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EXPERIMENTAL FISHERY AT VANDERKLOOF

Since December 2015, SACRAA has been a member of an Advisory Group (AG) comprising representatives from national and provincial government, NGOs, local stakeholders and Rhodes University, specifically the Department of Ichthyology and one of its components, the Rural Fisheries Programme (RFP). The RFP is under contract to the Northern Cape Department of Agriculture Land Reform and Rural Development (DALRRD) to investigate the feasibility of developing a small-scale commercial fishery at Vanderkloof Dam in order to help address both issues of poverty and basic nutritional needs. To ascertain whether such a fishery would be feasible, Rhodes is conducting a **two-year experimental fishery** to determine firstly whether it could be biologically sustainable and secondly whether it would be economically viable, ie can the fish be marketed and sold to sustain a commercial enterprise.

Using sound fisheries principles it makes sense to conduct an experimental fishery first rather than rushing in and trying to start a commercial venture, particularly in the absence of fisheries-specific information (e.g. stock availability, seasonality, susceptibility to gear types) on the target species. The data collected during the two-year experiment will be used to make an informed decision on the best way to proceed. The operation is restricted to the area from the dam wall to Osplaat, roughly 30% of the dam, although activities since fishing started in August have concentrated on areas in the immediate vicinity of the town of Vanderkloof.

The experimental fishery is guided by a Fisheries Management Plan (FMP) that has been developed by the AG since December 2015. The FMP details the use of gill nets, longlines, Fyke nets and seine nets and sets limits on catches by species as well as data collection, analysis and monitoring requirements. The recommendations detailed in the FMP have provided the basis for the permit conditions and exemptions issued by both provincial (Department of Environment and Nature Conservation: DENC) and national (Department of Environmental Affairs: DEA) government departments.

Based on our concern for the potential impact of gill nets on the Largemouth yellowfish (LMY) in particular we tried to motivate for the exclusion of these nets but when it became clear permits were going to be issued we were left with two choices, namely to oppose the project on legal grounds which would mean leaving the AG, or to continue working with the AG where we could monitor and contribute to activities from within. We chose the latter approach and were able to introduce a limit of 20 LMY per month as part of the FMP and permit conditions. The rationale was if this limit was reached at any stage, the gear responsible would not be allowed for the remainder of that month. I have been told by some sceptics that there is no way to ensure that this is adhered to and that the chances of compliance are slim therefore the project should be stopped. I see two caveats in this argument. Firstly the research is being conducted by a respected department (Ichthyology) from a respected tertiary institution (Rhodes) who have nothing to gain and all to lose if they do not comply with the FMP and permit conditions. Secondly, if non-compliance is grounds for not proceeding with the fishery experiment then we need to look no further than our own fishery, where levels of non-compliance amongst recreational anglers also exist; do we then close the recreational fishery? No, we engage authorities to fulfil their mandate to monitor, and educate anglers on why compliance is necessary to ensure the future of our fishery.

The AG has an oversight role to ensure the experimental fishery adheres to the FMP and permit conditions and meets every six months to review progress and discuss ways to improve all aspects related to the project. The research team on site is headed by a Fisheries Officer and three staff who crew a barge. Gear is set in the evening, left overnight and then retrieved the following morning. Fish are placed in bins and labelled with the gear type with which they were caught and returned to a laboratory where data is collected. All LMY that are still alive when retrieving the gear are quickly measured and returned to the water. The lengths and weights of all fish are documented and a subsample of each species is further analysed for gonad state and weight. In addition all dead LMY receive a full work-up and otoliths are taken for ageing studies. Despite comments on social media, extensive work has been done on all the species that are caught and details of feeding and reproductive biology as well as age & growth have been published in the primary scientific literature.

The fish are then sold at the lowest possible price to the kraal fishers (people utilizing kraal-type traps below the dam wall) who the market the fish as they see fit. Investigations are still underway to determine a pricing structure. There is a strict protocol to be followed in the sale of fish:

- An invoice (in triplicate) will be issued (copies for seller on site, buyer and Rhodes Finance), and all sales are cash on delivery, i.e. no credit.
- Cash is deposited in an FNB account in Luckhoff and copy of deposit slip sent to Rhodes Finance, who will also receive a copy of the cash book once a month.
- At the end of the experiment/project the money will be transferred to DALRRD who will use it to support the fishery moving forward, i.e. Rhodes does not benefit financially.

Since fishing started in August 2018, the gill nets, as expected, have proven to be effective in catching smallmouth yellows and mudfish, and longlines have been successful at targeting barbel. The Fyke nets have been the least successful and no seine netting has yet been done. A total of 54 LMY have been caught, of which 46 have been released, i.e. eight mortalities. While it was expected that LMY caught on the longlines would still be alive and therefore released, and unexpected bonus was that many LMY appear not to have been entangled in the gillnets, especially the smaller mesh size, and were snared only on a pectoral or pelvic fin. These too were safely released. The experimental fishing will continue as planned. Once a year's worth of data has been collected (July next year), Rhodes will produce a comprehensive report on all aspects, which will be circulated to AG members for review prior to the next meeting on 22 August 2019 when it will be discussed and options to adapt activities to improve the experimental fishery will be investigated. At present SACRAA is satisfied with the way the experiment is proceeding.

The **Draft Inland Fisheries Policy** developed by DAFF has already undergone the first round of public participation. Once DAFF have completed a roadshow for rural communities and amendments resulting from the public participation process have been included, a second draft will be made available for review and comment (probably not before February 2019). The policy in essence aims to address the lack of fisheries-specific legislation for inland waters and will do away with the old provincial ordinances that briefly dealt with fisheries under their nature conservation laws.

A major objective of the policy is to develop inland fisheries for the benefit of rural communities. What this means is that in future there will be a lot of pressure to develop fisheries on many of the rivers and dams around South Africa. SACRAA views the experimental fishery at Vanderkloof as a pilot project in this regard and welcomes the opportunity to be involved in developing a blueprint upon which all future fisheries development projects may be based. By using an experimental fishery to collect data, role players can determine both biological sustainability and economic viability and therefore make an informed decision on how to proceed.

This process will define how inland fisheries are developed in the future. It is a reality that we need to accept and become involved in or else we, as the recreational fishing sector, will be left behind. We urge all recreational anglers to respect this process underway at Vanderkloof with the knowledge that at its conclusion decisions will be fact-based and not emotionally driven.