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Mr Thinus Jonker  
Northern Cape DALRRD  
Private Bag X9  
Jan Kempdor, 8550

**Re: Experimental fishery - Vanderkloof Dam.**

Dear Thinus

SACRAA and SASACC would like to provide input into two issues for members of the committee to take into consideration before the drafting of the Experimental Fishery Management Plan that is scheduled to be tabled and discussed at the meeting on 26 March 2015. These are the proposed use of gillnets and the Business & Marketing Plan.

In order to place our concerns into perspective, and because we fear that stakeholders have not been adequately informed in this regard, we provide the following information in terms of the conservation status of the Largemouth Yellowfish (LY) and the requirements in terms of the NEM: Biodiversity Act (Act 10 of 2004; NEM:BA).

***Conservation status***

We all know the IUCN rating for LY is Near Threatened, but was this explained in any detail to the stakeholders? The impression one gets from the process thus far, is that because Near Threatened does not mean endangered it is ok to have this as either a target or by-catch species in a gillnet fishery. A more complete understanding of the IUCN classification and NEM:BA listings is required, and should be explained to all stakeholders.

Under the IUCN classification, a taxon is Near Threatened when it does not qualify for Critically Endangered, Endangered or Vulnerable now, *but is close to qualifying for or is likely to qualify for a threatened category in the near future*. Furthermore, according to the SANBI Guide to Red Lists (and their use in conservation), localized endemics, threatened, near threatened and data deficient species (such as LY) are collectively called species of conservation concern, and are included in planning targets and other priority-setting exercises. Researchers have also stated that there is concern about LY population densities across its range, which suggests that this species could be listed in a threatened category in the future. From a conservation perspective, the LY is potentially in deep trouble.

According to the list of threatened (i.e. critically endangered, endangered & vulnerable) and protected species published as Notice No. R151 in Government Gazette No. 29657 (23 Feb 2007) in accordance with Section 56(1) the NEM:BA, the LY is listed as Vulnerable. This refers to an *indigenous species facing a high risk of extinction in the wild in the medium-term future*, although they are not a critically endangered. According to Section 57(1) of the NEM:BA, no person may carry out a restricted activity involving a specimen of a listed threatened or protected species without a permit issued in terms of Chapter 7 (Section 87ai). In terms of Chapter 1 of NEM:BA, a restricted activity in relation to a threatened or protected species includes:

- hunting, catching, capturing or killing any living specimen by any means, method or device whatsoever, including searching, pursuing, driving, lying in wait, luring, alluring, discharging a missile or injuring with intent to hunt, catch, capture or kill any such specimen; and
- selling or otherwise trading in, buying, receiving, giving, donating or accepting as a gift, or in any way acquiring or disposing of any specimen.

The above must be read in conjunction with Regulation 3 of the Threatened or Protected Species Regulations (TOPS; Notice No. R152 dated 23 February 2007, published in Government Gazette No. 29657) drafted in terms of Section 97 of the NEM:BA, which also deals with the permit requirements in terms of restricted activities relating to threatened and protected species. Such permits must be issued either by the Minister or the MEC depending on circumstance.

In addition to these classifications and requirements, the LY is an apex predator, usually occurs in low numbers, is slow growing (13 to 20 years) and matures at a late stage (6 to 8 years or more) with 50% sexual maturity estimated at 45 cm FL. Scientists have also stated that catching them for food may deplete local stocks to the point of extinction, and as an apex predator it accumulates toxins and may not be safe to eat. All of this points to a species that needs to be conserved and should most certainly not be considered as either a target or by-catch species in any form of commercial fishery.

## 1. GILLNETS

Perhaps the biggest bone of contention from the recreational sector's point of view with regards the proposed experimental fishery at Vanderkloof Dam is the use of gillnets and the threat these pose to the indigenous fish species, in particular the yellowfish species. Recreational angling recognises the need to develop inland fisheries that provide food and, to a lesser degree, financial security for rural communities, but not when vulnerable indigenous fish species are targeted.

### ***Motivation against use of gillnets***

- According to Regulation 95(2a) of the Northern Cape Nature Conservation Regulations (General Notice 19 of 2012 Published in NC Provincial Gazette Extraordinary No. 1589 13 April 2012), the Director may only issue a permit to utilise a net for the harvesting of fish if – “the fish species to be harvested is not a specially protected or a protected species.”

According to Schedules 1 and 2 of the Northern Cape Nature Conservation Act (Act 9 of 2009), *Labeo umbratus* (moggel), *Labeobarbus aneus* (Smallmouth yellow) and *Labeobarbus kimberleyensis* (Largemouth yellow) are all specially protected species and *Labeo capensis* (mudfish) is a protected species.

- According to Schedule 1b of the NC Nature Conservation Act (Proclamation No. 3 of 2012 published in Provincial Gazette Extraordinary No. 1656 dated 19 December 2012), both small and largemouth yellows are classified as catch & release only.
- A review of some of the literature (see reference list at end) that describes studies at !Gariiep and Xonxa Dams and case studies from the North-West that made use of a variety of gear-types, shows that gillnets do not appear to be effective for barbel and carp but are highly effective at catching indigenous species. So while we are led to believe that barbel and carp will be the main target species, the proposed use of gillnets does not support this statement. Gillnets will catch significant amounts of yellowfish, while catches of carp and barbel will be only incidental. Despite the minimal amount of effort the results from the brief survey conducted at Vanderkloof also

support this. Mr Rouhani from the Rural Fisheries Programme (RFP) must be aware of these studies as he would have come across them while reviewing the relevant literature. In addition, Mr Rouhani is a co-author on the one paper, and all the other authors are colleagues at either DIFS or SAIAB. The RMP for Vanderkloof (DWA 2014) also lists netting as a destructive method of fishing which catches threatened fish species. Given this, we can't understand why the Rural Fisheries Programme wants to persist with gillnets when alternatives, which have been recommended in the nearby !Gariiep Dam (which has a similar species composition), are available. Apart from the selectivity issue with gillnets, an additional concern is that fish (such as yellows) cannot be returned alive if they have been caught in a gill net. Long-lines and rod & line (handline) on the other hand are very effective at catching barbel and carp.

Based on this, we would like to submit the following representations for committee members to consider before the meeting on March 26.

- According to the NC Nature Conservation Regulations, a permit for the use of gillnets may not be issued if any of the species referred to in sub-section (i) above are harvested. Although not the intended target species, they will be caught and they will die, i.e. they will be harvested. When you take this into account and read in conjunction with the NEM:BA requirements and TOPS Regulations, there is no conflict between the National and Provincial legislation (in terms of Section 146 of The Constitution), which means that a decision may be based on the Provincial ordinance. Based on this alone, gillnets may not be contemplated as a gear-type in the proposed fishery (experimental or ssf), i.e. this becomes purely a legal issue, where requirements under Provincial legislation must be adhered to. We are not aware of any process that is envisaged or that is underway to amend the existing legislation.
- In accordance with the requirements of Schedule 1b referred to in sub-section (ii) above, gillnets should not be contemplated as any yellowfish caught will be killed.

Even when one puts the legal consideration aside, the following aspects also need to be considered:

- The studies referred to in sub-section (iii) above were conducted over extended periods by leaders in the field of freshwater fish and rural fisheries and should be used to guide the process at Vanderkloof. Gillnets are not recommended if the target species are carp and barbel and in the case of !Gariiep Dam, a gillnet fishery was not recommended due to their effectiveness in catching yellowish. A range of mesh sizes were used, with smaller mesh catching smallmouth yellows and juvenile largemouth yellows, and larger mesh catching largemouth yellows. We feel that it is unnecessary to repeat a similar study at Vanderkloof, i.e. an experimental fishery using gillnets, and that the committee should instead use the findings from the studies as a starting point, at least in terms of gear selection.
- Long-lines are extremely effective at targeting large barbel, and by-catch of other species is incidental and does not include yellowfish. We recommend that this technique be employed at Vanderkloof. A maximum number of 200 hooks (i.e. twenty long-lines with 10 hooks each) was proposed for the !Gariiep fishery. If we take the relative size of the two dams into account, the experimental fishery should consider seven lines with 10 hooks (i.e. 70 hooks) as a starting point. Any by-catch of yellows can be released.
- Carp can be effectively targeted using conventional rod & line (or handline) techniques. Subsistence fishers at !Gariiep are very effective at catching this species in this way – they average two fish/day/person with an average weight of 2kg (as many as 10 fish per day have been recorded). They also catch mudfish using this method and smallmouth yellows could also be targeted with the right baits (smallmouth yellows comprised up to 7% of the rod & line catch in one of the !Gariiep studies). Barbel will also be a by-catch of this method. Any by-catch of

Largemouth yellows can be released. SASACC, in cooperation with local angling clubs, would be happy to hold clinics where the necessary skills, as well as gear maintenance, are taught to the community. This would be an ongoing initiative and will foster a good relationship amongst the Vanderkloof community as a whole.

- Fyke-nets are also an option. They can be set shallow or deep and will catch a variety of species. The key to this gear from our perspective is that fish are kept alive in the nets and species such as Largemouth yellows can be returned, i.e. not harvested and therefore allowed in terms of the NC Nature Conservation Regulations. Small fish captured in these nets can be used to bait the long-lines (dead bait only, as live-bait will attract Largemouth yellows).
- The following statement from a review paper by Weyl *et al.* (2007) should be heeded by the committee. "The biological sustainability of a fish resource is achieved if biodiversity is conserved, endangered species are protected and harvest levels for exploitable species are within pre-determined sustainable levels. As a result, the potential for commercial and subsistence fisheries development was excluded at Taung Dam (North-West Province) due to the presence of the vulnerable largemouth yellowfish, *Labeobarbus kimberleyensis* and *Labeobarbus aeneus*."
- Based on the above statement, SASACC does not believe a SSF should be excluded from Vanderkloof, but that gillnets should be excluded to protect indigenous species as is the case at Taung and !Gariiep Dams.

In conclusion, we believe that the experimental fishery should preclude the use of gillnets. Their use is against Regulations and they are a non-selective and destructive fishing method. The project should instead look at a combination of long-lines, rod & line and possibly Fyke-nets, which will effectively catch the target species while allowing for the return of yellows as prescribed in Schedule 1b of the NC Nature Conservation Act. This approach will largely nullify the issue of conflict between user groups and allow for all sectors to operate together while ensuring compliance with the relevant legislation.

## 2. BUSINESS PLAN & MARKETING

SASACC is of the opinion that a Business & Marketing Plan/Strategy needs to be in place before any fishing activity is initiated. Without a business plan and proof that a viable market exists there is little point in proceeding even with an experimental fishery. The killing of any fish without the sound knowledge of whether it is commercially viable in the long-term (are there any examples of rural small-scale fisheries that have succeeded in the long-term?) is undesirable and irresponsible. Market research will also facilitate the process of deciding number of fishers, levels of effort and volume of catch required to supply the demand. We would like to see a Draft Plan tabled at the meeting for discussion (it is our understanding that a Business Plan will form part of the Experimental Fishery Management Plan that will be discussed at the next meeting), which should also include the impact of a small-scale commercial venture on the existing subsistence fishery. Research done at !Gariiep Dam showed that a commercial venture would impact negatively on the existing subsistence fishers due to saturation of the market and we fear it may prove to be the case at Vanderkloof as well.

Yours Sincerely



Dr Aidan Wood (for SACRAA and SASACC)

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