

KPF 2023 OBE Update #6, 16th of August, 2023

Water Flow Rates

- Overbank flows have continued into KP Forest over the last weeks, with flow rates steadily dropping.
- Since the peak flow of 40,739 ML/d at Torrumbarry on the 28th of July, flow rates have continued to reduce and are today at 23,715 ML/d.
- Flow depth at the Barber's Ck Regulator began to drop after peaking on the 5th of August at 5.116m, and is currently at 4.824m, and the depth at Sandy's Bridge peaked at 4.708 m on the 6th of August, and has now reduced to 4.316m.
- Stream discharge (ML/d) for site 409109 - Thule Ck @ Lower Thule Rd is not being reported due to damage of the flow measurement gauge in the 2022 flood event . However; manual gauging of the site on 2 August provided a stream discharge of 3,690 ML/day at a gauge height of 3.950 m.
- Manual gauging of the 4 outflow points at the downstream end of the forest were completed on 3 August:
 - Barber's Ck Overflow: 453ML/d at gauge height 3.110 m
 - Barber's Ck Pool: 2,376ML/d at gauge height 5.112 m
 - Cow Ck at Moulamein Rd: 3,707ML/d at gauge height 4.910 m
 - Calf Ck at Moulamein Rd: 814ML/d at gauge height 0.914 m

It should be noted that gauge site 409111 – Barber Ck @ Sandy Bridge is not capturing the total outflow from the forest under the conditions experienced at the peak of this flow event. Some water having exited the forest is moving overland towards the Wakool River upstream of this gauge site.

- A graph has been supplied that indicates the flows (ML/d) at both the Torrumbarry Weir and Barham township since the 1st of June, the commence to flow thresholds are also depicted on this first graph.
- The second graph supplied depicts the flows in the Murray River, Goulburn River and Campaspe River at key locations since the 1st of June.
- We have another brilliant satellite image from Thursday the 8th of August- I have included a copy of this image below, however; here is the link to the free website if you would like to have a look yourself.

Sentinel Hub EO Browser (sentinel-hub.com)

- A third graph has been supplied to depict the dissolved oxygen levels (mg/L) in the exit flows from the forest.

Ecological Observations

- The ecological response is now evident throughout the whole forest, with aquatic vegetation booming and the water ribbon (*triglochin sp.*) has even started to flower.
- The water is moving swiftly through the forest and the Dissolved Oxygen levels are remaining high, despite dropping slightly in the Pollack Swamp.
- Aquatic vegetation has emerged in the form of nardoo, juncus, matted starwort, water ribbon and many more, which is great to see given that it is the middle of Winter.
- The diversity of aquatic vegetation in such clear water means that the vegetation looks like a planted aquarium!
- Frog calling is ever increasing.
- Colonial waterbird activity throughout the forest is increasing.

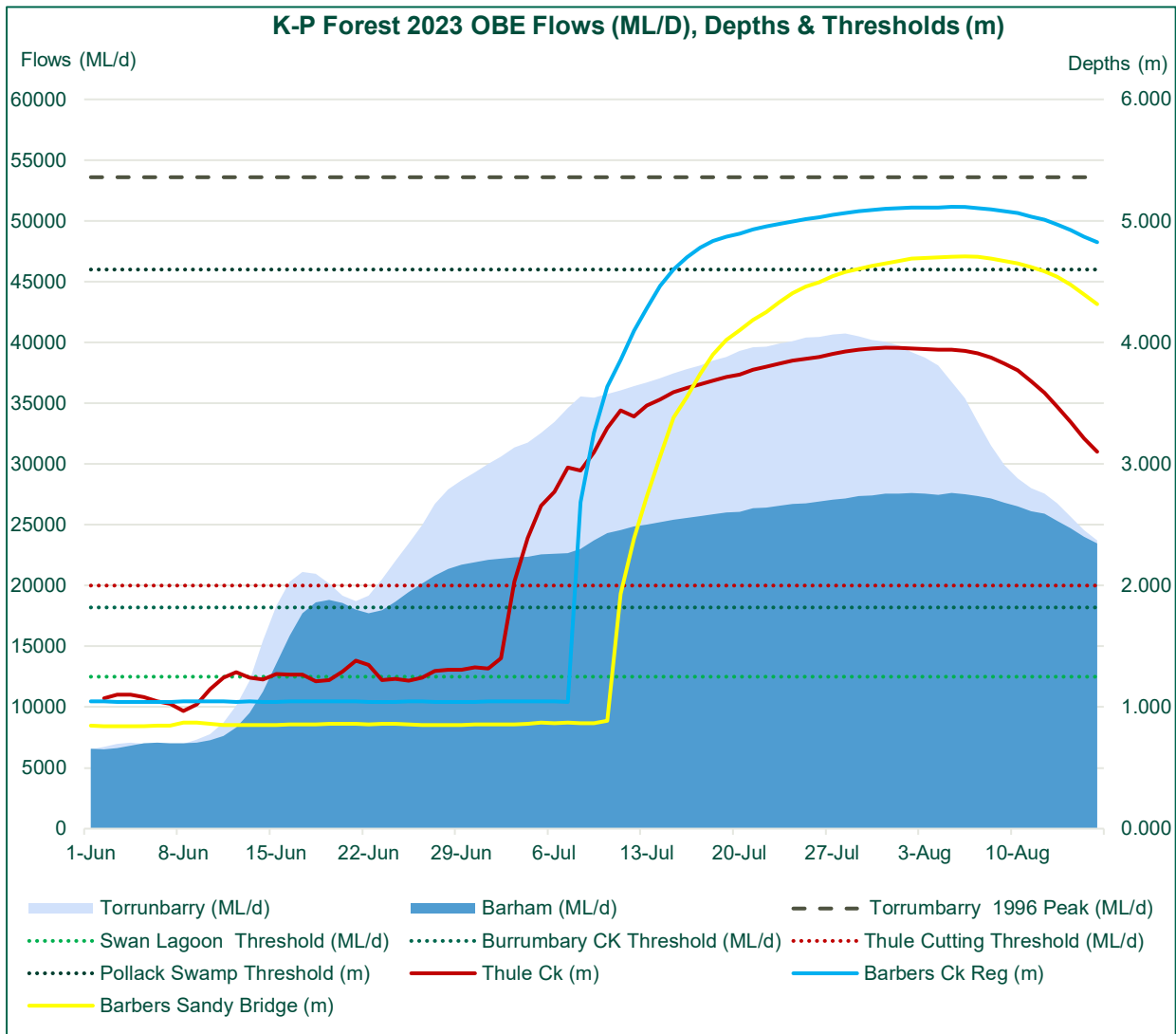


Figure 1: Hydrograph showing Murray River flows (ML/d) and KPF inflow thresholds (ML/d)

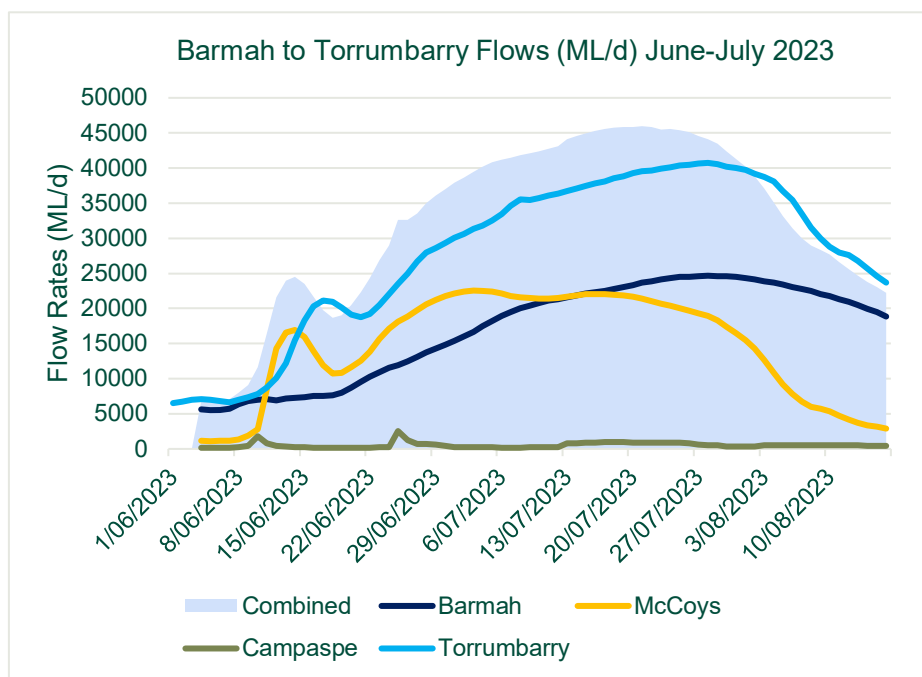


Figure 2: Water flow (ML/d) in the Murray River, Goulburn River and Campaspe River

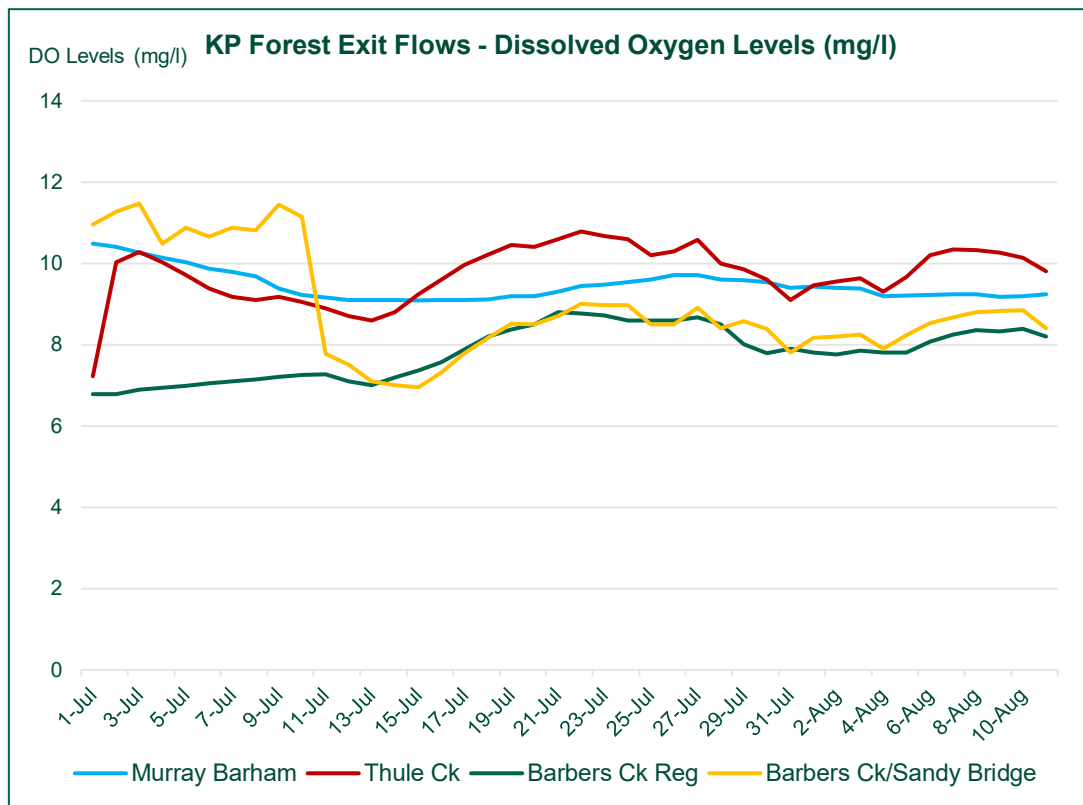
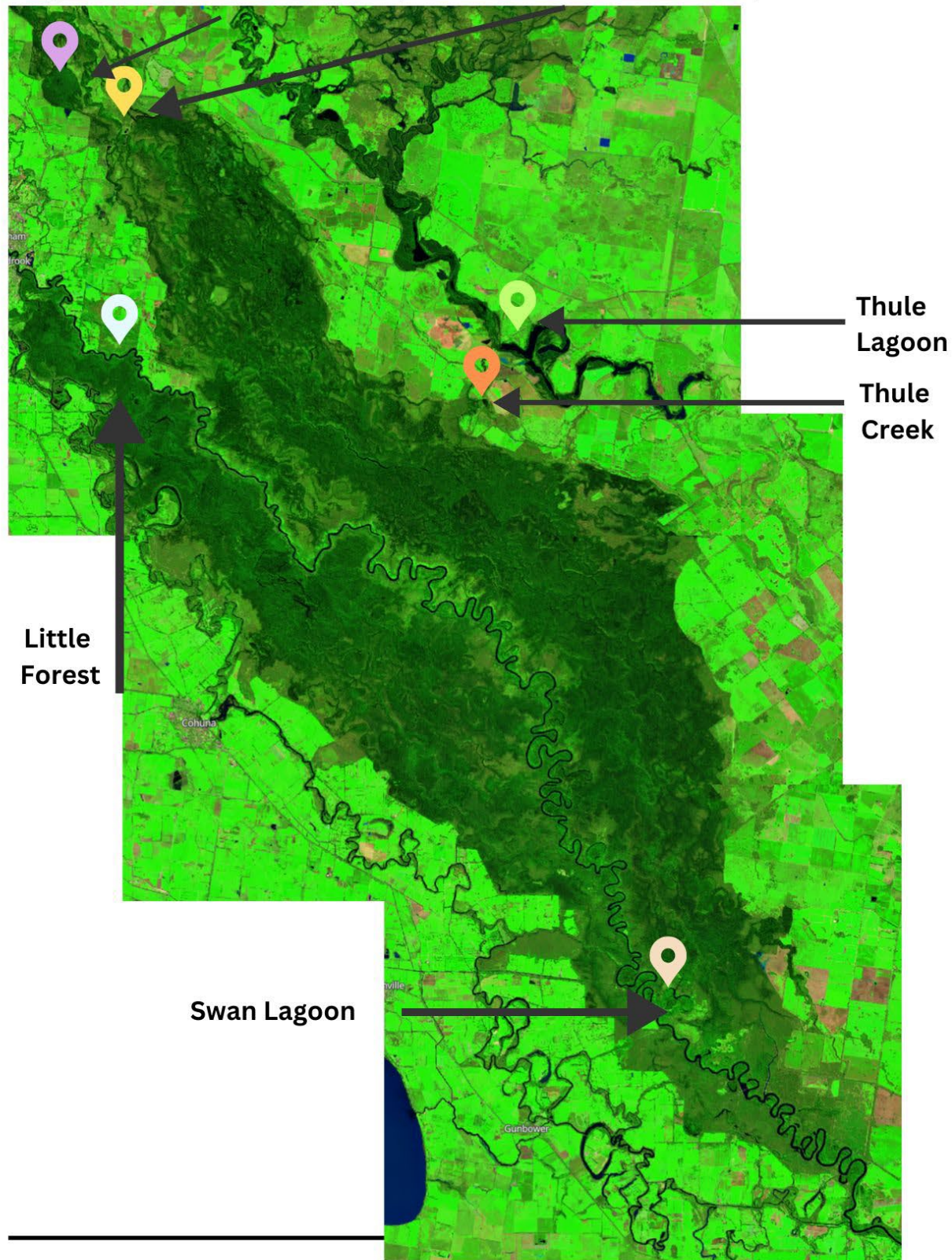


Figure 3: KP Forest Exit Flows, dissolved oxygen levels (mg/L)

KOONDROOK-PERRICOOTA FOREST SATELLITE IMAGERY

8th August 2023 Pollack Swamp Moulamein Rd, Barber's Creek



Sentinel Hub Maggie McDonald



Figure 3. Water receding at Weir Rd 07/08/23



Figure 5. Swan Lagoon inlet regulator 07/08/23



Figure 6. Vegetation diversity Weir Rd, 07/08/2023



Figure 7. Nardoo, 07/08/2023



Figure 8. Water ribbon. 07/08/2023