

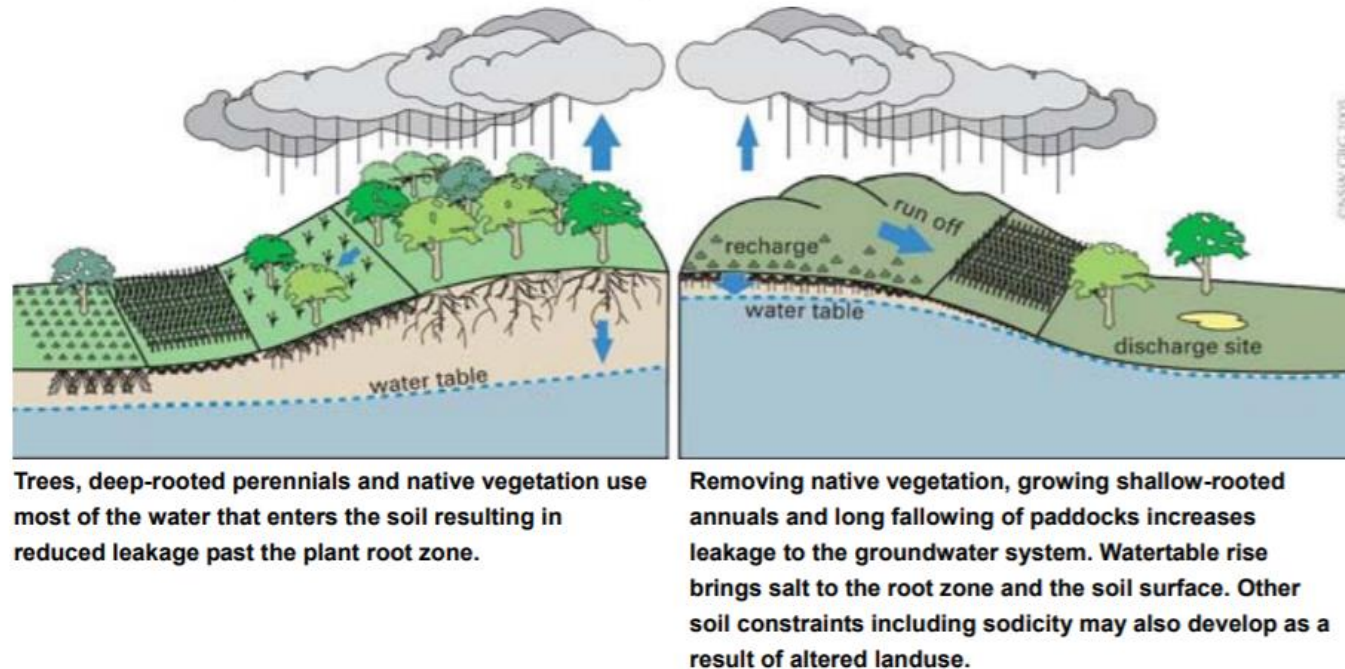
Making sense of Dryland Salinity

Felicity Turner

“Use of remote monitoring systems to improve knowledge and decision making around dryland salinity management”

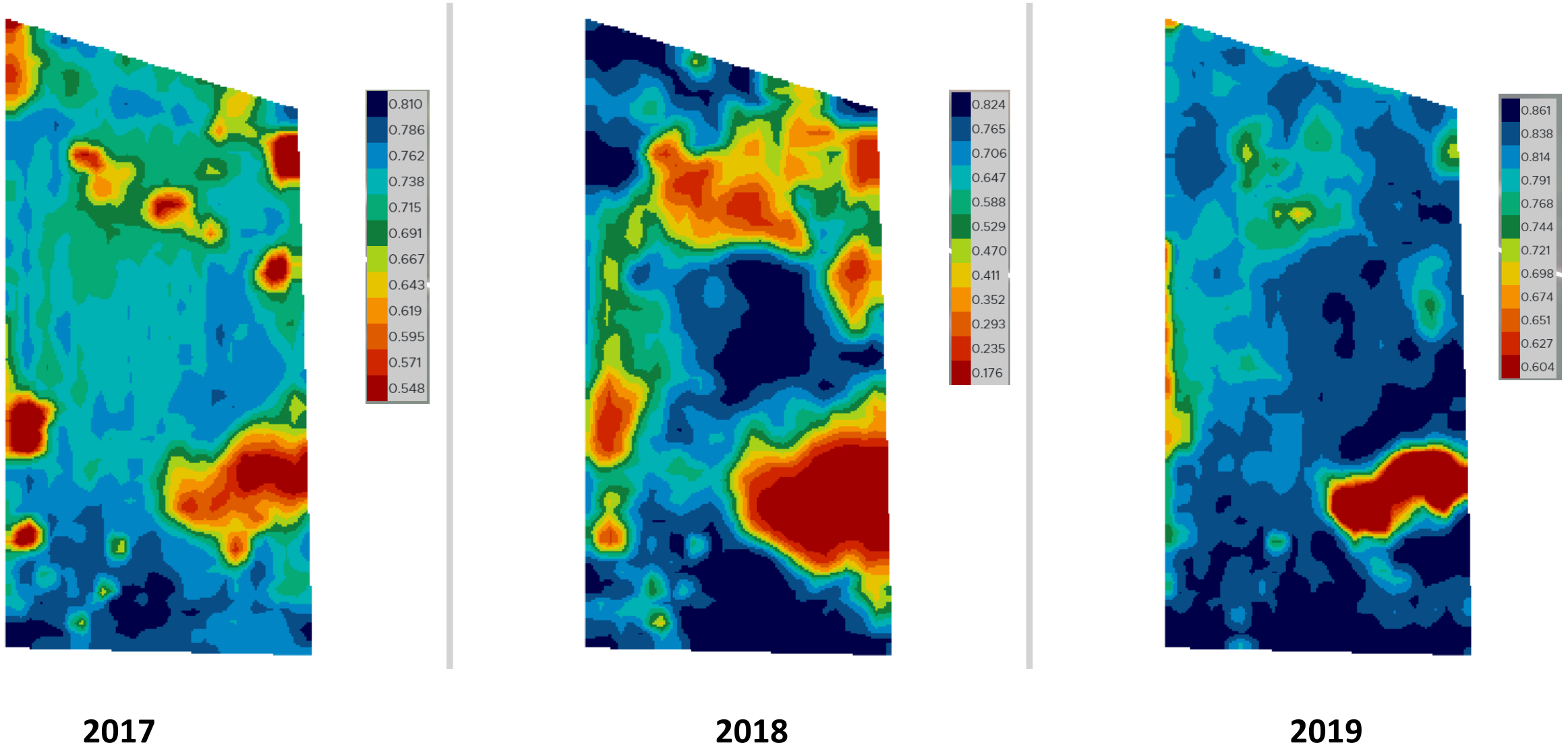
What is happening?

- Local groundwater recharge in the shallow unconfined aquifer



- Groundwater levels respond strongly to changing rainfall patterns* (Chris Henschke, 2019)

Seasonal variability?



Soil moisture probe - Moorlands

- 2018

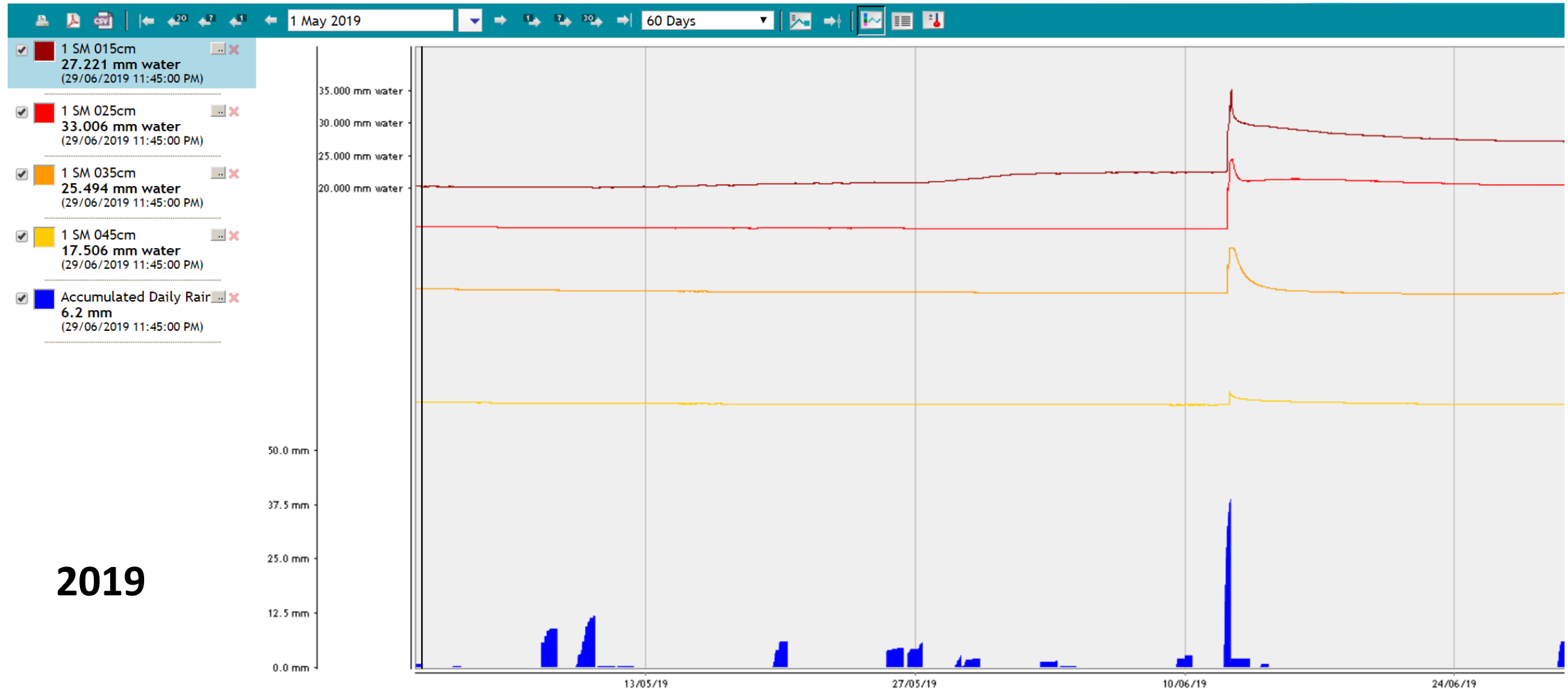
Sensor depth	25-May	25-Jun	CHANGE
(cms)	mm water		
20	12.97	13.66	0.69
30	14.82	15.23	0.41
40	15.04	15.08	0.03
50	13.84	13.73	-0.11

- 2019

Sensor depth	25-May	25-Jun	CHANGE
(cms)	mm water		
20	11.27	15.42	4.15
30	12.62	17.68	5.07
40	12.94	16.96	4.03
50	11.53	12.98	1.46

* Reference: SAMDB NRM Soil Moisture probe networks

The flushing effect – Coomandook probe



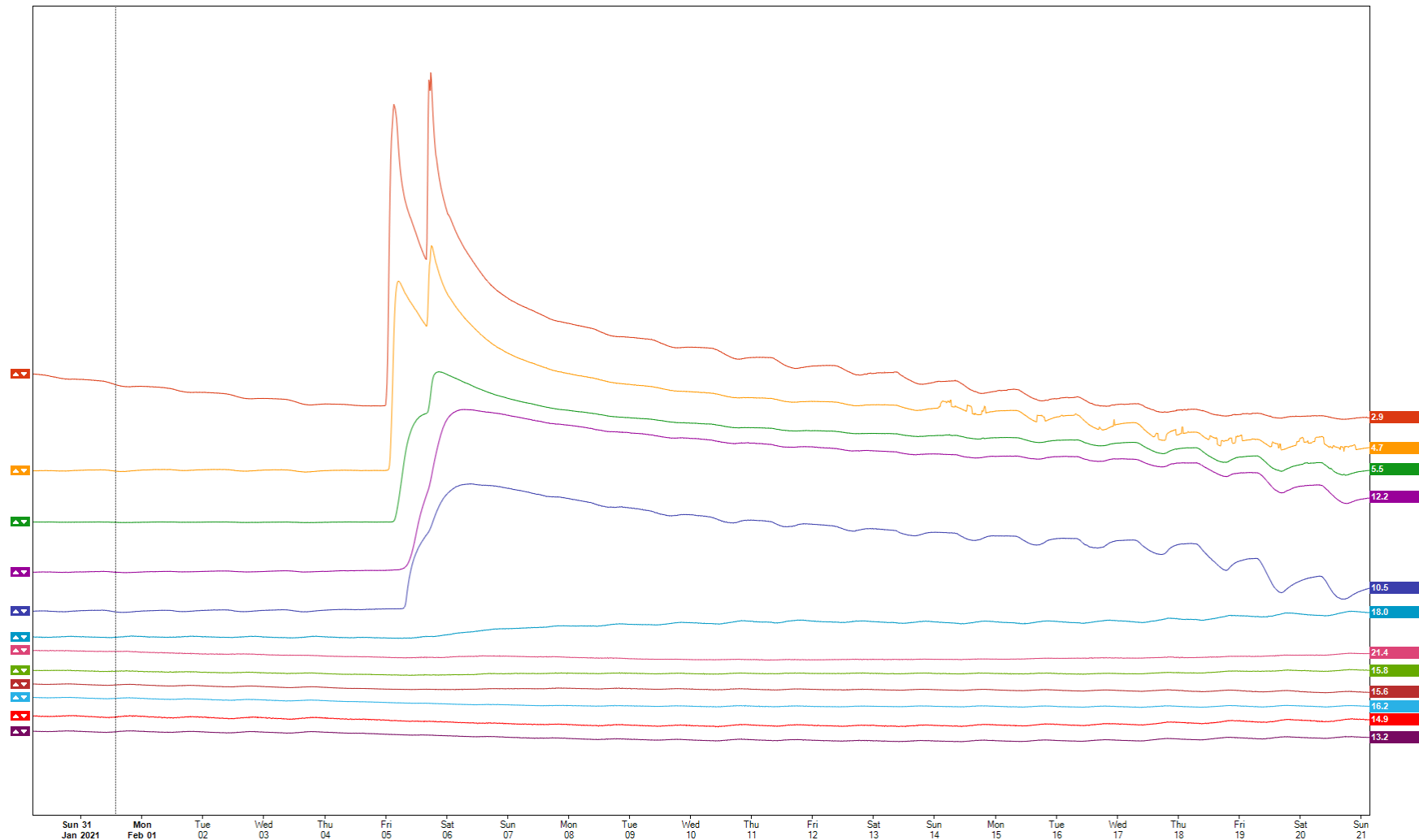
* Reference: SAMDB NRM Soil Moisture probe networks



Wetting front

Turner,F - Maurlee WS - Lucerne Moisture Stacked

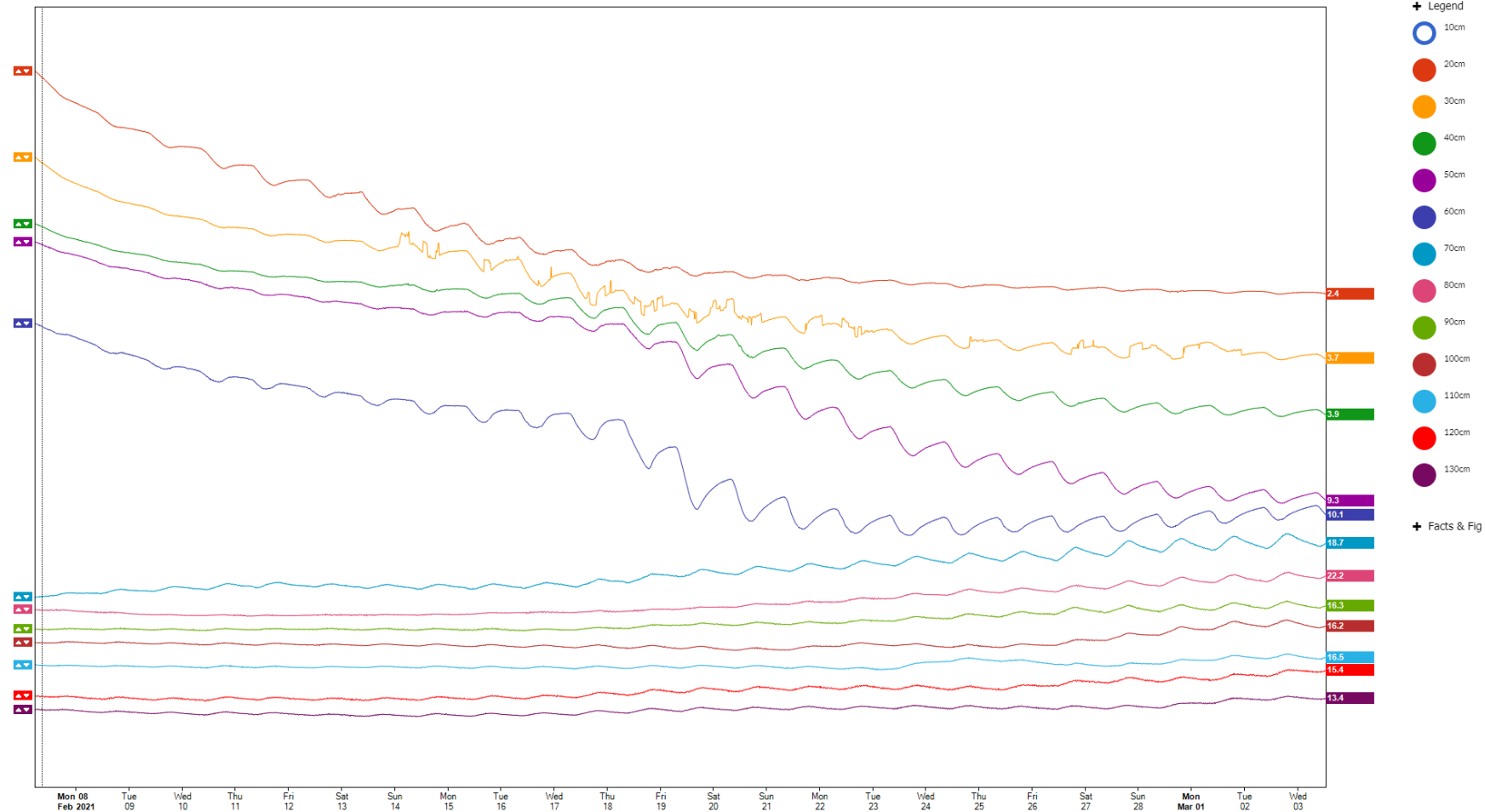
Last 60 days ▾



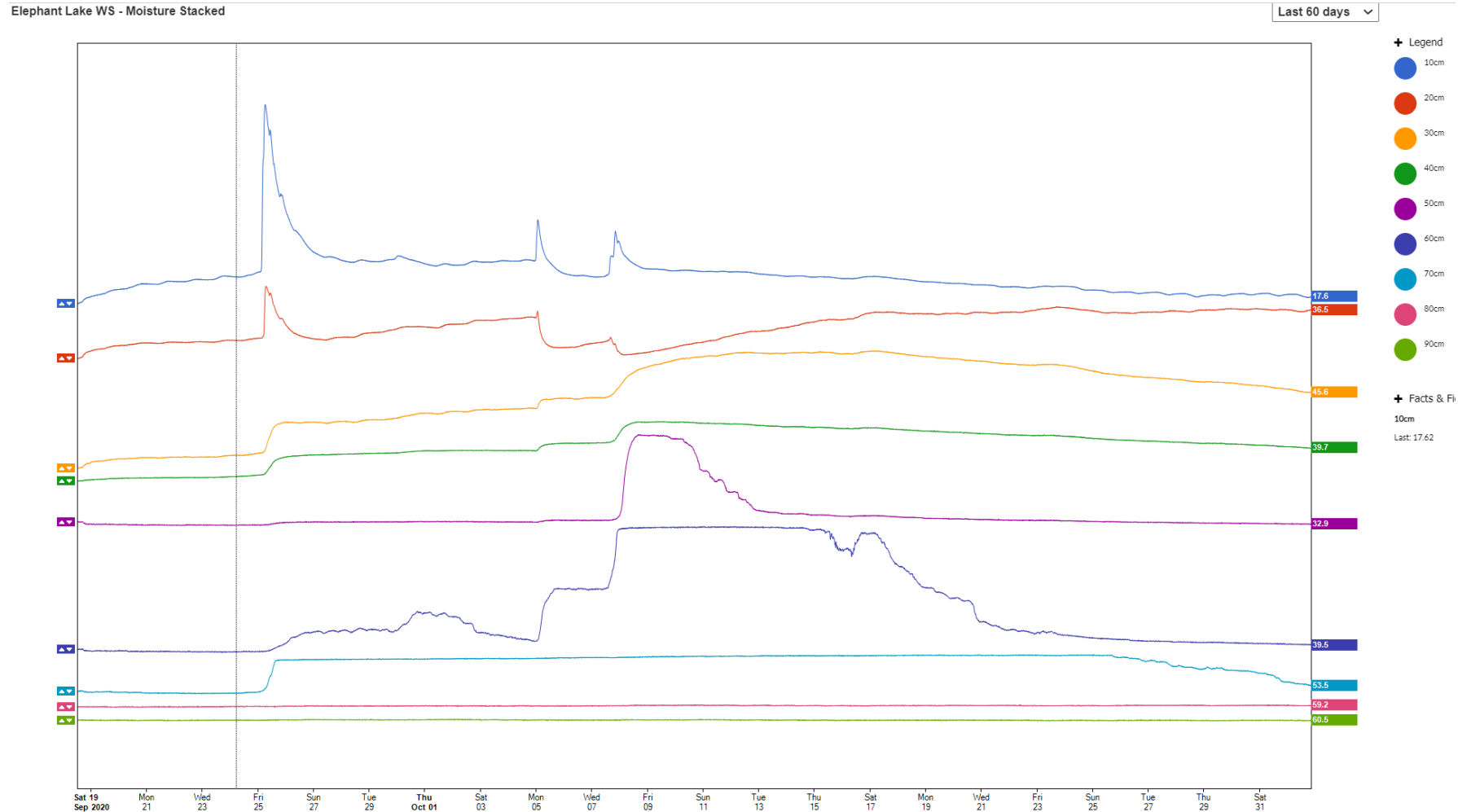
Drawdown by plants

Turner,F - Maurlee WS - Lucerne Moisture Stacked

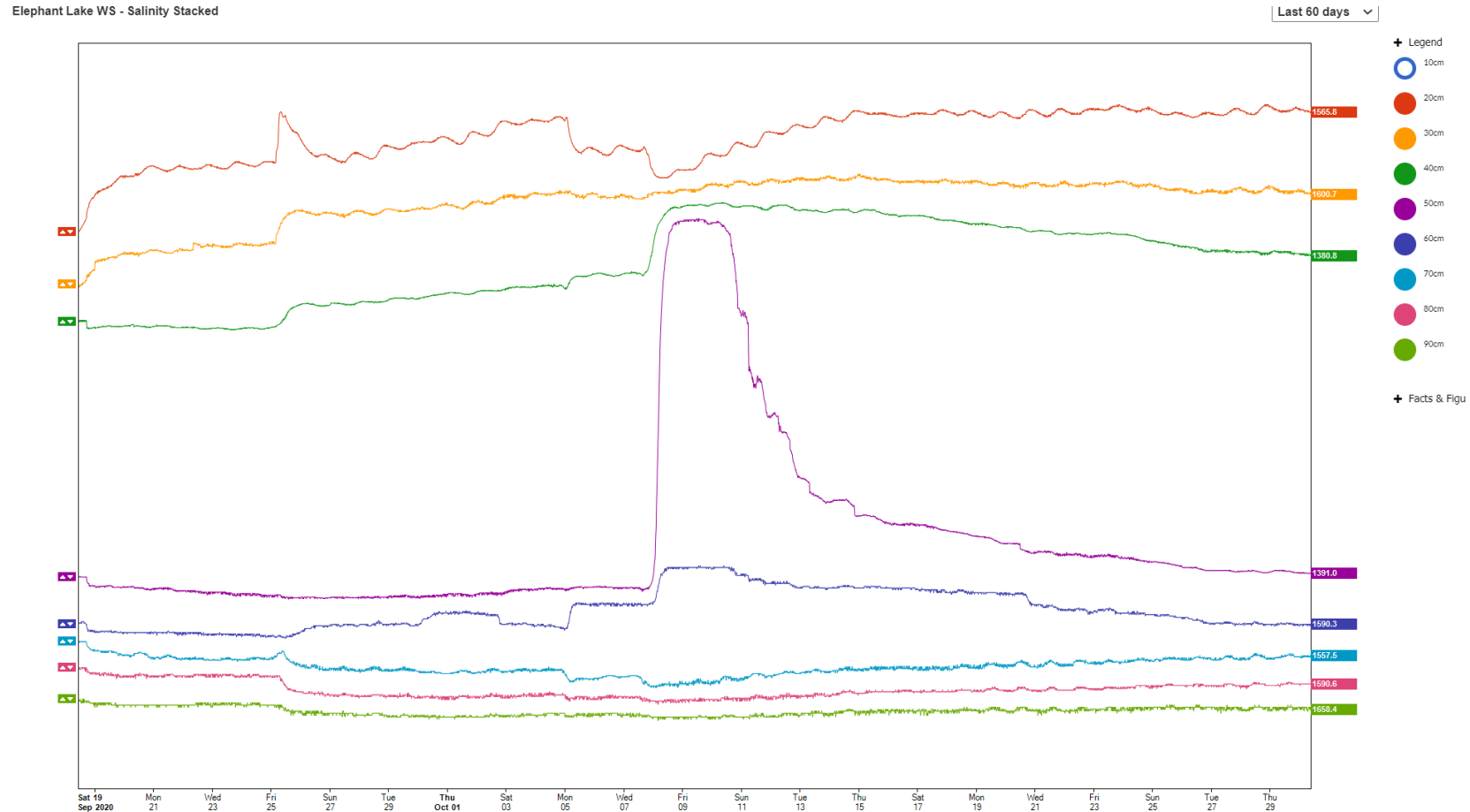
Last 30 days ▾



Water table rise

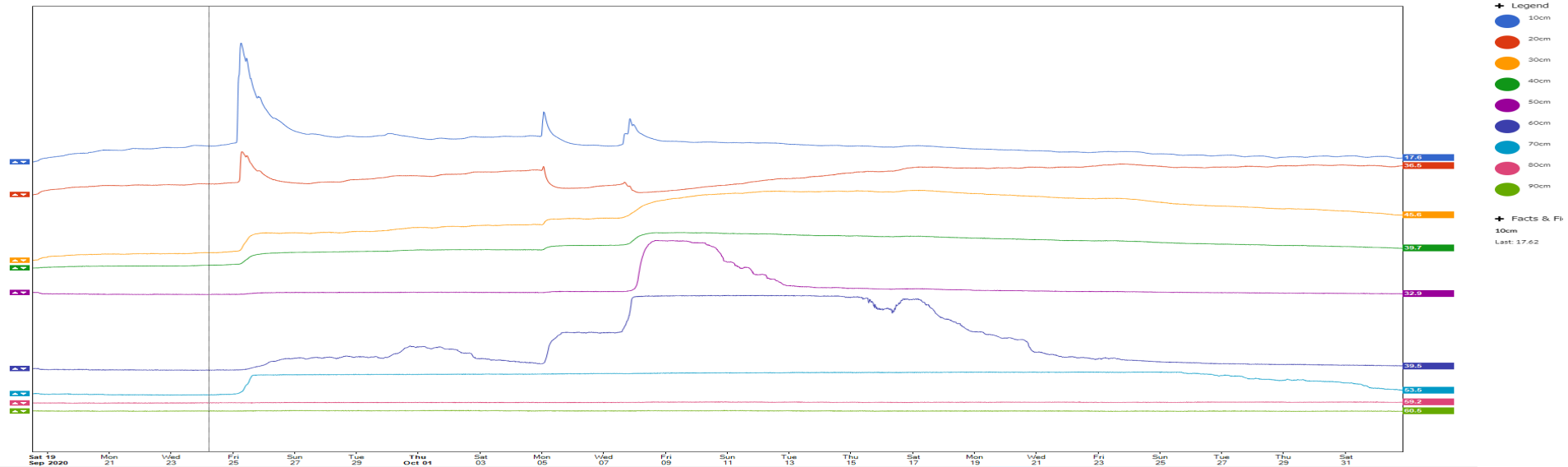


Salinity levels (Water table rise)



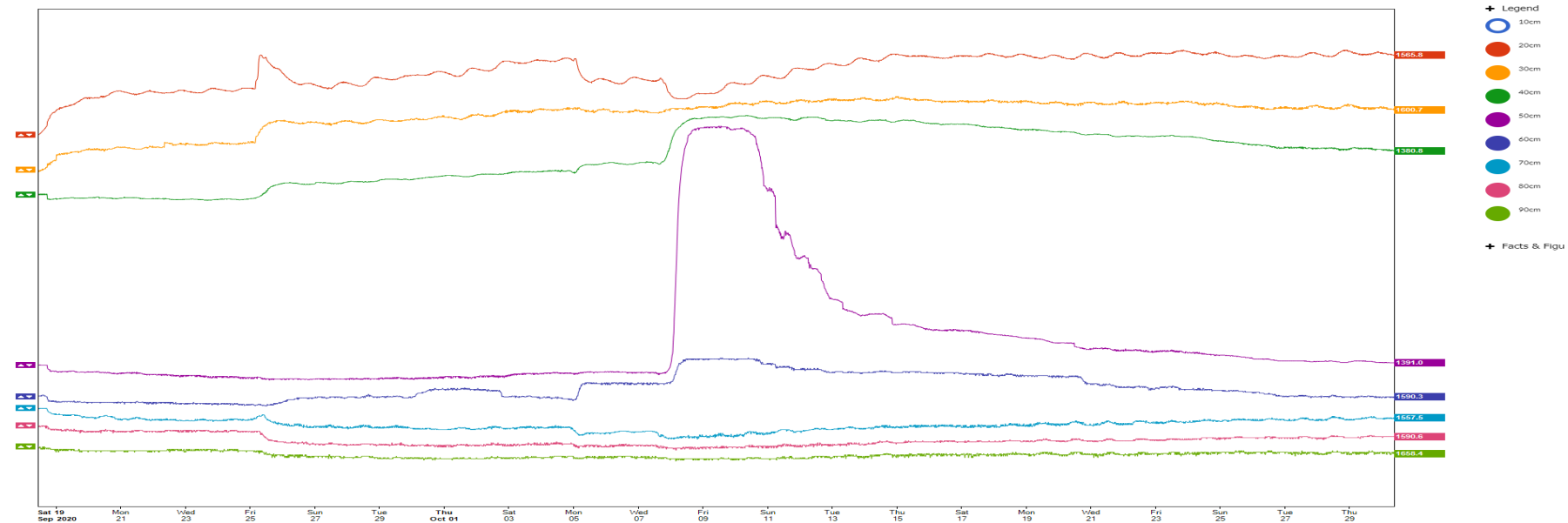
Elephant Lake WS - Moisture Stacked

Last 60 days



Elephant Lake WS - Salinity Stacked

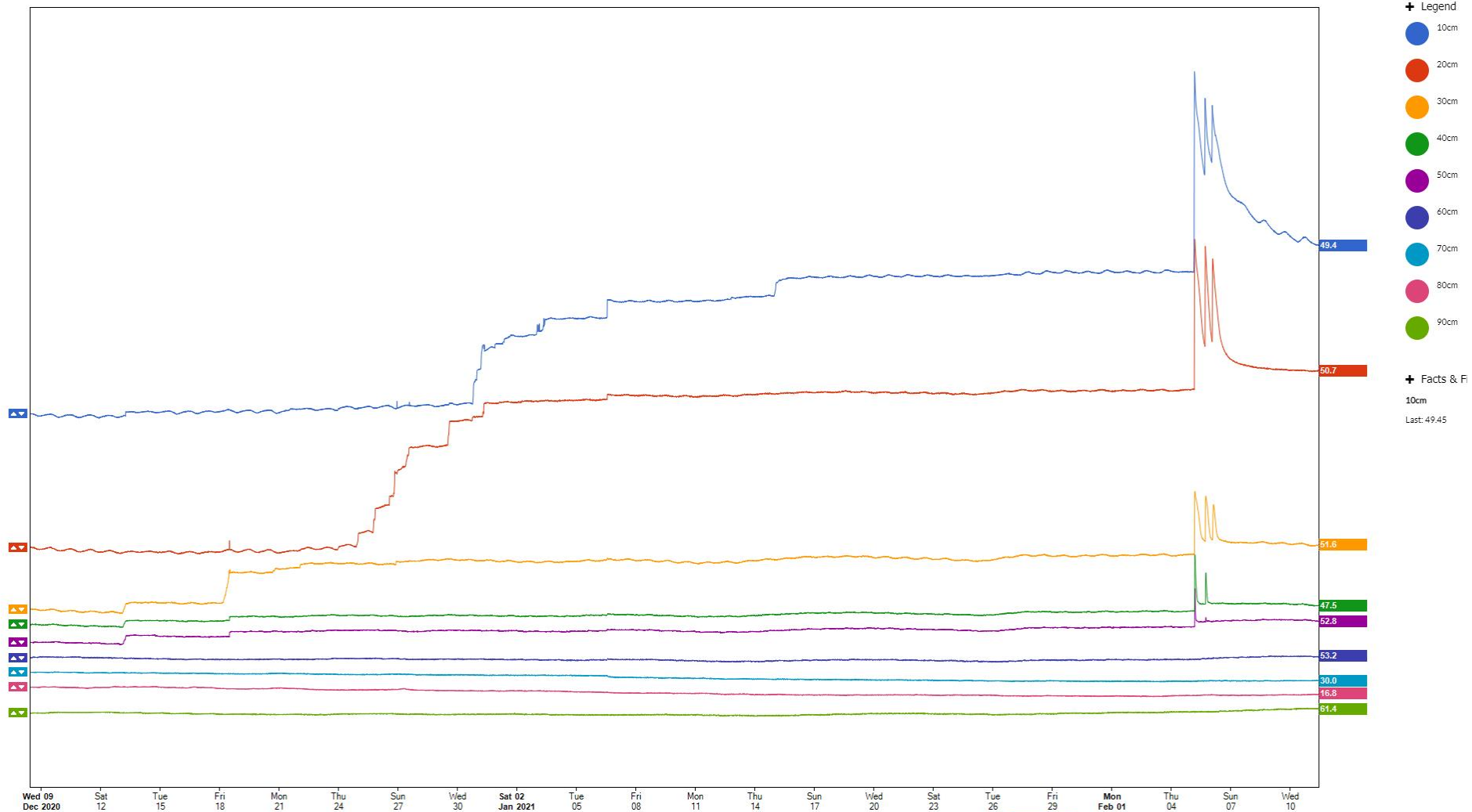
Last 60 days



Wicking front

Roby Downs WS - Moisture Stacked

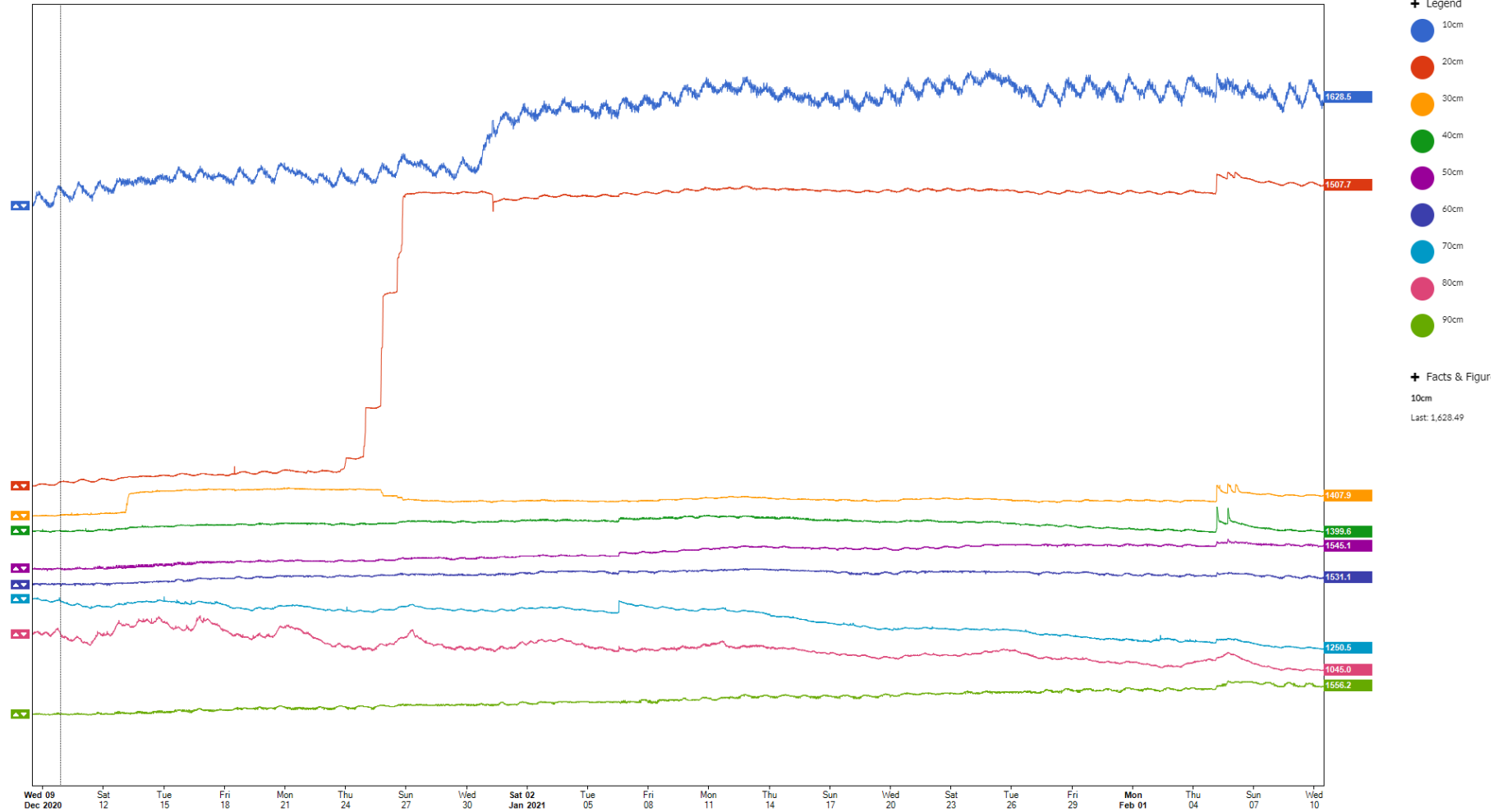
Pick a date ▾



Salinity levels (Wicking front)

Roby Downs WS - Salinity Stacked

Pick a date ▾

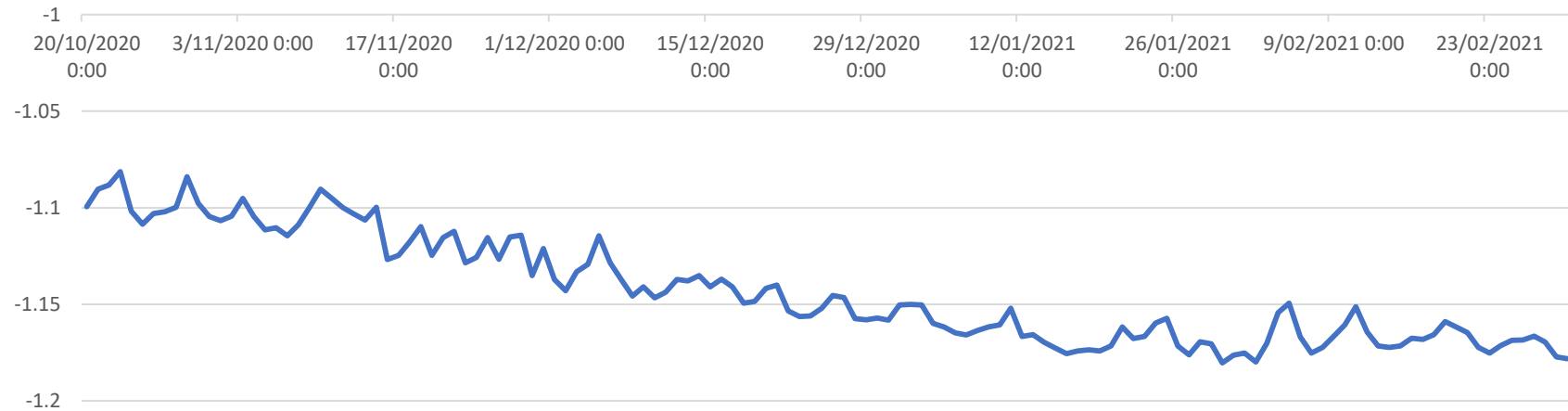


What does that mean for management??

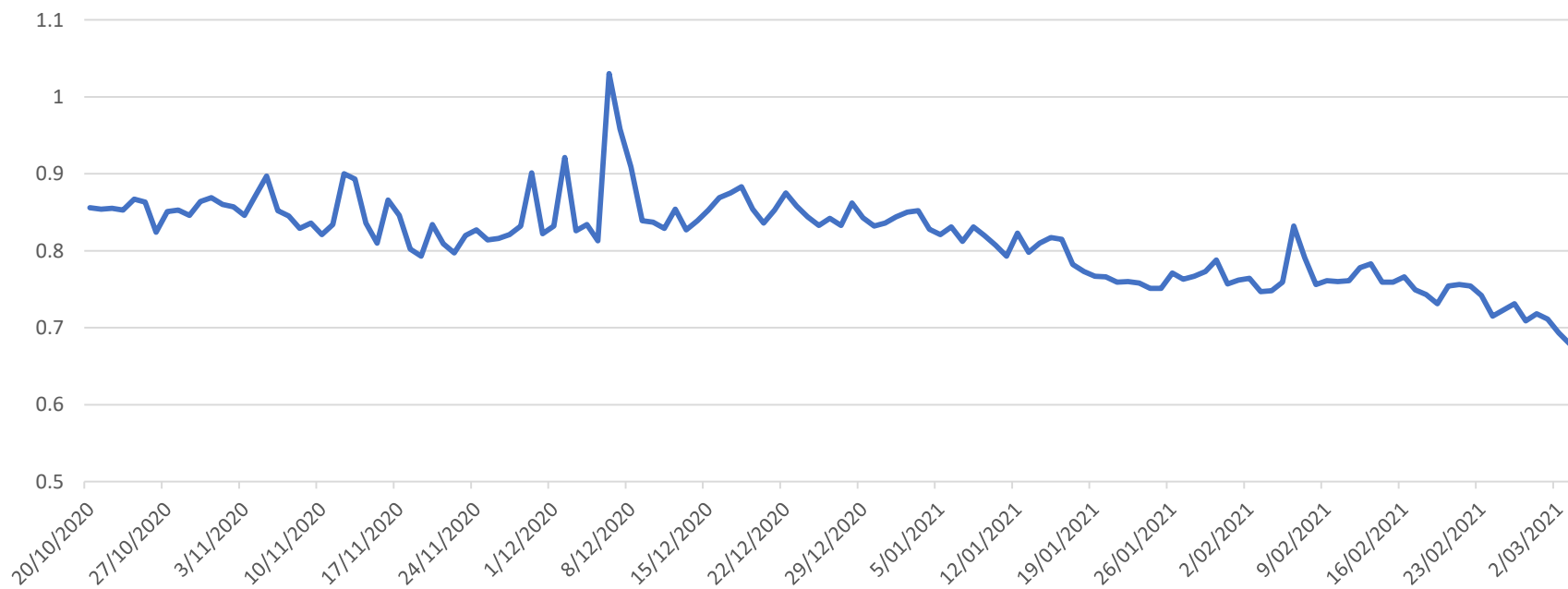
- Need to see salinity levels decrease prior to sowing 'at risk areas'
- Different areas might have slightly different causes

Open Discussion – Questions?

Depth to Water table Roby Downs



Lake level - Pomanda Point (m)



Acknowledgements



Murraylands River Murray
Landscapes Board

Limestone Coast Landscapes Board



Farmer Participants
Agribusiness Sponsors



Acknowledgements

- Amazing landholders

- Bluey Roberts
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- Mick Patterson
- Neville White
- Booderoo Pastoral, Tim Freak
- Brad Kleinig
- Stewart & Emma Williss
- Cartledge Family, Menalbyn

- Agribusiness Sponsors

- Landmark
- Platinum Ag
- Elders
- Heritage Seeds
- Seednet



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Natural Resources Management Board



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PATHWAY TO IMPROVEMENT

