

## Budget Justification for Hailstone and Halfbreed NWRs Selenium and Salinity Inventory

As stated in the proposal, the objectives of this project are to provide a post-dam breach inventory of surface water quality, groundwater quality, and selenium concentrations in benthic macroinvertebrates and bird eggs throughout the Lake Basin Watershed, including Hailstone and Halfbreed NWRs. For surface water, samples will be collected for metal, major anion, and major cation analysis from eight water bodies, as well as one duplicate and field blank sample for QA/QC every year for three years. For groundwater, samples will be collected for metal, major anion, and major cation analysis from eight wells, as well as one duplicate and field blank sample for QA/QC every year for three years. Lastly, macroinvertebrates and bird eggs will be sampled in the late spring/early summer of 2014 to provide an inventory of current selenium levels in biota, as well as an inventory of predicted avian teratogenic risk. Based on known occurrences of macroinvertebrates and availability to birds, Hailstone Creek, Halfbreed Lake, Goose Lake, Grass Lake, and Big Lake will be targeted for macroinvertebrate sampling, while Halfbreed Lake and Big Lake will be targeted for bird egg collection because nesting is known to occur at these two sites. Three replicate macroinvertebrate samples will be collected at each site and ten bird eggs from two different species will be targeted at each site.

In summary, there would be a total of 20 water samples collected every year for metals analysis from eight surface water sites and eight groundwater monitoring wells, with two duplicates and two field blanks collected as well. For 2014 only, a maximum of fifteen macroinvertebrate samples and 40 bird eggs will be targeted for collection for metals analysis. In addition to samples collected for metals analysis, there will be a total of 20 water samples collected every year for major anion analysis (ten surface water and ten groundwater) and 20 water samples collected every year for major cation analysis (ten surface water and ten groundwater). Tables 1, 2, and 3 provide a summary of the 2014, 2015, and 2016 budgets.

Unfortunately, the budget that was originally submitted failed to include the costs for the analysis of groundwater samples. For example, the proposed budgets for 2014, 2015, and 2016 were \$27,001, \$8,355, and \$8,523, respectively. However, if the costs for the groundwater analyses are included, the budgets for 2014, 2015, and 2016 are now \$30,045, \$12,215, and \$12,433, respectively (Tables 1-3). While the 2014 field season is not yet complete, a few of the sites were dry, so water and biota samples were not and will not likely be collected there and the maximum number of bird eggs, 40 eggs, will also not likely be reached. Therefore, the funding that was dedicated to this project for 2014, \$27,001, should cover the costs for the 2014 field season. However, this may not be the case for 2015 and 2016, especially considering that there was no funding requested to conduct biota sampling for those years. In order to ensure that all samples can be collected in 2015 and 2016, an additional \$3,860 would need to be added to the original 2015 budget and \$3,910 would need to be added to the original 2016 budget.

Table 1. 2014 Budget

Personel				
		hourly wage	hours	Cost/pp
GS-11		38.11	120	4573.2
GS-12		50.26	40	2010.4
Subtotal				6583.6
Vehicle				
		Cost/mile	Miles	Cost
Vehicle 1		0.5	1000	500
Subtotal				500
Travel				
	TAV Fee	lodging	per diem	cost
GS-11	30	332	176	538
GS-12	30	332	176	538
Subtotal				1076
Lab Costs				
	Price/sample	# Samples		
Water Metals Scan	222	20		4440
Major Anion	80	20		1600
Major Cation	80	20		1600
Animal Tissue Metals Scan	259	55		14245
Subtotal				21885
TOTAL				30044.6

Table 2. 2015 Budget

Personel				
	hourly wage	hours	Cost/pp	
GS-11	39.38	40	1575.2	
GS-12	51.94	40	2077.6	
Subtotal			3652.8	
Vehicle				
	Cost/mile	Miles	Cost	
Vehicle 1	0.5	500	250	
Subtotal			250	
Travel				
	TAV Fee	lodging	per diem	cost
GS-11	15	166	115	296
GS-12	15	166	115	296
Subtotal			592	
Lab Costs				
	Price/sample	# Samples		
Water Metals Scan	226	20	4520	
Major Anion	80	20	1600	
Major Cation	80	20	1600	
Subtotal			7720	
TOTAL			12214.8	

Table 3. 2016 Budget

Personel				
	hourly wage	hours	Cost/pp	
GS-11	40.65	40	1626	
GS-12	53.62	40	2144.8	
Subtotal			3770.8	
Vehicle				
	Cost/mile	Miles	Cost	
Vehicle 1	0.5	500	250	
Subtotal			250	
Travel				
	TAV Fee	lodging	per diem	cost
GS-11	15	166	115	296
GS-12	15	166	115	296
Subtotal			592	
Lab Costs				
	Price/sample	# Samples		
Water Metals Scan	231	20	4620	
Major Anion	80	20	1600	
Major Cation	80	20	1600	
Subtotal			7820	
TOTAL			12432.8	