

Memorandum

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To: File 22-13709
From: Ernie Carlsen

DEPARTMENT OF WATER RESOURCES

RE: Mitigation

This application proposes to construct two ponds in an area known locally as the swamp. This wetland gets its name from the numerous springs and seeps that give rise to small streams throughout the area which covers several square miles to the east of the Teton River and west of Driggs, ID. Water diverted from the small streams is used to irrigate predominately pasture grass for stock. The applicant expects excavation of the ponds will intercept the shallow groundwater. However, the applicant has provided a mitigation plan for additional water to supplement water in the ponds and compensate for evaporation losses. Water right 22-13247 identified for mitigation is fairly junior in priority and not available every year and only for a portion of the irrigation season during those years when it is deliverable. One concern that does not appear to be addressed by the mitigation plan is how evaporation losses will be mitigated when there is standing water in the ponds but no water is available under 22-13247. Looking at data available on the website for ET Idaho at Driggs reveals the precipitation deficit for open water in shallow ponds is actually less than the precipitation deficit for low managed pasture grass and certain wetlands (see attached spreadsheet). Using this data mitigating for evaporative losses from ponds in this area is not required. However, the applicant still needs to dry up some acres to provide supplemental water to fill the ponds. This water is diverted through a ditch and will be subject to regulation by WD1.

Precipitation Deficit Driggs

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	Annual
Mean	mm/day												mm	
Monthly ^b	-0.58	0	0.47	1.29	2.03	3.31	3.35	3.17	2.02	1.13	-0.07	-0.58	476	476
daily ET		0	0.47	1.29	2.03	3.31	3.35	3.17	2.02	1.13				
days/mo	31	28	31	30	31	30	31	31	30	31	30	31		
Total ET	0	0	14.57	38.7	62.93	99.3	103.85	98.27	60.6	35.03	0	0	513.25	
20.2 inches/yr														

Grass Pasture - low management														
Precipitation Deficit (Click here for a graph)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Growing Season ^a	Annual
Mean	mm/day												mm	
Monthly ^b	-0.08	0.09	0.28	0.48	1.71	4.17	4.31	4	2.04	0.2	-0.33	-0.36	494	502
daily ET		0.09	0.28	0.48	1.71	4.17	4.31	4	2.04	0.2				
days/mo	31	28	31	30	31	30	31	31	30	31	30	31		
Total ET	0	2.52	8.68	14.4	53.01	125.1	133.61	124	61.2	6.2	0	0	528.72	
20.8 inches/yr														

Wetlands - narrow stands														
Precipitation Deficit (Click here for a graph)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Growing Season ^a	Annual
Mean	mm/day												mm	
Monthly ^b	-0.68	-0.36	-0.18	0.01	-0.09	2.05	7.27	8.71	2.51	-0.18	-0.52	-0.8	618	558
daily ET				0.01	0	2.05	7.27	8.71	2.51					
days/mo	31	28	31	30	31	30	31	31	30	31	30	31		
Total ET	0	0	0	0.3	0	61.5	225.37	270.01	75.3	0	0	0	632.48	
24.9 inches/yr														