

# Hagerman National Fish Hatchery

## Water Measurement Sites and Procedures



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## Introduction

The Hagerman National Fish Hatchery (Hatchery) was authorized by 46 Sta. 371 on May 31, 1930 and was established in 1931. Construction of physical facilities commenced in 1932 and the first trout eggs were received for incubation in 1933. Expansion and modernization has occurred on several occasions, most notably in 1951, 1982, 2001, and 2006. The storage barn is the only remaining building from the 1932 construction. Remaining structures from the 1951 construction include four residences, office, garage-shop, and oil-paint storage buildings. The 1983 expansion added Hatchery Building II, Administration Building, Water Service Building, Brailsford Intake, and raceways 1-12, and 37-102. A new Hatchery I building was constructed in 2001 replacing the old Hatchery I building which was demolished in 2006. Also in 2006, a set of 24 old 8 X 80 concrete raceways (13 -36) were demolished and a new building was constructed to house the water chiller which is used during fish distribution. Other projects included several pipe line replacements, improvements to water diversions, and completion of the Riley Creek Pump-back system.

Principal production from 1933 to 1979 was rainbow trout for stocking in Idaho, eastern Oregon and northern Nevada. Lahontan cutthroat trout were also reared for release into Pyramid Lake, Nevada.

A major change in the production occurred in 1979 with phased-out elimination of the resident rainbow trout program in favor of anadromous species. The Hatchery became a steelhead mitigation project under the Lower Snake River Fish and Wildlife Compensation Plan (LSRCP). The 1983 construction, costing \$6.5 million, was funded by the Corps of Engineers as part of the Lower Snake project. Current steelhead production is 1.4 million steelhead smolts at 4 to 5 fish per pound. The hatchery also raises 140,000 resident rainbow trout as part of the Dworshak Reservoir Program.

The water supply for the Hatchery emanates from the Eastern Snake Plain Aquifer (Aquifer) through a complex of springs diverted for Hatchery operations. Under the administration of the Idaho Department of Water Resources, the U.S. Fish and Wildlife Service has surface water rights for 109.74 cubic feet per second (cfs) flow for fish propagation, irrigation, domestic use and stock water (Table 1). However, this is not a cumulative total due to the fact that there are multiple rights to several spring diversions with different priority dates, seasons of use, and for different types and places of use or, in the case of Spring 16 (Len Lewis Spring), subordinate to a senior user during the irrigation season (February 15 to November 30). Moreover, not all water sources can be diverted to all outside rearing units. Spring 17 is only plumbed to the Trout Raceways; Riley Creek and Bickel springs are only plumbed to the Steelhead Raceways. The priority dates for the Hatchery's water rights range from 1889 to 2002, the majority of which are in the early 1930's to 1950. Assuming all the Springs were flowing at the full water right, of the total, 84.59 cfs could be diverted for fish production at the Hatchery; another 4.6 cfs could be diverted to operations at the Hagerman Fish Culture Experiment Station (HFCES). The Fish and Wildlife Service provides water to the HFCES under a Memorandum of Understanding with the University of Idaho.

During the later part of the last century, increased groundwater withdrawals, irrigation efficiencies and drought have combined to diminish the volume of water stored in the Aquifer. The University of Idaho Water Resources Research Institute reports that “the average rate of decline in ground water storage between 1975 and 1995 is about 350,000 acre feet/year” (Johnson 1998). This diminished storage capacity has resulted in a decline in spring flows throughout the Thousand Springs Reach. The declining water supply continues to challenge fish production capacity and flexibility of Hatchery operations. In its 1995 Annual Report, the Hatchery reported that a review of flow data for the period of 1974 through 1994 for two of the Hatchery’s spring sources, Riley Creek and Bickel Spring Creek, showed a decline in flow of 9.6% and 21.5%, respectively. At this time, the Hatchery’s spring water winter supply (Dec – Mar, 2006) is approximately 14% (12.7cfs) below its water right and has been declining at a rate of nearly one cfs per year from 1999 through 2008 (Figure 1).

The Hatchery staff must work closely with downstream water users in the Riley Creek Watershed to ensure their needs are met. Downstream users include the Idaho Department of Fish And Game’s (IDFG) Hagerman Wildlife Management Area and the Hagerman State Fish Hatchery, John Lemoyne (hydro-plant), the Buckeye Ranch, and the Brailsford Ditch Association. In the case of the Brailsford Ditch Association, a senior water appropriator on Spring 16 (Len Lewis Spring), water diversion from this spring must be consistent with the Court approved water management agreement (Appendix A.) negotiated by the Department of Justice in 1997. Implementation of this agreement requires the maintenance and operation of the 200-hp Riley Creek Pumpback System. In the case for water diverted to the Bickel Ditch, water diversion must meet the needs of the IDFG for its operation of the Hagerman Wildlife Management Area and the Oster Lakes fishing area. Water for this purpose may, depending on Hatchery operations, be diverted either from Main Spring, via the 24’ line at the Main Spring diversion dam or via two 20-hp pumps located at the lower end of the Steelhead Raceways’ tail box. Operations more specific to implementing these diversions are described in the Hatchery’s intranet SOP website.

These water procedures outline locations and procedures for measuring water at each diversion site:

RECORDING LOCATIONS AND LOGBOOKS

<u>Site Name</u>	<u>Location</u> <sup>1</sup>	<u>Site Number</u>	<u>Type of Meter</u>
Len Lewis, Spring 16	1	423001	7 Ft. Ramped Broad Crested Flume
Spring 15	2	423002	90 ° V-notch Weir
Main Spring	3	423003	4 Ft. Parshall Flume
Spring 17	4	423004	Ultrasonic
Display Pond	5	423005	2 Ft. Parshall Flume
Hatchery 1 Outflow	6	423006	9 In. Parshall Flume
OLSB Outflow	7	423007	SIGMA In-Line Flow Meter
Riley Lake	8	423008	7 Ft. Cipolletti Weir
Bickle Spring Creek	11	423011	15 Ft. Cipolletti Weir
State Weir	12	423012	15 Ft. Cipolletti Weir
Brailsford Ditch	13	423013	4 ft Parshall Flume
Spring 13 Box	14	423014	2.5 Ft. Stop-Log Structure
Spring 13, In-line Propeller	15	423015	McCrometer In-Line Flow Meter
Springs 8 & 9	16	423016	Ultrasonic
Spring 11	17	423017	Ultrasonic
Hatch II (Springs 13,14,15,16)	18	423018	Ultrasonic
Spring 13, Turbine Meter	19	423019	Kent Turbine Meter
Domestic Well	20	423020	Positive Displacement Meter
Spring 17	21	423021	90 ° V-notch Weir
Riley Creek Pump Back	22	423022	Ultrasonic
Tunison Lab Raceways	23	544101	1.83 Ft. Rectangular Weir
Old Wet Lab Weir	24	544102	15” Broad Crested Weir
Spring 11 Parshall Flume	25	544104	6 In. Parshall Flume

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<sup>1</sup> Location Sites 9 and 10 are no longer used

### Location No. 1 – Len Lewis Spring (Spring 16)

At Location No. 1 there is a 7 Ft. ramped, broad crested flume that was approved for use on August 15, 2005. Flow into the flume is controlled by a gate valve. The flow from this location can be directed to the Main Spring diversion and Hatchery II. All of Spring 15 and a portion of the Spring 13 flow enter the Brailsford Intake downstream of this flume. Overflow valves upstream of the flume allow water to be spilled down to the Shop Creek and into Riley Creek. Len Lewis Spring is the major source of water to the Brailsford Ditch Association. Brailsford Ditch has a stop log control structure at the north end (See Site No. 13).

Formula Used:  $Q = 21.8(H + 0.0214)^{(1.594)}$



7 ft Flume and bypass



Brailsford Intake

### Location No. 2 – Spring No. 15

At Location No. 2 there is a 90° V-notch weir located next to the Brailsford Intake diversion structure at the southeast end of Len Lewis Spring. A staff gage is provided for head measurement. The flow from this location is mixed with Spring 16 and may be directed to both the Main Spring diversion and Hatchery II.

Formula Used:  $Q = 2.49H^{(2.48)}$



### Location No. 3 – Main Spring

At location No. 3 there is a 4 foot concrete Parshall Flume located approximately 25 feet north of the domestic water service building and above the Main Spring Diversion Dam and screen chamber. A staff gage is located in the stilling well beside the Parshall Flume. The flow from this location can be directed to the Steelhead raceways, Trout raceways, Hatchery 1 and to Bickel Ditch.



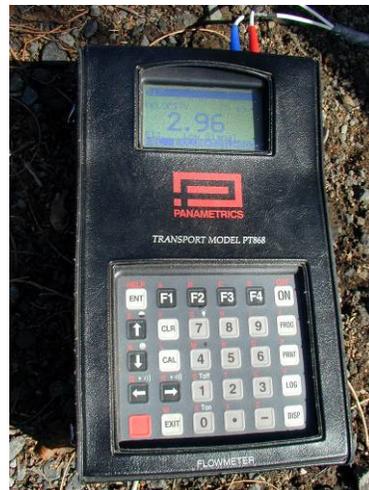
Formula Used:  $Q = 4W(Ha^{1.522})(W^{0.026})$

### Location No. 4 – Spring No. 17

Location No. 4 is approximately 200 feet downstream of the diversion box in the Spring 17 pipeline. The Spring 17 pipeline is a 14” inch stainless steel pipe with an inner diameter of 13.468” and a thickness of 0.266”. Water in the Spring 17 pipeline can only be diverted to the Trout raceways. A Panametrics Model PT868® in-line ultrasonic meter with permanent port, wetted transducers is used for instantaneous measurements. The Panametrics Model PT868 meter is obsolete as of June 2010. The Hatchery is working with James King from Region 1 water resources to replace this unit with a PT878 from GE Infrastructure Sensing, Inc.



Spring 17 Location



Panametrics Meter

### Location No. 5 – Display Pond

At Location No. 5 there is a 2 foot concrete Parshall Flume located approximately 50 feet upstream of the Display Pond. A staff gage is located on the side of the flume. The 2 foot Parshall Flume receives most of its water from Main Spring. Water is diverted through this flume in order to operate the Display Pond and to maintain a minimum 1 cfs flow for habitat which supports the Bliss Rapids snail which is listed under the Endangered Species Act. There are some small springs and seeps that provide additional water.



Formula Used:  $Q = 4W(Ha^{1.522})(W^{0.026})$

### Location No. 6 – Hatchery I Outflow to Riley Creek

At location No. 6 there is a 9” Plasti-Fab® fiberglass Parshall Flume located in a fiberglass packaged metering manhole approximately fifty feet from the west corner of the Hatchery I building. A staff gauge is located on the inside of the flume. Water discharged from Hatchery I is measured at this location.



Formula Used:  $Q = 3.07H^{1.53}$

### Location No. 7 – Offline Settling Basin (OLSB) Outflow

At Location No. 7 there is a SIGMA 950 Flow Meter® for reading discharges from the OLSB to meet the Hatchery’s National Pollution Discharge Elimination System (NPDES) permit requirements. Flows are recorded at the beginning and end of a 24 hour period in the NPDES field logbook. The OLSB flow includes water diverted during cleaning operations from the Trout raceways, Steelhead raceways, and Hatchery I. When in use, all water from Hatchery II is directed to the OLSB system.



### Location No. 8 – Riley Lake

At Location No. 8 there is a 7 foot Cipoletti weir located at the screen chamber and outlet of Riley Lake. A new staff gage was installed in 1991. The flow from this location is directed to the Steelhead raceways.

Formula Used:  $Q = 3.367LH^{(3/2)}$



### Location No. 11 – Bickle Lake

At Location No. 11 there is a 15 foot Cipoletti weir located at the screen chamber and outlet of Bickel Lake. A new staff gage was installed in 1991. The flow from this location is directed to the Steelhead raceways.

Formula Used:  $Q = 3.367LH^{(3/2)}$



### Location No. 12 – State Wildlife Management Area (WMA) Weir

At Location No. 12 there is a 15 foot Cipoletti weir on the Bickel Ditch located approximately 370 yards down stream from the Hatchery entrance gate. The weir measures flow to the Idaho Department of Fish and Game (IDFG) Wildlife Management Area (WMA). During the LSRCP expansion in 1984 the Fish and Wildlife Service agreed to provide IDFG to up to 8 cfs flow in the Bickel Ditch. The Hatchery delivers water for irrigation of the WMA, for maintaining fishing waters in the Oster Lakes, and keeping the Oster Lakes ice free during peak waterfowl use of the WMA. Flow is seldom below 3.50 cfs. Flows above 8.5 cfs will overflow the ditch and cause flooding of Quarters #4. A new staff gage was installed in 1991. The Hatchery has fallibility to deliver water to the WMA by gravity flow water from Main Spring or pumped water from the effluent of the Steelhead Raceways.

Formula Used:  $Q = 3.367LH^{(3/2)}$



The pump station located at the lower end of the Steelhead Raceways.

### Location No. 13 – Brailsford Ditch

The flow at Location No. 13 is measured at a 4 ft Parshall Flume installed in April 2002. The flume is located in an open area of the Brailsford Ditch just before the “Y” at the National Fish Hatchery Rd and the E 3000 S Rd. Water flow is diverted from Location No. 1 (Len Lewis Spring) through a 3 ft contracted rectangular weir located on the west end of the Len Lewis pool. Approximately 50 yards downstream of this control structure, the flow enters a 30 inch pipeline. The Brailsford Ditch Association (BDA) water right is for 18 cfs during the irrigation season, February 15 thru November 30. Under a court approved agreement (Appendix A) with the BDA, 4 cfs is to be diverted through the system during the non-irrigation season. The agreement, also provides for out of priority use by the Hatchery during periods of overlapping water use. In this case, water diverted from Riley Creek can be supplied to the Brailsford Ditch via a pump station - see Location No. 22.



Formula Used:  $Q = 3.33(L-0.2H)H^{(3/2)}$



30-Inch Pipeline



Control Structure west end of Len Lewis pool

### Location No. 14 – Power House Spring (Spring 13)

The Power House Spring, also known as Spring 13, is located at the base of the cliff, up gradient and east of Main Spring. The weir at this location is a 2 ½ foot contracted rectangular weir consisting of a rectangular channel with stoplogs. A new staff gage was installed in 1991 and 2010. A new roof was installed in 2010. The flow from this diversion is directed to Main Spring



(via Brailsford Intake which also supplies Hatchery II), the Hatchery's irrigation system (Location 15) which also includes the University of Idaho Hagerman Fish Culture Experiment Station (HFCES), the Hatchery 1 incubator line, and the Chiller Building (Location 19).

Formula Used:  $Q = 3.33(L-0.2H)H^{(3/2)}$

#### Location No. 15 – Spring 13, In-Line Propeller

At location No. 15 there is an 8 inch, inline propeller meter (McCrometer Model No. MO300 with Totalizer). This site is located along Riley Creek, upstream 300 feet of the Administration Building. This water originates from Spring 13 and is boosted through a variable speed pump located in the Water Service building. Water from this location is diverted for irrigation, stock water, and for the operation of heat pumps in hatchery buildings and residences. In emergencies it can be used for fire suppression. Water use is measured in Acre-feet.



#### Location No. 16 – Springs 8 & 9

Location No. 16 is located at the University of Idaho HFCES, in the pipe downstream of the diversion. The pipeline is 8" steel inside diameter, with a 5/16" wall. A Panametrics in-line ultrasonic meter with permanent port wetted transducers is used for instantaneous measurements.



#### Location No. 17 – Spring 11

Location No. 17 is located 150 feet northeast of the HFCES Administration Building in a pipe downstream of the diversion. The pipeline is 8" steel inside diameter, with a 5/16" wall. A Panametrics in-line ultrasonic meter with permanent port wetted transducers is used for instantaneous measurements.



Location No. 18 – Hatch II (Springs 13, 14, 15, 16)

This location measures water diverted from Brailsford Intake (Location No. 1) to Hatchery II. The pipeline is 13 ½” outside diameter, 11 ¾” inside diameter, with a 7/8” thickness. It includes water combined from Springs 13, 15, and 16. The site is just north east of Hatchery II. A Panametrics in-line ultrasonic meter with permanent port wetted transducers is used for instantaneous measurements.



Location No. 19 – Spring 13 Kent Turbine Meter

At Location 19 there is a six-inch Kent Turbine Meter, Model No. T-3000, Mag drive with Rounded Flanged Ends installed in an eight-inch pipe. This site is located 300 feet east of the Administration Building and 100 feet southeast of the Flammable Storage Building. This site measures water from Spring 13 for egg incubation in Hatchery I and water diverted to the Chiller Building for fish distribution.



Location No. 20 – Domestic Well

Location No. 20 is located 400 feet south of the Administration Building inside the well house. Water use is measured with an inline flow meter (Water Specialties) Model TM-01 using positive displacement in conjunction with a totalizer.



### Location No. 21 – Spring No. 17

At Location No. 21 there is a 90° V-Notch weir approximately 500 feet north on the dirt road north of the trout raceways. The staff gage is located under the metal roof and to the left of the V-Notch. The flow is read at this location when water is not being directed to the Trout Raceways – see Location No. 4.

Formula Used:  $Q = 2.49H^{(2.48)}$



### Location 22 – Riley Creek Pump Back

The purpose of the Riley Creek pump back at Location No. 22 is to monitor water deliveries as stipulated in the agreement with the BDA (Appendix A.). This pump is located in Riley Creek approximately 200 feet downstream from the Hatchery I outlet. A Parametrics in-line ultrasonic meter with permanent port wetted transducers is used for instantaneous measurements.



Pumpback System



Metering Manhole

### Location 23 - Tunison Lab Raceways

The Tunison Lab Raceways are located at the HFCES. Flow is measured from a staff gauge passing through a 1.83 Ft. Rectangular Weir.

Formula Used:  
 $Q = (3.33 * (1.83 - (0.2 * (H)))) * (H^{(3/2)})$



### Location 24 - Old Wet Lab Weir

The Old Wet Lab Weir is located at the HFCES and measures output from Springs 8 and 9 that is not measured at Location 16. The weir is a Honkers Supreme® 15” Rectangular Broad-Crested Weir Flume that was installed in April 2002.

The metric staff gauge was replaced on April 2, 2009 with standard gauge with a measuring accuracy of 0.01 feet. The New “H” = (H \* 30.480) based on the conversion of 1ft = 30.480 cm.

Formula Used:  $Q = 4.63 * (((H * 30.480) / 2.54 / 12) + 0.005)^{1.626}$



### Location 25 – Spring 11 Parshall Flume

Location 25 is located 150 feet northeast of the HFCES Administration Building. A 6-inch Plasti-Fab® Parshall Flume is used to measure water from Spring 11 that is not diverted at Location No. 17.

Formula Used:  $Q = 2.06 * (H^{1.58})$



Vendor List:

**American Sigma**

5600 Lindbergh Drive  
P.O. Box 389  
Loveland, Colorado 80539  
800-635-1230 (ph)  
[www.americansigma.com](http://www.americansigma.com)

**Honkers Supreme**

Joe Powlus  
269 ½ Addison Ave. W.  
Twin Falls, Idaho 83301  
208-734-2060 (ph)

**Kent Meters, Inc**

P.O. Box 1852  
Ocala, Florida 34478-1852  
904-732-4670 (ph)  
904-368-1950 (fax)

**McCrometer, Inc**

3255 W. Stetson Avenue  
Hemet, California 92545-7799  
951-652-6811 (ph)  
951-652-3078 (fax)

**Panametrics (Bought by GE Sensing - 2006)**

GE Infrastructure Sensing, Inc  
1100 Technology Park Drive  
Billerica MA 01821  
United States of America  
T: 1-800-833-9438

**Plasti-Fab®, Inc**

9665 S.W. Tualatin Sherwood Rd.  
P.O. Box 100  
Tualatin Oregon 97062  
503-692-5460 (ph)  
503-692-1145 (fax)

**Water Specialties Corporation**

191 W. Poplar Ave.  
Porterville, California 93257  
209-784-3544 (ph)  
800-800-8804 (fax)

Table 1. U.S. Fish and Wildlife Service Water Rights at Hagerman National Fish Hatchery

Spring Name	IDWR No.	Volume	Purpose	Priority Date
Bickel Spring Creek	36-00128	2.00	Fish Propagation	01/18/1889
Riley Creek	36-00130	1.50	Fish Propagation	01/18/1889
Springs 11 & 13*	36-00132	6.00	Fish Propagation 6.0 cfs, Domestic 0.89 cfs, Irrigation 0.22 cfs; Stockwater 0.02 cfs	6/15/1910
Bickel Spring Creek	36-15444	20.30	Fish Propagation	1/1/1933 1/1/1933
Riley Creek	36-15446	4.50	Fish Propagation	
Spring (Main) & Springs 12,13, &14	36-15448A	11.43	Fish Propagation	1/1/1933
Spring (Main) & Springs 12, 13, & 14	36-15448B	8.57	Fish Propagation	1/1/1950
Spring 15	36-15449	4.50	Fish Propagation	1/1/1933
Len Lewis Spring 16	36-15450	21.20	21.2 cfs for fish propagation during non-irrigation season and 8.0 cfs for fish propagation during irrigation season.	1/1/1950
Spring 17	36-15451	4.59	Fish Propagation	1/1/1959
Springs 8 & 9*	36-00131	1.00	Fish Propagation	6/15/1910
Springs 8 & 9*	36-15447	0.50	Fish Propagation	1/1/1966
Spring 10*	36-00129	1.00	Fish Propagation	01/18/1899
Spring 10*	36-15445	0.60	Fish Propagation	1/1/1966
Springs 8, 9, & 11*	36-08354	1.50	Fish Propagation	5/6/1988
Groundwater	36-08750	0.04	Domestic (Year-round)	3/13/1996
Bickel Spring & Riley Creek	36-15961	20.55	Fish Propagation (5/6 to 6/19)	11/19/2001

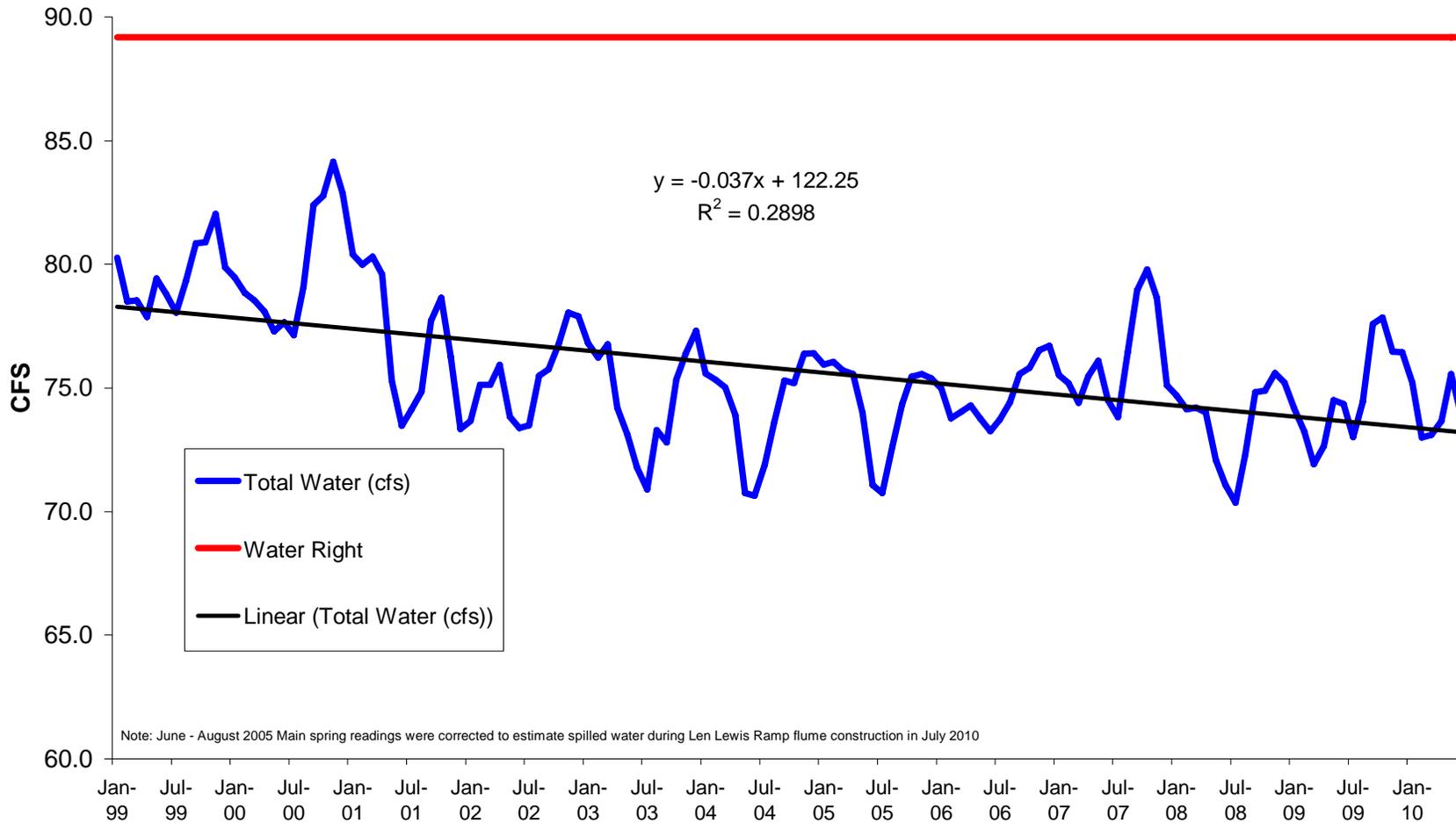
\* Water diverted for use at the University of Idaho, Hagerman Fish Culture Experiment Station includes Spring 8, 9, 10, & 11 and that portion of Spring 13 used for irrigation.

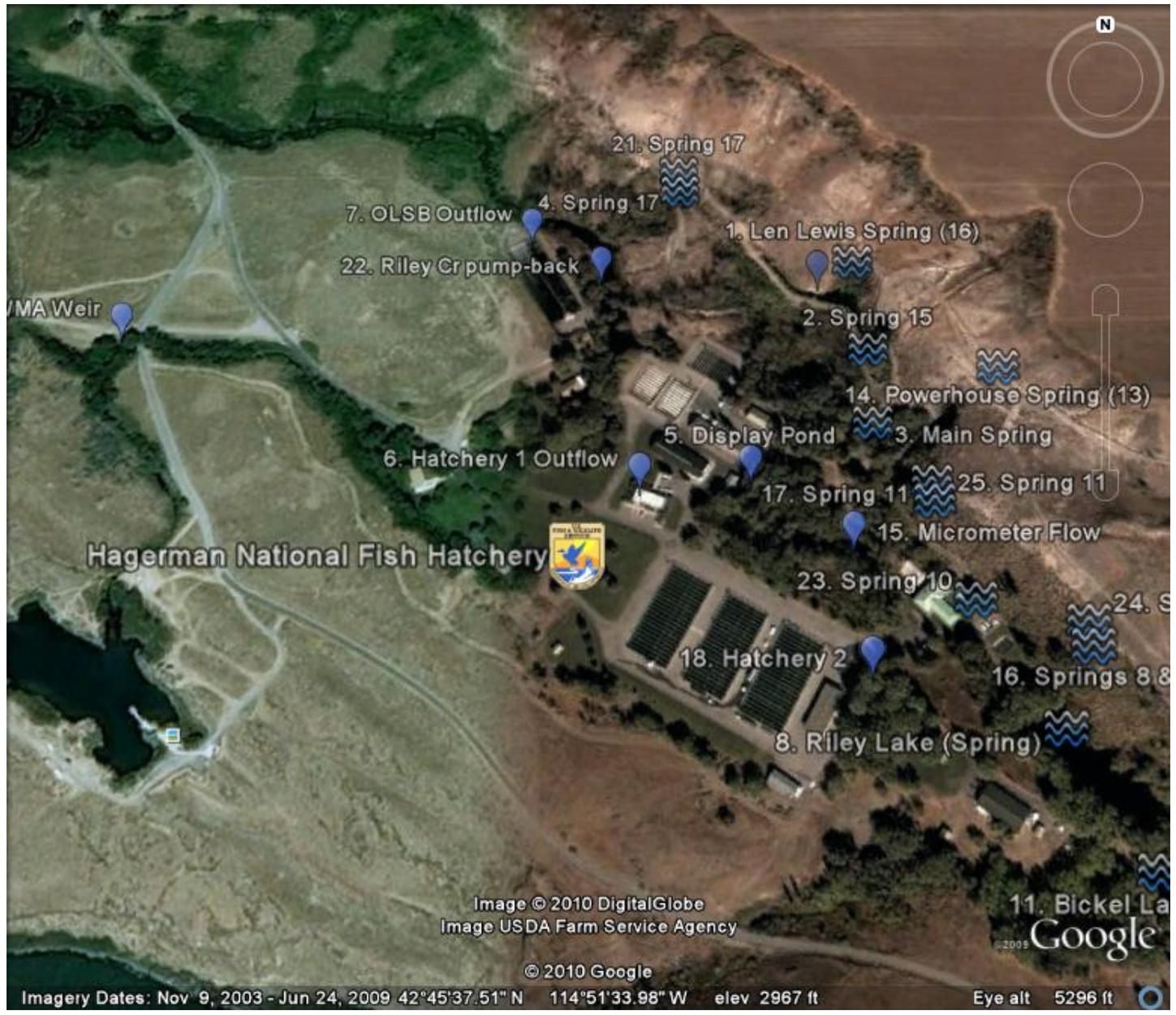


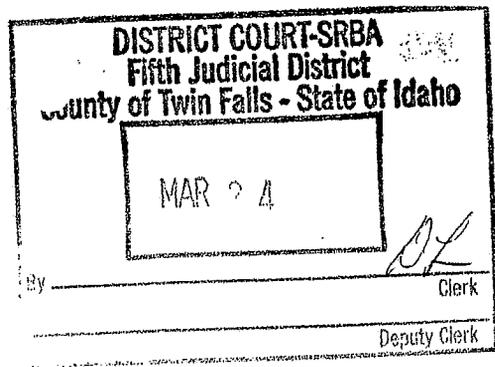
# Hagerman National Fish Hatchery Monthly Average Spring Flow, 1999-2010 (cfs)



16







259

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170008

STATE OF IDAHO COUNTY OF GOODING  
 Filed for record at the request of U.S. Dept. Justice  
~~35~~ min. past 12 o'clock P m. this 14<sup>th</sup>  
 of March, 19 97. 60.00  
 By Penny Watson Deputy

Counsel for the United States of America

IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT  
 OF THE STATE OF IDAHO IN AND FOR THE COUNTY OF TWIN FALLS

IN RE: SRBA	)	Sub-case No.	36-00012
	)		36-00030
CASE NO. 39576	)		36-00043A
	)		36-00084
	)		36-00104A
	)		36-00104B
	)	<b>STIPULATION</b>	

**DESCRIPTIVE SUMMARY**

Stipulation between the United States of America and the water users under the Brailsford Ditch regarding the settlement of the claims and objections to the water rights in the above captioned cases and the use and operation of Len Lewis Spring water rights by the Brailsford Ditch Water Users and the Hagerman National Fish Hatchery water rights during critical periods of the year.

**STIPULATION**

**RECITALS**

A. WHEREAS, the Flying Triangle, Inc., Fred L. and V. John Mavencamp, Ronnie D. and Sharlene Smith, Nevada Omohundro, Shelby and Joan Wise, and the State of Idaho Department of Fish and Game (collectively the "Brailsford Ditch Water Users") comprise the Brailsford Ditch Association and each possess valid irrigation

water rights from Len Lewis Spring which were originally decreed in 1932 in New International Mortgage Bank v. Idaho Power Co. Those water rights are now identified in the Snake River Basin Adjudication (SRBA) as Claim Numbers 36-00030, 36-00104A, 36-00104B, 36-00043A, 36-00084, and 36-00012, respectively (hereinafter "Brailsford Ditch water rights");

B. WHEREAS the United States of America, through the U.S. Fish and Wildlife Service Hagerman National Fish Hatchery, is the owner of valid existing water rights from Len Lewis Spring for fish propagation purposes as described in SRBA Claim No. 36-15450. The critical period of use for the water rights of the United States is during the "peak production period" which includes the period between the start of the irrigation season and April 15 inclusive in any given year. Conflict between hatchery uses and irrigation uses may also occur between October 15 and the end of the irrigation season;

C. WHEREAS the United States and the Brailsford Ditch Water Users (the "parties") agree that Len Lewis Spring is overappropriated, between the start of the irrigation season and April 15th and between October 15 and the end of the irrigation season; furthermore, the parties agree that cooperation and communication between the parties is necessary to maximize the beneficial use of the Len Lewis Spring water during annual high-use periods;

D. WHEREAS the parties recognize that continued litigation among them is expensive, time consuming and detrimental to community relations; and the parties desire to bring an end to the litigation among them and reach a final understanding and agreement concerning the elements and operations of their respective water rights.

NOW THEREFORE, in compromise and settlement of this litigation, the parties to this agreement, United States of America through the U.S. Department of Interior Fish and Wildlife Service Hagerman National Fish Hatchery ("Hatchery"), Flying Triangle, Inc., Fred L. and V. John Mavencamp, Ronnie D. and Sharlene Smith, Nevada Omohundro, Shelby and Joan Wise, and the State of Idaho Department of Fish and Game, individually or by and through their respective counsel, hereby stipulate and agree that decrees shall be entered in these subcases defining the elements of the water rights on terms consistent with those set forth in this stipulation. On entry of a decree consistent with and no less restrictive than this stipulation, the objections of the United States in these subcases shall be deemed withdrawn. The parties further stipulate and agree as follows:

1. DEFINITIONS

a. Substitute Supply - A substitute supply of water is water supplied by a junior water right holder to a senior water right, not to exceed that to which the senior appropriator is entitled by virtue of his appropriation. To the extent that such substituted water is made available to meet the requirements of such senior, the right of such senior to draw water pursuant to his water right shall be deemed to be satisfied. Whenever substitute water is supplied to a senior appropriator, the supplier may take an equivalent amount for beneficial use.

b. Return Flow - Is water that is returned to a stream or source following diversion and beneficial use, and is not lost to evapotranspiration.

c. Administrative Call - An administrative call on the water source occurs when a senior water right holder seeks administrative curtailment of one or more junior water rights under the priority system, in order to produce additional water to meet the appropriative requirements of such senior, not to exceed that to which the senior appropriator is entitled by virtue of his appropriation.

d. User Call - A User Call under this agreement occurs when a Brailsford Ditch Water User with a water right described in Paragraph 5 herein contacts the junior water right holder, the Hagerman National Fish Hatchery, either verbally or in writing, and informs the Hatchery that the senior water right needs water for irrigation purposes consistent with its decreed water rights. This call shall be subject to the conditions set forth in Paragraph 12 below.

2. The parties agree that the individual water rights of the Brailsford Ditch Water Users from Len Lewis Spring, identified in Recital A and Paragraph 5 of this Stipulation, are senior in priority and right to the water rights possessed by the United States of America described in Paragraph B of the recitals. Nothing in this Stipulation shall be construed to alter the priority of water rights among the parties, and the United States recognizes, as holder of a water right junior to the water rights described in Paragraph 5, the right of a Brailsford Ditch Water User to call for use of its decreed amount of water at any time during the irrigation season, unless otherwise provided herein.

3. The parties agree that the "irrigation season" in the Hagerman Valley is variable depending on weather conditions, rainfall, temperature and crops being grown. However, the irrigation season recommended by the Idaho Department of Water Resources (IDWR) and not objected to by Flying Triangle, Inc., Ronnie D. and Sharlene Smith, Nevada Omohundro, Shelby and Joan Wise and the State of Idaho Department of Fish and Game is March 15 through November 15 of each year. All parties agree that the appropriate irrigation season to be decreed to the Brailsford Ditch water rights is March 15 through November 15 of each water year, or as otherwise determined in the SRBA.

4. Water diverted through the Brailsford Ditch under the water rights described in Paragraph 5 hereof is also used for stock water during the non-irrigation season. The Hatchery recognizes the existence of a senior water right in an amount reasonably necessary to provide water for winter stock use. In addition, it is recognized that the State of Idaho Department of Fish and Game has a water right for wildlife purposes which is junior to the stockwater right, and which uses water in the ditch at such times as it is available. The Brailsford Ditch Water Users agree that a flow of 4 c.f.s. at the ditch headgate is sufficient to meet the non-irrigation needs under these water rights. During the irrigation season, stockwater is incidental to the irrigation use, and does not constitute an additional diversion or water right over and above the flow diverted for irrigation use. Wildlife use during the irrigation season shall be incidental to irrigation uses.

5. The parties agree that the elements of the Brailsford Ditch Water Users water rights which are the subject of the above captioned subcases are properly described as follows:

- a. Flying Triangle, Inc. (Claim No. 36-00030)
- |                  |  |
|------------------|--|
| PRIORITY DATE:   | 09/01/1889   |
| FLOW RATE:       | 8.0 c.f.s.   |
| CONSUMPTIVE USE: | 395.1 acre-feet  |
| PURPOSE (USE):   | Irrigation, stock water  |
| PERIOD OF USE:   | Irrigation: Irrigation season<br>as ultimately determined by<br>the court.<br>Stock: 1/1 - 12/31 |
| ACRES IRRIGATED: | 131.7  |

b. Fred L. and V. John Mavencamp (Claim No. 36-00104A)

PRIORITY DATE: 09/01/1889

FLOW RATE: As determined by the Court,  
but not to exceed 3.0 c.f.s.

CONSUMPTIVE USE: As determined by the Court  
based upon acres irrigated

PURPOSE (USE): Irrigation, stock water

PERIOD OF USE: Irrigation: Irrigation season  
as ultimately determined by  
the court.  
Stock: 1/1 - 12/31

ACRES IRRIGATED: As determined by the Court,  
but not to exceed 70 acres

c. Ronnie D. and Sharlene Smith (Claim No. 36-00104B)

PRIORITY DATE: 09/01/1889

FLOW RATE: 1.0 c.f.s.

CONSUMPTIVE USE: 52.5 acre-feet

PURPOSE (USE): Irrigation, stock water

PERIOD OF USE: Irrigation: Irrigation season  
as ultimately determined by  
the court.  
Stock: 1/1 - 12/31

ACRES IRRIGATED: 15

d. Nevada Omohundro (Claim No. 36-00043A)

PRIORITY DATE: 09/01/1889

FLOW RATE: 1.4 c.f.s.

CONSUMPTIVE USE: 42 acre-feet

PURPOSE (USE): Irrigation, stock water

PERIOD OF USE: Irrigation: Irrigation season as ultimately determined by the court.  
Stock: 1/1 - 12/31

ACRES IRRIGATED: 12

SOURCE: Brailsford Ditch

e. Shelby and Joan Wise (Claim No. 36-00084)

PRIORITY DATE: 09/01/1889

FLOW RATE: As determined by the Court, but not to exceed 1.4 c.f.s.

CONSUMPTIVE USE: As determined by the Court based upon the acres irrigated

PURPOSE (USE): Irrigation, stock water

PERIOD OF USE: Irrigation: Irrigation season as ultimately determined by the court.  
Stock: 1/1 - 12/31

ACRES IRRIGATED: 23, or as determined by the Court.

f. State of Idaho Department of Fish and Game (water right claim number 36-00012)

PRIORITY DATE: 09/01/1889

FLOW RATE: 2.2 c.f.s.

CONSUMPTIVE USE: 189 acre-feet *W. n. B.*

PURPOSE (USE): Irrigation *J. DuBois V. M.  
S. W. F. L. M.  
N. G. J.  
D. J.*

PERIOD OF USE: Irrigation season as ultimately determined by the court.

ACRES IRRIGATED: 54

6. The United States and Fred L. and V. John Mavencamp further agree that in compromise and settlement of the objections of the United States to Claim No. 36-00104A, and as a condition of agreement to the elements of the water right set forth in

Paragraph 5.b. herein, the Mavencamps shall not place an Administrative or User Call on the Hatchery for a flow in excess of 2.15 c.f.s. (as measured at the Brailsford Ditch headgate) prior to April 16 of any year, or after October 14 of any year. Between April 16, and October 14 of each year the water right may divert water and enforce a User Call or an Administrative Call to the full amount of the water right as finally determined by the court. Nothing in this Paragraph is intended to abandon any part of the water right defined by Claim No. 36-00104A, nor waive any rights as against any water user other than the Hatchery.

7. Relative priority notwithstanding, during the period from the beginning of the irrigation season through April 15 and October 15 through the end of the irrigation season of each year, the parties agree that in order to maximize beneficial use of water flowing from Len Lewis Spring, the Hagerman National Fish Hatchery shall be allowed to divert its entire junior water right of 21.2 c.f.s. from Len Lewis Spring, so long as a substitute supply of water is supplied to meet a User Call for water. Except as provided in Paragraph 14, operation of the pump-back system as provided for herein shall be deemed to satisfy the User Call for irrigation water.

8. In the event that beneficial use of the water from Len Lewis Spring by all appropriators exceeds the flow rate of the spring during the period from the beginning of the irrigation season through April 15 and October 15 through the end of the irrigation season of each year, the Hatchery shall return to the Brailsford Ditch, through the pump-back system described below, an amount of water sufficient to satisfy a User Call by a Brailsford Ditch Water User up to the amount decreed as set forth in Paragraph 5 above minus the amount released at the Brailsford Ditch headgate.

9. The Hatchery shall complete construction of a pump-back system, which will allow the Hatchery to pump water diverted from Len Lewis Spring and applied to beneficial use back into the Brailsford Ditch above the initial point of irrigation use by the Brailsford Ditch Water Users. This pump-back system will enable the United States to make out of priority diversions without injury to the senior water rights by providing a substitute supply of water to meet the Users Call of the Brailsford Ditch Water Users.

- a. Upon completion, the pump-back system should be capable of delivering a return flow to the Brailsford Ditch. The Hatchery's out of priority diversions will be limited by its ability to provide a substitute supply to meet a User Call.

- b. The Hatchery shall be responsible for all construction costs which accompany establishment of the pump-back system. The Hatchery is required to adequately maintain all structural elements of the system, and shall bear all costs associated with maintenance and operation of the pump-back system for purposes of meeting a User Call.
- c. The pump-back system shall have a bypass valve which is capable of allowing the flow to the Brailsford Ditch to be adjusted, or, if necessary, shut off in an emergency situation.
- d. Prior to completion of the pump-back system, if no substitute supply of water is available, irrigation water shall be diverted from Len Lewis spring under the relative priorities of the water rights.

10. Prior to March 1 of each year, the Hatchery and the Ditch Association shall meet to discuss the projected water needs for irrigation and the Hatchery between the beginning of the irrigation season and April 15 of that year, and attempt to coordinate their use to maximize beneficial use.

11. Notices to the Hatchery provided for herein shall be given to the Hatchery Manager, or the Manager's designee. Notices by or to Brailsford Ditch Water Users provided for herein shall be through the president of the Brailsford Ditch Association or the President's designee. Notice may be provided in person, or by phone.

12. The Brailsford Ditch Water Users agree that a User Call shall not be placed on the junior water rights of the United States unless there is a need for irrigation water, and the water can and will be placed to beneficial use for irrigation purposes. At the beginning of the irrigation season, the Ditch Association shall give at least two days notice to the Hatchery of its increased need for water and advise the Hatchery of the date on which it will begin calling for water, and the approximate flow rate of water to be called.

13. Prior to April 15th, should the Ditch Association, after every reasonable effort, be unable to notify the Hatchery of the need for water as provided in Paragraph 12, the President of the Brailsford Ditch Water Users, or his designee, may make such headgate adjustments as are necessary increase the flow to the Brailsford Ditch, and decrease flow to the Hatchery, to meet the irrigation demands, and shall notify the Hatchery of such changes on the first business day following the headgate

adjustment, so that use of the pump-back system can be implemented, as necessary.

14. The parties recognize that there may be extreme years in which the irrigators may need a flow of water greater than the amount provided through use of the pump-back system prior to April 15 of the year. If the irrigators find that the irrigation needs exceed or will exceed the amount supplied through use of the pump-back system, the Ditch Association shall notify the Hatchery of this additional User Call, and will meet with the Hatchery to explain the need and reach a cooperative resolution. Pending such meeting, the Hatchery will deliver sufficient water to the Brailsford Ditch to satisfy the call.

15. In the event of an emergency during the time of pump-back operation, such as a break in the Brailsford Ditch, the Brailsford Ditch Water Users shall immediately notify the Hatchery of the need to shut down the pump-back system. If Hatchery personnel are not available to shut the pump-back system down, then the Brailsford Ditch Water Users, by the Ditch Association President, or designee who has been instructed in shut off procedures, may adjust the bypass valve on the pump-back system to return all pumped water to Riley Creek. Hatchery personnel shall instruct Brailsford Ditch Association President and any designees in use of the bypass system and shutoff mechanisms.

16. In order to help in the administration of this agreement, the Brailsford Ditch Water Users shall install and properly maintain a water measuring device in the ditch as required by Idaho statute. The Hatchery shall also install and properly maintain a water measuring device as part of the pump-back system.

17. The parties recognize that the outfall to the State Wildlife Management Area (WMA) has frequently been used as a wasteway for water excess to irrigation needs. The parties agree, however, that in order to maximize beneficial use it is necessary to control flow in the Brailsford ditch by adjusting diversions, rather than by spilling excess to the WMA. Therefore, during the period from October 15 to April 15, the Brailsford Ditch Water Users shall, when possible, minimize the use of the WMA as a wastewater discharge at any time that it is placing a User Call on the junior water rights of the United States. To this end:

a. The water users using water for irrigation shall notify the Hatchery as to when the water user expects to be done with water use, so that adjustments can be made to decrease flow to the ditch when it is no longer

needed. Notice shall be given to the Hatchery at least one day prior to the desired change in ditch flow.

b. The Hatchery shall adjust the headgate within an hour of the time requested, or alternatively shall advise the user that the change cannot be made as requested.

c. If the Hatchery does not, or cannot make the requested flow changes within an hour of the time requested, or if an emergency situation occurs that requires action before notice can be given and the changes in diversion made, then the WMA may be used as a wastewater outlet. However, the Brailsford Ditch Association shall simultaneously notify the Hatchery of the action being taken.

18. The United States agrees to the following conditions regarding the water quality of the substitute supply during pump-back operation:

a. Return flow from the Hatchery will continue to be delivered to Riley Creek, subject to applicable water quality standards. Riley Creek will be used as a conduit, for a short distance, to deliver the substitute supply of water to the location of the pump-back system. The substitute supply of water pumped to the Brailsford Ditch will be taken directly from Riley Creek.

b. Hatchery effluent returned to Riley Creek shall meet applicable state and federal water quality standards established at the time of this agreement or in the future. The pump-back system may not be used to deliver water to the Brailsford Ditch at any time that the Hatchery effluent fails to meet such water quality standards.

c. Water delivered to the Brailsford Ditch through the pump-back system shall not cause the concentration of nitrate-N in the water delivered to the Brailsford injection well to exceed the primary drinking water standards for nitrate-N, or the concentration of nitrate-N in the receiving water, as that term is used in IDAPA 37, Title 03, Chapter 03, §050.02.ii, whichever requirement is less stringent.

d. The parties hereto acknowledge that the water in the Brailsford Ditch which is delivered to the injection well at the end of the system currently

contains coliform bacteria. The parties further acknowledge that the Idaho Water Resource Board Rules for the Construction and Use of Injection Wells have no clear numeric standards for coliforms. The United States agrees that operation of the pump-back system shall not cause an increase in the level of coliform bacteria or other effluents in the Brailsford Ditch which results in the Idaho Department of Water Resources prohibiting the use of the injection well. Further, the parties acknowledge the importance of the Len Lewis Spring water quality to all users and therefore, agree to work together in addressing water quality issues at the spring source.

e. In order to help determine the impacts, if any, of the pump-back system on the quality of water being injected into the injection well, the Hatchery shall take water samples in each year in which the pump-back system operates. The water samples shall be analyzed for both coliforms and nitrate-N by an independent laboratory. At a minimum, samples shall be taken as follows:

Locations: Len Lewis Spring,  
Riley Creek at the pump location,  
Brailsford injection well, and  
Domestic well closest to injection  
well.

Time: Prior to pump-back operation,  
During pump-back operation.

19. The United States acknowledges that the Brailsford Ditch Water Users are concerned about potential algae growth resulting from the use of the pump-back system. The United States understands that the Brailsford Ditch Water Users currently take steps to remove algae from one to three times a year. Although the Hatchery does not agree that use of the pump-back system is likely to increase algae growth in the Brailsford Ditch, in order to foster a working relationship between the parties, the Hatchery agrees to participate in cleaning the algae from the ditch under the following conditions:

a. The Hatchery shall only participate in those years in which the pump-back system operates.

b. The Hatchery shall only participate in the cleaning operation once in any one water year, after use of the pump-back system.

c. The Hatchery shall bear no more than 1/7 (one-seventh) the total cost in man-hours or funding for the cleaning operation.

20. Should disagreement arise between the parties regarding the need for irrigation water, issues of waste, adequacy of the substitute water or other technical issues, the parties shall first meet to attempt to cooperatively resolve issues and maximize beneficial use, while also recognizing and meeting the legitimate needs of the senior users. Should this cooperative effort fail to resolve the issue, the parties agree that an attempt should be made to mediate any dispute. The parties agree that IDWR is the appropriate entity to mediate disputes regarding water use in Idaho. If an appropriate person from IDWR is not available on a timely basis, the parties shall ask a mutually agreeable neutral party to mediate the dispute. Pending any resolution of such a conflict, the Hatchery will operate the pump-back system and/or forgo diversions sufficient to meet the call for water for the Brailsford Ditch water rights described in Paragraph 5 hereof. Nothing in this Paragraph shall impair a party's right to make an administrative call if the actions described herein fail.

21. This agreement shall be effective and binding upon the parties hereto, and shall be binding upon and inure to the benefit of the successors, heirs, assignees or personal representatives of the parties hereto upon the signature of all of the parties. All provisions of this agreement, including all benefits and burdens, shall run with the water rights described in Paragraph 5 herein.

22. This agreement shall be filed in the Records of the Clerk and Recorder for Gooding County.

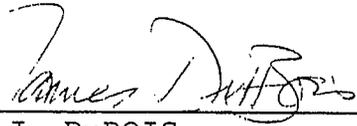
23. This agreement may be signed in counterpart, all of which together, will for all purposes, constitute one agreement, binding on the parties, notwithstanding that all parties may not have signed the same copy of the Stipulation.

Dated this 11<sup>th</sup> day of September, 1996

UNITED STATES OF AMERICA

LOIS J. SCHIFFER  
Assistant Attorney General

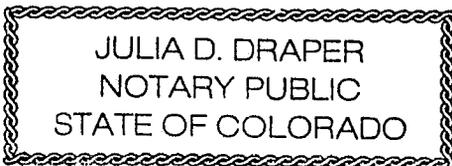
BY:



JAMES J. DuBOIS  
Attorney,  
General Litigation Section  
Environment and Natural  
Resources Division  
U.S. Department of Justice  
999 18th Street,  
Suite 945 North Tower  
Denver, Colorado 80202  
(303) 312-7341

SWORN TO AND SUBSCRIBED BEFORE ME, in my presence, this 17th  
day of January, 1997, a Notary Public in and for the County of  
Denver, State of Colorado.

  
NOTARY PUBLIC - STATE OF COLORADO

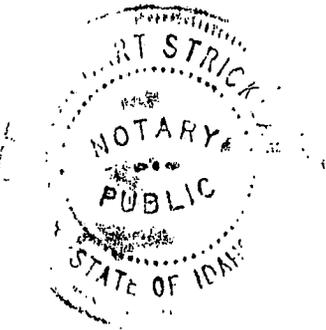


My Commission Expires:  
Dec. 2, 1998

HAGERMAN NATIONAL FISH HATCHERY

BY: Bryan Kenworthy  
BRYAN KENWORTHY  
U. S. Fish and Wildlife  
Service  
Hagerman National Fish  
Hatchery

SWORN TO AND SUBSCRIBED BEFORE ME, in my presence, this 21  
day of January, 1997, a Notary Public in and for the County of  
Gooding, State of Idaho.



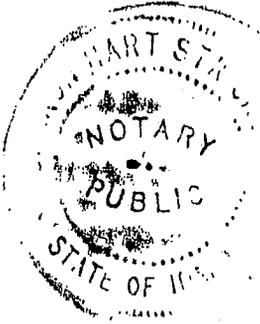
Kurt Strickland  
NOTARY PUBLIC - STATE OF IDAHO  
*Residing at Gooding*  
My Commission Expires: *12-17-97*

FLYING TRIANGLE, INC.

BY: William Brailsford  
William Brailsford, Secretary

Dated: 1-21-97

SWORN TO AND SUBSCRIBED BEFORE ME, in my presence, this 21st  
day of January, 1997, a Notary Public in and for the County of  
Gooding, State of Idaho.



Myron Hart Stubble  
NOTARY PUBLIC - STATE OF IDAHO  
Residing at Gooding  
My Commission Expires: 12-17-97

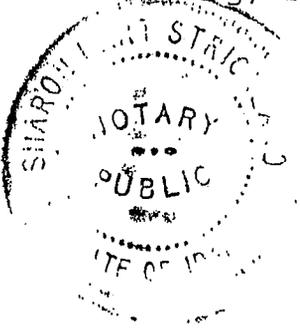
SHELBY AND JOAN WISE

BY: Shelby Wise  
Shelby Wise

Dated: 1-21-97

1029 B.E. 2925 S.  
Hagerman, Idaho  
83332

SWORN TO AND SUBSCRIBED BEFORE ME, in my presence, this 21st  
day of January, 1997, a Notary Public in and for the County of  
Gooding, State of Idaho.



Sharon Hart Stuplend  
NOTARY PUBLIC - STATE OF IDAHO  
Residing at Gooding  
My Commission Expires: 12-17-97

FRED L. AND V. JOHN MAVENCAMP

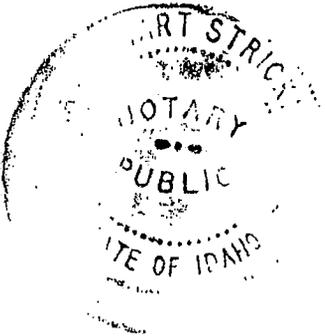
Fred L Mavencamp  
Pro se

Dated: 1-21-97

V John Mavencamp  
Pro se

Dated: 1-21-97

SWORN TO AND SUBSCRIBED BEFORE ME, in my presence, this 21st day of January, 1997, a Notary Public in and for the County of Gooding, State of Idaho.



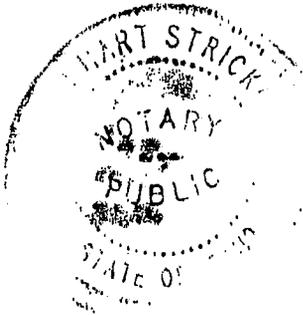
Sharon Hart Strubland  
NOTARY PUBLIC - STATE OF IDAHO  
Residing at Gooding  
My Commission Expires: 12-17-97

NEVADA OMOHUNDRO

Nevada Omohundro  
Pro se

Dated: Jan 21 '97

SWORN TO AND SUBSCRIBED BEFORE ME, in my presence, this 21st day of January, 1997, a Notary Public in and for the County of Gooding, State of Idaho.



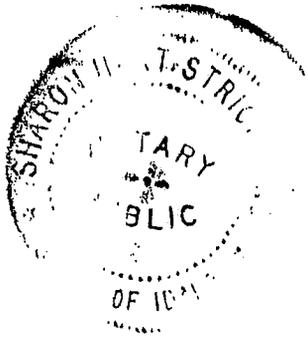
Hart Strickland  
NOTARY PUBLIC - STATE OF IDAHO  
Residing at Gooding  
My Commission Expires: 12-17-97

RONNIE D. AND SHARLENE SMITH

Ronnie D. Smith  
Pro se  
Sharon Smith

Dated: Jan 21-97

SWORN TO AND SUBSCRIBED BEFORE ME, in my presence, this 21st  
day of January, 1997, a Notary Public in and for the County of  
Gooding, State of Idaho.



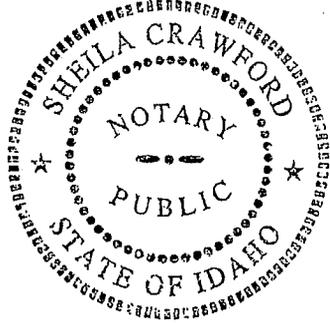
Sharon Hart Strickland  
NOTARY PUBLIC - STATE OF IDAHO  
Residing at Gooding  
My Commission Expires: 12-17-97

STATE OF IDAHO DEPARTMENT OF FISH AND GAME

BY: Rinda Just  
RINDA JUST  
Deputy Attorney General  
Natural Resources Division  
Statehouse, Room 210  
PO Box 83720  
Boise, Idaho 83720-0010

Dated: 2-11-97

SWORN TO AND SUBSCRIBED BEFORE ME, in my presence, this 11<sup>th</sup>  
day of February, 1997, a Notary Public in and for the County of  
Ada, State of Idaho.



Sheila Crawford  
NOTARY PUBLIC - STATE OF IDAHO  
My Commission Expires: 5/9/02

CERTIFICATE OF MAILING

I hereby certify that on this 18th day of March, 1997, I served a true and correct copy of the foregoing **STIPULATION** by depositing a copy in the U.S. mail, postage prepaid, upon the following:

Clerk of the SRBA Court (original)  
District Court  
253 3rd Avenue, North  
Twin Falls, Idaho 83303

IDWR Document Depository  
P.O. Box 83720  
Boise, ID 83720-0098

U.S. Department of Justice  
Environment and Natural Resources  
Division  
550 West Fort Street  
MSC 033  
Boise, Idaho 83724

Clive Strong, Attorney General  
Office of the Attorney General  
State of Idaho  
P.O. Box 44449  
Boise, Idaho 83711-4449

Rinda Just, Deputy Attorney General  
Idaho Department of Fish & Game  
P. O. Box 83720  
Boise, Idaho 83720-0010

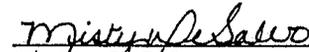
Nevada Omohundro  
2901 South 1050 East  
Hagerman, Idaho 83332

Sharlene and Ronnie Smith  
1046 East 2900 South  
Hagerman, Idaho 83332

V. John Mavencamp  
1019-B East 2900 South  
Hagerman, Idaho 83332

Patrick D. Brown, Esquire  
Hepworth, Nungester & Lezamiz,  
Chartered  
P.O. Box 389  
Twin Falls, Idaho 83303-0389  
Representing: Joan & Shelby  
Wise

John K. Simpson, Esquire  
Rosholt, Robertson & Tucker  
P.O. Box 1906  
Boise, Idaho 83303-1906  
Representing: Flying Triangle,  
Inc.; William Brailsford

  
\_\_\_\_\_  
Misty DeSalvo  
Legal Technician

Although pages #17+15  
appear to be missing  
and there are two page 18's;  
This document is  
complete.

I verified this  
with the office  
personnel at the 5<sup>th</sup> Jd  
Court in Tall Falls