Inge Erasmus

From: Natasha Van de Haar <natasha@enviroswift.co.za>
Sent: Tuesday, 10 October 2017 7:55 AM
To: Inge Erasmus
Subject: Re: Dasberg dam comments from Cape Nature

Good morning Inge,

Most sedimentary features are not static, but exist because of constant balance of sediment input and output. The comment makes it sound like the dam will increase erosion. It doesn't really. It just decreases the accretion portion of the equation and therefore causes net erosion.

When sediment input and output (above) are in balance, the feature remains constant in scale and nature. If sediment input from upstream is reduced by a dam, then the feature, in this case a floodplain wetland, will gradually retreat to a new equilibrium, which might even be a complete loss of the feature.

Another impact is the e
rosion of the riverbed (by the same method) to bedrock in places which changes habitat for benthic species.

However, in my opinion, the above is not really applicable to the system in question. The watercourse is best described as an unchannelled valley bottom wetland. The NFEPA wetland layer classifies the feature as a floodplain and valley head seep, I assume that is where reviewer got the information. In addition, the lack of vegetation downstream, dumping of rocks within the watercourse and agriculture will most likely introduce large quantities of sediment into the system, which in turn would then "counterbalance" any potential impact the dam would have.

Given my opinion above, I do not know how any mitigation would be possible. Perhaps the engineers have a different opinion?

Regards,
Natasha

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On Mon, Oct 9, 2017 at 1:38 PM, Inge Erasmus <inge@enviroafrica.co.za> wrote:

Dear Natasha

Thank you for your trouble with getting the signed specialist declarations to our offices.

I am busy completing the EIR for Dasberg dam, I was wondering if you could please help me answer one of the comments from Cape Nature I just can't wrap my head around?

"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?"

Kind Regards

Inge

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