

Swan Canning Estuary Water Quality Monitoring Project

Weekly Water Quality Report

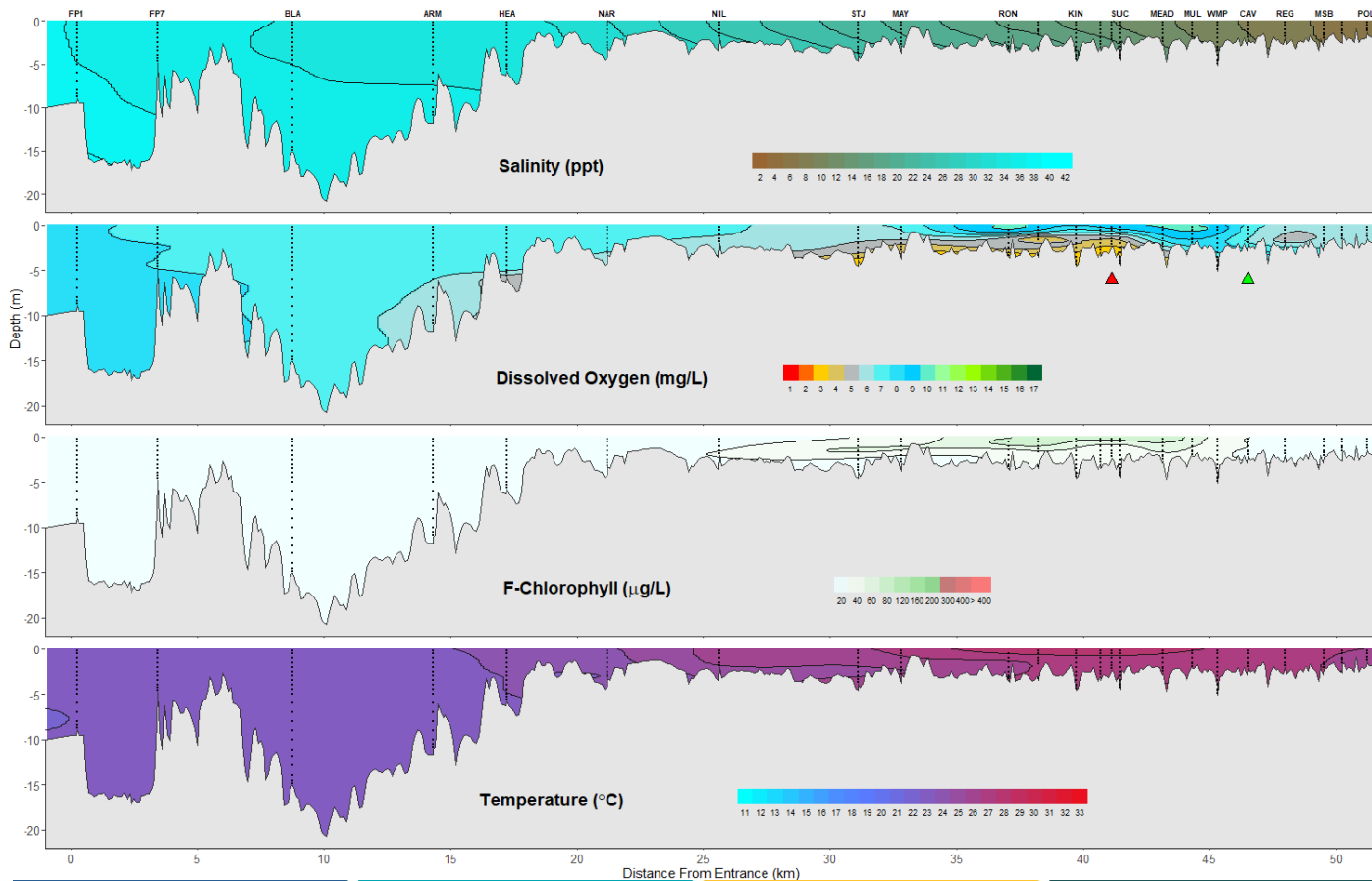
Lower Swan Canning Estuary to Upper Swan Estuary

21st December 2020

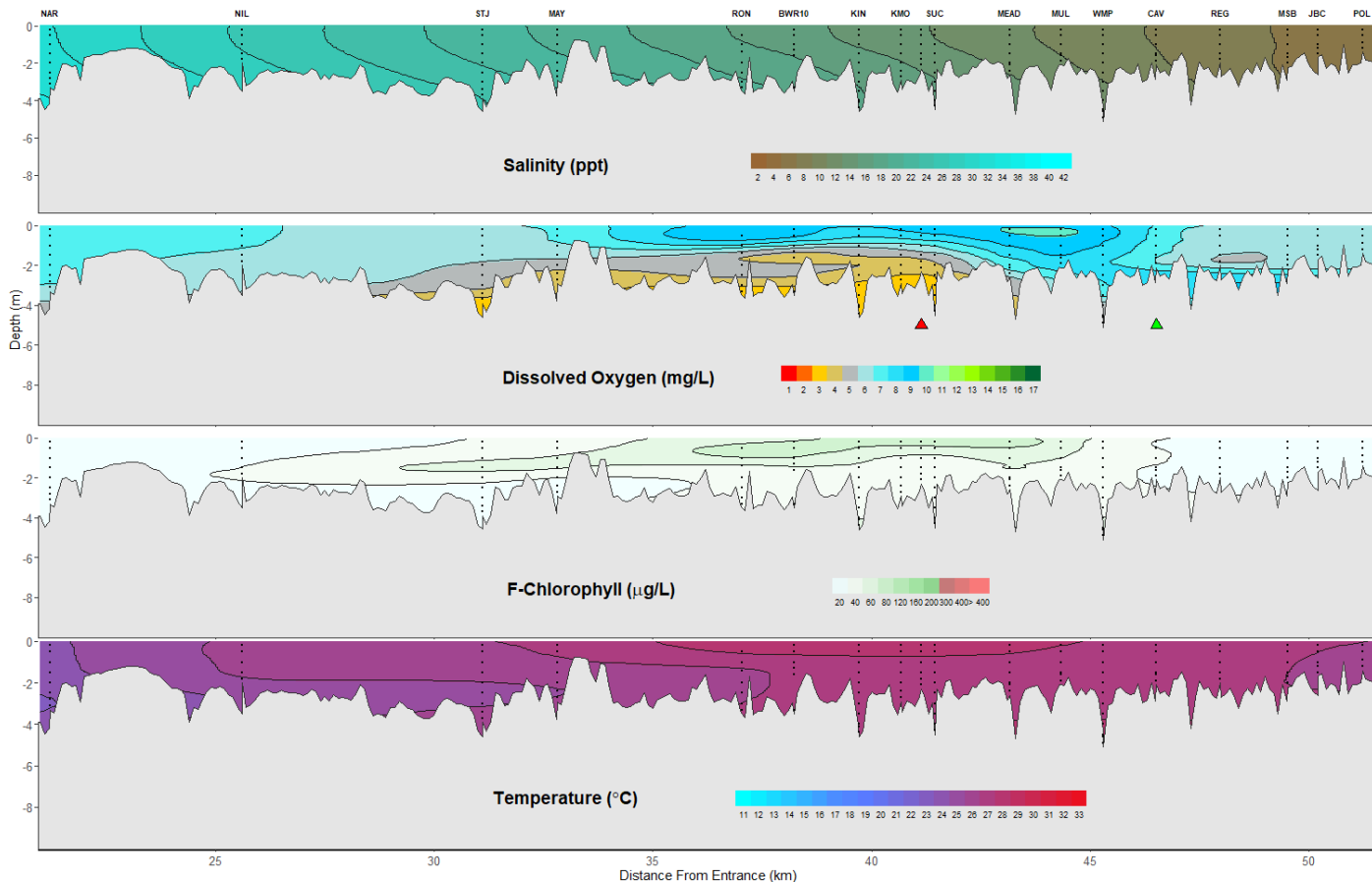
Prepared by

Rivers and Estuaries Science
Biodiversity and Conservation Science
Department of Biodiversity, Conservation and Attractions

Swan Canning Estuary- Water Quality Profiles- 21st December 2020



Middle and Upper Swan Estuary- Water Quality Profiles- 21st December 2020



Date: 21st December 2020

Weather & tide conditions: Conditions were clear with predominantly easterly breeze of up to 9 knots. The predicted tides at Barrack St were 0.91 m at 12:10 am (high tide overnight), 0.60 m at 11:03 am (low tide) and 0.87 m at 11:10 pm (second high tide). Perth recorded no rainfall during the week prior to sampling (Bureau of Meteorology).

Oxygenation: The Guildford oxygenation plant was not operational and Caversham oxygenation plant was triggered to provide oxygen during the 24 hours prior to sampling.

Lower Swan Canning Estuary (FPI to NAR): The Lower Swan Canning Estuary was saline and waters were oxygenated or well oxygenated. Chlorophyll fluorescence was low throughout this zone. Water temperature ranged from 22.0 to 23.8 °C.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was saline at NIL and brackish from STJ to RON. Surface waters were oxygenated or well oxygenated and bottom waters were low in oxygen between STJ and RON. Chlorophyll fluorescence was elevated between STJ and RON indicating higher microalgal activity in that area. Water temperature ranged from 24.8 to 27.0 °C.

Upper Swan Estuary (BWR10 to POL): The Upper Swan Estuary was brackish. Surface waters were oxygenated or well oxygenated and bottom waters were low in oxygen between BWR10 and SUC. Chlorophyll fluorescence was highest at MEAD indicating higher microalgal activity in that area. Water temperature ranged from 25.6 to 27.9 °C.

NB: Profile plots are visual interpolations of measured parameters only. Detailed data are available at wir.water.wa.gov.au.

Oxygenation Plant Operational Status:

- ▲ Operating for part or all of the 24 hours prior to sampling
- ▲ Operable but not triggered to operate in the 24 hours prior to sampling
- ▲ Inoperable for part or all of the 24 hours prior to sampling

Definitions:

Salinity – fresh <5, brackish 5-25, saline 25-35, hypersaline >35
Dissolved oxygen – well oxygenated >6mg/L, oxygenated >4-6mg/L, low oxygen >2-4mg/L, hypoxic 0.5-2mg/L, anoxic <0.5mg/L

Recommended reference: Department of Biodiversity, Conservation and Attractions 2020. *Swan Canning Estuary water quality profile report, Lower Swan Canning Estuary to Upper Swan Estuary 21st December 2020*. Rivers and Estuaries Science (<https://www.dpaw.wa.gov.au/management/swan-canning-riverpark>)