

Natl Fish
Hatchery
data

7/14/2004

Attachment to Main Spring - Hagerman National Fish Hatchery

The diversions reported in the attached table are diverted under Water Right Nos. 36-00132 and 36-15448. Flow rates from eight measuring devices are used to compute the total diversion rate. Measuring device #1 (USFWS Site No. 423003) is a 48" concrete Parshall flume. Measuring device #2 (USFWS Site No. 423015) is an in-line propeller meter. Measuring device #3 (USFWS Site No. 423017) is an in-line ultrasonic meter. Measuring device #4 (USFWS Site No. 423018) is an in-line ultrasonic meter. Measuring device #5 (USFWS Site No. 423019) is an in-line turbine meter. Measuring device #6 (USFWS Site No. 544104) is a 6" Montana flume. Measuring device #7 (USFWS Site No. 423001) is an instantaneous measurement with a Marsh-McBirney current meter. The section for this measurement is a rectangular concrete channel. Measuring device #8 (USFWS Site No. 423002) is a 90 degree V-notch weir. The total diversion rate is computed by adding the measurements from the flumes, propeller meter, ultrasonic meters, and turbine meter and then subtracting the measurements from the V-notch weir and the current meter.

$$1 + 2 + 3 + 4 + 5 + 6 - 7 - 8 = \text{Main Spring}$$

1 - 410053 - Main Spring

2 - 410055 - Spring 13 (part)

3 - ~~none~~ Spring 11 overflow 410051 - Spring 11 (part or alternate?) data not provided

4 - No Wm's ID - Hatchery 2

5 - 410055 - Spring 13 (part)

6 - 410051 - Spring 11

7 - 410025 - Spring 16

8 - 410057 - Spring 15

Main Spring + Spring 11 + Spring 13 + Hatchery 2 - Spring 15 - Spring 16
(12 f'14 included)

36-15449

36-15450

sep. wr

Main + Springs 11-14

36-132, 36-15448A, 36-15448B

36-8354

7/14/2004 Main Spring = $24.8 + 0.46 + 1.04 + 2.25 - 1.15 - 6.95 = 20.45$

~~SITE NAME:~~ Old Wet Lab Weir

~~SITE NUMBER:~~ 544102

36A20030000
Spring 9

TYPE AND SIZE OF STRUCTURE:

RATING NUMBER:

90° V-notch weir

410024

SITE NAME: Bickle Lake

SITE NUMBER: 423011

TYPE AND SIZE OF STRUCTURE: 1E
RATING NUMBER: _____

REMARKS
(7)

15 ft Cippoletti weir

410049

SITE NAME: Riley Lake

SITE NUMBER: 423008

TYPE AND SIZE OF STRUCTURE:

RATING NUMBER:

7 ft Cippoletti weir

410050

SITE NAME: Tunison Lab Rwy's

SITE NUMBER: 544101

TYPE AND SIZE OF STRUCTURE:

RATING NUMBER:

$$1.58 = 3.33 \left(L - 0.2(0.42) \right) (0.4)^{1.5}$$

$$1.74 = L - 0.084$$

$$1.82 = L$$

1.82 ft contracted rectangular weir

410051

rpt w/main
Spring

SITE NAME: Spring 11 Parshall Flume (6-inch)
SITE NUMBER: 544104

410052

SITE NAME: Spring 8 ultrasonic

SITE NUMBER: 423016

410053

SITE NAME: Main Spring 4ft Parshall Flume
SITE NUMBER: 423003

410055 (a)

rpt w/main
springs

SITE NAME: Spring 13 In-line Propeller Meter
SITE NUMBER: 423015

$$4.746 \text{ AF} \times \frac{43560 \text{ ft}^2}{\text{ac}} = 206,700 \text{ ft}^3$$

7-8 11:14 Am to 7-14 10:29 Am

$$= 5 \text{ days} + 23 \text{ hr} + 15 \text{ min}$$

$$= 432,000 + 82,800 + 900$$

• 515.700 sec

$$\frac{206,700}{515,700} = 0.40 \text{ cfs}$$

410055 (b)

rpt w/
main spring

SITE NAME: Spring 13 Turbine Meter

SITE NUMBER: 483019

7-8 11:16AM to 7-14 10:31 AM

$$= 5 \text{ days} + 23 \text{ hr} + 15 \text{ min}$$

$$= 515,700 \text{ sec}$$

$$\frac{29051}{515700} = 0.056 \text{ cfs}$$

No WMS ID

Per site plan - appears to be water from Spring 13/14/15
That is not diverted to ^{collection pond} ~~ponds for~~ ~~the~~ ~~overflows to~~ ~~recess~~
~~detention tanks.~~ Does ~~not appear to be~~ ~~detention tanks.~~ Part of the water has already been
measured @ USFWS 423002 / Lums 410057.

410058 (a)

SITE NAME: Spring 17 Ultra sonic Meter
SITE NUMBER: 423004

410058 (b)

SITE NAME: Spring 17 weir

SITE NUMBER: 42302

TYPE AND SIZE OF STRUCTURE:

RATING NUMBER: _____

REMARKS
(7)

Water is being Read by

Water is now going to
we will Read from
we end up the tr

- Water is now Runn
front rewy's will be
green book

- front rewy's are
water is running
in's place book

Trout rewy back on 1
reading in ultrasonic bo

90° V-notch weir

14

SITE NAME: Domestic Well Meter

SITE NUMBER: 423020

"Hatchery 2", "Main Spring", or Brailsford Ditch

This flow is measured at either

| 70° V-notch weir | | NOTES | OBS. INT. IN. |
|------------------|-------|-------|---------------------|
| DATE | TIME | | |
| 6/3 | 8:00 | | E.W. |
| 6/9 | 10:20 | | B |
| 6-16 | 9:00 | | B |
| 6-30 | 9:05 | | M.O. |
| 6-30 | 8:30 | | E.W. |
| 7-8 | 9:56 | | E.W. |
| 7-9 | 9:02 | | M.O. |



| DATE | TIME | GAGE HEIGHT | | DISTANCE (ft. of fall) | S |
|------|-------|-------------|-----|---------------------------|---|
| | | (1) | (4) | | |
| 6/3 | 8:00 | 1.16 | 57 | 3.598 | |
| 6/9 | 10:20 | 1.15 | | 3.598 | |
| 6-16 | 9:00 | 1.16 | | 3.598 | |
| 6-30 | 9:05 | 1.16 | | 3.598 | |
| 6-30 | 8:30 | 1.16 | | 3.598 | |
| 7-8 | 9:56 | 1.16 | | 3.598 | |
| 7-9 | 9:02 | 1.15 | | 3.598 | |

90° V-notch weir