

# Options for meeting the ecological Reserve for a raised Clanwilliam Dam

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## Abstract

A recent evaluation of the potential raising of Clanwilliam Dam included an assessment of whether the operation of the dam would meet the flow quality and quantity requirements for the protection of the downstream river and its estuary, taking Olifants/Doring River basin-level considerations into account.

The implications of meeting the ecological Reserve of the Olifants River downstream of Clanwilliam Dam to Bulshoek Weir, downstream of Bulshoek Weir to the confluence with the Doring River, and at the estuary, were assessed in terms of the impact on system yield. Some adjustments were made to the ecological Reserve to maximise the yield from a raised Clanwilliam Dam, in return for protection of the vitally important Doring River. Irrigation releases from Clanwilliam Dam were also restructured so that they met the ecological Reserve requirement for small floods of short duration to promote spawning in Clanwilliam yellowfish (*Labeobarbus capensis*). The assessments presented demonstrate that small adjustments in the requirements that form the ecological Reserve can greatly enhance the possibility, and reduce the costs, of successful implementation.

**Keywords:** Clanwilliam Dam raising, Clanwilliam yellowfish, ecological Reserve, ecological condition, environmental flows, water management tradeoffs