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July 20, 2021

Idaho Department of Water Resources
Idaho Water Center
322 E Front St. Ste 648
Boise ID, 83702-7371

Subject: Palouse River Basin Adjudication Water Rights Sequence 11966

To whom it may concern,

Thank you for the returned comments regarding our water rights adjudication submitted for beneficial use sequence no. 11966 (UIEF Fire Pond 8). IDWR is correct that it is more appropriate to describe the use as storage (pond) and the quantity for this pond is estimated as 0.5 acre-feet (AF). Size of pond is approximately 0.1 acres and averages 5 feet deep. In 2021 this pond is unusually dry to the 2020 drought and associated impacts on the Long Creek drainage. The pond from which we have historically drawn water is actually not a tributary but the main Long Creek, at the approximate location where it transitions from Class I to Class 2 according to our maps. This is immediately after passing through a large culvert under UIEF Road 31 on the West Hatter Unit of the UIEF. The pond forms naturally in most years due to many decades of heavy cattle grazing, both by the Flat Creek – Hatter Creek Cattle Cattleman's Association and subsequently by the University. Attached, a check documenting payment from the Cattleman's Association in 2002 is shown as evidence of grazing use. Grazing at this time primarily utilized Pond 8 (Long Creek) and and the west branch of Hatter Creek. From approximately 2000-2013, the University College of Agriculture and Life Sciences (CALS) paid the College of Natural Resource grazing fees for annual, summer grazing of approximately 100 head in this area. The area we call Fire Pond 8 (claim 11966) is a semi-natural impoundment formed by a combination of geographic features of two heavily scoured Class 2 streams coming together and the sustained impacts of cattle use for 40-50 years. There is no formal, man-made dam; however, Pond 8 typically holds sufficient water through the summer to pump from regularly.

Additional evidence regarding beneficial use of the pond by the University is provided in the attached, published 2013 UIEF map that documents its location. Current (2019) photographs show early summer flow in the area where water has historically been drawn. The area of distribution is shown as green in the attached map. Pond 8 is used as a primary draw location for uses in the portion of the West Hatter Unit of the UIEF that is highlighted and labelled in the map legend, and particularly the 3000-gallon Portable Tanks that are shown. Based on discussions with prior staff, my understanding is that Pond 8 has been in beneficial use for grazing since at least the mid-1970s (priority date at least approx.. 1975). However, we have had difficulty locating maps that specifically show its

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location. We do have maps and other documentation showing grazing uses at West Hatter (Long Creek) going back at least that far. I have shown some photographs to document our regular, consistent use of the POD shown in sequence 11966 for non-emergency fire management – Prescribed fire management and research and teaching uses of fire.

By signing this letter, I am verifying use by the University for the recent period 2012-2021, during which time I have served as Forest Manager and Director of the UIEF. Over this period, we have had a well-documented public access and hunting permit program (wildlife use) and specifically included various wildlife management objectives in our Forest Management Plan as part of the Idaho Tree Farm System (ITFS). We have multiple photos available showing wildlife utilization at the pond, including deer, elk and moose. We have conducted very active forest management and prescribed burning conducted dozens of state, private, and federally funded research projects with over \$20,000,000 in associated sponsored research funding (industrial use).

Among other subject areas, the Experimental Forest has a globally recognized, 90+ year history of active prescribed fire use, teaching, and research. Relative to land size, the University actively uses prescribed fire in forest management at a higher frequency than most private and state forest landowners in the region. For this reason, storage and use associated with fire protection is of very high importance to our activities for safety purposes, and this use extends well beyond emergency uses. The UIEF maintains and regularly uses two Type VI wildland fire engines funded by the Idaho legislature via the Forest Utilization Research (FUR) program, a 1000-gallon water tender, numerous portable storage tanks, approximately 2 miles of hose lay and fittings, and several mobile pump systems in order to safely conduct prescribed fire management, research and teaching. We regularly use prescribed fire to simulate forestry and fuel treatment effects on wildland fire behavior and can provide substantial, well-documented evidence of these activities as needed. At any time, we have between 6 and 10 staff with Type 2 firefighter (FFT2) qualifications or higher maintained in the Idaho Incident Qualification System (IQS) to support prescribed fire management, research and teaching activities on the UIEF.

To illustrate the importance of this, Fire Pond 6 and Fire Pond 7, associated with sequence 11964 and 11965, were used to support over 250 acres of prescribed burning in the East Hatter Unit in 2019-2020 as part of the B3 (Brown's to Basalt) Prescribed Burn. The burn plan for this prescribed burn operation was approved by the Idaho Dept. of Lands Ponderosa Area and is well documented. Both ponds were also used to provide water for a large experiment simulating wildland fire effects on logs that are subsequently used to develop wood pellets for bioenergy. This experiment, carried out approximately 0.5 miles from Fire Pond 6 and 0.1 miles from Fire Pond 7, was completed in 2016 and subsequently published in a peer-reviewed journal (<https://www.mdpi.com/1996-1073/11/3/648>).

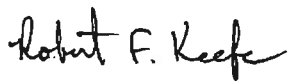
Other prescribed fire management activities utilizing water intensively on the UIEF have included some of the following, provided only as additional, illustrative examples. From the mid-1940s to 1960s, over 800-acres of the East Hatter management area was maintained as a fenced wildlife enclosure used for manipulative game, browsing, and predation research funded by the University, the US Fish and Wildlife Service, and Idaho Fish and Game. From 2015-2019, a large, Joint Fire Sciences Program (JFSP) project was

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conducted that used water regularly to manipulate fuel moistures and to manage prescribed fire use safely in order to study wildland fire behavior in a variety of conditions in three forest stands spanning approximately 70 acres total, but separated at 3 distinct locations spanning over 2 miles of driving distance. Currently, two large installations funded by the National Science Foundation, including one utilizing water from Pond 4 at Flat Creek, are evaluating water use in intermediate and mature forests. Dr. Tara Hudiburg received the Presidential Early Career Science Award from the White House for this research in 2019. Numerous, similar published studies evaluating seedling physiology and growth have required irrigating forest seedlings to study survival, growth and yield for periods from 1 to 25 years, as evident by searching on web-based databases of published literature such as Google Scholar using the search term 'University of Idaho Experimental Forest'.

Evidence of regular grazing use includes a general description of early uses written previously by former UIEF Forest Manager Harold Osborne. More recent grazing use at Flat Creek from 2012-2021 has included, at different times, over 500 sheep, 100+ cows associated with the Vandal Meats program, and 700-1100 goats from 2019-2021 used for fuels mitigation and fire behavior research. As evidence, a recent picture of goats from 2021 is shown; these are a small number of animals from a herd of over 700.

Please let me know if you have additional questions about sequence 11966 (Fire Pond 8) and I will be happy to provide further information as needed.



Robert F. Keefe
Forest Manager and Director
University of Idaho Experimental Forest
University of Idaho
875 Perimeter Drive
Moscow, ID 83844-1133

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Additional Evidence of Use – Sequence 11966



Figure 1: 2020 image showing a portion of the area at Long Creek referred to as Fire Pond 8 (Sequence 11966) beneficial use POD adjacent to UIEF Road 31 on the West Hatter management unit.

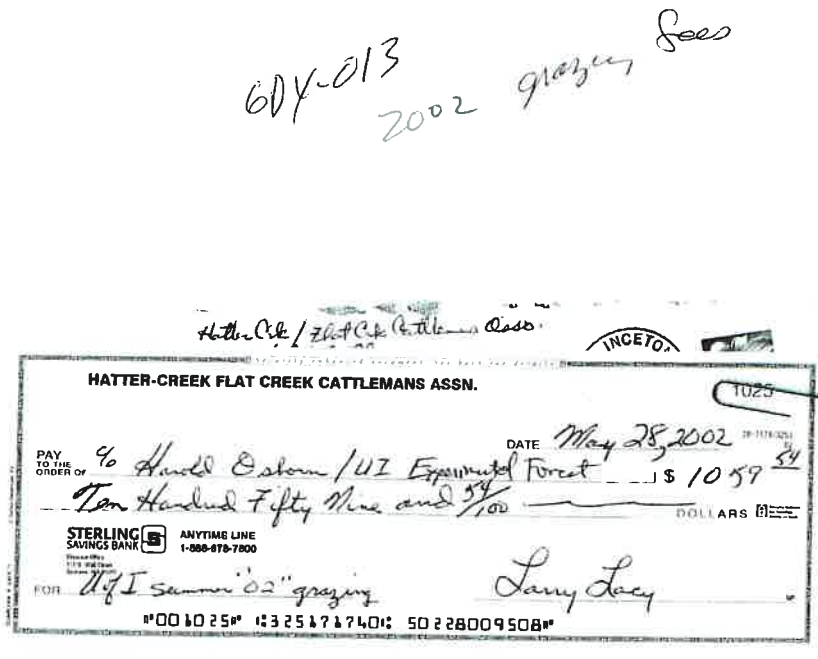


Figure 2: Payment to the Experimental Forest received from the Hatter Creek – Flat Creek Cattleman's Association dated May 28, 2002 for grazing utilizing Fire Pond 8.

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Figure 3: April 2017 image showing UIEF Portable Storage Tank 4 on constructed pad. Tank 4 is filled periodically from Fire Pond 8. Location of Storage Tank 4 is shown on attached POD / POU map.

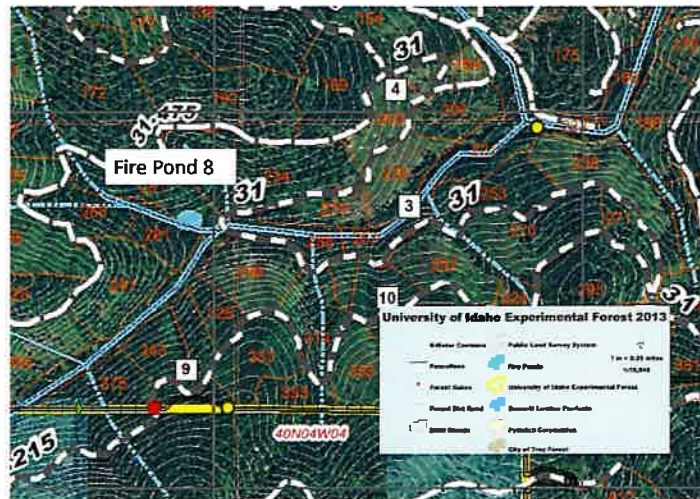


Figure 4: Clipped image of 2013 UIEF Forest Administrative Map showing location of Pond 8. Additional label ('Fire Pond 8') and copy of original (2013) Legend scheme showing University use have been pasted on the image to save space.



Figure 5: 2014 Mastication Prescribed Burn (approx. 70 acres) in a replicated experimental design evaluating fire behavior in masticated fuel beds as a function of fuel moisture, mastication treatment type, and time on the ground. Research funded by the Joint Fire Sciences Program. This experiment used plumbed irrigation from Fire Pond 8 and associated storage tanks to manipulate fuels over a 5-year funding period, 2014-2019. Several peer-reviewed publications and graduate theses/dissertations document the research. MS Student shown front left is Zach Lyon. See Lyon thesis for additional details.



Figure 6: 2020 image of graduate student Emily Yurcich evaluating targeted grazing treatments by approximately 400 goats in the same stand areas shown in Figure 4 above. These animals watered directly at Pond 8 and utilized water transported from Pond 8 to portable storage tanks. Images are georeferenced and can be provided as additional evidence to verify location if needed.



Figure 7: Student burning operations in fall 2016 at the Upper Hatter Prescribed Burn. Burn plan was approved by Idaho Dept. of Lands Ponderosa Area Fire Warden (available upon request). IDL staff also participated in the prescribed burn for additional training and experience. For scale, please note size of students standing on the ridge at the bottom right of the main fire perimeter. This is one of 4 burn units in the burn plan that used plumbed water from Fire Pond 8 and associated tanks.

April 1981

The U. of I. Experimental Forest

Livestock Use History

by

Harold Osborne, Forest Manager

Our records of the range use are sketchy. The old timers in our area recall cattle, sheep and horses grazing the Flat Creek and Hatter Creek drainages around 1910. Sheep use was probably prevalent in the 1920's when such names as High Sheep Camp came about. More recently correspondence in old Experimental Forest files shed some light on the range use.

Henry Peters of Asotin, Washington applied and was granted a permit to graze 1000 head of ewes with lambs between June 15 and August 15, 1943 in the East Fork of Hatter Creek and the Flat Creek drainages. Fee was \$.10 per head.

Ernest P. Klewene of Clarkston, Washington -- 1200 head of ewes with lambs from June 15 to August 15, 1944 in the East Fork of Hatter Creek and the Flat Creek drainages.

February 9, 1944 -- Formation of the Hatter Creek Cattleman's Association later known as the Flat Creek-Hatter Creek Cattleman's Association. My records indicate 21 members.

1946 -- 280 head on permit for 5 months.

1949 -- 284 head (+ calves), 20 different owners for a period of 5 months (May 15 - October 15). No division fences were present.

1950-mid 1960's -- 250-300 head, two-thirds of which are on the Flat Creek side of the range for a 5 month period.

1960's to mid 1970's -- my records are sketchy for this period. The Palouse District of the USFS evidently took over the management of the range during this period. Numbers and period of use and distribution were not much different than for the 1950's.

1975-1978 -- reduction in numbers. The U-I range was estimated to provide forage for 160 animal units. An effort was made to develop a 2 pasture system in the Flat Creek area. Grazing season of May 15 to September 15. Livestock did remain on the range though until mid-October.

The allotment has an estimated capacity of 306 animal units for 4 months.

1979-1980 -- construction of 2 pasture division fences (2 miles). 175 cows with calves, May 15 - September 15.

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Water Use Adjudication

Fire Pond 8

