

YRBWEP Habitat Enhancement Subcommittee

Recommendations Executive Summary

The YRBWEP Workgroup (Workgroup) organized the Habitat Enhancement Subcommittee and asked subcommittee members to develop a recommended programmatic approach to enhancing aquatic habitat within the Yakima Basin. The subcommittee's recommendations build upon previous planning efforts, and are focused on enhancing funding and capacity for enhancement efforts, primarily through existing programs. The Workgroup will consider these recommendations in developing the Integrated Package.

The Habitat Enhancement subcommittee recommends that the YRBWEP workgroup include the following programmatic funding levels in the Integrated Package:

Program Element	Recommended Funding Level (\$/millions)	Geographic Areas	Timing
Mainstem Floodplain Restoration			
Tier I – Existing projects with estimated budgets	\$25	Union Gap, Ellensburg Floodplain (Schaake), Lower Naches	Phase I (Years 1 – 7)
Tier II – Existing planning efforts underway	\$50 (\$2/yr for 5 years; \$4/yr for 5 – 15 years)	Upper Ellensburg/Kittitas, Wapato, Naches/Nile, Selah/Taylor Ditch, Easton	Years 1 – 15
Tier III	\$30 (\$1/yr for 30 years)	Benton City/West Richland, Yakima Delta, & all other areas	Years 1 - 30
Program Management (management and oversight, preliminary design)	\$7.5 (or \$0.25/yr)	Basin-wide	Years 1 – 30
Subtotal	\$112.5		
Tributaries Program			
Passage/Screening Projects	\$13.85	Upper and Middle Yakima	Years 1 – 15
Habitat Restoration (Below Reservoirs)	\$16.3	Upper and Middle Yakima	Years 1 – 15
Wilson/Naneum	\$12.25	Wilson/Naneum	Years 1 – 10
Headwaters Restoration	\$8.25 (\$0.5/yr)	Headwaters above reservoirs and on USFS lands	Years 1 – 30
YN Reservation Screening/Passage/Restoration	\$25	Satus and Toppenish Creeks	Years 1 – 10
Emergent Needs Fund: Acquisition/Conservation Easement Opportunities	\$15 (\$5 upfront plus \$0.5/yr)	Basin-wide – tributaries	Years 1 – 20
Subtotal	\$90.65		
TOTAL	\$203.15 Million		

The subcommittee also recommends the Workgroup continue efforts to invite US Forest Service to participate in this process.

Expected Salmonid Benefits from Habitat Enhancements

The proposed habitat program would significantly accelerate ongoing efforts to protect existing high-value habitats, improve fish passage, enhance flows, improve habitat complexity, and reconnect side channels and off-channel habitat to stream channels. This will create improved spawning/incubation, rearing, and migration conditions for all salmonid species in the Yakima Basin, implement key strategies described in the Yakima Subbasin Plan, and complete most of the actions described in the Yakima Steelhead Recovery Plan.

This program would significantly improve prospects for recovering fish populations to levels that can sustain harvest and are resilient to catastrophic events and the potential impacts of climate change.

Effects on Water Supply

There would be no negative impacts to “total water supply available” (TWSA). Some of the proposed actions may increase tributary flows into the mainstem Yakima, which would result in a small increase in TWSA. River operations will continue to serve existing Bureau of Reclamation (Reclamation) contracts. If new sources of water are developed within the basin, the increased water supply and management flexibility would be used to support fisheries management objectives, such as enhancing adult migration in the summer, and smolt outmigration in the spring for all anadromous species, including reintroduced species.

ESA Applicability

This program will make significant progress towards meeting delisting goals for ESA-listed steelhead and bull trout. Native Chinook stocks are not listed, and this package should significantly increase Chinook production. Reintroduced coho and sockeye will not be considered ESA-listed species because these were extirpated in the Yakima Basin, and will be reintroduced from a stock not indigenous to the basin.

YRBWEP Habitat Enhancement Subcommittee

Recommendations Report

The YRBWEP Workgroup (Workgroup) organized the Habitat Enhancement Subcommittee and asked subcommittee members to develop a recommended programmatic approach to enhancing aquatic habitat within the Yakima Basin. The subcommittee's recommendations build upon previous planning efforts, and are focused on enhancing funding and capacity for enhancement efforts, primarily through existing programs. The Workgroup will consider these recommendations in developing the Integrated Package.

Background

Major habitat enhancement programs are underway in the Basin. These programs are administered by federal, state, and local agencies, and the Yakama Nation using funding from Reclamation's YRBWEP program, the Bonneville Power Administration (BPA)/Northwest Power and Conservation Council (NPCC) Fish and Wildlife Program, the Washington Salmon Recovery Funding Board (SRFB), the NOAA Pacific Coast Salmon Recovery Fund, and other sources.

The subcommittee considered existing efforts for these programs and, with input from those directly involved in many of these programs, identified unmet funding needs. While the subcommittee is providing programmatic recommendations, these were developed based upon identifying and aggregating unmet funding needs by specific geographic areas.

Recommendations

The subcommittee focused recommendations around programmatic elements that would meet these planning objectives:

Objective 1: Protect and restore floodplain habitats on the mainstem Naches and Yakima:

- 1) Protection of functional floodplain habitats
- 2) Restoration of floodplain function in major floodplain reaches

Objective 2: Protect and enhance tributary habitats:

- 1) Improve riparian conditions and instream complexity
- 2) Maintain and restore connections with floodplains and headwaters
- 3) Ensure appropriate tributary flow regimes for fish needs
- 4) Improve upstream and downstream fish passage

Mainstem Floodplain Restoration – Relocate levees and reconnect floodplains to river channels, reestablish side channels, restore riparian conditions, and protect high-value habitat.

Mainstem Floodplain Restoration				
Program Element	Recommended Funding Level¹ (\$/millions)	Geographic Areas and Improvements	Timing	Comments
Tier I – Existing projects with estimated budgets	\$16 (<i>includes previously expected US Army Corps of Engineers [USACE] WRDA \$\$</i>)	Union Gap: levee setback, floodplain restoration, property acquisition, modify Wapato dam	Years 1 – 5	Funding could be requested through Reclamation and USACE, or just Reclamation.
	\$7.5	Upper Ellensburg Floodplain levee setback and channel restoration, floodplain restoration and property acquisition	Years 1 – 7	Umptanum Rd. Bridge to Ringer Rd. Washington Department of Fish and Wildlife (WDFW) boat launch; includes the Schaae property.
	\$4	Lower Naches: develop design, levee setback, floodplain restoration, property acquisition, diversion modifications	Years 1 – 7	Includes Lower Cowiche, Eschbach area, upstream levees, Yonker and Glead diversions. Connected to Wapatox project.
Tier II – Existing planning efforts underway ²	\$50 (\$2/yr for 5 years; \$4/yr for 5 – 15 years)	Upper Ellensburg/Kittitas, Wapato, Easton, Selah/Taylor Ditch	Years 1 – 15	Develop design, levee setback, floodplain restoration, property acquisition, diversion modifications.
Tier III ³	\$30 (\$1/yr for 30 years)	Benton City/West Richland, Yakima Delta ⁴ , and all other areas	Years 1 – 30	Develop design, levee setback, floodplain restoration, property acquisition, diversion modifications.
Program Management ⁵	\$7.5 (or \$0.25/yr for 30 years)	N/A	Years 1 – 30	Increased capacity for project management and oversight, preliminary and final design, and administration.
Total	\$112.5 Million			

¹ Provide for flexibility in allocating funding to additional project sponsors beyond Reclamation to leverage existing implementation capacities.

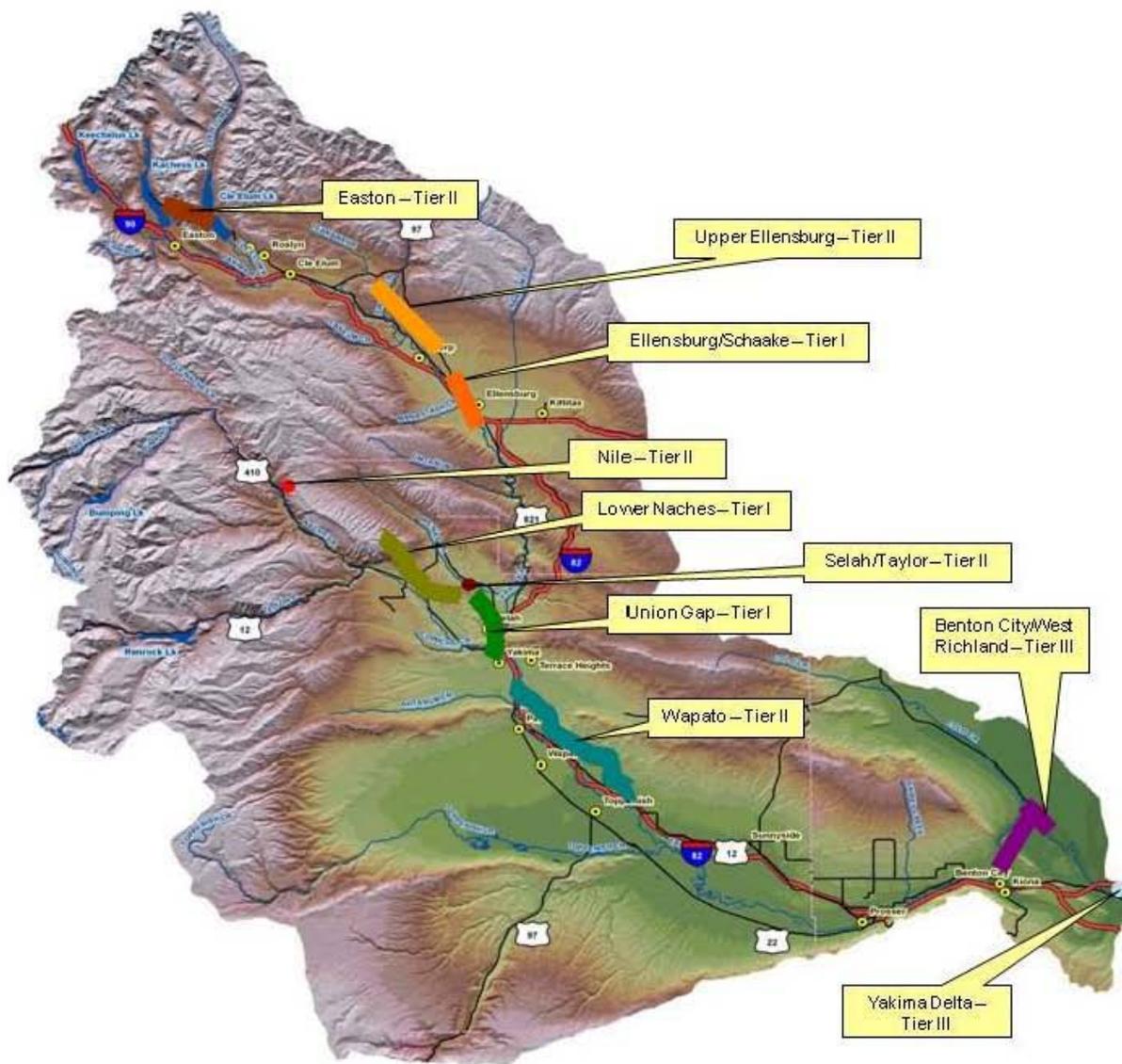
² Projects within this tier move forward based upon integration with Integrated Package water projects, and land use and land availability opportunities.

³ Need to have program flexibility as some Tier III projects could move up and Tier II could move back in time, depending upon priorities, readiness to proceed, and new information developed over time.

⁴ Focus on modifying delta hydrology to improve temperature conditions to improve salmonid passage/rearing.

⁵ Assumes reach assessments are completed as part of Yakima River Basin Study (2010).

Figure 1 – Tier I, II and III Reaches



Tributaries Program Elements⁶				
Program Element	Recommended Funding Level (\$/millions)	Geographic Areas and Improvements	Timing	Comments
Passage & Screening Projects	\$9	Upper Yakima	Years 1 – 15	
	\$4.1	Middle Yakima	Years 1 – 15	
Subtotal	\$13.1			
Habitat Restoration & Enhancement (below reservoirs)	\$9.5	Upper Yakima – Habitat restoration: (e.g., fencing plantings, large woody debris, side-channel/ floodplain, nutrient enhancement, instream flow enhancement.	Years 1 – 15	
	\$5.8	Middle Yakima – Habitat restoration (e.g., Fencing plantings, large woody debris, side-channel/ floodplain, nutrient enhancement, instream flow enhancement.	Years 1 – 15	
Subtotal	\$14.45			
Wilson/Naneum – Passage/Screening	\$11.25	Confirm water management plan/Capital Improvement Plan (CIP), upgrade and consolidate diversions, provide fish passage and instream flow improvements.	Years 1 – 10	Links to supply fixes (storage and operational improvements and exchanging TWSA for tributary water). Involves Kittitas Reclamation District (KRD), Ellensburg Water Company, and Cascade Irrigation District along with landowners.
Wilson/Naneum – Habitat	\$1	Instream and riparian habitat improvements, floodplain restoration, and conservation easements.	Years 1 – 10	
Subtotal	\$12.25			
Headwaters Restoration (Above Reclamation Reservoirs)	\$3.75	Headwaters restoration and passage above reservoirs and on USFS lands: roads, culverts, channel improvements, LWD and other habitat improvements	Years 1 – 15	Bull trout and anadromous fish emphases
	\$2.5	South Fork Tieton River (primarily new bridge; reroute	Years 1 – 15	Bull trout emphasis

⁶ Provide for flexibility in allocating funding to additional project sponsors beyond Reclamation to leverage existing implementation capacities.

Tributaries Program Elements ⁶				
Program Element	Recommended Funding Level (\$/millions)	Geographic Areas and Improvements	Timing	Comments
		the South Fork to, or near, its historic channel at the mouth)		
	\$1.5 (\$0.05/yr)	Seasonal task force passage projects ⁷ to ensure unimpeded passage into spawning tributaries above the storage reservoirs.	Years 1 – 30	Bull trout emphasis
	\$0.5	Gold Creek hydrogeology report and restoration design	Years 1 – 15	Bull trout emphasis
Subtotal	\$8.25 (\$0.5/yr)			
YN Reservation Screening/Passage/Rest oration	\$25	Implement Toppenish Creek Corridor program, and improve Satus Creek: screening, passage, riparian restoration	Years 1 – 10	Toppenish Plan within a few weeks of having updated budget – update estimate then.
Emergent Needs Fund: Acquisition/ Conservation Easement Opportunities	\$15 (\$5 upfront [Year 1], then \$0.5/yr)	Basin-wide – tributaries	Years 1 – 20	<p>Guidelines</p> <ul style="list-style-type: none"> • For projects that either fall outside other programs, or are particularly time sensitive • Expect use for acquisitions (fee simple and easement),that need to be completed rapidly • Connected to identified fish benefit/riparian, or water right acquisition • Leverage mitigation benefit/project opportunity • Seed money for studies would be administrated by an organization (not yet identified)
TOTAL	\$90.65			
GRAND TOTAL	\$203.15 Million			

⁷ The function of the task force is to remove recreational dams and to install/remove temporary passage facilities to allow bull trout passage from the reservoirs into the tributaries in low water years.

Other

Recommend Workgroup continue efforts to invite US Forest Service to participate in process.

Integrated Package Linkages

To be developed

Expected Salmonid Benefits from Habitat Enhancements

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Effects on TWSA

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ESA Applicability

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Suggested 2010 Action

Conduct key tributary and mainstem floodplain restoration reach level conceptual planning and budget estimate validation/updates as part of Yakima River Basin Study, in partnership with

local agencies. Also consider whether programmatic National Environmental Policy Act (NEPA) review documentation could be developed as part of this effort. Consider how this program could be integrated with County flood hazard reduction planning efforts.

Key Information Sources

The subcommittee relied primarily on input from subcommittee members and from project lists developed by the North Yakima and Kittitas County Conservation Districts (Attachments A-1 and A-2).

Attachment A-1

David Child

YRBWEP Habitat Sub-Committee

September 25, 2009

Re: North Yakima Conservation District, unmet funding for main stem and tributary passage, restoration and protection programs.

Habitat Sub-Committee,

The following narrative expresses unmet funding needs of the NYCD related to our participation within the Yakima Tributary Access and Habitat Program (YTAHP). YTAHP was created by and is a partnership of non-profit, local, state, federal and Tribal entities that address screening, passage and habitat needs related to fish recovery within the Yakima River Basin.

Although our focus is on screening/passage/habitat, it should be noted that our work seeks to integrate our project work with many of the items (seven) that the Yakima River Basin Water Enhancement Program is dealing with, such as water conservation. Because of our individual entities unique abilities we can also be called upon to assist in many implementation activities that will be identified in YRBWEP's package.

The following is a list of NYCD tributaries and unmet funding needs. They are numbered. The number 1 item is for near term known needs, those that can be implemented within 1-3 years. The number 2 item is for out year estimated needs. These items can be based on known needs, actions necessary or relevant upon YRBWEP actions or simply brainstorming ideas within NYCD. Item 3 is listed separated and is a near-term 1-3 year need for habitat measures. These measures include in-stream improvements, restoration, bank enhancement, floodplain development and the use of Conservation Easements.

Ahtanum Creek watershed

1. Passage and Screening – \$455,000.00
2. Passage and Screening – \$1,000,000.00 (primarily based on a “Pine Hollow” scenario/bachelor creek).
3. Habitat – \$250,000.00

Wide Hollow Creek Watershed (lower end)

1. Passage and Screening – \$249,000.00
2. Passage and Screening – \$200,000.00 (steep-pass)
3. Habitat – \$25,000.00 in current channel, (? \$500,000.00 relocation of creek).

Cowiche Creek Watershed

1. Passage and Screening – \$1,256,000.00 (includes from mouth to upper watershed).
2. Passage and Screening – \$ 0
3. Habitat – \$2,300,000.00 (primarily Conservation Easements with ready willing and able landowner in upper watershed).

Tieton River Watershed

1. Passage and Screening – \$32,000.00
2. Passage and Screening – \$0
3. Habitat – \$ no figure at this time.

Rattlesnake Creek Watershed

1. Passage and Screening – \$10,000.00
2. Passage and Screening – \$0
3. Habitat – \$ no figure at this time.

Nile Creek Watershed

1. Passage and Screening – \$5,000.00
2. Passage and Screening – \$0
3. Habitat – \$1,000,000.00

Gold Creek Watershed

1. Passage and Screening – \$75,000.00
2. Passage and Screening – \$0
3. Habitat – \$ no figure at this time.

Naches River Area

1. Passage and Screening – \$ no figure at this time.
2. Passage and Screening – \$ no figure at this time.
3. Habitat – \$ no figure at this time, however NYCD would like to discuss a large Conservation Easement program for this area that could include floodplain development with private landowners.

Buckskin Slough Area

1. Passage and Screening – \$0
2. Passage and Screening – \$170,000.00
3. Habitat – \$500,000.00

Taylor Ditch Area (first step is to work with issues related to zoning to develop a mitigated agreement)

1. Passage and Screening – \$100,000.00
 2. Passage and Screening – \$0
 3. Habitat – \$700,000.00
- Note that this should be considered a complete package – 1 and 3 at the same time.

Wenas Watershed (NYCD believes that a comprehensive watershed plan is needed and that there is clear opportunity for YRBWEP action within this watershed.)

1. Passage and Screening – \$50,000.00

2. Passage and Screening – \$250,000.00
3. Habitat – \$250,000.00 without Conservation Easement Program

Blue Slough Area

1. Passage and Screening – \$219,000.00
2. Passage and Screening – \$ 0
3. Habitat – \$ no figure at this time, BOR's YRBWEP current activities will determine need.

Thank you for the opportunity for the North Yakima Conservation District to provide this list as part of our YTAHP unmet funding needs to your sub-committee process. If you have any questions, please contact me at 509-454-5736 ext 5.

Please remember as you continue to work within the YRBWEP overall process that Conservation Districts are capable of assisting with many other activities. Don't hesitate to call upon us.

Sincerely,

Michael Tobin

NYCD Manager

Attachment A-2

Summary of North Yakima Conservation District Habitat Enhancement Funding Estimates⁸ for the Middle Yakima River			
Geographic Area	Passage and Screening (millions of dollars)	Habitat (millions of dollars)	Assumptions
Ahtanum	1.500	0.25	
Wide Hollow	0.500	0.50	Includes Creek relocation
Cowiche	1.300		\$2.3 million habitat not included – upland
Tieton	0.030	0.10	Assumed habitat value
Rattlesnake	0.001	0.50	Assumed habitat value
Nile	0.001	1.00	
Gold	0.080	0.50	Assumed habitat value
Naches		1.00	Assumed habitat value
Buckskin	0.200	0.50	
Taylor Ditch	0.100	0.70	
Wenas	0.300	0.25	
Blue Slough	0.200	0.50	Assumed habitat value
Totals	\$ 4.200	\$ 5.8	

⁸ Stream-specific estimates were used to arrive at programmatic level funding requests and should not be restricted to restoration budget needs for individual streams. Funding should be allocated at the programmatic level and on a prioritized, annual basis.

Attachment B-1

David Child

YRBWEP Habitat Sub-Committee

September 29, 2009

Re: Kittitas County Conservation District, unmet funding for main stem and tributary passage, restoration and protection programs.

Habitat Sub-Committee,

The following information is provided in response to your request to the Kittitas County Conservation District (KCCD). I'm following the format established by the North Yakima Conservation District (NYCD). As with NYCD's request, the following request from the KCCD includes screening, passage, and habitat needs. We seek to integrate our project work with many of the items (seven) that the Yakima River Basin Water Enhancement Program is dealing with, such as water conservation. Because of our individual entities unique abilities we can also be called upon to assist in many implementation activities that will be identified in YRBWEP's package.

The following is a list of KCCD tributaries and unmet funding needs. They are numbered. The number 1 item is for near term known needs, those that can be implemented within 1-3 years. The number 2 item is for out year estimated needs. Although the notations below refer to Passage and Screening, it should be noted that irrigation system delivery and application (pipes and sprinklers) are included in the cost estimates. The hydrology of the Kittitas Valley is complicated by the interactions between the canals and streams. In order to correct barriers or cost effectively remedy unscreened diversions, the irrigation water systems must be addressed. Item 3 is listed separately and is a near-term (1-3 year) need for habitat measures. These measures include in-stream improvements (including flow), restoration, bank enhancement, floodplain development and the use of conservation easements.

Wilson/Naneum/Coleman Creek Watershed

1. Passage and Screening – \$1,250,000.00
2. Passage and Screening – \$10,000,000.00
3. Habitat – \$ 1,000,000.00 (Instream improvements, riparian habitat, floodplain functionality, conservation easements)

Cherry Creek (Cooke/Caribou/Parke Creeks) Watershed

1. Passage and Screening – \$1,950,000.00
2. Passage and Screening – \$4,500,000.00
3. Habitat – \$ no figure at this time

Reecer Creek (including Currier Creek) Watershed

1. Passage and Screening – \$750,000.00
2. Passage and Screening – \$200,000.00
3. Habitat – \$ 1,000,000

Dry Creek Watershed

1. Passage and Screening – \$150,000.00
2. Passage and Screening – \$10,000.00
3. Habitat – \$250,000.00

Manastash Creek Watershed

1. Passage and Screening – \$1,175,000 (completion of consolidated diversion pipeline, and removal of the three decommissioned irrigation withdrawals)
2. Passage and Screening – \$0
3. Habitat – \$3,000,000.00 (primarily projects to secure additional in-stream flow in Manastash Creek)

Tanuem Creek

1. Passage and Screening – \$0
2. Passage and Screening – \$0
3. Habitat – \$ no figure at this time.

Swauk Creek Watershed

1. Passage and Screening – \$0
2. Passage and Screening – \$0
3. Habitat – \$ no figure at this time.

Teanaway River Watershed

1. Passage and Screening – \$0
2. Passage and Screening – \$0
3. Habitat – \$2,500,000.00 (primarily instream habitat work to address erosion, riparian habitat, and floodplain function).

Mainstem Yakima River (and Side Channels)

1. Passage and Screening – \$0
2. Passage and Screening – \$250,000.00
3. Habitat – \$500,000.00

Thank you for the opportunity for the KCCD to provide this list as part of our YTAHP unmet funding needs to your sub-committee process. If you have any questions, please contact me at 509-925-8585 ext 4.

Please remember as you continue to work within the YRBWEP overall process that Conservation Districts are capable of assisting with many other activities. Don't hesitate to call upon us.

Respectfully,

Anna Lael, District Manager

Attachment B-2

Summary of Kittitas Conservation District Habitat Enhancement Funding Estimates⁹ for the Upper Yakima River			
Geographic Area	Passage and Screening (millions of dollars)	Habitat (millions of dollars)	Assumptions
Wilson/Naneum/Coleman	Included in other table		
Cherry	6.50	1.00	Assumed habitat value
Reecer	1.00	1.00	
Dry	0.20	0.25	
Manastash	1.20	3.00	
Taneum	0.50	1.00	Assumed values
Swauk	0.00	1.25	Assumed habitat value, including stream flow enhancement
Teanaway	0.00	2.50	
Mainstem Yakima/Sides	0.25	0.50	
Totals	\$9.65	\$10.50	

⁹ Stream-specific estimates were used to arrive at programmatic level funding requests and should not be restricted to restoration budget needs for individual streams. Funding should be allocated at the programmatic level and on a prioritized, annual basis.