

Inge Erasmus

From: Natasha Van de Haar <natasha@enviroswift.co.za>
Sent: Friday, 03 November 2017 1:33 PM
To: Inge Erasmus
Subject: Re: Sangasdrift Trust: Hut Dam comments form Cape Nature



Hi Inge,

I forwarded these two questions to FCG, who did the instream assessment for the project. The response from them:

4.5 The upstream reach above the collapsed weir had limited habitat (too encroached and narrower) thus sampling straddled above and downstream of the weir to combine the SASS invertebrate community. The overall SASS was more representative of the affected reach, which is the downstream reach.

6. This question applies more to a wetland systems?

I think e

ach case must be

considered based

on the reach-specific

evidence

with

understanding of the upstream catchment processes

and land-uses

. Sound sediment management is important to restore the rehabilitation potential of a system

. **Reduction in sediment supply (sediment starvation) can be mitigated by;**

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reconstruction of side flowing channels from upstream dams because

hydrological impacts upstream like large dams upstream which do not allow for release of flow and declining flow velocity limit the ability of moving water to transport sediment, therefore one of the options to introduce sediment is upstream tributaries to allow sediment transportation.

Removal of flowing restrictions promotes unwanted flooding in some areas and purposefully relocates this to designated areas, increases river flows downstream with sufficient sediment load for habitat creation. The **removal of invasive vegetation**

and artificial dense rough vegetation

from the banks and riparian zone (banks and flood zone) will help to increase sediment transportation to downstream systems,

invasive vegetation on mountain stream usually reduce sediment trapping potential. The **removal and modification of existing weirs**

and structures can restore free flowing natural conditions and can increase sediment delivery to downstream reaches. The **removal of the mid channel bars** have the potential sediment trapping, small scale removal of individual sedimentary bars at sites.

Removal of sediment within channels should be avoided through dredging and other forms because it will lead to sediment starvation and increase in erosion. Historically modified channels which are large and allowing

accumulation of sediment, should be rehabilitated back into their former state to encourage natural processes and sediment deposition and faster flows to help with sediment downstream.

 Sent with [Mailtrack](#)

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On Thu, Nov 2, 2017 at 9:59 AM, Inge Erasmus <inge@enviroafrica.co.za> wrote:

Hi Natasha

I hope that you are well. I was wondering if you would please be able to help me respond to the following comments from Cape Nature with regards to the proposed Hut dam Portion 3&5 van der Wattskraal 394? (please refer to the attached doc).

4.5 It is unclear why the freshwater specialist did not conduct SASS surveys both in the upper and more intact zone of the watercourse 1 (weir) and at the same site some distance below the weir. Cape Nature is of the opinion that one SASS assessment site is not significant enough to be able to accurately assess the system.

6. Upstream dams are known to be a primary threat to floodplain wetland Geomorphological health. According to Macfarlane *et al.* (2009)¹⁴ the damming of water results in sediment settling out of the water column and water released from the dam is therefore effectively starved of sediment. This sediment starved water often results in erosion of downstream floodplain wetlands. Sediment is essential for floodplain wetland geomorphological health and functioning as it builds alluvial ridges, results in channel aggradation, and in general maintains natural dynamics of floodplains. How do the dam engineers and wetland specialists propose this impact of sediment starvation be mitigated? (Same comment as for Dasberg, could I use the same response?)

Kind Regards

Inge

Inge Erasmus



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