

Skagit River Feasibility Report
 alternative Analysis

Skagit River Feasibility Report Alternative Analysis													
Mitigation costs are not complete for Alternative 3 and 4													
Alternative	Description	HTW rank	Arch rank	Construction	Mitigation	Real Estate	Plan, Engr &	Total	County	Riparian	Saltwater	Farmlands	Remarks
		1=best	1=best	Cost(million)	Cost(million)	Cost(million)	Design+Constr use 10%	Cost(million)	Share	Habitat	Marsh Acres	Lost, Acres	
1	Swinomish Diversion	3	3	141	24	42	17	224	78	300	850/200	2430	Eliminated 7 May because alter 1 is too similar to alter 7. Alter 7 is favored of the two by Sponsor.
2	Small Swinomish Diversion with Setbacks	4	5	133	30	48	16	227	79	620	850/200	1870	
3	Setback Levees with Selected Overtopping 1/	not ranked	2	52	9	49	10	120	42			800	
4	Setback Levees with with Overtopping	not ranked	3	49	9	52	10	120	42			900	Alter 4 does not protect critical transportation routes during emergencies.
5	Setback Levees	5	4	146	39	86	19	290	108	570		850	Alter 5 requires extensive restoration of a closed dump site DS of the Division Street Bridge. 6/ Restoration would be 100% Sponsor Share. Routine action would be avoidance of site.
6	Samish Diversion	1	1	158	9	39	17	223	78	300	420/100	3190	Alter 6 may have a jeopardy call because of the mixing of two fish, from Samish and Skagit. 7/
7	Upper Swinomish Diversion 5/	2	3	135	24	46	16	221	77	300	640/200	2030	
8	Do nothing	not ranked	not ranked	no cost	no cost	no cost							
ALTERNATIVES BELOW ARE ELIMINATED FROM DETAILED EVALUATION, SEE FOOT NOTES													
9	Dredging 2/	not ranked	not ranked	no cost	no cost	no cost							
10	Increased Storage Existing Projects 3/	not ranked	not ranked	no cost	no cost	no cost							
11	Increased Storage New Project 4/	not ranked	not ranked	no cost	no cost	no cost							Alter 1 was eliminated 7 May because alter 1 is too similar to alter 7. Alter 7 is favored of the two by the Sponsor.
1/ Interstate 5 and Highway 99 are protected from 100 year flooding event.													
2/ Initial costs and maintance costs are very high.													
3/ Amount of storage at Upper Baker and Ross Reservoirs has already been optimized.													
4/ There is no site available for a new storage dam. The upstream rivers are in a designated wild and scenic area.													
5/ Additional benefit of a Diversion channel might include the possible protection from a volcanic lahar.													
6/ Based on the estimated size of the Land fill, cleanup or stabilization could range between \$500,000 to \$10 million. Land fill charactarization is estimated at \$200,000. Avoidance is recommended.													
7/ Alter 6 may have a jeopardy call because of discussions with NMFS on May.													
There is verble communication from the County that the overtopping with ring dikes is probably politically unbuildable.													

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1 is the Best, Ranking 1 to 8.																						
Alternative	Description	Acceptability										Completeness	Effectiveness			Efficiency (cost effectiveness)			Unweighted Ranking			
		Public Acceptance	Implementability Technical	Environmental	Economic	Financial	Political	Legal	Institutional	Social	Satisfaction Community support		Resource Agency Support	Tribal Support	Alleviates Problems	Achieves Opportunities	Risk and Uncertainty	Alleviates Problems		Realizing Opportunities		
1	Swinomish Diversion	PR 21	PKRNB 22137	S 5	J 1	PJB 447	P 2			P 2	P 2	S 1	P 2	JK 11	JK 11	PSR 271	JK 11	J 1	65			
2	Small Swinomish Diversion with Setbacks	42	32227	5	1	667	4			4	4		1	4	11	11	572	11	1	85	Second	
3	Setback Levees with Selected Overtopping 1/	65	64647	1	4	117	6			6	6		6	6	53	54	645	44	4	126		
4	Setback Levees with Overtopping	75	77746	8	7	226	7			7	7		6	7	77	76	746	77	7	185		
5	Setback Levees 6/	54	52437	2	3	778	5			5	5		2	5	11	12	414	34	3	103	Fourth	
6	Samish Diversion 7/	33	43328	7	1	558	3			3	3		8	3	11	11	533	11	1	90	Third	
7	Upper Swinomish Diversion 5/	11	11136	5	1	336	1			1	1		1	1	11	11	171	11	1	52	First	
8	Do nothing	88	81851	3	7	041	8			8	8		4	8	77	78	827	77	4	154		
ALTERNATIVES BELOW ARE ELIMINATED FROM DETAILED EVALUATION, SEE FOOT NOTES																						
9	Dredging 2/	R 9	KRNB 4911												K 2	K 5						
10	Increased Storage Existing Projects 3/	6	741												7	7						
11	Increased Storage New Project 4/	7	851												8	8						
												Entry legend		ENVIRONMENTAL ISSUES								
												Stephen Pierce	P	4-May	Overtopping wont induce flood pain development.							
												Jim Smith	J	8-May	Setbacks will create additional river habitat.							
												Monte Kaiser	K	31-May	No Action wont induce flood plain development.							
												Mike Scuderi	S	31-May	Diversion has too many questions.							
												Ron Malmgren	R	31-May								
												Norm Skielbreia	N	31-May								
												Brad Ninnis	B	4-Jun								
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7/ Alter 6 may have a jeopardy call because of discussions with NMFS on May. Issue is Skagit fish stocks being mixed with Samish fish stocks.																						