Snoqualmie Valley Fish Farm Flood
Implementation Oversight Committee (IOC)
December 15, 2023
8:45 a.m.- 3:00 p.m.
Duvall Community Center
15619 Main St NE, Duvall, WA, United States, Washington

Agenda

Meeting Purpose: Regather as the IOC for one of two long meetings per year to: 1) Review list of 42; 2) Consider Task Force results and other efforts; and, 3) Develop recommended priorities for the next 3 years

Time	What	Outcome	Lead
8:45	Mingle		
9:00	Welcome/introductions	Introduce participants and facilitator	Joan Lee
9:10	Agricultural Strategic Plan	inform the priorities and recommendation regarding a letter to the Exec	Patrice Barrentine/ team Nathan Brown
9:40	BITF	inform the priorities and recommendation regarding a letter to the Exec	Melissa Borsting plus team
10:10	List of 42:	First cut at priorities for next 3 years	Joan Lee Nathan Brown
10:45	**Break**		
11:00	Comp Plan BAS Update	Provide initial feedback and status	Michael Murphy
11:15	Exec Response to IOC 3-23-23 letter	Provide overview of Exec response	Josh Baldi
11:30	Time with Christie True	Opportunity to hear from retiring DNRP Director	Christie True Nathan Brown
12:00	**Lunch**		
12:45	Around the Table	Opportunity to hear about related issues external to FFF	Joan Lee Nathan Brown
1:00-1:40	Prioritization exercise 1	Second cut at developing priorities	Nathan Brown
1:40	Break		
1:55	Prioritization Exercise 3	Consensus on Priorities or steps to get there	Nathan Brown
2:20	Wrap up of day's work	Clarity and consensus on results of the day	Nathan Brown
2:55	Send Off	Quick survey to follow.	Joan Lee

Snoqualmie Fish, Farm, Flood 2.0
Implementation Oversight Committee
DRAFT MEETING NOTES

Friday, March 31, 2023
9:00 am – 10:00 am
Video Conference Call on King County Microsoft Teams Account

Committee Members Present (Y/N) ** = denotes caucus co-chair*					
Fish Caucus		***Farm Caucus***		***Flood Caucus***	
Cindy Spiry, Snoqualmie Tribe* *(proxy: Matt Baerwalde - Y)*	Y	Bobbi Lindemulder, farmer*	Y	Angela Donaldson, Fall City Community Association*	Y
Denise Krownbell, Snohomish Forum	N	Lauren Silver, Snoqualmie Valley Preservation Alliance	Y	Lara Thomas, City of Duvall	N
Micah Wait, Wild Fish Conservancy	Y	Meredith Molli, Agriculture Commission	Y		
Daryl Williams, Tulalip Tribes *(proxy: Kurt Nelson – N)*	Y	Dave Glenn, Sno Valley Tilth	N		
Rick Shaffer, Snoqualmie Forum	Y	Liz Stockton, King Conservation District	Y		
Ex Officio Members Present (Y/N)					
Gary Bahr, WSDA	Y	Kirk Lakey, WDFW	Y		
Josh Baldi, KC DNRP	N	Tom Buroker, WDOE *(proxy: Joe Burcar – N)*	Y		

I) Call to Order

FFF interim project manager Joan Lee of King County DNRP called this meeting to order at 9:02 am.

a) Why We Are Here

The farm caucus has asked the IOC to recommend adding the Snoqualmie Valley Watershed Improvement District (WID) as a member of the IOC. This is being requested as a revision to the comp plan language recommendation letter to the King County Executive discussed at the March 8 IOC meeting.

b) Why This Request, and Why Now

Farm caucus co-chair Bobbi Lindemulder explained the WID is very important to their caucus, and has a well-established presence in the Valley, but has not had a representative in the FFF process since Cynthia Krass's departure. There was not sufficient time to address this topic at the March 8 meeting.

c) IOC Introductions

IOC members briefly introduced themselves.

II) Motion, Discussion, and Consensus

Two options of a draft letter were provided to IOC members prior to this meeting for their consideration. It has been noted that fish and farm caucus representation must remain equal per the June 2017 FFF agreement. Key differences and points of discussion between the letter options are whether to recommend:

- Option 1: Add a fish caucus member along with a new WID member, and if so, which entities to consider;
- Option 2: Reduce farm caucus representation to accommodate adding a WID member, and if so, which; and,
- If the WID should be a voting or non-voting (ex-officio) IOC member, which would in turn affect fish caucus representation.

Bobbi Lindemulder motioned to review these two draft options prior to submittal to the Executive. Lauren Silver seconded the motion.

After discussion, the IOC favored Option 1. Joan Lee asked for a motion to amend language for Option 1 in the letter to state "Request the Executive consider appointing a representative from the Watershed Improvement District (WID) as an official IOC advisory committee member." Bobbi Lindemulder made this motion, and Daryl Williams seconded it. There was no disagreement voiced from other IOC members.

Further IOC discussion agreed on requesting the Executive to appoint a new voting fish caucus representative by June 1, 2023 to allow the caucus time to recommend a candidate for the position. It was also agreed the WID should be invited to participate in the IOC prior to this date.

Lee suggested a motion to clean up language in the letter to reflect this consensus, with one bullet requesting the WID appointment and a second bullet requesting the new fish caucus appointment, both prior to June 1, 2023. Bobbi Lindemulder made the motion, with Lauren Silver seconding.

Further brief discussion cleaned up additional language in the letter. Upon this, the IOC reached consensus to authorize the three caucus co-chairs to sign this revised letter on behalf of the IOC.

III) Good of the Order

- Bobbi Lindemulder reported the agriculture strategic plan task force meets Monday. The plan draft is being finalized and should be out soon. Information is forthcoming on the IOC's role in the plan's review. The task force has discussed coordinating with the WRIA and other watershed groups to do a presentation, working with task force coordinator Patrice Barrentine. Barrentine is also reaching out to groups in the local agriculture community to arrange these presentations.
- Daryl Williams asked to set up a short fish caucus meeting in the next couple of weeks to discuss its new representative. Cindy Spiry affirmed this and will send out a scheduling poll next week. Joan Lee will also relay this information to Josh Baldi.

IV) Adjourn

This meeting ended at 9:59 am.

Accelerating Streamside Vegetation Plantings in the Snoqualmie Valley Agriculture Production District

Final Report of the FFF Buffer Implementation Task Force

King County

Acknowledgements

A large thank you goes to the Buffer Implementation Task Force (Task Force) members for their time commitment, thoughtful discussion, and creative problem solving, which resulted in six high level recommendations to accelerate improvements to salmon habitat while respecting the interests and needs of agricultural land managers.

Buffer Implementation Task Force Members and Support	Matt Baerwalde – Snoqualmie Tribe
	Wayne Gullstad – Snoqualmie Valley Farmer
	Elissa Ostergaard – Snoqualmie Watershed Forum
	Lauren Silver – Snoqualmie Valley Preservation Alliance
	Andrew Stout – Griffin Creek Farm
	Daryl Williams – Tulalip Tribes
	Melissa Borsting – King County (Task Force Project Manager)
	Tamie Kellogg – Kellogg Consulting (Facilitator)

Additional thanks are owed to the subject matter experts consulted in the production of these recommendations.

Subject Matter Experts	Jon Bakker – University of Washington College of the Environment
	Zach Bergen – King Conservation District
	Mary Brueggeman – Sound Salmon Solutions
	Paul Cereghino – National Oceanic & Atmospheric Administration
	Jayde Essex – Sound Salmon Solutions
	Breanna Finch – Sound Salmon Solutions
	Alison Halpern – Washington Conservation Commission
	Kollin Higgins – King County
	Josh Kubo – King County
	Chris LaPointe – Stewardship Partners
	Kevin Lee – Washington Department of Fish and Wildlife
	Ryan Lewis – Snoqualmie Tribe
	Dani Madrone – American Farmland Trust
	Matt Mega – King Conservation District
	Kurt Nelson – Tulalip Tribes
	Erin Ryan-Peñuela – Snoqualmie Watershed Forum
	Brett Shattuck – Tulalip Tribes

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Project Background

In late 2013, King County Executive Dow Constantine assembled representatives from the Snoqualmie Valley to explore the issues that were creating obstacles and conflict around salmon recovery, flood protection, and productive agriculture in the Snoqualmie Valley Agriculture Production District (SVAPD). The committee was established to advise King County on how best to advance all three interests in the SVAPD. Representatives included a cross-section of agricultural, salmon recovery, and flood risk reduction as well as tribal, state, and local jurisdictions. In 2017, after a collaborative 3-year process, the Fish, Farm, Flood Advisory Committee (FFF 1.0) unanimously agreed to a set of more than 30 recommendations that, if implemented, would significantly improve ecological function and habitat quality, while at the same time strengthening the agricultural economy and reducing flood risk. In 2018, FFF 1.0 moved forward into the implementation phase and became FFF 2.0 with an Implementation Oversight Committee (IOC), which was tasked with guiding and overseeing the implementation of the FFF 1.0 suite of actions.

"I gave the Fish, Farm and Flood Advisory Committee a difficult assignment: Overcome competing interests to achieve shared goals – and they delivered." – Executive Dow Constantine in 2017

In April of 2018, as a priority recommendation from those representing the Fish interests in FFF 1.0, the County convened the Buffer Task Force (BTF) under the auspices of the FFF IOC. The BTF had the specific goal of generating recommendations for variable width riparian buffers for voluntary restoration on private land in the SVAPD. The intent was to identify riparian buffer widths that provide scientifically supported ecological lift for salmon, while minimizing the impact to agriculture in the context of voluntary restoration on private lands. The effort was focused specifically on voluntary riparian plantings, not intended to negate or dismiss existing regulation or best available science, and not intended for use in future regulations. It was agreed that establishing variable width buffer recommendations with on-the-ground flexibility would encourage more farmers, landowners, and agriculture advocates to actively support voluntary habitat restoration streamside vegetation plantings.

The BTF used a science-based decision model to develop maximum recommended riparian buffer widths based on watercourse types and landscape characteristics, with adjustments to allow flexibility that would minimize impacts to farmable land and agricultural viability. The outcome of this work was mutually agreed-upon variable-width riparian buffers recommendations for all watercourses in the SVAPD.

The final report of the BTF (available here) was presented to the FFF IOC in late 2019. The IOC transmitted their acknowledgement of the completion of the work and recommended next steps to the King County Executive in early 2020. The IOC and Executive Constantine both recommended that King County and FFF partners use the BTF decision model to apply variable buffer widths when working with private landowners to implement voluntary planting agreements. Snoqualmie Watershed Forum has been using the variable-width recommendations as guidance (not a requirement) for funding of riparian planting funded by the Snoqualmie Cooperative Watershed Management Grant. Two additional related FFF deliverables are FFF 1.0 Recommendation Farm 4, Action 1 (yet to be completed) and the Agricultural Strategic Plan (nearing completion). The FFF IOC should convene conversations coordinating the three deliverables after the completion of the Task Force.

Based on the recommendations of the Buffer Task Force, the FFF IOC recognized the need for a Buffer Implementation Task Force (Task Force) to determine minimum planting widths, identify incentives, and define strategic planting goals. The Buffer Implementation Task Force was formed in January 2023 to identify how to accelerate the rate of restoration planting in the SVAPD while accounting for inevitable impacts to agricultural lands and ensuring public dollars are invested in streamside vegetation that provide meaningful ecological benefits.

Process

The Buffer Implementation Task Force met eight times from January through June 2023 to develop recommendations, with additional meetings in September and October 2023 to finalize the report summarizing their work. For some topics, Task Force members additionally met between the large group meetings to have focused conversations. The Task Force was composed of six voting members and subject matter experts who received meeting materials, updates, and attended meetings when the agenda was relevant to their work. Task Force members represented the Tulalip Tribes, the Snoqualmie Tribe, the Snoqualmie Watershed Forum, the Snoqualmie Valley Preservation Alliance, and individual farming and private landowner perspectives. Over the course of the six months, the group laid out a detailed understanding of the barriers to accelerated streamside vegetation plantings and specific ideas around addressing those barriers.

Task Force members represented the Tulalip Tribes, the Snoqualmie Tribe, the Snoqualmie Watershed Forum, the Snoqualmie Valley Preservation Alliance, and individual farming and private landowner perspectives.

In addition, the Task Force formed a Planting Guidance Working Group. This group met three times and discussed many of the barriers to restoration plantings initially identified by the Task Force. With this additional time to discuss specific barriers, the Working Group was able to refine some issues, articulate additional barriers, and begin to identify possible solutions. They also identified learning and research opportunities. The Working Group engaged six planting practitioners whose expertise involved the planning, establishment, and maintenance of streamside vegetation. Additional Working Group members represented UW School of Environmental and Forest Sciences research interests and agricultural interests. Two of the Working Group members were also on the Task Force. The findings of this Working Group are incorporated into this document and their full summary is included as **Appendix A**.

The Task Force discussions were informed by a Skagit Conservation District (SCD) report that became available midway through our process. The SCD Community Based Social Marketing (CBSM) report helped guide our thinking about the need for more cohesive messaging directed towards the farming community, along with the breadth of perspectives on what landowner riparian planting incentives may be useful and successful.

Planting Goals and How to Accomplish Them

Acknowledging that the rapid establishment and enhancement of streamside vegetation is a critical element for the health, functions, and conditions of aquatic areas, which help improve the outlook for Pacific Northwest salmon and other species, the Task Force established goals for streamside vegetation plantings in the SVAPD.

The Task Force goal is to have 2,692 acres with streamside vegetation by 2033 with the intermediate goal of having 50% of those acres (1,346) with streamside vegetation by 2028.

These are ambitious goals that will not be met by the current rate of planting. The Task Force identified some systems, structures, and incentives that need to be created, improved, or changed to meet the goals. Success in achieving the goals is very much dependent on successfully implementing each recommendation and how much the recommendations are used and adopted by partners. In addition, success relies on landowner willingness and a commitment to retaining/enhancing economic viability of affected farms. Other strategies may also be needed to reach the goals. The findings are captured in the following six recommendations. The details of each recommendation are summarized in this report.

Recommendation 1

- Formalize a system among planting partners and funding sources to improve coordination around outreach, project implementation and maintenance, and tracking.

Recommendation 2

- Conduct Community Based Social Marketing (CBSM) research to develop a streamside vegetation outreach plan and tools to encourage participation by landowners in the SVAPD.

Recommendation 3

- Use the variable widths established by the BTF (2019) as planting target widths while allowing for flexibility to achieve planting goals.

Recommendation 4

- Adapt, expand, and create financial incentive programs to address gaps identified by the Task Force as well as those identified by future CBSM research.

Recommendation 5

- Build efficiency and increase funding for streamside vegetation maintenance.

Recommendation 6

- Integrate riparian planting with other programs to achieve multi-objective approaches and leverage funding.

Associated with each recommendation is a set of Tactics and Near-Term Actions. These are the beginnings of a roadmap for accelerating riparian restoration planting in the SVAPD. Recommendation 1 serves as an umbrella for the remaining five recommendations and establishes an approach to coordinating and delivering on the proposed actions for all the recommendations.

Recommendations

Recommendation 1: Formalize a system among planting partners and funding sources to improve coordination around outreach, project implementation and maintenance, and tracking.

During Task Force discussions, it became clear that habitat restoration practitioners were running into common challenges or barriers. One way to address many of these challenges would be to improve coordination among the groups working on riparian restoration. We will use the term "Coordinating Entity" for the purposes of this discussion, acknowledging that the exact structure is yet to be determined. Options include identifying an existing organization or entity to take on the role of leading SVAPD buffer planting coordination and communication, creating a new entity to take on this role, or empowering a new or existing steering team to coordinate these efforts.

Initial steps are bringing interested parties together to determine appropriate structure and securing funding to expand coordination in taking action around buffer planting efforts. Roles identified for a Coordinating Entity include:

Be a Unifying Voice to Support Accelerated Riparian Buffer Planting in the SVAPD

- Farmers on the Task Force articulated that having a single source to provide landowners with information about all planting programs would increase their trust with the process—providing confidence that each landowner or farmer is connecting to the planting program that is the best fit their farming situation. The Coordinating Entity could serve as a guide for landowners ensuring they are matched to the best suite of programs to meet their needs.
- In addition to serving as an information clearinghouse about all available planting programs, a Coordinating Entity would be a resource for information about the suite of King County programs related to land management. Recommendation 6 explores this idea in more detail.
- The need for long-term buffer maintenance was emphasized by all Task Force members. Improved coordination would provide an opportunity to share experiences and ideas to facilitate continuous improvement in buffer establishment and maintenance. Recommendation 5 centers on this critical component.
- There are current efforts statewide to provide shared messaging, media, and outreach for riparian planting. A Coordinating Entity could be the point of contact with these statewide efforts, lowering the burden on each individual planting partner to participate.

- Planting partners said that their time is focused on implementing effective and efficient plantings and associated maintenance, so staff time to reach out to new landowners at the scale necessary to achieve the goals is limited. A Coordinating Entity could be the lead on creating and overseeing implementation of an Outreach and Engagement plan that works to ensure all landowners know about the opportunities provided by each of the planting incentive programs.

FUNDING OPPORTUNITIES

Respond to Funding Opportunities

- A Coordinating Entity could lead efforts to increase funding necessary for building operational capacity among all planting partners to match the level of resources needed to achieve the goals. This would include building partnerships among practitioners, writing and submitting applications, managing grants, and funding for Coordinating Entity staffing, as well as planning, incentives, maintenance, tracking, and evaluation (see Recommendations 2, 4, and 5).
- Coordinate with planting, Tribal, and community partners as well as across King County on broader funding requests where riparian activities could be included. Some specific suggestions from the Task Force centered around accessing federal infrastructure funds. Some of the ideas are detailed in Recommendation 4.

TRACKING SYSTEM

Implement a Tracking System

- Measuring progress towards goals will require creation of a system to track buffer plantings, regardless of funding source or project sponsor. However, there is not yet a system that includes all buffer plantings in the SVAPD regardless of funding source or project lead. Because riparian buffer planting data span multiple partners and funding sources, we need to develop a user-friendly data management system that encourages regular reporting and makes it easy for collaborators to access and analyze data. A Coordinating Entity could lead data collection and management for the SVAPD.
- The development of a tracking system should coordinate with the FFF Recommendation Farm 4, Action 1 and the Snoqualmie Valley Agricultural Strategic Plan to take into account related objectives of providing an accounting of acres of farmland that are being planted for riparian habitat and the timelines for achieving goals of both this Task Force and the Agricultural Strategic Plan.
- In addition to capturing the number of acres planted (a critical initial step), the Task Force recommends a tracking system include effectiveness of buffer plantings by collecting data around buffer conditions and related riparian and aquatic areas functions over many years as riparian plantings mature. Planning for data collection should include a commitment to communicate regular updates to landowners.

CONVENE PARTNERS

Convene Partners and Stakeholders on Shared Challenges and Operational Improvements.

The following initial ideas need additional discussion by planting partners

- Coordinate on shared challenges like:
    - Planting stock availability: this group would be a forum to provide timely and accurate forecasts of demand for planting stock so sources can produce adequate supplies. There may be opportunities to better coordinate with SCC Riparian Plant Propagation Program and King County Parks Nursery, among others.
    - Crew availability: many ideas were suggested around planting partners realizing efficiencies by coordinating crews used for site prep, planting, and maintenance. Coordinating Entity can identify potential solutions, including opportunities to share crews as well as leveraging specialized paid crews for each piece of the work (site prep, planting, maintenance). Crew turnover was identified as an issue, and the need for experienced, reliable crews was discussed.
    - Resource needs: planting partners expressed need for tools, equipment, and storage and staging space. Initial opportunities to share these resources were identified and could be expanded on with further conversations.
- Ensure the streamside vegetation planting tracking system is populated with up-to-date information.
- Where practical, develop and maintain shared standards, best management practices, and lessons learned.
- Create a space for funding programs and planting partners to share and learn from each other. Format could include quarterly meetings but specifics to be determined. Topics could include:
    - Advocating for changes to Incentive Programs (see Recommendation 4).
    - Advocating for expansion of streamside vegetation maintenance funding opportunities (see Recommendation 5).
    - Other Planting Working Group recommendations including planting and maintenance BMPs.
- The Planting Working Group discussed research at greater length and identified a gap in scientific literature investigating topics such as site preparation, maintenance, and planned plant succession. There is an opportunity to plan restoration projects in a context that allows for collecting data across sites and treatment types. Coordinated collaboration between practitioners and researchers will foster continuous improvement in best practices and provide the basis for successful monitoring and research.

Tactics and Near-Term Actions

- Convene interested parties/planting partners to share these recommendations and determine appropriate Coordinating Entity structure by Q1 2024. [Snoqualmie Forum and relevant King County staff]
- King County allocates funding to jumpstart progress on forming a Coordinating Entity.

- Integrate progress on establishing a Coordinating Entity into deliverables IOC is tracking. IOC should request quarterly updates, with Task Force members included on updates.
- Establish a Coordinating Entity by December 2024.
- Outline possible funding strategies, lead proposal writing, and secure funding for a Coordinating Entity and partners to implement a shared strategy to move forward priority plan recommendations. [Snoqualmie Watershed Forum, Snoqualmie Basin Steward]
- Implement a Tracking System. Begin tracking progress toward streamside vegetation goals and Agriculture Strategic Plan acreage-related goals by December 2024.

Convene Partners and Stakeholders on Shared Challenges and Operational Improvements.

- Convene planting partners around shared challenges, implementation tracking, and BMPs by Q1 2024.
- Convene funding and planting partners around incentives, maintenance, and funding limitations by Q2 2024.
- Convene planting partners and entities interested in monitoring and research into effective streamside vegetation establishment and maintenance to determine next steps by Q2 2024.

Timeline of Actions at a Glance

Recommendation 2: Conduct Community Based Social Marketing (CBSM) research to develop a streamside vegetation outreach plan and tools to encourage participation by landowners in the SVAPD.

The Task Force agriculture representatives and planting partners provided important insights into incentives—both financial and programmatic—that could encourage landowner participation in streamside vegetation planting programs.

A few key farmer and landowner perspectives:

- Coordinated outreach leads to trust around getting enrolled in the best/right program for each landowner.
- Long-term maintenance is important to address landowner interests including cost of maintaining the streamside vegetation over time, operational issues with existing farming practices, and ensuring effectiveness of the streamside vegetation in achieving habitat restoration goals.
- When landowners agree to take land out of agricultural production, they want to know the restoration planting project objectives are achieved.
- Farmers are thinking holistically about the landscape, often viewing decisions through both a business lens and as stewards of the land.
    - Taking into account things like aesthetics, contribution to parcel privacy, and harvestable plantings (e.g. berries, apples, or willows) may encourage landowner participation. In addition, landowners may be motivated when provided information about benefits beyond salmon habitat such as positive impacts to birds, amphibians, and pollinators.

A few key planting practitioner observations:

- Without coordination there is no assurance that all landowners have been contacted about riparian restoration opportunities.
- Planting practitioners individually use a variety of methods to reach out to landowners willing to have streamside vegetation s on their land. The success of these outreach efforts is varied. Collaboration and creative exploration of new ideas and techniques and a deliberate focus on an outreach program would improve landowner engagement. A CBSM study would help refine effective tools for outreach to landowners around riparian planting efforts.

A recent report detailing findings from CBSM research in the Skagit Valley served as initial guidance to the planting conditions and type of incentives that the BITF considered. As the SVAPD size and type of farm use differs from the Skagit, the findings from an SVAPD-specific CBSM should be used to create an Outreach Plan.

Elements of the Outreach Plan should include:

a. Shared approach for planting partners to engage all landowners. This includes timing, how the Coordinating Entity will engage, and recommended outreach tools.
b. Communication tools to convey information to landowners could include:
    i. Existing planting and incentive programs. Include what they fund (plantings, easements, etc.), how landowners engage (apply directly, work with a planting partner), and contact information.
    ii. Other related efforts that play a part in addressing the complexities of land use.
        - Details on areas of focus from the Snohomish Basin Salmon Conservation Plan and the Snoqualmie Valley Watershed Improvement District's list of priority basins.
        - That the Task Force Recommendations are part of FFF. Include history of FFF, agreements made to date, including findings of related Task Forces, to provide context and an understanding that the Task Force goals and strategies were

developed by incorporating both restoration and agricultural perspectives and work to balance competing demands on the landscape.

- Relevant elements of the King County Strategic Climate Action Plan, Clean Water Healthy Habitat, King County Comprehensive Plan, and other relevant policies and plans.

iii. Relevant Recommendations from this Task Force.

iv. Timing for outreach, engagement, grant applications for pilot projects

Tactics and Near-Term Actions

The Task Force recommends CBSM research effort and campaign specific to the SVAPD be conducted.

- A CBSM report for the SVAPD will be completed by December 2024.

Findings from the CBSM research will be formalized into an Outreach Plan.

- An Outreach Plan will be completed by December 2024.

Timeline of Actions at a Glance

Recommendation 3: Use the variable widths established by the BTF (2019) as planting target widths while allowing for flexibility to achieve the planting goals.

This document uses the variable widths negotiated by the BTF as width targets for riparian planting projects in the SVAPD. The Task Force set ambitious acreage goals and rate of streamside vegetation plantings that included flexibility as an acknowledgment of the realities of agricultural operations and land management, and that ultimate success depends upon voluntary landowner participation.

When conditions require planting narrower than the BTF variable widths, buffer width averaging, and off-site planting should be used to help ensure progress toward restoration goals.

The Task Force considered prioritizing based on landscape features and watercourse types, but ultimately acknowledged they did not want to prioritize because of the urgency of planting across the SVAPD. However, the discussion included the importance of areas such as:

- Areas where there is currently no streamside vegetation.
- Alluvial fan areas, especially on the Mainstem Snoqualmie River.
- BTF-identified large category watercourse channels.

Task Force Assumptions:

- If agricultural acres are added to the SVAPD, as proposed in the 2023 Snoqualmie Valley Agricultural Strategic Plan (Strategy 40, Issue Paper 2.4.17: Acreage Needs, Challenges, and Recommendations), the riparian planting goals should be reevaluated.
- The BTF variable width recommendations guide King County funded, voluntary plantings on privately owned properties in the SVAPD. Other planting partners (Tribes, NGOs, landowners, etc.) may choose to use the variable widths.
- All voluntary streamside vegetation plantings on private lands in the SVAPD count towards the goal, regardless of planting partner and funding source.
- It is understood that many funding sources have their own buffer width minimum, which will influence any deviation below the variable widths.
- The following types of projects are not meant to be limited by BTF variable widths: large capital project habitat restoration, mitigation, and streamside vegetation planted on public land, whether they were funded by King County or other funding sources.

Streamside Vegetation Goals and Incentives:

Based on the above considerations, the Task Force set ambitious goals to highlight the urgency of restoring salmon habitat and to encourage prompt action on recommendations.

The Task Force set a goal of implementing the BTF variable-width recommendations on all watercourses in the SVAPD within ten years. All acreage is calculated using the BTF Variable Widths applied to respective watercourses (see Appendix B).

Applying the BTF variable widths to all SVAPD watercourses covers 2,692 acres. The overall Task Force goal is to have 2,692 acres with streamside vegetation by 2033 with the intermediate goal of having 50% of those acres (1,346) with streamside vegetation by 2028.

Acres impacted by BTF variable-width recommendations by land cover type.

DEFINITION OF STREAMSIDE VEGETATION

For the purposes of this report, streamside vegetation is defined as an area of native trees and shrubs along the edges of watercourses including rivers, streams, artificial channels, and oxbows. In some cases, streamside vegetation may include non-native species, if the species provide similar or better function. Areas without trees and shrubs and/or dominated by invasive species are considered to not have streamside vegetation.

Agriculture Strategic Plan Category	Land Cover adjacent to watercourse	Acres within BTF variable-width recommendations*
Farmable	Currently farmed, fallow, and farm infrastructure	950
Unfarmable	Shrubs	537
	Developed	62
	Other (low-lying and wet areas adjacent to several watercourses)	323
	Trees (includes CREP)	820

*Acreage calculation includes public and private land.

Total Goal 100% Streamside Vegetation by 2033	2,692

Minimum Streamside Vegetation Width and Considerations for Flexibility

The variable widths negotiated by BTF members were informed by best available science and modified based upon landscape position and waterway classification. The objective was to optimize riparian functions and farmland preservation objectives. The Task Force does not recommend creating a minimum streamside vegetation size as an alternative.

However, the Task Force recognized that in many cases landowner willingness and site-specific conditions will make it challenging to meet the streamside vegetation width targets. Rather than attempting to address each of the possible site-specific questions, the Task Force provided some overarching guidance that creates flexibility for the planting partners. Operating under the principle that streamside vegetation providing some level of function is usually better than nothing, the Task Force identified example conditions where a narrower planting width should be considered:

- Where easements or other legal restrictions limit the available streamside vegetation width.
- When planting below the BTF variable width recommendations provides an increased opportunity for streamside vegetation continuity, especially where no streamside vegetation exists.
- Where the presence of farm infrastructure exists within the target streamside vegetation width.
- Where planting recommended streamside vegetation width would result in clear economic hardship to the landowner.

To achieve the goal of 2,692 acres while providing flexibility in application on the landscape, the Task Force recommends using buffer averaging –— planting narrower where there are constraints and wider in other areas to compensate. The Task Force recommends that, where possible, acres added for buffer averaging should fall into the categories labeled as Unfarmable by the Agricultural Strategic Plan (Table 1).

Progress towards the goal will be reviewed annually by FFF IOC and a summary provided to the Task Force. In three years (by fall of 2026) King County will evaluate progress towards the goals and work with the FFF IOC to determine if other strategies are needed to achieve the overall goal. The Task Force will be reconvened if the IOC determines that new strategies are needed to ensure progress towards the goal. Ongoing monitoring and assessment will happen every 3-4 years.

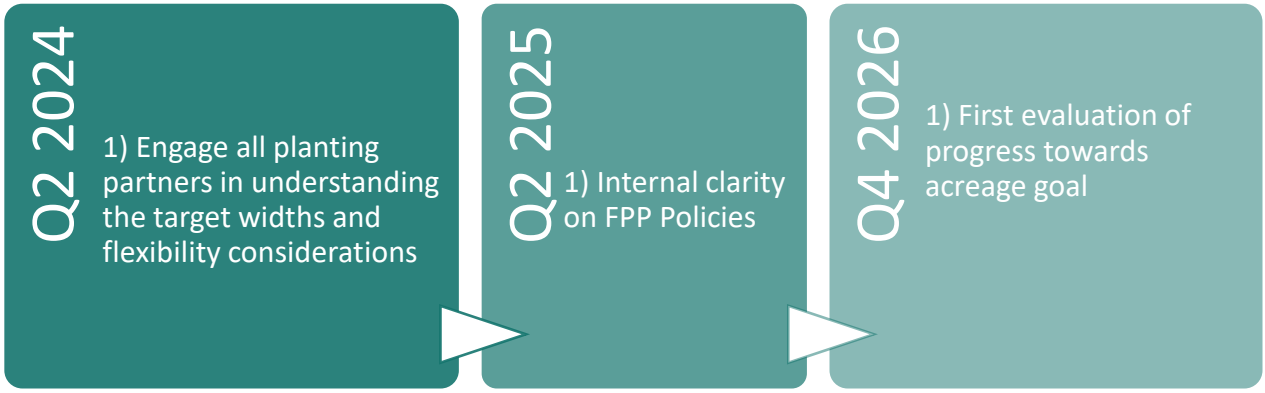
Institutional Considerations

Of the 2,692 acres to be planted across the SVAPD, 950 acres were classified as farmable (defined as currently farmed, currently fallow, and farm infrastructure) based on 2017 aerial photo imagery. King County Farmland Preservation Program (FPP) policies around non-tillable acres restrict achievement of the streamside vegetation planting goals in the SVAPD. Current interpretation of FPP deed language prohibits planting on approximately 330 of the 950 farmable acres. The County needs to find resolution to the policies by 2025 so that the planting goals can be achieved.

Tactics and Near-Term Actions

- The variable widths agreed to in BTF shall be the target widths for streamside vegetation. Flexibility should be based on overarching guidance provided by the Task Force (above).
- The Task Force set ambitious goals to highlight the urgency of restoring salmon habitat and to encourage prompt action on Task Force recommendations.
- Of the total 2,692 acres to be planted (calculated by using the BTF variable width recommendations for streamside vegetation), 50% (1346 acres) of those will be planted across the SVAPD by 2028.
- 100% (2,692 acres) of the acres corresponding to the BTF variable width recommendations for streamside vegetation will be planted by 2033.
- King County and the FFF IOC will evaluate progress towards the acreage goal and, if additional strategies are needed to increase rate of planting, reconvene the Task Force. This evaluation will happen every 3 years; the first evaluation will be conducted by fall of 2026.
- Engage all planting partners in understanding the target widths and flexibility considerations by Q2 of 2024.
- Resolve interpretation of the definition of non-tillable under FPP easements and ensure there is enough land that isn't encumbered by FPP easements to achieve planting goals, including BTF variable width recommendations.
    - King County will have internal clarity on FPP policies by 2025.

Timeline of Actions at a Glance



Recommendation 4: Adapt, expand, and create financial incentive programs to address limitations identified by the Task Force as well as those identified by future CBSM research.

Incentivizing landowners to plant streamside vegetation is an important element of accelerating the rate of restoration. Planting practitioners, based on outreach conversations with landowners, have found that inadequate incentives are often a limiting factor in gaining landowner participation in restoration planting programs. Task Force members explored ideas around increasing payments, changing payment schedules, and utilizing community networks. The Task Force provides an initial list of ideas and recommends incorporating the results of the SVAPD-specific CBSM research to expand on, refine, and prioritize these initial ideas.

Incentive Ideas:

The Task Force described incentive ideas that would encourage landowner participation while also promoting streamside vegetation plantings that both achieve the Task Force streamside vegetation width targets and improve continuity of streamside vegetation along key watercourse types.

- Increase Payment Rates.
    - Some landowners are already participating in time-limited streamside vegetation programs such as CREP with a 15-year limit on payments. The Task Force recommends adding additional years to the payments to sustain existing streamside vegetation planted under CREP-type programs or offer higher rental rates (e.g., base payment on something greater than just crop profits).
- Use graduated incentives that provide a higher payment rate at wider streamside vegetation widths to incentivize landowners planting closer to the maximum widths. The concept of graduated incentives could be built out adaptively over time in collaboration with funders and could include larger bonuses or rental payments for wider streamside vegetation, bonuses for neighbors cooperating to plant continuous buffers across adjacent properties, or other incentives.

These increased rates could be achieved by establishing a funding source that augments CREP payments or working with FSA to adapt the CREP program locally.

- Encourage participation of Neighboring Landowners (focus on streamside vegetation continuity).
    - Provide a higher rental rate or a bonus for landowners who get neighbors to sign up. This also leverages informal community networking as an outreach tool.
    - Provide a bonus payment to all landowners when a minimum number of neighboring properties sign up (e.g., bonus payment when >50% of landowners participate in any program within a 5-mile reach).
    - Provide bonuses for neighbors cooperating to plant a single continuous streamside vegetation across adjacent properties.
- Expand Compensation.

- Explore fully compensating landowners for the market value of the land taken out of production via an upfront lump sum. This would eliminate the need for annual payments or other ongoing compensation.
- Establish a program with payment rates calculated based on land values beyond just crop profits. The Spokane Conservation District Commodity Buffer Program is a possible example.
- Compensate for impacts of streamside vegetation plantings beyond just the acreage that is planted. This could include providing a rental rate for shade on fields and compensating for any edge that must be left unfarmed to access the streamside vegetation for maintenance.

- Funding for narrower streamside vegetation: the Task Force identified a lack of funds that allow for planting below 100' (state) and 50' (federal). In some cases, the Task Force streamside vegetation width targets fall below the planting funders' minimums and therefore don't allow the flexibility that is sometimes needed to achieve target widths.
    - The Task Force recommends that when funding partners are engaged in conversations about incentives, the following be part of the discussion:
        - Create new funding options or expand existing ones to provide funding for streamside vegetation at 50' (this is the lowest BTF variable width for the mainstem and medium watercourses).
        - Create new funding options or expand existing ones to provide funding for streamside vegetation between 35-50' (35' is the lowest BTF variable width for small watercourses).
        - Offer streamside vegetation width flexibility by using buffer width averaging.
    - In addition, the Task Force noted that very few funding sources allow for planting at the lowest end of the BTF variable widths. If planting partners and funders can coordinate to match proposed projects to funder restrictions, more projects may be able to be funded in the Snoqualmie Valley. One aspect of this is advocating for the King County Cooperative Watershed Management Grant Program (KC-CWM) to consider prioritizing projects that use the variable buffer widths from the BTF. This grant program has the most flexibility in planting minimums and serves an important role in achieving the range of recommended widths identified by the BTF.
- The FFF process provided a valuable opportunity for multiple interests to come together to negotiate variable widths and flexibility. The Task Force encourages advocating for funders to use locally negotiated approaches to streamside vegetation plantings to set localized guidelines that determine funding eligibility.

Strategies to Expand Incentives:

Expanding or augmenting available incentives could be achieved by establishing a new program or adapting existing ones. The Task Force recommends that the Coordinating Entity apply for funding for a pilot project to demonstrate creative ways of testing new approaches to incentives based on the work of the Task Force and further informed by future CBSM research.

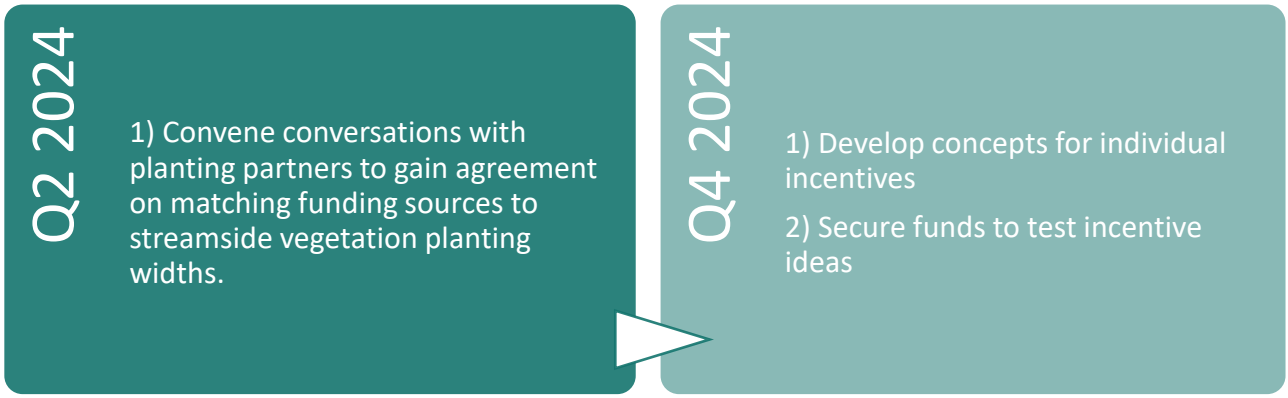
- The Task Force agreed that advocating for change within existing programs would take coordinated efforts but could result in some meaningful opportunities to expand incentives to landowners. The ideas discussed include:
    - Advocate that NRCS increase rental rates and extend their payment period up to 30 years. Also advocate for the Washington State Conservation Commission (SCC) to increase rental rates. Make the renewal process easier for CREP.
    - This may include advocacy at the Farm Bill's federal level. Because the Farm Bill's five-year renewal cycle is happening now (fall of 2023) this work may not be possible until the next renewal cycle.
- Better utilize existing funding sources. Not all programs have been utilized in the SVAPD.
    - Explore other state and federal funding for grants, contracts, or lease payments.
    - Apply for federal funding from the Inflation Reduction Act and Bipartisan Infrastructure Law. Some specific suggestions included:
        - Consider a federal funding request to pilot the activities for maintenance and planting at scale.
        - Coordinate across King County to identify a multi-objective project that includes a pilot project for one or more of the Task Force Recommendations.
        - Include a component for riparian restoration in all federal infrastructure funding requests.
    - Identify opportunities for King County to buy conservation easements on properties already in CREP, LIP, or other programs, or landowners considering these programs, and coordinate in advance when a landowner is considering CREP, LIP, or a King County conservation easement.
    - Explore establishing a King County Bond or using existing funding (e.g., Conservation Futures Tax) to provide a one-time payment to compensate landowners for the full value of the land being taken out of production.
    - Identify funds that could be awarded for planting in conjunction with the purchase of an FPP deed that includes conservation areas.
    - Encourage landowners who participate in streamside vegetation planting programs to enroll in Public Benefit Rating System so they don't lose the property tax benefit that most farmland owners currently receive.
    - Establish corporate sponsorship programs and/or use Department of Commerce dollars.

Tactics and Near-Term Actions

- Once the CBSM Report is completed, bring together interested practitioners to build out the concepts for individual incentives including a funding proposal. [Recommendation 1 Coordinating Entity]
- Secure funds to test some of these ideas; use the CBSM research to prioritize which ones to focus on.
    - The Coordinating Entity will apply for funding for a pilot project to test some of the incentives (by Q4 2024).

- Engage funders in conversations around type of policies that would support planting at narrower widths.
    - Ask the Snoqualmie Watershed Forum to prioritize restoration projects that use the variable widths from BTF.
- Convene conversations with planting partners to gain agreement that they will aim to match funding sources to eligible streamside vegetation widths that meet landowner and Task Force objectives (those that will fund lower widths) (by Q2 2024).

Timeline of Actions at a Glance



Recommendation 5: Build efficiency and increase funding for streamside vegetation maintenance.

Maintenance after planting new streamside vegetation is critical to ensure a future healthy, diverse, and resilient forest that addresses long-term habitat goals. While management of competing vegetation is a priority in the first 3-5 years, it is still needed into the first decade or longer. In addition, replacing any mortality of planted trees and shrubs is an important maintenance tool three or more years after initial planting. As the rate of planting increases, it is important to note that the need for maintenance will increase as well, and maintenance requirements last long after the first few years of streamside vegetation planting.

The burden of maintenance on landowners was frequently described as a barrier to participating in planting programs. This includes things like damage to fences from falling trees or branches and managing buffer edges to avoid farm field encroachment. However, the most significant area for many landowners is concern around the beaver habitat provided by streamside vegetation. Resolving some of the beaver-related issues could help encourage landowner participation.

Barriers to implementing streamside vegetation maintenance and possible solutions:

- There can be disconnects between the requirements imposed by sources of streamside vegetation funding and the requirements of effectively establishing a successful buffer.

- For example, a funding source may require that planting be accomplished within one year, whereas the existing competition on the site might mean that a two-year site preparation regimen would be more effective.
- It is hard to find grant programs that support long-term buffer maintenance because funding for site preparation or buffer maintenance is typically associated with funds for planting.

- There can be challenges in finding experienced crews. Crews specifically trained for streamside vegetation planting are not common. Coordination between streamside vegetation planting entities can help keep well-trained crews busy and available. Planting streamside vegetation is different than planting trees after a timber harvest. The skills required of the labor pool are different because the planting stock is largely different and the planting objectives are often diverse.
  - A shared crew could address streamside vegetation maintenance, including weed management, while also supporting beaver management and even be trained to repair damaged fences.

Increased beaver activity impacts to farms:

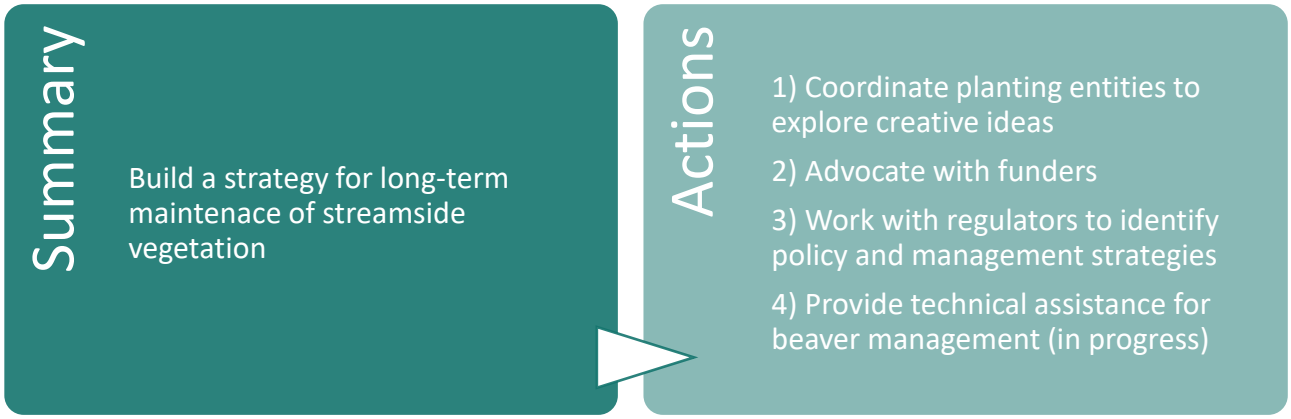
- Streamside vegetation provides excellent habitat for beavers and increased beaver populations will likely accompany new streamside vegetation plantings. Beaver activity can cause additional loss of farmable land due to flooding and drainage problems. However, beavers also contribute to healthy wetland and stream ecology, including maintaining groundwater levels. Therefore, beaver management in the SVAPD should combine strategic removal of beavers and beaver dams with ecosystem restoration objectives. Prior to initiation of riparian planting projects, a plan should be developed to clearly identify areas where beavers will be encouraged and how beavers will be controlled when they colonize areas that create challenges for landowners.
- Landowners seek resources and information about timing, techniques, and resources to manage beavers and beaver dams when beaver activity leads to flooding or drainage problems on their farm. However, some regulations make beaver dam management seem overly cumbersome, and guidance can be confusing and even contradictory. Landowners should be provided with an understanding of the ecological constraints, technical solutions, and legal pathways related to beaver management at the time of streamside vegetation plantings.
- A well-structured program that eases the management burden on landowners while providing a direct opportunity to educate and encourage those landowners to consider “living with beavers” options is a win-win solution. The Task Force recommends that the Coordinating Entity convenes partners to develop a comprehensive solution that provides funding and advocates for streamlined regulation for ecologically sound beaver management options. This will include landowner education regarding the benefits of allowing managed beaver presence on their property.

Tactics and Near-Term Actions

- Build a strategy and funding for long-term maintenance of streamside vegetation.
- Explore and develop systems that create greater capacity for maintenance including shared crews, leveraging crews to support beaver management, and repairs due to riparian tree damage to farm fences. Use the Coordinating Entity in Recommendation 1 to evaluate the need and identify solutions.

- Advocate with funders to increase support for establishment and long-term maintenance of streamside vegetation that includes:
    - Extended site preparation times and
    - Adequate funding for maintenance over an extended period.
- The Coordinating Entity will convene conversations with practitioners, agriculture advocates, and regulators around the advocacy, research, and future assistance with managing beavers as related to streamside vegetation plantings.
- Advocate with regulators to increase support for beaver management:
    - Explore regulatory changes and management strategies that provide more opportunities to reduce human/beaver conflict.
    - Explore WDFW creating a more streamlined blanket HPA for managing beavers, in partnership with a trained, pre-approved set of contractors.
- Fund and provide technical assistance and maintenance to deal with beavers through support for establishment of a program to increase staff capacity to coach/support landowners with beaver conflict management. SVPA and the WID are currently fundraising around this idea.
    - SVPA/WID received three years of funding for beaver conflict management staffing. Recommend support of future funding needs.

Summary of Actions at a Glance



Recommendation 6: Integrate riparian planting with other programs to achieve multi-objective approaches and leverage funding.

Farmland owners decide whether they are going to implement streamside vegetation planting on their property as a part of their farm vision and operations. Generally, they would determine how a restoration project will align with and support their short- and long-term goals for their farm. In addition, landowners typically engage with other programs run by King County and others to accomplish needed on-farm improvements such as drainage and invasive weed management. The Task Force identified the importance of voluntary planting partners coordinating with other landowner-facing programs run by King County to better serve the needs of landowners while making progress toward restoration goals.

Thinking holistically about how streamside vegetation plantings can be incorporated into other work provides opportunities for outreach to new landowners as well as unique incentives that go beyond financial payments.

Outreach opportunities:

Often a landowner will have improvements they are interested in and ask about related services in initial outreach conversations. Having the Coordinating Entity and planting partners able to refer landowners to other King County or partner programs that serve landowners may result in improved landowner interest in streamside vegetation plantings if they see that these programs coordinate and work well together. In addition, programs such as Agricultural Drainage Assistance Program (ADAP), King County Noxious Weeds Healthy Lands Program (HeLP), Current Use Taxation (CUT), and King County's Integrated Drainage Program (still in development), could be a mechanism for outreach around voluntary streamside vegetation plantings. Tools for program staff use should be developed as a part of the Outreach Plan (Recommendation 2).

Non-Traditional Incentives:

The ideas below may result in enhanced coordination among programs, and may increase landowner participation in voluntary streamside vegetation plantings.

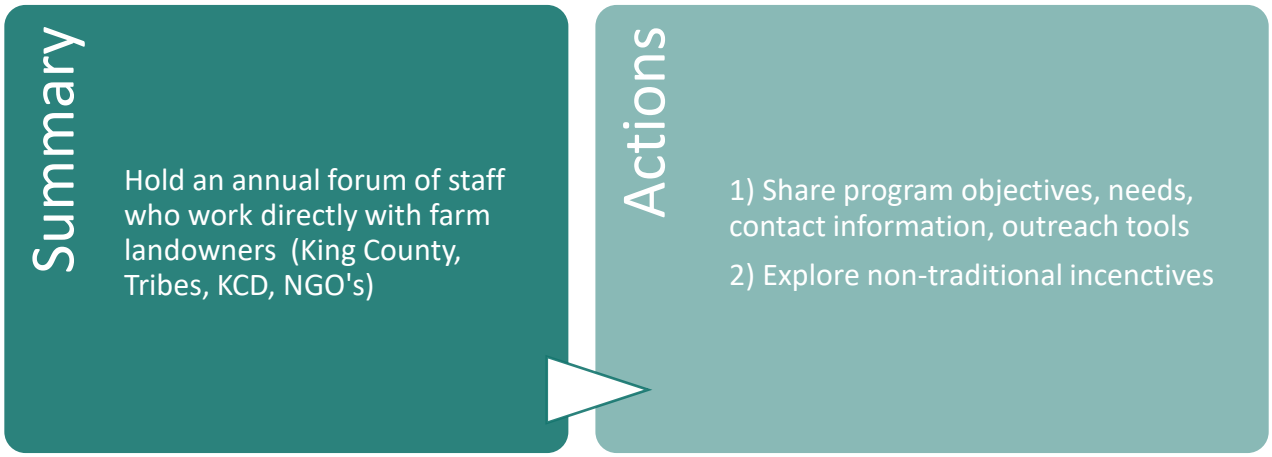
- Explore formalizing an Advance Mitigation program. In some cases, a landowner is reluctant to do a voluntary planting because they may need the land for mitigation of a permitted action in the future. An Advance Mitigation Program would be a formal way for King County Department of Local Services-Permitting Division to track voluntary plantings towards future potential mitigation. (This idea was raised in FFF 1.0).
- Agricultural advocacy organizations in the Snoqualmie Valley are interested in increasing off-channel water storage for flood hazard reduction. However, in some cases that would require removing a large enough area of trees that a permit and associated mitigation would be required. Establishing a way for voluntary streamside vegetation plantings to serve as part of the off-channel storage mitigation could encourage landowner participation in voluntary streamside vegetation plantings.
- Explore developing a program in which landowners receive payments for plantings through carbon credits. This work would need to consider the fact that existing programs are not currently compatible with the relatively small size of streamside vegetation plantings, and consider creative approaches like grouping planting projects, adapting programs, or establishing a new one.
- Explore the concept of contributing a portion of the funds raised for every voluntary streamside vegetation planting project to a funding pool for ADAP projects to increase drainage maintenance program capacity.

- Identify and communicate indirect impacts to farmland owners from establishment of streamside vegetation, such as flood attenuation, floodwater recession, and flood debris capture. Where relevant, use the 2-D modeling (action item underway from FFF 1.0) to inform this.

Tactics and Near-Term Actions

- Hold an annual forum of County, Tribes, KCD, and NGO program staff who work directly with farm landowners to share program objectives, needs, contact information, and outreach tools.
- Explore non-traditional incentives as opportunities arise and share information at the annual forum.

Summary of Actions at a Glance



Conclusion

The Buffer Implementation Task Force convened to identify ways to strategically accelerate riparian plantings to benefit salmon recovery in the Snoqualmie Valley APD. With over 900 acres of currently farmed land identified as priorities for riparian planting, successfully reaching planting goals hinges on building relationships with agricultural landowners, understanding their motivations, and moderating or mitigating impacts to agricultural lands. This report lays out a suite of actions intended to provide the tools needed to accelerate the rate of streamside vegetation plantings in the Snoqualmie Valley APD.

Task Force Members and planting partners identified many immediate benefits to increasing coordination among restoration efforts (Recommendation 1). And there was support for launching a CBSM research project (Recommendation 2) to lay the foundation of a cohesive riparian program including a Snoqualmie-tailored incentive approach. To leverage this momentum, staff of the Snoqualmie Watershed Forum has begun calling together partners to act on these ideas. The Forum allocated funding to implement CBSM research beginning in Q4 2023, are identifying opportunities for creating a centralized data and coordination dashboard, and are moving baseline data assessment along. Forum staff have been holding conversations with planting partners to apply for funding that may provide resources to staff the Coordinating Entity as well as initial project implementation.

All Task Force members recognized that time is of the essence to make meaningful change towards improving salmon habitat. The thoughtful discussion of the Task Force demonstrated a shared interest in seeing coordinated, lasting progress on habitat restoration in a way that engages agricultural land managers as partners in the solution.

Appendix A

Buffer Implementation Task Force Planting Guidance Working Group Summary

Executive Summary

Through King County's Fish, Farm, Flood Project (FFF), fish, agriculture, and flood interests agreed that vegetated buffers along County watercourses are necessary to improve survival of salmon. Subsequent to this agreement, FFF formed the Buffer Implementation Task Force (BITF) to develop a plan to speed buffer implementation. The BITF formed a Working Group to develop best practices recommendations for several specific buffer scenarios. The efforts of that group evolved, however, into a more comprehensive recommendation. The Working Group recognized three key factors related to buffers: the need to establish them rapidly to improve salmon habitat; the opportunity to benefit from collaboration to improve buffer design and implementation; and the foundational existence of a group of practitioners deeply committed to establishing high-functioning, enduring buffers. These factors led to the Working Group's recommendation to establish a forum, meeting at least annually, to accelerate the implementation of effective buffers. This forum would focus on topics such as: collaboration to advance best practices for site preparation, establishment, and maintenance; improved outreach methods for recruiting landowners; coordination of projects to allow efficient use of trained crews across agencies; timely forecasting of planting stock needs; inclusion of research opportunities into current buffer projects; and coordination of feedback to sources of funding to ensure that funders' requirements are aligned with the life cycle needs of high functioning buffers. King County will need to take a lead role in initiating the forum and ensuring adequate funding for its activities from various sources.

Background

In late 2013, King County Executive Dow Constantine assembled representatives from the Snoqualmie Valley to explore the issues that were creating obstacles and conflict between salmon recovery, flood protection, and productive agriculture in the Snoqualmie Valley Agriculture Production District (SVAPD). Through this process, known as Fish, Farm, Flood (FFF), participants unanimously agreed to a set of more than 30 recommendations. One of those recommendations was to establish the Buffer Task Force (BTF) to negotiate maximum buffer widths intended to balance the needs of fish with the preservation of agricultural land in the SVAPD.

In 2023 the Buffer *Implementation* Task Force (BITF) was formed with the goal of facilitating and accelerating the establishment of the agreed-upon buffer widths. The BITF formed a working group (the "Working Group") comprised of twelve individuals (see list at end of document). Six are practitioners whose careers involve the planning, establishment, and maintenance of vegetated buffers. Two represented agricultural interests. One represented the University of Washington, one King County, one participated from NOAA Restoration Center, and one acted as facilitator. The six practitioners represented various salmon-focused groups including tribes, the County, and an environmental stewardship organization.

Objectives

The Planting Guidance Working Group's initial objective was to develop recommendations for improved buffer composition and establishment for defined situations, such as the establishment of a buffer that minimizes shade on adjacent land or the establishment of a buffer in an area with severe competition from invasive knotweed.

Assumptions

The overriding assumption was that the rapid establishment of streamside buffers is a critical element in improving the outlook for Pacific Northwest salmon and other species. Therefore, the buffers agreed to by the FFF Buffer Task Force must be implemented quickly and implemented well.

Challenges to quick, effective implementation include:

- **Lack of monitoring**. While several agencies have experience establishing buffers, a focus on "acres treated" has meant that there are few resources to document what was done at a particular site and to monitor the effectiveness of those actions.
- **Lack of research**. Compared to forest management and agricultural practices, there is little research into the establishment and maintenance of vegetated buffers along watercourses. Some research has studied the effect of buffer widths on buffer performance, but little research was found investigating topics such as optimizing mixed plant communities, site preparation, maintenance, or planned plant succession and the physical structure of buffers (e.g., stand dynamics). As a result, current actions are driven by habit or tradition and are not necessarily as effective as they might be.
- **Lack of opportunities for collaboration and information sharing between the practitioners.** This information sharing includes methods, practices, and assessments of effectiveness. Without this sharing, we fail to benefit from the collaborative creativity and problem solving that will drive rapid improvements in practices. Furthermore, without collaboration it is difficult to standardize buffer establishment techniques among agencies.

Findings

Over the course of three meetings, the Working Group identified several barriers to rapid, effective establishment of vegetated buffers. These include:

- **Challenges in finding experienced crews.** Planting vegetative buffers is different than planting trees after a timber harvest. The competition is different, the planting stock is largely different, and the objectives are different. Crews specifically trained for buffer planting are not common. Coordination between buffer planting entities can help keep well trained crews busy and available.
- **Challenges in finding adequate planting stock.** Proper planting stock is often one to three years old. Coordinated forecasts of future demand will help ensure adequate stock at planting time.
- **Beaver management.** Vegetated buffers provide excellent habitat for beavers. Increased beaver populations will accompany increased buffer plantings. Beaver activity can cause significant flooding and drainage problems. However, beavers also contribute to a healthy wetland ecology. Therefore, in this report, "beaver management" means a thoughtful combination of removal of beavers and beaver dams in certain instances and allowing the presence of beavers (while possibly limiting the extent of their local impact) in others.

- **Regulatory challenges.** For example, the County's Farmland Preservation Program (FPP) limits the planting of effective buffers on parcels encumbered with an FPP deed. Also, Washington Department of Fish & Wildlife's regulations regarding managing beavers and their structures discourage landowners from participating due to concerns over the difficulties in dealing with the inevitable increase in beaver activity. Alternatives that reduce the regulatory burden can provide a net gain to fish and other species.
- **A disconnect between the requirements imposed by sources of buffer funding and the requirements of effectively establishing a successful buffer.** For example, a funding source may require that planting be accomplished within one year, whereas the existing competition on the site might mean that a two-year site preparation regimen would be more effective. Similarly, funding sources might limit spending on the site to a three- to five-year window even though a high-functioning, enduring buffer might require treatment of competitive vegetation and/or thinning well beyond that timeframe.
- **No outreach program for reaching and developing willing landowners.** Buffer practitioners individually use a variety of methods to reach out to landowners willing to have buffers on their land. The success of these outreach efforts is varied; some have enjoyed greater success than others. Collaboration in effective techniques, creative exploration of new ideas, and a deliberate focus on an outreach program would improve landowner acceptance. For example, how might a buffer be modified to improve its appeal to a landowner? Aesthetics? Privacy? Harvestable elements? Benefits to species such as birds, amphibians, pollinators, deer, etc.? After all, a functional buffer "tweaked" to provide greater appeal to a landowner is incomparably better than no buffer at all.
- **No game plan for including research opportunities within current buffer projects.** To continuously improve and to provide a critical foundation of information for future research, documentation and research opportunities need to be incorporated into current plantings.

Recommendations

Rather than developing best practices recommendations for a few specific buffer scenarios, the Working Group opted to recommend a much broader and sustainable solution: a formalized forum to address the best practices question along with addressing the other challenges identified.

Specifically, the Working Group's recommendation is to establish a forum to meet periodically (at least annually) to collaborate, plan, and share ideas in the interest of improving our success establishing high-functioning, enduring buffers.

This forum will be made up of practitioners and others directly involved in the planning, establishment, and maintenance of streamside buffers. The activities of this forum will provide:

1. An opportunity to share experiences and ideas to facilitate continuous improvement in buffer establishment and maintenance.
2. A shared voice to influence funders and regulators more effectively in order to improve successful and economically efficient establishment and maintenance of buffers. Challenges that will be addressed by this shared voice include:
    a. Beaver management (regulatory changes and management strategies that, by reducing human/beaver conflict, will result in more buffers and improved habitat).
    b. Farmland Preservation Program impacts (that may otherwise limit buffer planting).

    c. Extended site preparation times allowed by funders. (Current timing requirements by funding sources are inconsistent with buffer establishment best practices.)
    d. Adequate funding for maintenance over an extended period. (Current timing requirements by funding sources do not support maintenance to ensure the long-term buffer effectiveness.)
3. A forum to agree on the need for ongoing research into buffer efficacy and a framework to provide adequate documentation to facilitate future research.
4. A forum to collaboratively engage with entities interested in research into effective buffer establishment and maintenance. (e.g., University of Washington, Oregon State University, and NOAA).
5. A forum to address limitations in crew availability for site preparation, planting, and maintenance activities. For example, consider:
    a. It would be more effective for a crew to rotate among agencies than for each agency to hire, equip, and train their own crew.
    b. By using consistent establishment/maintenance methods across agencies, crews will require less unique training, less direction, and less supervision.
    c. By providing training and consistent work for qualified invasives management and planting contractors, establishment of a "riparian enhancement economy" would be encouraged, resulting in increased operational capacity.
6. A forum to provide timely and accurate forecasts of demand for planting stock so sources can produce adequate supplies.
7. A forum to collaborate on outreach strategies to engage landowners and funding sources more effectively.
8. A forum to collaborate with buffer establishment groups in Skagit County and elsewhere.

Implementation

Good ideas are easier to come up with than to implement. So possibly the most important step in achieving the objectives outlined in this report is the initial organization of the forum. Among the participating buffer practitioners, there is an abundance of skill, capability, and commitment, but not an abundance of free time. Furthermore, at present the buffer establishment community is only loosely affiliated—there is no formal mechanism for coordination. Therefore, it is critical that the County takes the initial leadership role in organizing and implementing the forum. Once up and running, the forum may choose its own leadership going forward.

The County will also need to take the initial role to ensure funding is provided for the forum's activities. Sources of funds will need to be determined, but may include the County, federal funds, salmon enhancement groups, tribes, and any other entity that stands to benefit directly from the forum's work.

Conclusion

Three important factors intersect to inform the recommendations from the BITF Working Group:

1. **A need for speed**—rapid and effective establishment of buffers is critical to the future of salmon and other species.
2. **A big upside in our learning opportunity**—we are relatively early in our understanding of how to establish and maintain vegetated buffers.

3. **A passionate team**—we have the great good luck of having buffer practitioners and others (such as researchers and administrative staff) that are individually and personally deeply committed to advancing our ability to establish enduring, high-functioning vegetated buffers quickly and efficiently. Passion and commitment, when supported, can lead to great outcomes in the rapid evolution of best practices.

The recommended forum of practitioners will meet periodically (at least annually) to plan, problem solve, and share ideas. They will effectively accelerate buffer establishment, continuously improve best practices, and provide a foundation for current and future research related to buffer performance. The County must provide the initial leadership role to get the forum up and running and must ensure that funding exists to support the forum's activities.

This report represents the contributions of the entire Planting Guidance Working Group, listed below.

Submitted by Wayne Gullstad

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Planting Guidance Working Group:

Breanna Finch – Habitat Program Manager, Sound Salmon Solutions

Jayde Essex – Project Coordinator, Sound Salmon Solutions

Brett Shattuck – Restoration, Acquisition and Stewardship Senior Scientist, Tulalip Tribes

Chris LaPointe – Director of Ecological Restoration, Stewardship Partners

Zachary Bergen – Riparian Habitat Conservation Reserve Enhancement Program Coordinator, King Conservation District

Ryan Lewis – Restoration Program Manager, Snoqualmie Tribe

Lauren Silver – Executive Director, Snoqualmie Valley Preservation Alliance

Jon Bakker – Professor, UW School of Environmental and Forest Sciences

Paul Cereghino – Restoration Ecologist, participating from NOAA Restoration Center

Melissa Borsting – BITF Program Manager, King County, Department of Natural Resources and Parks

Tamie Kellogg – Kellogg Consulting, Facilitator

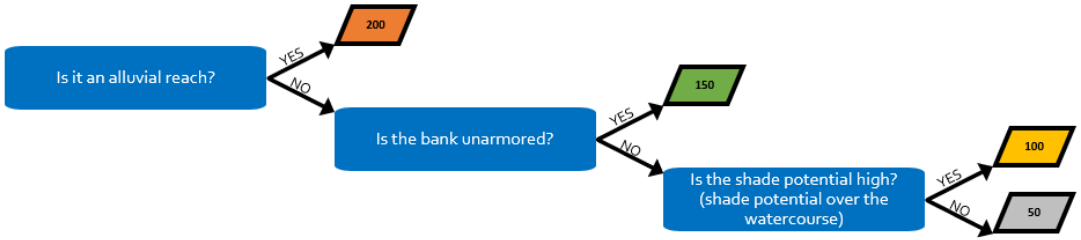
Wayne Gullstad – Snoqualmie Valley Farmer, Working Group Lead

Appendix B

Buffer Task Force (BTF) Variable Width Recommendations by Watercourse Type

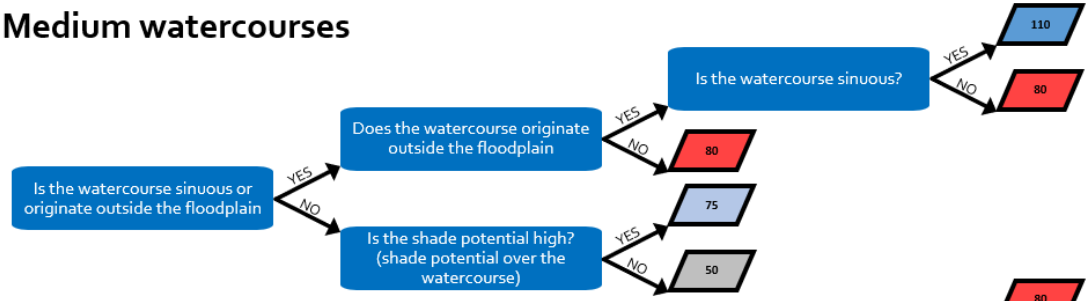
Numbers represent streamside vegetation planting width in feet.

Snoqualmie mainstem

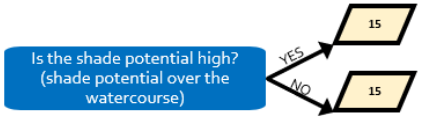


Larger watercourses

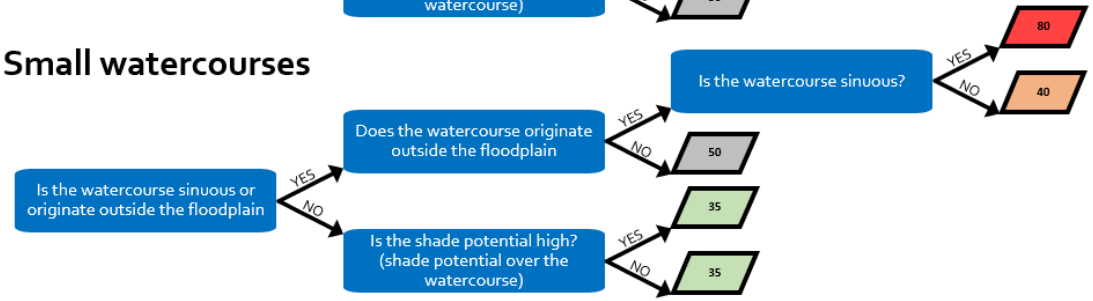
Medium watercourses



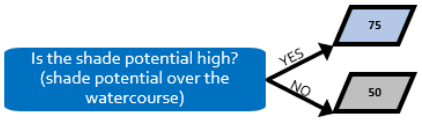
Artificial watercourses



Small watercourses



Oxbows



FFF List of 42 Status for IOC Review Last revised: 12-01-2023

Lead	Action No.	FFF 2.0 Collective Actions	Target Completion Date	Linked Recommendations Appdx 22; Appdx iii	Responsible Entity	Status O= ongoing, U=underway, C=Completed, NS =Not Started	Progress Notes (Prior notes in light gray -- latest status in black with date of entry)	Next Step
Eric Beach	TF-1	Regulatory Task Force: develop and implement task force scope	**2020**	**Farm 2 2; 22**	**DNRP AFI**	✓	4-14-22 Work completed by RTF December of 2020. Letter sent to Executive requesting support for work items left to be completed. DLS-Permitting signed memo of concurrence that supported code interpretations highlighted by the RTF. Remaining items slated to be completed by workgroups as funding and resources are available. **6/1/23--In 2022, completed pilot project (Griffin Creek) to demonstrate integrated drainage and pathway through regulations KC WLR is scoping additional pilot projects in collaboration with our community partners (KCD and SVWID). Currently we have DD 1 Pump, Cherry Creek Alluvial Fan avulsion repair and are scoping a flood gate and flap gate/daylighting project as follow up projects to further explore permitting pathways .**	**No Further Action Required**
Melissa Borsting	TF-2	Riparian Buffers Task Force: develop and implement task force scope	**2019**	**Fish 6 1; 20**	**DNRP RRS**	**U**	4-14-22 Buffer Task Force created maximum variable width recommendations for voluntary plantings for Snoqualmie Valley ADP and sent to IOC for approval December 2019. IOC sent recommendations to County Executive 2020. Funding has been established and facilitator hired to move forward on Buffer Implementation Task Force (minimums and incentives); County needs internal Project Manager to move this forward. **6/1/23 -- Buffer Implementation Task Force met six times between Jan-June 2023. Final report estimated complete in October 2023. Will provide many recommendations that need resources to move forward (staff and funding) 11/20/23 Final 2 Task force meetings in June; report writing including Task Force edits by Oct 2023.**	**Final report to be considered by IOC at December 15th meeting. If complete - co-chairs draft transmittal letter to KC Executive. If not - finalize at January 31, 2024 meeting. **Some items from TF report may be action items for IOC to track ongoing****
Patrice Barrentine		Land Resources Strategic Plan Task Force: develop and implement task force scope	**2020**	**Farm 4 1**	**DNRP AFI**	✓	4-14-22 Agriculture Strategic Task Force set to be completed in 2023. This work will highlight key items and actions that will improve the viability of the Snoqualmie Valley Agriculture sector. **6/1/23-- The *Snoqualmie Valley Agricultural Strategic Plan--Public Review Draft* was published for public review from May 4-June 5, 2023. The Plan included 17 issue papers and 283 strategies. The four week circulation included a dedicated webpage, social media campaign, and two public meetings to review and get input. Will be adopted by 4 Task Force organizations . 11/30/23 Curre nt Plan to be shared with IOC for consideration. Targeting adoption by 4 participating organization in Q1 2024** .	**Some items may become action items for ongoing IOC tracking. In particular the acreage recommendation will need consideration. Additional paper on aquatic issues is being developed for future discussion with IOC.**
Richard Martin/ Patrice Barrentine	1	Farm safety: community outreach; gain more flexibility applying current zero-rise standards	ongoing	Farm 3 3:5	DNRP AFI	**O**	AFI is working with RFMS and DLS Permitting to understand the available options in light of the findings from the FEMA audit: This is also part of the Ag Strategic Plan and public process. 2D modeling could be the tool to help understand the situation and FCD and King County Floodplain Management Plan (pending) may provide a vehicle for identifying most effective next steps. **6/1/23-- Ag Strat Plan Public Review Draft Completed. Final Plan to be completed in late summer/early fall 2023. 2D modeling also set to be completed in 2023.**	**Touch base with Flood Hazard Management Plan lead to ensure Ag Strat Plan recommendations are given consideration**

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Lou Beck/ Eric Beach	2	Improve drainage opportunities: allocate sufficient funding for drainage services	ongoing	Farm 2 3; 23	DNRP WLRD SWS	**U**	Work in progress. The investment in ADAP has remained strong since the beginning of FFF. Additional funding has been added for FFF and drainage related work including progress on IDP projects. The Ag. Strategic Plan will support and recommend funding for these actions as well. **6/23 Budget proposal for IDP being developed to support funding in 24/25 biennium.**	**As part of WLR 2025 budget process, develop budget proposal with input from SVWID and KCD, and in consideration of Ag Strat Plan recommendations.**
Michael Murphy/ Megan Webb/ Eric Beach	3	Watershed mitigation: establish on-site and "out of time" agriculture "mitigation bank" program for voluntary projects	2019	Farm 5 1;24	DNRP RRS	**NS/O**	This topic was introduced the Regulatory Task Force. AFI staff (Eric Beach) with support from Stormwater Services (Lou Beck/Brian Sleight) are the current staff exploring the concept on an ad hoc basis. The topic may also come up as part of the Buffers Task Force Implementation Committee. **6/23 This effort has not been a priority-- staff and community partners are engaged on other aspects of FFF actions. However new CAO BAS may incentivize renewed effort on this topic. 11/30/23 Mitigation program staff have begun to discuss, but have not been able to pursue in a concerted way.**	**Track CAO/BAS to determine if accelerated effort is needed to establish mitigation banks. Meeting with relevant parties to clarify the problem statement, i.e. mitigation experts need to better understand the barriers/problems that exist today, regulators involved, and what outcomes a programmatic solution might lead to.**
Richard Martin/ Patrice Barrentine	4	Farmland preservation: complete agricultural land use inventory every 3-5 years	ongoing	Farm 4 2	DNRP AFI	**O**	Completed 2017 survey; data analyses underway; recommendations will be included in Ag. Strategic Plan **6/1/23 Ag Strat Plan updated much of this baseline information and is completed for this five year cycle. 11/30/23 no recent activity**	**Develop proposal for update of county-wide agricultural land use inventory and identify potential sources of funding. Secure funding for 2028 inventory; explore opportunities to gather/assess ag land use data county-wide via a more cost-effective process (e.g., rely on WSDA inventory data)**
Joan Lee	5	Farmland preservation: establish an ongoing accountability system to track overall FFF progress	ongoing	Farm 4 5	DNRP AFI	**O**	Applies across all focal areas; Have tried tracking through various forms - Easy Project, milestones and metrics, the list of 42. Continue to refine best way to share out updates and progress. **6/1/23 Ag Strat Plan captures this recommendation as a strategy. New GIS technology makes this easier to do and the year plus spent on overlaying the BTF and ATF map layers serve as a ready foundation for GIS work every 3-5 years to measure progress and losses to keep the Fs in balance. Funding likely needed.**	**1) IOC corroborate progress on measures of success developed by each caucus 2) Staff prepare an analysis of tracking systems for IOC for discussion and recommendation (pending prioritization by IOC relative to other actions, and staff capacity at WLR)**
Lou Beck	6	Improve drainage opportunities: drainage recovery plan (drainage technical needs assessment)	2020	Farm 2 1	SVWID and ADAP	**O**	WID Drainage Network Analysis and Improvement Plan completed; priority basins identified. WID currently (2021) working on Sub-basin Conservation and Drainage Plans working through priority basins. **6/23 No change**	**Explore opportunities to link with IDP**

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Lou Beck/ Eric Beach	7	Improve drainage opportunities: evaluate effectiveness of alternative floodgates/pumps on modified waterways	2020	Farm 2 1	DNRP SWS	✓+ O	**6/23 A pre-application meeting is scheduled for Basin 1 pump project. Tuck Creek floodgate project needs to be scoped in cooperation with WLRD fish passage effort. 11/30/23 project evaluation and scoping in the context of expanded drainage services SWS (Beck) is currently (2020) evaluating the effectiveness of these types of drainage structures.**	**Complete pre-app process for Basin 1 pump project and submit permit applications by September 2023; eta for permits--1st Qtr 2024; goal for construction - summer 2024. Continue Tuck Creek project coordination. Initiate analysis of gated agricultural basins to support IDP project identification leveraging the soon-to-be completed 2-D Snoqualmie River model.**
Lou Beck/ Eric Beach	8	Improve drainage opportunities: complete one new tile project	2020	Farm 2 1	DNRP SWS	✓	Part of the IDP. The WID has been the identified lead for tile replacement in the Snoqualmie Valley APD. KC IDP likely to provide assistance**.6/23 KCD is lead on tile maintenance projects for the 23 field season.**	**No Further KC/WLRD Action Required**
Lauren Silver	9	Large cap projects: launch landowner flood monitoring system	2019	Farm 6 5; 10	SVPA	✓+ O	SVPA expanding network of flood recorders; most of the work now is software back end and QA/QC for installs; seeking funding for 2018 and 2019; FCD funding received for full project deployment; initial releases available in 2018-19 flood season with more robust system released in 2019-20. SVPA has led this effort with their work with Floodzilla and it continues to grow and increase collaboration with King County Rivers and Floodplain Management Group. **6/23 SVPA has been enhancing it's Floodzilla Gage Network by placing gages where there are significant gaps as well as in strategic areas identified by the public as needing flooding data. SVPA is currently working on updating surveying to maintain gage accuracy, enhancing backend algorithms for flagging erroneous data, adding inundation maps to the site, and creating a mobile application for IOS and Android that will improve the user experience and include translation features in Hmong and Spanish.**	**Continue work underway--Highest priority monitoring gages in place; additional gages added as priorities and funding identified**
Jon Hansen	10	Large cap projects: coordinate listening sessions and site visits for all potentially affected landowners	ongoing	Farm 6 1; 11	DNRP RRS	U	This is currently happening with the Fall City Restoration Project. King County is working on making listening sessions part of the Capital Project Manual **6/23 Frew Project is actively doing outreach to city and adjacent property owners (primarily Parks). Will raise again as part of next manual update or as it is updated. Looking at potential additional support for manual updates, consistent application across the division and trainings.**	**Will be considered as part of internal standardization efforts including manual updates and community engagement efforts that may arise out of Division-wide CIP integration underway will also coordinate with Flood Hazard Management Plan Update**
Richard Martin/ Patrice Barrentine	11	Farm safety: enhance inter-agency floodplain management communication/coordination	ongoing	Farm 3 5; 16	DNRP	NS	Communications between FFF Flood Caucus members and KC Roads, and RFMS have increased. FCD status with relation to FFF has remained unchanged. A letter requesting FCD participation is in process. **6/23 Another FFF request for FCD participation request was sent to the Executive. With the conclusion of the Ag Strat Plan in 2023 and the Flood Hazard Management Plan in 2024, there is new opportunity to highlight FFF flood strategies to FCD leadership.**	**Touch base with Flood Hazard Management Plan lead to ensure Ag Strat Plan recommendations are given consideration**

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Richard Martin/ Patrice Barrentine /Ted	12	Farmland preservation: use modeling tools (e.g., EMDS) to prioritize farm protection options	2020	Farm 4 3; 31	DNRP RRS	✓	Completed initial EMDS model; "farmability" needs refinement such as working with WSU soils scientist; Completion of the Agricultural Strategic Plan currently underway is the next step toward analyzing total acreage needed to preserve a thriving agricultural land base in the Valley and engaging in comparative analyses of land uses. **6/1/23 Ag Strat Plan prioritizes farmable land based on an in-depth GIS analysis. Ag Strat Plan has identified farmed and farmable properties, but does not prioritize parcels; FPP is focused on larger farms with greatest agricultural potential. 11/20/23 Ag Strat plan completed.** Note: Ag Strat Plan does not prioritize identified farmed and farmable properties; FPP is focused on larger farms with greatest agricultural potential.	**Next steps: determine if any recommendations should be added to and prioritized in the "List of 42"**
Janne Kaje	13	Demonstrable progress on 2-3 large capital projects inside APDs: increase staff capacity and capital funding	2020	Fish 1 1; 17	DNRP RRS	✓	4-14-22 Two projects were combined: Construction of the Snoqualmie River Fall City Restoration Project is under way (combined Haffner and Barfuse projects). A new 1/2 time Steward was added in the Snoqualmie - working primarily above the falls which allows for focused full time Steward in the Valley; the steward is also specializing in Green Stormwater Infrastructure which has been identified as an additional issue in the Valley from upland runoff. The Capital Projects team increased staff with one fulltime Environmental Scientist, one temporary Env Scientist and two temporary Engineers. Capital funding has been sustained with SWM funds and increased through grant funding: the Fall City Restoration project achieved full funding through number 1 rankings in two major state grant programs. Grant funding included $250k for priority drainage work**—6/6/23 The SVWID is moving forward with the Basin 1 Pump Project with drainage funding ($250k) provided under the Floodplains by Design grant for the habitat restoration project.. Thurl ADAP team is sponsoring the project through the county's ART process for permit reviews to obtain KC permits. Pre-application scheduled for late June 11/30/23 Fall City Floodplain Restoration Project completed in Fall 2023 with a total project footprint of 145 acres. Planting work will continue, and adaptive management. Reconnaissance study underway for former Beyers Farm project inside APD.**	Continue to plant floodplain along both banks. Work with AFI, RFMS, DLS and community to develop plans for the "high and dry" acreage along SR202 in Fall City. Interpretive activities, Ag supportive uses, community asset, etc.
Lou Beck	14	Restore funding for a fish biologist to assist ADAP	ongoing	Fish 5 1 Farm 2 1	DNRP WLR DO	O	A water quality specialist from KC Science and Technical Section has been appointed to help ADAP. This position ensures turbidity standards are met and fish are being relocated to appropriate spots. **6/23 (LB) The staff person providing this service left the position; funding is available to continue paying for loan-in assistance. 11/30/23 funding for FTE not yet available though services have been provided**	6/23 Develop a work plan within WLR to identify and increase biologist availability/support to ADAP projects. **12/23 Explore possibility of staff biologist to support proposed IDP program alongside ADAP work.**
Chase Barton/ Chris Ewing	15	Prioritize created flood storage from river projects for agriculture use	2020	Flood 5 1; 7	DNRP	NS	Have not started. As the 2D model develops, it could be a tool to help answer this question. Of note, the FCHR Project appears to be reducing flood elevations on about 300 acres adjacent/east of the project. **6/23 /see Farm 6.4 ; 14**	**Discuss with Flood Hazard Management Plan Update lead -and potential for including plan**

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Erin Ericson/ Eric Beach/ Josh Kubo	16	Water storage and flood retention strategies: conduct water storage literature review	2020	Farm 1 1; 1	SVWID	**O**	Have not started; this effort could potentially be a part of the FCD and King County floodplain management plan update **6/23 SVPA and WID are engaged with a cross-section of UW students to scope this from a global perspective. 11/23 WLRD Role** to date has been advising on approaches to resolve legacy issues with particular storage facilities	**Students will begin literature review when initial scoping completed (est. late 2023 to early 2024)**
Erin Ericson/ Eric Beach/ Josh Kubo	17	Water storage and flood retention strategies: conduct enhanced water storage feasibility study	2020	Farm 1 2; 1	SVWID	**U**	From spring of 2018 "have not started; [WID has] RFP out to bid; responses expected by Aug 1 for small scale storage exploration; analysis of DoE support work on micro-storage (< 10 acre feet) underway; project for larger storage proposed." WID has been working on grant proposals to explored storage in the Snoqualmie Watershed. **6/23 in January 2022, SVWID published a study of potential water storage sites in the upper Snoqualmie Valley watershed https://svwid.com/wp-content/uploads/2022/09/Snoqualmie-Watershed-Comprehensive-Storage-Study-Report_FINAL.pdf**	**Next steps pending outcome of work with UW students (Farm 1.1; 1)**
Richard Martin/ Patrice Barrentine	18	Farm safety: ensure all farms have an opportunity to construct farm pads/platforms	2020	Farm 3 1; 3	DNRP	**O**	Ag. Strat Plan will get to the infrastructure needs but will not achieve a farm pad for every farm due to FEMA findings. However, the goal remains finding high-ground options for all farms to protect livestock and equipment. AFI will work with RFMS and DLS Permitting to understand available options. 2D modeling may provide additional insights into optimal locations for farm pad construction to minimize regulatory constraints and impacts to flood flows. **6/1/23-- Ag Strat Plan Public Review Draft Completed. AFI has worked with RFMS and DLS Permitting to understand available options captured in the Plan. Final Plan completed in late summer/early fall 2023. 2D modeling also set to be completed in early 2024.**	**Touch base with Flood Hazard Management Plan lead to ensure Ag Strat Plan recommendations are given consideration**
Jon Hansen	19	Large cap projects: clarify process for compensating landowners for project-related losses (including 3rd party evaluator)	2020	Farm 6 3; 13	DNRP AFI	**O**	currently case-by-case; process has not been fully developed or documented (*Joan Lee working with Jon Hansen to get this documented)* ; however a good neighbor philosophy is consistently applied. Case by case but standards do not allow offsite impacts without ownership/easement. We are addressing other issues as they arise to remedy **6/23 early work is underway to lay out good neighbor policy for internal WLR adoption/consistency; expect to complete by October 2023; will coordinate with Flood Hazard Management Plan Update. 11/20/23 No change in status**	**Complete memo and get approved at division level; coordinate with Flood Hazard Management Plan update**
Chris Ewing	20	Farm safety: model potential flood impacts of large scale tree plantings and incorporate results into work of RTF and BTF	2020	Farm 3 4; 15	DNRP AFI	**U**	KC funded an analysis of the current state of the science in computer modeling related to vegetation and identifying the challenges of addressing this question with current technology.**6/23 and 11/30/23 2D modeling also set to be completed in late 2023 or early 2024. Potential impacts of vegetation will be considered in the design of the alternative developed for analysis.**	**Touch base with Flood Hazard Management Plan lead to ensure Ag Strat Plan recommendations are given consideration**

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Lou Beck/ Eric Beach	21	Improve drainage opportunities: expand and simplify ADAP ("ADAP 2.0")	2020	Farm 2 1; 21	DNRP SWS	**O**	Regulatory Task Force work item; scoping issue with SWS; this is part of the larger Integrated Drainage Process work program. Working with DLS in order to understand permitting and code constraints. **6/23 Continue to work with DLS (Ag permit team, sub group of Ecologists/planners, ART) to develop common understanding of and guidance materials for permitting pathways for drainage projects. 12/23 Pilot projects are serving as specific examples to work through the details of the permit requirements. Development of an Integrated Drainage Program (IDP) was recommended in WLR's Rural Drainage Report as a way of providing expanded drainage support to projects not eligible for ADAP.**	**Develop budget proposal to further Integrated Drainage Project Concepts, as part of WLR 2025 budget process.**
Michael Murphy/ Megan Webb/ Eric Beach	22	Watershed mitigation: establish off-site agriculture mitigation program	2019	Farm 5 2; 25	DNRP RRS	**NS/O**	The Regulatory Task Force received an initial overview on KC mitigation programs and has determined that next steps should be done by a focused ad hoc group that includes subject matter expertise. Grant was applied for this work but not awarded - continue to search for funding to support staff time and technical experts to work on this effort. **6/23 This effort has not been a priority-- staff and community partners are engaged on other aspects of FFF actions. However new CAO BAS may incentivize renewed effort on this topic. 11/30/23 Mitigation program staff have begun to discuss, but have not been able to pursue in a concerted way.**	**Track CAO/BAS to determine if accelerated effort is needed to establish mitigation banks. Meeting with relevant parties to clarify the problem statement, i.e. mitigation experts need to better understand the barriers/problems that exist today, regulators involved, and what outcomes a programmatic solution might lead to.**
Michael Murphy/ Megan Webb/ Eric Beach	23	Watershed mitigation: develop partnerships to fund mitigation projects	2020	Farm 5 3; 26	DNRP RRS	**NS/O**	The Regulatory Task Force received an initial overview on KC mitigation programs and has determined that next steps should be done by a focused ad hoc group that includes subject matter expertise. Grant was applied for this work but not awarded - continue to search for funding to support staff time and technical experts to work on this effort. **6/23 This effort has not been a priority-- staff and community partners are engaged on other aspects of FFF actions. However new CAO BAS may incentivize renewed effort on this topic.**	**Track CAO/BAS to determine if accelerated effort is needed to establish mitigation banks. Meeting with relevant parties to clarify the problem statement, i.e. mitigation experts need to better understand the barriers/problems that exist today, regulators involved, and what outcomes a programmatic solution might lead to.**
Richard Martin/ Patrice Barrentine	24	Farmland preservation: conduct cost/benefit analysis of bank stabilization techniques	2020	Farm 4 3; 30	DNRP	**NS**	This action is site specific to a project. A large scale analysis of each technique has not started; dependent on funding **6/1/23 Ag Strat Plan captures this recommendation as a strategy. Funding needed.**	**Touch base with Flood Hazard Management Plan lead to ensure Ag Strat Plan recommendations are given consideration**

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Eric Beach/ Lou Beck	25	Improve drainage opportunities: design, permitting and implementation of alluvial fan pilot projects	2019	Farm 2 1	DNRP SWS	✓+ U	SWS/AFI is working on this and continues to pursue this work. Alluvial Fan report was transmitted to KC Council in summer of 2020 with recommendations. No further action on the reports has occurred in the interim. See No. 12 above. The proposed Integrated Drainage Program is moving forward with two pilot projects on alluvial fans that will identify the permit pathways for this type of work. The two projects are on Griffin Creek and Cherry Creek - testing where solutions can be found through process improvements, resources, code clarity, or new code. **6/23 Griffin Creek project completed, Cherry Creek project, completed under an emergency action, the phase I is currently being permitted. 11/23 Initial results of these projects have informed the rural flooding proviso transmitted to council October 2023 and recommended code language updates. IDP is in program development and a proposal will be circulated to WLRD leadership in the 1st quarter 2024.**	**Develop charter and budget proposal to develop an integrated drainage program that includes alluvial fan protection and management. Provide ongoing advice to property owners on maintenance and monitoring of sites.**
Lou Beck/ Eric Beach	26	Improve drainage opportunities: complete one new dredging/culvert project on artificial/modified waterway	2020	Farm 2 1	DNRP SWS	✓	IDP Pilot Project Griffin Creek will test expanding drainage services on a modified channel. Work has been identified by AFI/SWS. **6/23 Griffin Creek Project completed (construction fall 22, riparian planting spring 23)**	**Advise property owners on any monitoring or maintenance needs over the next several years. As part of WLR 2025 budget process, develop budget proposal to further Integrated Drainage Project Concepts.**
Jon Hansen	27	Accelerate rate of restoration to one per year outside APDs: increase staff capacity and capital funding	2020	Fish 2 1; 18	DNRP RRS	U	See Fish 1 1; 17. Unfolding fish barrier replacement work may accelerate this priority; the Frew project has been reopened now that the City of Carnation and developer have reached agreement so that the Frew project foot print could be solidified. The 2023-24 Budget process is underway to seek funding for this work. **6/23 Council, acting on the Executive's recommendation, added 5 FTEs to replace current temporary staff support for Habitat CIP. The shift from temporary to regular full time positions stabilized the design team and lessened the potential for design disruptions due to staff departures (temporary staff looking for regular positions) but is unlikely to produce noticeable acceleration since teams work on projects throughout the county. Some regulatory improvements---allowing restoration projects to be treated differently than development projects wrt mitigation requirements---will have a similar affect of alleviating costs and in some cases reducing time; unlikely to see acceleration -- However, a stable design team and predictable regulatory requirements are likely to increase production over time. 11/30/23 Two reconnaissance studies for projects outside of APDs completed (Fish Hatchery Rd and Tolt Girl Scout Camp). One smaller capital project (Kutz, Tolt River) completed with planting remaining.**	**Complete Next Step: Fish Hatchery Rd likely to advance toward development of design alternatives in 2024-25. Girl Scout Camp likely to be implemented by RFMS in intermediate term.**
Jon Hansen	28	Accelerate rate of restoration to one per year outside APDs: revise internal KC program approval process	ongoing	Fish 2 2	DNRP RRS	U	Patterson and Frew initiated - not going to make target of one per year but progress being made. Frew will need conclusion of developer interactions with City to proceed. Staffing coming on line is expected to help accelerate project delivery. **6/23 (same as for Fish 1.1, 18) 11/20/23 See action 39**	**see Fish 1.2**

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Lou Beck/ Richard Martin/ Janne Kaje/ Eric Beach	29	Combined Waterways: combined waterways pilot project, increase funding, document impacts, adaptive management	2020	Fish 4 1,2; 34	DNRP RRS	**NS**	Need to do project identification for this type of project. Stormwater Services, Agriculture and Forestry Unit, Science and Technical Section plus members of IOC can help with project and project funding identification . **6/23/ No change in status**	**Determine level of priority relative to other work through conversations with FFF IOC/ caucuses**
Chase Barton	30	Implement an outreach process regarding topic of limited floodplain capacity and impacts of placing fill, and exploring creative solutions within existing regulatory framework. Outreach would be with farmers and non-farm residents of the valley. (Flood 5) When pursuing large levee or revetment setback projects, prioritize the use of any created flood storage capacity for agricultural uses.	ongoing	Flood 2 1; 5	DNRP	**NS**	AFI is working with RFMS and DLS Permitting to understand the available options in light of the findings from the FEMA audit: This is also part of the Ag Strategic Plan and public process. 2D modeling could be the tool to help understand the situation and FCD and King County Floodplain Management Plan (pending) may provide a vehicle for identifying most effective next steps. **6/23 no progress on outreach**	**TBD**
Eric Beach	31	Pursue a housing trust for safe, affordable farmworker housing	2022	Flood 4 1; 9	DNRP AFI	✓	Have started - lead group AFI, funding expected to be major hurdle. An AFI analysis demonstrated sufficient farmworker housing; further guidance has been created and is located on the Farm King County website: https://www.farmkingcounty.org/media/pdf/KC-Farm-Ag-Land-Use-Farmworker-Housing.pdf **6/23 no action being considered at this time**	**No Further Action Required**
Richard Martin/ Patrice Barrentine	32	Farm safety: develop a farm (flood) safety strategy	2020	Farm 3 2; 4	DNRP	**O**	This is part of the Ag Strategic Plan also linked to 2D model work as noted in Action 35. **6/1/23-- Ag Strat Plan Public Review Draft Completed. Final Plan to be completed in December 2023. 2D modeling also set to be completed in 2023.**	**Touch base with Flood Hazard Management Plan lead to ensure Ag Strat Plan recommendations are given consideration**
	33	Large cap projects: third-party evaluation of large-scale river restoration projects (mainstem Snoqualmie, Tolt, Raging)	ongoing	Farm 6 2; 12	DNRP RRS	**O**	This is now an expected task for County led/salmon projects in the Snoqualmie Valley and occurred with the Fall City Restoration Project. SVPA worked with the County's 3rd party reviewer to ask questions and understand modeling results regarding water elevation impacts of the project on surrounding areas. **6/23 County is committed for salmon-driven projects in Snoqualmie APD; may arise in Flood Hazard Management Plan update**	**Coordinate with Flood Hazard Management Plan**

Lead	Action No.	FFF 2.0 Collective Actions	Target Completion Date	Linked Recommendations Appdx 22; Appdx iii	Responsible Entity	Status O= ongoing, U=underway, C=Completed, NS =Not Started	Progress Notes (Prior notes in light gray -- latest status in black with date of entry)	Next Step
Chris Ewing	34	Large cap projects: evaluate direct and cumulative impacts of large scale river restoration projects completed since 2005	ongoing	Farm 6 4; 14	DNRP	**NS**	KC has funded an analysis of the type of analytical tools that would be needed to evaluate direct and cumulative impacts as well as other questions related to the movement of flood waters in the Valley and a 2 Dimensional, Unsteady State flow(2D) model was recommended. A FEMA Flood Hazard Mitigation Grant was awarded at the end of 2021 to build a 2-D model that could help bring understanding to cumulative impacts. **6/6/23 - A 2D model is currently being developed to analyze existing conditions . Results will be available by late 2023/early 2024. The existing conditions model uses topography and bathymetry from 2021 to 2023. It has become clear that significant challenges remain to accurately reflect historic conditions due to limited availability and compatibility of historical data. The IOC will have an opportunity in ad hoc meetings to further understand and resolve the intent of this action. At the very least a ledger will be created to capture the changes that been catalogued for each project including farm acreage impacted. 11/30 Model calibration is underway ; model is expected to be ready to run analysis in Q12024**	**Offer ad hoc sessions for those who are interested in a deeper dive into the modeling work**
Richard Martin/ Patrice Barrentine	35	Farmland preservation: inventory revetments/levees	2020	Farm 4 3; 28	DNRP	**O**	Flood Control District has inspected and evaluated their inventory as recently as summer of 2020. If the facility is not in the RFMS inventory, has not been inspected/evaluated. **6/1/23 Ag Strat Plan captures the number of KC facilities in APD and calls for assessment of privately owned revetments as well as clear permitting guidelines to repair and maintain private revetments.**	**Funding and support needed--determine if any recommendations should be added to and prioritized in the "List of 42"**
Richard Martin/ Patrice Barrentine	36	Farmland preservation: assess farmland bank erosion risk	2020	Farm 4 3; 29	DNRP	**NS**	have not started; dependent on funding	**Touch base with Flood Hazard Management Plan lead to ensure Ag Strat Plan recommendations are given consideration**
Richard Martin/ Patrice Barrentine	37	Farmland preservation: establish goals for farmland preservation and habitat restoration	2020	Farm 4 1; 32	DNRP AFI/RRS	**O**	Completion of the Agricultural Strategic Plan currently underway is the next step toward analyzing total acreage needed to preserve a thriving agricultural land base in the Valley. In addition, the Buffer Task Force (that included representatives for fish, farm, property rights, tribes) concluded that voluntary buffers totaling 1003 acres of active ag land would achieve habitat goals and minimize ag land impacts. Ag. Strategic Plan is currently working how to frame/assess number of acres for agriculture. **6/1/23-- Ag Strat Plan Public Review Draft Completed. Final Plan to be completed in December 2023. The Ag Task Force is set to deliver their acreage recommendation of 7,696 farmable acres to be permanently preserved for agriculture in the SVAPD to IOC in January. This includes expansion of the APD by 278 farmable acres, targeting eligible 3,789 farmable acres for FPP deed protections, and 8,668 farmable acres for infrastructure improvements and protections, including regulatory relief to make those changes. 11/30/23 completed Ag Strat Plan**	**Task Force Plan goes before FFF IOC in Fall 2023 to affirm task force completion. Acreage recommendations will then be taken up by IOC.**

Lead	Action No.	FFF 2.0 Collective Actions	Target Completion Date	Linked Recommendations Appdx 22; Appdx iii	Responsible Entity	Status O= ongoing, U=underway, C=Completed, NS =Not Started	Progress Notes (Prior notes in light gray -- latest status in black with date of entry)	Next Step
Jennifer Vanderhoof	38	Improve drainage opportunities: beaver Management plan	2019	Farm 2 1	DNRP SCIENCE	**O**	King County established a Beaver Working Group through the WLR Science and Technical Section, AFI and SWS. It will have good neighbor policies, potential code changes in handling beavers on property and clear protocols. https://kingcounty.gov/services/environment/animals-and-plants/beavers/working-group.aspx **6/23 KC has reconvened (post-covid) Beaver Management Work Group to continue progress on effective strategies**	**Develop agenda for reconvened work group with particular focus on beaver management permitting efficiencies and clarity for property owners**
Janne Kaje	39	Demonstrable progress on 2-3 large capital projects inside APDs: revise internal project approval process	2020	Fish 1 2; 19	DNRP RRS	**U**	Fall City Floodplain Restoration project increased communication with private landowners and area residents - unclear of if process for this large capital project was faster; however DNRP has created a permitting team with DLS to provide a more efficient process for county public-interest project review and permitting. **6/6/23 To date, communication has been very smooth and collaborative between WLR Habitat and Ag teams. For example, the most-affected property (Fall City Farms) has been incredibly flexible, and the WLR CIP team has been very flexible in setting up contract specs that prevent interference with events hosted at the farm including multiple wed ding in summer 2023. Not aware of any negative issues. 11/30/23 Internal processes continue to improve/evolve, in large part through lessons in Fall City project. Many FFf principles reflected in proposed changes to internal review processes for all multi-objective processes.**	**Multi-Disciplinary Review Team recommendations developed for the Comp Plan Update conversations will be considered by DNRP/WLRD leadership as a part of larger CIP organizational work - report out will be provided by WLR at one of the next two FFF IOC meetings**
Richard Martin/ Janne Kaje	40	Conduct a low-flow assessment that addresses fish and irrigation needs	2020	Fish 3 1; 33	DNRP AFI/RRS	**NS**	same as Farm 1-3; have not started; may not have resources necessary; WID completed this with an agricultural perspective which provides estimate of current and future needs, the findings are driving WID's off-channel micro-storage investigation with DoE. So is the statement here that the WID took this on or did a portion of the work this agreement asked for? **6/6/23 No progress**	**Would benefit from discussion at IOC regarding priority and potential approaches**
Chase Barton	42	Pilot Project Infrastructure Elevation: Expand infrastructure elevation in constrained reaches within existing regulatory framework	ongoing	Flood 2 2; 6	DNRP	**NS**	King County is evaluating the effects of code changes that resulted from the FEMA audit. DNRP/DLS working to engage FEMA leadership; King County learning what other Counties are doing. **6/23 This effort has not been a priority; staff and community partners are engaged on other aspects of FFF actions. 11/30 No change**	**Ability to take on this work with available staff resources still needs to be explored in coordination with Flood Hazard Management Plan update and WLR RFMS staff.**

Lead	Action No.	FFF 2.0 Collective Actions	Target Completion Date	Linked Recommendations Appdx 22; Appdx iii	Responsible Entity	Status O= ongoing, U=underway, C=Completed, NS =Not Started	Progress Notes (Prior notes in light gray -- latest status in black with date of entry)	Next Step
Chris Ewing/Andrea Mojzak/ Joan Lee	43	Assess opportunities to improve flood-safe road access	2022	Flood 3 1; 8	KC ROADS	**U**	The IOC, sponsored by the Flood Caucus, submitted a letter to Executive Constantine requesting support for 2D model development to increase understanding of flood flows in the Valley particularly in the more common flood events where Valley wall to wall flooding does not occur. FEMA awarded a grant to complete a 2D model on November 17, 2021. On April 14, 2022 the federal grant officer met with WLR staff to launch the grant process. A firm specializing in 2D modeling will be solicited off the roster -- purchasing is engaged in setting up the process, but is backlogged so launching the project with a consultant under contract is likely several months out. **6/6/23 - A 2D model is currently being developed to analyze existing conditions. Results will be available by end of y2023/early 2024. The model will be used to identify frequently flooded roads and to determine the depth of water at various flood levels. Collaboration with DLS/Roads Division is occurring with respect to the 2D model and the feasibility analysis underway by Roads to identify flood safety that would accrue from a road elevation project in the Valley. 11/30/23 Target Q12024 for first analytical run with model.**	**Continue coordination between Roads and WLR 2D modeling effort**
Richard Martin/ Patrice Barrentine	44	Farmland preservation: inspect revetments/levees annually and make inspection results available to public	2020	Farm 4 4; 27	DNRP	**O**	Flood Control District has inspected and evaluated their inventory as recently as summer of 2020. If the facility is not in the RFMS inventory, has not been inspected/evaluated. **6/1/23 Ag Strat Plan captures this recommendation for public facing information as a strategy.**	**Touch base with Flood Hazard Management Plan lead to ensure Ag Strat Plan recommendations are given consideration**

King County

Update on Best Available Science and Critical Areas Ordinance Review

2024 King County Comprehensive Plan

December 2023

As part of the 2024 King County Comprehensive Plan update, the County is required to review its policies and Critical Areas Ordinance (CAO) to include the current Best Available Science (BAS) and reflect changes in state law. The updated Comprehensive Plan and CAO must be adopted by December 2024. This document reports on BAS background, approach to review, progress to date, initial BAS findings and recommendations, and next actions. A final BAS report will be transmitted to the Council on March 1, 2024, along with BAS-based proposed policy and code amendments to be incorporated into the 2024 Comprehensive Plan Update that was transmitted to the Council in December 2023 concurrent with this report.

Background

The Growth Management Act (GMA) requires that counties and cities protect the functions and values of critical areas, including wetlands, critical aquifer recharge areas (CARAs), frequently flooded areas, geologically hazardous areas, and fish and wildlife habitat conservation areas (FWHCAs). "Protection" in the context of critical areas refers to both preservation of the functions and values of the natural environment and to safeguarding the public from hazards to health and safety (WAC 365-196-830). Examples of functions and values of wetlands include preventing downstream flooding, filtering pollutants, and supporting stream flows in summer.

CAOs must be developed using BAS and give special consideration to conserve or protect anadromous[1] fisheries, such as salmon. Where proposed policies and regulations depart from BAS, the jurisdiction must provide the rationale, including legal, social, cultural, economic, and political information, and identify potential risks associated with the departure (WAC 365-195).

King County developed BAS to support the development and adoption of the County's first CAO in 2004. Since then, the state has conducted robust review and update of BAS for wetlands and riparian areas. Additionally, the state has added a standard of "no net loss" to protection of functions and values of critical areas at the ecosystem scale (WAC 365-196-830). While the WAC acknowledges that jurisdictions may allow localized impacts to critical area functions and values, development regulations must preserve the existing functions and values of critical areas. Avoidance is the most effective way to protect critical areas. If development regulations allow harm to critical areas, they must require compensatory mitigation of the harm.

[1] Anadromous refers to fish or fish species that spend portions of its life cycle in both fresh and salt waters, entering fresh water from the sea to spawn.

Local governments may develop and implement alternative means of protecting critical areas from some activities using best management practices or a combination of regulatory and nonregulatory programs. King County uses a combination of regulatory and non-regulatory tools (e.g., open space conservation, habitat restoration, tax incentives, technical assistance) to protect critical areas functions and values.

BAS Review

Reviewing BAS and developing policy and code updates is a significant body of work. The Executive requested and the Council approved additional resources for staff and consulting to support BAS review and code updates as part of the 2023-2024 King County Biennial Budget. The state issued updated guidance for BAS review in December 2022. The County accelerated hiring for a project manager and code writer, and BAS review was fully underway by March 2023.

King County's 2024 BAS review was designed to expand on its 2004 BAS review.[2] It aims to ensure compliance with current GMA requirements and administrative guidance, with a heightened emphasis on achieving no net loss of critical area functions and values. Additionally, it seeks to incorporate significant state agency updates to BAS for riparian areas and wetlands while bolstering local management and protection of critical areas. King County relied on the Washington State Department of Commerce Critical Areas Handbook and Checklist for Critical Areas as the primary guidance to scope 2024 BAS review for each critical area. King County coordinated with state agencies to inform BAS review and evaluate considered regulatory changes.

The following table provides a high-level summary of the County's BAS findings, existing CAO regulations, and how the Executive is considering updating the CAO to be consistent with new requirements of state law, including the mandate that counties ensure no net loss of critical areas functions and values at the ecosystem scale. Additional information on BAS findings and policy considerations is found in the "Considered Regulatory Updates" section below. A more detailed summary of code changes under consideration for aquatic areas and wetlands can be found in Appendix A.

Critical Area	Topic	Best Available Science	Current King County Code	Considered Change*
Riparian Areas (Formerly Aquatic Area Buffers)	Level of Protection (Width)	Riparian areas ranging from 180 ft** - 235 ft for all water types.	Shoreline: 165 ft (115 ft in UGA***) Fish Bearing: 165 ft (115 ft in UGA) Non-fish-bearing: 65 ft Other: 25 ft	Increase riparian area widths to strengthen protection while accounting for other GMA goals.
	Channel Migration Zone (CMZ) Areas	Riparian area measured from edge of CMZ or floodplain, whichever is greater.	Riparian areas are measured from channel's edge. Extended where severe CMZ is greater than riparian area width.	Update methodology for measuring riparian areas where CMZs are mapped.
	Mitigation Ratios	3:1 on-site 12:1 off-site No allowances	1:1 on-site 3:1 or 2:1 off-site Some allowances for flexibility.	Increase on- and off-site compensatory mitigation ratios.
Wetlands	Level of Protection (Width)	Matrixed by wetland category and land use intensity. 50 ft to 300 ft range	Matrixed by wetland category and land use intensity. 25 ft to 300 ft range Several allowances.	Increase buffer widths for some wetlands. Update and clarify allowances.

[2] King County 2004 *Volume I: Review of Scientific Literature* and *Volume II: Assessment of Proposed Ordinances*

Critical Area	Topic	Best Available Science	Current King County Code	Considered Change*
		No or limited allowances.		
	Enhancement-based Mitigation Ratios	Matrixed by wetland category. Range 2:1 to 16:1	Matrixed by wetland category. Range 2:1 to 10:1	Increase mitigation ratios for one type of mitigation: enhancement-based mitigation.
Geologically Hazardous Areas	Alluvial Fan Development Standards	Manage alluvial fans, debris flow areas to reduce risk to public health and safety and protect habitat.	Current regulations to reduce public health and safety risk are limited.	Establish alluvial fan development standards.
	Tsunami Hazard Area Development Standards	Designate and establish development standards for tsunami hazard areas.	Tsunami hazard areas not explicitly regulated.	Establish tsunami hazard area development standards.
Livestock and Commercial Agriculture	Farm Field Access Drives	Require permit and compliance with standard riparian area, wetland buffer widths.	Permits not required for farm field access drives and critical area impacts are unmitigated.	Maintain flexibility while updating and clarifying farm field access drive requirements to limit critical area impacts.
	Livestock Management Ordinance	Require compliance with standard riparian area, wetland buffer widths.	Allowances allow riparian area and wetland buffers to be reduced to 0 ft to 25 ft.	Maintain flexibility while adjusting allowances dependent on water type or wetland category for greater protection of water quality.

** See more details in Appendix A*
*** ft = feet*
**** UGA = Urban Growth Area*

Tribal Consultation

Government to government consultation with Indian tribes has been initiated with the Suquamish Tribe, Muckleshoot Indian Tribe, Tulalip Tribes, Snoqualmie Tribe, and Puyallup Tribe, and is ongoing. Consultation will inform the final proposed code and policy updates being transmitted on March 1, 2024.

Engagement with Community Partners

King County engaged County advisory committees, community partners, and development community interests in fall of 2023 to review BAS findings and regulatory changes under consideration and to collect input on considered changes. This engagement included the following groups and organizations: Joint Rural Area Team; CARE/SWAN; Skyway Coalition; Homestead Community Land Trust; Community Land Conservancy; White Center Community Development Association; Watershed Salmon Recovery Forums; King Conservation District; King County Agriculture Commission; Fish, Farm, Flood Implementation Oversight Committee; Master Builders Association of King and Snohomish Counties; Seattle King County Realtors Association; Futurewise; and Puget Soundkeeper Alliance.

Themes shared with the County during this early input included:

- Support for using a combination of regulatory and non-regulatory measures to protect critical areas functions and values and achieve no net loss at an ecosystem scale.
- Request that the County affirm its commitment for policies and regulations to support ongoing agricultural operations and that changes would only apply to newly permitted development and land use activities.
- Importance of proactive and consistent code enforcement.
- Recommendation for investment in outreach and education about the value of wetlands, riparian areas, and other critical areas, King County regulations that protect them, and incentives (e.g., tax incentives) for property owners to protect habitat and water quality.
- Concern that increasing base regulatory requirements for protection of critical areas will make it more difficult to qualify for voluntary incentive programs, such as the Public Benefit Rating System.
- Concern about impacts to housing development in the urban area, especially affordable housing in the Skyway community. Interest in updates to critical areas regulations that are more supportive of community stewardship and restoration projects.
- Range of viewpoints about riparian area widths necessary to ensure no-net loss; concern about urban riparian area widths under consideration potentially being insufficient to protect the water quality of streams and Puget Sound; concern about riparian area and wetland buffer widths placing disproportionate regulatory burden on lower income homeowners in urban unincorporated King County.
- Interest in further measures to protect groundwater flows that help to keep water temperatures cool.

Conversations with these partners are ongoing and will continue to inform further development of the code update proposal. Opportunity for general public input will also occur as noted in the Next Actions section below.

Considered Regulatory Updates

The County must decide how to update Comprehensive Plan policies and development regulations to adequately protect critical areas and public health and safety while meeting GMA and Comprehensive Plan goals for equity, affordable housing, and agriculture. The County is carefully reviewing the impacts of considered changes as it seeks to balance multiple, sometimes competing goals.

Considered regulatory updates may affect how a property in unincorporated King County can be used or developed if there are one or more critical areas, such as a stream or wetland, on or adjacent to the property. This would affect new development and substantial changes to existing development. In those cases, this might result in needing to take additional actions, such as conducting a critical area study to identify potential impacts and mitigation measures or changing the location or size of the building footprint.

Based on BAS findings, tribal consultations, and early engagement with key partners the following is a summary of considered changes to County policies and development regulations; see more details in Appendix A. Companion non-regulatory actions are also discussed.

- **Wetlands**: King County is considering measured increases to some wetland buffers for some categories of wetlands. The width of a wetland buffer is determined by wetland category and the proposed intensity of adjacent land use. Considered updates to the values in King County's wetland buffer table (King County Code (K.C.C.) 21A.24.325) can be found in Appendix A. Considered updates to buffer widths are informed by state BAS and driven by the need to improve protections for wetland functions and values (e.g., water quality, flood water storage, wildlife habitat) in a changing climate. Considered updates to wetland mitigation requirements (K.C.C. 21A.23.340) can be found in Appendix A. Mitigation provides a pathway to compensate for unavoidable impacts to critical areas. In addition to wetland buffer and mitigation ratio changes, King County is considering other regulatory updates and implementing non-regulatory programming to protect wetland functions and values. This includes a significant investment in updating the County's wetland mapping, which will replace dated mapping and provide more accurate wetland location information to the public, permit applicants, and permit review staff.

- **Riparian Areas:** King County is considering increasing the size of riparian areas (formerly aquatic area buffers). The width of a riparian area is determined by the type of adjacent aquatic area (e.g., lake or fish-bearing stream) and whether the aquatic area is located in or outside of the Urban Growth Area (UGA). Considered updates to riparian area widths (K.C.C. 21A.24.358) can be found in a summary table in Appendix A. Considered updates are informed by state BAS and driven by the need to improve protections for riparian area functions and values (e.g., water quality, fish and wildlife habitat, bank stability) in a changing climate. Considered updates include a BAS departure for the width of riparian areas adjacent to N- and O-type aquatic areas. Considered updates also maintain the County precedent of limiting riparian area protections in the UGA to prioritize urban housing development and economic growth. Staff analysis demonstrates that considered changes in riparian area widths will have limited impact on capacity for housing development in the urban unincorporated area. In addition to riparian area widths, King County is considering other regulatory updates such as changes to riparian area mitigation ratios. King County is also implementing non-regulatory programming to support protection of riparian area functions and values and demonstrate special consideration for anadromous fisheries. This includes updates to County stream mapping, which will replace dated mapping and provide more accurate information to the public, permit applicants, and permit review staff about the location of different aquatic areas.

- **Geologically Hazardous Areas:** King County is considering updates to development regulations that reduce public health and safety risks associated with geologically hazardous areas (GHAs). Specifically, King County is considering implementing development regulations for the management of alluvial fans. Alluvial fans are a type of landslide hazard area that occur along some stream channels. Hazardous geologic processes occur on alluvial fans (e.g., debris flows, debris floods, flash flooding) that can create significant risks to critical infrastructure and public health and safety. Considered development standards for alluvial fans are informed by these risks, BAS, and development regulations in place at other jurisdictions in the region. King County is also considering implementing development regulations for Tsunami Hazard Areas. King County is reviewing regulations in place at other regional jurisdictions, as well as local

shoreline and flood hazard regulations, to inform considered Tsunami Hazard Area development regulations.

- **Regulatory Allowances for Livestock and Commercial Agriculture:** King County is considering updates to regulatory allowances that allow agricultural land uses to impact critical areas such as wetlands, riparian areas, and aquatic areas. Updates to regulatory allowances are informed by BAS and are necessary to limit impacts to critical area functions and values. Considered updates are also informed by the County's continued commitment to support a local, economically viable agricultural industry.

- **Streamlined Permitting for Habitat Restoration:** King County is considering regulatory updates that would streamline permitting processes for habitat restoration and fish passage projects. Considered updates would allow restoration efforts to occur more quickly, restoring critical area functions that support wildlife and anadromous fish species, such as salmon.

Next actions

This report provided background and a status report on the BAS review, summary of significant changes in state law and state-recommended BAS requirements, tribal consultation, community engagement, and further code and policy amendments under consideration. Next actions include:

- Issuance of a State Environmental Policy Act Draft Environmental Impact Statement (EIS) in December 2023;
- Further refinement of CAO amendments informed by BAS review, GMA goals, partner input, public comments on the Draft EIS, and continued Indian tribal consultation;
- Finalization of BAS report, including identification of departures from BAS, description of rationale, risk assessment to critical areas functions and values, and identification of regulatory and non-regulatory actions to mitigate risks;
- Review by state and federal agencies for compliance with applicable state and federal laws;
- Submittal of additional BAS review-driven policy and code amendments by March 1, 2024, as a supplement to the 2024 Comprehensive Plan Package being transmitted in December 2023;
- Issuance of a final EIS in Fall 2024;
- Consideration of further BAS-driven policy and code amendments by Council in conjunction with the 2024 Comprehensive Plan package, with adoption required by state law by December 2024; and
- Opportunities for public review and input throughout 2024.

Separate from the BAS and CAO body of work but related to implementation of any adopted CAO changes, the 2023-2024 Biennial budget directs the County to review code enforcement regulations in King County Code Title 23 and related development regulations.[3] A report on that review, as well as legislation that would implement any recommendations in the report, will be transmitted to the Council in late 2024.

[3] Ordinance 19633, Section 67, Provision P1, as amended

Appendix A

The following tables provide more details about considered changes to current K.C.C. standards. Considered deletions are shown in ~~strikethrough~~ and considered additions are shown in underline.

Considered Changes to Wetland Buffer Widths

Wetland Category and Characteristics	Intensity of Impact of Adjacent Land Use		
	High Impact	**Moderate Impact**	**Low Impact**
Category I			
Wetlands of High Conservation Value	~~250 ft~~ 300 ft*	~~190 ft~~ 225 ft	~~125 ft~~ 150 ft
Bog	~~250 ft~~ 300 ft	~~190 ft~~ 225 ft	~~125 ft~~ 150 ft
Estuarine	~~200 ft~~ 300 ft	~~150 ft~~ 225 ft	~~100 ft~~ 150 ft
Coastal Lagoon	~~200 ft~~ 300 ft	~~150 ft~~ 225 ft	~~100 ft~~ 150 ft
Forested	Buffer width to be based on score for habitat functions or water quality functions		
Habitat score from 8 to 9 points (high level of function)	300 ft	225 ft	150 ft
Habitat score from 6 to 7 points (moderate level of function)	150 ft	110 ft	75 ft
Category I wetlands not meeting any of the criteria above	100 ft	75 ft	50 ft
Category II			
Estuarine	150 ft	110 ft	75 ft
Habitat score from 8 to 9 points (high level of function)	300 ft	225 ft	150 ft
Habitat score from 6 to 7 points (moderate level of function)	150 ft	110 ft	75 ft
Category II wetlands not meeting any of the criteria above	100 ft	75 ft	50 ft
Category III			
Habitat score from 8 to 9 points (high level of function)	300 ft	225 ft	150 ft
Habitat score from 6 to 7 points (moderate level of function)	150 ft	110 ft	75 ft

Wetland Category and Characteristics	Intensity of Impact of Adjacent Land Use		
	High Impact	Moderate Impact	Low Impact
Category III wetlands not meeting any of the criteria above	80 ft	60 ft	40 ft
Category IV	~~50 ft~~ 60 ft	~~40 ft~~ 45 ft	~~25 ft~~ 35 ft

**ft = feet*

Considered Changes to Wetland Mitigation Ratios

Category and type of wetland	Wetland reestablishment or creation	Wetland rehabilitation	1:1 wetland reestablishment or wetland creation (R/C) and wetland enhancement (E)	Wetland enhancement only
Category IV	1.5:1	3:1	1:1 R/C and 2:1 E	6:1
Category III	2:1	4:1	1:1 R/C and ~~2:1 E~~ 4:1 E	8:1
Category II estuarine	Case-by-case	4:1 rehabilitation of an estuarine wetland	Case-by-case	Case-by-case
All other Category II	3:1	~~8:1~~ 6:1	1:1 R/C and ~~4:1 E~~ 8:1 E	12:1
Category I forested	6:1	12:1	1:1 R/C and ~~10:1 E~~ 16:1 E	Case-by-case
All other Category I	4:1	8:1	1:1 R/C and ~~6:1 E~~ 12:1 E	Case-by-case
Category I wetlands of high conservation value	Not allowed	6:1 rehabilitation of a wetland of high conservation value	Case-by-case	Case-by-case
Category I coastal lagoon	Not allowed	6:1 rehabilitation of a coastal lagoon	Case-by-case	Case-by-case
Category I bog	Not allowed	6:1 rehabilitation of a bog	Case-by-case	Case-by-case
Category I estuarine	Case-by-case	6:1 rehabilitation of an estuarine wetland	Case-by-case	Case-by-case

Considered Changes to Riparian Area Widths

Aquatic Area Type	Description	Riparian Area Width Inside the UGA*	Riparian Area Widths Outside the UGA
Shoreline (S)	Shorelines of the state.	~~115 ft~~ 180 ft**	~~165 ft~~ 200 ft
Fish (F)	Not S type; contain fish or fish habitat.	~~115 ft~~ 180 ft	~~165 ft~~ 200 ft
Non-fish-bearing (N)	Not S or F type; connected by surface water to S or F.	65 ft***	65 ft***
Other (O)	Not S, F, or N type.	~~25 ft~~ 50 ft	~~25 ft~~ 50 ft

** UGA = Urban Growth Area*
*** ft = feet*
**** Still under review; considered changes to be determined*

Orientation

New draft BAS-driven King County Comprehensive Plan amendments are show below in red text based on the June 2023 Public Review Draft (PRD) version of the 2024 Comprehensive Plan Update. This will be updated to align with the Executive Recommended Plan in the final March 2024 submittal to the County Council.

Legislative formatting (underlines for new text and ((~~strikethroughs inside double parentheses~~)) for removed text) is used throughout to show what's different from the current adopted Comprehensive Plan (both for the PRD and the new BAS-driven changes). Red text that is both ~~underlined and stricken~~ reflects PRD language that was originally proposed to be added but now deleted as part of the new BAS-driven changes.

Comment boxes provide the intent/rationale for the new BAS-driven changes. Underlying PRD changes are not the focus of this stage of review; so, intent/rationale is not provided in this document, but can be found for reference here.

Yellow italics text before each section of changes orients where to find the listed excerpt in full context of the PRD version of the plan, which can be found here.

DRAFT King County Comprehensive Plan amendments

In Chapter 1 Regional Growth Management Planning, on page 1-24, amend as follows:

G. Climate Change

Climate change is a paramount challenge with fundamental and far-reaching consequences, a threat multiplier exacerbating inequities and intensifying natural hazards – flooding, landslides, wildfires, and extreme heat – that put the County's people, economy, and environment at risk. The County's approach to climate action has three core elements: (1) reducing greenhouse gas emissions, both from government operations and at the countywide scale; (2) advancing climate equity and community-driven climate policy, especially for frontline communities; and (3) preparing for the impacts of climate change while increasing climate resilience. The following guiding principles for climate action formalize the County's commitment to lead on climate action, while also integrating and highlighting principles that guide County climate action.

In Chapter 3 Rural Areas and Natural Resource Lands, on page 3-5, amend as follows:

The glacial soils and terrain that give King County its natural beauty also create significant environmentally critical areas, such as: steep, erodible slopes((,)); wetlands; landslide hazard areas, including alluvial fans; and groundwater recharge areas. ((~~Maintenance~~)) Retention of tree cover, natural vegetation and wetlands are critical to the continued functioning of the ecosystem and preservation of rural character. The interplay of forest cover, soils and water are essential to watershed health, ensuring adequate unpolluted groundwater recharge, stormwater runoff flow control and pollution reduction, carbon sequestration and habitat functions.

In Chapter 3 Rural Areas and Natural Resource Lands, starting on page 3-56, amend as follows:

King County's extensive forest lands provide a wide range of economic and ecological benefits. Under the right conditions, however, these same forests are also vulnerable to wildfire and post-wildfire debris flows and floods, creating potentially significant risks for communities in the wildland-urban interface.

Climate change is increasing the potential for wildfire in western Washington. Warmer seasonal temperatures and drier summers create conditions more favorable for wildfire for longer periods of time. Climate change may also lead to changes in insect and pathogens that can leave forests more vulnerable to drought and fire. The potential for large, fast-moving fires is greatest when these conditions coincide with strong east wind events. The potential for fast-moving debris flows and floods is high after a wildfire has occurred, reducing soil infiltration, and increasing risks for more overland surface water flow during a rainfall event. Population growth and development in areas within and in proximity to forested areas (i.e., the wildland-urban interface) are also important factors increasing the potential for wildfire in western Washington, as well as the human and economic costs of wildfire.

Planning for wildfire can help reduce wildfire risks to residents, communities, and infrastructure. King County has three strategic priorities for wildfire risk reduction in King County: (1) increasing forest resilience to wildfire; (2) reducing risks to communities and infrastructure in the wildland-urban interface; and (3) strengthening emergency response.

In Chapter 3 Rural Areas and Natural Resource Lands, on page 3-61, amend as follows:

Even farmland in the Farmland Preservation Program is challenged by pressures from adjacent development, the need to maintain drainage and irrigation systems, non-farmer ownership, alluvial fan hazards, and high real estate costs. To protect the farmland for the long term, investments in improving the farmability and managing the easements to ensure compliance are necessary.

In Chapter 3 Rural Areas and Natural Resource Lands, on page 3-61, amend as follows:

The river valleys in King County are ((~~critical locations~~)) important natural resource areas for agriculture, salmon habitat and natural floodplain processes. In compliance with the ((~~g~~))Growth ((~~m~~))Management Act, portions of several of these valleys were designated as Agricultural Production Districts to protect ((~~the diminishing farmland~~)) land for long-term commercial ((~~agriculture~~)) agricultural uses, ((~~thereby preventing their conversion to other uses that are often incompatible with habitat protection or that would require expensive flood risk reduction projects~~)) including the highest quality soils for food production, and to limit conversion of the land uses to those that would be incompatible with viable, long-term, commercial agriculture. ~~Bec~~~~ause m~~~~M~~any areas of farmland within Agricultural Production Districts are: located below upland creeks and streams; on or adjacent to an alluvial fan; and/or within floodplains, floodways, or other low-lying areas~~,~~. Because of this, the ability to manage drainage and infrastructure to support farming is an important aspect of retaining farmable land and supporting continued agricultural uses within the Agricultural Production Districts.

In Chapter 3 Rural Areas and Natural Resource Lands, on page 3-64, amend as follows:

((~~The farmers in the county support fish protection and fish recovery through many regulated and voluntary actions. King County recognizes that fish, flood management, and farm interests must work together in a collaborative manner. It is essential that farmers and other property owners in each watershed be directly included in planning and in the review of integrated, watershed-wide strategies that support the needs of agriculture, fish recovery, and flood risk reduction and floodplain management. Specific habitat protection rules should not jeopardize the agricultural productivity within the Agricultural Production Districts.~~)) Some of King County's Agricultural Production Districts have vast areas of designated and mapped floodways and 100-year floodplains. King County is committed to restoring floodplain processes and mitigating flood risks to ensure human health and protect public safety, ~~reduce~~ reducing the risk of property damage, ~~maintain~~ maintaining critical infrastructure supporting residents and businesses, restoring salmon habitat, and ~~to reduce~~ reducing public and private economic impacts of flood events. As climate change results in more frequent and more damaging floods, agriculture businesses and homes will need increased support for home and agricultural building elevations. Maintaining land use rules that prevent conversions of agricultural land to other uses other than habitat restoration or flood protection will have a co-benefit of limiting new development that may be at increased risk of damage from floods and alluvial fan hazards.

In Chapter 3 Rural Areas and Natural Resource Lands, starting on page 3-76, amend as follows:

An alluvial fan is a ((~~depositional landform along a watercourse~~)) ~~is a fan-shaped deposit of sediment transported by flowing water, called alluvium, where there is an abrupt decrease in stream gradient ((and a resulting area of active sediment deposition~~)) is a fan-shaped deposit of sediment and organic debris formed where a stream flows or has flowed out of an upland area onto a level plain or valley floor because of a sudden change in sediment transport capacity (e.g. significant change in slope or confinement). ((~~Most a~~))Alluvial fans in King County ((~~form~~)) occur where ((~~steep tributary streams ((discharge)) transition at the base of hillsides onto ((nearly)) the level river floodplains on a valley floor~~)) streams transition between a steeper slope to a less steep slope, often times at the base of a hillside onto a valley floor or into a body of water. ((~~Since m~~))Much of the county's farmland is located in valley floors, ((~~some~~)) and agricultural landowners frequently have properties on ((~~or containing~~)) ~~active~~ alluvial fans ((~~that are significantly affected by t~~)). The episodic deposits of ((~~upslope~~)) sediment and debris that ((~~accumulate on their land~~)) ~~typically~~ naturally occur on alluvial fans can ~~fill~~ reduce the carrying capacity of stream channels and wetlands, and debris flows may cover fertile farmland, disrupting agricultural operations. ((~~These events result in obstructed stream channels, filled wetlands, covered farmland, and disruptions in operations. Water is redirected into unexpected places. Permits, regulations, and the lack of approved management practices make it difficult to remedy the situation to regain operations and farm viability.~~)) Sudden shifts in the location of streams on alluvial fans can also flood agricultural buildings and farm residences. Obtaining permits allowing active management to remove the accumulated sediments and reestablish stream channels can be difficult given the regulations that apply to critical areas, such as for alluvial fan hazards, aquatic areas, and floodplains.

R-671 King County regulations should ((~~use pilot or demonstration projects and multi-agency collaboration to develop a new suite of practices that will~~)) provide options ~~to manage alluvial fans~~ for landowners whose existing operations, residences, or infrastructure ((~~are affected by~~)) to manage alluvial fan ((~~deposits~~)) hazards. These should provide ((~~timely and cost-effective relief from debris and the associated changes to the~~)) solutions that consider: the risks of managing alluvial fan hazards, such as debris flow and flood deposits; watercourse ((~~along with~~)) changes; protection of ((~~intact~~)) functional fish habitat; and restoration of degraded fish habitat within these areas.

In Chapter 5 Environment, on page 5-2, amend as follows:

One of the central tenets of the Growth Management Act, the Countywide Planning Policies, and King County's Comprehensive Plan is that new growth be focused within designated urban areas with the aim of protecting ((~~resource lands (~~))forestry, agriculture, and mining((~~)~~)) lands and reducing development pressure on the Rural Area and Natural Resource Lands. ((~~At the same time, t~~))The Growth Management Act also requires that each city and county in Washington State identify, designate and protect critical areas found in their local environment. Critical areas, as defined by the Growth Management Act, include wetlands, areas with a critical recharging effect on aquifers used for potable water, fish and wildlife habitat conservation areas, frequently flooded areas, and geologic hazard areas. Achieving development goals must be integrated with protecting critical area functions and values. ((~~Individual s~~))~~Solutions can be tailored by following the guidance of comprehensive plan policies that recognize both critical area protection and the need to reduce urban sprawl.))~~

In Chapter 5 Environment, starting on page 5-8, amend as follows:

~~((E-107 Regulations to prevent unmitigated significant adverse environmental impacts should be based on the importance and sensitivity of the resource.))~~

E-108 King County may exercise its substantive authority under the State Environmental Policy Act to condition or deny proposed actions in order to mitigate associated individual or cumulative impacts, such as significant habitat modification or degradation, that may actually kill, injure or harm federally listed endangered, threatened, sensitive, or ((~~endangered~~)) candidate species or King County Species of Local Importance and Habitats of Local Importance by significantly impairing essential behavioral patterns, including breeding, feeding, spawning, rearing, migrating or sheltering.

E-109 King County should promote efficient provision of utilities and public services by exempting minor activities from its critical areas regulations, if:

a. ((t))The agency ((has an approved)) develops a best management practice plan that is based on best available science, accounts for no net loss of ecological functions and values, and is approved by King County((,)); and

b. ((t))The plan ensures that proposed projects that may affect habitat of federally listed endangered, threatened, sensitive, or candidate species or King County Species of Local Importance be carried out in a manner that protects the resource or mitigates adverse impacts to ensure no net loss of ecological functions and values.

In Chapter 5 Environment, on page 5-12, amend as follows:

E-112a The protection of lands where development would pose hazards to health, property, important ecological functions or environmental quality shall be achieved through acquisition, enhancement, incentive programs and appropriate regulations. The following critical areas are particularly susceptible and shall be protected in King County:

a. ((Floodways of 100-year floodplains)) Frequently flooded areas;

b. Geologically hazardous areas, such as ((S))slopes with a grade of 40((%)) percent or more ((or landslide hazards that cannot be mitigated)) and alluvial fan hazards areas;

c. Wetlands and their protective buffers;

d. Aquatic areas, including streams, lakes, marine shorelines ((and their protective buffers));

e. ((Channel migration hazard areas;

f.)) Critical Aquifer Recharge Areas; and

((g.)) f. Fish and Wildlife Habitat Conservation Areas((; and

h. Volcanic hazard areas)).

In Chapter 5 Environment, on page 5-27, amend as follows:

((E-215bb)) E-223 King County ((should)) shall develop and implement regulations that help mitigate and build resiliency to the anticipated impacts of climate change, based on best available information. Such impacts could include sea level rise, changes in rainfall patterns and flood volumes and frequencies, changes in average and extreme temperatures and weather, impacts to forests including increased wildfires, landslides, droughts ((and post infiltrations)), disease, and insect attacks. Methods could include mitigating greenhouse gas emissions, establishing sea level rise regulations, and/or strengthening forests ability to withstand impacts.

In Chapter 5 Environment, on page 5-28, amend as follows:

((~~E-215c~~)) E-229 King County should collaborate with the scientific community, state and federal agencies, and other jurisdictions to develop detailed, science-based estimates of the magnitude and timing of climate change impacts on air temperatures and heat waves, rainfall patterns and severe weather, forest health and wildfire, ((~~river~~)) flooding, landslides, sea level rise, biodiversity (including fish and wildlife), and ocean acidification ((~~in King County~~)).

In Chapter 5 Environment, on page 5-43, amend as follows:

E-417 King County should take precautionary action informed by best available science where there is a significant risk of damage to the environment and follow standard mitigation sequencing of avoiding, minimizing, and mitigating environmental risks. ((~~Precautionary~~)) These actions should be coupled with monitoring and adaptive management.

In Chapter 5 Environment, on page 5-43, amend as follows:

E-418 King County should assess the:

a. ((~~r~~))Relative scarcity and sensitivity of different land types, habitats, and resources, the role of these land types, habitats, and resources in supporting federally listed endangered, threatened, sensitive, or candidate species and King County Species of Local Importance and Habitats of Local Importance((~~,~~)); and

b. ((~~the l~~))Level of threat to these land types, habitats, and resources in terms of habitat modifications that would likely reduce populations of ((~~sensitive~~)) these species.

In Chapter 5 Environment, on page 5-44, amend as follows:

E-423 New development, landscaping requirements, erosion control projects, and restoration of stream banks, lakes, shorelines, riparian areas, aquatic areas, ~~and~~ wetlands, and associated buffers should, where possible, incorporate native plant communities into the site plan, both through preservation of existing native plants and addition of new native plants. Introductions of non-native, invasive plant, vertebrate, and invertebrate species should be avoided in terrestrial, freshwater, and marine environs.

In Chapter 5 Environment, on page 5-45, amend as follows:

E-425 To protect or improve adjacent wetlands and aquatic habitats, ((~~stream~~)), riparian and wetland buffer and setback requirements may be increased to protect King County ((~~s~~))Species of Local Importance and their habitats, as appropriate.

Whenever possible, density transfers, clustering and buffer averaging should be allowed.

In Chapter 5 Environment, on page 5-46, amend as follows:

E-429 King County should provide incentives for private landowners who are seeking to remove invasive plants and noxious weeds and replace them with native and/or climate-adaptive plants, such as providing technical assistance or access to appropriate native plants.

In Chapter 5 Environment, starting on page 5-50, amend as follows:

E-435 King County designates the following to be Species of Local Importance:

a. Salmonids and other anadromous fish – Chinook salmon, Kokanee salmon, Sockeye/red salmon, Chum salmon, Coho/silver salmon, Pink salmon, Coastal resident/searun cutthroat trout, Steelhead trout, Rainbow trout, Bull trout/Dolly Varden, Western river lamprey, and Pacific lamprey;

b. Freshwater fish – Pygmy whitefish~~, and Olympic mudminnow~~;

c. Native Freshwater Mussels – Western pearlshell mussel, Oregon ((~~and western~~)) floater, and western ridge mussel;

((~~c.~~)) d. Shellfish – Dungeness crab, Pandalid shrimp, ~~Pacific~~ ((~~Geoduck ((clam~~)), Butter clam, Littleneck clam, and ((~~Pacific~~)) Olympia oyster;

((~~d.~~)) e. Marine Fish – White sturgeon((,)); Pacific herring((,)); Longfin smelt((,)); Surfsmelt((,)); Lingcod((,)); Pacific cod; Pacific sand lance((,)); Yelloweye, Brown, Copper, ~~Bovaccio~~ Bocaccio, Canary, and Quillback Rockfish; English sole((,)); and Southern ((~~R~~))rock sole;

((~~e.~~)) f. Birds – Marbled Murrelet, Western grebe, Caspian Tern, Pigeon Guillemot, Pelagic Cormorant, American bittern, Great blue heron, Common Loon, Western High Arctic Brant, Harlequin duck, Bufflehead, Wood duck, Hooded merganser, Barrow's goldeneye, Common goldeneye, Cinnamon teal, ~~Blue-winged teal,~~ Tundra swan, Trumpeter swan, Surf scoter, White-winged scoter, Black scoter, Bald Eagle, Golden Eagle, Peregrine Falcon, Northern Goshawk, Osprey, Spotted Owl, Western screech-owl, Sooty grouse, Pacific coast ((~~B~~))band-tailed pigeon, Belted kingfisher, ((~~Hairy woodpecker,~~)) Olive-sided flycatcher, Western meadowlark, Cassin's finch, Oregon Vesper Sparrow, Red-eyed Vireo; Purple Martin, Vaux's Swift, ((~~and~~)) Purple finch, Yellow-billed Cuckoo, Black-backed Woodpecker, American three-toed woodpecker, Hairy woodpecker, Pileated woodpecker, and the following bird concentrations:

1. ~~Western Washington nonbreeding concentrations of Loons (Gaviidae), Grebes (Podicipedidae), Cormorants (Phalacrocoracidae), (Hydrobatidae), and Alcids (Alcidae);~~

~~2.~~ Waterfowl Concentrations (Anatidae excluding Canada Geese in Urban Areas); and

~~3. Western Washington nonbreeding concentrations of Barrow's Goldeneye (Bucephala islandica), Common Goldeneye (Bucephala clangula), and Bufflehead (Bucephala albeola);~~

~~4.~~ 2. Western Washington nonbreeding concentrations of plovers (Charadriidae), sandpipers (Scolopacidae), and phalaropes (Phalaropodidae);

~~5. Western Washington breeding concentrations of Cormorants (Phalacrocoracidae), Terns (Laridae), and Alcids (Alcidae);~~

((~~f.~~)) g. Mammals – American marten, ((~~mink,~~)) Wolverine, Fisher, Gray wolf, Cascade red fox, Douglas squirrel, Northern flying squirrel, Townsend's chipmunk, Hoary marmot, ((~~Columbian black-tailed deer,~~)) Roosevelt ((~~E~~))elk ((~~in their historic range~~)), mountain goat, Pika, Townsend's big-eared bat, roosting concentrations of Big-brown bat s, Pallid bats, ((~~and~~)) Myotis bats, ~~grizzly bear, lynx,~~ Killer whale (Orca), Gray whale, Dall's and Harbor porpoise, ~~and~~ Harbor seal, Stellar sea lions, and concentrations of California sea lions;

((~~g.~~)) h. Amphibians – Red-legged frog, Larch Mountain salamander, Oregon spotted frog, ~~Van Dyke's salamander,~~ and Western toad;

((~~h.~~)) i. Reptiles – Western fence lizard ~~Alligator lizard,~~ and ~~Western~~ Northwestern pond turtle;

((~~i.~~)) j. Rare Plants – ((~~bristly sedge; Canadian St. John's-wort; clubmoss cassiope; Oregon goldenaster; toothed wood fern; Vancouver ground-cone; and white-top aster~~ Tall bugbane, Triangular-lobed moonwort, Western moonwort, Stalked moonwort, Harvest brodiaea Alaska harebell, Few-flowered sedge, Long-styled sedge, Clubmoss mountain-heather, Golden paintbrush, Weak thistle, Spleenwort-leaved goldthread, Tree clubmoss, Spotted Joe-pye weed, Kamchatka fritillary, Swamp gentian, Oregon goldenweed, Large St. Johns'-wort, Pacific peavine, Water lobelia, Northern bog clubmoss, One-cone clubmoss, White meconella, Branched montia, Old field blue toadflax, Brewer's cliffbrake, Whitebark pine, Choriso's bog-orchid, Columbia white-topped aster, and Flat-leaved bladderwort((; and

j. ((~~High-quality ecological communities - Douglas-fir - Pacific Madrone / Salal; Douglas-fir - Western Hemlock / Swordfern; Forested Sphagnum Bog PTN, Low Elevation Freshwater Wetland PTN, North Pacific Herbaceous Bald and Bluff, Red Alder Forest; Western Hemlock - (Western Redcedar) / Bog Labrador-tea / Sphagnum Spp.; Western Hemlock - (Western Redcedar) / Devil's-club / Swordfern; Western Hemlock - (Western Redcedar) / Sphagnum Spp.; Western Hemlock / Swordfern – Foamflower; Western Redcedar- Western Hemlock / Skunkcabbage; and Willow Spp. Shrubland [Provisional]~~)) Other invertebrates – Blue gray taildropper, Hatch's click

beetle, Beller's ground beetle, Pacific clubtail, Western bumblebee, Johnson's hairstreak, and Valley silverspot.

In Chapter 5 Environment, on page 5-52, amend as follows:

E-437 King County shall designate the following to be Habitats of Local Importance:

a. Old growth forest;

b. Sphagnum-dominated peat bogs;

c. Westside prairie;

d. Oregon white oak woodlands;

e. Herbaceous balds;

f. Caves;

((~~b.~~)) g. Cliffs;

((~~c.~~)) h. Talus;

((~~d. Old-growth forest;~~

~~e. Sphagnum-dominated peat bogs;~~)) and

((~~f.~~)) i. ((~~Snag-rich areas~~)) ~~Snags and logs~~.

In Chapter 5 Environment, on page 5-66, amend as follows:

((~~E-474 Development adjacent to wetlands shall be sited such that wetland functions and values are protected, an adequate buffer around the wetlands is provided, and significant adverse impacts to wetlands are prevented.~~))

In Chapter 5 Environment, on page 5-67, amend as follows:

E-475 To improve adjacent wetlands, riparian areas, and aquatic habitat, areas of native vegetation that connect wetland complexes should be protected. ((~~Whenever effective~~)) Where appropriate, incentive programs such as buffer averaging, density credit transfers, or appropriate non-regulatory mechanisms shall be used for this purpose.

In Chapter 5 Environment, on page 5-67, amend as follows:

E-478 Public access to King County-owned wetlands for scientific, recreational, and traditional cultural use is desirable, providing that:

a. ((~~p~~))Public access trails are carefully sited((~~,~~));

b. Protection is provided for critical areas; federally listed endangered, threatened, sensitive, and candidate ((~~habitats and~~)) species and their habitats; and King County Species of Local Importance and Habitats of Local Importance ((~~are protected,~~));and

c. ((~~h~~))Hydrologic continuity is maintained.

In Chapter 5 Environment, on page 5-68, amend as follows:

((~~E-482~~ ~~A small Category IV wetland that is less than 2,500 square feet and that is not part of a wetland complex may be altered to move functions to another wetland as part of an approved mitigation plan that is consistent with E-483 and E-484.~~))

In Chapter 5 Environment, on page 5-76, amend as follows:

E-498a **The existing flood storage and conveyance functions and ecological values of floodplains, wetlands, and riparian ((~~corridors~~)) areas shall be protected, and should((~~, where possible,~~)) be restored and enhanced ((~~or restored~~)) through integrated actions that provide multiple benefits, such as preservation of open space and low-density development.**

In Chapter 5 Environment, on page 5-76, amend as follows:

E-499b **River and stream channels, stream outlets, headwater areas, riparian ((~~corridors~~)) areas, and areas where dynamic ecological processes are present should be preserved, protected and enhanced for their hydraulic, hydrologic, ecologic and aesthetic functions, including their functions in providing large wood to salmonid-bearing streams. ((~~Management of~~)) Actions taken along river and stream channels should consider ((~~other beneficial uses of these water bodies, including recreation~~)) the provision of multiple benefits, resiliency to climate change, and consistency with equity and social justice goals.**

In Chapter 5 Environment, starting on page 5-77, amend as follows:

Alluvial fans share many of the ecological attributes and land use risks associated with channel migration hazard areas and landslide hazards, though they are unique in many respects. In a natural environment, alluvial fans often provide some of the best available spawning habitat in a tributary stream, while also providing a source of gravel for areas downstream. In some heavily altered streams, the alluvial fan may represent the only remaining areas that are suitable for spawning. Alluvial fans can also form the highest ground available in the floodplain((~~,~~)) and have historically been used for construction of buildings (including farm buildings), roads and other structures. Unfortunately, they are inherently unstable environments in which to build. During high flows coupled with sediment deposition, a stream may jump its bank in the area of the alluvial fan, in some cases damaging private property, disrupting agricultural activities, destroying culverts and road crossings, stranding fish, and creating risks to public safety. Protecting buildings, roads, ~~bridges,~~ and crops on and ((~~along~~)) adjacent to alluvial fans often requires extensive, ~~costly,~~ ongoing maintenance activities. Maintenance activities can have adverse effects on habitat, and in some circumstances may not be permittable under state regulations nor feasible as a structural approach.

((~~The Rural Areas and Natural Resource Lands chapter calls for alluvial fan pilot projects to test best management practices and innovative solutions for reducing hazards to agricultural landowners and protecting and restoring habitat.~~))

E-499f **King County should improve the management of alluvial fans by ((~~developing and clarifying definitions of alluvial fans,~~)) mapping the locations of existing alluvial fans((~~,~~)) and areas at risk of alluvial fan hazards and developing appropriate management strategies, such as development standards and mitigation requirements. Strategies should:**

a. Address potential conflicting interests between landowners and natural alluvial fan activities;

b. Consider climate change;

c. ((~~p~~))Protect intact habitat ((~~and~~));;

d. ((~~r~~))Restore degraded habitat((~~,~~)); and

e. ((~~r~~))Reduce threats to public safety((~~, and accommodate~~)) in the context of existing land use. ((~~Best Available Science and ((F)))findings from Alluvial Fan Management Pilot Projects Reports should inform management strategies for alluvial fans, including potential regulatory changes.~~))

In Chapter 5 Environment, on page 5-80, amend as follows:

E-499i **King County should work with landowners, other jurisdictions, the state Department of Health, sewer districts, and the Puget Sound Partnership to proactively address failing septic systems with a priority in ((~~environmentally~~)) environmental health sensitive areas, ((~~including~~)) critical areas and their buffers, and constrained shoreline environments.**

In Chapter 5 Environment, on page 5-87, amend as follows:

King County is located at a tectonically active convergent plate margin, which is characterized by dynamic geologic processes including active mountain building, abundant seismic activity and volcanism. In addition, the relatively recent glacial history has resulted in the creation of numerous steep and unstable hillsides throughout the county, many of which are prone to naturally occurring landslides. Snow avalanches are also a common occurrence in the Cascade Mountains in Eastern King County. The hazardous impacts from these processes can be worsened with climate change, and increases in extreme wet weather increase risks from geologic hazards.

Often ((~~times~~)), the result of these naturally occurring events can be beneficial to the environment, by providing gravel and woody debris in streams and rivers, and continuing the process of natural regeneration. Salmon need gravel for spawning and in-stream debris for cover and to provide shade and regulate temperature. While the relatively flat Puget Lowlands made it historically ideal for development and agriculture, the natural processes of erosion and deposition will continue. King County must balance the positive benefits of these natural occurrences with any adverse impacts that pose a threat to public health and safety. The ((~~e~~))County must also strike a balance

between allowing naturally occurring landslides and erosion, and the need to prevent the unnatural acceleration of landslides and erosion due to development activities.

In Chapter 5 Environment, on page 5-97, amend as follows:

E-708 **King County should implement a monitoring and adaptive management framework ((~~for~~)) to:**

a. Evaluate the effectiveness ((~~monitoring~~)) of its ((~~critical areas~~)) regulations, policies, and programs in achieving no net loss of critical areas functions and values; and

b. ((~~use monitoring data to i~~))Inform ((~~the~~)) future ((~~review and updates of its critical areas policies and regulations~~)) regulatory updates.

In Chapter 8 Transportation, on page 8-37, amend as follows:

((Climate change is of significant local, national, and global concern. ~~It is clear that~~ greenhouse gas emissions from transportation sources are a significant contributing factor to climate change. In addition to meeting its regulatory requirements, King County is committed to ~~addressing climate change~~ through its decisions and actions and encouraging others to act to reduce greenhouse gas emissions as well.)) Transportation-related greenhouse gas emissions significantly contribute to climate change, and the County is committed to reduce its transportation-related greenhouse gas emissions and to encourage others to act as well. Likewise, the County must also prepare county roads and transit infrastructure for climate change. Climate change is projected to increase ((~~the frequency of~~)) flood and landslide ((~~events~~)) risks in most of western Washington's river basins. ((~~Increased flood frequency and intensity will increase public investment needed to ensure public safety and mobility, particularly on the county road system. Climate change will affect the county's road and transit infrastructure. More storm events~~)) Increased flood and landslide impacts and increased temperatures ((~~will~~)) can disrupt service, increase road maintenance requirements, and adversely affect mobility. Changes in precipitation patterns and sea levels may cause greater damage to roads, bridges and seawalls from erosion, landslides, and flooding. Fast moving debris flows and floods downstream from steep creeks or on alluvial fan hazard areas carry woody debris, rocks, and sediments and can damage roads, bridges, and culverts. Increased flood and landslide impacts will require public investment to ensure public safety and mobility, particularly on the county road system.

In the Glossary, on page G-4, amend as follows:

~~((Channel migration hazard area, moderate~~

~~A portion of the channel migration zone, as shown on King County's Channel Migration Zone maps, which lies between the severe channel migration hazard area and the outer boundaries of the channel migration zone.~~

~~Channel migration hazard area, severe~~

~~A portion of the channel migration zone, as shown on King County's Channel Migration Zone maps, which includes the present channel. The total width of the severe channel migration hazard area equals one hundred years~~

~~times the average annual channel migration rate, plus the present channel width. The average annual channel migration rate as determined in the technical report is the basis for each Channel Migration Zone map.~~

In the Glossary, on page G-8, amend as follows:

Debris flow

Debris flow means a moving mass of rock fragments, soil, and mud, with more than half of the particles being larger than sand size.

In the Glossary, on page G-10, amend as follows:

Enhance

For the purposes of critical area regulation, ((~~E~~))enhance means ((~~to increase or~~)) an action that improves ((~~one or more of the functions, attributes, or values that an ecosystem or environmental feature possesses~~)) the processes, structure, and functions of ecosystems and habitats associated with critical areas or their buffers. (See Chapter 5: Environment).

In the Glossary, starting on page G-12, amend as follows:

Geotechnical report or geotechnical analysis

Geotechnical report or geotechnical analysis means a scientific study or evaluation conducted by a ((~~qualified expert~~)) geological professional that includes: a description of the ground and surface hydrology and geology; the affected land form and its susceptibility to mass wasting, erosion, and other geologic hazards or processes; conclusions and recommendations regarding the effect of the proposed development on geologic conditions; the adequacy of the site to be developed; the impacts of the proposed development; alternative approaches to the proposed development; and measures to mitigate potential site-specific and cumulative geological and hydrological impacts of the proposed development, including the potential adverse impacts to adjacent and down-current properties. Geotechnical reports shall conform to accepted technical standards and must be prepared by ((~~qualified professional engineers or geologists~~)) a geotechnical professional who have professional expertise about the regional and local shoreline geology and processes.

King County

Dow Constantine
King County Executive

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October 20, 2023

Snoqualmie Valley Fish Farm Flood
Implementation Oversight Committee
c/o Joan Lee
201 S Jackson St., Suite 5600
Seattle, WA 98014

Dear Ms. Spiry, Ms. Lindemulder, and Ms. Donaldson:

First, congratulations again on the Snoqualmie Valley Fish Farm Flood (FFF) Implementation Oversight Committee's (IOC) Green Globes Award for Leadership in Community Resiliency. Your leadership has been instrumental toward the achievements of the IOC and represents your willingness to seek common ground and consensus to achieve a shared vision.

Thank you for your letter of March 31, 2023, regarding 2024 Comprehensive Plan Update policy recommendations for the ongoing work of FFF and the IOC. Your input on the Comprehensive Plan is being considered along with other input we have received to date as I prepare to submit my recommendations to the King County Council.

You also made several recommendations for continued progress of the IOC, including secure funding, setting of acreage targets, and IOC representation. I have asked Josh Baldi to convene teams to assess resources that would be needed to address your requests to explore a funding strategy beyond existing County resources. I also have asked him to explore approaches to integrate recommendations from the FFF efforts underway, both within the IOC structure and in other areas of County work. Generally, though, I want to assure you that resources needed to support semiannual meetings of the IOC are in place. The larger challenge remains funding additional Fish Farm Flood actions given the growing constraints on the General Fund, which historically has been the primary fund source for agricultural staff.

My thanks again to you and the IOC for your willingness to engage on topics of importance that affect the health of the Snoqualmie Valley now and in the future. I look forward to your continued recommendations and the leading-edge work and collaborations those recommendations inspire.

Sincerely,

Dow Constantine
King County Executive

cc: Christie True, Director, Department of Natural Resources and Parks (DNRP)
Josh Baldi, Division Director, Water and Land Resources Division, DNRP
Joan Lee, Manager, Rural and Regional Services Section, WLRD, DNRP