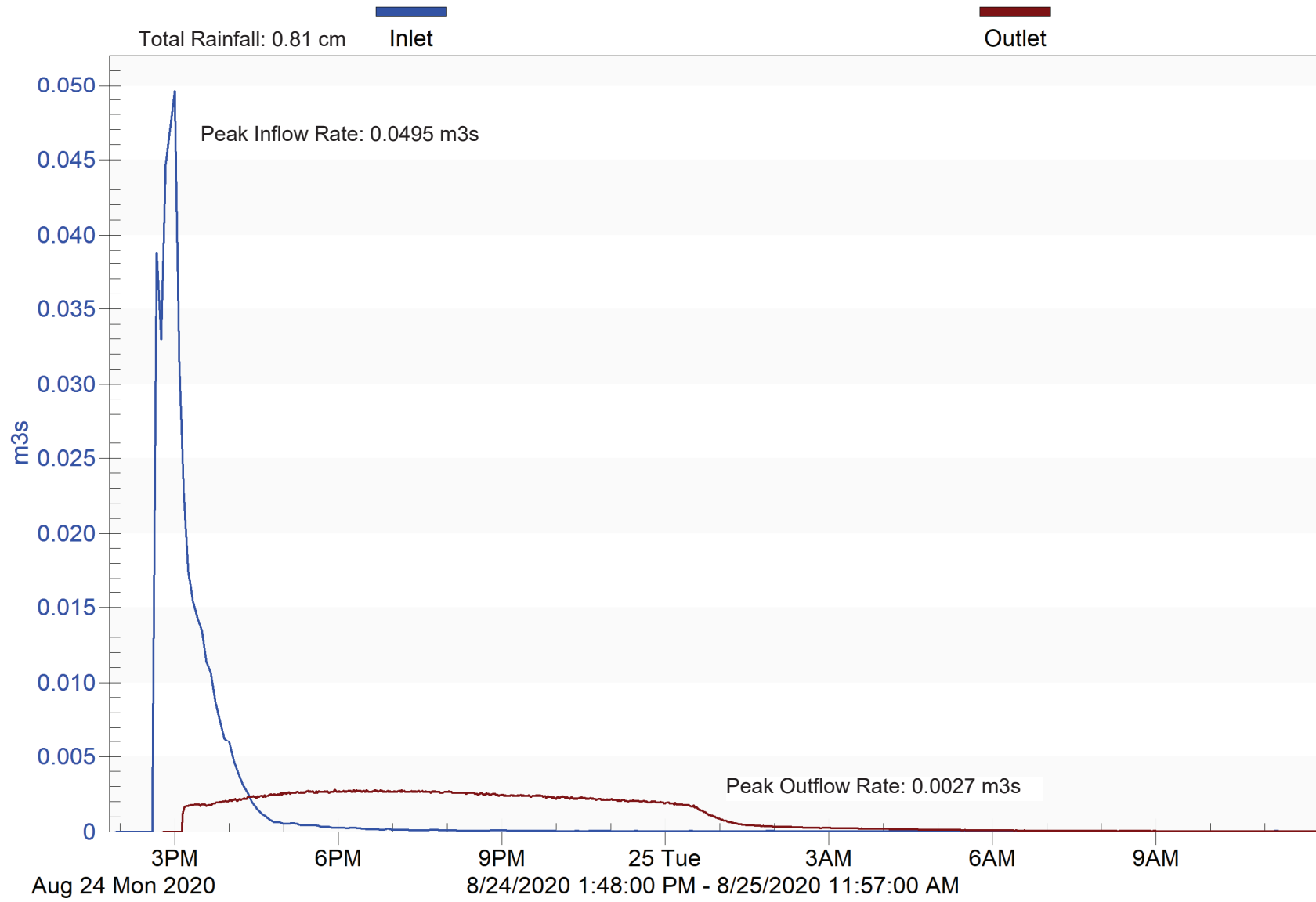
# Storm 6

Kennedy Drive Wetland



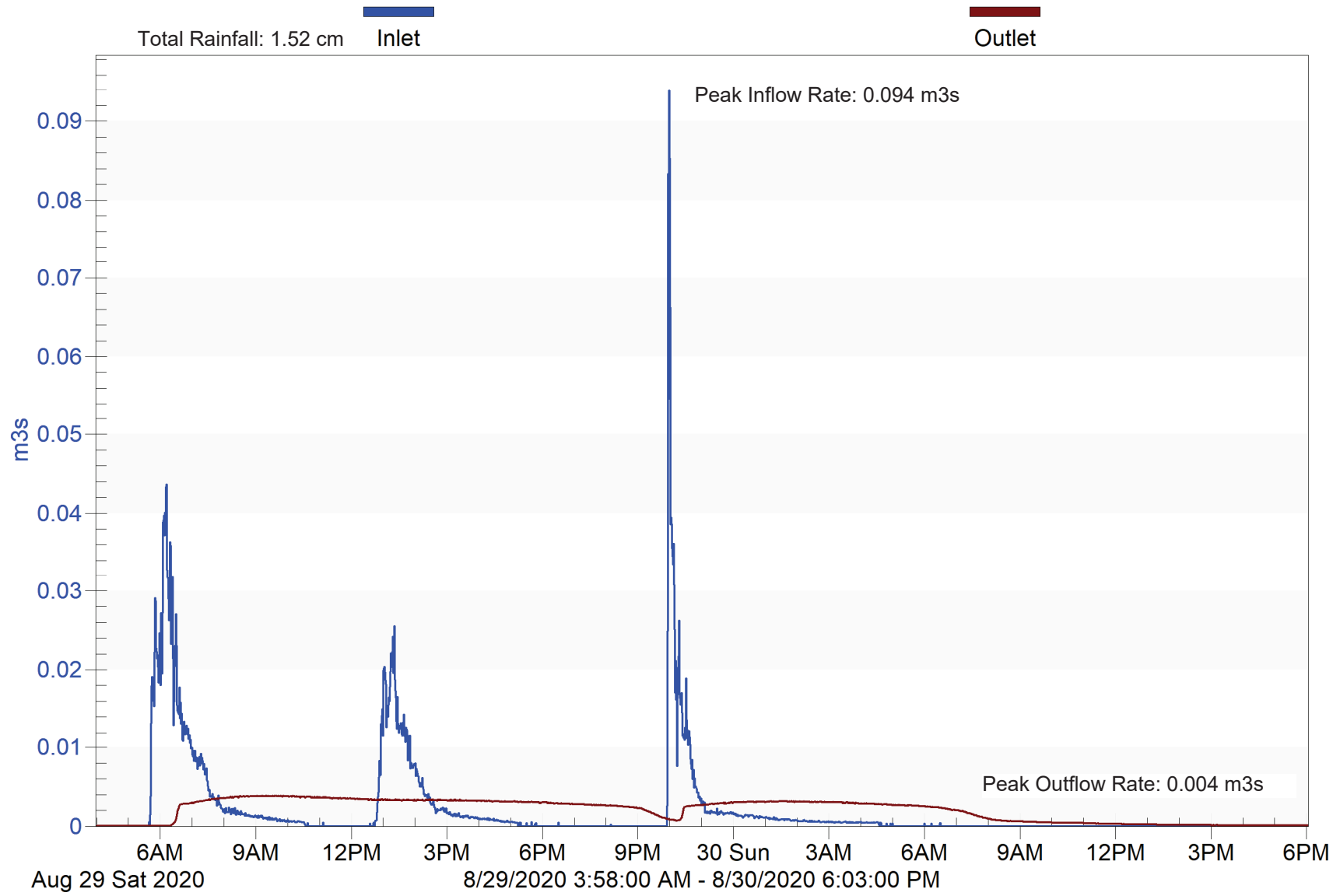
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Kennedy Drive Wetland



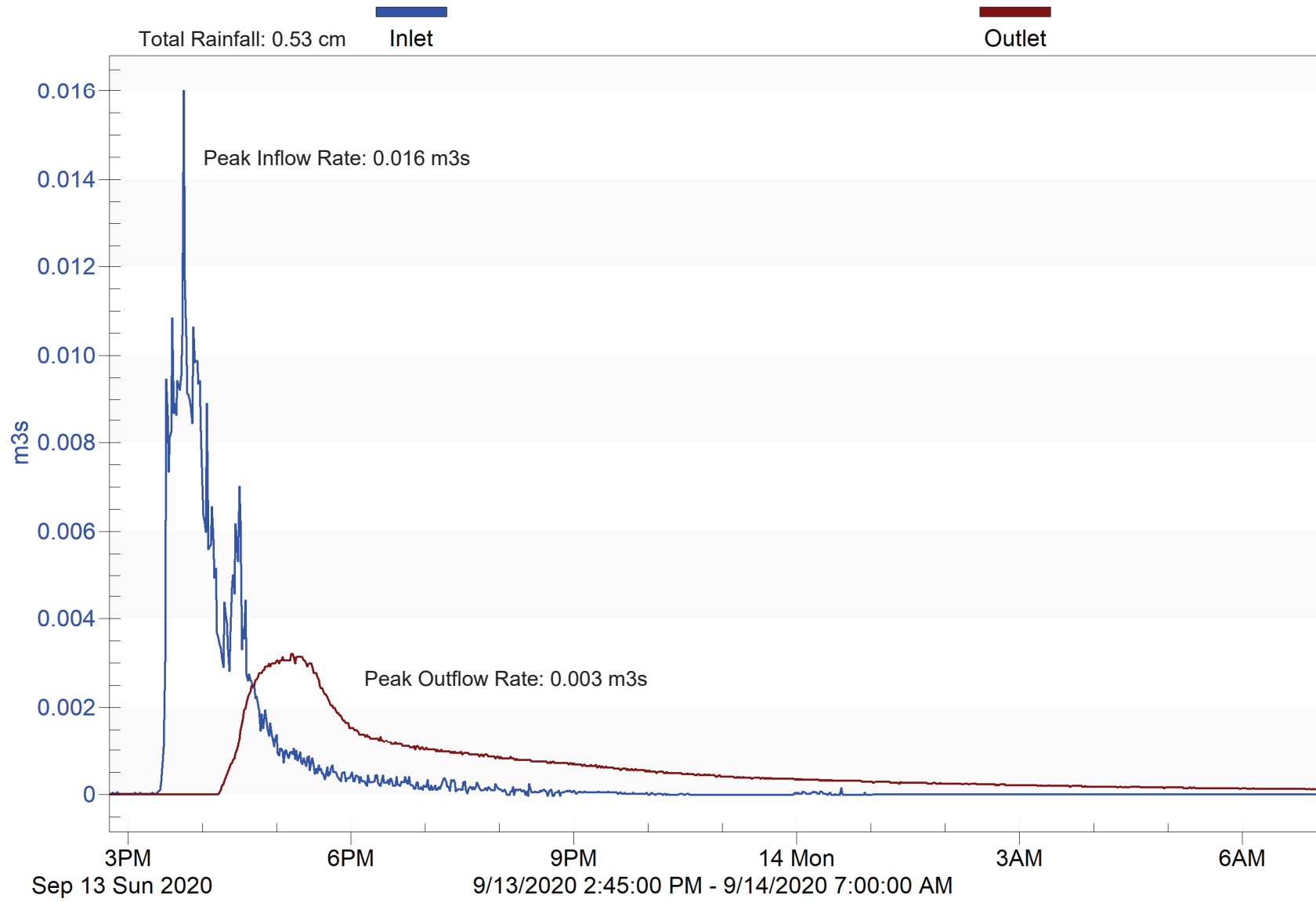
# Storm 9

Kennedy Drive Wetland



# Storm 10

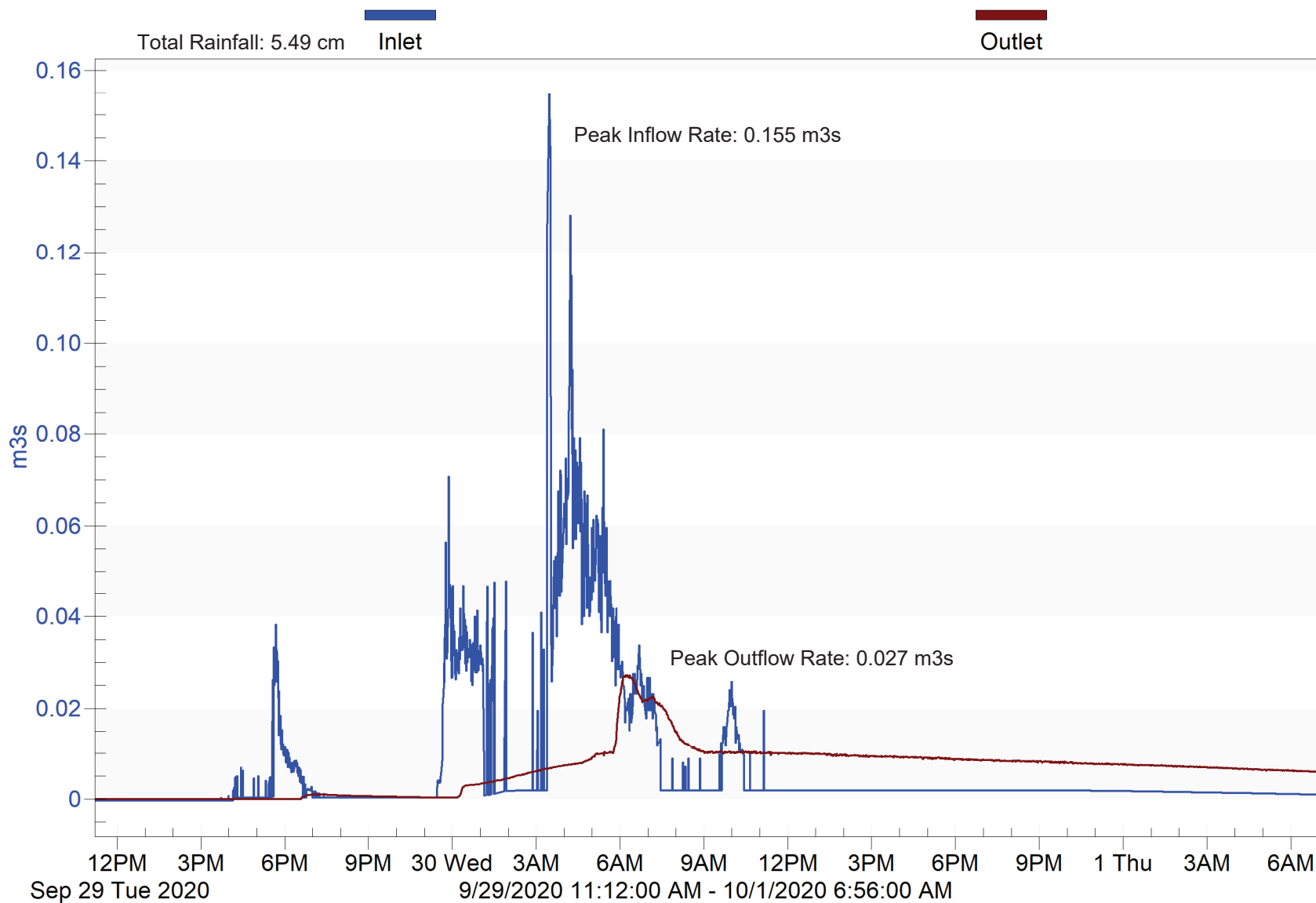
Kennedy Drive Wetland





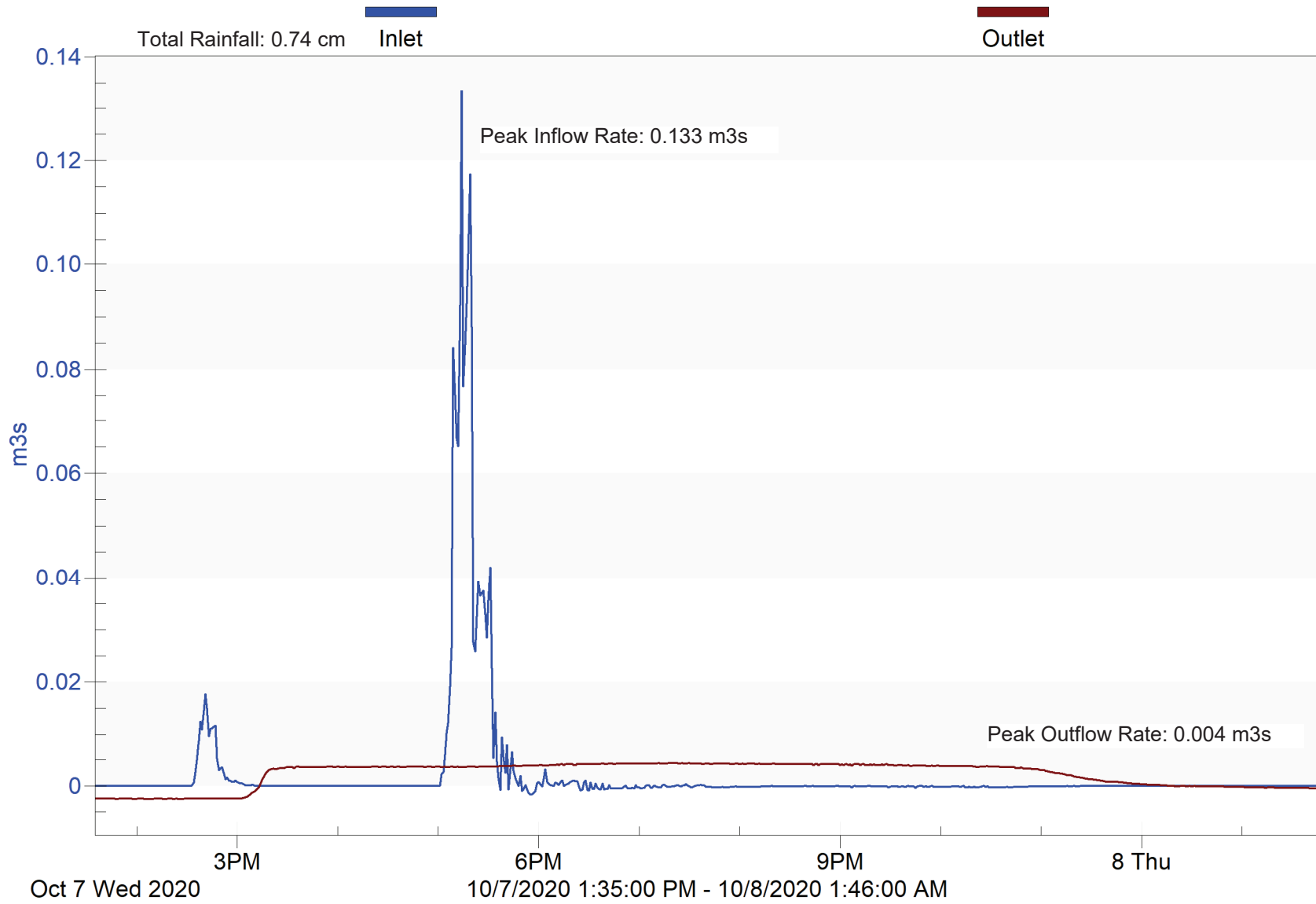
# Storm 11

Kennedy Drive Wetland



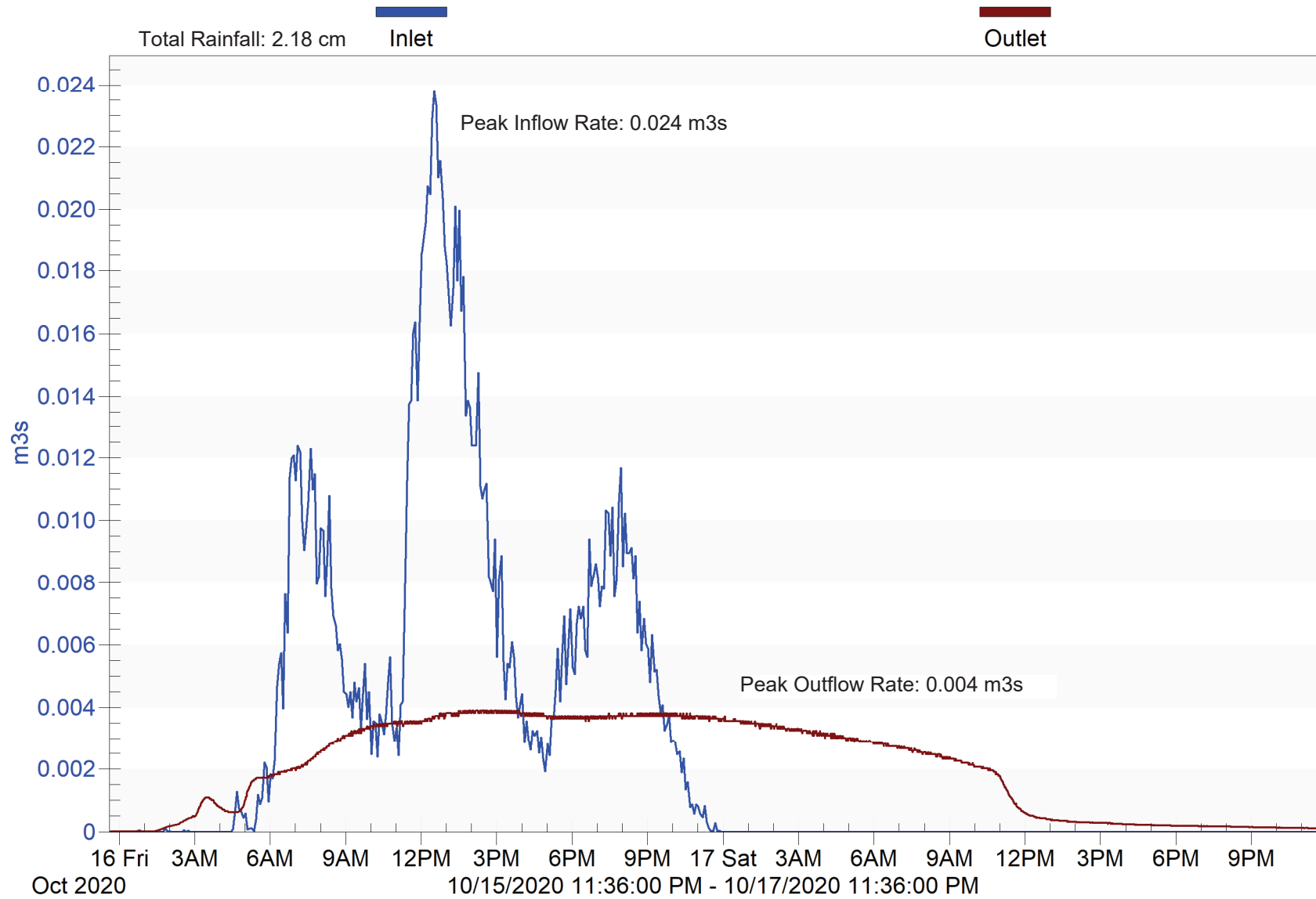
# Storm 12

Kennedy Drive Wetland



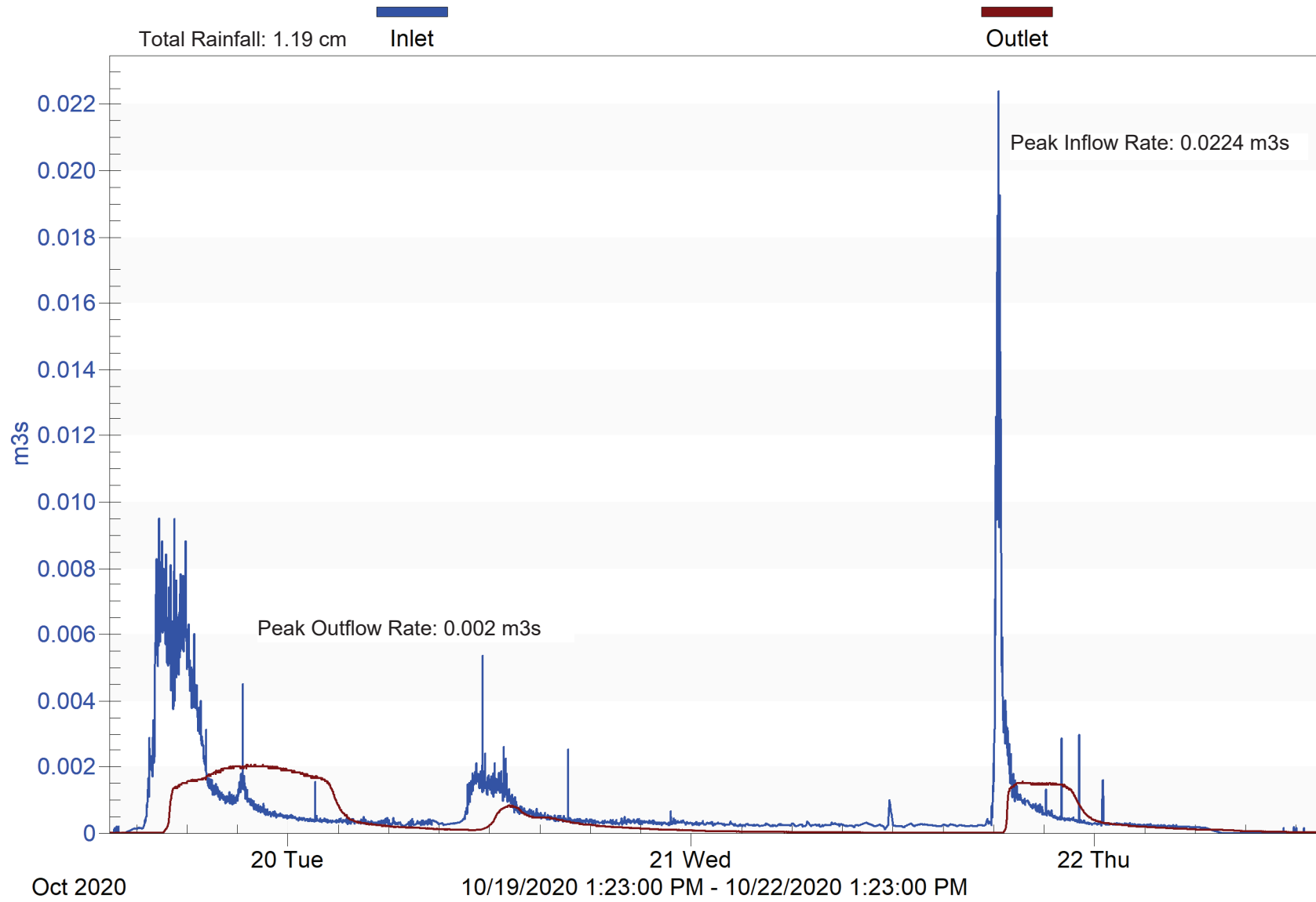
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Kennedy Drive Wetland



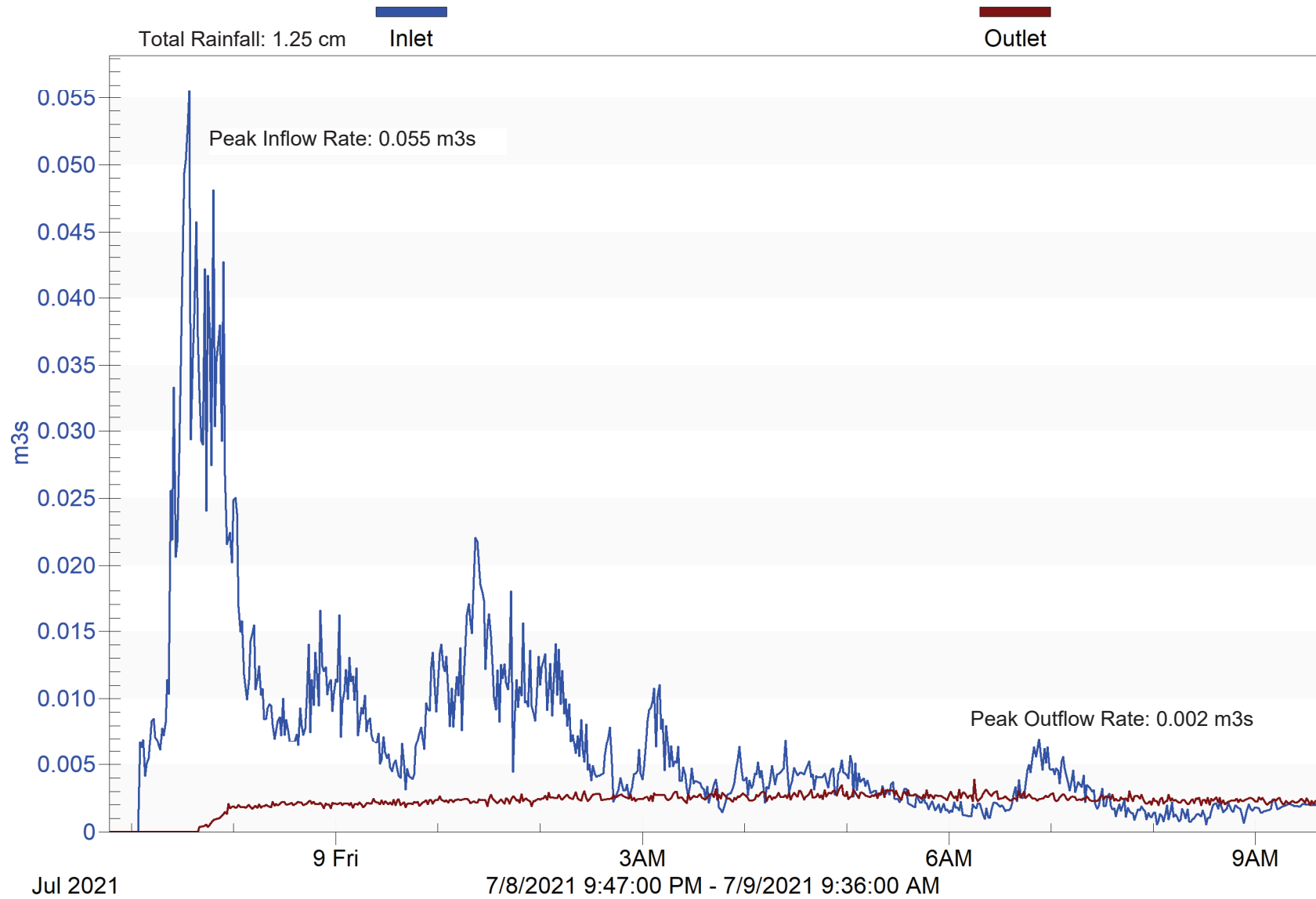
# Storm 15

Kennedy Drive Wetland



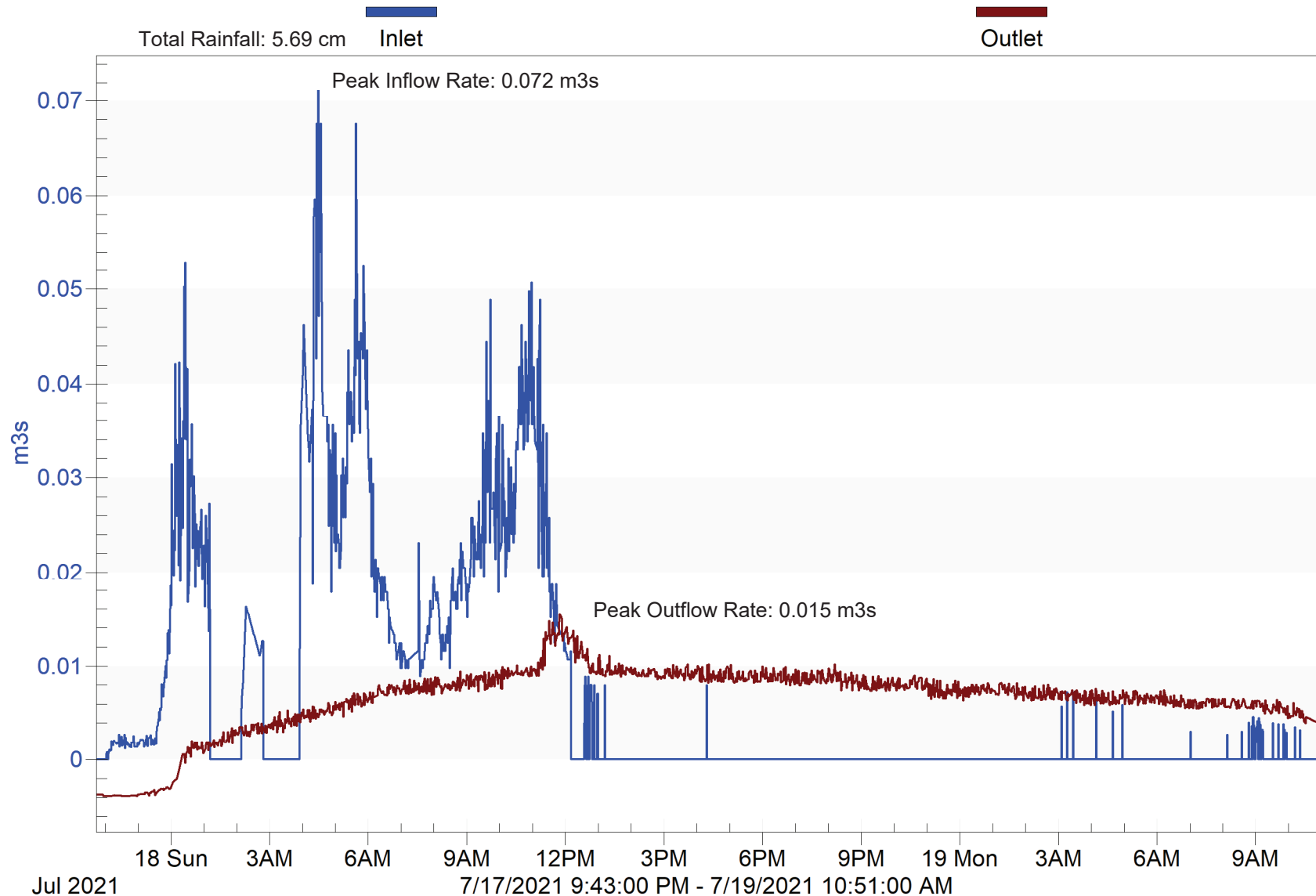
# Storm 3

Kennedy Drive Wetland



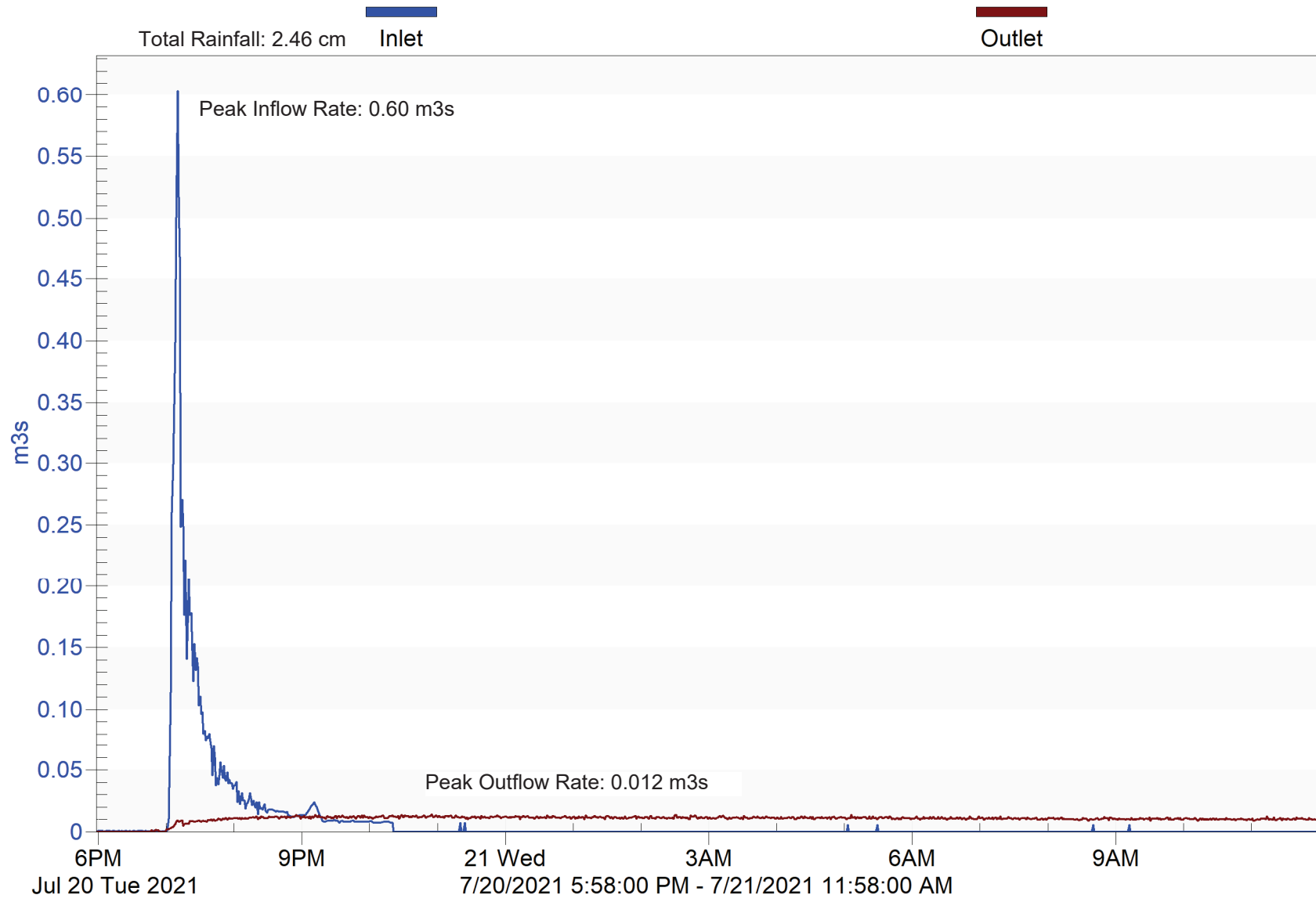
# Storm 4

Kennedy Drive Wetland



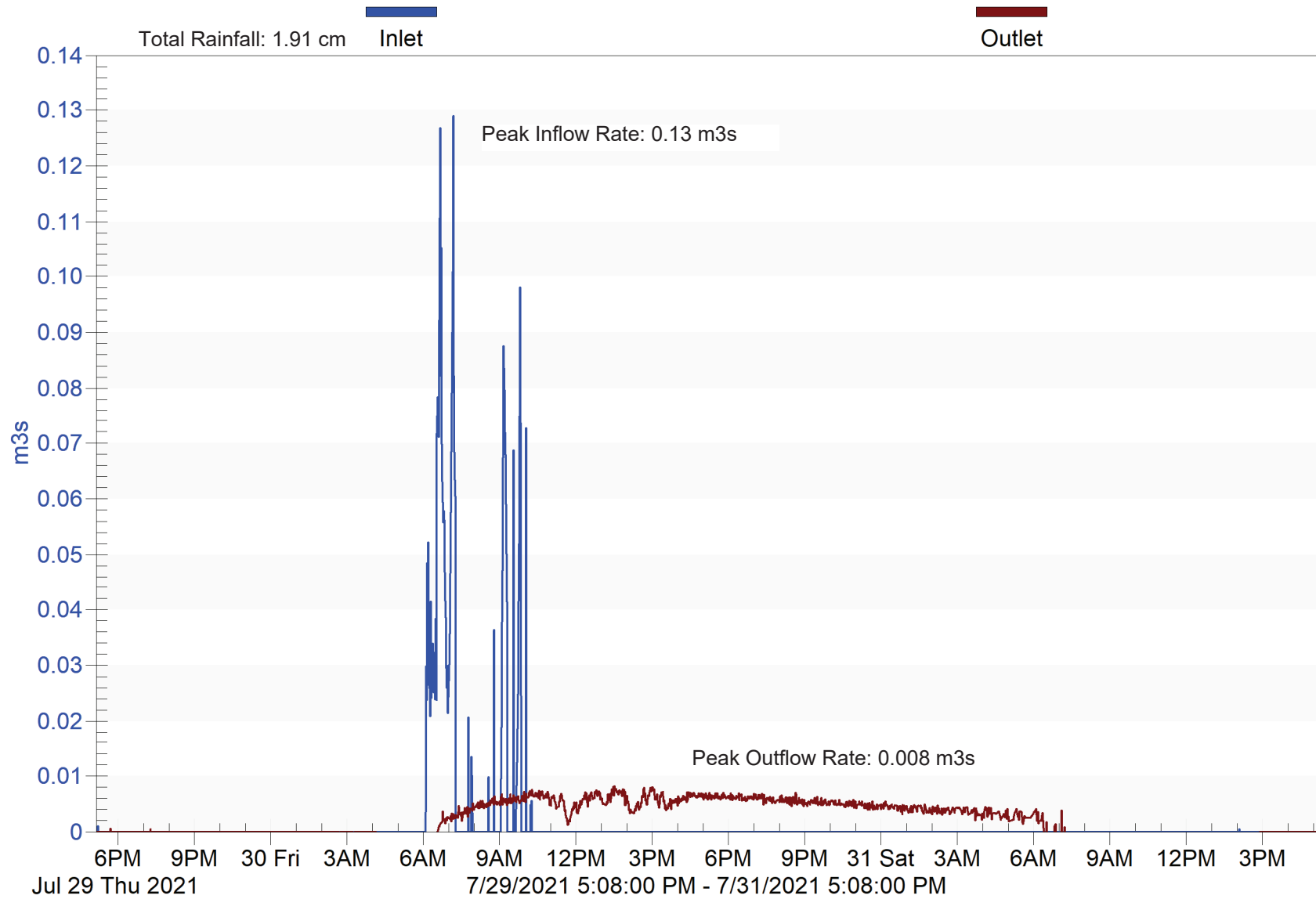
# Storm 5

Kennedy Drive Wetland



# Storm 6

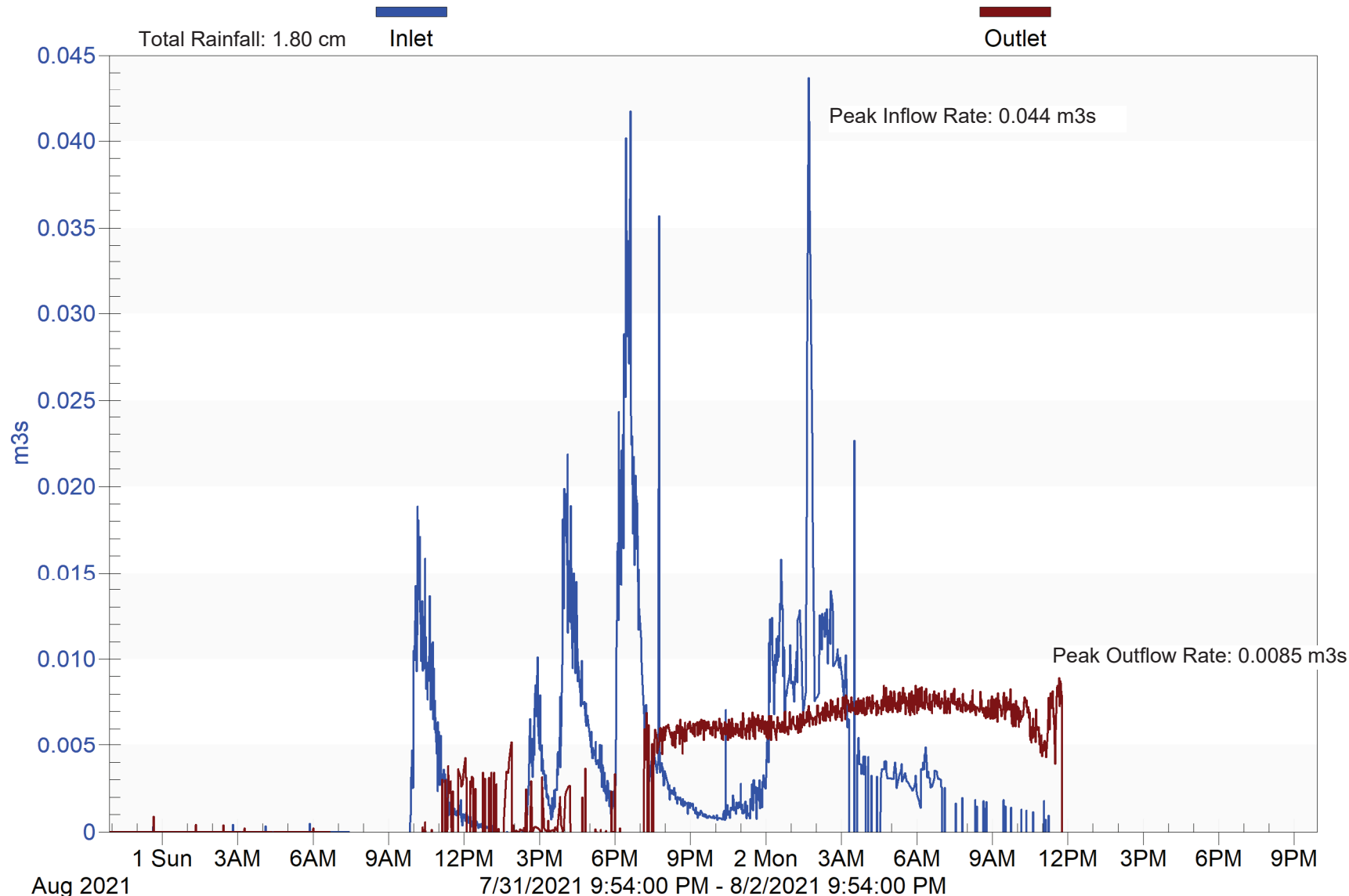
Kennedy Drive Wetland





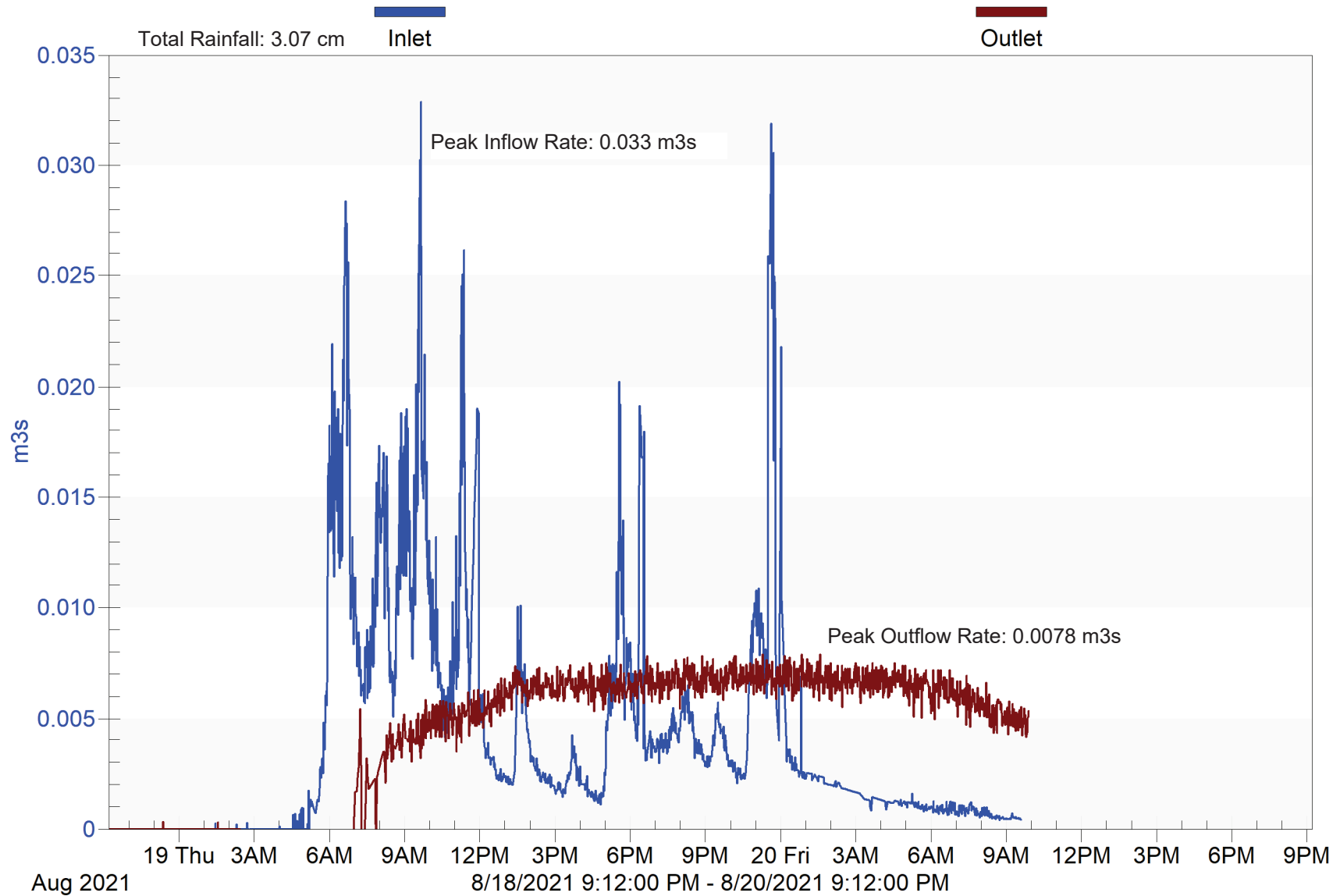
# Storm 7

Kennedy Drive Wetland



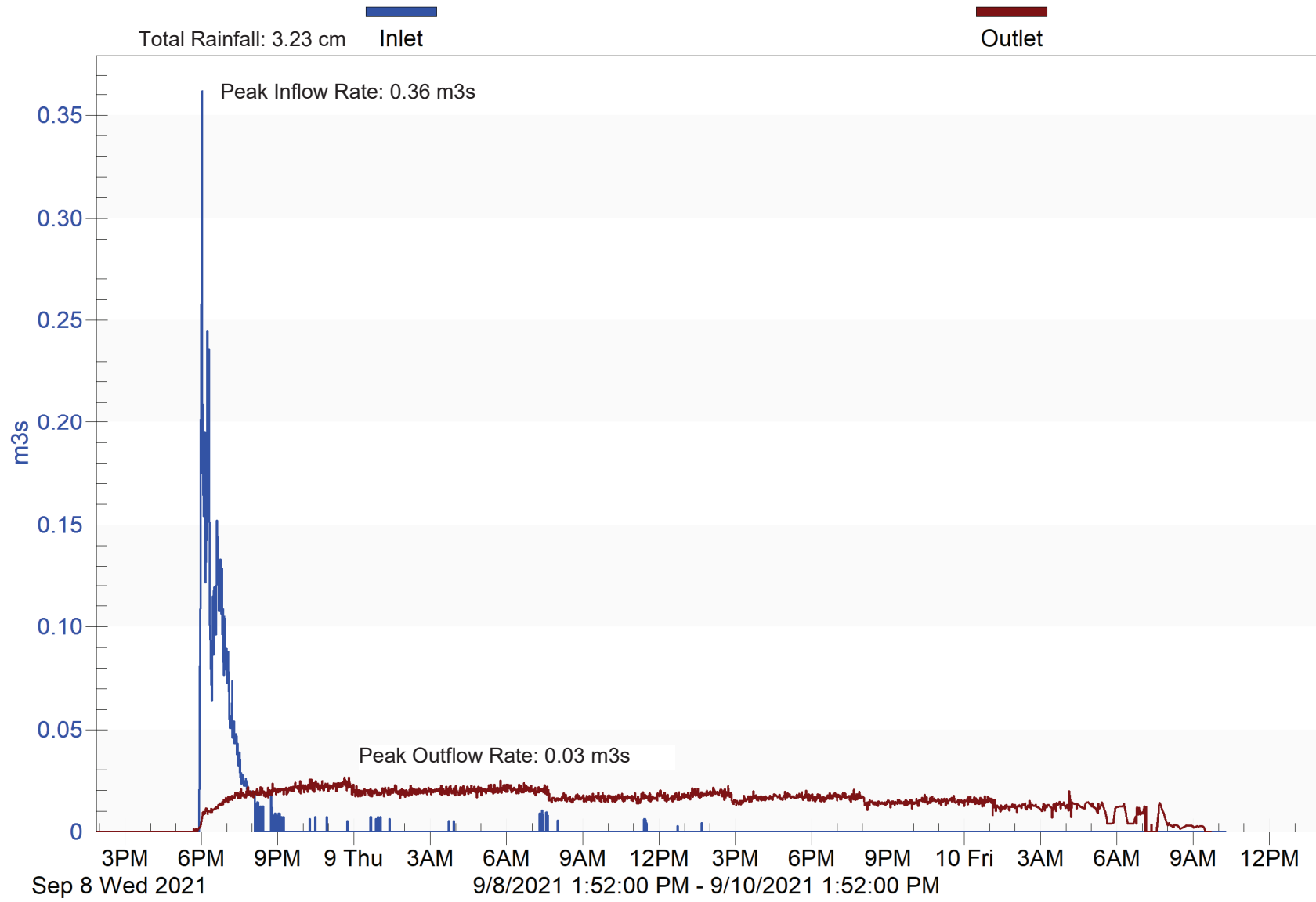
# Storm 8

Kennedy Drive Wetland



# Storm 9

Kennedy Drive Wetland



# Storm 10

Kennedy Drive Wetland

