



# Capability Statement

## Coastal Water Discharge Permit and Monitoring

Client : ESKOM



### REQUIREMENTS

- Discharge licences are required for any water used in industrial processes on land, contaminated stormwater runoff passing through man-made structures as well as freshwater or seawater used as cooling water.
- KNPS discharges heated cooling water back into the sea, with co-discharges that may generate chronic and/ or acute effects on biota in the receiving environment. Following the promulgation of the ICMA the KNPS was required to re-apply for authorization for their discharge via the CWDP process.
- Lwandle was required to assess the risks to marine ecology in the receiving environment linked to the combined discharge of cooling water and effluents from power plant operations at the KNPS.

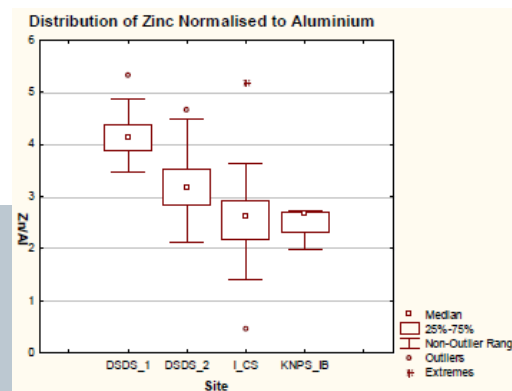
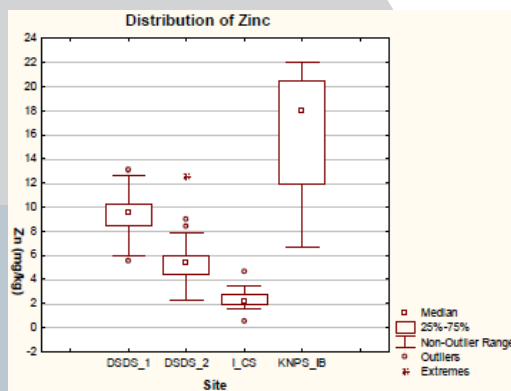
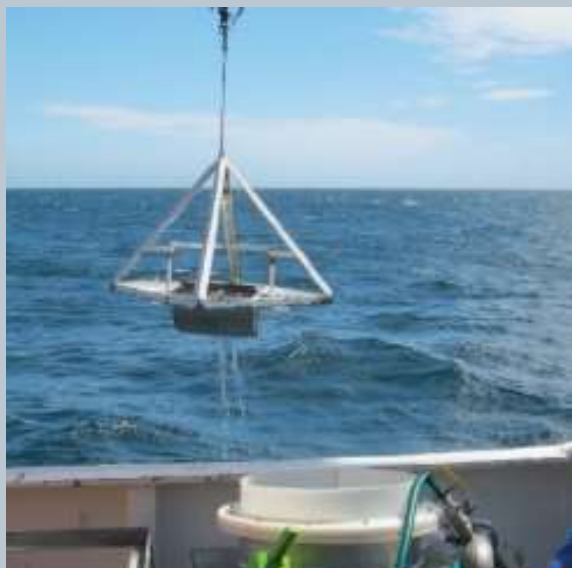
- Determination of appropriate site-specific water quality guidelines for the discharge constituents with the environmental quality objective of protecting the ecosystem functioning.
- Evaluation of the ecological risks associated with the discharge through interpretation of model results and the predicted duration and exposure risks of sensitive habitats and species.
- Recommendation of a marine environmental plan to determine the plume behaviour and the synergistic effects of the discharge constituents on the marine ecology.

### WORK DONE

Baseline description of the marine environment surrounding the discharge including including a literature review on local marine ecology and a sediment properties and benthos survey. Latter focused on the KNPS Intake Basin (KNPS\_IB) compared to reference sites.

### OUTCOMES:

Lwandle provided a detailed and thorough impact assessment on the marine ecology in the vicinity of the KNPS discharge as well as the development of appropriate environmental guidelines for the chemicals discharged by the KNPS. A monitoring programme was also compiled which was consistent with the requirements set out for coastal water discharges by the DEA.



**“Identification of marine impacts associated with industrial waste water discharge; and the development of environmental guidelines and monitoring criteria for relevant chemicals.”**