



Dam Safety Section

COPY

INTEROFFICE MEMORANDUM

TO: John Falk
FROM: Manuel Rauhut
CC: Rob Whitney, Shelley Keen, Nick Miller
DATE: June 21, 2018
SUBJECT: Water rights at Battle Creek –Upper Dam

Reviewed:

**55-XX20
ID06153**

The referenced water storage dam was observed on my way to inspect Scrappy Creek Dam on May 3, 2018. Based on taxlot data the dam is located on Simplot property. The embankment, toe to crest, is approximately 20 feet high, with a spillway that provides approximately 6 feet of free-board, resulting in a hydraulic height of approximately 14 feet. However, recent erosion from runoff has lowered the spillway channel by approximately 3 feet caused by head-cutting in the spillway channel towards the reservoir (see photos). A survey will need to be completed to determine exact dimensions. Overall the embankment appears to be in fair condition. There is significant dispersed seepage along the left and right toe areas (the center area was mostly dry but willows are thriving there as well). The upstream slope is well protected with rock, but the slope appears to be over steepened (estimated slope 1V:2H).

- **Dam and Reservoir history:**

A smaller sized dam and reservoir appears to have existed at this location for many years. Based on aerial imagery from 1987, it appears that the original size of the dam and reservoir has increased over time (see photos below). The dam and reservoir also shows up on Quad maps dated 1972. Imagery from 2017 suggests that the embankment was breached near the middle (see photo on right below). This is consistent with my observations that the dam appeared to have recently been rebuilt; perhaps in late 2017 following that winter's unusual high snowpack and spring runoff.



1987 Imagery



2017 imagery with breach visible.

- **Hazard Rating:**

Downstream Development: Canals and pastures directly below dam. A small, non-regulated dam exists approximately 4 miles downstream. Based on existing downstream development this dam is rated as a low hazard structure.

- **Water Rights covering storage:**

There does not appear to be a water right for storage associated with this reservoir. Water right 55-2020 allows for diversion of 2.96 cfs from Battle Creek, but the water right does not specify a storage component. The water right application specifies that a dam and 9 acre-feet of storage were associated with this right.

Findings:

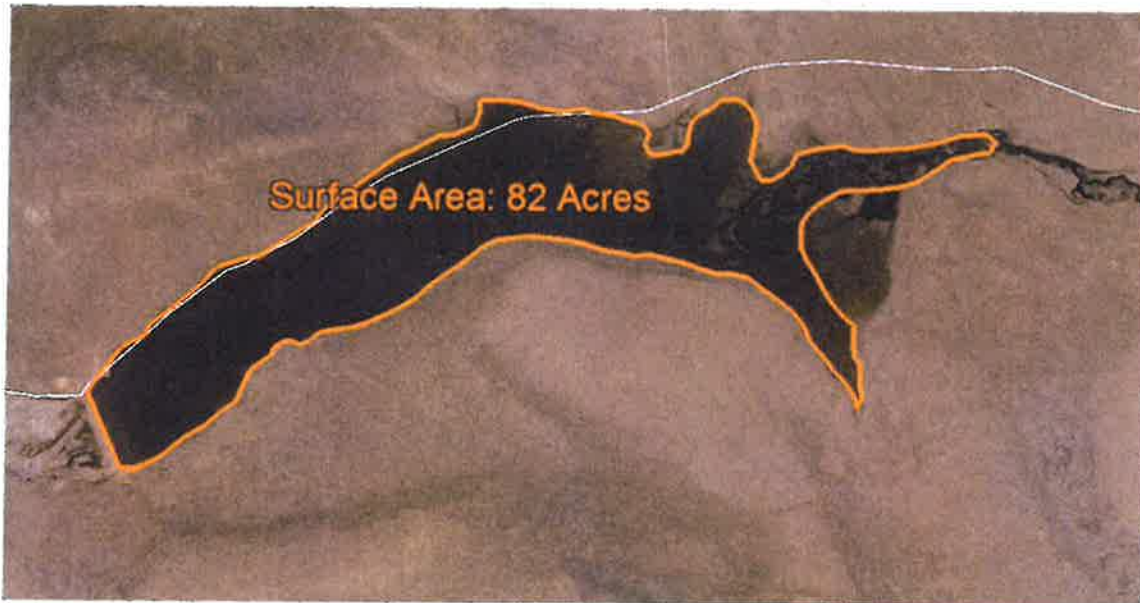
Reservoir Surface Area	Dam Hydraulic Height	Reservoir Storage Capacity (Actual)***	Reservoir Storage Capacity (based on water rights)
82 acres*	14 feet**	459 acre-feet	unknown

* Measured from 2017 imagery as shown below

** estimated with a hand level/does not account for erosion (head cutting) in the spillway channel.

*** calculated with the standard storage capacity formula:

Storage Capacity = hydraulic height x surface area x 0.4 (correction factor)



- **Ownership of dam and reservoir:**

Based on taxlot data it appears that the embankment and most of the reservoir is located on private land owned by the Simplot Company. Portions of the reservoir are also located on BLM land.

Conclusion:

Based on my initial review of water rights in this area, I was unable to determine if there is a valid water right that covers the storage of water behind the dam. I recommend that IDWR forwards this memo to the Simplot Company requesting the following:

- Which water right(s) cover the storage of water behind the dam.
 - If there is no valid water right request that the owner file an application for permit. Note, Battle Creek is one of the rivers designated as Wild and Scenic, that includes the Federal Reserved Water Right (aka minimum stream flow) 55-13903.
- A survey of the dam to determine the hydraulic height of the dam.
 - If the hydraulic height is 10.0 feet or more:
 - Application to construct a dam along with as built drawings stamped by an Idaho licensed engineer and a proposed design to repair the spillway.