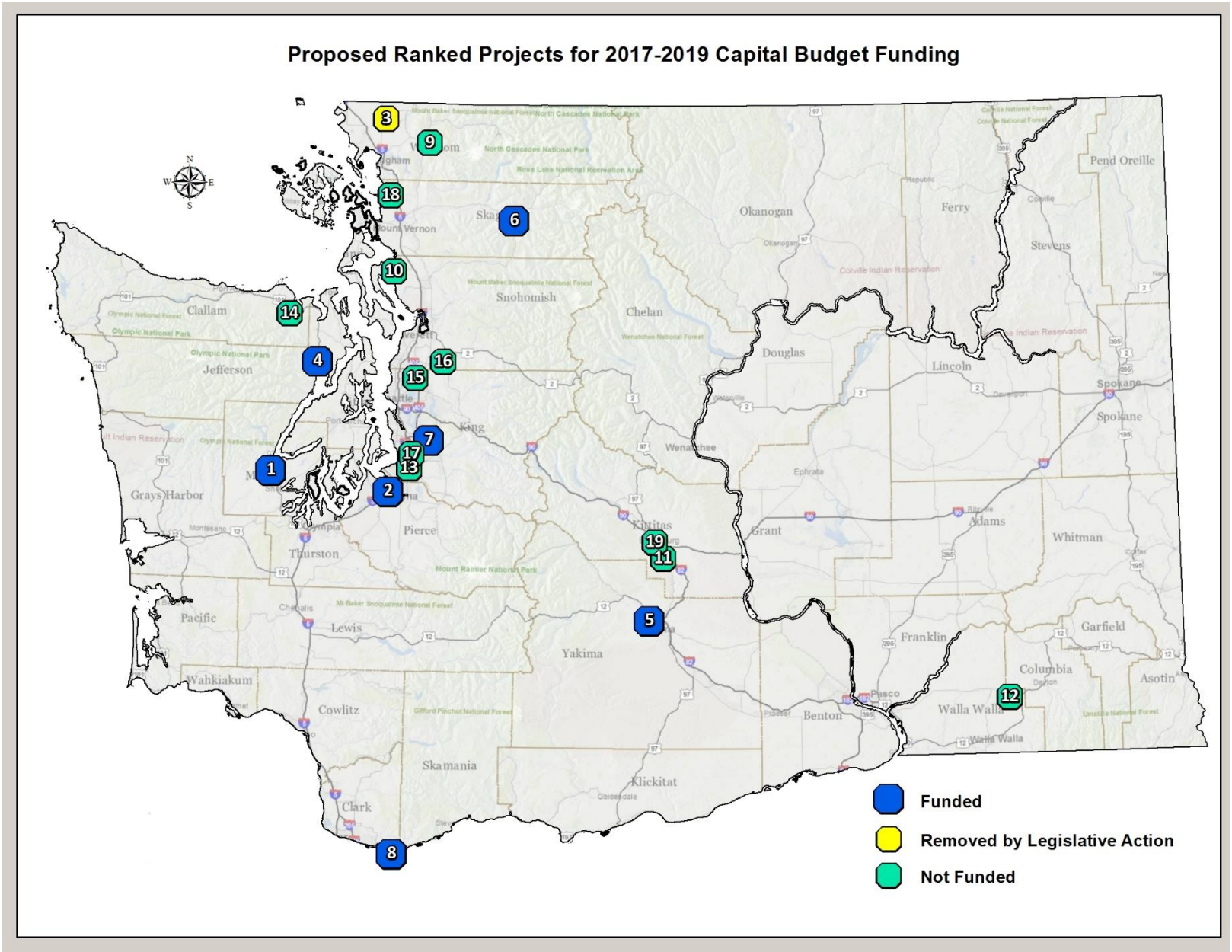
Floodplains by Design

• REDUCING RISK, RESTORING RIVERS •

DEPARTMENT OF ECOLOGY
State of Washington

Cyclists along the Yakima River

Proposed Ranked List of Projects for 2017-19 Capital Budget Funding


Proposed Ranked Projects for 2017-2019 Capital Budget Funding
3
9
18
6
10
14
4
16
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7
17
13
1
2
19
11
5
12
8
Funded
Removed by Legislative Action
Not Funded
Clallam
Jefferson
Grays Harbor
Pacific
Wahkiakum
Cowlitz
Skamania
Clark
Lewis
Thurston
Pierce
King
Snohomish
Skagit
Whatcom
Okanogan
Chelan
Douglas
Kittitas
Yakima
Benton
Klickitat
Grant
Adams
Franklin
Pasco
Walla Walla
Columbia
Garfield
Asotin
Whitman
Lincoln
Spokane
Stevens
Ferry
Pend Oreille

Ecology FY 2017-19 Proposed Floodplain by Design Project List

Rank	Project Description	Grant Request	Running Total
1	Skokomish Watershed Ecosystem & Floodplain Restoration (Mason Conservation District)	$7,000,000	$7,000,000
2	Floodplains for the Future: Puyallup, White & Carbon Rivers (Pierce County Surface Water Management)	$7,750,000	$14,750,000
3	Lower Nooksack River: Floodplains for the Future Phase 1 (Whatcom County Public Works Department)	$5,835,000	$20,585,000
4	Lower Big Quilcene River Design & Acquisition Project (Hood Canal Salmon Enhancement Group)	$2,355,526	$22,940,526
5	Rambler's Park Phase VI (Yakima County Public Services Department)	$5,788,136	$28,728,662
6	Barnaby Reach Outreach and Design (Skagit River System Cooperative)	$415,000	$29,143,662
7	Riverbend Reach Construction Phase 1 (King County Water and Land Resources Division)	$7,500,000	$36,643,662
8	Steigerwald Flood Risk Reduction & Habitat Restoration Project (Lower Columbia Estuary Partnership)	$4,579,547	$41,223,209
9	Lower Middle Fork Floodplain Restoration (Whatcom Land Trust)	$500,000	$41,723,209
10	Lower Stillaguamish Fish, Farm, and Flood Management Project Phase II (Stillaguamish Tribe of Indians)	$5,000,000	$46,723,209
11	Yakima River Corridor Plan Implementation (Kittitas County Public Works Department)	$5,092,500	$51,815,709
12	McCaw Floodplain Restoration Phase B (Walla Walla County Conservation District)	$400,000	$52,215,709
13	Lower Russell Road Levee Setback and Habitat Restoration (King County Water and Land Resources Division)	$1,000,000	$53,215,709
14	Dungeness Off-channel Reservoir and Floodplain Restoration (Washington Water Trust)	$4,480,000	$57,695,709

15	Wayne Sammamish Riverfront Project (Forterra NW)	$500,000	$58,195,709
16	Lower Skykomish & Snohomish River Reach-Scale Projects Pipeline (Snohomish County Public Works Department)	$3,391,000	$61,586,709
17	Downey Farmstead Restoration Project (City of Kent Public Works)	$5,238,626	$66,825,335
18	Colony Creek Comprehensive Floodplain Enhancement Project (Skagit County Public Works)	$350,000	$67,175,335
19a	Reecer, Currier & Whiskey Creek Phase III (Kittitas County Public Works)	$2,824,665	$70,000,000
Qualified project proposals below $70,000,000 funding line			
19b	Reecer, Currier & Whiskey Creek Phase III (Kittitas County Public Works)	$2,185,085	$72,185,085
20	Gap to Gap 1135 Locally Preferred Alternative (Yakima County Public Services)	$2,000,000	$74,185,085
21	Upper Methow (Stafford) Flood Risk and Floodplain Restoration (Methow Conservancy)	$500,000	$74,685,085
22	Hansen Creek Reach 5 Restoration (Skagit County Public Works)	$3,028,500	$77,713,585
23	Snoqualmie Riverfront Acquisition & Bank Stabilization (City of Snoqualmie)	$1,389,000	$79,102,585
24	Manastash Creek Corridor Plan Phase II (Kittitas County Public Works)	$499,176	$79,601,761
25	Protecting and Enhancing Floodplain Habitats along the Nisqually River (Nisqually Land Trust)	$2,770,061	$82,371,822
26	Middle Entiat Cottonwood Flats Floodplain Reconnection Project (Chelan County Natural Resource Department)	$723,714	$83,095,536
27	Bridge to Bridge Phase II (Tri-State Steelheaders)	$273,910	$83,369,446
28	South Fork Snoqualmie River Levee Setback (City of North Bend)	$7,000,000	$90,369,446
29	Cowlitz Bend Floodplain Reconnection (Cowlitz Indian Tribe)	$9,805,014	$100,174,460

1. Skokomish Watershed Ecosystem & Floodplain Restoration

Proponent: Mason Conservation District	**County:** Mason	**Requested Amount:** $7,000,000
Legislative District: 35	**River:** Skokomish	**Match:** $1,697,500

Project Summary: The Mason Conservation District will advance a suite of construction and design projects to reduce flood hazards on the most frequently flooded river in Washington state and restore habitat throughout the Skokomish Watershed. This project will address the massive sediment aggradation that has degraded the ecosystem and increased flood duration and severity. This will be accomplished by reconnecting 182 acres of floodplain including more than 40 acres of wetland, reducing erosion rates along 4 miles of river, increasing channel capacity, removing 5,400' of levee, constructing over 7,000' of set-back levee and installing large woody debris throughout 3.6 miles of channel.

2. Floodplains for the Future: Puyallup, White & Carbon Rivers

Proponent: Pierce County Surface Water Management	**County:** Pierce	**Requested Amount:** $7,750,000
Legislative District: 31	**River:** Puyallup, White, & Carbon	**Match:** $ 1,879,375

Project Summary: Pierce County and partners will advance a suite of pre-construction and construction activities that are the next steps in implementing a comprehensive watershed scale approach to flood risk reduction, ecosystem restoration and agricultural viability in the Puyallup, White and Carbon Rivers. The Puyallup Watershed ranks among the highest in the state for frequency and magnitude of flood damage and its habitats are degraded, and prime floodplain soils are being removed from agricultural production. This project will address these issues by: 1) acquisition, design, or construction of 11 on-the-ground projects to restore floodplains, 2) identifying agricultural viability actions, 3) integrate agricultural priorities into the Clear Creek project and selecting a conceptual design, 4) conserving 150-300 acres of farmland through easements, and 5) monitoring to track progress toward goals across interests.

3. Lower Nooksack River: Floodplains for the Future Phase 1

Proponent: Whatcom County Public Works Department	**County:** Whatcom	**Requested Amount:** $5,835,000
Legislative District: 42	**River:** Nooksack	

Project Summary: Whatcom County will lead this project to reduce flood hazard, restore ecosystems and improve agricultural viability in the lower Nooksack River. Proposed actions include: 1) levee design to improve protection to three Ferndale area treatment facilities, restore riverside vegetation and complete a pedestrian trail, 2) levee setback feasibility downstream of Ferndale to address

sediment impacts, 3) Fishtrap Creek levee setback preliminary design to reduce upstream flood levels, enhance streamside vegetation, and improve agricultural drainage, 4) design and construction of the Lynden Levee and culvert to reduce flood risk and improve habitat, and 5) acquisition of property and development right from willing sellers for human health and safety and floodplain restoration between Deming and Everson.

4. Lower Big Quilcene River Design & Acquisition Project

Proponent: Hood Canal Salmon Enhancement Group	**County:** Jefferson	**Requested Amount:** $2,355,526
Legislative District: 24	**River:** Big Quilcene	**Match:** $ 571,215

Project Summary: Hood Canal Salmon Enhancement Group will complete a final design for the lower 3 miles of the Big Quilcene River that will reduce flood risk, restore floodplain habitats, protect shellfish resources, and enhance water quality, recreational access, educational opportunities, and economic vitality in the local community. This project directly addresses costly and frequent flooding and degraded habitat and water quality through a community-based process that ensures a broad range of community needs and concerns are addressed. Project activities will also include acquiring key floodplain parcels from willing sellers needed for project implementation.

5. Rambler's Park Phase VI

Proponent: Yakima County Public Services Department	**County:** Yakima	**Requested Amount:** $5,788,136
Legislative District: 15	**River:** Naches	**Match:** $0

Project Summary: The project is a continuation of prior Yakima County, Yakima City and Floodplains by Design efforts to reduce the flood damages and ecological degradation from historic infrastructure along a 2.6 mile reach of the Naches River that is considered to have the highest potential for ecosystem restoration. This project includes 1) removal of the downstream 600 feet of McCormick Levee, 2) acquiring 140 acres and excavating & reestablishing 6500 feet of abandoned side channels through the aggraded central Naches River floodplain deposits, 3) channel excavation and road armoring in a previous levee setback area, and 4) expansion of the Nelson Dam fish bypass. Combined, these actions will optimize the habitat, sediment passage, flood risk reduction, and boating opportunities.

6. Barnaby Reach Outreach and Design

Proponent: Skagit River System Cooperative	**County:** Skagit	**Requested Amount:** $415,000
Legislative District: 39	**River:** Skagit	**Match:** $0

Project Summary: The goal of this project is to improve floodplain function, restore fish and wildlife habitat, and reduce flood and erosion risks for the community in the Barnaby Reach of the Skagit River. The Skagit River is the largest river system in the Puget Sound and a project in the Barnaby Reach has the potential to significantly contribute to habitat recovery goals. Skagit River System Cooperative and area conservation landowners will work with key stakeholders to assess the feasibility of actions that restore hundreds of acres of floodplain and maintain or improve erosion protection and flood conditions for local residents. A preliminary design for the preferred project concept will be completed.

7. Riverbend Reach Construction Phase 1

Proponent: King County Water and Land Resources Division	**County:** King	**Requested Amount:** $7,500,000
Legislative District: 11	**River:** Cedar	**Match:** $1,500,000

Project Summary: This multi-objective project will reduce flooding and channel migration risks in the Riverbend Reach of the Cedar River, while improving habitat. The proposed actions will (1) remove up to 1400 linear feet of levee/revetment to allow channel expansion in the upper half of the project site (2) remove 147,000 cubic yards of floodplain fill behind levee/revetments (3) construct up to 2400 linear feet of setback protection to protect existing infrastructure. (4) construct 6400 linear feet of new side channel (5) plant 19 acres of floodplain and (6) add 213 pieces of large wood. These actions will reduce 100 year flood elevations within the right bank neighborhood by as much as two feet. A portion of the site will be open to the public to enjoy for passive recreational use.

8. Steigerwald Flood Risk Reduction & Habitat Restoration Project

Proponent: Lower Columbia Estuary Partnership	**County:** Clark	**Requested Amount:** $4,579,547
Legislative District: 18	**River:** Columbia	**Match:** $1,558,287

Project Summary: This project will reconfigure the Port of Camas-Washougal's (Port) levee system along the Lower Columbia and Gibbons Creek to reduce flood risk, and reconnect 912 acres of Columbia River floodplain. The project will increase recreation opportunities at the Steigerwald National Wildlife Refuge, which receives 90,000 visitors annually. Project actions will reduce the base flood elevation in the area by seven feet; reducing flood risk for the City of

Washougal's wastewater treatment plant, the Port's Industrial Park (which provides 1,000 jobs), State Route 14 and private residences. Additionally, the project restores floodplain habitat by 14% in a portion of the Columbia River where floodplain restoration opportunities are limited, and increases the length of the Refuge's trail network by 1.0 miles.

9. Lower Middle Fork Floodplain Restoration

Proponent: Whatcom Land Trust	**County:** Whatcom	**Requested Amount:** $500,000
Legislative District: 42	**River:** Nooksack	

Project Summary: The primary purpose of this project is to eliminate ongoing flood risk for property owners in the Lower Middle Fork Nooksack River at Canyon Creek while protecting and restoring habitat. The subject properties are situated in a hazard zone that is particularly susceptible to severe flooding and sedimentation, and many residential structures have been flooded over the last few years. Landowners in the hazard zone are seeking assistance. The Whatcom Land Trust and County staff will work with willing sellers to remove structures from the flood zone and restore critical floodplain habitats in a key reach.

10. Lower Stillaguamish Fish, Farm, and Flood Management Project Phase II

Proponent: Stillaguamish Tribe of Indians	**County:** Snohomish	**Requested Amount:** $5,000,000
Legislative District: 10	**River:** Stillaguamish	

Project Summary: This cooperative effort will increase floodplain ecological function, protect and enhance farmland productivity, improve water quality and reduce impacts from flooding and sediment transport by implementing multiple habitat restoration and flood management projects within the Stillaguamish watershed. This proposal advances several projects funded by FY2013-15 FbD into construction phase. Project actions include: 1) design and permit separation of flood and stormwater drainage to improve water quality and reduce impacts to farmland, 2) acquire and preserve 160 acres of farmland, 3) construct 350 acres of estuary habitat restoration, 4) construct crib wall to reduce fine sediment input from a large deep seated landslide, 5) permit and construct a dairy distillery to reduce nutrients within the floodplain, 6) design, permit and construct failing sections of the DD7 dike system, and 7) complete 30% design to reconnect key remnant side channel habitat.

11. Yakima River Corridor Plan Implementation

Proponent: Kittitas County Public Works Department	**County:** Kittitas	**Requested Amount:** $5,092,500
Legislative District: 13	**River:** Yakima	

Project Summary: This project advances integrated high-priority flood protection, habitat restoration, and agricultural land protection activities identified in the 2015 Yakima River Jeffries Levee to Canyon River Corridor Plan covering a four-mile reach near Ellensburg. Project activities include: 1) abandon 1,500 feet of at-risk road, and reconnect, and restore the associated 40-acre floodplain, 2) eliminate development rights on 29 parcels, 3) remove seven structures and two water rights, 4) acquire and protect 400 acres of floodplain, 5) design reclamation of former gravel mining pits and the badly damaged levee protecting them, and 6) construct 15,000 feet of side channel habitat and improve 77 acres riparian forest.

12. McCaw Floodplain Restoration Phase B

Proponent: Walla Walla County Conservation District	**County:** Walla Walla	**Requested Amount:** $400,000
Legislative District: 16	**River:** Touchet	

Project Summary: Walla Walla County Conservation District will restore habitat and reduce flood risks on 4,175 feet of the Touchet River near Waitsburg, WA. Upstream channelization and armoring cause channel erosion and sedimentation that degrade fish habitat and exacerbate flooding and erosion. Project activities include designing and installing 131 individual logs and 34 log structures, and establishing 3000 riparian plants to divert flow, reconnect side channels, provide habitat, reduce erosion and increase the riparian function of a mile of the Touchet River. This project is the last of three projects that together will encompass over 2 miles along the Touchet River and about 80 acres of floodplain and riparian buffer area. The previous two projects re-connected 6200 feet of side channels.

13. Lower Russell Road Levee Setback and Habitat Restoration

Proponent: King County Water and Land Resources Division	**County:** King	**Requested Amount:** $1,000,000
Legislative District: 11	**River:** Green	

Project Summary: This multi-objective project will achieve flood protection, habitat restoration, and recreational enhancements in an urban area of the Green River. The existing levee system does not meet current engineering design standards and is prone to scour and slope instability. This project represents one of very few opportunities to improve habitat within the urban

portion of the river corridor. King County will replace and improve levees and revetments along the 1.4 mile project reach to provide 500-year flood protection, reconnect 30-40 acres of floodplain, create and restore 15 acres of channel and 25 acres of riparian habitat, construct more than 1.4 miles of trail, and enhance recreational opportunities. Since previous FbD funding was awarded, project actions have expanded to include additional property acquisition, relocating a park away from the river, and more aquatic and riparian habitat restoration and enhanced recreational opportunities.

14. Dungeness Off-Channel Reservoir and Floodplain Restoration

Proponent: Washington Water Trust	**County:** Clallam	**Requested Amount:** $4,480,000
Legislative District: 24	**River:** Dungeness	

Project Summary: This multi-benefit project builds on the success of past collaborative efforts in the Dungeness River watershed to restore floodplain habitats and keep people safe. The current project will support healthy high and low flows in a changing climate for people, farms and fish while reducing flood damage. Specific project activities include: 1) permitting and designing a 1,500 acre-foot reservoir to store damaging high winter flows and support agriculture and instream habitats during low summer flows, 2) acquiring and restoring 37 acres of floodplain including removal of five homes and 17 structures, and 3) creation of a new County Park with public river access. Secondary benefits include improved water quality, enhanced public recreation, and opportunities for aquifer recharge.

15. Wayne Sammamish Riverfront Project

Proponent: Forterra NW	**County:** King	**Requested Amount:** $500,000
Legislative District: 1	**River:** Sammamish	

Project Summary: Forterra is facilitating the acquisition and permanent protection of 89 acres of urban property along the Sammamish River, approximately 2.5 miles upstream from Lake Washington. This land, the former Wayne Golf Course, is among the last remaining large areas of undeveloped riverfront open space in this highly developed part of the Puget Sound Region. With more than 4800 feet of riverbank and 2000 feet along a tributary, the acquisition of this property will protect it from development and allow for future opportunities for habitat restoration.

16. Lower Skykomish & Snohomish River Reach-Scale Projects Pipeline

Proponent: Pierce County	**County:** Snohomish	**Requested Amount:** $3,391,000
Legislative District: 39	**River:** Snohomish	

Project Summary: This project will accelerate Snohomish River Basin ecosystem recovery, address flood hazards and the impacts of frequent and costly flooding, and ensure long- term agricultural vitality. The project will advance the work of the Snohomish Sustainable Lands Strategy, a group of diverse interests that has been working collaboratively together since 2010. Specific actions include: 1) design and permit 222 acres of floodplain reconnection and 2.6 miles of creek and 19 acres of off-channel area improvements, 2) design and construct 500 feet of bank stabilization and riparian restoration, 3) design, permit and construct measures to alleviate flooding on two roads, 4) broad outreach and 30 site assessments to identify and develop designs for three multi-benefit projects, 5) acquire acreage for conservation through easements and/or fee simple transactions; and 6) develop an agricultural resiliency plan and identify and implement site-specific actions to support farming.

17. Downey Farmstead Restoration Project

Proponent: City of Kent Public Works	**County:** King	**Requested Amount:** $5,238,626
Legislative District: 33	**River:** Green	

Project Summary: The Downey Farmstead site sits on 22-acres of land purchased by the City of Kent specifically for this project adjacent to the Green River near the SR 516 bridge (River Mile 22.1) (see location map Attachment A). It will create over 1,875 linear feet of side-channel and 6.34-acres of intermittently inundated aquatic habitat (below the ordinary high water mark) accessible to salmon most of the year. The project will connect the mainstem with a portion of the floodplain and will create additional floodplain storage to help alleviate flood risk and damage to nearby urban and agricultural areas. A total of 50 large-wood structures will be placed as well as thousands of native shrubs, trees and groundcover plantings to provide off-channel habitat for fish and other wildlife. Frager Road will be relocated away from the river's edge to maximize available floodplain and floodplain habitat, and existing recreational parking will be relocated west of the project site. The road is necessary to provide access to agricultural lands south of the project site and within the King County Agricultural Production District, and a separated bike/pedestrian path is proposed within the road right of way (with outside funding) to accommodate heavy recreational use, especially bicyclists. By removing over 210,000 cubic yards of material from the floodplain for creation of the side-channel network, the project will provide 130-acre feet of additional floodplain storage, lower peak flood levels by up to six inches, and create 16-acres of new riparian area. Due to the flat topography in the area, this reduction in peak flood height will extend upstream to downtown Auburn.

18. Colony Creek Comprehensive Floodplain Enhancement Project

Proponent: Skagit County Public Works	**County:** Skagit	**Requested Amount:** $350,000
Legislative District: 39	**River:** Colony Creek	

Project Summary: The Colony Creek Comprehensive Floodplain Enhancement (CFE) Project is a multi-beneficial flood hazard reduction, habitat restoration, and agricultural viability project to address frequent flooding and water quality impairments in the Colony Creek watershed in northwest Skagit County, Washington. Sedimentation associated with alluvial fan activity and episodic beaver dam outburst floods in the upper watershed area has shortened the recurrence interval and increased the severity, extent, and duration of seasonal flooding in the project reach over the past decade. Although several small-scale habitat and drainage improvement projects have already been successfully implemented in the project area vicinity, the sites are separated by anthropogenic fish barriers and impediments to conveyance that prevent many of the potential project benefits from being fully realized. The Colony Creek project will connect these previous restoration sites, and will establish a continuous functional channel and connected floodplain from the Colony Creek alluvial fan in the south to the McElroy Slough estuarine ecosystem in the north. Funding assistance for the 2017-2019 biennium will support technical assessments of the existing stream geomorphology and riparian habitat conditions, continued stakeholder engagement and community outreach efforts, land appraisal, acquisition, and easement, land surveying and engineering design, and project permitting. These design-phase deliverables will lead to durable, effective alternatives for achieving the stated project objectives, which will reduce seasonal flooding for nearly 100-acres of rural residential and agricultural land by rerouting over 6,000-linear feet of stream from a roadside drainage ditch back into the historic Colony Creek channel alignment, creating a sediment storage basin to manage sediment transported into the project reach from the upper watershed, and restoring or reconnecting over 40 acres of disconnected floodplain habitat.

19a. Reecer, Currier, & Whiskey Creek Phase III

Proponent: Kittitas County Public Works	**County:** Kittitas	**Requested Amount:** $2,824,665
Legislative District: 13	**River:** Reecer, Currier, and Whiskey Creeks	

Project Summary: This project will initiate implementation of Phase III of the Reecer, Currier and Whiskey Creek Floodplain Project by acquiring approximately 70 acres of floodplain between Reecer and Whiskey Creeks in the City of Ellensburg, and builds upon ongoing floodplain restoration efforts. Phase I of the project, completed in 2012, restored Reecer Creek sinuosity, restored and protected the creek's floodplain, and constructed a new levee. Phase II of the project, currently underway, is restoring 45 acres of floodplain along both Reecer and Currier Creeks. During implementation of Phase II, an opportunity to purchase neighboring

land to expand the overall floodplain restoration became available. The additional floodplain acquisitions in this grant will enable the planned Phase II levee to be set-back, and more than doubles the Phase II restoration area. When combined, Phases I, II, and III would total approximately 300 acres of preserved and restored floodplain. The main benefit of these acquisitions is to facilitate the future rerouting of Whiskey Creek to join Reecer and Currier Creeks, which will eliminate infrastructure damage and flooding in West Ellensburg, improve juvenile salmonid rearing opportunities, and enable fish passage from the Yakima River to its upper watershed. Due to a partial award, this project would have been re-scoped.

Note: The following projects were below the proposed funding cutoff line.

19b. Reecer, Currier, & Whiskey Creek Phase III

Proponent: Kittitas County Public Works	**County:** Kittitas	**Requested Amount:** $2,185,085
Legislative District: 13	**River:** Reecer, Currier, and Whiskey Creeks	

Project Summary: This project will initiate implementation of Phase III of the Reecer, Currier and Whiskey Creek Floodplain Project by acquiring approximately 70 acres of floodplain between Reecer and Whiskey Creeks in the City of Ellensburg, and builds upon ongoing floodplain restoration efforts. Phase I of the project, completed in 2012, restored Reecer Creek sinuosity, restored and protected the creek's floodplain, and constructed a new levee. Phase II of the project, currently underway, is restoring 45 acres of floodplain along both Reecer and Currier Creeks. During implementation of Phase II, an opportunity to purchase neighboring land to expand the overall floodplain restoration became available. The additional floodplain acquisitions in this grant will enable the planned Phase II levee to be set-back, and more than doubles the Phase II restoration area. When combined, Phases I, II, and III would total approximately 300 acres of preserved and restored floodplain. The main benefit of these acquisitions is to facilitate the future rerouting of Whiskey Creek to join Reecer and Currier Creeks, which will eliminate infrastructure damage and flooding in West Ellensburg, improve juvenile salmonid rearing opportunities, and enable fish passage from the Yakima River to its upper watershed. Due to a partial award, this project would have been re-scoped.

20. Gap to Gap 1135 Locally Preferred Alternative

Proponent: Yakima County Public Services	**County:** Yakima	**Requested Amount:** $2,000,000
Legislative District: 14	**River:** Yakima	

Project Summary: The proposed Corps 1135 Ecosystem Restoration Gap to Gap project is to setback, upgrade and certify the former DID 1 levee as a County levee built to federal standards, fill in floodplain gravel pits and open up larger areas of formerly abandoned and disconnected floodplain. The project directly returns river accessibility to 640 acres of high grade floodplain on left bank and 300 acres on the right bank below the WWTP from levee

removal as well as initiate other restoration actions including a 1300 foot channel. The FbD grant proposal is to implement 5 of the 13 Corps selected Section 1135 Ecosystem Restoration measures that exceeded the available federal funds of $13.3 million: 1. Removing approximately 140,000 cubic yards of coarse armored bar sediments developed by the high velocities along the levee in two locations that cause meander lock, increased attack on the opposite bank levee and habitat simplification (1135 measures 3.0 and 5.0), 2. Setting back a 700-foot portion of the right bank Yakima Federal Project levee, removing an abutment and mid-river pier structure from a failed bridge that produce channel simplification and fixed redirection (1135 measure 3.0). Under measure 3.0 the levee setback will move 3 acres into the active channel and allowing an additional 3 acres of backwater floodplain immediately upstream of SR12 bridge to be activated 3. Excavating a 1,300-foot pilot channel to reconnect Yakima River flows to lower Blue Slough's prized off-channel habitat of 200 acres (1135 measure 4.2). 4. Greenway Trail Armor Removal and relocation on the right bank that replaces 1600 feet of armored levee with a setback 2700 foot walking trail that reestablishes side channel connectivity to another 100 acres to increase fish and related habitat (1135 measure 6.0), and 5. Raising the 10,000 foot new setback levee from 100-yr plus 2 feet to 100-yr plus 3 feet (1135 measure 1.0) to reduce flood risk and remove 910 acres from NFIP flood maps.

21. Upper Methow (Stafford) Flood Risk and Floodplain Restoration

Proponent: Methow Conservancy	**County:** Okanogan	**Requested Amount:** $500,000
Legislative District: 12	**River:** Upper Methow	

Project Summary: The proposed project involves flood hazard reduction and floodplain restoration activities including removing a house that is within the floodplain, eliminating the development right within the floodplain thru establishment of a perpetual conservation easement, removing a 200-ft levee, removing rip-rap from 500-ft of shoreline, restoring the shoreline, and installing riparian plantings over a 1.8-acre area (Attachments A, B1, B2, B3, and B4). Land acquisition and conservation easement establishment will protect 14.0 acres of floodplain (plus additional land outside the floodplain) along the Upper Methow River. The project will also allow for a future side channel restoration project. The project is located in the Upper Methow river reach between the communities of Winthrop and Mazama in Okanogan County (Attachment C). The Upper Methow is a Major Spawning Area for federally-listed spring Chinook and Upper Columbia steelhead, and critical habitat for bull trout.

22. Hansen Creek Reach 5 Restoration

Proponent: Skagit County Public Works	**County:** Skagit	**Requested Amount:** $3,028,500
Legislative District: 39	**River:** Hansen Creek	

Project Summary: The Hansen Creek Reach 5 Restoration - Construction - Skagit County and it's project partners have recently finalized design plans to realign Hansen Creek from its current straightened and leveed channel location to a more meandering channel to a more suitable location to the west of its current location. This project would add approximately 3600 linear feet of the new channel and instream habitat in Reach 5. Channel designs include a 40 feet wide channel with a minimum 80-foot wide floodplain. This new channel will provide excellent habitat that will be utilized by Chinook, Coho, Pink, Steelhead, Chum salmon, Cutthroat and Bull Trout. The new route of Hansen Creek was outlined in the 2002 Hansen Creek Watershed Management Plan. The land to the west of the current channel is lower than the existing channel and is degrade wet pastures. SRSC along with Puget Sound Energy have acquired all the parcels needed to make this project a reality. Hydraulic modeling has shown that the Minkler Road culvert is currently a constriction to flow. Under final design contract with Skagit County, Herrera Environmental Inc. has done extensive hydraulic modeling of the Reach 5 and lower Red Creek watersheds. A wider opening provided by a new bridge will eliminate this hydraulic constriction. This has shown to be essential as the proposed project will divert additional flood flows down the Hansen Creek channel. Thus, the construction of a bridge at the Minkler Road crossing of Hansen creek is a critical component of the project. The hydraulic modeling has also shown a significant decrease in flooding and overland flows in the agricultural areas to the southeast of the project site.

23. Snoqualmie Riverfront Acquisition & Bank Stabilization

Proponent: City of Snoqualmie	**County:** King	**Requested Amount:** $1,389,000
Legislative District: 5	**River:** Snoqualmie	

Project Summary: This project aims to stem and reverse sudden and gradual erosion entering the Snoqualmie River, remove homes from the floodplain, and restore riparian habitat. This project will accomplish six (6) main project deliverables. It will: 1) Acquire two flood-prone homes/three structures along the Snoqualmie River bank, and remove man-made structures. 2) Acquire easements across three properties south of the above acquisitions, and construct 600 linear feet of boardwalk and asphalt trail connecting to Sandy Cove Park, a riverfront park in the City of Snoqualmie, extending a Phase I Riverwalk trail currently under design. 3) Conduct planting of up 3 acres, including 20,000 square feet of buffer mitigation planting along the trail, improving riparian and wetland ecology along 900 linear feet of the Snoqualmie River. 4) Conduct at least 400 feet of lower bank stabilization with in-water elements (roughness logs) and native plantings. 5) Conduct at least 200 feet of upper bank stabilization with terracing and upper bank plantings. 6) Provide park enhancements, including improved access; educational signs; and a boardwalk river viewing platform. This Acquisition and Bank

Stabilization project (also known as the Riverwalk Phase II project) is part of a larger Riverwalk Plan developed with multiple stakeholders in this reach of the Snoqualmie River, to acquire 20 properties, restore 1.5 miles of riverbank, and develop 3 miles of trail. To date the City has acquired 6 properties and removed 5 residential structures from the floodplain, and secured over $2 million in funding for Phase I. The City is currently in the process of purchasing 2 additional properties; designing 1 mile of Phase I trail; and has funding to conduct restoration on approximately 20 acres of land.

24. Manastash Creek Corridor Plan Phase II

Proponent: Kittitas County Public Works	**County:** Kittitas	**Requested Amount:** $499,176
Legislative District: 13	**River:** Manastash Creek	

Project Summary: This project builds on efforts underway in the Manastash Creek watershed by integrating high-priority flood hazard reduction and habitat restoration activities in a six-mile reach identified in the 2013 Manastash Creek Corridor Plan near the City of Ellensburg in Kittitas County. Project activities include property purchase, protection, and removal of structures from the floodway; preparation of a draft restoration plan for the acquired property; conducting a reach-scale analysis of hydraulics and sediment transport processes to develop site-specific solutions; and preparing a bridge replacement study that engages landowners in selecting a preferred design and restoration plan.

25. Protecting and Enhancing Floodplain Habitats along the Nisqually River

Proponent: Nisqually Land Trust	**County:** Pierce, Thurston	**Requested Amount:** $2,770,061
Legislative District: 2	**River:** Nisqually	

Project Summary: The Nisqually Land Trust proposes to reduce flood risk and improve floodplain function along the Wilcox and Middle Reaches of the Nisqually River by implementing conservation easement and fee title acquisition projects and by enhancing riparian forest conditions. This project is part of a phased approach to long-term protection of the Nisqually River mainstem and floodplain. This eleven mile stretch of the river flows through a wide valley and the river is actively meandering across the channel migration zone. Land use along this part of the Nisqually River includes rural residences, commercial agriculture, and undeveloped forest lands.

26. Middle Entiat Cottonwood Flats Floodplain Reconnection Project

Proponent: Chelan County Natural Resources Department	**County:** Chelan	**Requested Amount:** $723,714
Legislative District: 12	**River:** Entiat	

Project Summary: The goal of the Middle Entiat River Stormy/Gray Floodplain Reconnection Project is to restore natural channel and floodplain processes to 4.7 miles of the Entiat River (RM 16.1-20.8) through acquisition of development rights; levee and road removal; home removal; the addition of Engineered Log Jams (ELJ's) throughout the reach and side channel enhancements. The project will improve habitat for salmonids and other aquatic species, restore wetland hydrology throughout the reach and reduce potential flood hazards to downstream properties. The Cottonwood Flats Floodplain Reconnection zone, or Area D, is a 0.4 mile reach (RM 17.4-17.8) within the larger Middle Entiat River Stormy/Gray Floodplain Reconnection Project for which Floodplains by Design funding is being requested. The Cottonwood Flats project includes construction elements of bridge structure removal, side channel creation, and addition of large wood, with the objective of restoring natural hydrologic processes and increasing channel complexity in the reach.

27. Bridge to Bridge Phase II

Proponent: Tri-State Steelheaders	**County:** Walla Walla	**Requested Amount:** $273,910
Legislative District: 16	**River:** Walla Walla	

Project Summary: The project will install large wood structures and riparian vegetation to improve instream and riparian habitats, and reduce flood risks to agricultural property and a county road on the Walla Walla River near Lowden.

28. South Fork Snoqualmie River Levee Setback

Proponent: City of North Bend	**County:** King	**Requested Amount:** $7,000,000
Legislative District: 5	**River:** Snoqualmie	

Project Summary: This project will remove up to 2,500 feet of the existing levee along the left bank of the South Fork Snoqualmie River between SR202 at mile post 30.50 and North Bend Way, reconnecting approximately 25 acres of the South Fork Snoqualmie River floodplain. A new setback levee and bypass road, meeting current engineering standards, will be constructed within the dedicated right-of way running between parcels 0923089001, 0923089004, and 0923089093 (see attached project location map). This alignment would

reconnect approximately 25 acres of floodplain and is highly feasible with only one property acquisition necessary. Additional levee setbacks just downstream of the aforementioned levee setback could potentially reconnect up to an additional 10.5 acres with the cooperation of neighboring property owners. At least 12 acres of riparian and floodplain restoration will occur as part of this project including riparian restoration along the South Fork Snoqualmie River and Ribary Creek, located in the floodplain. This is a priority project identified in King County's multi-objective South Fork Snoqualmie Corridor Plan. Though the plan is not yet complete, this project will be the first levee set back in a series of potential levee setback projects along the lower 5 miles of the river. This project will also include a trail connection to other city trail corridors and may provide flood reduction benefits to adjacent agriculture lands.

29. Cowlitz Bend Floodplain Reconnection

Proponent: Cowlitz Indian Tribe	**County:** Cowlitz	**Requested Amount:** $9,805,014
Legislative District: 20	**River:** Cowlitz	

Project Summary: The Cowlitz Bend Floodplain Restoration Project proposes to restore 450 floodplain acres through acquisition, infrastructure removal, and floodplain fill excavation. Proposed restoration activities include designing a restoration strategy, excavating dredge spoils, noxious weed control, and replanting a native floodplain plant community. This proposal is the first phase of a two-phase project. Total excavation will total just over 160,000 cubic yards, with 75,000 cubic yards proposed for Phase I. The project area, herein referred to as "Cowlitz Bend," is currently owned by 24 individuals and one corporation. The Tribe will likely seek additional funding for the 2019-2021 biennium. Phase II will include purchasing and treating project area properties that may not be available for sale during Phase I and excavating the remaining 2/3 of the project area fill, treating noxious weeds, and removing any remaining on-site facilities.

February 2019 Update

Floodplains by Design received $35,389,000 million in funding from the legislature for the 2017-2019 biennium. This provided funding to 7 projects, in ranked order, with the exception of the Lower Nooksack River: Floodplains for the Future Phase 1 project.

1. Skokomish Watershed Ecosystem & Floodplain Restoration ($7,000,000)
2. Floodplains for the Future: Puyallup, White & Carbon Rivers ($7,750,000)
3. *** Lower Nooksack River: Floodplains for the Future Phase 1 ($5,835,000)
4. Lower Big Quilcene River Design & Acquisition Project ($2,355,526)
5. Rambler's Park Phase VI ($5,788,136)
6. Barnaby Reach Outreach and Design ($415,000)
7. Riverbend Reach Construction Phase 1 ($7,500,000)
8. Steigerwald Flood Risk Reduction & Habitat Restoration Project ($4,579,547)

******* - The Lower Nooksack River project was removed by legislative action. This project was not funded.

The Department of Ecology held 3% of each project's award for staffing costs.

As of February 2019, all funded projects are under contract and are actively implementing project elements.