

Memorandum

Date: February 3, 2012

To: Cherie Palmer

From: Craig L. Saxton

Re: Comments on licensing review for 75-7625

The memo in the file says that the **average** dept is 20' but the field exam says the **max** depth is 20'. This really doesn't make a huge difference, but if we did our analysis by assuming the 20' is a max depth, we calculate a volume requirement closer to that which was permitted and might prevent the immediate need for the water right holder to file an application to make up the difference.

Assuming the **average** depth is 20', then we calculate a storage volume that is greater than permitted and doesn't account for any evaporation losses: $(0.88 \text{ acre} * 20' * 0.6) = 11 \text{ AF}$.

This would lead to the conclusion that the water right holder would need another water right to make up the difference.

If we assumed that the 20' dept was the **max** depth instead of an **average**, we would calculate a storage volume of:

$$(0.88 \text{ acre} * 20' * 0.4) = 7.0 \text{ AF}$$

Evaporation losses were calculated to be 1.4 AF/year.

No seepage losses because the source is within the pond.

$$\text{Total volume requirements} = 7.0 + 1.4 = 8.4 \text{ AFA}$$

This allows for at least some of the volume licensed for 75-7625 to account for evaporation losses.

Precipitation Loss Calculation

Date: February 3, 2012
Prepared by: Craig L. Saxton
Water Right No: 75-7625

P = Precipitation
ET= Evapotranspiration
 P_d = Precipitation deficit
 P_d = P- ET

P_d

Found at: <http://www.kimberly.uidaho.edu/ETIdaho/>

P_d = convert to AFA: (mm/yr) / (convert to feet) x # acres =
487 / 304.8 x 0.88
(From ET Idaho)

P_d = 1.4 AFA

* Use the Precipitation Deficit for 'P' value

ET_{Idaho} 2009: Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho

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Salmon (NWS --108076) Statistics based on thirty

For a different land cover or crop click on the above link.

You can highlight this table and copy via the clipboard to a Microsoft Excel or OpenOffice spreadsheet to plot or otherwise work with this data.

Open water - shallow systems (ponds, streams)															
Precipitation Deficit (Click here for a graph)															
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Growing Season ^a	Non Growing Season ^b	Annual
Mean	mm/day												mm		
Monthly ^c	0.33	0.08	1.01	1.87	2.03	2.77	3.50	3.20	1.69	0.78	0.23	0.49	487	0	487
15-Day Moving Average ^d	0.34	0.01	1.03	1.86	1.99	2.72	3.57	3.18	1.65	0.81	0.21	0.46			
7-Day Moving Average ^e	0.34	0.04	1.01	1.85	1.98	2.73	3.54	3.19	1.65	0.80	0.24	0.46			
3-Day Moving Average ^f	0.33	0.07	1.00	1.87	2.01	2.75	3.51	3.21	1.67	0.78	0.24	0.49			
Standard Deviation	mm/day												mm		
Monthly	0.38	0.35	0.48	0.65	1.24	0.92	1.18	0.84	0.71	0.75	0.43	0.64	72	0	72
15-Day Moving Average	0.43	0.47	0.45	0.85	1.33	1.13	1.10	0.89	1.03	0.66	0.56	0.60			
7-Day Moving Average	0.64	0.62	0.66	1.16	1.80	1.69	1.48	1.15	1.35	0.98	0.80	0.81			
3-Day Moving Average	0.88	0.83	0.99	1.62	2.42	2.34	2.15	1.52	1.81	1.36	1.15	1.14			
20% Exceedance	mm/day												mm		
Monthly	0.07	0.37	1.33	2.32	2.86	3.63	4.21	3.66	2.12	1.14	0.08	0.06	540	0	538
15-Day Moving Average	0.15	0.51	1.79	2.95	3.88	4.40	4.70	4.17	2.78	1.68	0.43	0.10			
7-Day Moving Average	0.25	0.70	2.22	3.58	4.44	4.84	4.97	4.45	3.14	2.02	0.69	0.18			
3-Day Moving															