Lake Mealup

Ramsar TAG 8 March 2018

Monitoring results compared to limits of acceptable change
(Peel-Yalgorup System Management Plan, 2009)

Component	Limits of acceptable change	Lake Mealup 2017-2018
Phosphate P	<30 ug/L	100 - 300 ug/L
Ammonia N	<40 ug/L	100 - 600 ug/L
Oxidised N	<100 ug/L	100 - 300 ug/L
Salinity	<1,000 mg/L	600 – 2,200 mg/L
pH		7.0 – 7.8
Phytoplankton		Algal blooms in summer/autumn
Aquatic plants	<50% coverage of floating aquatic plants	No floating plants
Littoral vegetation	<20% typha coverage >20% fw sedges	No typha No sedges
Paperbarks	No decline in health or extent	No significant change
Invertebrates	Sufficient to support waterbird populations	Increase in numbers and species since 2009

Water level management

- Water level successfully maintained in 2017 and 2018 to avoid drying of the lake bed in autumn.
- Inadequate monitoring during high rainfall in August 2017 resulted in overfilling of lake (1.7 m AHD compared to target 1.3 m AHD) and backup in Mealup Main Drain causing concern to some neighbours.

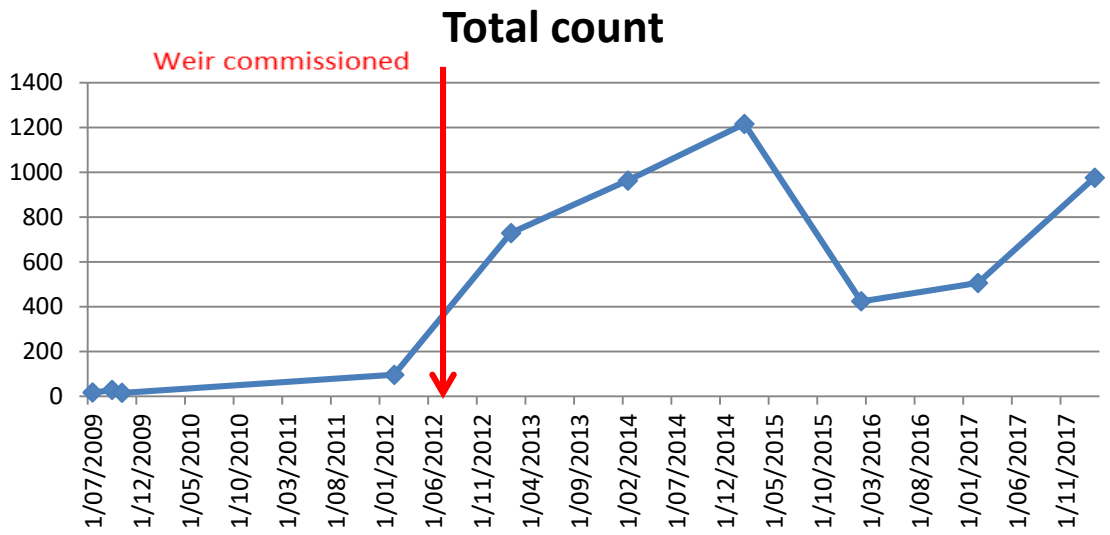
Water level management

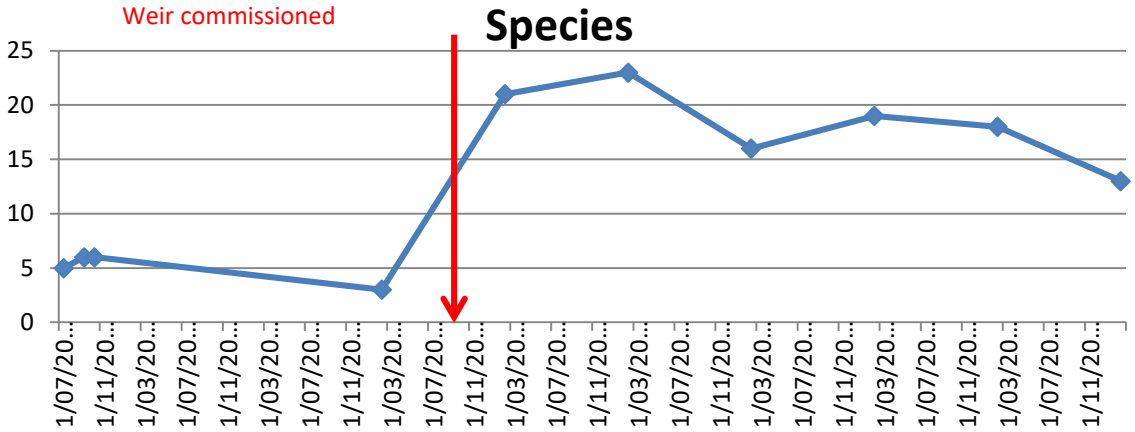
- Weir gates maintained in February 2018; currently open. Stopboards remain in place in culvert to prevent potential estuarine storm inflows.
- In accordance with weir operating guidelines, when winter rains start, weir gates will be lowered to 1.3 m and stopboards in culvert removed.

Management actions

- Lake Mealup TAG oversight.
- Monthly water level and quality monitoring.
- Annual Shorebirds 2020 counts; plus ad hoc waterbird counts.
- Flow and hydrology investigations.
- Signage installed to warn visitors about potentially harmful algae.
- Weed surveys and control work – typha, cotton bush, watsonia, arum lily.
- Vegetated floating islands to provide roosting and breeding habitat – under consideration.

Shorebirds 2020 count results 2009 -2018





Management actions (continued)

- Feral animal control
  - Foxes
  - Pigs
- Revegetation

Some future challenges/opportunities

- Defining and achieving a water level regime to optimise water quality.
- Providing additional habitat types for birds that use emergent vegetation.
- Potentially integrated water level management with Lake McLarty.
- Resourcing – particularly human resources!