

Swan Canning Estuary Water Quality Monitoring Project

Weekly Water Quality Report

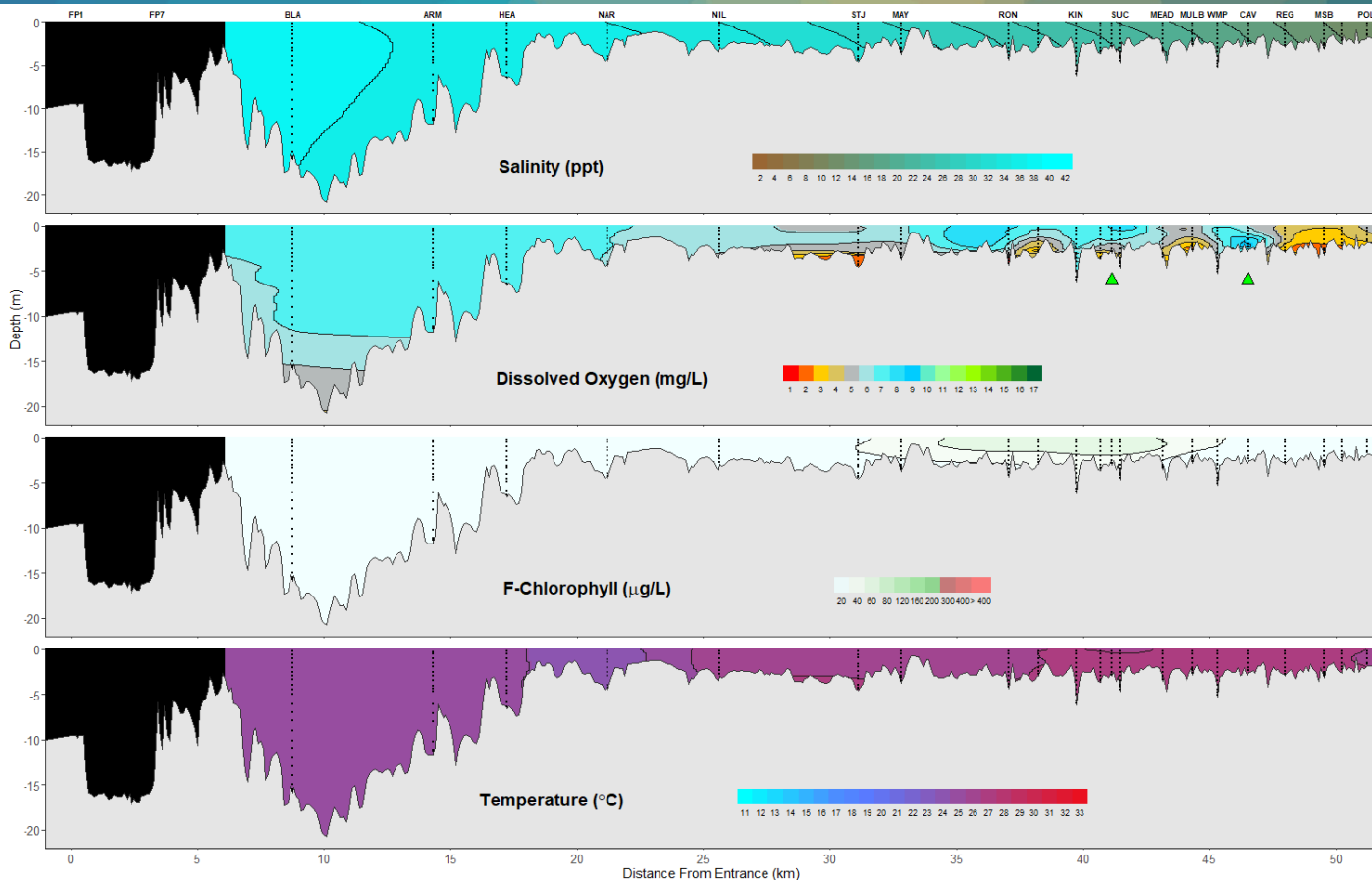
Lower Swan Canning Estuary to Upper Swan Estuary

7 February 2022

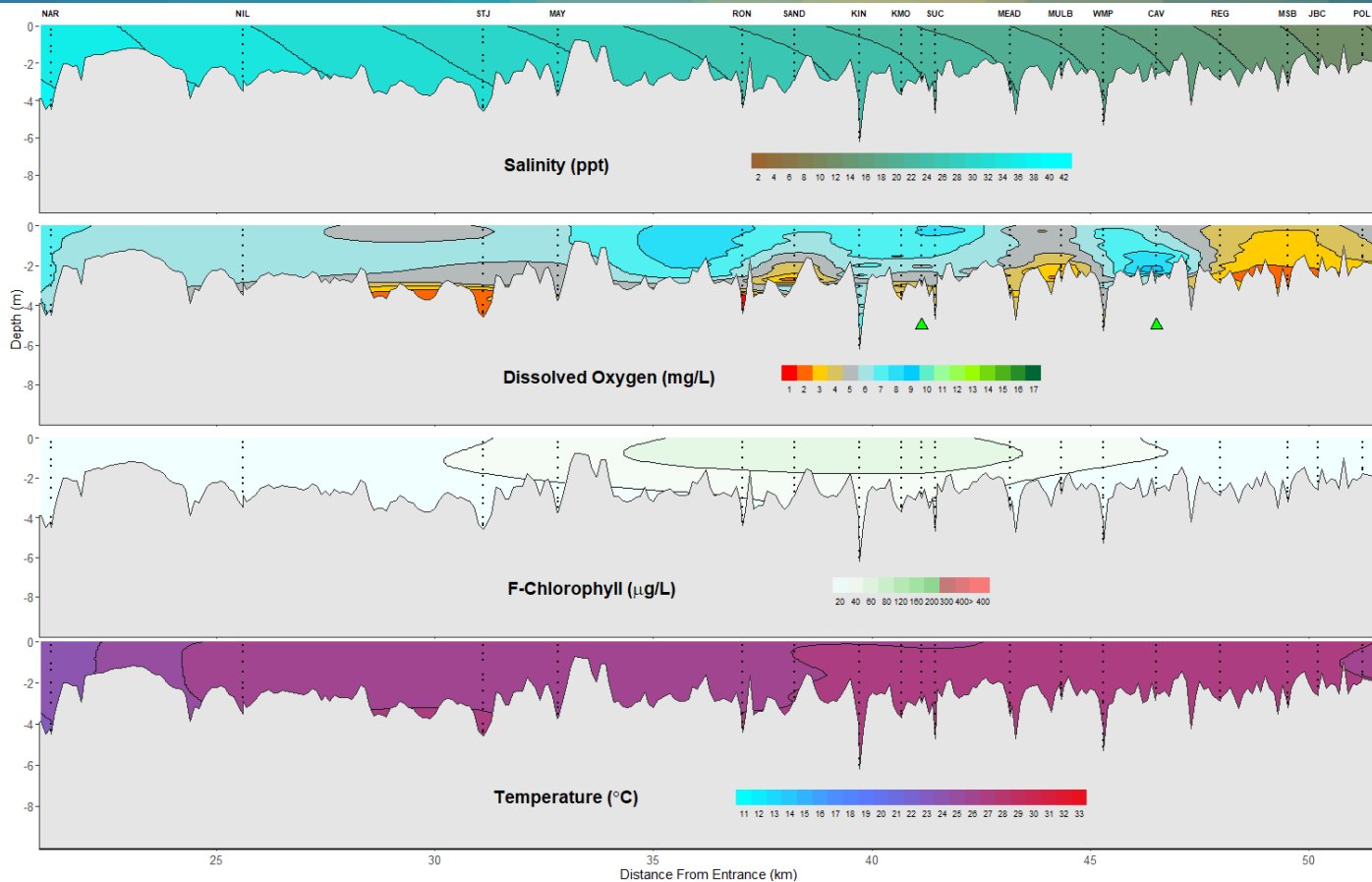
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Swan Canning Estuary- Water Quality Profiles – 7 February 2022



Middle and Upper Swan Estuary- Water Quality Profiles – 7 February 2022



Date: 7 February 2022

Weather & tide conditions: Conditions were slightly overcast with a south-westerly breeze of up to 15 knots. The predicted tides at Barrack St were 0.63 m at 7:18 am (low tide) and 0.95 m at 4:23 pm (high tide). Perth recorded 0.8 mm of rainfall during the week prior to sampling (Bureau of Meteorology).

Oxygenation: The Guildford and Caversham oxygenation plants were both triggered to provide oxygen during the 24 hours prior to sampling.

Lower Swan Canning Estuary (BLA to NAR): The Lower Swan Canning Estuary was saline, waters were oxygenated or well oxygenated and chlorophyll fluorescence was low throughout this zone. Water temperature ranged from 22.9 to 24.3 °C.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was saline. Surface waters were oxygenated or well oxygenated and bottom waters were hypoxic at STJ and anoxic at RON. Chlorophyll fluorescence was moderate at RON indicating higher microalgal activity in that area. Water temperature ranged from 25.1 to 26.7 °C.

Upper Swan Estuary (SAND to POL): The Upper Swan Estuary was brackish except bottom waters at SAND which were saline. Surface waters were oxygenated or well oxygenated between SAND and CAV and low in oxygen from REG to POL. Bottom waters were low in oxygen at SAND, KMO and SUC and from MEAD to WMP and JBC to POL and hypoxic at MSB. Chlorophyll fluorescence was moderate at KMO, SUC and MEAD indicating higher microalgal activity in those areas. Water temperature ranged from 24.5 to 27.1 °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 >6 mg L⁻¹, oxygenated >4-6 mg L⁻¹, low oxygen >2-4 mg L⁻¹, hypoxic 0.5-2 mg L⁻¹, anoxic <0.5 mg L⁻¹
Chlorophyll fluorescence (summer): low < 50 µg L⁻¹, moderate 50-150 µg L⁻¹, high 150-400 µg L⁻¹, extreme > 400 µg L⁻¹