Idaho Dept of Water Resources
ESPA Spring Diversion Inventory

District 36A **Date** 7/13/2004

Basin 36 **Ditch or users association** Bill Jones Hatchery

Diversion Name Jones Hatchery **POD Number**

Spring Name Three Springs/Weatherby Spring & Hoagland Tunnel **Tributary to** Billingsley Creek/Bar S Ditch

GPS site ID **Inventory Examiner** J Berkey

Owner **Operator**

Measuring Device Data

Type of Device or Method	suppressed weir	Standard [✓ Non-standard]
If non-standard describe: 1"-thick check boards at raceway bottom		

Discharge and Measurement Method

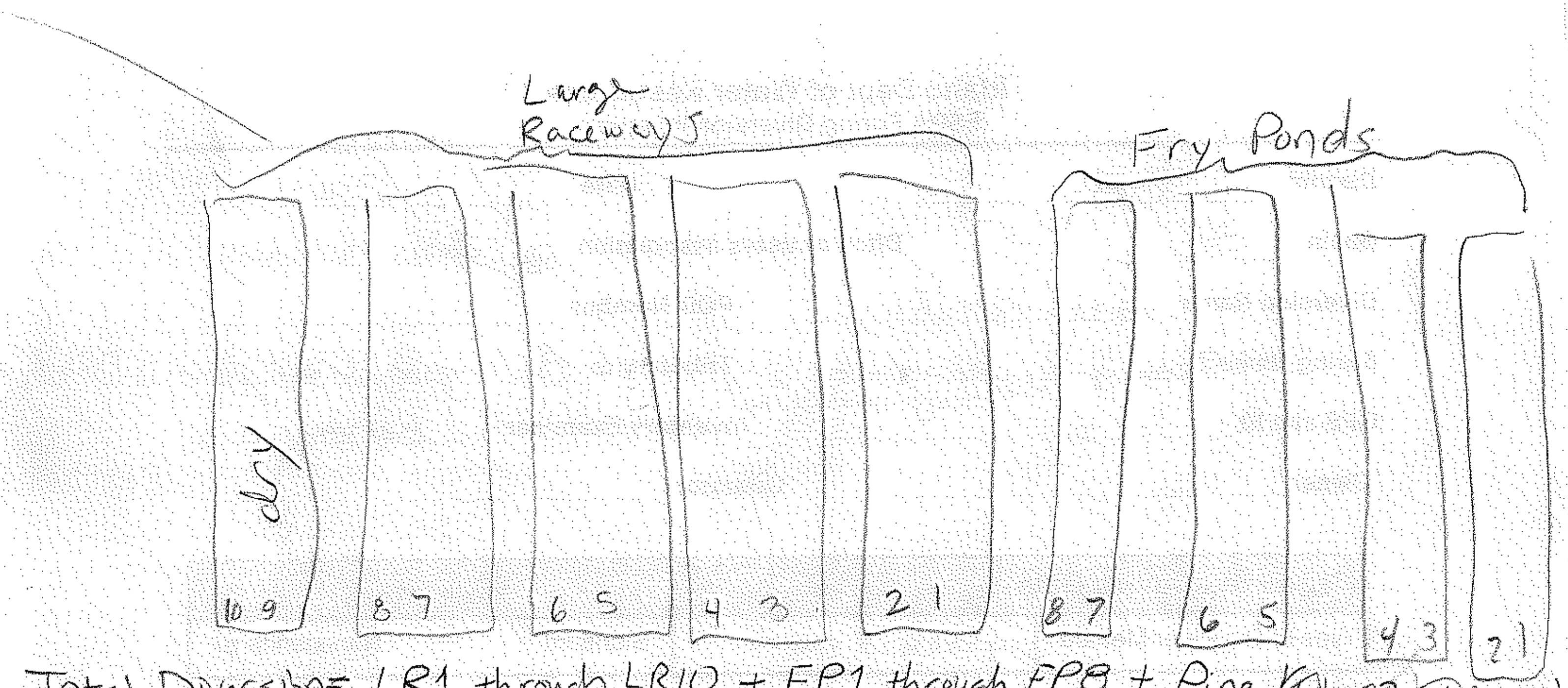
How Measurement was taken: (Staff gauge, current meter, polysonic meter) staff gauge	
Staff gauge Head Reading 20 measurements, see notes	Current Meter/or poly-sonic measurement: NA
Time of Day 2:15 -3:00PM	
Table used for Q suppressed weir formula	Meter Measurement Confidence 2% 5% 10% +10% NA
Total Flow =	Does device meet IDWR standards? YES NO
Discharge notes attached? YES NO	Measurement Taken by: J. Berkey
Calculations Attached? YES NO	Is follow-up Needed? YES NO

Concerns about measuring device: hatchery uses 4.66 board width for all Raceways 9 & 10 dry

0.454	LR 8R 4.72=L	h=0.21	LR 5R	L=4.63	h=0.23	0.511=
0.509	LR 8L L=4.61	h=0.23	LR 5L	L=4.66	h=0.24	0.548
0.425	LR 7R L=4.75	h=0.20	LR 4R	L=4.64	h=0.10	0.147
0.505	LR 7L L=4.58	h=0.23	LR 4L	L=4.65	h=0.16	0.298
0.553	LR 6R L=4.70	h=0.24	LR 3R	L=4.64	h=0.23	0.512
0.483	LR 6L L=4.68	h=0.22	LR 3L	L=4.64	h=0.21	0.447

Gordon cleaned off boards w/broom, he routinely cleans them prior to weekly measurements (which are done by another staff member now.

- uses rating table given, does not know what equation was used to derive
- measures @ center of board



Total Diversion = LR1 through LR10 + FP1 through FP8 + Pipe (~~West 2 - West 1~~)

Pipe = West 2 - West 1

West 1 ← pipe 3 Springs/Weatherby

West 2

West Tailrace spills (returns to lower raceways)
- measured for reference only

Bar S heading

LR2R L = 4.65 h = 0.16 0.298

LR2L L = 4.68 h = 0.17 0.328

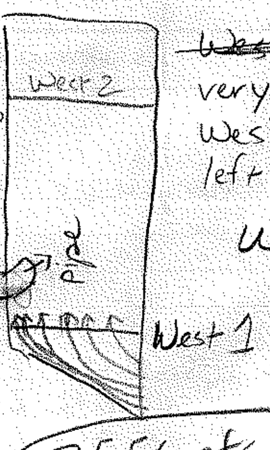
LR1R L = 4.69 h = 0.23 0.517

LR1L L = 4.58 h = 0.22 0.473

FP8 L = 4.65 h = 0.20 0.416

FP4 L = 4.82 h = 0.14 0.253

FP 1-3 ; 5-7 are dry today



West 1 L = 4.95 h = ~~0.23 in center~~
0.34 after board reset

~~West 2 L 0.~~

~~very poor approach conditions to West 1 weir, head ranges from 0.33 on left edge to 0.1 on right edge~~

West 2 L = 5.25 h = 0.43 @ center
0.47 on right edge
0.39 on left edge
0.43 in center

$Q = 3.33 L H^{1.5}$

Raceway total = ~~8.36~~ 7.68 × 3.33 = ~~27.84~~ 25.56 cfs

Pipe = 4.93 - ~~1.82~~ 3.27 = ~~3.11~~ 1.66 cfs

Total = ~~30.95 cfs~~

~~[illegible]~~

25.56 + 1.66 = 27.2 cfs

Hatchery raceway measurments

Site: Jones Hatchery
Date: 7/13/2004
WMIS ID: 410067
Source: Hoagland Tunnel, Weatherby Springs, Three Springs

Measured 16 check structures at tail end of large raceways (8 raceways were measured). 2 of 10 raceways were dry.
Measured 2 check structures at tail end of fry ponds (2 raceways were measured). 6 of 8 raceways were dry.
Measured 2 check structures, one before (West 1) and one after (West 2) pipe inflow from Three Springs/Weatherby springs pipe.
Total hatchery flow = LR1 through LR10 + FP1 through FP8 + West 2 - West 1

Hatchery staff cleaned the check boards for our measurement. Hatchery staff routinely cleans prior to weekly measurement.
Hatchery staff use a board width of 4.66 for all raceways.

RACEWAY	LENGTH ft	HEAD ft	DISCHARGE cfs
LR1L	4.58	0.22	1.57
LR1R	4.69	0.23	1.72
LR2L	4.68	0.17	1.09
LR2R	4.65	0.16	0.99
LR3L	4.64	0.21	1.49
LR3R	4.64	0.23	1.70
LR4L	4.65	0.16	0.99
LR4R	4.64	0.10	0.49
LR5L	4.66	0.24	1.82
LR5R	4.63	0.23	1.70
LR6L	4.68	0.22	1.61
LR6R	4.70	0.24	1.84
LR7L	4.58	0.23	1.68
LR7R	4.75	0.20	1.41
LR8L	4.61	0.23	1.69
LR8R	4.72	0.21	1.51
LR9L			dry
LR9R			dry
LR10L			dry
LR10R			dry
FP1			dry
FP2			dry
FP3			dry
FP4	4.82	0.14	0.84
FP5			dry
FP6			dry
FP7			dry
FP8	4.65	0.20	1.38
Raceway Total			**25.55**

SITE	LENGTH ft	HEAD ft	DISCHARGE cfs
West 1	4.95	0.34	3.27
West 2	5.25	0.43	4.93
West 2 - West 1			**1.66**
Total hatchery flow			**27.21**