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Floodplains by Design: Report to the Legislature

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Cover photo: The old and new levees along the Calistoga Reach of the Puyallup River in Orting. This Floodplains by Design project successfully resulted in no floodwaters entering the city of Orting during heavy rains in 2014.

Floodplains by Design
Report to the Legislature

Shorelands and Environmental Assistance Program

Washington State Department of Ecology

Olympia, Washington

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Executive Summary

Legislative proviso

During the 2018 session, the Legislature included the following proviso in the Supplemental Capital Budget, Engrossed Substitute Senate Bill 6095, Section 3001:

> The appropriation in this section is subject to the following conditions and limitations:
>
> (1) $75,000 is provided solely for the Washington state department of ecology to convene and facilitate a stakeholder process to review and make recommendations for the statutory authorization and improvement of the floodplains by design grant program. The review must include analysis of:
>
> a) Statewide funding needs;
>
> b) Program design, including criteria, information, and coordination required for projects to proceed through the selection and funding processes in a transparent and efficient manner; and
>
> c) Mechanisms to improve efficiency and transparency of project funding and implementation;
>
> 2) The department of ecology may convene stakeholders and facilitate activities as needed. The department must develop recommendations in consultation with the Puget Sound Partnership. The department must seek input and meaningfully involve a broad base of tribal governments and interested stakeholders, including city and county governments, and agricultural, flood risk reduction, and conservation interests. The department must seek broad and diverse legislative input and invite interested legislators to provide information and ideas including, at a minimum, the majority and minority leadership of the committees responsible for the capital budget in the senate and house of representatives.
>
> (3) The final report must include recommended statutory and policy changes to the appropriate committees of the legislature on or before December 1, 2018.

Program background

Floodplains by Design (FbD) is an ambitious public-private partnership managed by a team that includes the Department of Ecology (Ecology), the Puget Sound Partnership and The Nature Conservancy (TNC). The FbD partnership focuses on reducing flood risks and restoring habitat in the state's major river corridors. The goal is improving the resiliency of these floodplains in order to protect human communities and the health of the ecosystem, while supporting important values such as agriculture, clean water, a vibrant economy and outdoor recreation.

FbD has been in place in Washington since 2013, when the Legislature appropriated $44 million for the program. With its partners, Ecology developed the FbD Grants program. To date, $115 million has been appropriated for FbD projects that reduce or eliminate flood risks while also protecting or restoring salmon habitat and floodplain ecosystem health. FbD grants complement

and increase the capacity of existing salmon recovery funding programs while reducing flood damages.

Grants program funding guidelines describe FbD project characteristics, explain project eligibility and application requirements, and address project metrics, land acquisitions, match requirements and local partnership requirements. FbD projects may include removing or setting back levees, removing structures, planting native vegetation, building side channels for flood storage, improving agricultural drainage, and placing engineered logjams.

Ideal projects have stakeholder support and are part of a local or regional strategy designed to manage the floodplain and help fulfill a broader vision for reducing flood risk and restoring habitat. Applicants must seek local tribal government support in areas that will affect tribal interests. Local agricultural interests must be engaged if projects are proposed in agricultural areas.

Local and tribal governments, state agencies, and nonprofit groups are working to protect thousands of residences, farms, and businesses at risk from catastrophic floods, while also seeking to restore floodplain habitat for salmon recovery. As of 2016, FbD projects have reduced flood hazards in 38 communities, reconnected more than 1,000 acres of floodplains, restored critical salmon habitat in more than 10 miles of river systems, and removed nearly 430 residences from the high-risk flood zone. When 2017-2019 biennium projects are complete, it is expected that an additional 270 homes will be removed from high-risk floodplain areas, 1,500 acres of floodplain will be reconnected to the river, 15 miles of riverine habitat will be restored, and 500 acres of agriculture land will be protected.

Program assessment

With support from TNC and the Puget Sound Partnership, Ecology conducted an assessment of the FbD grants program for this proviso study. This included:

- An extensive outreach process
- An assessment of funding needs for integrated floodplain management
- A review of six other capital funding programs

The outreach built on TNC's extensive outreach conducted in 2017 during development of the FbD 5-year strategy. For this proviso, outreach included interviews with legislators, tribal government representatives, and environmental and agricultural interests. An online survey was sent to more than 1,000 people on the FbD email distribution list. Ecology and TNC also talked with floodplain managers at a statewide conference.

Recommendations

In consultation with the Puget Sound Partnership and TNC, Ecology has developed the following recommendations.

1. Incorporate Floodplains by Design principles and grants program into existing flood statutes (Title 86 RCW).

2. Increase capital funding for the FbD program so the program can grow to meet needs for integrated floodplain management projects.

3. Provide adequate funding to support local and regional integrated floodplain planning.

4. Continue to operate the program through public-private partnerships and broaden engagement with tribal governments and local/state leaders, including city and county elected officials, agricultural interests, and key state and federal agencies.

5. Ecology should seek additional input from FbD partners and refine the application process and the funding guidelines. Following future amendments to floodplain management laws, Ecology should adopt rules to incorporate procedures and standards in the Washington Administrative Code.

6. Ecology should continue to work with floodplain leaders to evaluate options to more effectively manage long-term projects; explore options for making the grants evaluation and selection process more transparent; and identify and seek to reduce permit process challenges and any other obstacles that impede integrated floodplain management projects.

Program Overview

Washington's major rivers and their floodplains deliver a wealth of economic, natural, and social benefits. They contain the state's richest farmland, host signature salmon runs, offer recreational opportunities, and contain commercial, residential, and industrial development worth billions of dollars.

Flooding has caused more than $2 billion in damages in Washington since 1980. Most flood damages have occurred in Western Washington, but extensive flooding in May 2018 in Central and Eastern Washington demonstrates that communities across the state are at risk. With population increasing and climate change forecasts predicting more frequent and severe winter flooding, the problems in floodplains--flooding, loss of habitat, and declines in water quality--are likely to increase. Riverine floodplains make up about 4.5 percent of the state's total land area, based on the 1 percent annual chance flood modeled in 2013. These floodplains contain structures worth an estimated $56 billion (*Washington State Enhanced Hazard Mitigation Plan*, 2018[1]).

Floodplains by Design (FbD) is a multi-benefit program that addresses both flood hazard reduction and ecosystem improvements, building on community and stakeholder support. FbD looks at floodplain management holistically, moving beyond single-focus approaches to restoring river systems. Local and tribal governments, state agencies, and nonprofit groups are working to protect thousands of residences, farms, and businesses at risk from catastrophic floods, while also seeking to restore floodplain habitat for salmon recovery.

This integrated approach to floodplain management involves collaborative processes and practices that bring diverse interests together to come up with solutions that can achieve multiple benefits such as:

- Reduced flood risks for communities and commerce
- Healthy habitats for fish
- Resilient communities and ecosystems
- Minimized flood damage
- Productive, viable agriculture
- Sustainable development
- Jobs and sustainable livelihoods
- Sustainable water supplies
- Recreation and other opportunities to connect people and nature

After 2017-2019 funded projects are completed, project outcomes will include:

- 700 homes removed from high-risk floodplain areas.
- 2,500 acres of floodplain reconnected to river.
- 25 miles of riverine habitat restored.
- 500 acres of agriculture land protected.

The adoption of integrated floodplain management across Washington has resulted in both increased collaboration and on-the-ground action. In most watersheds, fish habitat restoration

[1] https://www.mil.wa.gov/uploads/pdf/HAZ-MIT-PLAN/2018_SEHMPRiskAssessmentDocumentwTOC.pdf

and flood management practitioners know each other and are more aware of the needs and concerns facing the farm community. (*Floodplains by Design: Toward a New Paradigm*, 2018[2]).

Floodplains by Design partnership

Floodplains by Design is a public-private partnership that focuses on reducing flood risks and restoring habitat in the state's major river corridors. The partnership helps to align state and federal investments with locally-driven solutions that solve multiple floodplain management challenges and create a more sustainable future for people and nature.

The FbD partnership is overseen by a management team with representatives from:

- Washington Department of Ecology (Ecology)
- The Nature Conservancy (TNC)
- Puget Sound Partnership

The FbD partnership began in 2013 when TNC and the Puget Sound Partnership worked with National Oceanic and Atmospheric Administration (NOAA) Fisheries and other members of the Floodplains by Design advisory committee to identify nine pilot projects. With the initial funding from the legislature, the three organizations created the FbD management team to lead the effort.

In addition, the Environmental Protection Agency (EPA), via the Habitat Strategic Initiative, and NOAA Fisheries have provided grant funds to support some of TNC's work on the FbD program, including facilitating the FbD management team, convening practitioner workshops, and providing technical advice and pass-through grants for local projects.

The management team tracks local and regional activities to ensure consistency with FbD program goals and makes decisions regarding use of program resources. These activities include, but are not limited to:

- Local efforts for integrated floodplain management and project development.
- Ecosystem recovery planning related to floodplains by Local Integrating Organizations, which are local collaborative groups working to implement the Puget Sound Action Agenda.
- Ecology's grants program, as well as other public and private grant programs.
- State and federal agency efforts to coordinate investment in flood hazard reduction and ecosystem recovery on a regional basis.

[2] http://www.floodplainsbydesign.org/wp-content/uploads/2018/08/Toward-a-New-Paradigm_IFM-Status-Report_Final_highlights_compiled.pdf

Goals

Floodplains by Design focuses on major river corridors and their estuaries. These areas have the most extensive flood risks, greatest ecological restoration opportunities, and much of our best agricultural soils.

The program has two goals:

- Reduce flood risks and promote floodplain ecosystem recovery while maintaining or improving agricultural production, water quality, and open space/recreation.
- Improve the coordination of federal, state and local funding for floodplain management efforts.

Grants program

The Floodplain by Design grants program, administered by Ecology, helps achieve these goals by supporting projects that protect vital infrastructure, set back levees, restore riparian areas, replace culverts, protect farms, improve drainage systems and restore ecological functions. The FbD funding also leverages other funds, including local matching funds and other state or federal funding.

Project selection

Projects are evaluated and funded based on the degree to which they will reduce flood risk to affected communities, restore ecological functions, support community and environmental resiliency to climate change impacts, and provide additional benefits, such as increasing recreational opportunities or improving water quality. In areas where agriculture is a dominant land use, projects must minimize adverse impacts to agriculture and identify strategies to support local agricultural interests.

Ideal projects are developed through a robust stakeholder process and are part of a local or regional strategy designed to manage the floodplain and help fulfill a broader vision for reducing flood risk and restoring habitat.

Where FbD projects are proposed in areas that will affect tribal lands, tribal interests, and any potential impacts to treaty rights, applicants must coordinate with and seek the support of local tribal governments. Proposals should not conflict with a tribal government's resource (salmon/shellfish) recovery plans or cultural resource concerns. Project proponents must also consider whether the proposed actions could limit future floodplain restoration actions or prevent access to tribal resources necessary to fulfill treaty rights.

Eligible project types

Various types of projects and activities may be eligible for FbD grants. They include:

- Pre-construction activities, including preparing documents, engineering work, environmental review, and other associated work.
- Feasibility studies and design projects, with at least a 30 percent design stage by the end of the grant agreement, completed by an engineer licensed in Washington State.
- Construction that is ready to start upon receipt of funding.
- Design and construction.
- Purchase of land or easements from willing sellers, if necessary for an FbD project.
- Outreach and education related to the project.
- Riparian and wetland restoration planning and implementation.
- Pre- and post-project assessment.

Local match

Project proponents must provide a 20 percent local match to secure funding under the FbD program. Match can include other grant funds, a cash match, value of land previously acquired if the land is used to implement the project, time worked on the project, and in-kind materials, such as volunteer service, goods, or property contributed by a third party. Match requirements will be waived for Economically Distressed Communities[3]. In some cases, match funding from local, federal and other sources has been much greater than the funding received from the FbD grant program.

Example projects

Below are a few examples of projects assisted by the FbD program:

- **Pierce County and City of Orting, Calistoga Reach Levee Setback and Side Channel Construction**. FbD grants amount - $5.7 million; additional funding from other sources - $10.7 million. The project involved restoring critical floodplain habitat and improving river function on 3.5 miles of the Calistoga Reach of the Puyallup River. A 5,700-foot levee was removed, a 1.5-mile setback levee with logjam protection was built, and 55 acres were restored. The project has changed the stage at which the river floods from 3,000 to 10,000 cubic feet per second.
- **City of Yakima, Shaw Creek Flood Mitigation Project**. FbD grant amount - $200,000; additional funding from other sources - $600,000. The project will increase flood conveyance under two bridges crossing Wide Hollow Creek, allowing a major flood hazard reduction and habitat improvement project to occur on Shaw Creek, a tributary to

[3] Communities with a mean household income below 80% of state median income.

Wide Hollow Creek. Benefits include floodplain/habitat connectivity, new and enhanced Shaw Creek channel, improved flood conveyance, and water quality improvements.

- **Whatcom County, Deming Levee Upstream Improvements**. FbD grant amount - $1.44 million; additional funding from other sources - $495,000. This project included 850 feet of new levee setback from the Nooksack River from the upstream end of an engineered levee, reconnected 4.5 acres of historic floodplain, and improved fish passage and habitat. Prior to the project, a non-engineered earthen berm at the site experienced frequent overtopping. Floodwaters would enter the town of Deming when the berm overtopped, affecting Mount Baker School District buildings and a sewage lagoon, post office, BNSF Railroad and Nooksack Tribal buildings.

See Appendix A for the full list of projects funded by FbD and short descriptions.

Funding history

In 2013, the Legislature authorized $50 million for Floodplain Management and Control grants in the 2013-15 Biennium capital budget (Section 3069 of Engrossed Substitute Senate Bill 5035.) Of that, $44 million was appropriated for FbD projects and $6 million was allocated for two specific non-FbD flood hazard projects.

Of the total appropriated for FbD projects, $33 million was allocated to nine multi-benefit floodplain projects in the Puget Sound area listed in the proviso for this pilot effort. These projects (referred to as the Coordinated Investment 9) were identified by the nascent Floodplains by Design partnership under the leadership of Puget Sound Partnership, NOAA Fisheries and The Nature Conservancy. (See Appendix A, pages 1-6.) The remaining $11.25 million was directed to the FbD statewide competitive grant opportunity for integrated floodplain management. Ecology managed these grant dollars.

Table 1: Legislative funding for FbD

Fiscal Year	Funding
2013-15 Biennium Proviso Grants	$32,750,000
2013-15 Biennium Competitive Grants	$11,250,000
2015-17 Biennium Competitive Grants	$ 35,560,000
2017-19 Biennium Competitive Grants	$ 35,388,073
Total	$115,948,073

Note: Floodplains by Design was appropriated $50 million in 2013. Of that, $6 million was for flood hazard projects that do not qualify for FbD and therefore is not reflected in the table.

Since 2013, funds appropriated by the Legislature for the FbD program have varied each biennium, with amounts ranging from $35.4 million to $44 million (Table 1). Funding for projects is awarded through a competitive process. In addition, TNC has invested approximately $800,000 annually during the past several years on technical assistance, facilitation, scientific research and other work that supports the development of capital FbD projects. TNC has also secured approximately $4 million in funding from NOAA Fisheries cooperative agreements that has been passed through to local project proponents to implement integrated floodplain management projects. Much of these pass-through federal funds have served to directly complement state FbD investments.

Some key program facts:

- Since 2013 and including the current biennium, the FbD grants program has funded 36 projects in 15 counties, in 19 of the 62 watersheds in the state.
- To date, FbD project funding has ranged from $50,000 to $9.5 million. Total project costs, including local, state and federal match, have ranged from $106,500 to $11.9 million.

Funding cycle

Ecology manages the program funding under the state's biennial budget cycle. Proposals are due in even-numbered years and funds appropriated by the Legislature become available in July of the following odd-numbered year. Ecology is required to submit a proposed project list that supports its capital budget funding request to the Office of Financial Management (OFM) by November 1 of even-numbered years. The agency does not know the amount of funding that will be available when the application cycle begins or the project list is submitted.

Grants are awarded on a competitive basis statewide. The application process begins with submittal of brief pre-proposals that are reviewed by Ecology, the Puget Sound Partnership, and TNC. Top applicants, those that best meet the objectives of the FbD program, are invited to submit full proposals through Ecology's online grants administration system. A team of technical experts from various agencies and organizations evaluates and scores the full project proposals using the following criteria:

- Flood hazard and risk reduction.
- Ecosystem protection or restoration.
- Other benefits, such as agriculture, water quality, open space, and recreation.
- Budget and additional funding sources.
- Realistic project schedule.

The technical and FbD management teams develop the final ranked list in which other factors, such as geographic distribution of proposals and previous funding, are also considered. The

management team submits the final list to OFM and the Legislature for consideration during the funding appropriation process.

2013-15 biennium

Ecology issued a solicitation in December 2013 for the first competitive grants under the FbD program. Funding for the program was set at $11.25 million, as appropriated by the legislature. Proposed projects included acquiring flood-prone lands, setting back levees, restoring riparian areas, replacing culverts, creating more complexity in streams, and protecting vital infrastructure.

Summary:

- Received 45 grant proposals requesting $39.2 million. (More than three times the funding amount).
- Legislative appropriation funded 13 projects, with total grants of $10.9 million. Remaining funds covered Ecology administrative costs to run the program.

2015-17 biennium

In May 2014, Ecology solicited pre-applications for the 2015-17 biennium FbD program. Ecology conducted a competitive process to create a ranked project list, supporting the agency's FbD budget proposal to continue program funding at $50 million. The legislature appropriated $35.6 million.

Summary:

- Received 71 preliminary proposals requesting $180 million. (Five times the funding amount).
- Reviewed the 36 most promising projects requesting $138 million.
- Ecology submitted 22 projects that totaled $69 million in funding requests.
- Legislative appropriation funded seven projects, with total grants of $34.9. Remaining funds covered Ecology administrative costs to run the program.

2017-19 biennium

For the current biennium, Ecology solicited pre-applications beginning in November 2015. Ecology conducted a competitive process to create a ranked project list, supporting the agency's FbD budget proposal to fund projects at $70 million. The legislature appropriated $35.4 million.

Summary:

- Received 57 preliminary proposals requesting $153.9 million (Almost 4.5 times the funding amount).
- Reviewed the 36 most promising projects requesting $138.7 million.

- Submitted 19 projects that totaled $70 million in funding requests.
- Legislative appropriation funded seven projects, with total grants of $34.3 million. Remaining funds covered Ecology administrative costs to run the program.

2019-21 biennium

Funding for the next biennium will be appropriated in spring 2019. The deadline for submittal of pre-applications was February 2018. Demand for FbD funding remains high. Ecology submitted a budget proposal to fund projects at $70 million.

Summary:

- Received 29 preliminary proposals requesting $99 million.
- Reviewed 23 most promising projects requesting $87.56 million.
- Submitted 19 projects totaling $70 million in funding (including administrative costs to run the program).

Evolution of grants program

The FbD grants program continues to evolve. With five years of experience in managing and funding the program, Ecology and its partners have refined funding criteria and revised the grant selection process based on experience, feedback from program participants, and outreach to targeted groups. The FbD management team has held workshops to debrief applicants and solicit feedback on the application process, and subsequently revised the criteria and process to make them clearer and more transparent.

Lessons learned from managing the initial grants guided the development of the funding guidelines. Other existing state grant programs also informed the new guidelines.

Ecology works with grantees to track on-the-ground metrics, including acres of floodplains restored, length of levee removed or set back, or numbers of homes removed from the floodplain. The list of projects in Appendix A provides a good representation of the types of metrics that are initially tracked after project completion. The primary purpose of the metrics is to assess the effectiveness of the grant program and help inform future improvements to the grants program.

Funding guidelines

Funding guidelines, required for Ecology grant programs, were written in fall 2015 and revised in 2017 and 2018. *Funding Guidelines: Floodplains by Design*[4] describes FbD project characteristics, explains project eligibility and application requirements and also addresses:

- Metrics for on-the-ground outcomes are required for all projects where these activities are included in the project. Examples of metrics include acres of floodplain or estuary area to be restored, acres of connected floodplain protected from development, number of homes

[4] https://fortress.wa.gov/ecy/publications/documents/1506019.pdf

and businesses removed from the floodplain, and acres of farmland protected and preserved for agricultural use.

- Applicants must seek support of local tribal governments in areas that will affect tribal interests.
- Local agricultural interests must be engaged if projects are proposed in agricultural areas.
- Proponents must develop partnerships with various groups that may be involved with or affected by the proposed project.
- Purchase of land may serve as a match under specific conditions.
- While purchase of land, if necessary for the FbD project, is an eligible project cost, land acquisitions must be from willing sellers only. Acquiring land by condemnation or eminent domain is not eligible.
- Land purchase may include purchase of conservation easements or development rights in addition to fee title. Ecology will not be a holder of conservation easements.

Application process

The application process, including process steps, deadlines, schedules and tips for a successful proposal, is clearly described in the FbD Funding Guidelines document.

The FbD application process includes a pre-application phase, similar to other programs such as the Estuary and Salmon Restoration Program (Washington Department of Fish and Wildlife) and the Puget Sound Acquisition and Restoration Fund (Puget Sound Partnership). The pre-application step allows applicants to submit projects with a relatively low level of effort, and allows Ecology to screen for the most promising projects in developing a final list of applications. For example, for the 2017-2019 biennium, 57 preliminary applications were submitted and 36 of these were asked to submit final applications.

Floodplains by Design: A 5-Year Strategy

A vision for the next five years of FbD is set out in the draft *Floodplains by Design: A 5-Year Strategy for Washington's Floodplains*[5], developed by The Nature Conservancy and consultants for the FbD partnership. During the next five years, the FbD partners will work to expand this collaborative approach by seeking more funding, working to change the policy and regulatory framework, and building more capacity and management systems at the local and regional level. The grant program administered by Ecology is a part of the FbD partnership.

[5] http://www.floodplainsbydesign.org/wp-content/uploads/2018/10/Floodplains-by-Design-5-Year-Strategy-draft-6-29-18.pdf

To develop the strategy, the FbD management team and consultants conducted an extensive stakeholder process. This included an online survey, a focused workshop session, and individual interviews. The stakeholder process is discussed in more detail in the next chapter, “Program Assessment.”

Program Assessment

Ecology, in consultation with The Nature Conservancy (TNC) and Puget Sound Partnership, based its findings and recommendations (next chapter) on the following:

- Extensive outreach processes that engaged a wide range of floodplain management stakeholders, including some legislators and tribal government representatives.[6,7,8]
- An assessment of funding needs for integrated floodplain management.
- A review of other capital funding programs.
- Five years of experience with the Floodplains by Design (FbD) partnership and grant program.

The outreach process, assessment of funding needs and review of capital funding programs were conducted in response to this proviso.

Stakeholder outreach

The first stage of stakeholder outreach occurred as TNC, with support from Ecology and the Puget Sound Partnership, developed the 5-Year Strategy for the next five years of FbD. Public engagement and outreach to stakeholders occurred during development of the strategy. The second stage occurred in response to the legislative proviso that is the basis for this report and built on the first stage.

Outreach for 5-Year Strategy

During the first stage, TNC and its consultants conducted the following activities to engage stakeholders:

- An online survey in 2017 sent to more than 1,000 people using the FbD distribution lists and other relevant lists managed by Ecology and the Puget Sound Partnership. Responses were returned by 181 people in more than 20 watersheds, as well as others with Puget Sound or statewide perspectives. More than half the responses were from local governments and the remainder from tribal governments, non-governmental organizations, state government, conservation districts, and consulting firms.
- Interviews with 24 key decision makers and stakeholders in late 2017, including tribal government representatives, local elected officials and government staff, state agency representatives, farmers, agricultural groups, businesses, conservation organizations and organizations representing vulnerable communities. TNC sought a deeper understanding

[6] *Floodplains by Design: A New Approach to Managing River Corridors in Puget Sound*. August 2014.
[7] *Vision, Strategies, and Actions for Puget Sound Major River Floodplains*. March 2016.
[8] *Floodplains by Design: A 5-Year Strategy for Washington's Floodplains*. June 2018.

of their core interests, experiences, impressions of FbD, and priorities for moving forward.

- Separate meetings with salmon recovery lead entities, tribal government technical staff, and conservation districts.

- A session at the December 2017 FbD workshop that focused on survey results and feedback regarding vision, goals, and strategies. About 125 people attended.

More details about the outreach process are available in the 5-Year Strategy document.

Outreach per proviso

The second stage of outreach was conducted in the fall of 2018. Building on the information learned through the 5-Year Strategy, Ecology, TNC, and the Puget Sound Partnership developed an approach to engage a diverse range of stakeholders. They include state legislators, managers at state natural resource agencies, tribal and local government, agricultural interests, and environmental non-profit organizations. Outreach conducted by the consultant team included:

- State legislators: Interviews with nine state legislators including leadership of the Senate Ways and Means Committee and the House Budget Committee, and leadership of the Senate Agriculture, Water, Natural and Resources Committee and the House Agriculture and Natural Resources Committee.

- State agencies: Interviews with management staff of the state departments of Ecology, Puget Sound Partnership, Transportation, and Recreation and Conservation Office.

- Tribal governments: Interviews with two tribal representatives. Ecology also sent an email to all tribal government chairs statewide and key natural resources and policy staff inviting feedback on statutory authorization of the FbD grants program.

- Agricultural interests: Research interview with a representative of the Washington Dairy Federation.

- Environmental non-profit organizations: Research interviews with representatives from three environmental non-profits.

- Workshop at the Northwest Regional Floodplain Managers Conference: During the workshop, Ecology staff, TNC staff, and the consultant team presented information on the FbD grants program and the proviso study and solicited comments. More than 30 participants attended this workshop.

- Online survey: Survey distributed for two weeks in September 2018 to solicit feedback from more than 1,000 people on the FbD listserve, who have been engaged in the FbD partnership. They represent local and tribal governments, non-profit organizations, agriculture, and state agencies. There were 75 respondents to the survey.

- TNC facilitated a meeting in late October with both tribal and county government leaders to solicit their perspective on the FbD grants program.

- TNC and Ecology convened a meeting in mid-November for floodplain management practitioners from tribal and local governments, conservation districts, and non-profit organizations to solicit their input on the FbD grants program.

Outreach questions

During the outreach, the people who were interviewed were asked about their familiarity with the FbD program, their questions or concerns about the grant program, their thoughts about incorporating the grant program in statute, and their perspective on increasing funding for the grant program.

Questions included in the online survey asked about the respondents' affiliation and geographic area, FbD grants program experience, grant program funding needs, and the need for training and reporting on FbD outcomes and lessons learned.

The findings of this outreach effort are discussed in Appendix C.

Research on funding needs and capital funding programs

The proviso directs Ecology to analyze statewide funding needs, program design, and mechanisms to improve efficiency and transparency of project funding and implementation. Findings are reported in the next chapter, "Findings and Recommendations."

Funding needs

As part of this proviso study, Ecology evaluated the statewide need for integrated floodplain management funding. We used several approaches to estimate statewide demand: A review of existing studies, comparison of FbD grant applications with the FbD appropriations, an online survey of people on the FbD listserve, and interviews as described above.

Capital funding programs

The consultant team researched the program design and management of six other state capital grant programs in fall 2018. The research included review of applicable state law and administrative codes, funding guidelines, program websites, and interviews with program management staff. The result was a memorandum that outlined legal structures, budget requests, funding for grant administration and other topics for the grant programs. The full memorandum is in Appendix B.

This grant program review provided an opportunity to evaluate best practices and lessons learned. The research included review of applicable state law and administrative codes, funding guidelines, program websites, and interviews with program management staff. The following grant programs were reviewed for this analysis:

- Salmon Recovery Funding Board Grants
- Puget Sound Acquisition and Restoration Fund

- Estuary & Salmon Restoration Program
- Transportation Improvement Board Urban Arterial Program and Small City Arterial Program
- Remedial Action Grants
- Water Quality Combined Funding Program, which includes the Stormwater Financial Assistance Program, Washington State Water Pollution Control Revolving Loan Fund, Centennial Clean Water Program, and Clean Water Act Section 319 grants

The review included the following topic areas:

- Structure of legal authorization of the grant program: Three of the grant programs are authorized through the capital budget, and the others are authorized in statute.

- Structure of budget request and allocation of funding: In some of the grant program budgets, projects are funded individually; in others, they are funded as a group.

- Application selection process: This process is similar for all grant programs and includes soliciting applications, ranking projects and publishing the rankings. For Salmon Recovery Grants, local lead entities propose projects after conducting their own selection process.

- Geographic distribution of funds: Three grant programs consider geographic distribution of funds. Four programs include population or economic factors for equitable distribution of funds.

- Long-term projects: Each grant program has tools to address the challenge of funding large complex projects for a two-year budget cycle. These include phasing, using a project portfolio (a variant of phasing), and extended grant agreements.

- Funding for grant administration and technical assistance: Funding for staff to support the grant program occurs through a percentage of the capital budget allocation, identification of number of employees in the capital budget, or a dedicated fund source. The operating budget funds technical assistance staff for one grant program.

Findings and Recommendations

The budget proviso directs Ecology "to convene and facilitate a stakeholder process to review and make recommendations for the statutory authorization and improvement of the floodplains by design grant program." The stakeholder process, described in the Program Assessment section of this report, followed extensive outreach conducted during the five years of the Floodplains by Design (FbD) program.

Previous studies and plans on FbD include:

- *Floodplains by Design: A New Approach to Managing River Corridors in Puget Sound*. August 2014.[9]
- *Vision, Strategies, and Actions for Puget Sound Major River Floodplains*. March 2016.[10]
- *Floodplains by Design: A 5-Year Strategy for Washington's Floodplains*. June 2018.[11]

Cumulatively, the stakeholder processes conducted for this report and previous studies have engaged hundreds of people through personal interviews, collaborative workshops, and surveys. Following the stakeholder process, Ecology, The Nature Conservancy (TNC) and Puget Sound Partnership reviewed the feedback from interviews, workshops and a survey and comments from this process and from the earlier outreach. Ecology developed the following findings and recommendations. Some of these recommendations are directed to the legislature and others are actions that Ecology should take to sustain and improve the Floodplains by Design program.

1) Incorporate FbD principles and program into existing flood statutes

Findings

Washington's flood laws were last overhauled in 1991, when the Legislature authorized comprehensive flood hazard management planning.[12] Yet there is abundant evidence from previous studies and stakeholder outreach conducted for this report that Washington communities continue to struggle with legacy impacts of past river management actions such as dredging channels, straightening rivers, and armoring and leveeing river banks. These actions allowed the development of homes, businesses, and farms in floodplains, but they also degraded habitat and have not eliminated the threat from floods. Local floodplain managers are left with expensive levee maintenance costs and high flood risk to their communities. Many perceive that the complex system of policies and regulations at the state and federal level sometimes conflict and don't always support best floodplain management practices, now known to be necessary and helpful.

[9] http://www.floodplainsbydesign.org/wp-content/uploads/2017/07/FbD-FINAL-REPORT-Sept2014.pdf
[10] http://www.floodplainsbydesign.org/wp-content/uploads/2017/07/FbD-Vision-and-Strategies-2016-report.pdf
[11] http://www.floodplainsbydesign.org/wp-content/uploads/2018/10/Floodplains-by-Design-5-Year-Strategy-draft-6-29-18.pdf
[12] Flood Control Management and Protection, ESSB 5411.

At the same time, other community concerns are increasingly overlapping with flood risk issues. Agriculture in many areas is in decline as cities, homes, transportation projects, and warehouses expand and floodplain hydrology changes. The combined changes of development and hydrology affect agriculture lands through increased flood risk, changing groundwater, and wet fields due to impaired drainage.

Meanwhile, Chinook salmon, bull and steelhead trout and Southern Resident Killer Whales have been listed under the federal Endangered Species Act. A large percentage of the floodplain and estuarine habitats critical to Chinook populations (and therefore the killer whales who depend on this food source) have been lost due to historic river management actions.

In its first five years, the FbD program demonstrated that with concerted effort and adequate resources, it is possible to provide solutions through integrated floodplain management approaches. The program has enabled nature-based solutions that revolve, in part, around giving a river more room to store flood waters, improve flood conveyance, restore fish habitat, provide recreational opportunities, and reduce the threat of damage to homes and infrastructure. It also supports whole river management that may include infrastructure improvements, farmland preservation and habitat restoration actions that work together to protect people, the economy and the environment.

Surveys and interviews affirm widespread interest in continuing the FbD grants program--with increased funding for on-the-ground projects and financial support for planning and coordination at the local and state level.

Recommendations

Based on lessons learned from the Floodplains by Design partnership over the past five years, and the feedback from the outreach conducted for this study, Ecology recommends that the Legislature:

- Amend the state's floodplain management laws (Title 86 RCW) to adopt Floodplains by Design principles, authorize the grants program, and establish integrated floodplain management as the preferred way to manage floodplains.
- Include in the legislation language that:
    - Directs floodplain planning to integrate flood hazard reduction with salmon recovery, agricultural viability, recreation, and other locally defined benefits.
    - Expands the FbD grants program to build capacity across the state.
    - Incorporates priorities for FbD funding, defines eligible activities, and establishes direction for tracking outcome and performance improvement metrics.
- Support a collaborative engagement process to help prepare legislative recommendations. Participants should include tribal governments, floodplain managers, local communities, elected officials, and key stakeholders.

Ecology will engage with governments, floodplain leaders, and key stakeholders in the coming months to further evaluate these proposed legislative changes. This will include developing a recommended process and timeline for proposing agency-request legislation.

2) Increase statewide capital funding for FbD

Findings

The need for increased funding for integrated floodplain management in our state has been identified as a top priority in all FbD outreach efforts and reports, including those in 2014, 2016, and 2018 (see footnotes on page 13). Stakeholders identified increasing the amount and reliability of funding for integrated floodplain management and projects as the highest priority in TNC's 5-Year Strategy. Stakeholders also identified building capacity for local planning and grants management as one of the top five strategies.

Support for increased funding

During the outreach process for this proviso study, Ecology heard broad support for increased funding from survey respondents, floodplain managers and those attending the FbD information session. A large majority of respondents to the on-line survey conducted for this proviso study indicated that funding levels for FbD should be increased to meet statewide needs.

Support for increased funding is based on a general recognition that FbD projects are complex, require an extensive investment of time and effort from multiple stakeholders upfront, and provide far more benefit than traditional flood risk reduction projects. Many stakeholders expressed the need for increased capacity to implement projects.

Funding for projects

There is no comprehensive statewide funding needs assessment for integrated floodplain management. However, applications for FbD grants present one measurement of demand.

- For the three biennia beginning in July 2013, total funding requests for competitive FbD grants have amounted to almost $354 million.
- FbD competitive grants have provided just 22 percent of the requested funding for FbD projects.
- For the 2019-21 fiscal biennium, initial funding requests totaled $99 million.

Other data support the need for increased funding for both on-the-ground projects and project planning:

- An investment of $340 million is needed to carry out integrated floodplain management actions identified for nine river reaches across four watersheds (*Vision, Strategies, and Actions for Puget Sound Major River Floodplains,* 2016).
- Salmon Recovery Work Plans included an estimated $788 million in floodplain-related capital costs. Capital costs included in flood risk reduction plans across Puget Sound total $2.2 billion (*A New Approach to Managing River Corridors in Puget Sound,* 2014).

- The long-term capital floodplain project costs for large Puget Sound rivers are estimated at more than $3 billion. Estimates for the rest of the state have not been compiled into a single document (*A New Approach to Managing River Corridors in Puget Sound*, 2014).

Funding for program administration and technical support

The FbD program is supported both through grant program administration and technical assistance and support to communities. Ecology dedicates the equivalent of four full-time employees, who develop the initial solicitation for grants, field questions from potential applicants, review applications and make recommendations to the FbD management team. They also oversee grants, monitor projects, troubleshoot problems, review invoices for reimbursement, provide other financial oversight, and revise funding guidelines and processes. This work serves to ensure accountability and appropriate use of grant dollars. Ecology currently relies on 3 percent of the FbD appropriation for administrative costs to run the program.

In addition, TNC has spent on average $800,000 per year over the past several years working with state and local partners on tasks that include, but are not limited to: facilitating the public-private FbD partnership; providing technical assistance to local project proponents and partners ; investing in the science behind integrated floodplain management; convening tribal and local governments, state and federal agencies and other partners and stakeholders across the state to develop floodplain leaders; and organizing workshops, trainings, and peer to peer learning exchanges for local and regional practitioners to share best practices and enhance cross-program integration. This array of program and project development work has been a key part of the program's success and has led to good FbD projects on the ground.

TNC's private resources, as well as the EPA's National Estuary Program and NOAA grants have funded this work. As federal funding diminishes, it will be important for Ecology and private partners to develop a more reliable long-term funding strategy to cover these functions.

Research into other state capital grant programs shows funding for grant administration and technical assistance is provided in different ways:

- The standard used by the state Recreation and Conservation Office for salmon recovery related grants is approximately 4 percent of the capital budget allocation.

- For the Remedial Action Grant program, the capital budget identifies three FTEs to administer the grants. The operating budget funds technical staff who support grantees implementing cleanup projects.

- The Transportation Improvement Board funds grant administration with three cents of the statewide gas tax.

Programs that provide substantial technical assistance to grantees, such as the Ecology Water Quality and Transportation Improvement Board grants, have state agency staff dedicated to financial management as well as technical specialists. More information on the administrative funding and staffing levels of other state capital grant programs is provided in Appendix B.

Comments related to funding

While the stakeholder outreach efforts indicate support for increased funding for FbD, three comments are worth noting: The potential for FbD funds to compete with salmon recovery funds, the capacity of grantees to implement projects, and the geographic distribution of funds.

Comments regarding competition with salmon recovery funds arose when the FbD program was first established. Some stakeholders commented the FbD grants program may compete with and reduce funding available to other salmon recovery grant programs or that FbD projects would conflict with implementation of salmon recovery plans.

However, a review of state funding levels during the last 10 years (before and after the FbD grants program was established) shows overall funding for salmon recovery has increased. For the 2009-11 biennium, combined funding for the Salmon Recovery Funding Board, Estuary and Salmon Restoration Program, and Puget Sound Acquisition and Restoration Program amounted to roughly $50 million. Funding increased to $95 million when FbD was introduced in 2013. During the next biennium, funding for those three programs amounted to $61 million. For the 2017-19 biennium, the three funds related to salmon recovery received $68 million. (Table 2)

Table 2: Salmon Recovery and Floodplains by Design Funding

Program	2007	2009	2011	2013	2015	2017
Salmon Recovery Funding Board	$18M	$10M	$10M	$15M	$16M	$20M
Estuary and Salmon Restoration Program	$12M	$7M	$5M	$10M	$8M	$8M
Puget Sound Acquisition and Restoration Program	$41M	$33M	$15M	$70M	$37M	$40M
Floodplains by Design	--	--	--	$44M	$35M	$35M
Total Non FbD Salmon Recovery Funding	$71M	$50M	$30M	$95M	$61M	$68M

Note: Floodplains by Design was appropriated $50 million in 2013. Of that, $6 million was for flood hazard projects that do not qualify for FbD and therefore is not reflected in the table.

There is little evidence to support the concern that the FbD Program conflicts with implementation of salmon recovery plans. The FbD Grant Guidelines require that projects, or elements of a project package, be consistent with the salmon recovery plan for the watershed, and all projects are evaluated against several criteria related to salmon benefits. In addition, FbD grants often leverage additional federal or local funds that benefit salmon recovery.

It is worth emphasizing a unique aspect of the FbD Program: In addition to providing ecosystem benefits, every project must achieve some level of flood hazard reduction or it won't get funded. Often these goals are integrated in projects that utilize both gray infrastructure (e.g. construction of dikes and levees) and green infrastructure (reconnection of floodplain areas to increase natural flood storage) to both reduce flood risks and restore salmon habitat in efficient and community-appropriate ways. As of 2016, FbD projects have reduced flood hazards in 38 communities, removed 430 residences from the high-risk flood zone, and reconnected more than 1,000 acres of

floodplain to rivers. When 2017-2019 biennium projects are complete, it is expected that an additional 270 homes will be removed from high-risk floodplain areas and 1,500 acres of floodplain will be reconnected to the river.

Another issue is implementation of a number of FbD funded projects that have been delayed, with re-appropriation rates ranging from 63 percent to 87 percent. FbD is a new program focused on implementing large-scale complex projects. Therefore, delays in completing projects are not unexpected. Several approaches to controlling re-appropriations and reducing project delays have been identified by reviewing other state grant programs and can be implemented through administrative rule or program management policies.

Also, disparity in the distribution of grant funds has been raised, with those comments coming from the southwest and central parts of the state, in particular. FbD to date has focused on major rivers and has funded proposals consistent with the evaluation criteria. Several stakeholders suggested a set-aside of grant funds for smaller projects (less than $500,000) or revisions to evaluation criteria to give smaller projects more opportunity to compete with larger proposals.

Finally, in order to apply for an FbD grant, local and tribal governments and community and non-profit organizations must spend considerable time and money developing partnerships, building community support, securing a local match, developing a project and filing an application. Ecology has heard that a lack of resources to do so, particularly from smaller and rural communities, results in no grant application.

Recommendation

Ecology recommends the Legislature increase capital funding for the FbD program to meet needs for integrated floodplain management projects.

Increased funding would help to distribute projects throughout the state, support smaller projects, and provide funding for program administration and technical support. Ecology should continue a coordinated strategic investment approach of distributing FbD grant funds together with other grant programs for salmon recovery.

3) Provide adequate funds for integrated flood planning

Findings

Flood hazard management plans help communities identify and prioritize strategies to reduce their risk. Strategies may include vulnerability/risk assessments, capital projects to reduce flood risks, and land use recommendations to keep people and infrastructure out of flood hazard areas. Updated plans can address climate change impacts of more frequent and severe storms, which are predicted to increase flood risks. These plans can also identify ways to achieve benefits such as salmon recovery and preservation of agricultural lands.

While most communities have basic plans, many have not been updated since the 1990s. Floodplain management has changed since then, as FbD projects demonstrate. Having up-to-date flood plans – especially ones that identify multi-benefit flood reduction strategies – helps position communities to better compete for Floodplains by Design grants or other federal and state grants, such as the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grants.

Many communities in Washington, particularly those in rural areas, do not have the resources to adequately plan for reducing flood risks. Funding for local flood hazard management planning through the state's Flood Control Assistance Account (FCAA) Program has not been appropriated the past five biennia as these funds were redirected for other uses. Most federal grants or other emergency funding programs are directed toward after-the-event disaster recovery.

The FbD management team has found that this lack of funding for planning, combined with other issues, has significantly hampered integrated floodplain management at the local level.

The Legislature's support of flood hazard reduction planning through funding will provide an incentive to local communities, including small cities and towns, to begin or renew the serious work of improving their resiliency to flood events. Investing in planning, and ultimately in flood hazard reduction projects, will reduce flood risks over time.

Comments about funding

During the stakeholder process for this proviso, a strong majority of respondents to the online survey supported funding for integrated floodplain planning and facilitation. Those interviewed and surveyed as part of TNC's 5-year strategy recommended advocating for increased, longer-term sustainable funding for integrated FbD projects and management, including planning and operating costs. They advocated thinking beyond capital dollars for capital projects.

Recommendation

Ecology recommends that adequate funding be provided to support local and regional integrated floodplain planning. Funding could be provided through the FbD Program, the Flood Control Assistance Account, or other funding sources.

4) Continue public-private partnership and increase participation

Findings

The Floodplains by Design program has been led by a public-private partnership between Ecology, The Nature Conservancy, and Puget Sound Partnership. The combined strengths and capacities of these organizations have helped launch this successful program and have begun to

prove the concept that a more collaborative, integrated approach to river management could help accelerate efforts to manage our rivers more sustainably.[13]

TNC has served as the backbone organization for administration of the regional FbD effort and has brought technical expertise, extensive community relationships, additional funding, and a neutral, non-governmental voice to the partnership. Ecology has administered the FbD grant program and provided administrative, technical, and policy experience to the effort. The Puget Sound Partnership has contributed technical and policy support and has helped ensure alignment with other Puget Sound recovery programs and efforts.

Through the life of the program, the FbD Management Team has actively engaged with floodplain project leaders through workshops, feedback sessions, surveys, and project implementation. This work has brought together local floodplain managers, tribal natural resources staff, conservation districts, local agricultural interests, and others working on local, integrated floodplain management projects.

During the outreach process, Ecology learned that we should strive to create more awareness about the program beyond local project leaders. In particular, local and tribal government decision makers and state legislators are less familiar with the program than local floodplain project leaders. A program like FbD that addresses multiple benefits and engages multiple interests will benefit by engaging a broad range of state, local, and tribal governments and key stakeholders, including agricultural and conservation leaders. This would include sharing information about the program and soliciting feedback, guidance, and support.

Recommendation

Ecology recommends that the FbD program continue to operate through a public-private partnership. The FbD Management Team should also reach out beyond floodplain practitioners to tribal governments and local/state leaders that include city and county elected officials, agricultural interests, and key state and federal agencies. These leaders can offer guidance regarding implementation of the FbD program, help build awareness and support, and provide feedback on improvements to the program.

5) Work with FbD partners to refine elements of grants program

Findings

Ecology has refined the evaluation criteria for FbD grants to reflect integration of flood hazard risk reduction and fish habitat enhancement, along with other key factors such as local support and consistency with local plans. Funding guidelines have been revised twice since their initial publication as FbD staff and the management team have learned from project partners and other grant programs over the past five years. In 2018, Ecology also conducted an internal review of the FbD grant program.

[13] *Floodplains by Design: A 5-Year Strategy for Washington's Floodplains.* June 2018

Generally, the majority of respondents to the online survey in September 2018 agree that steps in the grant application are clear, flexibility in project eligibility and evaluation criteria supports the most critical needs, and evaluation criteria are aligned with the purpose of the program.

However, several suggestions for improvement include:

- Streamlining the application process. Several survey respondents commented on the need to make the expectations for applications more clear and reduce requests for redundant information.

- Distributing funds across the state. In the last two funding cycles, only 14 projects have been awarded grants (seven in each funding cycle). While this reflects the priorities in the evaluation criteria for projects with large benefits and cost effectiveness, it also left 58 full proposals unfunded. The majority of funds has been dedicated to projects in Puget Sound. Stakeholders from other regions have stated their local needs are not being met, despite opportunities for restoration.
- Funding small-scale as well as large-scale projects. While the FbD grant guidelines encourage small-scale projects (below $500,000), the evaluation criteria generally prioritize large-scale projects that can demonstrate large benefits.
- Investing in monitoring completed projects and adapting the program as needed to assure the long-term success of the FbD grants program.

These suggestions are periodically raised about other funding programs in the state. Some funding programs such as the Salmon Recovery Funding Board and the Transportation Improvement Board grant programs have developed explicit formulas to ensure geographic distribution of funds across the state. The Transportation Improvement Board has also established separate programs for small and large communities.

The online survey and workshop conducted for the proviso study directly asked stakeholders to provide input on grant management aspects of implementing FbD funded projects. A majority of respondents generally indicated that the grant management requirements are clean and reasonable.

One concern related to grant funding and project implementation is the duration of the grant. A number of grantees stated that large, complex integrated funding projects typically need three to four years to implement. This duration extends longer than a state fiscal biennium and can lead to challenges in seeking re-appropriations.

Recommendation

Ecology should seek additional input from FbD partners to refine the application process, evaluation criteria, and funding guidelines. Additionally, following future amendments to floodplain management laws, Ecology will conduct formal rule-making to incorporate these procedures and standards in the Washington Administrative Code.

6) Improve efficiency and transparency of project funding and implementation

Findings

The FbD program provides a financial incentive to improve management of floodplains in Washington. In the TNC 5-Year Strategy, stakeholders rated among the top priorities the need to change policies that are barriers to integrated floodplain management and reduce the administrative and permitting challenges to implementing integrated floodplain projects.

One of the key barriers identified in this proviso study and TNC's 5-Year Strategy is the ability to implement large, complex integrated floodplain projects within the two-year state budget cycle. This has led to the FbD grants program making significant re-appropriation requests. Other capital grant programs in the state face this same challenge and have developed tools to manage long-term projects. These include increasing financial management requirements, phasing projects, establishing procedures that make large-scale, multi-biennia projects as a portfolio of projects over time, and extended grant agreements. Incorporating some of the practices other grant programs have put in place may also improve efficiency– an important factor for managing large capital investment projects.

Results of the online survey for this proviso study show that only a minority of respondents agree that the review and selection processes are transparent. Comments on this issue are limited, with those stating the evaluation process needs to be more transparent, similar to several other grant programs, and that the grant review process needs to be more transparent.

Recommendations

Ecology should work with floodplain leaders to:

- Evaluate options to more effectively manage long-term projects including increased accountability, phasing projects, portfolio projects, and extended grant agreements.
- Develop solutions for making the evaluation and selection process more transparent.
- Identify and work to reduce permit process challenges and other obstacles that impede integrated floodplain management projects.

Conclusion

Ecology, in consultation with the Puget Sound Partnership and The Nature Conservancy (TNC), has conducted the study directed by the budget proviso and prepared this report on the Floodplains by Design (FbD) grants program.

Ecology received helpful feedback from those who participated in the recent outreach process as well as during the development of TNC's recently completed 5-year Strategy for Washington's floodplains. Overall, we found that:

- The FbD Program is viewed positively and should be continued.
- Integrating the program into existing floodplain management laws (Title 86 RCW) would be a more comprehensive approach than creating a stand-alone grants program statute.
- Adequate funding is needed for projects, program administration, and local planning.
- The public-private partnership this program is built on has been a key to its success.
- Engaging and bringing together diverse interests – governmental and non-governmental – is a hallmark of good, integrated floodplain management.

Ecology's recommendations to the Legislature focus on authorizing the FbD program within existing floodplain management laws; increasing funding for the program to meet the needs for integrated floodplain management projects; and ensuring adequate support for local and regional flood planning.

The report also includes recommendations for Ecology to continue to operate the program with public and private partners; broaden engagement with local decision-makers, tribal leaders, and key stakeholders (e.g. agricultural and conservation interests) to solicit advice and feedback; and work with partners to continue to improve grants program design, efficiency, and transparency.

The first five years of the FbD program have demonstrated that an integrated approach to managing our floodplains is possible. Looking forward to the next five years and beyond, Ecology believes that implementing the recommendations in this report will help solidify the program and begin to make integrated floodplain management the norm for how we protect peoples' homes, farms, and businesses from catastrophic floods, while also restoring healthy ecosystems.

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Appendices

Appendix A. Projects Funded to Date

Appendix B. State Capital Funding Programs

Appendix C. Outreach

2013-15 Coordinated Investment Grants

**Please note these nine projects were not part of a competitive process and did not require match.*

Lower Cedar River Integrated Floodplain Restoration Phase 2: Mobile Home Buyout/Relocation

Grantee: King County
Grant amount: $4,103,000
Other funding leveraged: $743,000
Total project cost: $4,846,000
Legislative districts: 5, 11

Description: Work with residents of a mobile home park, which is located in the floodplain and channel migration area of the Cedar River, to purchase their mobile homes or recreational vehicles. Once all 129 families are relocated and all mobile homes removed, the County will begin construction work to remove the levee protecting the mobile home park and restore the floodplain.

Planned outcomes:

- Acres reconnected and restored: 40
- Acres acquired: 17
- Feet of levee removed: 1,200

Status: All mobile homes have been purchased, demolished, and disposed of. County can now begin construction work to remove levee.

Calistoga Reach: Levee Setback & Side Channel Construction

Grantees: City of Orting, Pierce County
Grant amount: $5,708,000
Other funding leveraged: $10,703,486
Total project cost: $16,411,486
Legislative district: 2

Description: Removed existing levee and constructed setback levee to reconnect floodplain to the Puyallup River and allow a more natural functioning river system. Installed logjams and other features to promote fish habitat, as well as planted native plants to provide shade and reduce water temperature for fish habitat. Constructed a large-scale, over-bank side channel to provide flood storage and reconnect floodplain.

Project outcomes:
- Miles of ecosystem functions improved: 3.5
- Feet of levee removed: 5,700
- Acres restored: 55
- Feet of constructed side channel: 4,000
- Acres reconnected: 88
- Native plants installed: 60,000
- Number of engineered logjams: 31

Status: Complete

Canyon Creek Integrated Flood-Fish

Grantee: Whatcom County Flood Control Zone District
Grant amount: $2,086,000
State Recreation and Conservation Office grant: $1,463,300
Other funding leveraged: $354,361
Total project cost: $3,903,661
Legislative district: 42

Description: Removed damaged levee and constructed an armored setback structure. This reduced flood hazard to a subdivision, made room for engineered logjams to restore salmon habitat complexity, completed riparian restoration to protect water quality and promote habitat-forming processes, reconnected the stream to its historic floodplain, and improved long-term fish passage at the bedrock cascade.

Project outcomes:
- Engineered logjams placed: 14
- Feet of levee removed: 1,850
- Acres planted with native species: 13
- Acres reconnected: 7
- Native plants installed: 13,374

Status: Complete

Neadham Road Floodplain Restoration: Property Acquisition/Demolition

Grantee: Pierce County
Grant amount: $3,394,000
Other funding leveraged: $2,879,664
Total project cost: $6,273,664
Legislative district: 2
Description: Purchased high-risk parcels; demolished and removed the structures on those parcels; and abandoned Neadham Road and failed levee segments. This project moved people out of harm's way and restored natural functions to sites of repeated flood damage.

Project outcomes:

- Acres restored: 280
- Acres acquired: 52

Status: Complete

Lower Dungeness Projects

Grantees: Clallam Conservation District, North Olympic Salmon Coalition, Jamestown S'Klallam Tribe, Clallam County
Grant amount: $7,828,000
Other funding leveraged: $3,392,000
Total project cost: $11,220,000
Legislative district: 24

Description: The four entities working on the Lower Dungeness Projects will acquire floodplain property, plant riparian areas, upgrade irrigation systems to provide water security for farmers and ensure in-stream flows for fish, create the final design of the Dungeness Dike Setback, and remove infrastructure.

Planned outcomes:

- Acres acquired: 28
- Acres restored: 120
- Feet of roadway removed: 700
- Structures removed: 4
- Creosote piers removed: 180

Status: Clallam Conservation District has completed their project. North Olympic Salmon Coalition is currently using remaining funds to adjust to small on-site changes. Jamestown S'Klallam Tribe has completed major project work and is currently focused on acquisitions to complete spend-out. Clallam County's work had stalled due to pullback from the U.S. Army Corps of Engineers (Corps); they are now back on track with new agreement with the Corps as a project permitter. A new engineering/design firm was hired to complete designs and permitting. Construction expected in summer 2019.

Lower Stillaguamish Fish, Farm, and Flood Management

Grantee: Stillaguamish Tribe of Indians
Grant amount: $4,272,000
Other funding leveraged: $1,500,000
Total project cost: $5,772,000
Legislative districts: 10, 39

Description: Six components for this project aim at producing net gains in ecological function and agricultural productivity, as well as reduction in flood damage. The components involve:

- Improving flood hazard protection by designing repairs to a dike and improvements to a drainage channel.
- Acquiring two large parcels and restoring habitat on them.
- Reducing water pollution by designing an anaerobic bio-digester to treat cattle and chicken waste.
- Treating large deep-seated glacial landslide for reducing fine sediment loads into the South Fork of the Stillaguamish River.
- Reviewing dike setback alternatives.

Planned outcomes:

- Up to 88 acres restored to tidal influence
- Inventory, assessment, design, and permits prepared to implement repairs to failing sections of Drainage District 7 dike system
- Improved salmonid habitat in lower reaches of South Fork Stillaguamish River
- Restoration of Irvine Slough as a floodwater conveyance channel

Status: Over halfway complete. Janicki Energy is assembling a prototype of the bio-digester, which should process 45 gallons per minute, to be installed by June 30, 2019.

Pre-Construction Work for the Restoration & Sediment Management of the Skokomish River Floodplain

Grantee: Mason Conservation District
Grant amount: $1,387,000
State Salmon Recovery Funding Board grant: $483,755
Total project cost: $1,870,755
Legislative district: 35

Description: Planning for restoration of floodplain connectivity, reduction of flood hazards, increased agricultural and shellfish productivity, improved water quality, and enhanced critical habitat for threatened fish species. Actions include property acquisition, project design planning, and acquiring environmental permits to enable future reconnection of the floodplain through levee removal and placement of engineered logjams.

Planned outcomes:

- Engineered logjams installed: 16
- Pre-construction work completed for future reconnection and restoration of 150 acres of floodplain

Status: Project construction and pre-construction work complete; now focused on targeted acquisitions. New 2017-19 FbD agreement in hand. Work will resume on both acquisitions and additional habitat work in the upper watershed to improve conditions in the valley below.

Assessment for Restoration of Habitat and Infrastructure for the Lower Snohomish River

Grantee: Snohomish County
Grant amount: $894,000
Other funding leveraged: $435,000
Total project cost: $1,329,000
Legislative districts: 1, 39, 44

Description: Created a GIS-based assessment of the lower Snohomish River basin that locates, characterizes, and maps all major floodplain flood protection and drainage systems; completed a hydrogeomorphic river model; combined infrastructure information with modeling outputs; identified current and future vulnerabilities and risks; and developed recommendations for a prioritized list of capital infrastructure and habitat projects.

Project outcomes:

- Provided platform to guide future capital projects designed to improve salmon habitat conditions without increasing flood risk

- Documented conditions and reliability of existing dikes and levees to protect the floodplain and its farmland from future flooding

Status: Complete

Snoqualmie River at Fall City Floodplain Restoration

Grantee: King County
Grant amount: $3,328,000
Other funding leveraged: $4,385,398
Total project cost: $7,713,398
Legislative district: 5

Description: Restore natural riverine processes of floodplain inundation and channel migration along the Snoqualmie River, as well as promote fisheries habitat. Actions include acquiring easements, restoration project planning and design work, removing an obstructing levee, constructing a setback levee and revetment, and revegetating to reduce flood and erosion risks, protect agriculture, and provide long-lasting improvements to fluvial processes and salmon habitat.

Planned outcomes:

- Acres restored: 105
- Acres acquired: 27
- Acres reconnected: 134
- Feet of levee/revetment removed: 2,800
- Feet of constructed side channel: 2,500

Status: Over halfway complete. They expect to finish closing on parcels in the next quarter and have been demolishing structures on acquired parcels. All demolition work should be complete by spring 2019. Restoration design is underway.

2013-15 Competitive Grants

**Please note the 2013 legislature provided $11.25 million for this grant round. Ecology allocated 3% of the total for staffing, which was pro-rated across projects. The grant amounts below reflect the remaining $10.91 million.*

Naches River N-9 Levee Segment Removal and Setback – Phase 2

Grantee: Yakima County
Grant amount: $549,928
Other funding leveraged: $137,482
Total project cost: $687,410
Legislative district: 14

Description: Acquire properties to enable the removal and setback of the eastern end of the N-9 levee to reduce damages to the N-7 levee and to reconnect a large area of historically active floodplain. Armor several hundred feet of a road and create pilot channels within the acquired parcels. This work is part of a basin-wide recovery plan.

Planned outcomes:

- Feet of levee removed: 700
- Acres acquired and reconnected: 23
- Feet of constructed/enhanced pilot channels: 3,800 feet
- Native trees and shrubs installed: 500
- Acres treated for noxious and invasive weeds: 6

Status: Construction complete. Grant still open for revegetation work.

Mill Creek Restoration

Grantee: City of Auburn
Grant amount: $532,000
Other funding leveraged: $5,206,048
Total project cost: $5,738,048
Legislative district: 47

Description: Acquire site consisting of four degraded wetland parcels with Mill Creek, a salmonid-bearing stream, flowing along the eastern portion. Restore stream and floodplain along a mile of the Creek with a focus on increasing floodplain connectivity and storage, providing refuge habitat from high-flow events, and creating conditions to re-establish riparian cover over the Creek to reduce water temperatures and improve water quality for fish rearing.

Planned outcomes

- Floodplain storage added: 17.5 acre-feet
- Acres restored: 19
- Culverts replaced: 1
- Acres acquired: 21

Status: Project complete and awaiting final report from the Corps. Project then moves to closeout.

Shaw Creek Flood Mitigation Project: Wide Hollow Creek Bridge Conveyance

Grantee: City of Yakima
Grant amount: $200,000
Other funding leveraged: $600,000
Total project cost: $800,000
Legislative district: 14

Description: Replace two bridges that cross over Wide Hollow Creek with box culverts capable of passing the combined 100-year flow of Wide Hollow Creek and Shaw Creek, as part of Yakima County's Shaw Creek Flood Mitigation Project. The increase in conveyance is necessary to allow implementation of the larger flood hazard reduction and habitat improvement project on Shaw Creek.

Planned outcomes:

- Improved water quality

- Increased flood conveyance
- Reduced flood damage in rapidly urbanizing area on west side of City

Status: There was a large delay in initially receiving their match funding. They are now proceeding with construction.

Reecer Creek Restoration & Flood Hazard Reduction

Grantee: City of Ellensburg
Grant amount: $1,300,000
Other funding leveraged: $325,000
Total project cost: $1,625,000
Legislative district: 13

Description: Acquired property adjacent to Reecer Creek to provide open space and restore natural floodplain functions, completed a feasibility analysis on the relocation of Whiskey Creek in the project area, and completed 90% design of a setback levee, overflow swale, and overflow bridge crossing through project coordination with stakeholders.

Project outcomes:

- Acres acquired and restored: 11
- Prepared for Phase II of project, which will focus on acquisition, Whiskey Creek relocation, and construction of setback levee

Status: Complete

Clear Creek Wetland & Floodplain Restoration

Grantee: Kitsap County
Grant amount: $2,000,000
Other funding leveraged: $1,961,879
Total project cost: $3,961,879
Legislative district: 23

Description: Reconnected Clear Creek with its historical floodplain and restored floodplain, off-channel wetland, and riparian habitat in Silverdale. Reduced flooding impacts to downstream infrastructure while improving salmon habitat and reducing the negative impacts of storm flows on Coho, chum, steelhead, cutthroat, and rainbow trout.

Project outcomes:

- Flood storage added: 20 acre-feet
- Acres of new floodplain created: 6.4
- Feet of new stream length created/enhanced: 3,758
- Pieces of large wood installed: 675
- Acres of invasive weeds removed: 21
- Native trees and shrubs installed: 80,412
- Fish barrier culverts removed: 2
- Footbridges installed: 3

Status: Complete

Puyallup Riparian Acquisition/Agricultural Preservation & Ball Creek Preliminary Design

Grantee: Pierce County
Grant amount: $525,000
Other funding leveraged: $1,400,000
Total project cost: $1,925,000
Legislative district: 31

Description: Acquired land and conservation easement on farmland approved for residential development. Conducted restoration on the property to reduce flood risk and improve salmon habitat. Acquisition of this property allows future restoration activities, including adding creek channel width and reconnection of Ball Creek to the Puyallup River floodplain, more than doubling Ball Creek's conveyance capacity.

Project outcomes:

- Acres of conservation easement: 125
- Acres acquired and reconnected: 29
- Fish passage barriers removed: 3
- Acres restored: 13
- Acres protected from bank armoring and development: 16.5
- Square feet of new channel area: 275,000
- Feet of riprap removed: 35

- Acres of channel migration zone preserved: 28

Status: Complete

Thornton Creek Confluence Floodplain Restoration

Grantee: City of Seattle Public Utilities
Grant amount: $1,200,000
Other funding leveraged: $2,722,190
Total project cost: $3,922,190
Legislative district: 46

Description: Provided floodplain storage to help relieve urban flooding at the location of the City's largest confluence. An undersized culvert often caused the creek to overtop and flood a major arterial road, as well as back up and flood a high school and community center. Replacing this culvert with a bridge reconnected Thornton Creek to its historical floodplain.

Project outcomes:

- Feet of armoring removed: 700
- Feet of stream re-aligned: 730
- Acres of fill excavated: 2
- Acres of floodplain storage: 2
- Acres restored: 2.5

Status: Complete

Qwuloolt Floodplain Restoration

Grantee: Tulalip Tribes
Grant amount: $464,044
Other funding leveraged: $116,709
Total project cost: $580,753
Legislative district: 38

Description: Completed a setback levee to restore floodplain along Ebey Slough. Upgraded and enhanced flood protection of existing facilities and business within the floodplain adjacent to the restoration project. The larger Qwuloolt project was a broad-based interagency and community effort to restore historic tidal processes and an intertidal marsh system to an isolated floodplain, providing flood protection, public access, and recreational use.

Project outcomes:

- Acres reconnected and restored: 354
- Miles of upstream spawning and rearing habitat provided: 16
- Improved conveyance of flood flows within Allen Creek

Status: Complete

Historical Skamokawa Creek Hazard Mitigation

Grantee: Wahkiakum County Diking District 5
Grant amount: $50,000
Other funding leveraged: $56,500
Total project cost: $106,500
Legislative district: 19

Description: Continued efforts to address flood hazard, water quality, and salmon recovery concerns inherited because of the 1948 flood mitigation project design. Cleared sediment deposits in front of the freshwater inlet structure to allow for opening, which had an immediate impact on both water quality and salmon recovery concerns. Filled low spots on the dike and raised the dike elevation.

Project outcomes:
- Yards of sediment removed: 45
- Flood storage added: 13 acre-feet
- Acres reconnected: 13

Status: Complete

Deming Levee Upstream Improvements

Grantee: Whatcom County Flood Control Zone District
Grant amount: $1,440,000
Other funding leveraged: $495,000
Total project cost: $1,935,000
Legislative district: 42

Description: Constructed a new levee setback from the Nooksack River at the upstream end of the existing engineered levee. A substandard, non-engineered earthen berm, which experienced frequent overtopping, tied into the engineered levee. Floodwaters would enter the Town of Deming, affecting Mount Baker School District buildings and sewage lagoon, the post office, BNSF Railway buildings, and Nooksack tribal buildings.

Project outcomes:
- Acres reconnected: 4.5
- Feet of levee setback: 850
- Flood storage added: 8.5 acre-feet

Status: Complete

Rambler's Park Levee N-1 Setback – Phase 2

Grantee: Yakima County
Grant amount: $1,392,112
Other funding leveraged: $348,029
Total project cost: $1,740,141
Legislative district: 14

Description: Purchase floodplain and floodway properties, reconfigure and relocate an existing auto wrecking yard, set back a levee segment to allow floodplain access, remove an embankment to allow access at the Nelson Dam approach, and create pilot channels in the long-term floodplain

deposits. This will act to reduce flood hazard and improve riverine and floodplain habitats over a large reach of the main stem Naches River, while maintaining or improving current fish passage issues and the ability to divert irrigation water.

Planned outcomes:
- Acres of floodplain reconnected: 11
- Feet of levee setback: 1,800
- Feet of levee removed: 300
- Feet of embankment removed: 200

Status: Agreement finalized with auto wrecking yard; relocation to occur in fall 2018. Setback levee construction scheduled for September/October 2018.

Y-9 Levee Segment Removal and Setback – Phase 2

Grantee: Yakima County
Grant amount: $478,800
Other funding leveraged: $119,700
Total project cost: $598,500
Legislative district: 14

Description: Remove some of the Yakima River Y-9 levee, set back a length to allow flows and river channels to reoccupy the unoccupied public lands, purchase an upstream property enabling the levee setback, and purchase a downstream property where channels will be constructed to allow continued main channel re-entry of the floodplain. Side channel length will be added, producing diverse sections of floodplain with improved habitat.

Planned outcomes:
- Feet of levee setback: 200
- Feet of levee removed: 500
- Feet of constructed side channel: 2,000

Status: Construction complete. Grant still open to complete revegetation work.

Nason Creek Integrated Floodplain Restoration, Power Pole Relocation Phase

Grantee: Chelan County
Grant amount: $780,616
Other funding leveraged: $2,634,384

Total project cost: $3,415,000
Legislative district: 12

Description: Restored floodplain and channel dynamics, as well as aquatic habitat, within Nason Creek through levee removal, power line relocation, and habitat restoration. Nason Creek, which is critical habitat for spring Chinook salmon, steelhead, and bull trout, had been artificially confined by two riprap-lined levees. Increased access to the floodplain area will increase off-channel habitat for rearing, flood, and thermal refugia.

Project outcomes:

- Miles of ecosystem functions improved: 0.5
- Feet of levee removed: 750
- Flood storage added: 35 acre-feet
- Power poles removed from floodplain: 6
- Acres reconnected: 28
- Logjams installed: 3

Status: Complete

2015-17 Competitive Grants

**Please note Ecology's staff costs are not included in the grant amounts below.*

Rambler's Park Phase 4 and Trout Meadows Phase 2

Grantee: Yakima County
Grant amount: $2,123,000
Other funding leveraged: $530,700
Total project cost: $2,653,700
Legislative district: 14

Description: These two projects are part of a package of floodplain management projects geared at improved ecosystem function, salmon recovery, and increased flood protection for the Naches River. The final phase of work at Rambler's Park will include a new fish-friendly boulder bed overflow channel around Nelson Dam while ensuring two bridges are protected. Through levee setback and excavation, and reconstruction of former floodplain channels, the second and final phase of the Trout Meadows project will reduce pressure on McCormick Levee, reduce flood heights in the immediate vicinity, and reconnect quality floodplain habitat.

Planned outcomes:

- Acres reconnected: 85
- Feet of levee removed: 600
- Feet of groin removed: 500

Status: Formal amendment needed to eliminate potential task overlaps with newly awarded 2017-19 grant.

Puyallup Watershed Floodplain Reconnection – Tier 1

Grantee: Pierce County
Grant amount: $9,217,000
Other funding leveraged: $2,304,250
Total project cost: $11,521,250
Legislative district: 31

Description: Because of the high threat of development along the Puyallup River and the need for flood storage, flood conveyance, wildlife habitat, and farmland preservation, the County will acquire land, conduct project education and outreach, establish an Agricultural Conservation Easement Program, develop a monitoring program, remove invasive reed canary grass, and construct riverine enhancements.

Planned outcomes:

- Acres restored: 80
- Acres of agricultural conservation easement: 250

Status: On schedule. Request for new acquisition to complete project spending. New 2017-19 FbD agreement in hand to resume project work and acquisitions throughout the watershed.

Lower Dungeness River Floodplain Restoration

Grantee: Clallam County
Grant amount: $9,501,000
Other funding leveraged: $2,375,250
Total project cost: $11,876,250
Legislative district: 24

Description: Reconnect the lower Dungeness River with its floodplain, reduce flood risk, and improve habitat conditions by setting back the east bank levee of the river, deconstructing the existing levee, reconfiguring a road, and building engineered logjams and habitat features, such as side

channels to reconnect the floodplain to a portion of the river. This project is a key element of the Dungeness River Master Plan to improve flood protection and ecosystem benefits along the Dungeness River while supporting local farms and other interests.

Planned outcomes:

- Acres of floodplain reconnected and restored: 112
- Acres of wetland reconnected and restored: 23
- Engineered logjams: 15
- Feet of levee removed: 4,500
- Linear feet of high-flow return channel added: 1,070
- Linear feet of relic side channel habitat added/reconnected: 1,100

Status: Moving forward to complete designs and start construction (old levee removed first) in summer 2019.

Property Acquisition for the Lower Green River Levee Improvements & Habitat Restoration Project

Grantee: King County Flood Control District
Grant amount: $4,901,000
Other funding leveraged: $1,225,250
Total project cost: $6,126,250
Legislative districts: 11, 33

Description: Focuses on property acquisition for the larger, comprehensive floodplain project in the Lower Green River Valley between River Miles 17.85 and 19.25 along the right bank.

Planned outcomes:

- Acres acquired: 60
- Easement reserved to enable eventual construction of a levee setback and floodwall, relocation of Van Doren's Park, construction of public access trails, and restoration of aquatic and riparian habitat

Status: Acquisitions are complete. Working to assemble final acquisition documents for property purchase reimbursement, then project will be complete.

Porter Levee/Middle Green River Flood, Habitat, & Farmland Enhancement

Grantee: King County
Grant amount: $3,649,000

Other funding leveraged: $912,250
Total project cost: $4,561,250
Legislative district: 31

Description: Restore riverine processes to enhance floodplain ecosystem structure and functions; create a mosaic of floodplain, aquatic, wetland, and riparian habitats; reconstruct aging levee to allow channel migration and improve salmon habitat while protecting existing farmland; and provide agricultural preservation through the purchase of conservation easements adjacent to the project area.

Planned outcomes:

- Acres of farmland development rights acquired: 112
- Acres restored: 10
- Feet of levee removed: 1,550
- Logjams installed: 6
- Deflector jams installed: 5

Status: Amendment requested; negotiations will begin on that this fall.

Cedar River Corridor Plan Early Implementation

Grantee: King County
Grant amount: $5,000,000
Other funding leveraged: $2,000,000
Total project cost: $7,000,000
Legislative districts: 5, 11

Description: Advance implementation of the Cedar River Corridor Plan to improve ecosystem functions, flood protection, water quality, recreation, and other local interests. Focuses on large-scale floodplain reconnection, including restoration and/or protection of floodplain in three key reaches. Acquire land and design projects to restore channel migration, side channel formation, large wood recruitment, and other floodplain processes.

Planned outcomes:

- Reduced flood hazard to Renton, Highway 169, and associated fiber optic line
- Acquisition of up to 15 key properties
- Final design and permitting package for the contiguous Riverbend, Cavanaugh Pond, and Herzmann Levee Setback and Restoration Projects

Status: Acquisitions on schedule to be completed. Riverbend reach designs behind schedule due to staff changes.

Sustainable Management of the Upper Quinault River Floodplain

Grantee: Quinault Indian Nation
Grant amount: $560,000
Other funding leveraged: $140,000
Total project cost: $700,000
Legislative district: 24

Description: The Upper Quinault River road system, which is located in high-risk areas within the channel migration zone and floodplain of the Upper Quinault River, provides public access to Olympic National Park, private property, and public recreation sites. Road washouts and emergency repairs have been a chronic, costly problem for decades, and the methods used to repair them have been damaging to salmon habitat. This project will assess the issues and develop a plan to improve public safety, restore fish and wildlife habitat, and reduce annual costs from emergency road repairs.

Planned outcomes:

- Conceptual designs and cost estimates for potentially feasible scenarios and alternatives
- Environmental compliance documentation prepared
- Plan for sustainably managing the floodplain and road system

Status: Project experienced significant delays but is now underway. First invoicing has arrived.

2017-19 Competitive Grants

Steigerwald Flood Risk Reduction & Habitat Restoration

Grantee: Lower Columbia Estuary Partnership
Grant amount: $4,579,547
Other funding leveraged: $1,558,287
Total project cost: $6,137,834
Legislative district: 18

Description: Reconfigure the Port of Camas-Washougal's levee system to reduce flood risk to municipal, industrial, residential, and agricultural infrastructure. Reconnect historic Columbia River floodplain and increase recreation opportunities at a wildlife refuge that receives 90,000 visitors annually. Engage the community through student and volunteer plantings.

Planned outcomes:

- Miles of ecosystem functions improved: 4.2
- Miles of levee removed: 2.2
- Miles of trail created: 1
- Acres reconnected: 912
- Acres restored: 225
- Pieces of large woody debris installed: 1,750
- Feet of rip-rap shoreline removed: 1,350
- Base flood elevation lowered by: 7 feet
- Acres removed from 100-year floodplain: 124
- Linear feet of creek realigned: 700
- Culverts removed: 3
- Water control structures removed: 3
- Floodplain storage added: 10,000 acre-feet

Status: Agreement developed; budget being finalized.

Lower Big Quilcene River Design & Acquisition

Grantee: Hood Canal Salmon Enhancement Group
Grant amount: $2,355,526
Other funding leveraged: $571,215
Total project cost: $2,926,741
Legislative district: 24

Description: Acquire parcels encompassing historic floodplain and channel migration zone of the Big Quilcene River. Develop a stakeholder-supported design that addresses hydrologic and geomorphic processes, salmon habitat, water quality, a functioning riparian zone, flood resilience, and recreational access.

Planned outcomes:

- Miles of dike removed: 2
- Miles of ecosystem functions improved: 2
- Acres of floodplain reconnected: 176
- Acres acquired: 132

- Miles of trail created: 3

Status: Agreement signed and in motion. First invoice has been turned in.

Riverbend Reach Construction Phase I

Grantee: King County
Grant amount: $7,500,000
Other funding leveraged: $1,818,750
Total project cost: $9,318,750
Legislative district: 11

Description: Restore floodplain in the project area for Chinook, Coho, steelhead, and wildlife species while reducing flood and channel migration risks. The primary objectives for achieving this are to:

- Partially remove the levee and two revetments in this reach of the Cedar River on the left bank.
- Reconnect the river with its floodplain.
- Restore the structure and function of this riparian habitat and floodplain.
- Provide floodwater conveyance and storage.
- Reduce scour in spawning habitat on the main stem.
- Create better channel rearing habitat for salmonids.

Planned outcomes:

- Acres of habitat created for juvenile salmonids: 9
- Acres restored: 55
- Acres opened to public access: 18.6
- Pieces of large woody debris installed: 213
- Linear feet of levee and revetment removed: 1,400
- Cubic yards of fill excavated: 147,000
- Linear feet of constructed side channel: 6,400
- Flood storage increased by: 40 acre-feet
- Miles of ecosystem functions improved: 1.2
- Base flood elevation lowered by: 2 feet
- Structures removed from floodplain: 3

Status: Agreement in development.

Skokomish Watershed Ecosystem & Floodplain Restoration

Grantee: Mason Conservation District
Grant amount: $7,000,000
Other funding leveraged: $1,697,500
Total project cost: $8,697,500
Legislative district: 35

Description: This scalable proposal is for a suite of construction and design projects in the Skokomish Watershed that will halt degradation of flood conditions, salmon habitat, and ecosystems while achieving flood hazard reduction and critical ecosystem restoration on a watershed scale. These projects will address massive sediment aggradation that has resulted in increased flood duration and severity, and a degraded ecosystem.

Planned outcomes:

- Miles of river ecosystem functions improved: 6.5
- Acres of floodplain reconnected: 182
- Acres of wetland reconnected: 40
- Feet of levee removed: 5,400
- Acres opened to public access: 53

Status: Agreement signed and in motion.

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

Grantee: Pierce County
Grant amount: $7,750,000
Other funding leveraged: $1,879,375
Total project cost: $9,629,375
Legislative districts: 2, 25-31

Description: Floodplains for the Future is a public-private partnership with 17 capital projects, each of which are currently underway by either Pierce County or one of the project partners. This funding will advance 11 of the capital projects along the Puyallup, White, and Carbon Rivers, as well as on South Prairie Creek. Implementation will result in multiple public benefits, including reduction in impacts of flooding and channel migration, protection of roads and critical facilities that support public safety and economic viability, agricultural preservation, enhancement of aquatic habitat, and protection of open space within floodplains.

Planned outcomes:

- Acres reconnected: 974.1
- Linear feet of levee removed: 18,226
- Linear feet of setback levee constructed: 15,143
- Number of engineered logjams: 8
- Acres of agricultural land protected: 200

Status: Agreement in final review.

Barnaby Reach Study for Floodplain/Habitat Restoration

Grantee: Skagit River System Cooperative
Grant amount: $415,000
Legislative district: 39

Description: Conduct a study to improve floodplain function and connectivity, reduce flood and erosion risks, and restore fish and wildlife habitat while providing community outreach for the Barnaby Reach project area of the Skagit River. The work for this study will include a technical analysis, topographic survey, hydraulic and erosion models, etc. that will evaluate and better refine the project and complete design work to a 30% level.

Planned outcomes:

- Complete evaluation of potential risks from flooding and erosion to adjacent private landowners and essential infrastructure
- Develop and evaluate range of protection and mitigation measures to ensure no unintended flood or erosion risks are caused by the habitat project
- Work with interested stakeholders to complete deferred maintenance to improve fish passage to existing habitats
- Evaluate existing flood and erosion risks in adjacent residential community and how modifications to existing infrastructure and/or property acquisition from willing sellers could reduce that risk

Status: Agreement signed and in motion.

Rambler's Park Phase 4

Grantee: Yakima County
Grant amount: $5,788,000
Legislative district: 14

Description: Reverse the historically significant flood damages and ecological degradation from historic infrastructure by reconnecting channels with floodplains to allow restoration of over three miles of the Lower Naches River reach toward pre-levee flood conditions. This will allow increased flood conveyance, reduction in flood levels and damage to infrastructure, viable hyporheic flows, enhanced floodplain and ecosystem functions, improved sediment transport, and fish passage at the former Nelson Dam site.

Planned outcomes:

- Acres acquired: 140
- Acres reconnected: 123
- Feet of side channel constructed: 6,500
- Feet of upstream approach channels constructed: 2,500
- Homes removed from 100-year floodplain: 250

Status: Agreement signed and in motion.

MAUL FOSTER ALONGI

MEMORANDUM

To:	Brian Lynn Coastal/Shorelands Section Manager Department of Ecology	Date:	October 10, 2018
From:	Michael Stringer, AICP	Project No.:	0531.10.01
RE:	Floodplains by Design: Grant Program Research Summary		

INTRODUCTION

The Department of Ecology (Ecology) was directed by the Washington State legislature in the budget proviso to conduct an assessment of the Floodplains by Design grant program and provide recommendations for transitioning the grant program from a pilot to a permanent program. Within the proviso, Ecology is instructed to "conduct analysis of program design and mechanisms to improve efficiency and transparency of project funding and implementation." (ESSB 6095 Sec. 3001)

Floodplains by Design has proven through its pilot phase to be an effective and impactful grant program. The transition to a permanent program is an opportune time to evaluate the program and make improvements to ensure sustained success. The Floodplains by Design program has been funded through three state biennial budget cycles: 2013-14, 2015-16, and 2017-18. Since 2013, the Washington Legislature has provided the Floodplains by Design program $121 million to develop 38 community-based, multi-benefit flood hazard reduction projects. Over the course of the three funding cycles, Floodplains by Design grant guidelines have been established and refined. Much has been learned by Ecology grant program staff and by grantees regarding the funding and implementation of multiple-benefit floodplain projects. Following the direction of the legislative provision and issues raised as part of the Floodplains by Design 5 Year Strategy (completed in 2018), the following topic areas have been reviewed for the grant programs.

- Structure of legal authorization of the grant program
- Structure of budget request and allocation of funding
- Application selection process
- Geographic distribution of funds
- Long-term projects
- Funding for grant administration and technical assistance

Ecology is conducting the proviso study through internal review of the performance of Floodplains by Design grant program and external research on other Washington State capital grant programs. Reviewing other grant programs provides the opportunity to evaluate alternatives for addressing each of the topics listed above and glean lessons learned and best practices. This memorandum summarizes the findings from the research on the external grant programs. The following grant programs were reviewed for this analysis:

- Salmon Recovery Grants
- Puget Sound Acquisition and Restoration Fund (PSAR)
- Estuary & Salmon Restoration Program (ESRP)
- Transportation Improvement Board (TIB) Urban Arterial Program and Small City Arterial Program
- Remedial Action Grants
- Water Quality Combined Funding Program, which includes the Stormwater Financial Assistance Program, Washington State Water Pollution Control Revolving Loan Fund, Centennial Clean Water Program, and Clean Water Act Section 319 grants

Information on these grant programs is summarized in the Table, and key findings are outlined below. More detailed information on each of these funding programs is provided in the appendix.

STRUCTURE OF LEGAL AUTHORIZATION

In establishing a new grant program, it is important to consider the policy guidelines and level of detail to include in state law, administrative code, and internal agency policy. Typically, programs are established in the Revised Code of Washington (RCW). However, the ESRP, PSAR, and Stormwater Financial Assistance Program programs, similarly to Floodplains by Design, have been authorized through the capital budget. The state laws establishing the other grant programs are consistently broad in their authority and clear in policy. For example, the Salmon Recovery Grants are authorized by Revised Code of Washington (RCW) 77.85.120, which states, "the salmon recovery funding board is responsible for making grants and loans for salmon habitat projects and salmon recovery activities." The law proceeds to direct the Salmon Recovery Funding Board to establish procedures for awarding grants and loans, and it identifies a series of broad criteria for prioritizing projects. For each of the grant programs reviewed, the details of procedures for administration are incorporated in Washington Administrative Code (WAC) or agency grant guidelines.

STRUCTURE OF BUDGET REQUEST AND ALLOCATION OF FUNDING

During its pilot phase, Floodplains by Design was established as a budget line item that identifies a list of projects. In some budgets, projects have been funded individually, in others they have been funded as a bundled group. There are advantages and disadvantages to funding individual projects or funding them programmatically as a group. The individual project approach provides clarity and assurance to the legislature and the public regarding where funds will be allocated. However, if a project encounters

delays or barriers during the biennium, the funding agency has limited flexibility to shift funding to another project to ensure it is expended in the biennium.

The programs reviewed in this study each balanced the need for transparency and flexibility by requesting funding for the grant program overall and providing the legislature and public with a list of ranked projects that would receive funding. This approach demonstrates where the funds will be allocated but allows the agency flexibility to shift funds to a lower ranked project if the need arises.

APPLICATION SELECTION PROCESS

There is a high expectation for transparency and accountability in distribution of public grant funds. Floodplains by Design has established a process of soliciting preliminary grant applications, reviewing them, requesting full applications from the strongest applicants, ranking the projects, and funding the top-ranked projects to the limit of the state budget allocation. The results of the project ranking are published for the public to review. The other grant programs reviewed follow similar processes of soliciting applications, ranking, and publishing the rankings.

The Salmon Recovery Grant program has established an application process that allows local lead entities to propose projects. The projects are reviewed for technical feasibility and cost benefit by a statewide review board. The Salmon Recovery Funding Board then makes the final decision on funding. This process empowers local watersheds to identify their own priorities. However, it does create some additional complexity with local lead entities conducting a selection process in addition to the statewide selection process.

The Water Quality Combined Funding Program presents an interesting alternative application process. The program establishes one application and rating process for four similar funding programs. Establishing one integrated process reduces the administrative burden on applicants. It also provides the grant administration staff some flexibility to determine the best funding fit for the set of projects that are proposed. The integrated application and review process required some additional effort to establish and for agency staff to learn, but after over eight years, the grant program staff considers it to be functioning effectively. With the similarity in proposed projects and applicants between the Salmon Recovery Grants, PSAR, ESRP, and Floodplains by Design projects, this combined funding process may be worth consideration.

GEOGRAPHIC DISTRIBUTION OF FUNDS

Each of the grant programs reviewed included some consideration for equitable distribution of funds across geography or other criteria. Floodplains by Design currently allows projects in the major river systems of Puget Sound up to five additional points out of a total available score of 335 points. Three of the grant programs reviewed included specific geographic distribution considerations. Salmon Recovery Grants are allocated based on a formula that distributes funds across regions. The regional distribution formula is adopted by the Salmon Recovery Funding Board and is based on multiple factors, including number of Endangered Species Act listed species, non-listed species, and river or

shoreline miles. The TIB grants also allocates funded across regions using a formula established in administrative code based on arterial lane miles and population (WAC 479-14-151). The ranking criteria for Remedial Action Grants established in administrative code explicitly include consideration of distribution of grant funds across the state (WAC 173-322A-320(3)(h)).

Four of the reviewed grant programs also include economic or population considerations for equitable distribution of funds. Remedial Action Grants and the Water Quality grant program both include provisions supporting economically distressed communities. The Remedial Action Grant program allows for lower local government grant match for economically distressed communities. The Stormwater Financial Assistance Program also allows for reduced local match requirements for hardship communities (defined as population less than 25,000 and median income lower than 80 percent of the state median). The Centennial Clean Water Grant program sets aside 30 percent of its funding for hardship communities.

LONG-TERM PROJECTS

It can be challenging to fund large, complex projects over a two-year state budget cycle. Each of the reviewed grant programs has developed tools to manage this challenge. The approaches to long-term project management vary across programs. Five comparable grant programs allow projects to continue longer than one biennium in some form. There are multiple ways in which these programs do so: through phasing projects, holding a project portfolio, and extended grant agreements.

Phasing gives grant programs the opportunity to take a project and evaluate the progress of parts that have already been funded. Phasing involves limiting a grantee's fund approval to funds that will be used in the next phase (usually a biennium) without approving or implying likely approval for future phases. Progress in previous phases becomes an item of consideration in subsequent rounds of funding. The Salmon Recovery Grant program, for instance, allows for long-term projects to be proposed for funding in phases. Each phase is evaluated as a stand-alone project on its own merit with no guarantee of funding future phases.

Portfolios are a variant of phasing. Using portfolios makes the application process more streamlined for the program and grantees who have had projects funded in a previous biennium. A portfolio is a list of projects that have gone through the application process, been deemed technically feasible, previously been awarded a grant, and have not changed in scope. Grant programs using portfolios, such as the ESRP, require a simpler application for projects in the portfolio and evaluate and rank these projects without a technical review.

RAG projects are typically funded per biennium, with no guarantee of future funding. Every two years the Toxics Cleanup program solicits funding need forecasts for the next ten years from local governments. These forecasts are compiled into a ten-year finance plan to inform the agencies management of demand and availability of grant funding. To improve cash flow management, the RAG program also requires grantees to submit quarterly spending plans. These plans allow the grantees and the agency to better forecast grant expenditures over the biennium. With recent declines

in revenue from the Hazardous Substance Tax, provisions have been added in state law that allow parties who have signed legal agreements to delay project schedules based on funding availability. In the 2013 legislative session, SB 5296 granted authority for Ecology to enter into Extended Grant Agreements. This would allow projects, which have a total cost over 20 million dollars and are expected to extend over multiple biennia, to enter into an overarching agreement with Ecology to establish general scope, budget, and schedule for the project. Separate grant agreements would be executed in each biennium. These grants would receive the highest priority for funding, providing the highest assurance that funds will be available. Match on these grants is limited to 50 percent. To date, no extended grant agreements have been executed.

Another approach to ensuring grantees complete projects within schedule is to increase accountability. For example, TIB maintains a dashboard on their website that tracks the budget and schedule of each funded project. This tool provides close to real-time tracking of progress that is available to the public.

FUNDING FOR GRANT ADMINISTRATION AND TECHNICAL ASSISTANCE

Several different approaches to funding for agency staff to support the grant programs were identified. Grant program managers made a distinction between funding for staff responsible for financial administration of grants and staff providing technical assistance to local communities to implement projects. Distinctions also emerged between programs funded through a dedicated revenue source, federal pass through funds, and the Washington State general fund. The options incorporated in the grant programs can be outlined as:

- Funding through Capital Budget
  - Percentage of capital budget allocation. For example, staff to the Salmon Recovery Grant program are funded by approximately four percent of the state budget allocation. The program is also funded by the Federal Pacific Coast Salmon Recovery Award which allows only three percent for administration.
  - Identification of a number of full-time employees (FTE). The Remedial Action Grant program identifies three FTEs to administer its grants. Water quality program is able to fund 12 FTEs through administrative fees associated with the Revolving Loan Fund.
  - With a dedicated fund source, TIB is able to fund administration through three cents of the statewide gas tax. There is no formal policy, but administration is approximately two percent of the tax revenue.
- Funding through Operating Budget
  - Technical assistance staff that support grantees in implementation of cleanup projects funded by Remedial Action Grants are funded through the operating budget.

RECOMMENDATIONS

The following best practices in grant program administration have been devised from an examination of grant programs comparable to the Floodplains by Design program.

- If FbD is established in statute, the grant program's RCW should be clear and allow for flexibility in administration of the grant program.
- There should be one block of funding allocated to the grant program; funding should not be allocated on a project-by-project basis. The program should provide a prioritized list of grants that the program is funding with the money allocated to the program.
- The grant selection process, geographic equity, and management of long-term projects should be addressed in grant guidelines or rule-making process for the grant program.
- Funding for financial administration of grants should allow for robust support of grantees. The funding level could follow the Recreation and Conservation Office standard of four percent of grant capital funding. Funding for technical assistance through the operating budget should be explored.

TABLE

Table. Summary of Grant Programs

Topic	Estuary and Salmon Restoration Program	Puget Sound Acquisition and Restoration Fund	Remedial Action Grants	Salmon Recovery Grant	Transportation Improvement Board	Water Quality Combined Funding Program
Authorization						
Established by statute or solely through capital budget	Capital budget	Capital budget	Statute	Statute	Statute	4 programs: 2 set by federal law, 1 by state statute, 1 state capital budget
Budget Allocation						
Bundle or Individual Projects?	Bundle, supported by project list	Bundle, supported by project list	Bundle, supported by project list	Bundle, supported by project list	Bundle, supported by project list	Bundle, supported by project list
Application Selection Process						
Overview of process	Preliminary and final proposals, ranking, bi-annual funding cycle.	Preliminary and final proposals, ranking, bi-annual funding cycle.	10 year project list. Applications on bi-annual cycle. Opportunity for off-cycle grants.	Local lead entities recommend projects. Reviewed at state level. Annual funding cycle.	Annual funding cycle.	Combined application for 4 programs. Annual funding cycle.
Geographic Distribution						
Set-aside by region?	Puget Sound only	Puget Sound only	Criteria include consideration for statewide distribution	Statewide distribution set by formula	Statewide distribution set by formula	No
Set-aside by community size?	No	No	No	No	Yes	No

Table. Summary of Grant Programs

Topic	Estuary and Salmon Restoration Program	Puget Sound Acquisition and Restoration Fund	Remedial Action Grants	Salmon Recovery Grant	Transportation Improvement Board	Water Quality Combined Funding Program
Set-aside for adversely impacted/distressed communities?	No	No	Lower match requirement	No	No	Set aside and lower match requirement
Long-term Projects						
Allowed project period per grant	2-3 years	2-3 years	2-3 years	2-3 years	2-3 years	3-5 years
Approach to multi-biennia projects	Phasing of projects. Portfolio approach with streamlined review.	Phasing of projects. Portfolio approach with streamlined review.	Spending plans. Extended grant agreement available, but not used yet.	Phasing of projects.	Frequent, transparent progress tracking	Loans
Administrative Costs						
Capital or operational budget?	Financial managers-capital budget	Financial managers-capital budget	Financial managers-capital budget	Financial managers-capital budget	All administration in capital budget	Financial managers-capital budget
Administrative costs set by percent or amount?	4% of capital budget	4% of capital budget	3 FTE	4% of capital budget	No firm policy, approx. 2%	12 FTE

APPENDIX A
ADDENDUM

This addendum contains findings from research into other Washington State capital grant programs. This research was used to synthesize the best practices for grant programs presented in the above Memorandum. Six grant programs were analyzed:

1. Estuary and Salmon Restoration Program
2. Puget Sound Acquisition and Restoration Fund
3. Remedial Action Grants
4. Salmon Recovery Grants
5. Transportation Improvement Board
6. Water Quality Combined Funding Program

Estuary & Salmon Restoration Program (ESRP)

Funding Program Research

Contact Name: Jay Krienitz, ESRP Manager
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Email: esrp@dfw.wa.gov

Authorizing Legislation: There is no authorizing legislation for this program. Program is established in capital budget and need for this funding mechanism was established through the Puget Sound Nearshore Ecosystem Restoration Project (PSNERP).

Purpose: The mission of the ESRP is to restore the natural processes that create and sustain the Puget Sound nearshore ecosystem.

Eligibility: Eligible applicants include government agencies, tribes, NGOs, private institutions and universities, including:

- Local agencies
- State agencies
- Federal agencies
- Native American tribes
- Academic institutions
- Private institutions
- Nonprofit organizations

Funding Level:

Total: $20,000,000 for the 2017-2019 biennium
Max per Project: None (grants have ranged from $25,000 to $2.6M; average request is $200,000 - $400,000)

Funding Source: State budget request funds the program as a whole. This comes from the general fund.

Match Requirement: 30% of the total project cost.

Geography: Within the Puget Sound (east of Cape Flattery).

Application Selection Criteria:

- Ecological Importance (40 points)
- Technical Merit and Readiness (35 points)
- Cost Justification (15 points)
- Public Support and Involvement (10 points)

Funding Cycle: Issues requests for proposals in even years to develop a project list for the biennium (i.e., ESRP is currently accepting proposals to include as part of their capital appropriations request for the 2019-2021 biennium). For the 2019-2021 biennium, ESRP anticipates requesting $15 million. Accepted applications from February 14 to April 12, 2018.

Special Considerations (geography, project/community size, etc.): Strongly aligns with one of seven learning objectives.

Long-Term Projects Provisions: Project activities need to be completed in 2-year time frame that aligns with biennial budget cycle. To support phased funding, ESRP has developed a streamlined application or "portfolio" process for projects that: 1) have completed feasibility tasks AND have won an award in a previous ESRP grant competition, and 2) have not

Estuary & Salmon Restoration Program (ESRP)

Funding Program Research

substantively altered project scope. Portfolio projects may apply for supplemental funds without preparing a full competitive application. Portfolio project proposals do not have to compete in the full technical review process, but instead are evaluated and ranked by ESRP staff.

Transparency & Accountability: Selection and expenditure of funds is published in the ESRP Investment Plan, which is available online.

Follow Up Monitoring (metrics): Metrics are included in program reports. The most recent program reports were published in 2012 and 2015.

Administrative Costs (for agency): Administrative costs, for financial managers for grants, are approximately 4% of the Capital Budget. Additionally, there is an agreement with Washington State Department of Fish and Wildlife that supports staffing at a approximately 5.8% of the capital budget allocation.

Puget Sound Acquisition and Restoration Fund (PSAR)

Funding Program Research

Contact Name: Suzanna Stoike, PSAR Program Manager
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Authorizing Legislation: No authorizing legislation. Program is established in capital budget.

Purpose: The Puget Sound Acquisition and Restoration (PSAR) fund supports projects that recover salmon and protect and recover salmon habitat in Puget Sound.

Eligibility: Each Puget Sound salmon recovery lead entity may submit up to three projects through the local and regional process outlined below. Project sponsors must complete the SRFB application through PRISM and projects must be reviewed by and receive a letter of support from the sponsoring lead entity's local process.

Eligible project types:

- Restoration
- Acquisition
- Planning projects (Assessments, Designs, Inventories, and Studies) – the results of this type of project must directly and clearly lead to preliminary or final project design
- Combination projects (Acquisition and restoration OR acquisition and planning)
- Phased projects
- Distinct, individual projects – bundling of projects within a watershed is not allowed and may result in the sponsor being advised to resubmit in a subsequent grant round.

Funding Level:

Total: The state legislature has previously allocated between $7M and $40M for the PSAR large capital program. The first $30M of funding appropriations is devoted to the Regular PSAR Program. The regular PSAR program provides funding to the 15 Puget Sound Lead Entities based upon a percentage formula approved by the Puget Sound Salmon Recovery Council (PSSRC). Large non-engineering/design projects can qualify as Large Capital projects.

Max per Project:

- PSAR funding for projects ranges between $2,000 and $12 million.
- Most project types can cost more than $1 million. No statement of a maximum for most project types.
- Engineering and design projects cannot exceed $1 million, however.

Funding Source: General fund (funding is provided by the WA State Legislature through its biennial budget).

Match Requirement: Most projects are not funded fully by PSAR. Match percent is considered as an evaluation criterion.

Geography: Limited to Puget Sound watershed.

Application Selection Criteria: High-level criteria are below. A list of criteria is available on PSAR's website.

- Benefit to Salmon
- Link to Action Agenda
- Other Criteria

Puget Sound Acquisition and Restoration Fund (PSAR)

Funding Program Research

Funding Cycle: Biennial, in even years.

1. Early in year – project sponsors consult with local lead entities
2. April – pre-proposals due
3. May – preliminary tiering of projects
4. May – top-tier projects invited to submit full proposal
5. June – full proposals due
6. June and July – final ranking process, including feedback and modification of applications
7. August – final draft regional project list
8. September – SRC approval of list
9. October – Fina Leadership Council approval of list

Special Considerations (geography, project/community size, etc.): In order to submit an application to this program, the applicant must answer questions about how the project will benefit salmon populations.

Long-Term Projects Provisions: Phased projects and portfolio projects are allowed.

Transparency & Accountability: A list of large capital project funding requested is available online.

Follow Up Monitoring (metrics):

- A widget is available on the PSAR website to view which projects have been funded by the program.
- By monitoring PSAR project sites and evaluating the resulting data, scientists are observing many ecosystem successes. PSAR makes fact sheets about these successes available on their website.

Administrative Costs (for agency): Administrative costs, for financial managers for grants, are approximately 4% of the Capital Budget allocations.

If an approved Puget Sound Acquisition and Restoration Large Capital project cannot be implemented due to a change in circumstances or is completed under budget within the allowable timeframe, return funds will return to Puget Sound Partnership for reallocation. PSP Large Capital Project Return Funds Reallocation Priority:

- Funds will be used to fund the highest ranked PSAR large capital project that has cost overruns/funding gaps due to unforeseen circumstances. Cost overruns must be approved and are subject to criteria outlined in Manual 18 Appendix B
- If no higher ranked large capital projects are in need of additional funding, funds may be used to fund further down the PSAR Large Capital list.

Remedial Action Grants

Funding Program Research

Contact Name: Angie Wirkkala, Toxics Cleanup Program Financial Services Manager
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Contact Email: angie.wirkkala@ecy.wa.gov

RCW Reference: RCW 70.105D
WAC Reference: WAC 173.322A

Purpose: Remedial Action Grants help local governments defray costs of cleaning up contaminated sites.

Eligibility:

- Local governments (including counties, cities and special purpose districts such as ports and school districts) that own contaminated property or that are potentially liable for contamination on a site they do not own.
- Local governments that are prospective purchasers of contaminated sites are also eligible for grants to fund due diligence studies.

Eligible Projects:

- Planning for cleanup and redevelopment (Integrated Planning Grants)
- Remedial investigations
- Feasibility studies and remedy selection
- Engineering design
- Remedy construction as final or interim cleanup actions
- Operation and maintenance or monitoring of constructed remedy for up to one year
- Landfill closures, if required as remedial actions

Funding Level:
Total: The total amount of funding available to the grant program is based on revenue generated by the Hazardous Substance Tax. The revenues are divided between the State Toxics Control Account which provides funding to state programs to reduce toxics in the environment, and the Local Toxics Control Account that provides grants to local governments. Funding is given to the program as a whole, not to specific grants issued by the program.

Max Funding per Project: Varies for each of the Remedial Action Grant programs.

- Integrated Planning Grant: $200,000 or up to $300,000 for planning that addresses multiple contaminated sites.
- Oversight Remedial Action Grant: No maximum grant for projects conducted under Agreed Order or Consent Decree.
- Independent Remedial Action Grant: Maximum total project cost of $600,000.

Funding Source: Dedicate revenue source from the Hazardous Substance Tax, an ad valorem fee on hazardous substances, including petroleum and agricultural pesticides and herbicides.

Match Requirement: Varies for each of the grant programs.

- Integrated Planning Grant: No match required.
- Oversight Remedial Action Grant: State share is typically 50%, but can be increased to 75% for projects in an economically disadvantaged community. An additional 15% increase in state share can be provided for projects using innovative technologies. At the discretion of the Director of the Department of Ecology, a grant may fund up to 90% of project costs if one or more of a set of conditions are met, including
    - Preventing or mitigating economic hardship

Remedial Action Grants

Funding Program Research

  - Creating substantial new economic development
  - Creating public recreation opportunities
  - Providing habitat restoration opportunities
  - Creating an opportunity for acquisition and redevelopment of brownfield property
- Independent Remedial Action Grant: Same as oversight remedial action grant.

Geography: The ranking criteria for Remedial Action Grants established in administrative code explicitly include consideration of distribution of grant funds across the state (WAC 173-322A-320(3)(h)). Funds from the State Toxics Control Account also support an Eastern Washington Clean Sites Initiative for Ecology-led cleanups in Eastern Washington.

Application Selection Criteria: Based on policy statements in RCW and codified in WAC.

- Threat posed to human health and the environment
- Redevelopment potential of the site
- Readiness to proceed
- Ability of the grant to expedite cleanup
- Ability to leverage other public or private funds
- Overall distribution of grants throughout the state to a variety of types and sizes of local governments.

Funding Cycle: Ecology is transitioning to a biennial funding cycle. The Toxics Cleanup Program develops a 10-year forecast of grant demand with input from local governments. The program does have the flexibility to accept applications at any time.

Special Considerations (geography, project/community size, etc.): Opportunities to decrease local match are provided for economically disadvantaged communities, projects using innovative remediation technology, and projects resulting in economic, habitat, and public benefits.

Long-Term Projects Provisions: Projects are typically funded per biennium, with no guarantee of future funding. With recent declines in revenue from the Hazardous Substance Tax, provisions have been added in state law that allow parties who have signed legal agreements to delay project schedules based on funding availability.

In the 2013 legislative session, SB 5296 granted authority for Ecology to enter into Extended Grant Agreements. This would allow projects that have a total cost over $20 million and are expected to extend over multiple biennia to enter into an overarching agreement with Ecology to establish general scope, budget, and schedule for the project. Separate grant agreements would be executed in each biennium. These grants would receive the highest priority for funding, providing the highest assurance that funds will be available. Match on these grants is limited to 50%. To date, no extended grant agreements have been executed.

Transparency & Accountability:

Selection: Every other year, Ecology requests potential grantees to submit forecasted projects and planning level cost estimates over the next ten years. The projects forecasted for the next biennium are ranked according to the grant criteria. The ranked list informs Ecology's budget request for the program.

Expenditure of Funds: All projects are funded on a reimbursement basis. Eligible project costs are described in administrative rule and grant program guidelines. Grantees are required to submit a spending plan that projects funding needs over the biennium based

on each quarter. The spending plan is updated quarterly when grantees request reimbursement.

Follow Up Monitoring (metrics): Through regulatory controls, projects must meet state cleanup standards. This involves sampling of soil, groundwater, sediment and/or indoor air.

Administrative Costs (for agency): Ecology assigns three full-time employees dedicated to financial administration of Remedial Action Grants. The three financial managers are funded through the capital budget. Technical project managers are also assigned to each project. These staff are funded out of the operating budget.

Salmon Recovery Grants

Funding Program Research

Contact Name: Amee Bahr
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RCW Reference: RCW 77.85
WAC Reference: WAC 420-12

Purpose: To protect or restore salmon habitat and assist related activities. These grants provide funding for:

- Acquisition and protection of salmon habitat
- Restoring salmon habitat along streams and other waterways
- Removing barriers to fish passage

Eligibility: Eligible organization types are:

- Local agencies
- Special purpose districts, such as port, park and recreation, conservation, and school districts
- State agencies
- Native American Tribes
- Private landowners
- Nonprofit organizations
- Regional fisheries enhancement groups

Funding Level:

Total: $18 million annually
Max per Project: Design-only projects are limited to $200,000. Minimum is $5,000.

Funding Source: Funding comes from the sale of state general obligation bonds and the federal Pacific Coastal Salmon Recovery Fund. Funding is given to the program as a whole, not to specific grants issued by the program.

Match Requirement: A 15 percent match is required for all projects except design-only projects. No match is required for design-only projects. Match may include, but is not limited to:

- Appropriations or cash
- Bonds
- Donations of cash, land, labor, equipment, and materials
- Federal, state, local, and private grants
- Applicant's labor, equipment, and materials

Geography: Regions of the state with salmon-bearing waterways are eligible for grants. The Salmon Recovery Funding Board adopts a formula for distribution of funds throughout the regions. The system allows for prioritization of high needs area while providing funds across all eligible regions of the state.

Application Selection Criteria: Application review and selection is a multi-step process, involving local lead entities, RCO staff, a state-wide technical review committee, and the Salmon Recovery Funding Board.

1. The local lead entity, coordinating with its regional organization, evaluates and ranks applications. The lead entity and region may use locally developed information and criteria to prioritize projects, including criteria that address social, economic, and cultural values.

Salmon Recovery Grants

Funding Program Research

2. RCO staff review all projects for eligibility.
3. The technical review panel evaluates each project proposal (except monitoring projects) for technical merit, likelihood of success, and costs relative to benefits.
4. The Salmon Recovery Funding Board approves the final list of projects.

Funding Cycle: Annual

- February through June – pre-application review and site visits
- August – applications due
- August – lead entity submittals due
- November – staff submits final ranked list of projects
- December – Salmon Recovery Funding Board decision

Special Considerations (geography, project/community size, etc.): Applicants must demonstrate how their projects address the goals and actions defined in the regional recovery plans or lead entity strategies.

Long-Term Projects Provisions: Acquisition projects must be operated and maintained in perpetuity, and properties much be acquired within 18 months of SRFB funding approval. Restoration projects must be maintained for ten years after construction is completed. Grant recipients must complete projects within 2 to 3 years. Schedule extension requests are reviewed on a case by case basis. Schedule extensions by be granted by the RCO director or deputy director.

Large scale projects that are forecasted to extend beyond one biennium are encouraged to be proposed in phases. Phased projects are subject to all of the following:

- Each phase must stand on its own merits as a viable salmon recovery project.
- Each phase must have a scope of work the applicant can afford and complete given the amount of SRFB funding requested, plus match.
- Submit each phase as a separate application.
- Funding approval of any single phase is limited to that phase (no endorsement or approval is given or implied toward future phases).
- The SRFB may consider progress on earlier phases when making decisions on current proposals. Applicants must submit planning and design deliverables of previously funded phases by the final application deadline.

Transparency & Accountability:

Selection: The review and selection process involves lead entities, RCO staff, a technical review committee, and the SRFB. The process is documented and list of selected projects is posted.

Expenditure of Funds: Grant funds are issued through reimbursement for eligible expenses. For most grant programs, grant recipients must spend money and then request reimbursement for those costs.

Follow Up Monitoring (metrics): RCO coordinates long-term monitoring of selected projects on a regional basis. Long-term monitoring costs are generally not included in individual projects.

Administrative Costs (for agency): Administrative staff to the grant program are funded by approximately 4% of the state capital budget request. Salmon Recovery Grants are partially funded by the Federal Pacific Salmon Recovery Fund. Approximately 3% of the federal appropriation is dedicated to administration.

Transportation Improvement Board (TIB)

Funding Program Research

Grants:

1. Urban Arterial Program (UAP)
2. Small City Arterial Program (SCAP)

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Contact Email: AshleyP@TIB.wa.gov

RCW Reference: RCW 47
WAC Reference:

- WAC 479-05
- WAC 479-10
- WAC 479-14

Purpose: The Washington State Transportation Improvement Board (TIB) funds high priority transportation projects in communities throughout the state to enhance the movement of people, goods and services. The primary purpose of the TIB is to select and administer transportation projects that best address the criteria established by the Board.

1. Urban Arterial Program (UAP)
    a. The Urban Arterial Program funds projects in the areas of Safety, Growth and Development, Mobility, and Physical Condition.
2. Small City Arterial Program (SCAP)
    a. The intent of the Small City Arterial Program is to rehabilitate TIB arterials.

Eligibility:

1. Urban Arterial Program
    a. Eligible agencies are counties with urban unincorporated areas and cities with a population of 5,000 or greater
    b. Eligible projects must be on a federally classified route (principal, minor, collector)
    c. Projects must be consistent with state, regional and local transportation plans
2. Small City Arterial Program
    a. Eligible projects are in cities with a population of less than 5,000.
    b. Projects must meet at least one of the following:
        i. Serves as a logical extension of a county arterial or state highway into the corporate limits
        ii. Serves as a route connecting local generators such as schools, medical facilities, social centers, recreational areas, commercial centers or industrial sites
        iii. Acts as a bypass or truck route to relieve the central core area

Funding Level: Total per year for each program:

1. Urban Arterial Program: $72.0 million
2. Small City Arterial Program: $13.0 million

Funding Source: Funding for TIB's grant programs comes from revenue generated by three cents of the statewide gas tax. This funding comes to TIB through the capital budget.

Match Requirement:

1. Urban Arterial Program: The local match requirement is determined by the city's valuation, or in the case of counties, by its road levy valuation (Minimum local match ranges from 10 to 20 percent)

Transportation Improvement Board (TIB)

Funding Program Research

2. Small City Arterial Program: Based on population of jurisdiction
    a. Cities and towns with a population under 1000 – no match required
    b. Cities and towns with a population 1000 and over – 5% local match required

Geography:

1. Urban Arterial Program: Funds are distributed across five regions based on arterial lane miles and population. Within each band (see Special Considerations), all submitted projects will be evaluated and ranked regardless of region. Regional allocations will be adhered to; however, projects will be selected based on individual merit. Regional distribution formula is included in WAC.
2. Small City Arterial Program: Funds are distributed across three regions based on small city populations. Regional distribution formula is included in WAC.

Application Selection Criteria: Each funding program has its own set of criteria used to rate project applications.

1. Urban Arterial Program: High-level summary is below. A more detailed breakdown of selection criteria can be found on the TIB website.
    a. Safety (65 point max)
    b. Growth & Development (65 point max)
    c. Physical Condition (65 point max)
    d. Mobility (65 point max)
    e. Sustainability (10 point max)
    f. Constructability (25 point max)
2. Small City Arterial Program: High-level summary is below. A more detailed breakdown of selection criteria can be found on the TIB website.
    a. Safety (35 point max)
    b. Existing Conditions (20 point max)
    c. Existing Pavement Condition (30 point max)
    d. Local Support (25 point max)
    e. Sustainability (10 point max)

Funding Cycle: Annual

- May – preliminary call size presented to board
- June – funding applications available
- June – funding workshops run by TIB
- August – applications due
- September – application review begins
- November – recommended projects presented to board
- November – project selection

Special Considerations (geography, project/community size, etc.):

1. Considerations for UAP
    a. A successful arterial project must score well in one of four areas called "bands.". The selection process precludes any one band from being overrepresented in the program and there are no funding targets by band. Projects are selected in a "round robin" manner, with the highest ranked project from each band selected in each round. In later rounds, certain bands may no longer contain projects of interest to TIB causing that band to be retired. A project selection jury determines when projects in a particular band will no longer be considered and ensures balance across project types and geographic regions. The bands are:
        i. Safety
        ii. Growth & development

Transportation Improvement Board (TIB)
Funding Program Research

iii. Physical condition
iv. Mobility

b. Additionally, all projects will be rated in Sustainability and Constructability categories.
c. Engineering exceeding 30% of eligible construction costs is not eligible for TIB reimbursement.
d. Landscaping greater than 5% of eligible construction contract costs is not eligible for TIB reimbursement.
e. New utlilities are not eligible for TIB reimbursement.

2. Considerations for SCAP
   a. Engineering exceeding 30% of eligible construction costs is not eligible for TIB reimbursement.
   b. Landscaping greater than 5% of eligible construction contract costs is not eligible for TIB reimbursement.
   c. New utilities are not eligible for TIB reimbursement.

Long-Term Projects Provisions: Projects are typically 2-3 years, TIB has established a "dashboard" on their website that tracks project budget and schedule in near real-time. TIB has established specific protocols in WAC and contracts regarding delays in projects.

Transparency & Accountability:

Selection: Ranking of projects is published for public review.
Expenditure of Funds: A dashboard on the TIB's website tracks individual projects' expenditures of funds, making details available for public review. A project inventory is available on the TIB's dashboard on their website.

Follow Up Monitoring (metrics): Performance Indicators, featuring key metrics, are available on the TIB's dashboard on their website.

Administrative Costs (for agency): There is no formal policy. However, administration is funded through gas tax revenue. There is no benchmark, but staffing is approximately 2% of revenue.

Water Quality Combined Funding Program (WQCFP)

Funding Program Research

Contact Name: Daniel Thompson, Water Quality Combined Funding Cycle Coordinator
Contact Phone: 360-407-6510
Contact Email: daniel.thompson@ecy.wa.gov

RCW Reference:

- RCW 70.146
- RCW 90.50A
- RCW 90.46

WAC Reference:

- WAC 173-98
- WAC 173-95A
- WAC 173-240

Purpose: Integrated funding program for projects that improve and protect water quality throughout the state. The program combines grants and loans from state and federal funding sources. We also provide technical assistance to program applicants to help them navigate this process.

Eligibility: Various, depends on grant.

Funding Level:

Total by Grant:

- State Water Pollution Control Revolving Fund (CWSRF): $115 million
- Stormwater Financial Assistance Program (SFAP): ~$27 million
- Centennial Clean Water Program (Centennial): ~$12 million
- Section 319 Program (Section 319): $1.5 million

Max per Project:

- CWSRF: depends on applicant conditions (facing hardship or not, etc.)
- SFAP: $5 million for any community

Funding Source: Funding for the program is provided in whole blocks to the program's grants and is not provided for specific projects funded by the grants.

- CWSRF is a revolving loan fund, so repayment is cycled into new loans.
- Section 319 is funded by federal Clean Water Act appropriations.
- SFAP and Centennial are funded by the Washington State General fund.

Match Requirement: For Centennial, Section 319, and SFAP grants, yes. Match varies by grant and various conditions for each grant.

Geography: Grant recipients are in all regions of state. Some grants consider regionally important work, with regions being east and west of state. Some funding is easier to receive if in a small community (small community size counts as "hardship").

Application Selection Criteria:

- Matching funds identified
- Scope of work – aligned with schedule and budget
- Tasks costs and budget reasonable
- Project team roles well defined and adequate, and team has adequate experience
- Project schedule is complete and makes sense; project is ready to start
- Value of project and support from stakeholders is demonstrated

Water Quality Combined Funding Program (WQCFP)

Funding Program Research

- Water quality and public health benefits
- Applicant is in financial hardship

Funding Cycle: Annual

- Workshops for applicants
- August through October – application submissions
- October through December – application evaluation
- January – draft funding list
- January through February – public comment
- May – final funding list
- May through December – agreement development
- 1-5 years – agreement & project management

Special Considerations (geography, project/community size, etc.): One application for all grants and loans. Ecology distributes funds to the highest priority projects in a combination of grants and loans, depending on the project type and funding source.

Set-asides for:

- CWSRF - except for GPR, funds may be moved from one category to another if there is limited demand
    - 10% for GPR projects
    - 10% for FP loans
    - 75% for wastewater and stormwater facility construction
    - 20% for nonpoint source pollution control
    - 5% for wastewater and stormwater facility preconstruction
    - projects in communities with populations less than 25,000 and MHIs less than the state MHI. In addition, if the MHI is less than 80 percent of the state MHI, the community may qualify for up to 50 percent FP loan and/or Centennial grant.
        - No more than 20 percent of the amount in this category may be allocated to any applicant
- SFAP
    - One-hundred percent is provided to cities, counties, and ports implementing stormwater related projects
    - $10 million for stormwater retrofits
    - Maximum per project of $5 million
- Centennial - funds may be moved from one category to another if there is limited demand
    - One third for wastewater facilities in hardship communities
    - One third for nonpoint source pollution control
    - One third for either of the above categories
- Section 319
    - All for nonpoint source pollution control

Land acquisition before construction is at the community's risk. Ecology will not reimburse for land acquisition until construction begins.

Low-income communities receive preference as “hardship” communities.

Long-Term Projects Provisions:

- Grant agreements typically anticipate 3-5 years to project completion. For funds allocated, but not spent in the current biennium, Ecology requests re-appropriation from the legislation to support projects through completion.

Water Quality Combined Funding Program (WQCFP)

Funding Program Research

- Loans issued in CWSRF program have a term of 5, 20, or 30 years. Interest rates are a percentage of 11-Bond GO Index rate.

Transparency & Accountability:

Selection: Ecology publishes ranked lists of applications on the grant program website.
Expenditure of Funds: Ecology publishes ranked lists of awarded funds in documents on the grant program website.

Follow Up Monitoring (metrics): Documents providing metrics for the program are available on the WQCFP website.

Administrative Costs (for agency): Funding for financial managers for grant administration comes from the capital budget, and covers 12 FTEs.

CWSRF loans: 1% of the loan. Ecology deducts the charge from the loan interest rate for loans with an interest rate greater than one percent. The administration charge does not apply to loans with interest rates less than one percent.

OUTREACH SUMMARY REPORT

FLOODPLAINS BY DESIGN PROGRAM ASSESSMENT

Prepared for
DEPARTMENT OF ECOLOGY
October 11, 2018
Project No. 0531.10.01

Prepared by
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MAUL FOSTER ALONGI

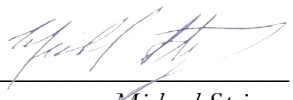
Cascadia Law Group

SUMMARY OUTREACH REPORT

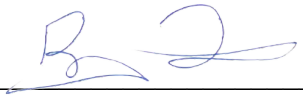
DEPARTMENT OF ECOLOGY

The material and data in this report were prepared under the supervision and direction of the undersigned.

MAUL FOSTER & ALONGI, INC.



Michael Stringer
Principal Planner



Bryan Quandt
Staff Communications Specialist

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FLOODPLAINS BY DESIGN SURVEY RESULTS

ACRONYMS AND ABBREVIATIONS

Ecology	Department of Ecology (Washington)
FbD	Floodplains by Design
MFA	Maul Foster & Alongi, Inc.
NORFMA	Northwest Floodplain Managers Association
PSP	Puget Sound Partnership
TNC	The Nature Conservancy
UAS	Unmanned Aerial System
WAC	Washington Administrative Code

1 INTRODUCTION

The Department of Ecology (Ecology) was directed by the Washington State legislature in a proviso in the 2018 supplemental budget to "convene and facilitate a stakeholder process to review and make recommendations for the statutory authorization and improvement of the Floodplains by Design [FbD] grant program" (ESSB 6095 Sec. 3001). The review of the grant program is to include analysis of statewide funding needs, program design, and mechanisms to improve efficiency and transparency of project funding and implementation. The proviso further directed Ecology to seek input from state legislators, "tribal governments and interested stakeholders, including city and county governments, and agricultural, flood risk reduction, and conservation interests."

This report summarizes the outreach effort conducted to support the proviso study, which included three major elements:

- Research interviews with state legislators and representatives of Native American tribes, the agriculture industry, environmental organizations, and Washington state agencies.
- Online questionnaire that was distributed to the Floodplains by Design email listserv that includes over 800 individuals
- Workshop conducted at the Northwest Floodplain Managers Association annual meeting.

Additional meetings with tribal leaders, local government leaders, and environment organizations are planned to be conducted to discuss the FbD grant program in the fall of 2018. These meetings will support the objectives of the proviso, but due to scheduling constraints will be conducted after preparation of this document.

1.1 Background

Since 2013, the Washington Legislature has appropriated $115 million to support large-scale, multiple-benefit flood management projects across the state. The projects are funded through FbD, a partnership of local and tribal governments, state and federal agencies, and private organizations focused on reducing flood risk and adverse impacts of flood events through the integrated management of floodplain areas throughout Washington State. Ecology manages the grant program.

Funds available for the FbD program have varied each biennium, with amounts ranging from $44 million to $34.3 million. The amount of funding available for projects, which is awarded through a competitive process, is established by legislative appropriations. FbD grants support projects that integrate flood hazard reduction with ecological preservation and restoration. Projects may also address other community needs, such as preservation of agriculture, improvements in water quality, or increased recreational opportunities, provided they are part of a larger strategy to restore ecological functions and reduce flood hazards.

Floodplains by Design has proven through its pilot phase to be an effective and impactful grant program. The transition to a permanent program is an opportune time to evaluate the program and make improvements to ensure sustained success. Over the course of the three funding cycles, Floodplains by Design grant guidelines have been established and refined. Much has been learned by grantees and Ecology grant program staff regarding the funding and implementation of multiple-benefit floodplain projects.

1.2 Outreach for 5-Year Strategy

In addition to the outreach elements listed above, significant stakeholder outreach occurred in 2017-2018 as The Nature Conservancy (TNC), with support from Ecology and the Puget Sound Partnership (PSP), developed the 5-Year Strategy for the next five years of Floodplains by Design (FbD). Public engagement and outreach to stakeholders occurred during development of the 5-Year Strategy. The outreach conducted in response to the legislative proviso builds on this previous engagement.

During the 5-Year Strategy, TNC and its consultants conducted the following activities to engage stakeholders:

- An online survey in 2017 sent to more than 1,000 people using the FbD distribution lists and other relevant lists managed by Ecology and PSP. Responses were returned by 181 people in more than 20 watersheds, as well as others with Puget Sound or statewide perspectives. More than half the responses were from local governments and the remainder from tribes, non-governmental organizations, state government, conservation districts, and consulting firms.
- Interviews with 24 key decision makers and stakeholders in late 2017. TNC sought a deeper understanding of their core interests, experiences, impressions of FbD, and priorities for moving forward.
- Separate meetings with salmon recovery lead entities, tribal technical staff, and conservation districts.
- A second survey with open-ended questions sent to 47 people. Thirteen responded with in-depth feedback.
- A session at the December 2017 FbD workshop that focused on survey results and feedback regarding vision, goals, and strategies. About 125 people attended the workshop.

2 RESEARCH INTERVIEWS

2.1 Introduction

Interviews with state agency officials, legislators, tribal representatives and stakeholders regarding the prospect of introducing legislation to create the FbD program as a formal matter of state law began in late August. A list of those interviewed to date is set forth below. Several interviews have not yet been completed, but will be over the next two weeks. Interviews generally lasted between 20 and 30 minutes, with some extending to an hour. The questions that were developed jointly by Ecology staff and the consulting team were used for each interview.

2.2 Interview Schedule

August 28th – Director Maia Bellon, Ecology
August 30th – Jay Gordon, Washington Dairy Federation
September 4th – Megan White, Environmental Program Director, WSDOT
September 21st – Senator Judy Warnick, 13th Legislative District
September 24th – Senator Kevin Van de Wege, 24th Legislative District
September 26th – Senator Christine Rolfes, 23rd Legislative District
September 26th – Representative Brian Blake, 19th Legislative District
October 1st – Kaleen Cottingham and Tara Galuska, Recreation and Conservation Office
October 3rd – Senator Jim Honeyford, 15th Legislative District
October 3rd – Representative Steve Tharinger, 24th Legislative District
October 3rd – Dave Herrera, Skokomish Tribe and Salmon Recovery Council

Interviews with several additional legislators and stakeholders will be completed as soon as possible. Those additional legislators and stakeholders are listed below.

Senator David Frockt, 46th Legislative District
Representative Norma Smith, 10th Legislative District
Representative Richard DeBolt, 20th Legislative District
Jacques White, Long Live the Kings
David Troutt, Nisqually Tribe
Mindy Roberts, Washington Environmental Council

2.3 General Impressions

1) Recognition and understanding of the program is surprisingly low, even amongst professionals in the environmental field.

2) The perception of the program, while based on a limited understanding of its purpose and results, is generally positive.

3) Several key legislators and agency leaders questioned the assumption that authorizing the FbD program by statute will result in a more durable and better funded program.

4) There are a small number of stakeholders, including some tribal leaders, that believe the program reduces funding available for "actual" salmon projects and these stakeholders might oppose a bill authorizing the program. Another, more minor, concern is the program's impact on farmland. A few key legislators raised this issue.

2.4 Questions

2.4.1 Question 1: Are you familiar with the floodplains by design program? If yes, how so?

Everybody interviewed had heard of the FbD program. Some had a deep understanding of the program, its origins, its purpose and its record of success. More interviewees, however had a relatively superficial understanding of the program. They had heard good things and had a generally positive reaction but were not very familiar with any program or project details or even, in some cases, the purpose of the program. Every legislator interviewed welcomed a quick description of the program to get themselves grounded.

Tribal representatives were generally similar to legislators in terms of their familiarity with the program.

Those with a deeper understanding of the program were the state agency and environmental community representatives. They were typically involved in administering the program or in its formation, or both.

2.4.2 Question 2: Has the program been beneficial to your constituents?

Legislators: Several legislators responded positively to this question, being familiar with FbD projects in or near their district. Several others said "yes", with the benefit being provided in a more general fashion. A few legislators responded negatively to this question, citing concerns about loss of farmland.

Tribal: Some tribal representatives responded with a vigorous "no", citing the concern about loss of funding for "legitimate salmon projects". More responded with uncertainty about the benefits of the program. Some were more positive, being aware of projects that they believed provided significant value to their tribe.

Environmental Community representatives were somewhat divided with some concerned about the competition for funding issue while others saw lots of value in projects funded by the FbD grant program.

2.4.3 Question 3: Do you have any questions or concerns about the past performance of the grant program?

Legislators: Little if any concern about the performance of the grant program in distributing funding and achieving good results.

Several legislators raised the concern about loss of farmland or the risk of such loss in response to this question.

There is a concern about carry forward funding and whether the program has struggled to find and fund projects that are ready to proceed. This was a relatively low-level concern, but some appropriations committee members raised it, so it should be taken seriously.

One legislator raised a general concern here about the number of salmon funding programs and the overall level of funding dedicated to salmon recovery.

Tribal: the competition for salmon dollars was raised here.

Agency: Several good suggestions were received from agency representatives relating to how Ecology could develop grant program conditions to ensure the collection of information about project benefits and costs that could be provided to the public and to the legislature that will be helpful in justifying the program and describing benefits provided.

2.4.4 Question 4: Do you have any advice/policies that you would like to see incorporated in legislation making the grant program permanent?

Several program supporters urged preparation of a succinct but complete description of the results achieved by the program to date. They believe such an analysis will be necessary and extremely helpful in developing support for a bill and for enhanced funding levels.

Other supporters urged no major changes to the program – it is working, and it will not be helpful to agree to new restrictions or limitations just to get a bill passed.

One legislator urged an openness to making recreational access a priority.

Several legislators and stakeholders urged that program supporters work with the agricultural community to identify and address concerns about potential loss of farmlands. One agricultural representative asked that program supporters think about whether, and if so, how the FbD program could be integrated with the Voluntary Stewardship Program.

One agency representative suggested that Ecology consider making inclusion of a candidate FbD project in an appropriate salmon recovery plan a condition to receiving FbD funding as a way to address the competition for salmon funding issue.

2.4.5 Question 5: Do you have any concerns, or do you anticipate any challenges to passing this legislation? Do you think others will, and, if so, what concerns do you anticipate?

In response to this question, several important and otherwise friendly legislators questioned the assumption that passing a statute creating the program would necessarily benefit the program and lead to more stable and enhanced funding levels. One agency head expressed similar skepticism.

Other otherwise supportive interviewees expressed concern about how a bill might damage the program by stimulating organized opposition to the program. A bill might galvanize a currently unorganized and isolated set of program critics into a more organized and coherent set of program detractors that could actually damage the program, for example, by reducing funding levels.

Others expressed concern with the impact of a bill failing. What, they asked, would be the impact of such a failure? They expressed concern that the impact could damage the program more than the benefit of enacting a statute.

A related concern expressed was the prospect of having to agree to language in the bill that damages the program's effectiveness in order to get the bill passed. A full prohibition on reducing farmland acreage might be an example.

One legislator, who ultimately stated that he would defer to his seatmate on FbD issues, expressed strong concern with the overall level of spending on salmon recovery and said he would support the program and a bill authorizing it, if it is a true flood control program and not just another salmon recovery program.

Other themes here included the concern with potential loss of farmland and the competition for funding with other more legitimate salmon recovery programs. With regard to the former, two legislators suggested an explicit prohibition, or at least a policy statement against, projects causing a loss of farmland. With such a provision, these legislators could likely be brought into a supportive position.

The competition issue is strongly held, but from what I can tell, only by a small number of tribal and environmental community representatives. They use strong terms like "this is a flood control program masquerading as a salmon program". They will likely not support a bill unless the competition issue can be addressed.

No legislator expressed this concern.

2.4.6 Question 6: What is your perspective on the need and potential for increasing the funding level of the grant program (previously $35-50 million/biennium) to something like $75m/biennium?

The feedback on this question was highly variable. Some expressed support for increased funding levels, assuming we have the facts to support the notion that there is significant unmet demand and

shovel ready projects. Even key appropriation committee members, who generally do not express support for increased funding for anything until they have to, were surprisingly supportive.

The key to such support, however, is the ability to make the case, as a factual matter, that there is an unmet demand for funding and that the currently unfunded projects are high quality and shovel ready. Such an analysis will be critical to success.

Some suggested that project supporters grow the funding level more gradually and over several years. In their view, a big jump in funding levels from one year to the next is difficult to justify and will likely lead to lower quality projects being funded.

Several important legislators expressed skepticism about the need for additional funding or their own estimation that other investments will be a higher priority for them. Others expressed their opinion that it will be difficult to compete with culverts this session – that all new and extra salmon funding will likely go to culvert removal and replacement projects.

Those concerned with the competition with other salmon recovery programs expressed strong opposition to increased funding for FbD.

2.5 Conclusions

1) Interview results require a careful reassessment of the wisdom and benefits of introducing a bill to permanently authorize the program.

2) It is clear that the program is popular and has a high level of support and it may be possible to pass such a bill, but the benefits and the risks involved are important to carefully evaluate before a bill is introduced.

3) There are several steps that, if taken will assist with passage of a bill, the most important being the development of a description of the results achieved by FbD projects.

4) The Recreation and Conservation Office has a number of helpful suggestions regarding grant program implementation that would likely improve the FbD program and the likelihood of passing a bill authorizing the program.

5) Whether a bill is introduced or not, two issues merit further consideration and a strategy for addressing them – loss of farmland and competition for salmon funding.

3 ONLINE QUESTIONNAIRE

3.1 Purpose

The purpose of the online questionnaire was to solicit focused input from a range of stakeholders interested in FbD and integrated floodplain management on the topics identified in the 2018 capital budget proviso related to the grant program.

3.2 Methods

The questionnaire included a series of demographic questions about the respondent, questions about FbD grant policy, and administration of the grant program. The survey included several multiple-choice question types as well as opportunities for open-ended comments. The online questionnaire was hosted on the website Survey Monkey. An invitation to respond to the questionnaire was sent out to the FbD email list which includes over 1,000 addresses. The survey was made available for approximately two weeks from September 13 through October 1, 2018. Following an initial invitation, reminders were also sent to encourage people to respond.

Weighted averages for multiple-choice questions shown below are calculated by assigning one point to each strongly disagree/oppose response, two points to each disagree/oppose response, three points to each neutral response, four points to each agree or support response, and five points to each strongly agree or strongly support response. The points allocated to all responses are then summed, and that sum is divided by the total number of responses.

3.3 Respondents

A total of 75 people responded to the survey. Approximately 35 percent of respondents represented local governments, 9 percent represented tribes, 12 percent represented state agencies, 7 percent represented environmental organizations, 4 percent represented academic or scientific institutions, 1 percent represented agricultural businesses or organizations, 8 percent represented conservation districts, 12 percent represented consulting or engineering firms, 1 percent represented federal government, 3 percent represented flood, water, or irrigation districts, 1 percent represented other nonprofit organizations, and 7 percent represented other entities.

Respondents had primary geographic areas of responsibility or interest across the state. 19 percent had a statewide area of responsibility or interest, 9 percent had a primary area of responsibility or interest on the Pacific Coast or Strait of Juan de Fuca, 63 had a primary area of responsibility or interest in the Puget Sound region, 5 percent had a primary area of responsibility or interest in Central Washington, and 4 percent had a primary area of responsibility or interest in Eastern Washington.

3.4 Key Findings

The following key themes emerged from the survey responses. Responses to specific questions are provided in the Section 3.5.

- There is broad support from transitioning the program from a pilot to a long-term funding tool. Nearly 89 percent of respondents supported making the program permanent. A number of open-ended comments support this as well.
- There is broad agreement that more funding is needed to support integrated floodplain management in the state. Over 77 percent of respondents indicated that FbD funding levels should be increased.
- Concerns regarding making the grant program permanent and increasing funding focused primarily on the potential for FbD to compete with funding for other salmon recovery grant programs.
- The application and selection process was generally well rated. Areas for improvement that were suggested included streamlining the applications, supporting small as well as large-scale projects, and increasing distribution of funding across the state.
- Grant management procedures were generally well rated. Concerns were expressed about the challenge of implementing large, complex projects within the standard two- to three-year grant eligibility period.

3.5 Responses

3.5.1 Policy Related Topics

Reponses to the policy related questions are summarized below and in Figures 3.1, 3.2, and 3.3:

- 89 percent of respondents support FbD transitioning from a pilot to a long-term program.
- 78 percent of respondents support increasing the level of funding for the FbD program.
- 78 percent of respondents agree or strongly agree with funding integrated floodplain planning and facilitation in addition to funding design and construction. The weighted average for these responses is 4.03 out of 5.
- After accounting for responses of "N/A", 65 percent of respondents agree or strongly agree that FbD funding currently complements and supports other local, state and federal funding programs for habitat restoration and flood damage reduction, with a weighted average of 3.9 out of 5.
- 84 percent of responses would support or strongly support continued reporting on project outcomes, lessons learned, success stories, and best practices to improve floodplain management across the state. The weighted average for these responses is 4.19 out of 5.
- 73 percent of responses agreed or strongly agreed that the FbD management team should continue to convene project proponents and stakeholders to continuously learn how to improve program management, project development, and floodplain management policies. The weighted average for these responses is 3.97 out of 5.

Figure 3.1: Support for Floodplains by Design transitioning from a pilot to a long-term program

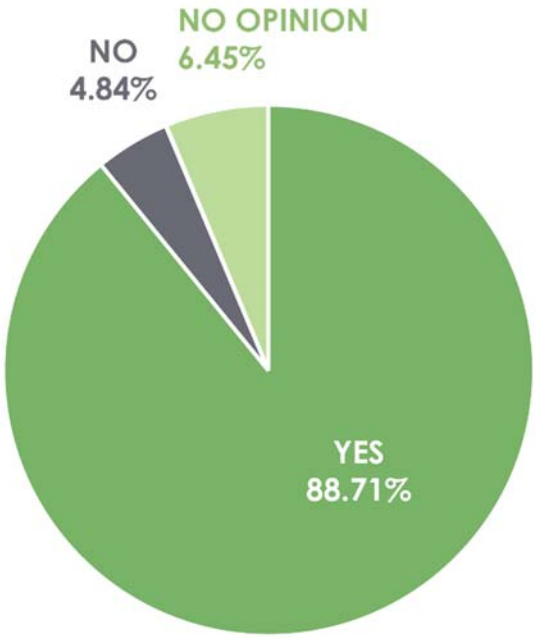


Figure 3.2: Adequacy of funding level

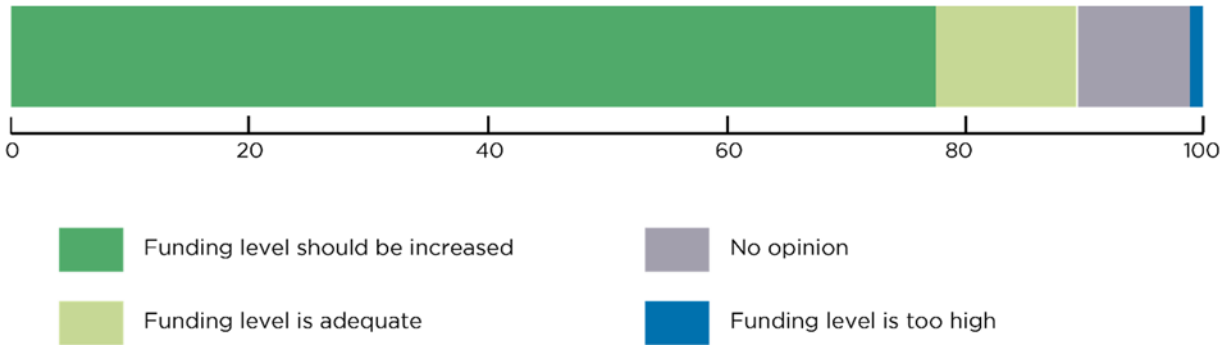
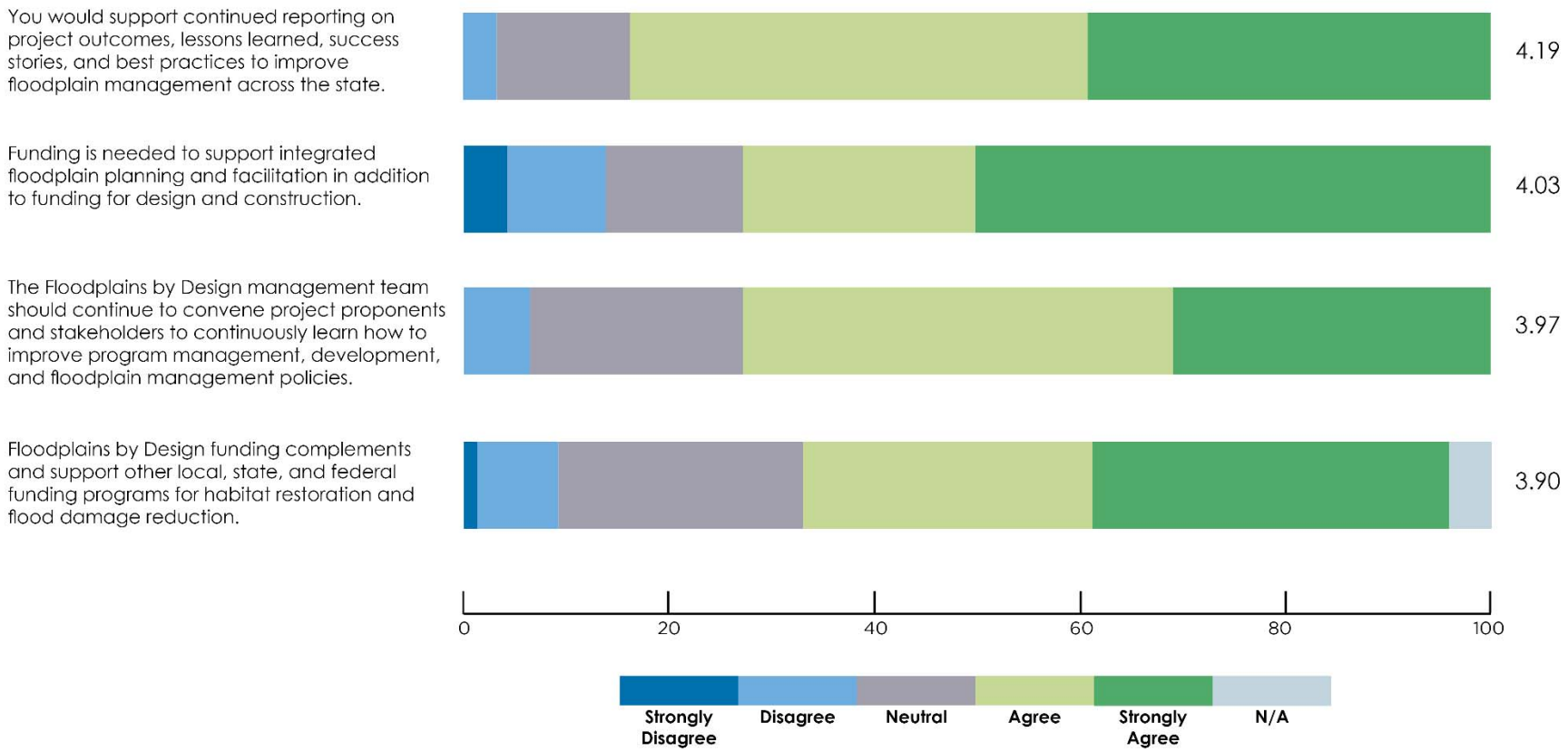


Figure 3.3: Policy questions on rating scale



Twenty-nine respondents provided comments in addition to responses to the open-ended question regarding FbD funding policies. A consolidated summary of these comments is outlined below.

- General support for the multiple benefit approach and support for the role and impact of the FbD Grant program (eight comments).
- Support for collaboration among various levels of government to coordinate floodplains management and other activities (six comments).
- Suggestion that the program expand on its work building applicant capacity and sharing lessons learned with applicants (four comments).
- Relationship of FbD projects with salmon recovery programs:
    - Grant applications should be required to align with local salmon recovery plans (three comments).
    - Concern that FbD competes for limited state natural resources funding with salmon recovery grants (two comments).
- Relationship of FbD projects with floodplain management programs:
    - Grant applications should be required to align with local floodplain management plans and floodplain ordinances (one comment).
    - Concern that FbD has offset or replaced funding for the Flood Control Assistance Account Program (one comment).
- Considerations regarding funding for planning and facilitation:
    - Concern that there has been too much planning around floodplains and ecosystem restoration and that what is needed is implementation (five comments).
    - Support for funding for planning and facilitation, especially for smaller communities with limited capacity (three comments).

3.5.2 Program Administration Related Topics

Survey respondents were asked to evaluate their level of agreement with a set of statements about management of the FbD grant program. The statements from the survey are grouped below by the stage of the program management process at which they occur: application, selection, and grant management. Statements are ordered within each stage by the weighted average of respondents' agreement out of a maximum of five. Results are described below and in Figures 3.4, 3.5, and 3.6. Thirty respondents also provided comments following the administration related topic questions.

3.5.2.1 Application

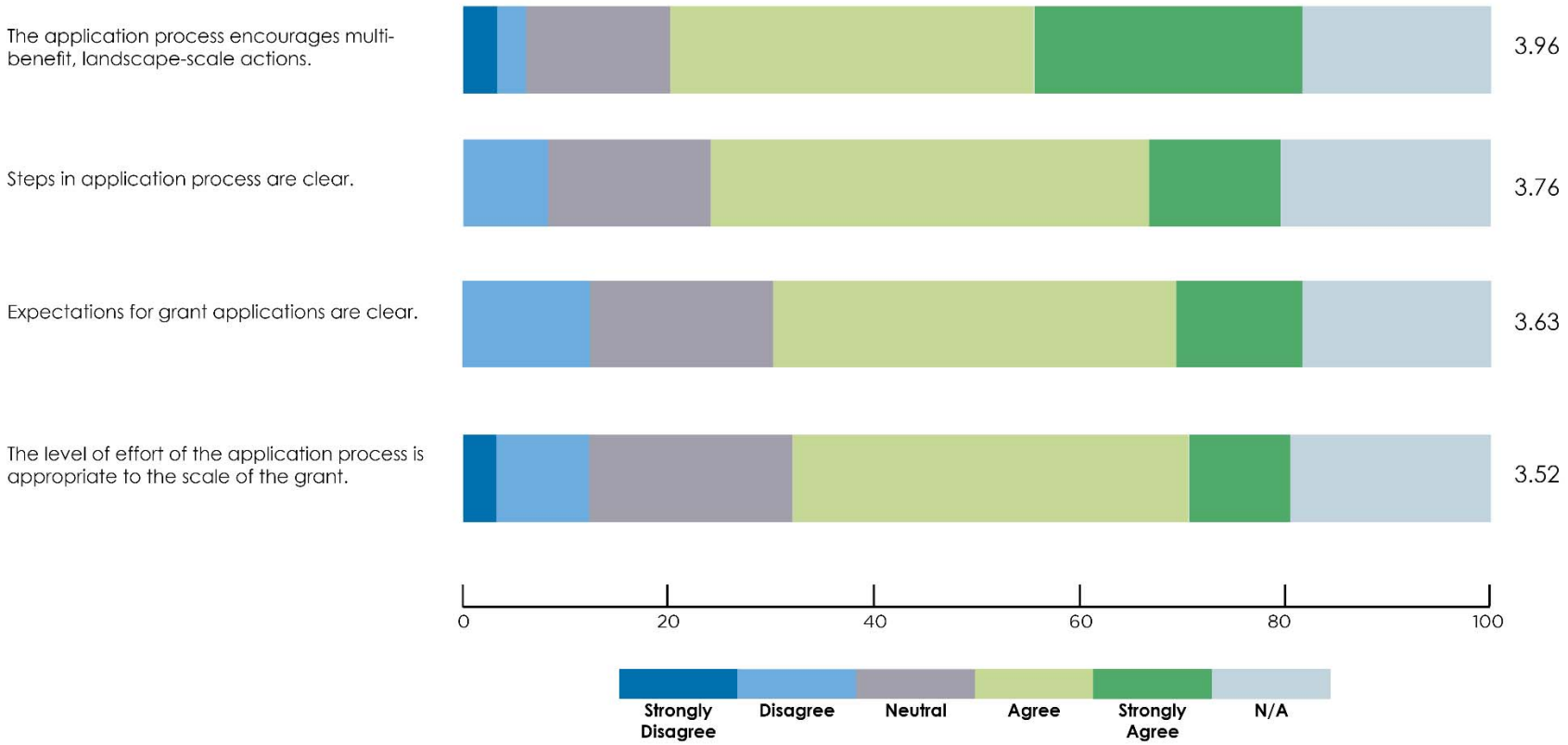
- 75 percent of responses agreed or strongly agreed that the application process encourages multi-benefit, landscape-scale actions, after accounting for responses of "N/A", with a weighted average of 3.96 out of 5.

- 69 percent of responses agreed or strongly agreed that the steps in the application process are clear, after accounting for responses of "N/A", with a weighted average of 3.76 out of 5.
- 63 percent of responses agreed or strongly agreed that expectations for grant applications are clear, after accounting for responses of "N/A", with a weighted average of 3.63 out of 5.
- 60 percent of responses agreed or strongly agreed that the level of effort of the application process is appropriate to the scale of the grant, after accounting for responses of "N/A", with a weighted average of 3.52 out of 5.

Open ended comments related to the application process included:

- Application is too long, requests redundant information, and makes it difficult to both tell a compelling story and meet all of the information requirements (four comments).
- Recommendation that the application process for FbD be consolidated with Recreation and Conservation Office salmon recovery grant programs in a manner similar to Ecology's Water Quality Combined Funding Program (two comments).

Figure 3.4: Application survey question responses



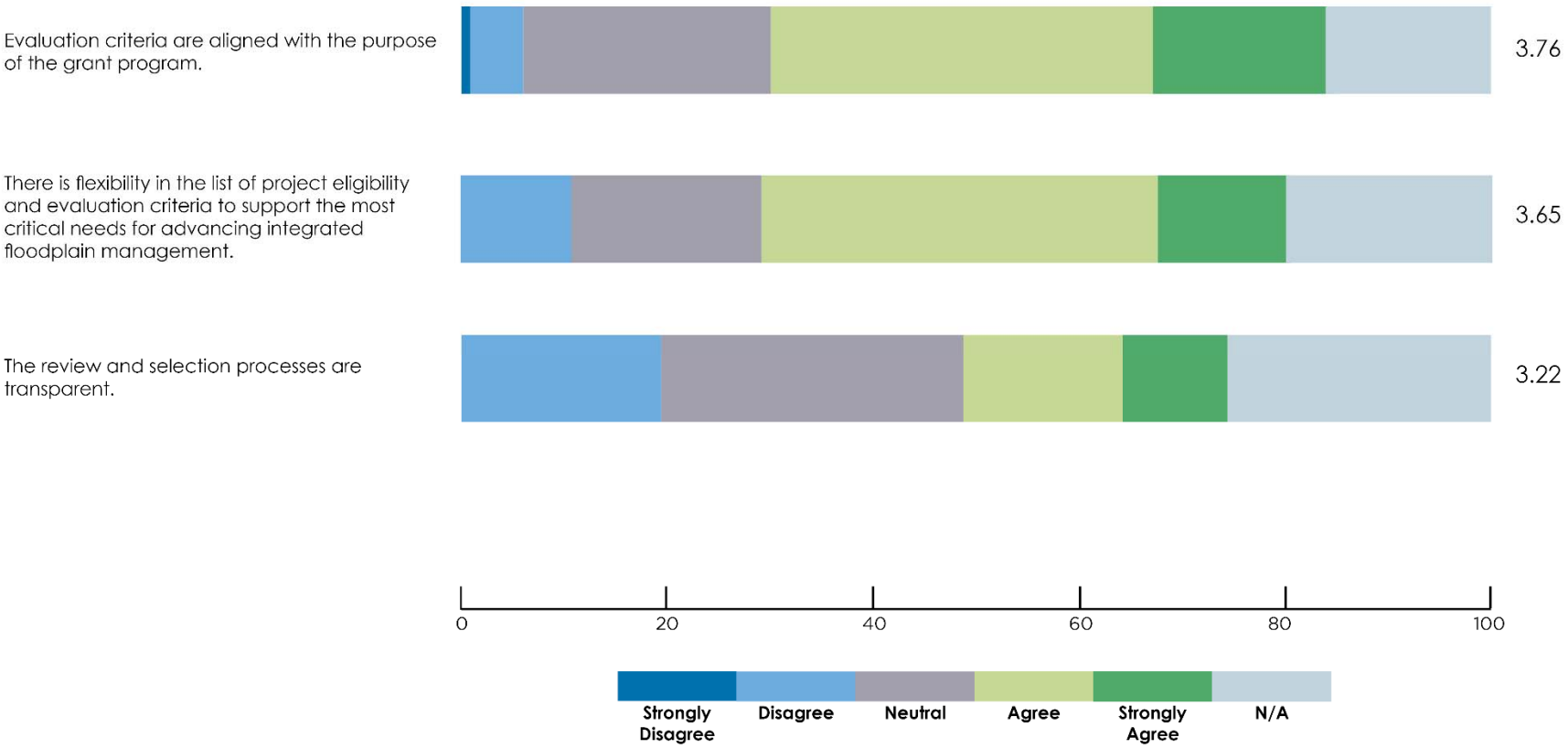
3.5.2.2 Selection

- 63 percent of responses agreed or strongly agreed that the evaluation criteria are aligned with the purpose of the grant program, after accounting for responses of "N/A", with a weighted average of 3.76 out of 5.
- 63 percent of responses agreed or strongly agreed that there is flexibility in the list of project eligibility and evaluation criteria to support the most critical needs for advancing integrated floodplain management, after accounting for responses of "N/A", with a weighted average of 3.65 out of 5.
- 35 percent of responses agreed or strongly agreed that the review and selection processes are transparent, after accounting for responses of "N/A", with a weighted average of 3.22 out of 5.

Open ended comments related to the selection process included

- Concern that FbD funds are too focused on the Puget Sound region and not providing enough support to projects across the state, especially in central and eastern Washington (eight comments).
- Evaluation and ranking of the projects is not as transparent as other grant programs and does not appear to consistently align with the evaluation criteria (four comments).
- Selection process should support small-scale as well as large-scale projects (two comments).

Figure 3.5: Selection survey question responses



3.5.2.3 Grant management

- 66 percent of responses agreed or strongly agreed that grant management requirements are clear, after accounting for responses of "N/A", with a weighted average of 3.81 out of 5.

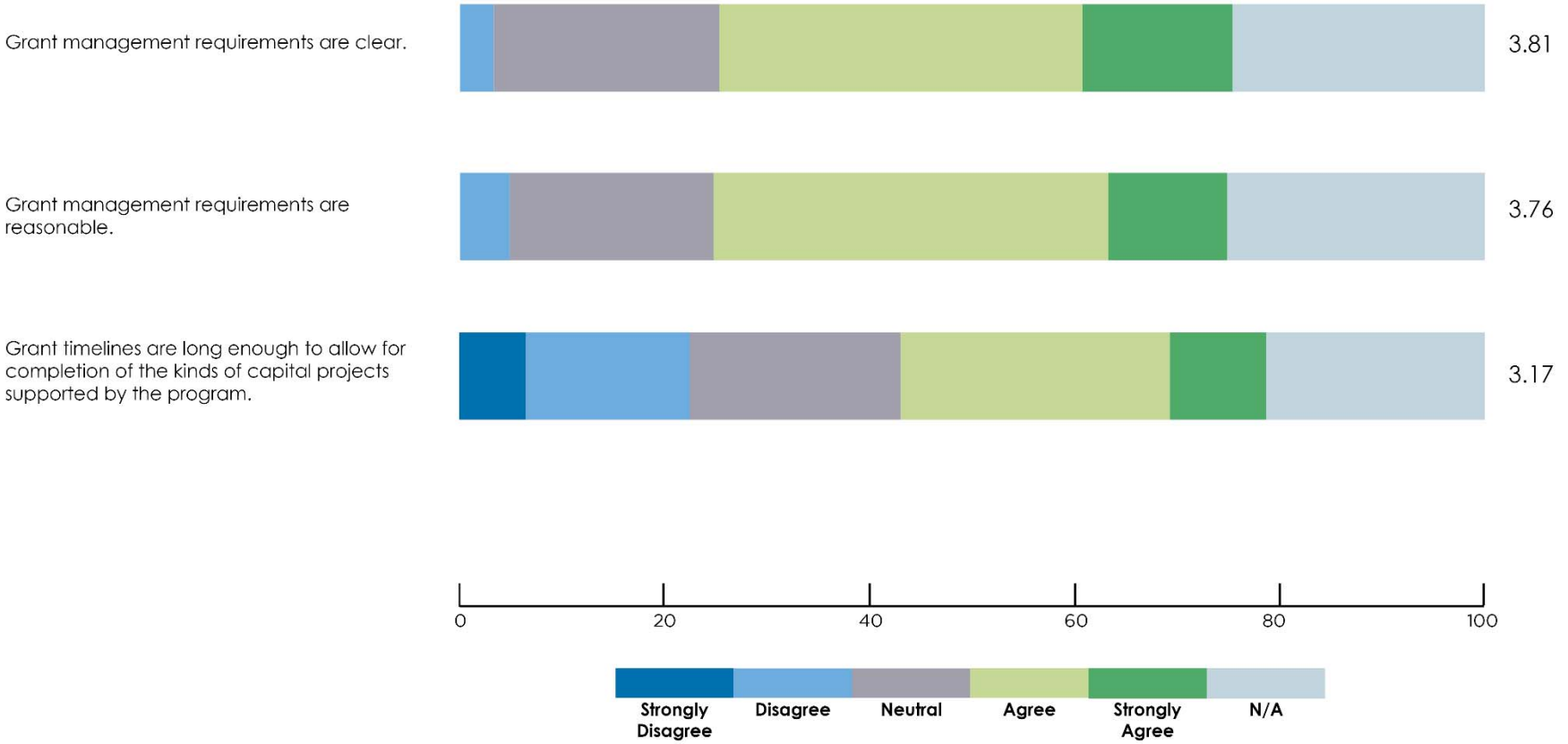
- 67 percent of responses agreed or strongly agreed that grant management requirements are reasonable, after accounting for responses of "N/A", with a weighted average of 3.76 out of 5.

- 44 percent of responses agreed or strongly agreed that grant timelines are long enough to allow for completion of the kinds of capital projects supported by the program, after accounting for responses of "N/A", with a weighted average of 3.17 out of 5.

Open ended comments related to the grant management process included:

- Concern that the grant period is too short for implementation of large-scale, complex projects (five comments)

Figure 3.6: Grant management survey question responses



4 WORKSHOP

4.1 Background

Ecology and TNC hosted a workshop during the Northwest Regional Floodplain Managers Association Meeting. The workshop was attended by approximately 32 participants. The participants included representatives of local governments, state agencies, academia, non-profit organizations, and consultants.

4.2 Presentation

Staff from Ecology, TNC, and the consulting firm Maul Foster & Alongi, Inc. gave a presentation that included the following topics:

- Overview of FbD Grant History
- FbD 5-Year Strategy
- Legislative Proviso
- Proposed Legislation
- Legislative Process
- Opportunities for Grant Program Improvement

4.2.1 Discussion

The participants were asked to provide feedback on the following topics.

4.2.1.1 Support for making FbD a permanent program

There was consensus among participants that FbD should transition from a pilot to a permanent grant program. The group discussed the advantages and disadvantages of codifying the grant program in statue. One participant expressed concern that the statute could limit the flexibility that has been a key factor in the grant program's success. The group discussed that an advantage to the statute would be greater certainty that the program continues to be funded. The group also discussed the concern that some people have previously expressed that the FbD program could be perceived as competing with existing salmon recovery focused grant programs. Ecology and TNC will conduct research into funding history to evaluate whether that has in fact occurred or not.

4.2.1.2 Level of funding

There was general consensus among participants that FbD funding should be increased. The group discussed what an appropriate funding level should be and the difficulty in estimating that need.

Ecology is conducting research and analysis as part of the legislative proviso study to try to estimate statewide funding need.

4.2.1.3 Areas of improvement in the grant program

The following ideas were discussed as areas to consider for improving the FbD grant program.

- **Application process**—The group suggested the application process be streamlined, requiring less effort from the applicants. Be as clear as possible in expectations for what the applications should address. Avoid requesting duplicative information. Include a site visit so that reviewers get a better sense of what a project is trying to achieve and develop better understanding of a project's context. One participant asked for there to be no character limit on the application.
- **Geographic distribution of funds**—Concerns of FbD funds not reaching all areas of the state have been expressed in the past. Some participants stated that they appreciated the concern, but no one advocated for creating a geographic set aside in the grant program. Almost all the participants in the workshop were from the Puget Sound area.
- **Support for small- and large-scale projects**—The group discussed setting funds aside to support smaller projects. Several people spoke in support of funding smaller. These projects should be evaluated separately from the large-scale projects because they have different metrics. The threshold of $500,000 in the current grant guidelines was discussed as an appropriate dividing line between large- and small-scale projects.
- **Project timeframe**—For large-scale projects, it is not feasible to implement within two years. A more reasonable grant duration would be four years.
- **Land acquisition**—The timing of funding is challenging for land acquisition. Land acquisition is opportunistic when you have a willing seller. It often takes years to acquire property to support these projects. The FbD should consider mechanisms to better support funding for land acquisition.
- **Eligible expenses**—One participant stated that there is a need for the program to fund more research and monitoring, especially considering the impacts of climate change.
- **Information sharing**—FbD should consider requiring grantees to provide a brief project summary after completion and make that easily accessible. Participants said it would be helpful to learn best practices from previous projects.
- **Local policy**—FbD should work to ensure that projects are reviewed by local land use regulators and are in alignment with local land use policies and plans.
- **Expanding project type**—The FbD should consider funding more projects that aren't shovel-ready, such as acquisition-only or feasibility studies.

4.2.1.4 Considerations for the FbD initiative beyond the grant program

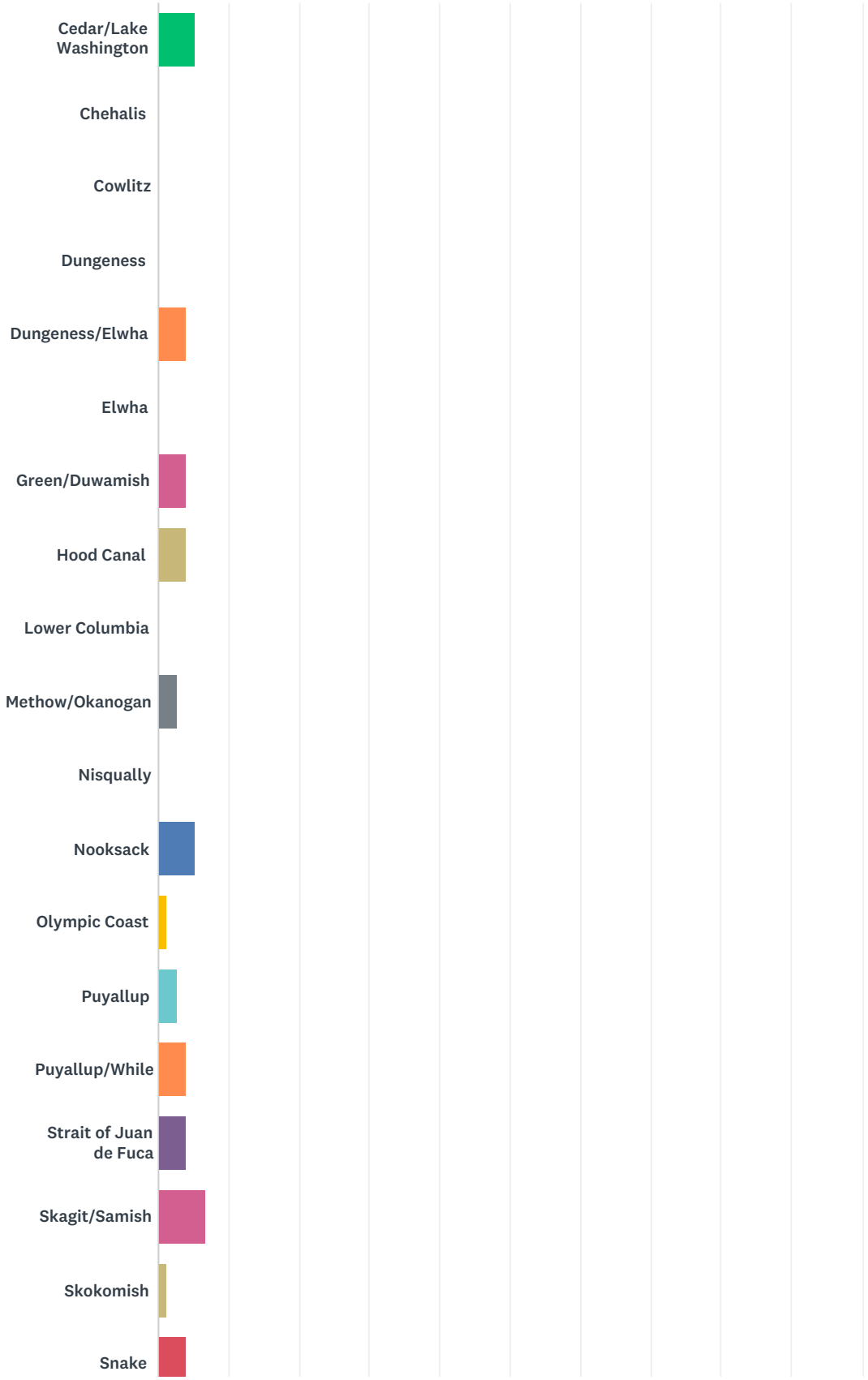
- The partnership between Ecology, Puget Sound Partnership, and TNC has been critical to the success of the program. The public-private partnership should continue to be supported.
- Further collaboration with sister agencies (such as Washington State Department of Fish and Wildlife and Washington State Department of Natural Resources.)
- FbD workshops, as valued opportunities to share lessons learned, should be continued, and other methods for sharing information should be explored. It is also important to monitor previous projects and share findings and lessons learned. (Participants noted the importance of educating NORFMA members.)
- One participant suggested adding a new FbD objective around keeping moisture in the mountains, considering the number of wildfires in recent years.
- Participants suggested creating video documentation, including unmanned aircraft system footage of completed projects to use for educating legislators.

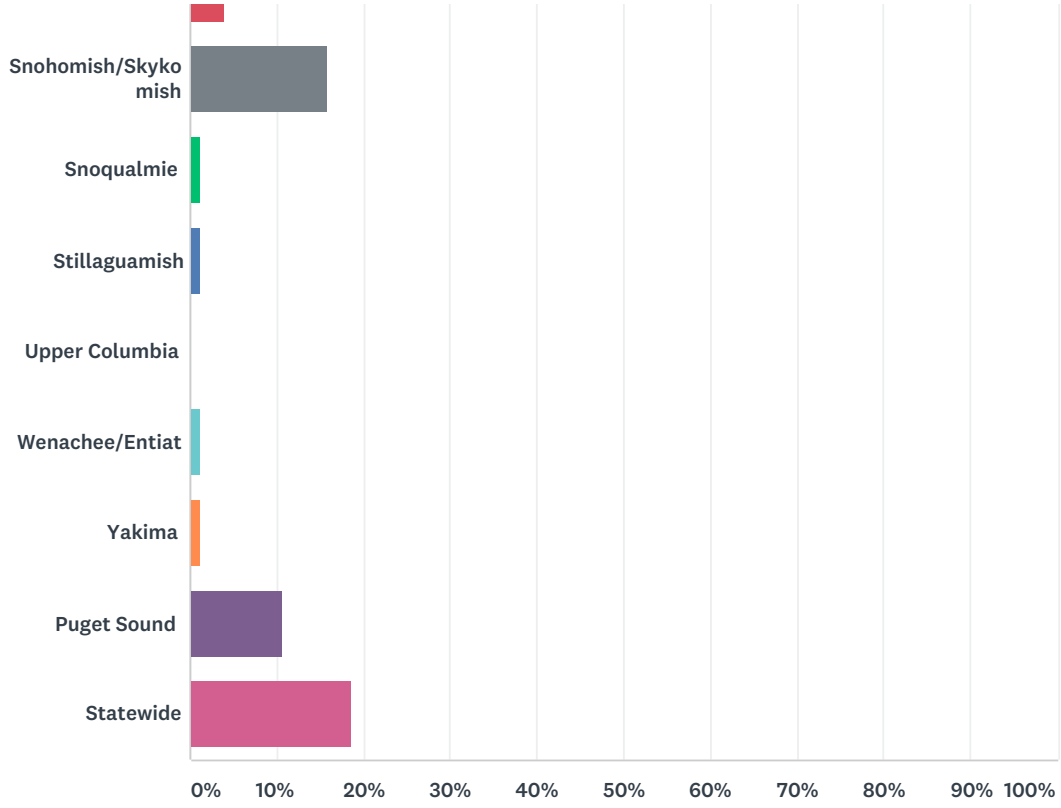
APPENDIX A

FLOODPLAINS BY DESIGN SURVEY RESULTS

Q1 What is your primary geographic area of responsibility or interest?

Answered: 75 Skipped: 0



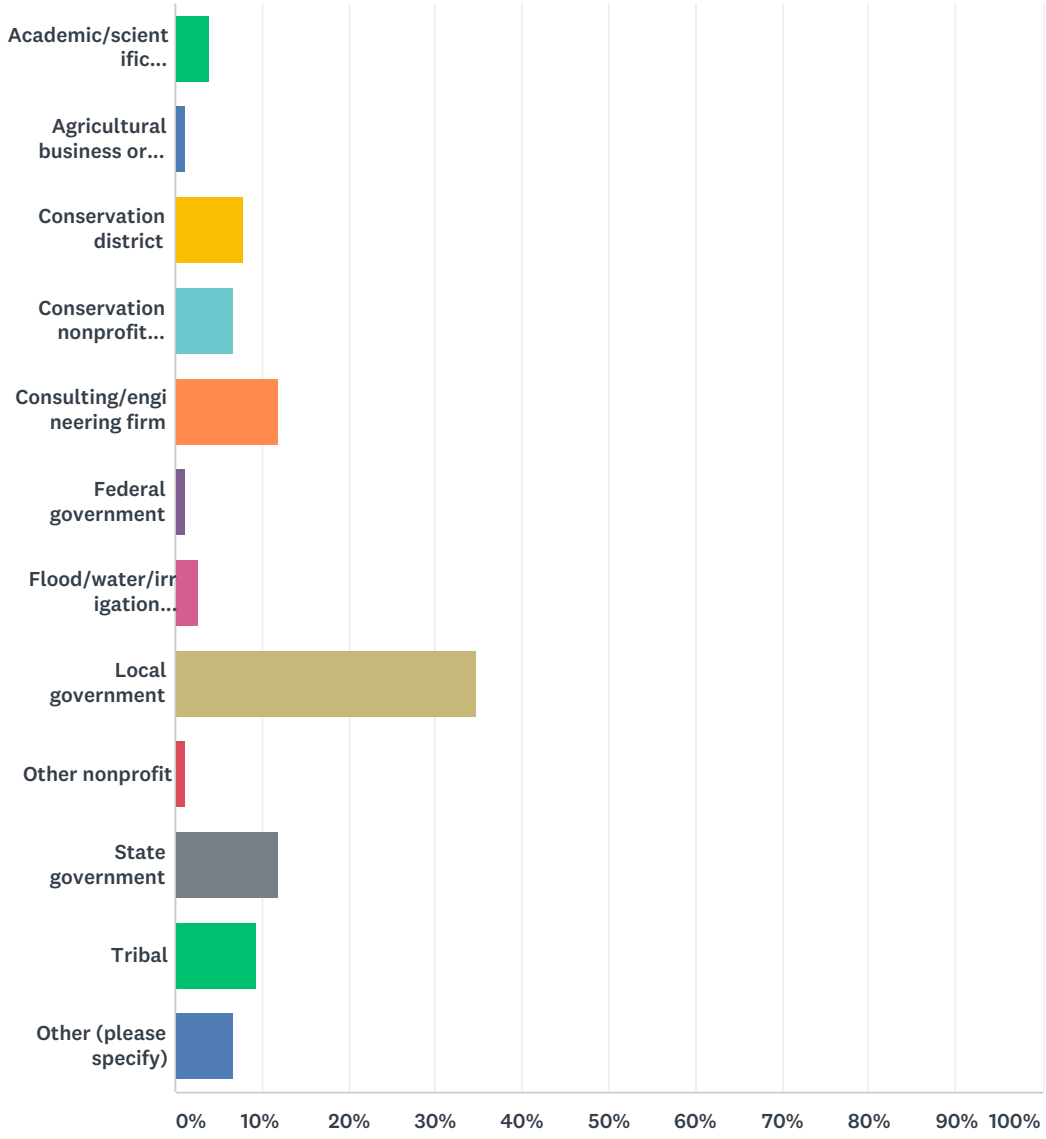


ANSWER CHOICES	RESPONSES	
Cedar/Lake Washington	5.33%	4
Chehalis	0.00%	0
Cowlitz	0.00%	0
Dungeness	0.00%	0
Dungeness/Elwha	4.00%	3
Elwha	0.00%	0
Green/Duwamish	4.00%	3
Hood Canal	4.00%	3
Lower Columbia	0.00%	0
Methow/Okanogan	2.67%	2
Nisqually	0.00%	0
Nooksack	5.33%	4
Olympic Coast	1.33%	1
Puyallup	2.67%	2
Puyallup/While	4.00%	3
Strait of Juan de Fuca	4.00%	3
Skagit/Samish	6.67%	5
Skokomish	1.33%	1

Snake	4.00%	3
Snohomish/Skykomish	16.00%	12
Snoqualmie	1.33%	1
Stillaguamish	1.33%	1
Upper Columbia	0.00%	0
Wenachee/Entiat	1.33%	1
Yakima	1.33%	1
Puget Sound	10.67%	8
Statewide	18.67%	14
TOTAL		75

Q2 What is the primary type of organization are you affiliated with?

Answered: 75 Skipped: 0



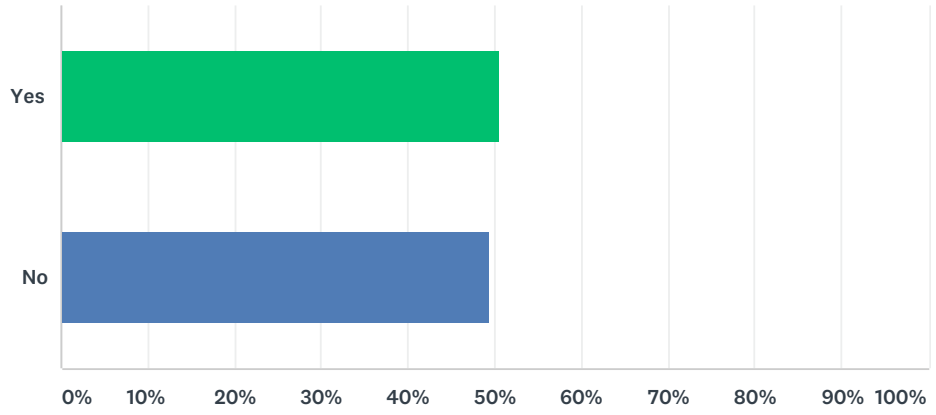
ANSWER CHOICES	RESPONSES	
Academic/scientific institution	4.00%	3
Agricultural business or organization	1.33%	1
Conservation district	8.00%	6
Conservation nonprofit organization	6.67%	5
Consulting/engineering firm	12.00%	9
Federal government	1.33%	1
Flood/water/irrigation district	2.67%	2
Local government	34.67%	26

Other nonprofit	1.33%	1
State government	12.00%	9
Tribal	9.33%	7
Other (please specify)	6.67%	5
TOTAL		75

#	OTHER (PLEASE SPECIFY)	DATE
1	Council of Governments/non profit	9/25/2018 1:21 PM
2	County	9/25/2018 9:18 AM
3	Watershed/Lead Entity	9/18/2018 9:33 AM
4	North Olympic Peninnsula Lead Entity	9/18/2018 9:03 AM
5	watershed consortium	9/18/2018 9:00 AM

Q3 Have you applied for a Floodplains by Design grant?

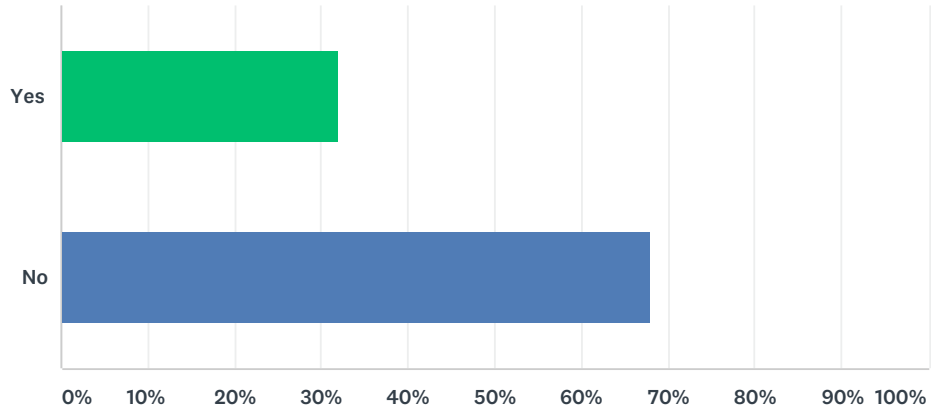
Answered: 75 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	50.67%	38
No	49.33%	37
TOTAL		75

Q4 Have you received a Floodplains by Design grant?

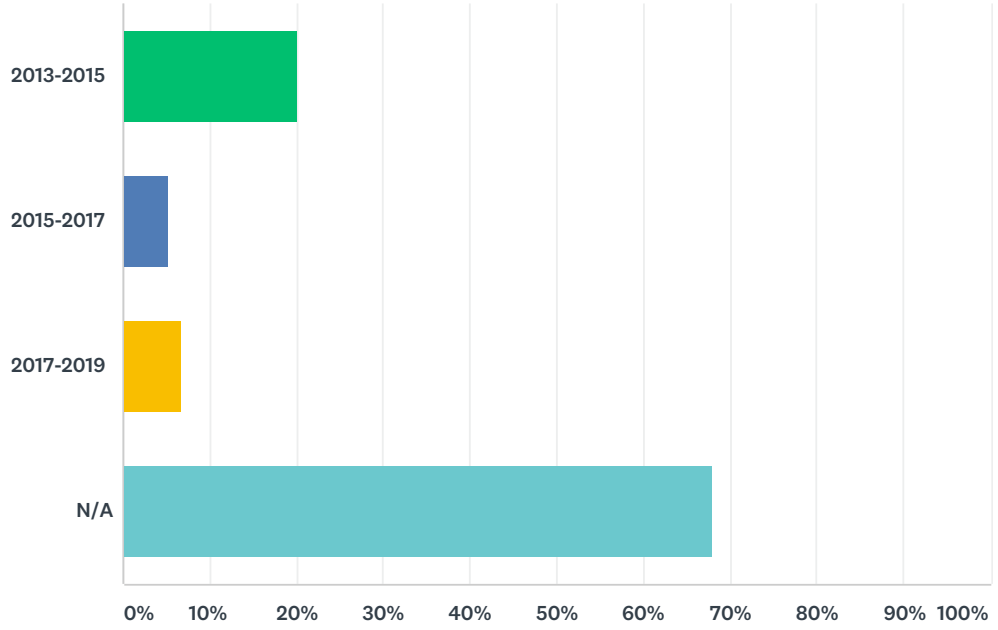
Answered: 75 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	32.00%	24
No	68.00%	51
TOTAL		75

Q5 If you received a grant, in which biennium was the grant received?

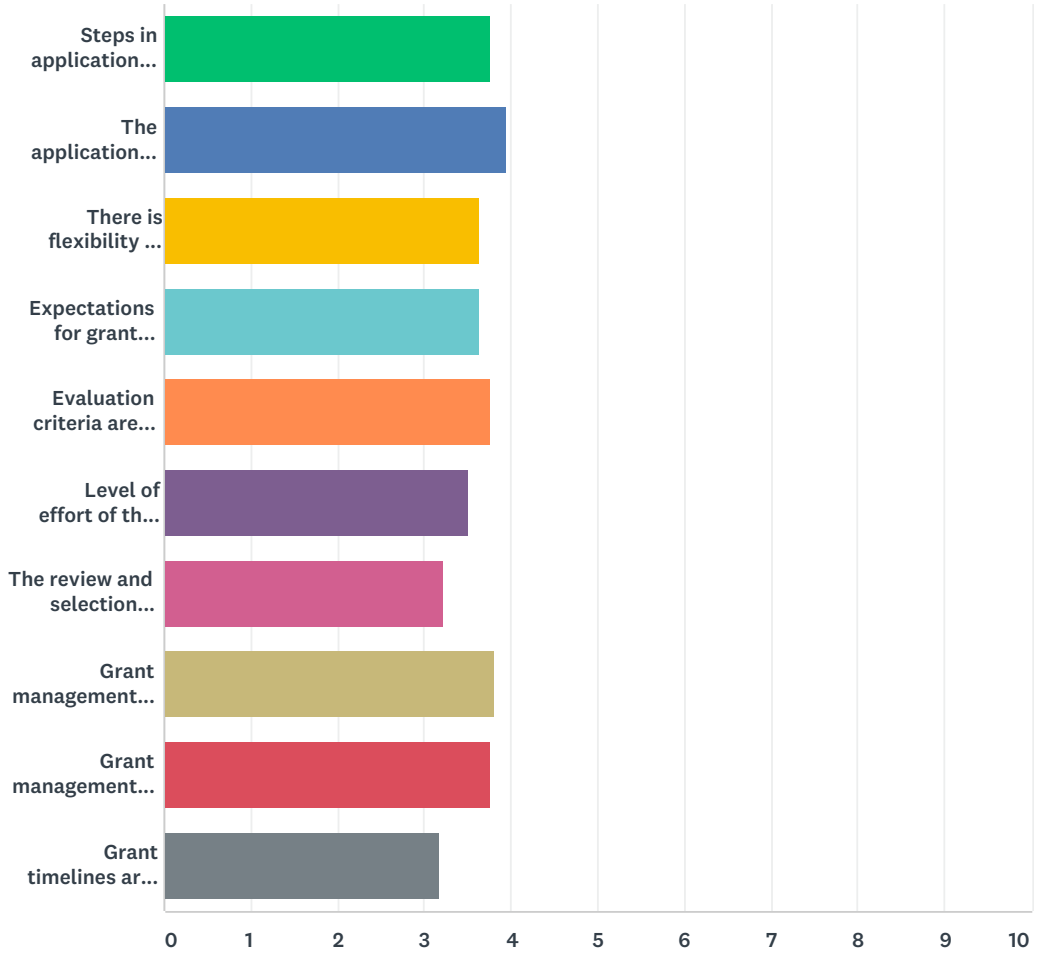
Answered: 75 Skipped: 0



ANSWER CHOICES	RESPONSES	
2013-2015	20.00%	15
2015-2017	5.33%	4
2017-2019	6.67%	5
N/A	68.00%	51
TOTAL		75

Q6 Please indicate below how strongly you agree or disagree with the following statements.

Answered: 63 Skipped: 12



	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE	N/A	TOTAL	WEIGHTED AVERAGE
Steps in application process are clear	0.00% 0	8.06% 5	16.13% 10	41.94% 26	12.90% 8	20.97% 13	62	3.76
The application process encourages multi-benefit, landscape-scale actions	3.17% 2	3.17% 2	14.29% 9	34.92% 22	26.98% 17	17.46% 11	63	3.96
There is flexibility in the list of project eligibility and evaluation criteria to support the most critical needs for advancing integrated floodplain management	0.00% 0	11.48% 7	18.03% 11	37.70% 23	13.11% 8	19.67% 12	61	3.65
Expectations for grant applications are clear	0.00% 0	12.90% 8	17.74% 11	38.71% 24	12.90% 8	17.74% 11	62	3.63
Evaluation criteria are aligned with the purpose of the grant program	1.61% 1	4.84% 3	24.19% 15	32.26% 20	19.35% 12	17.74% 11	62	3.76

Level of effort of the application process is appropriate to the scale of the grant	3.23% 2	9.68% 6	19.35% 12	38.71% 24	9.68% 6	19.35% 12	62	3.52
The review and selection processes are transparent	0.00% 0	19.35% 12	29.03% 18	16.13% 10	9.68% 6	25.81% 16	62	3.22
Grant management requirements are clear	0.00% 0	3.23% 2	22.58% 14	35.48% 22	14.52% 9	24.19% 15	62	3.81
Grant management requirements are reasonable	0.00% 0	5.00% 3	20.00% 12	38.33% 23	11.67% 7	25.00% 15	60	3.76
Grant timelines are long enough to allow for completion of the kinds of capital projects supported by the program	6.45% 4	16.13% 10	20.97% 13	25.81% 16	8.06% 5	22.58% 14	62	3.17

Q7 If you have any additional comments about the Floodplains by Design application process or grant management, please share them in the box below. If you strongly disagree with any of the previous statements, please provide some explanation of your concern.

Answered: 30 Skipped: 45

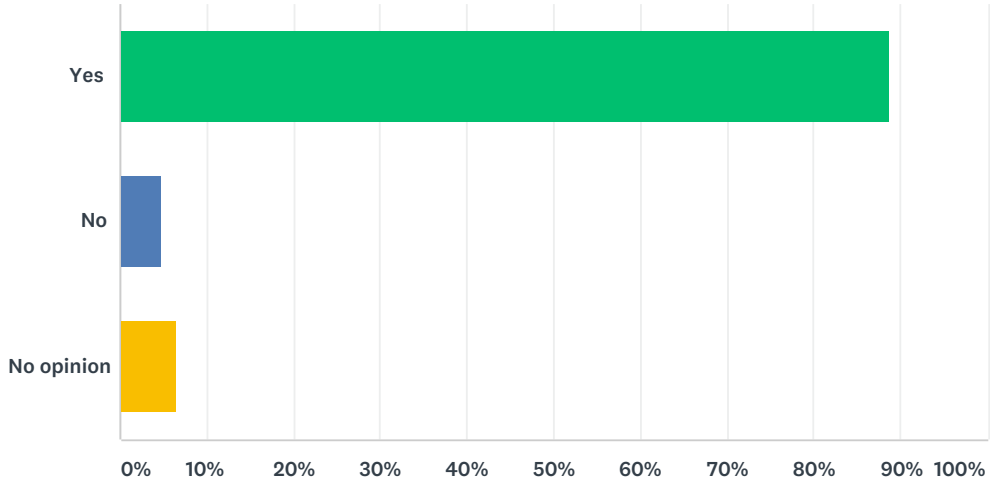
#	RESPONSES	DATE
1	I would like to see consultation with the Regional Recovery Organization such as Hood Canal Regional Recovery Organization for Hood Canal Summer Chum to ensure clear understanding of salmon recovery priorities and needs.	9/25/2018 1:25 PM
2	The evaluation process needs to be more transparent similar to RCO and the SRFB process or the DOE Centennial process.	9/25/2018 11:36 AM
3	We'd like to see some flexibility in the evaluation criteria to allow for large-scale floodplain reconnection efforts to occur in areas where infrastructure and risk reduction may be a secondary or even tertiary benefit, particularly in rural areas. In Chelan County, particularly in the Wenatchee and Entiat watershed basins, there are great opportunities for floodplain restoration but the FbD program, which we see as the best program to support these kinds of efforts, generally supports projects in Puget Sound and the Yakima basin.	9/25/2018 8:29 AM
4	You may want to allow or allocate funds to allow some projects to take more than one biennium to complete, or have a smaller permit/design/acquire pot to get those items out of the way.	9/25/2018 7:35 AM
5	Timelines for complex multi-benefit projects are sometimes challenging, in terms of acquisition, design, permitting, etc. This doesn't always line up well with the need to spend FbD funding in within 1-2 biennium.	9/24/2018 2:03 PM
6	The application could be condensed to reduce mild duplication. I think the project "long description" could be eliminated or given a shorter character limit (as the latter project description is very long). I also feel task cost general questions (estimates & controlling costs/showing this is a cost-effective project) could be grouped with latter cost- effectiveness section. These sections also overlap; I would separate out controlling costs and cost effective for multiple public benefits to make the inquiries more distinct.	9/24/2018 11:05 AM
7	There is some confusion about the grant application guidance. Sponsors are often told to "tell a compelling story" but also to stick to the criteria and be brief. These are conflicting messages. Grant development is very time consuming for the possibility of funding. There is a good amount of redundancy in some of the application sections (i.e. three versions of a project description and a goal statement) and the location tool in EAGL was not user-friendly (although Ecology provided good support for sponsors struggling). The requirements could be simplified. Although the program "will" fund non-capital actions, there could be more clarity about how competitive those actions may be so sponsors can better decided whether to put effort into a proposal (i.e. many programs weight the "readiness to proceed" criteria based on how far you are in design, thus providing a clear advantage to capital projects farther along in design and providing a clear message to sponsors that planning/early stages of design may not be the best fit for this program. While the scoring and criteria are clear, there is some confusion about the final rankings relative to the scores and feedback. The ranking should be consistent with he scoring to reinforce the effort reviewers/technical experts put into the review and scoring of proposals.	9/24/2018 9:40 AM
8	Disagree on grant timeline adequacy. Included this data point because 2017 FbD contract was only for 1 year. Legislators should understand that 4 year project timelines are appropriate for this type of work.	9/24/2018 9:35 AM
9	Ranking appears to be weighted to larger populations and somewhat skewed to favor Puget Sound area and exclude Eastern Washington projects- even with Agricultural Benefit.	9/24/2018 9:27 AM
10	Grant management team was helpful, but it does seem like there are some politics that influence the grant selection. A transparent grant review process would be helpful (which maybe has improved since we applied a few years ago).	9/24/2018 9:22 AM

11	FbD promotes a bold vision of a better, more economically sound, future for Washington State. We need bold thinking and bold action. At the scale of projects proposed for FbD, it is vital that there be no match requirements for these funds. In addition, the vision of FbD, can only be achieved if key parcels can be acquired for restoration, agriculture, or flood management. We need the ability to purchase property at over fair market value and to be able to keep agricultural interests whole by purchasing land outside of the floodplain (were available) at a ratio based on the soil futility (example 2 to 1).	9/24/2018 9:13 AM
12	FbD seems to concentrate on construction ready projects and not on exploring new approaches or tools. I would welcome an exploration into new ways of doing things.	9/24/2018 9:03 AM
13	I would like Floodplains by Design to focus on eliminating development of new outfalls into "exempt" water bodies -- i.e., our largest rivers and marine water bodies, where apparently, the premise is that "dilution is the solution to pollution". For example, a new 42 inch outfall pipe to the Puyallup River is currently being proposed from a new warehouse district being developed on what was previously farmland near Puyallup. Most of the farmland water was absorbed and infiltrated in upland areas and made its way to the river over months and years; now 100% of the water will be sent directly to the Puyallup River within a day or two of falling on the surface, and only the 6 month storm will be treated. Therefore, runoff from a warehouse district (with many opportunities for accidental spills from fuels and industrial chemicals) will be sent directly to a river that contains listed salmonids and that already has flooding problems. We were supposed to have finally abandoned these practices at least 10-20 years ago. This is a common and legal practice near "exempt" water bodies. The less expensive practice of piping rather than treating and infiltrating runoff bypasses the Low Impact Development standards that are encouraged, but not required, in most Stormwater Manuals. As more outfalls are developed, seasonal flooding will increase and the floodplain will become increasingly disconnected from the main channels of our largest rivers. For this reason, I'd like to see FBD actively advocate for no new outfalls, and for retrofitting old ones to split runoff into smaller volumes far upstream and infiltrate as much as possible near the source, rather than trying to fix the floodplain at the end of the pipe after too much water is sent to it.	9/24/2018 8:52 AM
14	The application cam be redundant, ie multiple project descriptions, each with different character counts. Ecology staff have been helpful and available to answer questions during the proposal process	9/21/2018 12:26 PM
15	I understand the focus on larger landscapes given limited funding. However, sometimes smaller urban projects can be good pilot projects and learning projects despite the often lower cost/ecological benefit ratio. I could encourage program to consider funding for these kinds of project if/as they present opportunities to test and export lessons learned.	9/19/2018 1:50 PM
16	When writing an application for multiple projects with multiple proponents the application process/packet is a bit cumbersome and unclear as to what exactly Ecology is looking for. Also, the scoring document we received made it seem like areas where we scored with zeros when we clearly had answered the questions. Perhaps it was taken care of on Ecology's end, but to the proponent applying it didn't make a lot of sense how the grant application was rated.	9/19/2018 8:27 AM
17	You have no geographic selection for the Yakima Basin or other Mid-Columbia areas.	9/18/2018 4:03 PM
18	Large areas of the state have not been included in the Floodplains by Design program, even though there areas have floodplain and infrastructure management issues. For instance, my region of the state (Chelan, Douglas, Grant, Kittitas Counties), and much of eastern Washington (except for Methow/Okanogan) is not even listed as a geographic area in question #1. This is a major shortcoming and the program needs to embrace a broader geography if it going to be applied at a truly landscape level scale.	9/18/2018 2:23 PM
19	The process should ABSOLUTELY involve a tour or site visit component. For large-scale/watershed wide efforts, it is extremely difficult to articulate our approach, goals, and process with the format provided. I think this program is absolutely critical to advance the Puget Sound region towards integrated floodplain management and particularly towards better and more effective integration of agricultural interests into the process and would love to see it expanded, increased funding, and more opportunity to provide a clearer, more holistic story of watershed-scale approaches! I think it's clear there is not enough internal ECY capacity for this exciting program and am eager to see more support for Adam Sant and his team to expand this work. I also wanted to clarify that our project was really impacted by the large delay in the legislature and it held up our work for a year- a permanent program would allow more seamless and cohesive project/program management.	9/18/2018 12:48 PM

20	It is a good thing that this grant is more flexible than RCO-SRFB grants. As a multi-benefit grant opportunity it is important that it remains flexible so that a broad suite of agencies with specific funding programs can engage.	9/18/2018 9:50 AM
21	Because your question 1 picklist did not give me a choice for "Wenatchee/ Entiat", and I had to enter something, I lied and chose Methow/ Okan. Which goes to my point, FBD isn't paying enough attention to the E side (besides Yak gap to gap which is cool project).	9/18/2018 9:34 AM
22	So not to waste hundreds of hours of staff time (per FbD application), we highly recommend FbD use the pre-application process to screen out all but the most competitive proposals within the threshold of revenue expected. Inviting so many more to pursue the onerous requirements of final application (than grant funding warrants) is an unpardonable waste of project sponsor resources. To maximize public resources, the state should either just fund top restoration priorities from the array of already vetted project lists (e.g., 4-yr work plan, NTA, WA Waters) or set the bar MUCH HIGHER for local government to even qualify for FbD (e.g., are local govt. leveraging all available local revenue authorities such as REET 3, countywide flood control zone districts, noxious weed control assessment, comparable surface water management utility rates, Corps-certified in-lieu-fee compensatory mitigation program). Let's get serious about fully funding Puget Sound recovery!!	9/18/2018 9:21 AM
23	We very much need both the small grants portion of FBD, along with the larger FBD grants.	9/18/2018 9:05 AM
24	It seems like there are a whole lot of watersheds that this program neglects	9/18/2018 9:02 AM
25	2 years is a very short timeframe for implementing large-scale capital projects considering permitting and fish windows, etc. 4 years is more reasonable.	9/18/2018 8:51 AM
26	The current process strongly favors communities who, by virtue of staff capabilities or internal resources, are able to do extensive pre-application work (research, feasibility design, etc.) on their own and who can write compelling stories (either by themselves or by hiring grant writing specialists). The result of this is that large, well resourced communities get the lion's share of the available funding and smaller, less well resourced communities are left out. This may lead to some good projects but many of those "rich" communities could afford to fund their own projects while "poorer" communities have no other resources and thus their projects, which may be equally good but just not as well described in the grant application, are never completed.	9/18/2018 8:46 AM
27	Multi-benefit projects on the scale required to achieve those benefits need timelines that allow for the complexities of bringing the projects to fruition. Typical grant timelines do not take into account the many layers of work that must be accomplished.	9/18/2018 8:40 AM
28	So far, the applications have been a lot of work, given the odds of funding.	9/18/2018 8:39 AM
29	NA	9/17/2018 11:11 AM
30	ok	9/17/2018 11:10 AM

Q8 Do you support Floodplains by Design transitioning from a pilot to a long-term program?

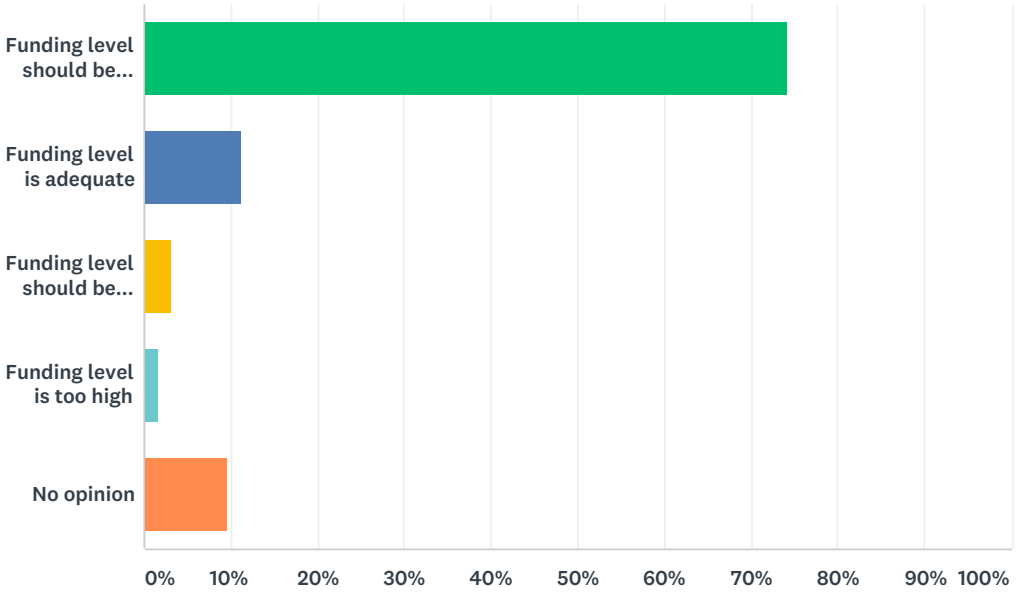
Answered: 62 Skipped: 13



ANSWER CHOICES	RESPONSES	
Yes	88.71%	55
No	4.84%	3
No opinion	6.45%	4
TOTAL		62

Q9 Funding for the first three grant cycles ranged from $35M – $44M and have funded 36 projects over the last 6 years. Do you think this level of funding is adequate to meet statewide funding needs for integrated floodplain projects?

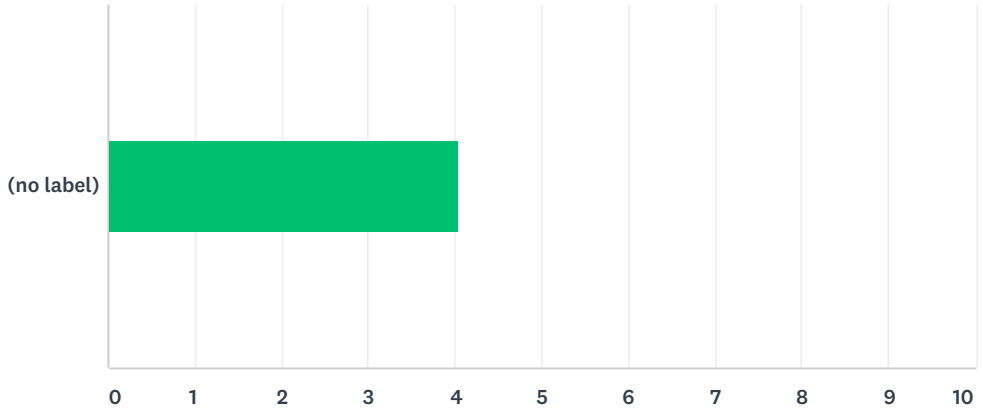
Answered: 62 Skipped: 13



ANSWER CHOICES	RESPONSES	
Funding level should be increased	74.19%	46
Funding level is adequate	11.29%	7
Funding level should be increased	3.23%	2
Funding level is too high	1.61%	1
No opinion	9.68%	6
TOTAL		62

Q10 Do you think that funding is needed to support integrated floodplain planning and facilitation in addition to funding for design and construction?

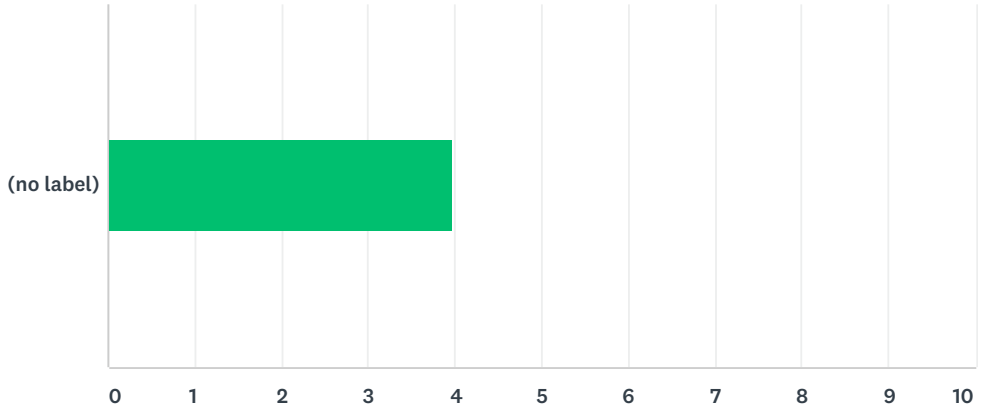
Answered: 62 Skipped: 13



	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE	N/A	TOTAL	WEIGHTED AVERAGE
(no label)	4.84% 3	9.68% 6	12.90% 8	22.58% 14	50.00% 31	0.00% 0	62	4.03

Q11 Should the Floodplains by Design management team continue to convene project proponents and stakeholders to continuously learn how to improve program management, project development, and floodplain management policies?

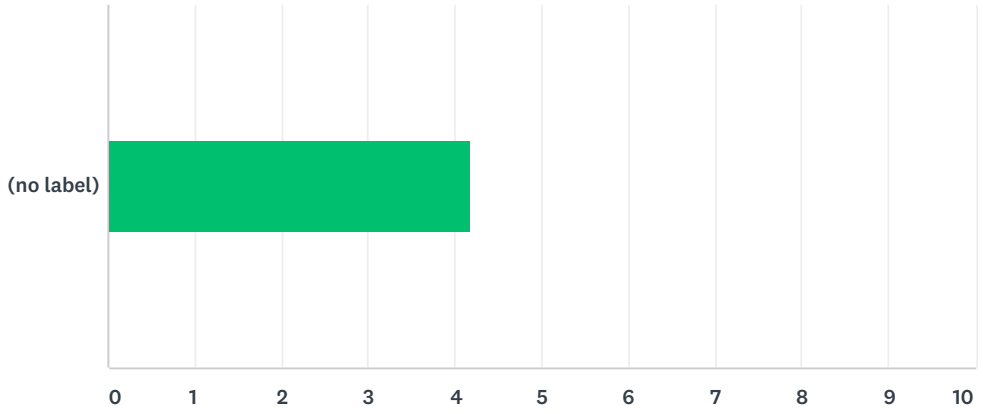
Answered: 62 Skipped: 13



	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE	N/A	TOTAL	WEIGHTED AVERAGE
(no label)	0.00% 0	6.45% 4	20.97% 13	41.94% 26	30.65% 19	0.00% 0	62	3.97

Q12 Would you support continued reporting on project outcomes, lessons learned, success stories, and best practices to improve floodplain management across the state?

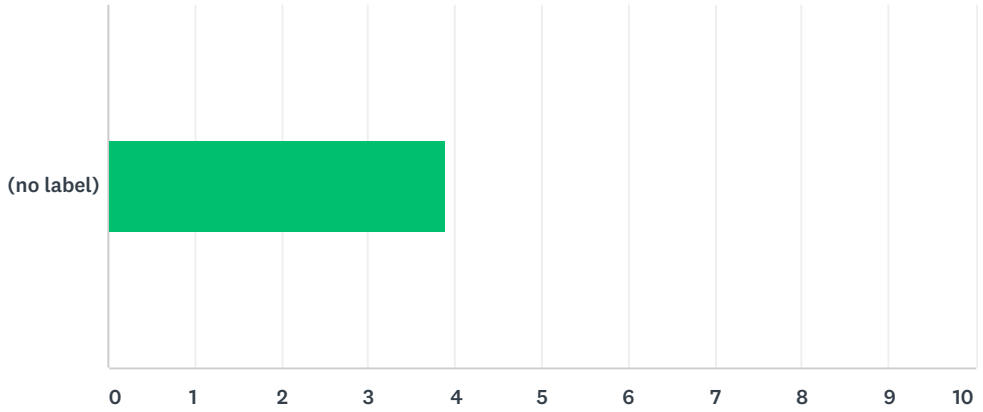
Answered: 62 Skipped: 13



	STRONGLY OPPOSE	OPPOSE	NEUTRAL	SUPPORT	STRONGLY SUPPORT	N/A	TOTAL	WEIGHTED AVERAGE
(no label)	0.00% 0	3.23% 2	12.90% 8	45.16% 28	38.71% 24	0.00% 0	62	4.19

Q13 Does Floodplains by Design funding complement and support other local, state and federal funding programs for habitat restoration and flood damage reduction?

Answered: 62 Skipped: 13



	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE	N/A	TOTAL	WEIGHTED AVERAGE
(no label)	1.61% 1	8.06% 5	24.19% 15	27.42% 17	35.48% 22	3.23% 2	62	3.90

Q14 If you have any additional comments about Floodplains by Design legislation and policy, please share them in the box below.

Answered: 30 Skipped: 45

#	RESPONSES	DATE
1	I would need more information on how Floodplains by Design funding directs the support Hood Canal Summer Chum recovery goals and priorities. Is alignment with salmon recovery strategies in the evaluation criteria?	9/25/2018 1:28 PM
2	I do have concerns about opening the funding door to endless planning and facilitation which takes away from projects on the ground that will move us to recovery and flood protection. Very similar with whats happening in both the salmon recovery world and the PSP Puget Sound recovery.	9/25/2018 11:42 AM
3	From the outside looking in, my concern is that FPBD is heavy on process. While changes in built floodplains inherently involves the complexity and challenges of people, engineering, and change with imperfect information and complex divergent interests, I am not sure forming another bureaucracy is the only way to ensure that intelligent changes are made in floodplains. Progress is not measured by more process.	9/25/2018 8:41 AM
4	Would like to see more distribution of FbD funding across more areas of WA. North Central Washington largely does not compete well for FbD given current FbD criteria despite great opportunities for floodplain restoration before development occurs. Let's take a longer view and get ahead of it.	9/25/2018 8:33 AM
5	Need to continue to find ways to encourage the engagement of private landowners. We need to encourage the use of FbD funding for voluntary, incentive based actions and activities by private landowners.	9/24/2018 10:53 PM
6	The program has been extremely valuable for local government in helping advance multi-benefit projects. We wholeheartedly support the program.	9/24/2018 2:06 PM
7	I think FBD theoretically complements other funding programs. At least it fills an important gap. Most of the projects seem to focus on flood impacts prevention (which is definitely important), but I don't know it they truly gestate multi-benefit project outcomes... more primarily flood benefits, and sometimes ecological benefits. There isn't really a library to access past awards, though, so it is hard to review past projects to either see what one could do better to improve one's competitiveness, or verify/dissuade that opinion.	9/24/2018 11:11 AM
8	Truly integrated projects take a while to develop and implement. Capacity and support are critical to continuing to develop integrated project concepts.	9/24/2018 9:42 AM
9	Thank you.	9/24/2018 9:15 AM
10	FbD could explore ways to guiding FEMA PA and Mitigation Grants. Especially partnering with PA recovery efforts.	9/24/2018 9:06 AM
11	I believe I provided this feedback in the previous comments box, but I should note that all of my answers above are based on the assumption the FBD will focus on areas upstream as well as in the floodplain, to reduce runoff overall.	9/24/2018 8:54 AM
12	Funding for capacity at local level to develop watershed/reach scale vision and multi benefit project packages is needed to support the best possible projects coming forth from the local areas.	9/21/2018 12:29 PM
13	There are too many overlapping and competing grant programs that are trying to address floodplain and river restoration. It would be better if FbD were just rolled into existing RCO-administered grant programs instead of having the separate TNC-WDOE process.	9/21/2018 8:30 AM
14	FbD has/could play an important role in working with local jurisdictions to help them with capacity building just as SRFB/WRIA planning process was instrumental in building local capacity to identify, vet and build salmon recovery projects. FbD staff/program is valuable as advocate at multiple levels of government and as form of outreach.	9/19/2018 1:54 PM
15	Ensure effective integration with priorities in Regional Salmon Recovery Plans and avoid creating duplicative grant administration programs.	9/18/2018 4:05 PM

16	Would like to see FbD better integrated and synched up with salmon recovery grant programs at RCO.	9/18/2018 3:00 PM
17	There is zero tie in to local floodplain ordinances that directly impact the success of these projects. Additionally many of the projects in Snohomish County have not been intergrated nor planned in conjunction with reducing flood risk to property or infrastructure. It should be a requirement that any awards of grant dollars are tied to code changes or comp plan changes.	9/18/2018 2:53 PM
18	Most other state and federal funding programs do a better job of embracing the entire state in their goals and objectives. I'd like to see FBD look at improving floodplain management across the state.	9/18/2018 2:29 PM
19	The support from TNC in terms of consultant availiblity to provide guidance (e.g. Carol MacIlroy) is critical. The semi-regular convening of the FbD project partners is a fantastic and important way to maintain enthusiasm, interest, and shared learning. I would benefit from MORE of these opportunities- more capacity building and more structured opportunity for learning exchanges between FbD funded projects. In particular, there's a need for increased support and structure for those working to represent agricultural interests and needs- some of us are working on this but would benefit from more FbD leadership support! Legislation that goes beyond the strictly capitol project funded side of things and recognizes and provides support for personnel capacity building and the benefits of shared learning would be hugely beneficial.	9/18/2018 12:52 PM
20	Much more funding is needed to supported design and implementation of integrated floodplain projects. In the area where I work there has been extensive floodplain planning, so that isn't a huge need. The need is for funding to move projects forward. Also, it would be great if Ecology could look to RCO's policy about waivers of retroactivity for acquisition projects, which enables project sponsors to acquire key parcels under a waiver and then apply for a grant in a subsequent cycle that will reimburse the acquisition costs. This type of flexibility provides sponsors with a mechanism to capitalize on opportunistic acquisitions that emerge between grant cycles.	9/18/2018 11:22 AM
21	Re: question 10 - WA State is "planning" the Southern Resident Killer Whale population into extinction. The Snohomish Basin, for example, is buried under a mountain of planning, feasibility, and technical studies validating flood reduction and habitat protection/restoration needs and recommendations that go back to Governor Dan Evans-directed 1975 Snohomish Mediated Agreement. Sadly, many of these exercises were simply grant-funded "make work" with no mandate to IMPLEMENT plan recommendations. Enough planning already...it's long past time to energetically pursue the popular support and political leadership required to implement the litany of policy and project recommendations already put forward from the nearly HALF A CENTURY of planning. Re: question 13 - In theory, the broad brush of FbD-eligible activities can lend itself to complementing other funding programs. In reality, do we know how many local, state, and federal dollars have been leveraged because of FbD funding that otherwise would not have been leveraged? For example, our jurisdiction received non-competitive CI9 funds for planning/design work but we were not successful leveraging other funds (or stimulating local sponsor/political support) to further advance that CI9-funded work. Instead, how about FbD setting higher expectations of project sponsors, especially County governments, which have the broadest authority of any jurisdiction to generate the scale of revenues required to achieve the FbD vision. To accelerate integrated floodplain management results, the FbD program (and related grant programs) are an important mechanism to incentivize county leaders (and residents) to more equitably cost-share priority protection and restoration work by fully leveraging EXISTING AUTHORITIES in order to even qualify for state funds. Eligibility should be linked to local programmatic actions like countywide TDR Bank, in-lieu-fee compensatory mitigation program, and voter approval of Real Estate Excise Tax 3. These wildly under-utilized opportunities are an excellent complement to FbD and do not burden property tax payers. The most impactful thing the legislature could do is use FbD to build local popular and political support to exercise these and other local authorities. Without financial incentive or legal mandate, it will NEVER be the politically right time for county governments to pursue the revenues required to protect WA's natural assets and recover Puget Sound.	9/18/2018 11:10 AM
22	I think the program should focus on design and construction. Planning support should only be offered to communities that do not have the financial means to create planning documents.	9/18/2018 9:52 AM
23	Please pay more attention to NCW. You didn't even give me the option in Q1 to enter my area (Wenatachee/ Entiat) where we have done great work, though in a less-developed area.	9/18/2018 9:48 AM
24	I support increasing funding for Floodplains by Design, but only if it doesn't affect funding for habitat restoration programs (i.e., SRFB, PSAR, ESRP, etc.). This program needs to help "grow the pie", not further divide the existing, inadequate funding for habitat protection and restoration.	9/18/2018 9:37 AM

25	This program has been absolutely critical in advancing large scale ecosystem protection & restoration and we absolutely need it to continue in order to advance recovery efforts. In terms of future planning capacity it should be for floodplain planning (which includes facilitation) and project development.Would also like to see both the large grants and small grants program continue.	9/18/2018 9:11 AM
26	Yes, I think that the program favors farmers too much, and is way too loose on how they spend the money. The farming group in our area gets to spend whatever they want on their whims and curiosities, while proponents of fish habitat have to take the crumbs and justify every penny. This is very unlike other grant sources where dollars spent on a study have to clearly lead to a project or at least refining the design. How do you get away with spending capital dollars on these studies?	9/18/2018 9:07 AM
27	I hope your efforts are successful!	9/18/2018 8:54 AM
28	Floodplains by Design fills a need that other worthy funding sources can not or do not. The ability to develop and implement large scale multi benefit projects is a key characteristic of FbD, and is much needed.	9/18/2018 8:43 AM
29	While the Floodplains by Design Program is a great idea, so far it has displaced the FCAAP funds in the state budget, which has reduced the ability of local communities to do nuts & bolts floodplain management activities.	9/18/2018 8:42 AM
30	Pass a bill. Give more money.	9/17/2018 11:16 AM