August 25, 2018

Hello GWAC,

The Friends of Toppenish Creek remain dissatisfied with the GWMA Alternative Solutions. The costs of the alternatives were not adequately discussed by the GWAC, in our opinion.

With this in mind we took a closer look at the projected costs from the spreadsheet the GWAC received in May, 2018. Here are the costs for the selected alternatives according to that spreadsheet.

Alternative	Low Annual Coat	High Annual Cost	Low One Time	High One Time	Funding Source
ADM 1	100,000	100,000			Legislature
ADM 2	50,000	125,000			EPA
ADM 2	50,000	125,000			Ecology
PHS 1			50,000	100,000	Legislature
RCIM 1			5,000,000	5,000,000	Congress
RCIM 2			100,000	100,000	Legislature
RCIM 3			30,000	30,000	Legislature
RCIM 4					Ecology
RCIM 5			70,000	500,000	Permit Applicant/Subsidized
RCIM 6			10,000,000	10,000,000	Congress
RCIM 7	30,000	50,000			Legislature
RCIM 8					DOH Operating Budget
IA 1	100,000	100,000			WSU Operating Budget
IA 2			25,000	25,000	WSDA Operating Budget
IA 3			200,000	200,000	WCC Operating Budget
IA 3			200,000	200,000	WSU Operating Budget
IA 4			12,500,000	18,000,000	Identify local, state & federal programs like EQIP
IA 4			12,500,000	18,000,000	Producers/Growers
IA 5			500,000	500,000	Congress (Farm Bill)
IA 5			500,000	500,000	Ecology Capital Budget
IA 6			1,000,000	1,000,000	Ecology Capital Budget
IA 6			500,000	500,000	WSDA Capital Budget
LC 1			20,000	20,000	WSDA Operating Budget
LC 2			11,750,000	14,000,000	WSDA Capital Budget
LC 3			25,000	25,000	WSDA Operating Budget
LC 4			5,000,000	5,000,000	Legislature
LC 4			5,000,000	5,000,000	Industry
LC 5			250,000	250,000	WSU Operating Budget
LC 6			125,000	125,000	WSU Operating Budget

LC 6			125,000	125,000	Industry
LC 7					Congress
LC 8			50,000	250,000	WSDA Operating Budget
LC 8			50,000	250,000	WSU Operating Budget
LC 9			1,000,000	1,000,000	WCC Capital Budget
LC 10			250,000	250,000	Legislature
LC 10			250,000	250,000	Industry
IALC 1			50,000	60,000	Ecology Operating Budget
IALC 1			50,000	60,000	WSU Operating Budget
IALC 1			50,000	60,000	WSDA Operating Budget
IALC 1			50,000	60,000	Yakima County Operating Budget
IALC 1			50,000	60,000	SYCD Operating Budget
IALC 1			50,000	60,000	Industry
IALC 2					Operating Budgets Above in IALC 1
IALC 3					Operating Budgets Above in IALC 1
IALC 4					Operating Budgets Above in IALC 1
IALC 5					Operating Budgets Above in IALC 1
IALC 6					None
Data 1	250,000	250,000			Ecology
Data 2			75,000	75,000	WCC Operating Budget
Data 2			75,000	75,000	WSDA Operating Budget
Data 3	100,000	100,000			Legislature
Data 4			1,250,000	1,250,000	WCC Operating Budget
Data 5					NA
Data 6	100,000	125,000			Ecology Operating Budget
Data 6	100,000	125,000			DOH Operating Budget
Data 7					Ecology Operating Budget
Data 8	20,000	20,000			Ecology Operating Budget
Data 9	30,000	30,000			Ecology Grant
Data 10			300,000	300,000	Unknown
Data 11			50,000	50,000	Legislature
Data 12			625,000	625,000	WSDA Operating Budget
Data 12			625,000	625,000	Ecology Operating Budget
Reg 1	100,000	400,000			Legislature
Reg 2					NA
Reg 3					NA
Reg 4					NA
Reg 5			50,000	50,000	WSDA DNMP Operating Budget
Reg 6			10,000	10,000	Legislature
Reg 7					Developer
Reg 8					Developer/Purchaser/Permit Applicant

Reg 9			200,000	200,000	WCC Operating Budget
Reg 10	200,000	200,000			WSDA Operating Budget
Totals	1,230,000	1,750,000	70,630,000	84,820,000	

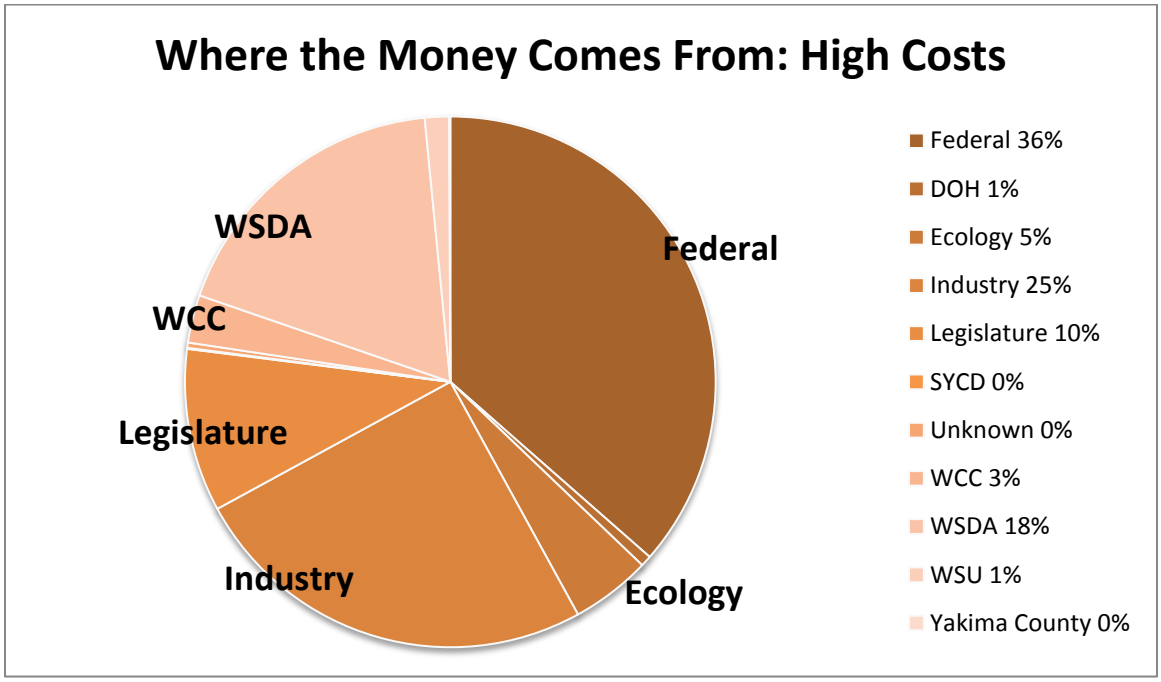
There were two types of cost estimates: annual costs and one-time costs. To estimate total costs over five years we multiplied low and high annual costs times five and added them to low and high one-time costs.

Total five year costs for the proposed plan are between $76,780,000 and $93,570,000.

We broke down the costs by funding source. Where there were several funding sources we divided the total cost equally. Where there was cost share we divided the total 50:50

Two Alternatives 52 & 53 assigned costs to Developers/Purchasers. We did not include these costs in the total analysis since we could not predict the number of future developments. Estimated fees are $25,000 to $50,000 per development and $10,000 to $50,000 per development. These costs will increase the RCIM category of spending.

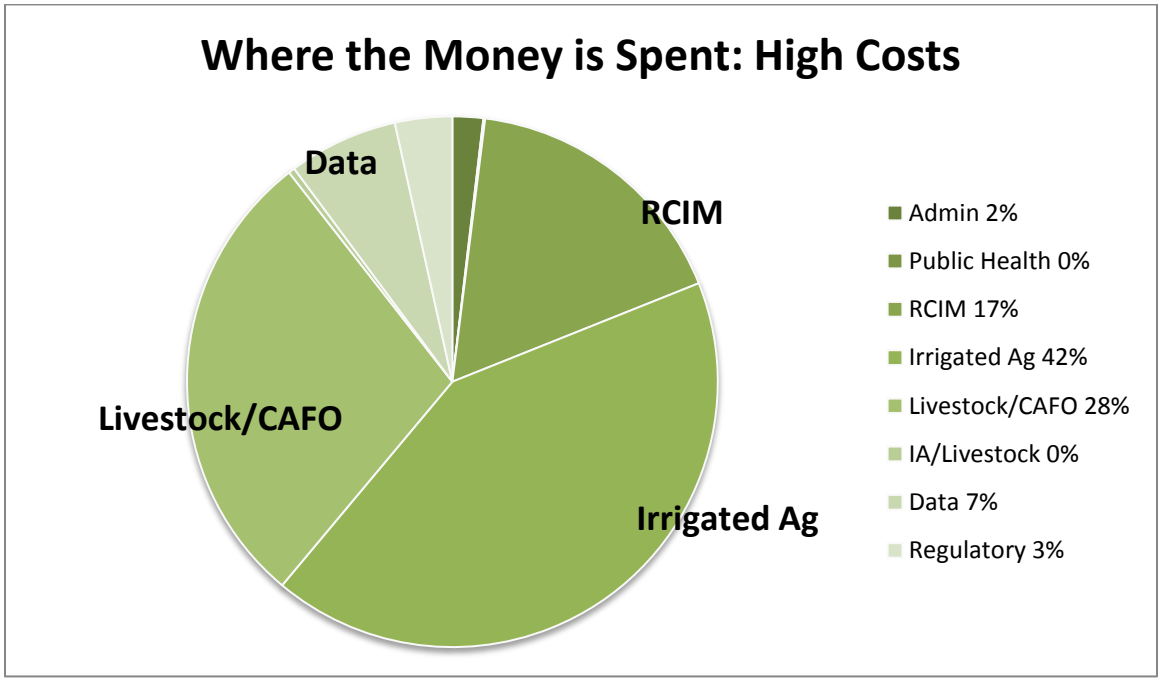
Here is a breakdown by funding source – where the money comes from for the maximum funding:



Total Costs by Funding Source for Five Years of the GWMA Plan

	Five Year Low	Five Year High	% Low	% High
Federal	28,250,000	34,125,000	37%	36%
DOH	500,000	625,000	1%	1%
Ecology	4,050,000	4,560,000	5%	5%
Industry	17,925,000	23,435,000	23%	25%
Legislature	7,210,000	9,290,000	9%	10%
SYCD	50,000	60,000	0%	0%
Unknown	300,000	300,000	0%	0%
WCC	2,725,000	2,725,000	4%	3%
WSDA	14,545,000	17,005,000	19%	18%
WSU	1,175,000	1,385,000	2%	1%
Yakima County	50,000	60,000	0%	0%
Total	76,780,000	93,570,000	100%	100%

And here is how the money would be spent at the high level:



Breakdown of cost using the categories in the GWM Alternative Solutions list

	Five Year Low	Five Year High	% Low	% High
ADM	1,000,000	1,750,000	1%	2%
PHS	50,000	100,000	0%	0%
RCIM	15,350,000	15,880,000	20%	17%
IA	28,425,000	39,425,000	37%	42%
LC	23,895,000	26,545,000	31%	28%
IA/LC	300,000	360,000	0%	0%
DATA	6,000,000	6,250,000	8%	7%
REG	1,760,000	3,260,000	2%	3%
Total	76,780,000	93,570,000	100%	100%

Here are the most expensive one-time Alternative Solutions:

South Yakima Conservation District, WA Department of Agriculture, and WSU Extension Service should collaboratively:

IA 4: Encourage advanced irrigation management. Integrate management of synthetic /organic fertilizers and application of water. (31 points received)
Recognizing that there is significant cost involved in changing an irrigation system, look for strategic opportunities where the use of more advanced irrigation management systems could have the greatest benefit for reducing nitrogen impacts to groundwater. One example of advanced irrigation management is electronic sensor irrigation water management (IWM). Identify federal, state and local incentive programs (like EQIP), such as grants, and low interest loans, to facilitate a transition to more advanced irrigation management in those areas. Provide financial assistance for 1) conversions from rill irrigation to sprinkler or drip irrigation, 2) installation of flow meters and moisture meters to reflect over-irrigation, high water table, drought conditions, 3) the cost of hiring third party sampling, measuring equipment, personnel or self-test kits, 4) management of sprinkler systems so they do not drive nutrients past the root system. Establish a voluntary irrigation management cost-share program from which data may be shared with the public.

$12, 500,000 to $18,000,000 from programs such as EQIP

WA Department of Agriculture should:

LC 2: Identify and support opportunities, including education research institutions for private, public and industry investment in technology and management of fertilizers and manures, including separation of solid and liquid wastes. (17 points received)
WSDA construct LYVGWMA administrative program.

$11,750,000 to $14,000,000 from the WSDA Capital Budget

Municipalities should:
RCIM 6: Provide funding for municipalities to replace aging sewer system infrastructure and ensure proper system maintenance to reduce nitrate leaching. (11 points received)
Municipalities need to estimate costs and system integration.

$10,000,000 from Congress – the Infrastructure Bill

Yakima County should:
RCIM 1: Encourage municipalities within the GWMA to extend municipal sewer systems within urban growth areas and retire ROSS and LOSS., alternatively extend public water systems. Encourage connection of residences within urban growth zones to sewer systems extended by municipalities. (26 points received)

$5,000,000 from Congress – the Infrastructure Bill

Producers should:
LC 4: Make capital improvements. (2 points received)
Install liners in liquid waste storage lagoons. Install impervious surfaces beneath silage storage.

$5,000,000 from the Legislature, $5,000,000 from industry

South Yakima Conservation District should:

DATA 4: Establish a multi-year Deep Soil Sampling Program where farmers subscribe for a duration with pre-determined fiscal remuneration for completed sampling. Cost share with farmer. Farmer to provide checklist indicating performance with BMPs. Test throughout growing year, in order to observe effects of fertilization throughout year. Share data with public. (25 points received)
Farmers would subscribe for a duration with pre-determined fiscal remuneration for completed sampling. Cost share with farmer. Farmer would provide checklist indicating performance with BMPs. Testing would occur throughout growing year, in order to observe effects of fertilization throughout year. Data grossly accumulated would be shared with public without attribution to individual farmers. Anecdotal results of deep soil sampling carried out by SYCD with farmers with pre-existing relationship with SYCD were informative. Word-of-mouth reporting within farmer community greatly increased acres sampled.

$1,250,000 from the WA Conservation Commission Operating Budget

Department of Ecology and WA Department of Agriculture should collaboratively:
IA 6: Make grants and allocate cost share funding or other funding assistance to people implementing environmental protection measures affecting groundwater quality. (17 points received)
Assign personnel to investigate which environmental protection measures utilized by irrigated agriculturalists and livestock/dairy producers have positive influence on groundwater quality and explore means to share costs of implementing such measures. (Coordinated DOE, WSDA, Conservation District program). See NRCS Environmental Stewardship Program (2012). Also WCC, Voluntary Stewardship Program (Bill Isler), USDA Rural Community Assistance Group environmental program.

$1,000,000 from the Ecology Capital Budget

Washington Conservation Commission should:
LC 9: Identify and support opportunities, including education research institutions for private, public and industry investment in technology and management of

fertilizers and manures, including separation of solid and liquid wastes. (26 points received)

$1,000,000 from the WA Conservation Commission Capital Budget

Here is a spreadsheet for funding from highest to lowest:

Alternative	Low Annual	High Annual	Low One Time	High One Time	Funding Source	Five Year Low	Five Year High
IA 4			12,500,000	18,000,000	Local, State & Federal such as EQIP	12,500,000	18,000,000
IA 4			12,500,000	18,000,000	Producers/Growers	12,500,000	18,000,000
LC 2			11,750,000	14,000,000	WSDA Capital Budget	11,750,000	14,000,000
RCIM 6			10,000,000	10,000,000	Congress	10,000,000	10,000,000
RCIM 1			5,000,000	5,000,000	Congress	5,000,000	5,000,000
LC 4			5,000,000	5,000,000	Legislature	5,000,000	5,000,000
LC 4			5,000,000	5,000,000	Industry	5,000,000	5,000,000
Data 1	250,000	250,000			Ecology	1,250,000	1,250,000
Data 4			1,250,000	1,250,000	WCC Operating Budget	1,250,000	1,250,000
IA 6			1,000,000	1,000,000	Ecology Capital Budget	1,000,000	1,000,000
LC 9			1,000,000	1,000,000	WCC Capital Budget	1,000,000	1,000,000
Data 12			1,000,000	1,000,000	WSDA Operating Budget	1,000,000	1,000,000
Reg 10	200,000	200,000			WSDA Operating Budget	1,000,000	1,000,000
ADM 1	100,000	100,000			Legislature	500,000	500,000
IA 1	100,000	100,000			WSU Operating Budget	500,000	500,000
IA 5			500,000	500,000	Congress (Farm Bill)	500,000	500,000
IA 5			500,000	500,000	Ecology Capital Budget	500,000	500,000
IA 6			500,000	500,000	WSDA Capital Budget	500,000	500,000
Data 3	100,000	100,000			Legislature	500,000	500,000
Data 6	100,000	125,000			Ecology Operating Budget	500,000	625,000
Data 6	100,000	125,000			DOH Operating Budget	500,000	625,000
Reg 1	100,000	400,000			Legislature	500,000	2,000,000
Data 10			300,000	300,000	Unknown	300,000	300,000
ADM 2	50,000	125,000			EPA	250,000	625,000
ADM 2	50,000	125,000			Ecology	250,000	625,000
LC 5			250,000	250,000	WSU Operating Budget	250,000	250,000
LC 10			250,000	250,000	Legislature	250,000	250,000
LC 10			250,000	250,000	Industry	250,000	250,000
Data 12			250,000	250,000	Ecology Operating	250,000	250,000

					Budget			
IA 3			200,000	200,000	WCC Operating Budget		200,000	200,000
IA 3			200,000	200,000	WSU Operating Budget		200,000	200,000
Reg 9			200,000	200,000	WCC Operating Budget		200,000	200,000
RCIM 7	30,000	50,000			Legislature		150,000	250,000
Data 9	30,000	30,000			Ecology Grant		150,000	150,000
LC 6			125,000	125,000	WSU Operating Budget		125,000	125,000
LC 6			125,000	125,000	Industry		125,000	125,000
RCIM 2			100,000	100,000	Legislature		100,000	100,000
Data 8	20,000	20,000			Ecology Operating Budget		100,000	100,000
Data 2			75,000	75,000	WCC Operating Budget		75,000	75,000
Data 2			75,000	75,000	WSDA Operating Budget		75,000	75,000
RCIM 5			70,000	500,000	Permit Applicant		70,000	500,000
PHS 1			50,000	100,000	Legislature	Ecology	50,000	100,000
LC 8			50,000	250,000	WSDA Operating Budget		50,000	250,000
LC 8			50,000	250,000	WSU Operating Budget		50,000	250,000
IALC 1			50,000	60,000	Ecology Operating Budget		50,000	60,000
IALC 1			50,000	60,000	WSU Operating Budget		50,000	60,000
IALC 1			50,000	60,000	WSDA Operating Budget		50,000	60,000
IALC 1			50,000	60,000	Yakima County Operating Budget		50,000	60,000
IALC 1			50,000	60,000	SYCD Operating Budget		50,000	60,000
IALC 1			50,000	60,000	Industry		50,000	60,000
Data 11			50,000	50,000	Legislature		50,000	50,000
Reg 5			50,000	50,000	WSDA DNMP Operating Budget		50,000	50,000
RCIM 3			30,000	30,000	Legislature		30,000	30,000
IA 2			25,000	25,000	WSDA Operating Budget		25,000	25,000
LC 3			25,000	25,000	WSDA Operating Budget		25,000	25,000
LC 1			20,000	20,000	WSDA Operating Budget		20,000	20,000
Reg 6			10,000	10,000	Legislature		10,000	10,000
RCIM 4					Ecology			
RCIM 8					DOH Operating Budget			
LC 7					Congress	Energy Bill		
IALC 2					Operating Budgets Above			
IALC 3					Operating Budgets Above			
IALC 4					Operating Budgets Above			
IALC 5					Operating Budgets Above			
IALC 6					None			
Data 5					NA			
Data 7					Ecology	$500,000 to $700,000 remaining in		

					Operating Budget	GWMA		
Reg 2					NA			
Reg 3					NA			
Reg 4					NA			
Reg 7					Developer	Purchaser		
Reg 8					Developer/Purchaser/Permit Applicant			
Totals	1,230,000	1,750,000	76,130,000	84,820,000			76,780,000	93,570,000

Thanks for Reading

Friends of Toppenish Creek

Last updated August 25, 2018