The revised version of the manuscript “A hydrological framework for persistent pools along non- perennial rivers”, by Sarah A. Bourke *et al*. clearly improves the previous versions.

There are still a number of small issues that should be improved before publication.

Line 95: “... where the shallow, unconfined aquifer does not support year-round flow” this is unclear and does not apply to all the types of persistent pools.

Lines 96-98: “the general case of a non-perennial river along an alluvial channel (inundated and/or flowing during contemporary flood events) within valley-fill sediments deposited over bedrock” this excludes the perched pools directly carved in impermeable bedrock.

Table 1:

- Hydrochemical characteristics of perched water: enrichment in nutrients such as nitrogen, phosphorus, and dissolved organic matter, which are attributed to both the concentration by water evaporation and the accumulation of leaves and other types of organic matters, may contribute to the eutrophication of the pool water.

- Susceptibility to stressors of perched water: Drinking animals (cattle) or riparian vegetation transpiration can dry out the pool

- Caption: The meaning of the variables in the equations is not indicated here. Transpiration by the riparian vegetation should be taken into account or mentioned, particularly where the extent of this vegetation is large in comparison with the pool area.

Line 114: “if the pool is directly carved in the impervious bedrock or there is a low-permeability layer...”

Line 149: The regional gradient of the river (from the headwaters to the catchment outlet) is not relevant for the pool hydraulics.

Line 383: Transpiration by the riparian vegetation should be taken into account or mentioned, particularly where the extent of this vegetation is large in comparison with the pool area.

Line 387: conversion of water levels to both pool water volume and area requires knowledge of pool bathymetry.

Line 388: between h_p, A and V will change during...

Line 449: Evaporation is the only output that involves isotopic fractionation; transpiration and outflow do not modify the isotopy of the pool water.

Line 510: Some short description of the geology of these reliefs (Ranges, spurs and hillslopes) would be necessary here.

Line 573: are these perched pools?

Line 591: Figure 10a

Line 592 Figure 10b

Line 617: Figure 11a

Line 618: This topography and the section on figure 11 suggest that this pool could also be considered a 'topographic low' one.

Line 629: Figure 11b

Line 645: Figure 11c

Line 650: may through-flow from alluvium in the upper part of the water fall seep along it?

Figure 11a: The horizontal scale of the graph is lacking.

Line 666: What is BIF? Brockman Iron Formation?

Line 672: Channel scour physically depends on gradient and depth of the flowing water.

Line 677: Figure 12b

Line 689: Figure 12c

Line 693: "... isotopic values began to enrich suggesting that evaporation became less compensated by decreased inputs from groundwater..."

Line 694: Figure 12d

Line 696: Figure 12e

Figure 11: This should be Figure 12. Dots are too small in the legends of figures b) and c)

Line 744: evaporation and riparian vegetation transpiration rates.

Figure 13: This example is insufficiently explained and it is not necessary for the paper. m^3 d^{-1} are not volume but flow units.

Figure 14: This figure is inconsistent and redundant. The 'Topographically... pool' is too small for observing the structure. The 'Throughflow... pool' looks really as a 'Topographically controlled...' pool.