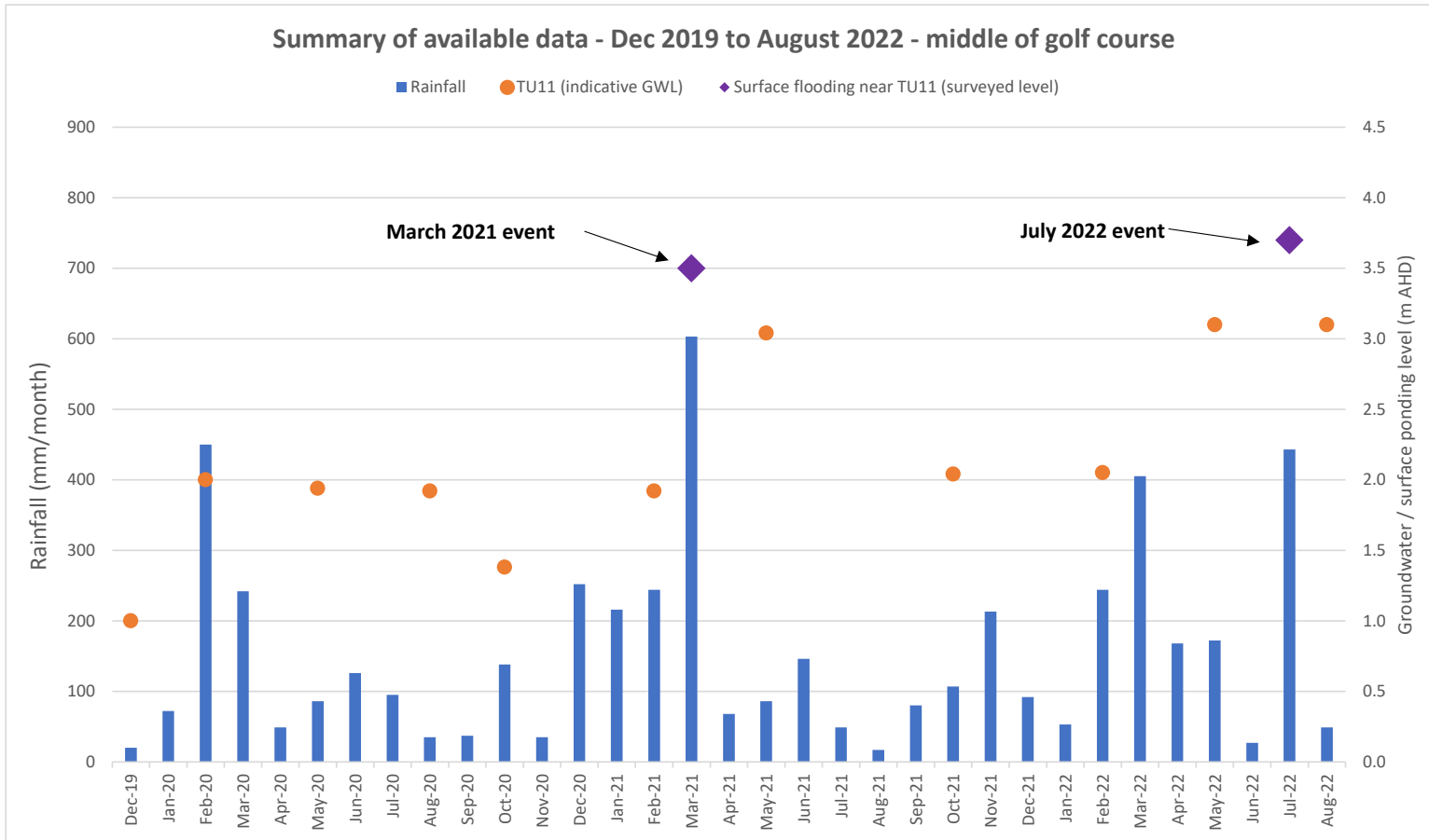


# 1b – Available data from recent flood events



**Note:** The TU11 groundwater levels were calculated from depth to groundwater measurements provided by Council. When providing the data Council noted that the depth measurements may be unreliable as they were done for the purposes of calculating purge volumes.

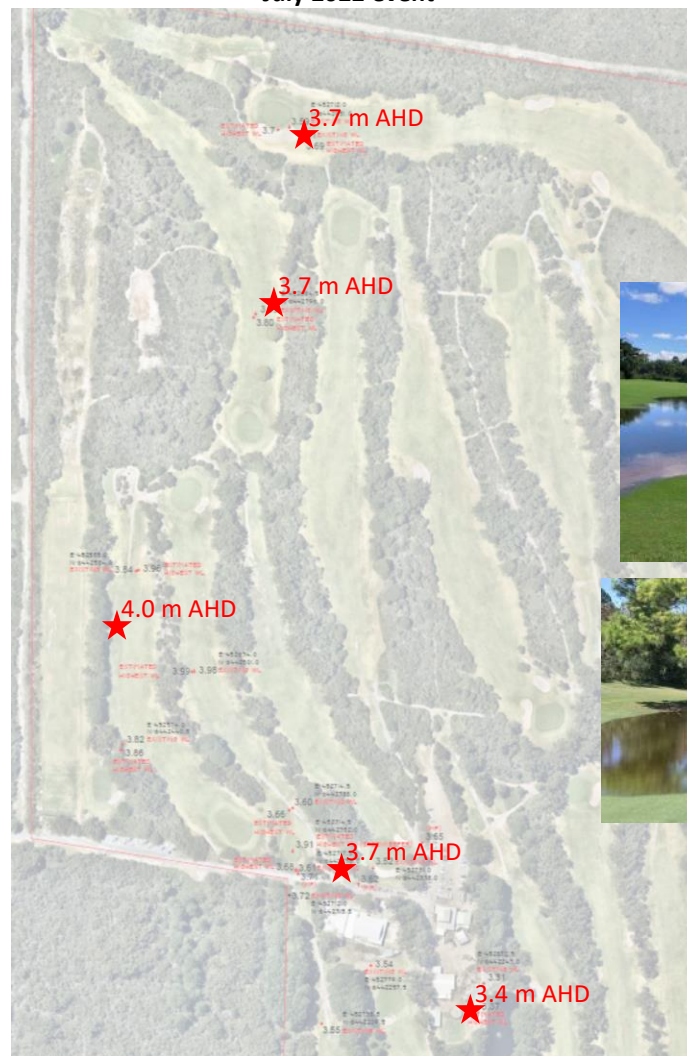
**2021:** 1921 mm (3<sup>rd</sup> highest annual total since 1896 (BoM 60013))  
**2022:** 1561 mm (up to end of August)  
**1963:** 2395 mm (highest annual total on record (BoM 60013))

# 1b – Available data from recent flood events

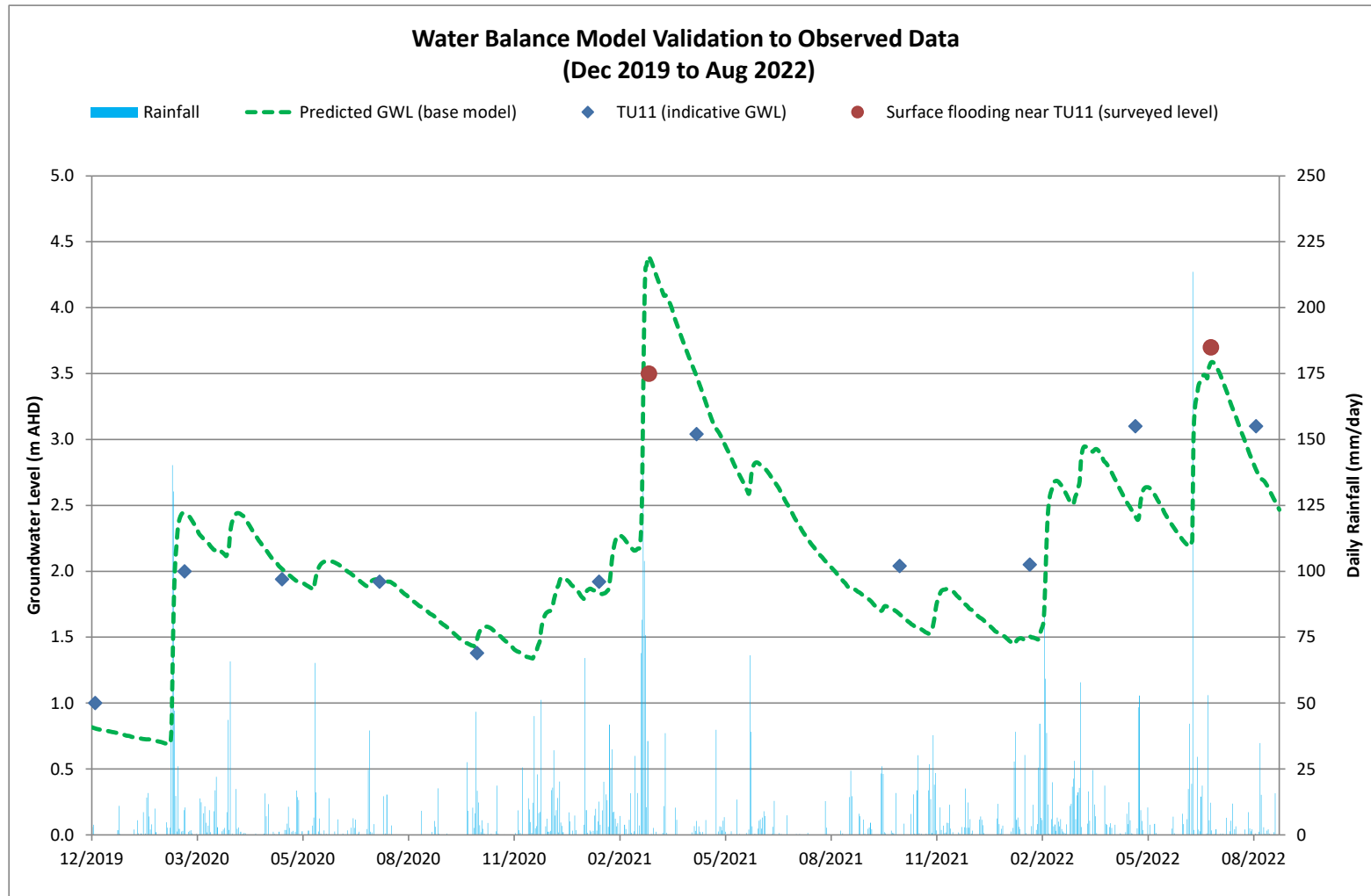
March 2021 event



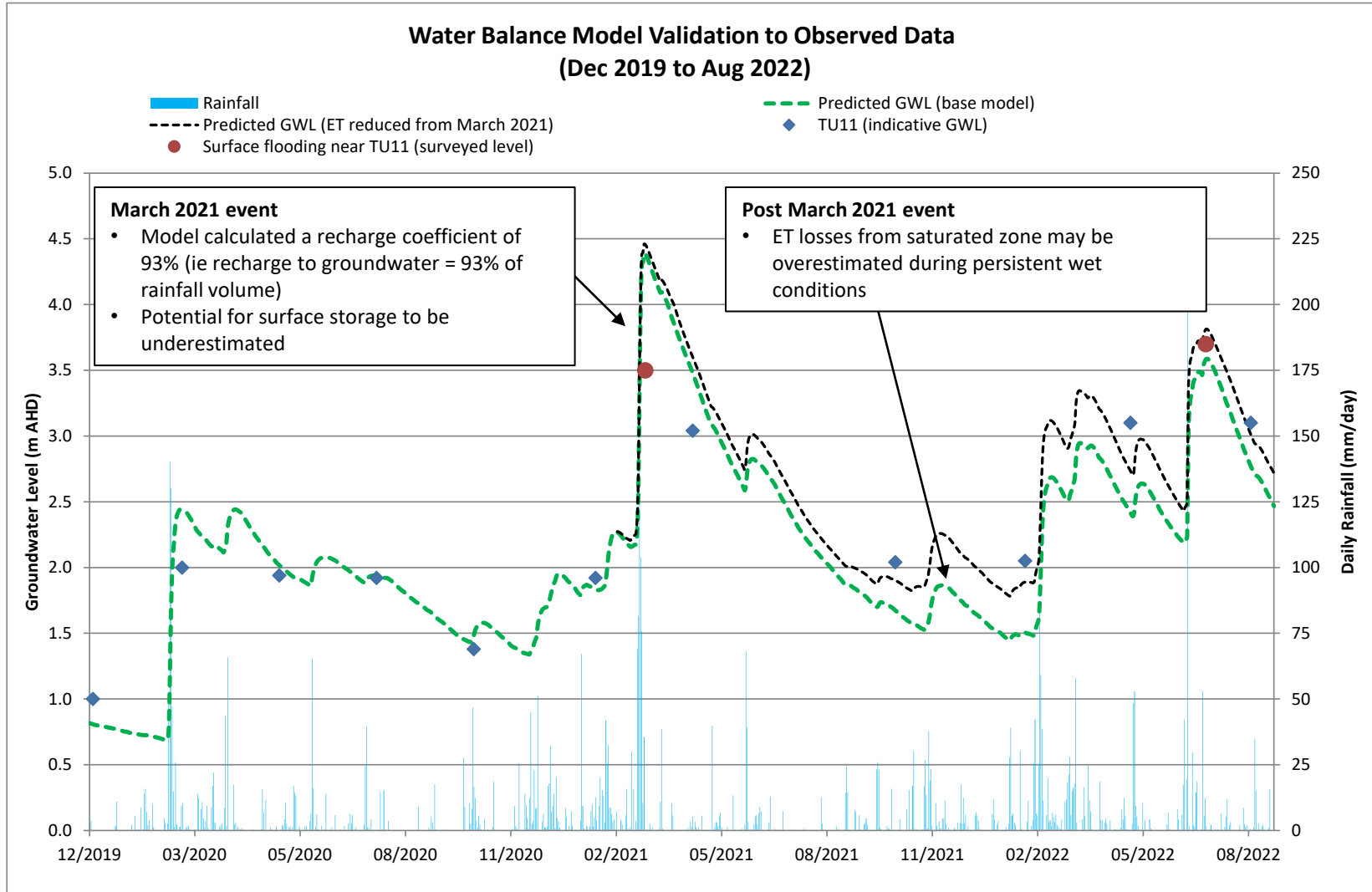
July 2022 event



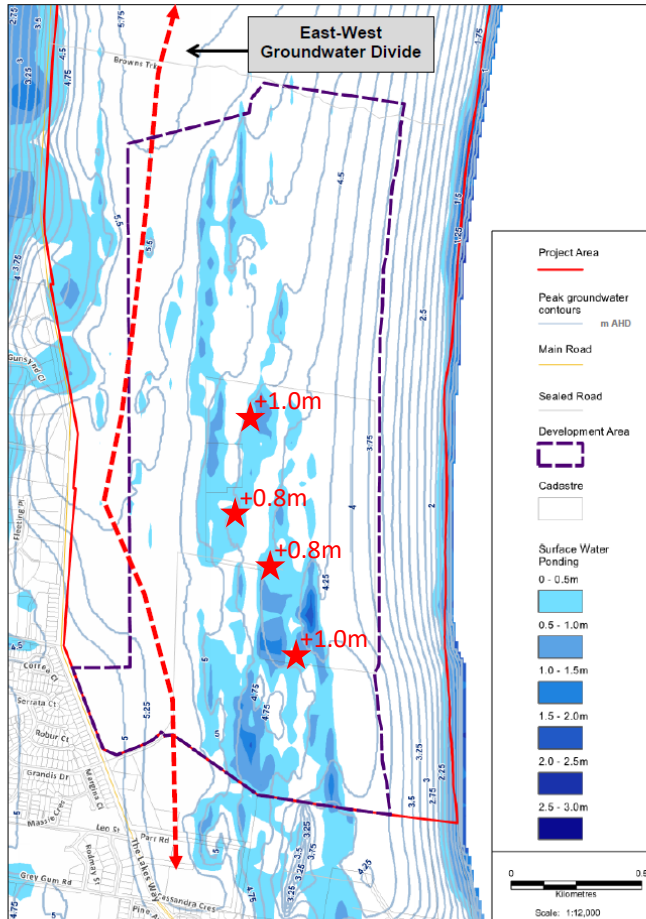
# 1b – Water Balance Model validation – recent flooding



# 1b – Water Balance Model validation – recent flooding



# 1d – Comparison to 1%AEP levels



★ +1.0m  
 ↖

Difference between surveyed Aug 2022 levels and peak levels from the 1963 event (adopted as the 1% AEP levels)

March 2021 levels are approx. 0.2m lower than July 2022 levels

	Initial GWL	Total rainfall over 70 days
<b>March 2021 event</b>	1.5 m AHD (TU11)	948mm over 69 days
<b>July 2022 event</b>	2.0 m AHD (TU11)	1,316mm over 150 days
<b>1963 event</b>	1.5 m AHD (water balance model)	1,464mm over 69 days

Plate 7-12 – Existing Conditions Results: Predicted peak groundwater head contours and surface ponding depths for the 1963 event with no sea level rise (Scenario EC 1).

## 1- Key conclusions

1. Water Balance Model has been validated using data from three significant flood events (2013, 2021 and 2022)
2. Models may overstate recharge during intense rainfall events (ie 200mm in a day).
3. There is no evidence to suggest the models are understating flood levels