



**Environmental Monitoring and Reporting
Swan River Estuary ~ Weekly profile**

by
Water Science Branch, Department of Water

Date: Monday 20th February 2017

Swan run: FP2.1 (08:29) upstream to MAY (11:36) on the Kwilana. Crew of Rebecca Firth, Mark Brettnall, Richard Tunnicliffe and Digby Veling. The YSI 6600 V2 #1 was used and there were no problems with the equipment. STJ was not profiled all the way to the bottom as the flow was too strong to profile deeper. FP1 could not be sampled due to high swell.

Upper Swan run: POL (09:44) downstream to RON (11:26) on the Marli. Crew of Andrew Sayce and Rainer Kellen. The YSI 6600 V2 #3 was used and there were no problems with the equipment. Profile readings were only taken at 0.2m for all sites as the flow was too strong to get readings any deeper.

Weather & tide conditions: Conditions were fine with up to 50% cloud cover and a south westerly breeze of up to 9 knots. The predicted tides at Guildford were 0.59 m (low tide) at 07:02 and 0.98 m (high tide) at 19:04. Perth recorded 0 mm of rainfall during the week prior to sampling (Bureau of Meteorology).

Additional samples: Two sites in the lower estuary were sampled as part of the Fremantle Port Marine Quality Monitoring Program. One site in the lower estuary was sampled as part of the Swan Compliance Monitoring program.

Oxygenation: The Guildford and Caversham oxygenation plants were operational during the week prior to sampling.

Lower Swan/Canning Estuary (FP2.1 to NAR): The Lower Swan Estuary was brackish on the surface and hypersaline to saline on the bottom at all sites, with the exception of NAR which was fresh throughout. Water was well oxygenated to oxygenated, with the exception of low oxygen to hypoxic to near anoxic bottom water at BLA, ARM and HEA. Water temperature ranged from 22.2 to 26.0 °C.

Middle Swan Estuary (NIL to MAY): The Middle Swan Estuary was fresh and well oxygenated to oxygenated throughout. Water temperature ranged from 25.8 to 26.3 °C.

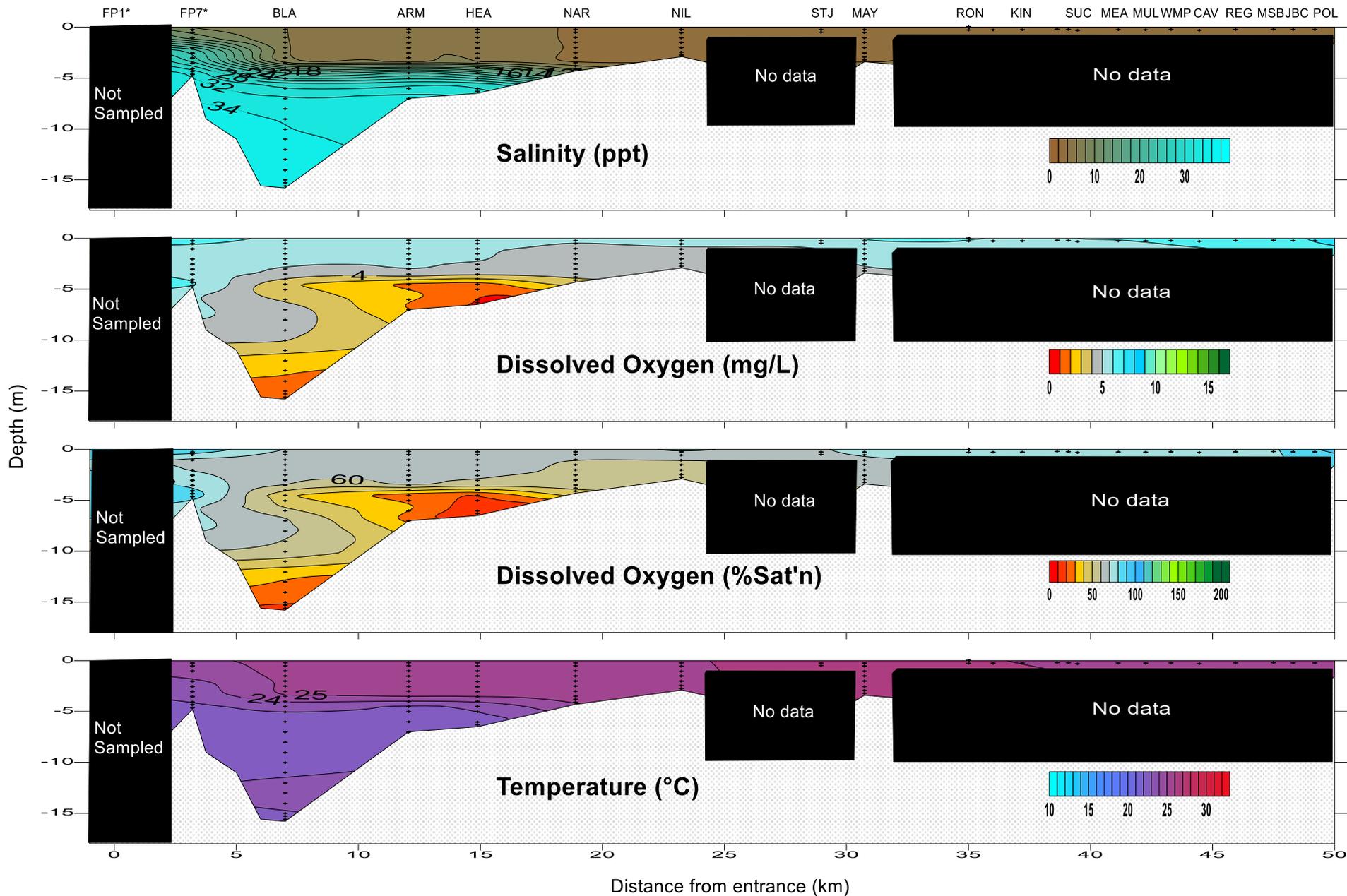
Upper Swan Estuary (RON to POL): The Upper Swan Estuary was fresh and well oxygenated to oxygenated on the surface of all sites. Water temperature ranged from 25.7 to 26.1 °C.

Definitions:

Salinity – fresh <5ppt, brackish 5-25ppt, saline 25-35ppt, hypersaline >35ppt

Dissolved oxygen – well oxygenated >6 mg/L
oxygenated >4 to 6 mg/L, low oxygen >2 to 4 mg/L,
hypoxic >0.5 to 2.0 mg/L, near anoxic <0.5 mg/L

Swan River Estuary - Physical-chemical Profile - 20th February 2017



*Data for sites FP1 (Harbour entrance) and FP7 (Fremantle Bridge) are supplied courtesy of the Fremantle Port Authority