

# Inter-basin water transfer effects on the invertebrates of the Mvuzane River: A test of the SASS rapid biomonitoring protocol to assess the impact of flow modification

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## **Abstract**

Effects of the transfer of water from the Thukela to the Mvuzane River were investigated using the SASS rapid bioassessment technique and more quantitative methods of guild composition and community analyses. Although the transfer was relatively small ( $< 1 \text{ m}^3/\text{s}$ ) it completely dominated natural flows in the recipient system. SASS monitoring was found to be useful as a rapid, field-based assessment of water quality and can be used to act as a 'red flag' to problems in the future. However, it was not sensitive to changes in the community structure at different sites and was inefficient as a tool to investigate the wider ecological impacts of the transfer scheme, most notably those associated with flow modification. Changes in the invertebrate fauna were most easily explained in terms of the effect of increased flow velocities and volumes on taxa that were classified as 'swimmers' and 'skaters'. Impacts via disruption to trophic pathways cannot be discounted and will most certainly occur with prolonged water transfer.