Nonpoint Plan and Voluntary Cleanwater Guidance for Agriculture

Response to Comments

By

Water Quality Program

Washington State Department of Ecology
Olympia, Washington

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DEPARTMENT OF
ECOLOGY
State of Washington

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Acronyms

BMP	Best management practice
CAFO	Concentrated animal feeding operation
CWA	Clean Water Act
CZARA	Coastal Zone Act Reauthorization Amendments
EPA	Environmental Protection Agency
GWMA	Groundwater management area
NPDES	National Pollutant Discharge Elimination System
NPS	Nonpoint source
NRCS	Natural Resource Conservation Service
RMZ	Riparian management zone
SPTH	Site potential tree height
STI	Straight to implementation
TMDL	Total maximum daily load
WADOH	Washington State Department of Health
WDFW	Washington Department of Fish and Wildlife
WSDA	Washington State Department of Agriculture
WAC	Washington Administrative Code

Background

This document provides responses to comments received on 2022 draft updates to the Washington State Department of Ecology's (Ecology) Washington's Water Quality Management Plan to Control Nonpoint Sources of Pollution (Nonpoint Plan) and Ecology's Voluntary Clean Water Guidance for Agriculture (VCWGA) chapters.

Ecology held a public comment period for the draft 2022 Nonpoint Plan and first four VCWGA chapters from December 1 to December 23, 2022. The origin version of this document was included in Ecology's submittal to the Environmental Protection Agency (EPA) on December 30, 2022.

Additionally, Ecology held a public comment period for the fifth VCWGA chapter from June 5th to June 23, 2023. The June 2023 revised version of this document was included in Ecology's submittal of the chapter to EPA on June 30, 2023.

Comments and responses found in this document are grouped by review periods and the documents available for comment during the review period. General comments regarding the draft updates are included with comments on the Nonpoint Plan. Ecology received comments from 24 distinct entities, representing various organizations, governing bodies, tribes, and the public (Table 1).

Table 1. All organizations, tribes, and individuals which provided comment on the draft Nonpoint Plan and VCWGA, along with their unique abbreviations used throughout this document.

Entity	Abbreviation
Blake, Bill	BlakeB
Blake, Dawn	BlakeD
Chapman, Alan	Chapman
Churape, Lorenzo	Churape
Dunlap, Kip	Dunlap
Environmental Protection Agency – Region 10 (Michelle Wilcox)	EPA
Friends of Toppenish Creek	FOTC
Gady, David	Gady
Good, Randy	Good
Jennifer	Jennifer
King Conservation District	King
Mendoza, Jean	Mendoza
Miro, Jay	Miro
Northwest Environmental Advocates (Nina Bell)	NWEA
Northwest Indian Fisheries Commission (Justin R. Parker)	NWIFC
Peterson, Mike	Peterson
Rommereim, Ramona	Rommereim
Sexton, Thomas	Sexton

Entity	Abbreviation
Snoqualmie Indian Tribe (Kelsey Payne)	Snoqualmie
Swinomish Indian Tribal Community (Steve Edwards)	Swinomish
Washington Cattlemen's Association (Jeff Keane)	WCA
Washington Farm Bureau (Caleb Gwerder)	WFB
Washington State Potato Commission (Matt Harris)	WSPC
Washington State Republic Caucus (Sen. Judy Warnick, Sen. Shelly Short, Sen. Mark Schoesler, Sen. Ron Muzzall, Sen. Keith Wagoner)	WSRC

Comments and Responses: December 2022

Cropping Methods: Tillage and Residue Management

Gady [1]

First off, I do not like the works Best Management practices. These are just management practices, not necessarily the Best. You probably hear this all the time, but a practice that works wonders for one farmer might be disastrous for another farmer.

Response

Comment noted.

Gady [2]

I am a perennial grower and you gave mention to it, but that was it. All the practices, as far as I am concerned, are for annual croppers that are not dealing with perennial material.

Response

Comment noted. In situations where perennial crops are rotated or renovated, tillage and residue management practices would apply.

Gady [3]

You also talk about cover crops. Many times, we do not have the moisture for cover crops, so cover crops are a moot point.

Response

Comment noted. We understand there may be limitations to plant cover crops in low rainfall areas without irrigation.

WSRC [1]

The Tillage and Residue Management Practices in the document are currently practiced in this state. However, there are often barriers to implementation such as cost, feasibility, and practicability. Different farms need to utilize different management practices to accomplish the goal of preserving soil. Maintaining soil health and promoting carbon sequestration in soil is fundamentally important to ongoing agriculture.

In order to promote these types of management, it requires an immense amount of capital. In order to promote effective soil health, tillage, and residue management, there needs to be a way to aid farmers not cost them more money by imposing overly burdensome and arduous "Best Management Practices."

Response

We agree that maintaining soil health is fundamentally important to ongoing agriculture and that farms may need to use a combination of practices to prevent soil from being eroded into surface waters, where it is lost forever. We also agree that financial and technical assistance

programs are important tools for helping agricultural producers finance and implement tillage and residue management practices.

Ecology has and will continue to support programs that incentivize tillage and residue management practices designed to improve soil health and prevent unnecessary erosion and loss of topsoil. Our tillage and residue management recommendations are designed to meet these goals and our guidance sets reasonable targets, like those established by the Natural Resource Conservation Service (NRCS) and its funding programs and other funding programs administered by the Farm Services Agency.

Sediment Control: Soil Stabilization & Sediment Capture (Structural)

BlakeB [1]

I am curious why created wetlands weren't included as an option for sediment control? Sediment capture is certainly one of their functions along with others that help address stormwater run-off pollutants. They can generally be very affordable to create just by simple vegetated contour modifications to the landscape that increase residence time of flow allowing for treatment. They may provide a landowner options to achieve multiple goals such as increasing wildlife for either viewing or hunting, wind breaks along with the improved water management reducing soil loss. They don't require much maintenance once established, but since they were intentionally created could most likely be maintained similar to any facility created as an approved treatment option.

Response

Ecology worked with an advisory group to identify the BMPs included in the guidance. We used the NRCS Field Office Technical Guides (FOTG) as a starting place to inform how we lumped and split individual practices into groupings for each chapter. For the Sediment Control: Soil Stabilization & Sediment Capture chapter, the two practices identified with the advisory group were Sediment Basin (FOTG #350) and Water and Sediment Control Basin (FOTG #638). We did not identify constructed wetlands as a practice to include in the guidance. However, we agree that constructed wetlands may be a viable practice in some situations. We will consider adding it to the guidance in the future.

Gady [4]

I think your sediment basin has merits, if farmers have a need.

Response

Comment noted.

WSRC [2]

The Department proposes that the best solution to sediment and erosion are sediment basins. This may not always be ideal. Did the Department take into account existing erosion control measures? Has the Department studied historical erosion control measures?

Response

Ecology is not proposing that sediment control basins are the best solution for erosion. Our preference is that producers use best management practices to prevent erosion (often referred to as source control) in lieu of attempting to capture erosion once it has occurred. Examples of source control types of best management practice (BMPs) include tillage and residue management, cover crops, contour farming, fencing to exclude livestock from riparian zones and streambanks and grazing management.

Sediment basins and water and sediment control basins are two types of structural practices used on agricultural lands to trap sediment and other pollutants after it has eroded. They can be used when source control BMPs aren't implemented or aren't able to fully address erosion at its source. Our guidance identifies additional practices that should be implemented up and down gradient of sediment basins to increase their effectiveness and longevity. Again, our preference is that producers prevent erosion at its source and only use sediment basins when source control practice aren't fully effective.

WSRC [3]

What type of capital investment is required to create sediment basins and then conduct farming activities around the basin?

This chapter, like the Tillage Chapter has good examples and ideas. However, much like the tillage chapter, the capital investment needed to effectively implement the recommendations is great. There needs to be flexibility and understanding of actual costs in the context of general agriculture.

Response

All chapters of the Voluntary Clean Water Guidance for Agriculture, including the sediment basin chapter, have information about costs and other implementation considerations. See "Table 1: Implementation considerations for Water and Sediment Control Basins and Sediment Control Basins" for cost estimates for sediment basins.

Livestock Management: Pasture & Rangeland Grazing

BlakeB [2]

I see a lot of work has gone in to this by staff and the partners striving to find a workable document.

Response

Comment noted. Our goal was to identify practices that are both implementable and protective of water quality.

BlakeB [3]

I generally agree with most of the document, and realizing the work is targeted at Ecology's responsibility to water quality I believe there is merit to cross referencing other functional contributions of a riparian area just in case this is the only guidance a landowner reviews. Even

if it is a reference to a WDFW document, the average person doesn't realize all of the ecosystem functions riparian areas provide. Specifically wildlife needs is a concern, as it relates to the proposal of doing Agro-forestry within the buffer area. I support agro-forestry when done correctly, but important in this document to highlight that use must be accompanied by a stewardship plan similar to what occurs with RCO grant funded projects. The critical area and buffers are truly the only lowland habitat areas protected by GMA, and over the next couple of hundred years they may be the only habitat left in the lowlands. Stewardship plans identifying temporal limitations for entering the riparian zone for actions related to agro-forestry is essential.

Please, include the requirement for a stewardship plan to go along with multi-use buffer options.

Response

Comment noted. The effectiveness synthesis included in the Pasture and Rangeland Grazing chapter includes a discussion of riparian areas and riparian area functions. Chapter 12 “Riparian Areas & Surface Water Protection” is devoted to riparian areas and primarily water quality related ecosystem functions that those areas provide. As the commenter notes we do not include an extensive discussion of wildlife functions and instead refer readers to the Washington Department of Fish and Wildlife (WDFW) Priority Habitat and Species document for more information on wildlife functions. We chose to refer readers to the WDFW document so that we didn’t duplicate their efforts and to manage the scope of our guidance.

We agree that proper stewardship is needed if agro-forestry activities are to occur in riparian management zones. For grazing to occur within riparian management zone (RMZ), we recommend operators have and implement a grazing management plan and meet specific outcomes, such as maintaining vegetative cover, and preventing erosion and manure accumulations. In the riparian buffer chapter, we outline activities that are compatible with agro-forest but elected not to reference “stewardship plans” because of the range of activities that could be defined as agroforestry and the difficulty of establishing stewardship plan criteria for such a wide range of activities.

BlakeB [4]

Pp10d – First paragraph – It may just help to end this paragraph about exclusion from the full Riparian Management Zone preferred……based on the following information describing the impacts grazing has on Riparian zones. As currently written it sounds a little like an opinion, rather than a technical recommendation based on all the great citations and explanations that follow.

Response

Comment noted. We agree that it is important to explain why we are recommending livestock exclusion fence. In the recommendations section of the Pasture and Rangeland chapter we elected to focus on the benefits of each practice and rely on our effectiveness review as the section of the document to provide detailed information regarding the findings from our

technical review that informed the recommendations. For example, on page 55 the document states"

> "Livestock grazing within riparian areas has many direct and indirect impacts on water quality and riparian zone integrity. Unrestricted stream access can result in frequent defecation in are near surface water, decreases in riparian vegetation diversity and density, weakening of streambanks, increased riparian soil compaction and unstable stream morphology which collectively contribute pollutants such as sediment, pathogenic bacteria and nutrients to surface waters (Kauffman et al., 2004; Magilligan and McDowell, 1997; Miller et. al, 2010; Nagle and Clifton, 2003; Owens et al., 1996; Ranganath et al. 2009). The primary processes that contribute to livestock-induced water quality pollution are direct defecation to streams, runoff of fecal matter to streams, erosion of streambanks through shearing, erosion of bare or sparsely vegetated soils and resuspension of stream sediment by cattle trampling (Kauffman and Krueger, 1984; Trimble and Mendel, 1995; Belsky et al., 1999)".

Further, the conclusions on page 65 outline the key findings and justification for the recommendations. Given the amount of information in the effectiveness review, we chose to limit our discussion of the findings in the practice recommendations section of the document.

BlakeB [5]

Pp 13d – I realize it isn't Ecology's mandate to protect wildlife, but watering in any zone can impact wildlife of all types. Especially if during reproductive or early juvenile life stage. The sooner there is a reference to the need to understand and review the WDFW considerations the better. It wouldn't be the landowners fault for causing impact to wildlife if they aren't aware of the biological dependencies of over half of Washingtons wildlife species on riparian areas.

Response

Comment noted. We updated the guidance to recommend producers consider how animal traffic may affect reproductive or early life stages of nesting birds and wildlife when locating off-stream water facilities.

BlakeB [6]

Pp 14d - If at all possible over-flows from a livestock watering tank should go back in to the stream to maintain streamflow. If that is difficult, then at least the overflow should be released in the inner zone infiltrating in a manner that may provide late summer baseflow support.

Response

Comment noted. The guidance was updated to recommend that overflows outlet to streams, whenever possible, or outlet to inner zones to infiltrate.

BlakeB [7]

Pp 16d - Suggest a reference to newly seeded areas needing to be established and passing the "pull test" prior to allowing grazing.

Response

Comment noted. The guidance was updated with a recommendation to avoid grazing of pastures seeded the previous fall until after mid-April or when it can pass a 'Pull-test'.

BlakeB [8]

Pp17d - Just a note that Trails and Walkways should be built where livestock naturally travel from point a to point b. If you put it in the wrong place, unless fenced they will just use their original pathway.

Response

Comment noted.

BlakeB [9]

Pp 19d – Says all stream crossing must designed and installed according to NRCS specs in FOTG 578. I don't think limiting to this design criteria allows for possible designs with greater benefit to the stream and fish. I suggest says FOTG 578 as a minimum, while allowing for designs providing greater ecological process function. Third bullet should say "is" prohibited, not "in" prohibited.

Response

Comment noted. The guidance was updated to highlight the preference for designs that provide the greatest ecological function. The document now reads "is prohibited".

BlakeB [10]

Pp21d – Again suggest a reference to needing to review WDFW riparian guidelines to avoid impacts to wildlife seasonal life stage uses for reproduction or juvenile refuge and rearing to avoid conflict. Juvenile wildlife may not be able to avoid livestock or be extirpated to lower value habitat.

Response

Comment noted. The guidance was updated to include a recommendation that grazing plans consider potential impacts to wildlife especially when grazing may overlap with seasonal wildlife uses such as reproduction, rearing and juvenile refuge. See page 27d, Grazing Management: Minimum Requirements.

BlakeB [11]

Pp22d – So are the guidelines suggesting there is a fence on both the inside and outside of the outer zone to control livestock? Seems costly, while a logical recommendation. Have people actually done that before?

Response

The guidance recommends excluding livestock from all streams and that exclusion area start at the outer edge of the core zone at a minimum. There are multiple options for grazing in RMZs and this will likely be influenced by the extent to which riparian vegetation extends from the stream. Cattle may be excluded entirely from the RMZ or may graze outside the core zone (in

the inner and/or outer zones) when following a grazing management plan. The details in which grazing plans incorporate RMZs will vary from location to location and each individual grazing plan should be tailored to site-specific conditions. In some situations, operators may want to establish grazing units that incorporate riparian and upland vegetation. While in other situations, it may be appropriate to establish a grazing unit that includes just riparian vegetation. This is especially likely in rangeland and forest rangeland areas.

We recognize there are additional fencing costs associated with establishing these grazing units (combined riparian/upland units or outer zone only units). However, we believe this approach is worth the added costs because it balances water quality protection with limited use of some areas of the RMZ. While we did not evaluate how frequent operations have implemented this type of grazing system, there are operations that have established pastures closer to streams which are managed differently from their upland pastures. We encourage producers to consider this approach and recommend that grant programs support it as well.

BlakeB [12]

Pp26d – Not sure how to exclude livestock from stream when grazing inner zone? Certainly an impact to habitat, but also seasonally for spawning fish. Basically a little more clear guidance on expectations of where fencing would have to be located. Maybe graphically?

Response

Comment noted. We believe this is addressed in the recommendations section on page 11d which states:

- The preferred option is to install permanent fencing to exclude livestock from the entire RMZ.
- At minimum, permanent fencing must be installed on the upland edge of the core zone and may need to be installed to prevent access to filter strip areas where needed.
- Fencing must, at a minimum, prevent livestock from accessing the core zone.

The inner zone may be used for light intensity grazing as outlined in a grazing plan. If filter strips are needed to address excess pollutants from upland areas, then livestock should be excluded from the core and inner zone.

BlakeB [13]

Pp33d – Happy to see reference to wildlife. Suggest a little more info highlighting life stage and juvenile inability to evade or relocate.

Response

See response to BlakeB [10].

BlakeB [14]

Pp35d – Another benefit farmers appreciate is the ability for a mature riparian area to capture flood debris keeping it from impacting their fences and fields.

Response

Comment noted.

BlakeB [15]

PP109 – Need to list Skagit Conservation District! https://www.skagitcd.org/

Response

Comment noted. Skagit Conservation District was added.

BlakeD [1]

Complying with the proposed best management practices included in the Voluntary Clean Water Guidance chapters; especially the grazing chapter, would decimate our ranch's viability. It would also mean property which has been in my family's stewardship since the 1800s would no longer be able to continue raising cattle. My husband and I run a cow/calf and seedstock cattle operation with about 100 mother cows and retained yearlings. We have a home base pasture with our winter sacrifice area away from riparian areas and lease hay and rangeland, which includes over a mile of riparian area. Our landlord would not be able to afford any upgrades in fencing to riparian areas and would be forced to cancel our lease. The land would then have no steward as he is unable to care for it. We would be hard pressed to find enough pasture to lease and land is not affordable for purchase. We would not be able to afford any upgrades to the current leased ground.

Response

The practices in the Pasture and Rangeland Grazing chapter of the guidance are common BMPs often used by grazing operations. We worked with a diverse advisory group to develop the recommendations and identify practices. Practices such as off-stream water, pasture and rangeland management, winter sacrifice areas, and stream crossings enhance livestock grazers' ability to effectively raise livestock and often increase forage and livestock productivity. Further, the guidance allows for livestock grazing in RMZs.

We understand the fencing to protect riparian areas and water quality may be an added expense that some landowners don't account for when leasing their land for livestock grazing. The implementation section identifies the cost of fencing and the loss of grazing areas adjacent to streams as potential barriers. However, those costs can be offset by using off-stream waters sources to better utilize other grazing areas, as well as grant programs that can assist in offsetting the cost of installing fence. Some grant programs can also provide annual payments based on acres protected, purchase conservation easements, or provide other incentives to offset a loss of income. The guidance lists several of the available grant programs.

BlakeD [2]

We rotate the herd through sections of the rangeland and vary the dates of grazing so native grasses can seed about every two years. We try to have the cattle graze invasive plants and only spot spray with approved chemicals as a last resort. We educate ourselves on management

practices through podcasts, conferences and bulletins. VCWG takes away the ability to tailor our educated response to the uniqueness of the land.

Response

Comment noted. The Pasture and Rangeland chapter of the Clean Water Guidance provides options and our recommendations to provide flexibility for livestock producers to tailor their grazing strategies to their unique settings. The guidance contains our recommendations to protect water quality, doesn't require any one grazing strategy, and is consistent with regenerative ranching practices.

BlakeD [3]

Did I miss a mention of how extensive riparian fencing would impact wildlife; especially elk and moose, which both frequent our leased rangeland? How about blue tongue and the WDFW guidance to limit water areas to inhibit the spread of that disease? Having just a few water sources would surely finish off the already struggling white tail deer. Limiting water sources also makes it easier for predators to simply hang out in these areas, which increases their predation average.

Response

Ecology understands fencing can present a hazard to wildlife including deer, elk, and moose. One of the goals of livestock fencing is to protect and restore riparian areas that wildlife rely on for survival. Riparian areas make up a small portion of land in the intermountain Pacific Northwest, yet a large majority of wildlife rely on these limited areas for necessities such as food, shelter, water, and nesting.

Grazing cattle in rangeland areas introduces pressures and changes that can affect wildlife, which inevitably includes trade-offs. There are fencing options and management approaches that can reduce potential impacts to wildlife. For example, using smooth wire on the upper and lower strands of wire fencing, installing solid rails at the top of the fence, keeping fences low enough for deer and elk to jump over, and using gates or other fence designs that can be opened for animal migration when pastures are not being used or are being rested. These are all examples of fencing options to reduce impacts on wildlife.

BlakeD [4]

GPS fencing technology is being developed and made more affordable every day. Please include this option as an acceptable fencing as a way of keeping the VCWG future proof.

Response

Ecology agrees that riparian and upland fencing is needed in rangeland areas when it is used for livestock grazing. GPS fencing technology is an emerging technology and some research suggests that virtual fencing may be effective at restricting livestock from environmentally sensitive areas. However, this technology includes practical, cost, ethical and efficacy questions that need further investigation before we can recommend it as a practice that is expected to protect riparian areas and water quality. More information is needed to understand this technology's reliability and effectiveness at protecting water quality. It's our hope that

additional research will be conducted to test the efficacy of virtual fencing to protect riparian areas and water quality, especially under conditions and seasons when access to riparian zones is highly desirable to livestock. We also hope there will be future studies to evaluate cost-effectiveness of this technology. While costs may be coming down, there are significant costs associated with setting up and maintaining these systems. Based on available research, we may revisit this technology in subsequent updates to the guidance.

BlakeD [5]

In one area of the document, it talks about letting reforestation happen. We leased some ground a few years ago for several years. The landowners and we allowed aspens to flourish near several ponds on the property as we thought this was what was best. Unfortunately, the thirsty aspens made the ponds, which were homes to numerous bird species, turtles, snakes, frogs, and an important water source for ungulates dry up. The cattle were always supplied well water to drink, so that was not the issue. The proposal of blanket reforestation is not always the best answer.

Response

Comment noted.

BlakeD [6]

Grazing seasons vary so widely across the state, to have them listed is counter-productive. Even if the listing were changed to regional grazing dates, they can vary by several weeks from year to year for the same ground. Last year, the cattle were rotated more than this year and forage went unused due to the early snow and cold temperatures. There is simply too much variability to put hard grazing dates in a non-changing document.

Response

Comment noted. The grazing strategies outlined in the guidance are strategies commonly used in the Pacific Northwest, including rangeland grazing operations. These strategies are based on season and include general date ranges. We understand grazing schedules are often tailored and adjusted to be site specific and we support site specific grazing plans to properly manage forage and other vegetation. The dates associated with the grazing strategies outlined in the guidance are in fact ranges and are consistent with timeframes used in the scientific literature and pasture and rangeland technical guidance.

While grazing strategies are typically site specific, the expected outcomes of these strategies are not. Grazing strategies should improve forage utilization, limit disproportionate use of riparian vegetation, prevent damage to plants and soils, prevent bare ground and erosion, prevent over-grazing, promote forage and soil health, and protect and promote health riparian habitat and water quality. The guidance acknowledges the uniqueness of every grazing operation and provides options for the tailoring of practices to the extent possible. However, specificity is needed to ensure the expected water quality outcome are achieved.

Gady [5]

Department of Ecology has put down a blanket approach that we are to follow regardless of practicality, cost, or effectiveness. Nice slopes very little soil showing. Due of the "potential to pollute" the creek was fenced off and livestock not allowed to enter, there are now vertical sides, woody vegetation down the middle of the channel, under the old plant/grass vegetation the banks are eroding. As far as I am concerned this is not good management forced by Department of Ecology.

Response

Comment noted. The practices in the Pasture and Rangeland Grazing chapter of the guidance are common BMPs often used by grazing operations and have been demonstrated to effectively protect water quality.

Gady [6]

On page 10d you reference that**:**

> "There is a wide variety of fence types, but the material and construction method chosen must ensure that livestock do not enter restricted areas at any time."

The majority of the time when the livestock would get into that area is when wild animals break the fence, regardless of type of fence.

Response

Commented note. Regular maintenance is necessary to ensure BMPs like exclusion fencing is effective and achieve its intended outcomes.

Gady [7]

There is also reference about set backs that I feel are arbitrary with no on site data to show that they work.

Response

See response to Miro [5] regarding setbacks.

Jennifer [1]

While we can appreciate some of the other goals as good stewardship, some of the actual recommendations for livestock management lack practicality. It would be important to note that if a rancher were interested in some of these, it would require funding that they may not have. Stream crossings and fences all cost money. Ranching these days is already a narrow margin, if not at a loss some years. Barriers to access of pasture and range-lands, all of which need management for wildlife and wildfires would be a HUGE detriment to local communities.

Response

Comment noted. See response to BlakeD [1] regarding fencing expenses and cost-share programs.

Jennifer [2]

We have concerns if a recommendations to range, water and soil implications would not be viable on many of our family ranches. There is no "one size fits all" recommendation that works for every ranch. We strive toward regenerative ranching practices which are leading the way to improvement of soil, forage, habitats and water sources and undue regulatory implications will slow if not stop most local ranchers or if unable to fund such regulation to be non-compliant by force where they are already doing "good stewardship".

Response

Comment noted. See response to BlakeD [2] regarding grazing strategy recommendations.

Miro [1]

Page 8d, Early season grazing: Early season grazing might be as early as February and March in some areas. Page 21d: Early Season grazing: There is grazing before April in many situations.

Response

We understand that grazing seasons don't follow exact dates and there may be situations were grazing occurs before April. However, the Clean Water Guidance doesn't recommend grazing in late winter as forage often remains dormant or in a near dormant stage, and pastures are highly susceptible to damage during this time. This is especially true for pastures in RMZs. In these areas, late winter grazing can increase the risk of pollution making it to surface waters.

The Clean Water Guidance for Pasture and Rangeland Grazing focuses on practices that maintain vegetative cover and prevent negative impacts to soils and vegetation that can lead to nonpoint source pollution. This is especially important in RMZ where soils are often wetter for longer periods of time. For these reasons, we describe early grazing as starting in April. This is consistent with timeframes used in the scientific literature to describe early season grazing.

Miro [2]

Page 10d, Riparian Management Zones: SPTH is used with definition.

Response

We have updated the guidance to include definitions for Riparian Management Zone (RMZ) and Site Potential Tree Height (SPTH).

RMZ and SPTH are separate terms. RMZs are lands adjacent to surface waters for which management actions are tailored to maintain specific resource objectives. These objectives particularly include water quality protection and the provision of aquatic and riparian habitat for fish and wildlife. SPTH is the average maximum height of the tallest dominant trees for a given site class; the index tree age is 200 years, except where shorter-lived trees (such as cottonwoods) are the tallest dominant trees. SPTH is used to establish the width of the RMZ, but they are not synonymous.

Miro [3]

Page 10d, Permanent Streamside Exclusion Fence: Re working this section to discuss the fence first then the reasons why might create a better tone.

Response

Comment noted. There are multiple ways of sequencing this section. The guidance first highlights the water quality and livestock production benefits provided by exclusion before discussing the logistics of implementing fencing and the types of fencing available. We decided that starting with the benefits provided by the practice before outlining the logistics was the better sequencing because it allowed us to touch on the why it's important before discussing how to implement.

Miro [4]

Page 11d, Livestock Water Sources & Drink Water Quality: Don't mention water rights and permits (HPA required for setting pump in water and electrical permit for solar or electric system.

Response

Hydraulic Project Approvals may or may not be required when installing off-stream water systems that withdraw water directly from streams. We updated the implementation guidance to include a recommendation that livestock owners consult with the Washington State Department of Fish and Wildlife when planning these types of off-stream watering systems. The implementation guidance was also updated to highlight the potential need for local permits for electrical systems associated with off-stream water components.

Water resource law is a complex subject and outside the scope of the guidance. The Department of Ecology has programs and staff within our Water Resources Program that can provide support for water rights questions and claims. If landowners have questions about water rights, we recommend they contact Ecology's Water Resources Program.

Miro [5]

Page 13d, Setbacks of 820 ft or greater: Where did you come up with this number? This seems huge and in many situations not practical or possible.

Response

Primary literature including articles cited in the guidance have found that livestock tend to spend a disproportionate amount of time in or near riparian zones. Further, grazing behavior and animal distribution on the landscape is influenced by the availability and the location of drinking water among other factors.

Off-stream water has been shown to increase animal distribution within grazing areas, reduce congregation in riparian zones and promote the use of upland vegetation; and in doing so, off-stream water can improve forage utilization and animal production and limit nonpoint source pollution within riparian zones. This is best accomplished when off-stream water is distanced from riparian areas and livestock are encouraged to forage in upland areas.

While off-stream water has many benefits to both water quality and animal production, off-stream watering locations are areas of concentrated use and are known to have associated impacts such as compacted soil, reduced vegetation cover and manure accumulations. Placing off-stream water away from streamside and riparian areas sets back these impacts and reduces the likelihood of polluted runoff from reaching surface waters.

There are a variety of factors that should be considered when deciding where to place off-stream water which are discussed in the guidance. While there doesn't appear to be consistent findings within the literature to establish an exact distance for every situation, there does appear to be consensus within the literature about the overarching goals of off-stream watering and the need to place them outside riparian zones whenever possible to facilitate the even distribution of livestock, promote efficient forage utilization, reduce use of riparian vegetation and limit the potential for polluted runoff to reach surface waters. In a study which evaluated vegetation cover associated with distance from surface waters, Rigge et al. (2013) found that increasing the distance off-stream water from surface waters improved vegetation cover near water locations. For example, vegetation cover was significantly higher when off-stream water was placed 450 m to 850 m from surface waters when compared to off-stream water placed 0 m to 250 m from surface waters. Increasing the distance of off-stream water from streams helps distribute livestock and reduces congregation and overuse of riparian zones.

The Clean Water Guidance recommends that off-stream water be placed outside RMZs and provides flexibility for situations where it's not feasible to do so. However, given the wider goals of off-stream water placement, we encourage livestock owners to increase setbacks to 250 m or greater whenever possible.

Miro [6]

Page 17d, Location of sacrifice area: For some properties, sacrifice areas cannot be located outside the RMZ. Having a "must" here makes it impossible for some operations to install HUA, & Sacrifice area. What if your already built barn in located close to the stream? Suggest language to say "should be when possible" or similar.

Response

Ecology understands there may be situations where it may be impossible or impractical to locate or relocate sacrifice areas outside of RMZs. We updated page 17d to recognize this situation. The revised language now states that sacrifice areas should be located outside the RMZ whenever possible. We also updated the recommendations for situations when sacrifice areas cannot be located outside RMZs to highlight the need for additional BMPs to prevent the generation and transport of pollutants from sacrifice areas.

Miro [7]

Page 21d: Grazing Management Strategies: There is no section for Continuous Grazing in the part although it is defined on page 8d.

Response

Continuous grazing is a term used in many articles discussed in the effectiveness review, so we included a definition. However, continuous grazing is not a recommended practice, and therefore is not included in the Grazing Management Strategies discussion on page 21d.

NWEA [1]

The comments on the riparian chapter apply to the pasture and rangeland grazing chapter, particularly with regard to incorporating the historic occupancy of beavers into both the analysis and the recommended BMPs.

Response

See response to NWEA [6].

Sexton [1]

A description and function of a surface skimmer may be useful at first mention for those unfamiliar with its utility.

Response

We added a description of the function of surface skimmers to the Construction and Design section on page 9c.

Sexton [2]

Defining site potential tree height at first use on top of page 10d (or maybe including a list of acronyms for this chapter as was done with other chapters would be greatly helpful)

Response

We agree that defining site potential tree height would help to ready better understand the recommendations. We have updated the document to include a definition of site potential tree height and also include a definition for riparian management zone as these are related terms.

Sexton [3]

Duplicate word: "water watering systems" in middle of page 12d

Response

The guidance was updated to remove the duplicate word.

Sexton [4]

The same list of these watering systems is shown both on page 12d as well as on 180d - this may be intentional as a reminder.

Response

The guidance includes both technical recommendations and implementation considerations and these have some inherent over-lap. For consistency we decided to keep the list of examples of off-stream water systems identical for both sections.

Sexton [5]

For this chapter as well as others, it is my opinion that readability would be improved by moving appendix B: Implementation considerations above citations and the annotated bibliography.

Response

Comment noted. We understand the supporting documentation including the citations and annotated bibliography significantly increases the length of each chapter. We kept the annotated bibliography with the effectiveness analysis because we received feedback that it was important to be transparent about the sources that that we cited in the evaluation. All sections and supporting materials are important and there were several options to sequence the information. All options have advantages and disadvantages. The table of contents and navigation pane within the document hopefully helps readers quickly find the information they are looking for.

Sexton [6]

Overall, a very nice read and well put together.

Response

Comment noted.

WCA [1]

First let me comment on your recommendation to exclude livestock from surface waters and riparian zones. For some ranches that may not be completely viable and risks the health of their cattle and certainly the financial viability of the ranching operation.

Response

Comment noted. We worked with an advisory group to identify practices that are commonly used including exclusion fencing and off-stream. In our work with the advisory group and review of the literature we didn't identify any health risk with these practices. Exclusion and off-stream water can improve animal health, reduce the potential for injuries that can occur when livestock attempt to access streams, and promote better and more even forage utilization which can increase animal production.

Grant programs are highlighted in the implementation section that can offset the cost of implementing recommended practices and provide rental payments for riparian areas protected with exclusion fence. Many livestock producers have used these grant programs to both protect water quality and have a financially viable operation, demonstrating these two goals are not mutually exclusive.

WCA [2]

In addition, while we can appreciate some of the other goals as good stewardship, some of the actual recommendations for livestock management lack practicality. It would be important to note that if a rancher were interested in some of these, it would require funding that they may not have. Stream crossings and fences all cost money.

Response

We understand stream crossings and fencing to protect riparian areas and water quality may be an added expense. See response to BlakeD [1] regarding benefits of the common BMPs provided in the guidance and the financial incentives for implementation.

WCA [3]

Further, we wanted to call attention to Chapter 10, p. 13d which also mentions the importance of water placement in temperate areas or irrigated pastures in these settings, it's recommended to limit the distance between grazing areas and watering locations to 250m (820ft.) whenever possible. We question the benefit of that recommendation and have concerns if a recommendation like that would be viable on many of our family ranches.

Response

Comment noted. See response to Miro [5] regarding the technical support for this recommendation.

WCA [4]

Bottom line: There is no "one size fits all" recommendation that works for every ranch. However, some of the recommendations may be beneficial in some areas if there is funding available and perhaps most importantly… the recommendations must remain fully and completely voluntary, without any strings.

Response

Comment noted. We understand that each property has its own set of unique attributes. We have written the guidance to provide flexibility and tailoring to the extent possible, while still providing assurances that water quality will be protected. The practices included in the guidance are common agricultural practices that are eligible for funding within a wide variety of financial assistance, cost-share programs. The guidance lists several of the available grant programs.

WFB [1]

As the VCWG in its entirety stands as a voluntary recommendation, the proposed language in Chapter 10 severely lacks practical application. While all farmers rely on the weather to provide critical temperatures and timing, many ranchers and livestock producers rely solely on grazing and pastureland without irrigation. Grasses and pasture grow naturally according to the sun, rain and temperature, not according to a date, month or calendar as referenced in the defined grazing seasons in Chapter 10, page 21d.

Response

Comment noted. See response to BlakeB [6] regarding grazing seasons and strategies.

WFB [2]

Further, the recommendation of water placement in temperate areas or irrigated pastures suggests "limit(ing) the distance between grazing areas and watering locations to 250m (820 ft.)

or less whenever possible" (Chapter 10, page 13d). The lack of comprehensive science is staggering. Even on a voluntary basis very few farmers would be willing to disrupt the ground to install water stations every 250m across their property no matter the size of their farm.

Response

We have cited the peer reviewed scientific literature used to evaluate BMP effectiveness and develop BMP recommendations. We believe our recommendations are supported by science. The effectiveness evaluation section of the guidance outlines our rational for the above water placement recommendations. We have cited the peer reviewed scientific literature used to evaluate BMP effectiveness and develop BMP recommendations. The annotated bibliography lists the studies and other sources we reviewed to develop the guidance.

We also worked with an advisory group that included a group of scientists and other technical experts that reviewed and provided us with feedback on our effectiveness evaluation.

Limiting the distance between watering stations is a commonly recommended practice. Shortening the distance to water and providing multiple water options (locations) limits the time and energy livestock must expend to drink and has been shown to improve animal distribution which can lead to better and more even forage utilization and increase animal production. 280m (820ft) is a recommendation for pasture situations. However, the guidance also says, "limit the distance between grazing areas and water locations whenever possible" and "when developing an off-stream watering systems it is important to consider the location and distance between watering sites as these will influence their use and subsequent effect on animal distribution and forage utilization". The guidance further states "each grazing operation is unique, and the number of water facilities needed and their placement will vary based numerous factors such as the type and number of animals, sources of water used, terrain and watering system chosen". Finally, the guidance also states, "consult with a grazing specialist to determine the number of off-stream water facilities needed and to identify optimal placement". Limiting the distance livestock travel to drink is a commonly recommended practice. The guidance provides recommendations but also recognizes that distance between watering stations will likely need to be tailored based on site-specific considerations and operator preferences.

WFB [3]

We encourage the Department of Ecology to draft voluntary guidelines that use comprehensive science and conservation strategies already in place by other programs.

Response

Comment noted. See response to Swinomish [1].

We have cited the peer reviewed scientific literature used to evaluate BMP effectiveness and develop BMP recommendations. We believe our recommendations are supported by science. The guidance was designed to complement other existing guidance such NRCS FOTGs by providing clear recommendations for BMPs that protect water quality.

WSRC [4]

The Pasture and Rangeland Grazing BMP's have defined grazing seasons. They are overly broad and yet overly prescriptive.

Response

Comment noted. See response to BlakeD [6] regarding grazing seasons and strategies.

When developing our guidance, we received feedback from our advisory group that conservation and grazing plans are site specific, and the guidance should provide opportunities to address site specific or farm specific concerns and needs. We agree and designed the guidance to allow for tailoring when possible. Areas of the guidance that are broad are intentionally broad. These are aspects of grazing that are the most site and farm specific.

While grazing management strategies are typically site specific, the expected outcomes of these strategies are not. Grazing strategies should improve forage utilization, limit disproportionate use of riparian vegetation, prevent damage to plants and soils, prevent bare ground and erosion, prevent over-grazing, promote forage and soil health, and protect and promote health riparian habitat and water quality. The guidance acknowledges the uniqueness of every grazing operation and provides options for the tailoring of practices to the extent possible. However, specificity is needed in key areas to ensure the expected water quality outcomes are achieved.

WSRC [5]

Because of the likelihood these BMP's will become the basis for litigation and regulatory enforcement, it would make more sense to leave out precise measurements such as a 250 m distance between grazing areas and watering location. Instead, a more appropriate Best Management Practice would focus on the desired effect of lessening impact to surface water. That effect could be achieved in many different ways depending on the different topography, and surface water characteristics in Washington. Simply applying a prescribed size of vegetation near a waterway will not achieve the desired result during different seasons and storm events.

Response

See response to WFB [2] regarding water placement recommendations.

The buffers widths outlined in the guidance were developed based on a review of scientific literature that evaluated the effectiveness of riparian vegetation to reduce or eliminate pollutants commonly associated with agricultural land uses and widths needed to adequately shade streams and provide microclimate. We understand no BMPS can be fully protective of water quality under all situations, such as extreme storm events. However, the buffer specifications outlined in the guidance are expected to protect water quality in all seasons under typical climate and hydrologic conditions.

WSRC [6]

These Best Management Practices are impractical and a dangerous overreach by the Department. Stream health and riparian regions can be developed better through technical assistance and customized incentive based plans such as those built by the Voluntary Stewardship Program. Prescriptive Best Management Practices monitored by "windshield

surveys" and intrusive satellite mapping will only result in creating resentment in the regulated public as well as discouraging agriculture in this state.

Response

The federal Clean Water Act (CWA) requires the Department of Ecology (Ecology) to develop and maintain guidance on BMPs to protect water quality. Section 319 of the CWA requires that State nonpoint source (NPS) management programs "identify best management practices and measures to control each category and subcategory of nonpoint sources…" Guidance from the United States Environmental Protection Agency (EPA) further establishes that state NPS management programs must include an "identification of measures (i.e., systems of practices) that will be used to control NPS pollution, focusing on those measures which the state believes will be most effective in achieving and maintaining Water Quality Standards." (EPA, 2012).

We worked with a diverse advisory group that included scientists and technical experts as well as representatives from agricultural groups and environmental groups to develop the guidance. We have written the guidance to provide flexibility and tailoring to the extent possible while still providing assurances that water quality will be protected. Our guidance was developed after extensive review and synthesis of relevant peer reviewed scientific literature.

The practices included the Pasture and Rangeland Grazing chapter are BMPs commonly used by livestock grazers and recommended by conservation planners. Practices such as off-stream water, pasture and rangeland management, winter sacrifice areas, and stream crossings enhance livestock grazers' ability to effectively raise livestock and often increase forage and livestock productivity.

WSRC [7]

Grazing is not an activity that is intrinsically harmful to the environment. Grazing can be an effective method to manage vegetation and mitigate wildfire risk and encourage carbon sequestration. Focusing the Department's efforts on being of assistance to farmers and ranchers instead of being a watchful eye in the sky and regulatory enforcement agency would likely yield far better results.

Response

We understand that grazing management practices such as those outlined in the guidance can help reduce or minimize the harmful effects livestock grazing has on the environment, including negative impacts to stream and riparian ecosystems.

The scientific literature documents that livestock grazing can negatively affect the environment is numerous ways. For example, as highlighted in the effectiveness evaluation section of the guidance (page 38), a literature review of livestock influences on stream and riparian ecosystems in the western United States, Belsky et al. (1999) stated that "an extensive literature search did not locate peer reviewed, empirical papers reporting a positive impact of cattle on riparian areas when those were compared to non-grazed controls". In another review of livestock grazing impacts on stream water quality, Agouridis et al. (2005) reached similar conclusions.

We agree that it is important to focus on providing financial and technical assistance to farmers. The implementation section outlines the important of both and provides information on financial assistance programs.

WSRC [8]

Similarly, focusing on a desired result achieved by a customized program instead of prescribing overly precise methods of achieving the result will achieve more in the end. It is recommended that comments cite specific areas of the report, but 200 pages of prescriptive practices beg an overall comment. Give the regulated community a goal and let them achieve it in the way that suits their specific operations best. Providing a "voluntary" list of "best management practices" and then monitoring through invasions of privacy will only build resentment and a lack of cooperation in the regulated community.

Response

Comment noted. See response to WSRC [6].

We recognize the overall guidance is long. We heard from stakeholders that it was important to document the scientific research and literature behind our recommendations as well as discuss implementation considerations. Given the breadth of practices commonly used by livestock operations the guidance is a reasonable length. The recommendations section is shorter and focuses on our bottom-line recommendations. The bulk of the document is supporting information primarily consisting of our BMP effectiveness evaluation that is based on peer reviewed scientific literature. We have cited the resources used and provided an annotated bibliography. Again, we heard from stakeholders that it was important to provide transparency and allow readers to better understand the science that was reviewed and used to develop our recommendations.

We have also heard from farmers that they want certainty and predictability around our BMP recommendations-understand what we think will be effective in protecting water quality. If an operation uses suites of practices consistent with the recommendations in the guidance and appropriate to all farm-specific pollutants and water quality concerns, Ecology will presume that water quality is being adequately protected by the operation**.** This guidance does not prescribe a single approach or set of practices for all farms or create new regulatory requirements. Compliance with the State Water Pollution Control Act, which protects state waters, continues to be required of farmers just as it is required others. However, decisions about how to achieve compliance, about whether to implement recommended BMPs, and about which practices to choose, remain in the hands of the producer. This guidance is intended as a technical resource to support and inform those decisions.

Riparian Areas & Surface Water Protection

BlakeD [7]

Using Site Potential Tree Height (SPTH) for riparian restoration, even on a voluntary basis, ignores responsible stewardship. The proposed riparian buffer rules do not adequately consider the positive impacts of current state and federal conservation practices such as CREP, ACEP,

EQIP, CRP and others including the Washington Voluntary Stewardship Program, which is not even mentioned in draft chapters and continues to be underfunded.

Response

SPTH is used to establish the width of RMZ widths outlined in the guidance support a range of important ecological functions provided by riparian habitats, which also help protect and restore water quality. The Clean Water Guidance provides options for using parts of the RMZ for agricultural purposes, including grazing. In the case of grazing, the expectation is that livestock producers have and follow a grazing plan when grazing in RMZs. These recommendations align with responsible stewardship.

We considered funding programs such as those highlighted in your comments when developing our guidance and believe our guidance and its recommendation dovetail well with these federal programs. For example, these federal programs commonly prioritize water quality outcomes, emphasize riparian buffers as a key practice for protecting water quality and also provide funding for riparian buffers and supporting practices such as those outlined in our guidance.

BlakeD [8]

DOE uses a blanket science and approach that more vegetation near a stream will prevent the waterway from expanding or changing course. I believe it was March 2013 when there was a large snowfall followed the next day by melting temperatures. During this event, there was much local flooding and damage to roads. There was erosion which nothing could have stopped. One of our local creeks, not on ground we own or lease, went underground and has never returned. This was not the fault of anything agricultural as it disappears into a hole in the ground on state owned land. No amount of extra trees, nonuse, etc. would have prevented this from occurring. Throughout Spokane and Lincoln counties, all sorts of waterways changed that day.

Response

Our guidance was developed after extensive reviews of empirical, peer reviewed scientific literature. Peer review of scientific literature is a rigorous, academic process that relies on a community of experts to review studies and their finding to ensure that only articles that meet good scientific standards are published. We used information and data from studies that went through a peer review process and were published by scientific journals.

Riparian vegetation is a critical component of the stream corridor, and it exerts significant controls over the physical and biological functions of the stream environment. Riparian vegetation also directly and indirectly influences stream geomorphic processes. We understand that channels will change and move over time due to natural processes. However, degraded riparian areas and altered watershed hydrology are known to significantly influence the stability of stream channels and streambanks and the rate in which they erode and change.

Chapman [1]

The guidance for nonpoint agricultural impacts on riparian water quality best practices should be based on local evaluation of agricultural impacts on temperature and pollutants on local, regional, state and national goals. Rather than rely on the WDFW riparian references which

were the ideal, prescriptions for actions should be related to local actions needed to address the water quality parameters of concern based on monitoring information, and best professional judgement of all governmental and stakeholder parties. This would allow matters of concern based on water quality be addressed at a size and scale necessary to reduce or eliminate agricultural impacts on water quality based on the waterbody of concern. The fallacy of using the WDFW mapping tool is clear when you bring it up in the lowlands of Puget Sound and see their version of a Riparian management zone in the ideal with the existing situation. It would behoove WDOE to determine relative impacts of different riparian treatments that would eliminate or significantly reduce the impact of non-point agricultural operations on the water quality parameters WDOE is responsible for protecting or restoring.

Response

Each chapter of the Clean Water Guidance includes an evaluation of BMPs and their ability to reduce a range of pollutants or conditions know to generate pollution. Based on those evaluations, the chapters outline BMP recommendations that are expected to protect water quality when fully implemented.

We understand that each property will have its own set of unique attributes. Thus, we have written the guidance to provide flexibility and tailoring to the extent possible while still providing assurances that water quality will be protected. We don't believe site level monitoring is necessary to recommend suites of BMPs. Rather, our approach is to identify suites of commonly used agricultural BMPs and provide recommendations for how they can be implemented in a way to prevent and treat nonpoint source pollution holistically.

The commenter's suggested approach of having locally identified priorities and monitoring drive nonpoint work has often led to implementers focusing on a single identified pollution problem at the exclusion of other pollutants. For example, some shellfish recovery efforts have focused only on bacteria and bacteria monitoring at the expense of addressing other nonpoint pollution problems, such as temperature. We do not support a piecemeal approach. We believe nonpoint pollution should be addressed holistically (not parameter by parameter), Therefore, our BMPs are designed to address the multiple types of pollution that are generated by agriculture operations.

The commenter suggests that we do not use the WDFW guidance. We support the use of WDFW's Priority Habitat and Species Guidance and WDFW's recommendation to use SPTH at 200 years to establish the width of the RMZ.

We have aligned our guidance with the WDFW recommendation. RMZs as outlined in the riparian buffer chapter are one SPTH in width. RMZs of this width support a range of important ecological functions for riparian habitats including helping to provide cool and clean water. Therefore, RMZs are our preferred option. However, we recognize that a fully forested RMZ with agriculture uses excluded is not feasible at all operations. Our guidance is written to provide flexibility and we include other options that allow agricultural uses in the outer and/or inner zones of the RMZ. We believe this approach strikes the right balance between agricultural uses and water quality protection and restoration.

Churape [1]

I would be hesitant to come up with such large zones for the RMZ and such a large RMZ for western WA. While this may be "guidelines" that are not required, they will affect funding sources for agencies that help landowners address resource concerns. If these agencies have to abide by the guidelines, it will limit the amount of actual work that gets implemented. It would be better to actually get projects completed that do help address resource concerns and work with the landowner objectives rather than have impractical goals or guidelines that will decrease the work that is done. Getting landowners to agree to such large zones will prove to be difficult and is already difficult to limit ag activities in smaller buffer zones.

Response

RMZ widths outlined in the guidance support a range of important ecological functions provided by riparian habitats, which also help protect and restore water quality. We hope other agencies use the guidance to establish funding guidelines for the programs they administer if protecting and restoring water quality is one of their goals. We do not agree with the commenter's suggestion that the guidance is impractical or will decrease work to address water quality. The guidance provides practical and flexible options for tailoring practices to address site level concerns, while setting minimum expectation to ensure implemented practices have the desired water quality outcomes.

The commenter's suggestion that implementers should tailor grant funded projects to landowner objectives has not been effective in restoring and protecting water quality. To ensure grant funding is spent in a responsible way, we believe that funding guidelines should have science-based minimums that are designed to support attainment of the water quality standards and support wider ecological functions.

EPA [1]

Note: EPA provided several technical and formatting comments on an initial draft of the Riparian Areas & Surface Water Protection chapter. These comments were available on the public comment form webpage during the public review period and are available upon request.

Response

Ecology made several changes to the Riparian Areas & Surface Water Protection chapter based on EPA's comments. This included, modifying the shade tables, adding references to studies, adding to our introduction on temperature processes, and removing some references.

One area of emphasis in EPA's comments was that expected effectiveness estimates for temperature and large wood recruitment are at the lower end of reported widths associated with shade and large wood production. Likewise, our riparian buffer width recommendations for smaller streams (less than 5 ft. wide) are at the lower end of what is the expected to be effective for protecting and restoring temperature and supplying large wood to streams. EPA points to studies in the forestry context that support implementing wider buffers.

We generally agree with EPA and recognize that our three zone RMZ recommendations for smaller streams are at the lower end of what the literature suggests will be effective. We are

attempting to balance effectiveness with providing agricultural property owners flexibility when possible. On narrower streams within agricultural lands, we believe that narrower buffers than in the forestry context may be as effective.

The forestry studies are clear that wider buffers than the three zone RMZ found in our agricultural guidance are necessary in the forestry context.

While we largely believe the forestry studies are applicable and should inform our recommendations for agricultural sources, we do think there may be some differences in how the buffers grow in agricultural areas that may justify different treatment. For example, in agricultural areas we anticipate the density of riparian vegetation to be greater than in forested areas because the buffer will grow without competition from upland trees and vegetation and shading from that vegetation. In forested areas it is not uncommon for trees to drop lower branches and the understory to receive less light than what is anticipated in non-forest environments, such as agricultural areas. Agricultural buffers will generally have less competition and be denser. Likewise, we anticipate that the trees in an agriculture buffer will be more resistant to wind throw because they grow without the trees in the adjacent upland areas. Our expectation is that denser riparian buffers and branch overhang will compensate for buffer widths that are on the lower end for what is needed to provide shade for small streams.

Unfortunately, there are fewer peer reviewed and robust studies evaluating buffer widths and temperature and large wood on agriculture as compared to forestry. We recognize this gap in the research and support more large-scale studies on agricultural lands that are equivalent to the studies being produced by the Washington State's Forest practices adaptive management program. When we have more information, we may need to revisit our recommendations for small streams.

In the interim, recognizing that our recommendations for smaller streams are at the lower end of what the research suggests will be effective, we made two edits. First, we added a bullet under the filter strip recommendations that recognizes that trees may need to be planted in this area for small streams to ensure that temperature/shade goals are achieved by the three-zone option. Second, we added a bullet to recognize that supplemental large wood projects may be needed to achieve large wood goals. We believe these changes will increase the overall effectiveness for smaller streams. Again, we may need to revisit these recommendations in the future if studies specific to agricultural lands suggest that a wider core zone is necessary to protect water quality.

Gady [8]

This is a major concern with my biggest concern being the set backs at a minimum of 200 ft. This in many places would make my areas useless. With the area not being usable would have an economic impact on me.

Response

Comment noted. See response to BlakeD [7] setbacks and allowable uses.

Good [1]

It's important to point out the lack of true field tested peer reviewed science in developing this proposed draft Clean Water Guidance Chapters and the Chapter 12 Riparian Surface Water Protection. Using faulty data and nonfactual opinions in computer modeling will continue the deterioration of the fish population. Before any more taxpayers funds are wasted on riparian and habitat projects we need to see reviewed studies clearly proving the millions upon millions of tax dollars have accomplished a goal. Most of the these riparian and habitat projects in Skagit County have failed their expectations and are now causing more harm to fish and water quality. For example the project at Hansen Creek has turned into a stagnant swamp. Or the question of ocean conditions and overpopulation of seals causing the major decline of fish numbers returning. Skagit County has been adequately protecting critical areas as the County is enrolled in the VSP. If this draft becomes a mandatory regulatory document it will destroy one of the best agriculture valley in the world.

Response

Our guidance was developed after extensive reviews of empirical, peer reviewed scientific literature. See response to Swinomish [1] for more further details on our literature review process.

Jennifer [3]

Using Site Potential Tree Height (SPHT) for riparian restoration, even on a voluntary basis, ignores responsible stewardship.

Response

Comment noted. See response to BlakeD [7] regarding the use of SPTH.

Jennifer [4]

We don't feel this recommendation adequately considers the positive impacts of current state and federal conservation practices such as CREP, ACEP, EQUIP CRP and others including the Washington Voluntary Stewardship Program, which is not even mentioned in draft chapters continues to be significantly underfunded.

Response

We considered funding programs such as those highlighted in your comments when developing our guidance and believe our guidance and its recommendation dovetail well with these federal programs. For example, these federal programs commonly prioritize water quality outcomes, emphasize riparian buffers as a key practice for protecting water quality and also provide funding for riparian buffers and supporting practices such as those outlined in our guidance.

NWEA [2]

Page 14c: In this chapter, Ecology establishes riparian buffer minimum requirements based on “riparian forest potential,” yet fails to include a definition of that phrase in the definition section. For example, at page 18b, Ecology states: “These default RMZ widths do not apply to streams without riparian forest potential; RMZ widths for these streams are primarily based on

water quality protection." In several places, such as page 24b, Ecology discusses what this means due to adjacent wetlands, but it is otherwise silent on how to address the issue. See, e.g., page 36b. Instead, it uses the phrase "other streams without riparian forest potential (eastern WA)." Id. (emphasis added). Elsewhere, it refers to Eastern Washington waters "without riparian forest potential due to climate conditions." Id. at 35b (emphasis added). On page 42b, the guidance states: "These default RMZ widths do not apply to streams without riparian forest potential; RMZ widths for these streams are primarily based on water quality protection and are presented later in the document (see pages 83-91)." Pages 83–91 include a summary of buffer size and its relationship to phosphorus removal/trapping and a portion of sediment in runoff. These pages do not cast any clarity on what the RMZ widths should be for streams that Ecology deems to be "without riparian forest potential," a term that is never defined. (A word search does not identify alternative pages.) Tables 11–13, all of which pertain to eastern Washington streams "without forest potential due to climate conditions" include footnote 1, which reads: "See guidelines that precede tables for determining: when to include a filter strip and how to determine its width; when and how to modify zone widths; what vegetation should consist of in a given zone; and what activities should or should not occur in any given zone." This footnote does not clarify when a stream fits into this approach and frankly refers to information that isn't readily identified. It would be helpful in this regard for the guidance to be specific as to which "guidelines that precede tables" Ecology refers. For example, does it mean the material on pages Pages 22b–24b: The guidance states: "A site potential (SP) plant community is composed of native vegetation species and has a plant density that would occur in a minimally managed condition on a site, e.g. a Douglas fir forest community, Black cottonwood forest community, Sandbar willow community, etc." This requirement for use of native species is repeated elsewhere, e.g., page 23b: "Use current Level IV EPA ecoregions, NRCS Land Resource Area designations, and/or other resources to help determine appropriate native plant communities." On page 24b, Ecology states:

> "It is not feasible to provide detailed species mixtures and plant density recommendations for all of the potential native riparian vegetation communities throughout the state. Suggestions on resources to consult for determining the appropriate native species mixtures and plant densities for a given site are provided in Ecology's RMZ Implementation guidance."

This is plainly inconsistent with the commitments made by Ecology in NWEA v. Commerce, item no. 2.a.iv (emphasis added):

> "For the BMPs involving riparian areas, Washington shall establish necessary widths, and base riparian buffer plant composition guidance on mature vegetation communities composed of native species and consistent with ecological site potential, to meet water quality standards to the extent possible[.]"

In addition, Ecology makes no effort to evaluate whether its recommended use of the "NRCS ecological site descriptions and/or an equivalent assessment of the potential natural vegetation community," see draft Guidance at 15b, is sufficient to meet the goal of the BMPs. It merely assumes that they are sufficient, making a mockery of the science-based evaluation the agency has purportedly completed.

Response

Comments noted. The commenter rightly recognizes the guidance provides different recommendations for riparian areas that historically had forest potential verse riparian areas that did not have historic forest potential. This is a logical distinction for the guidance and consistent with feedback we received from our advisory group. It does not make sense to recommend that a RMZ have trees in areas where trees historically did not grow.

There are two basic types of RMZs without forest potential identified in the guidance.

- Streams without riparian forest potential because of stream adjacent wetlands where conditions are not suitable for tree establishment and persistence. This can occur on either the east side of the state or the west side of the state. In those cases, we recommend landowners follow Ecology's Guidance for protecting and managing wetlands (Ecology, 2005).
- Streams without riparian forest potential due to climate conditions. These are only found on the east side of the state. In those cases, we recommend a RMZ greater than or equal to 100 ft. Within the RMZ we recommend a three-zone buffer with a core zone ranging from 50 ft. or greater minimally managed site potential vegetation for perennial streams 25 ft. or greater minimally managed site potential vegetation for ephemeral streams; an inner zone filter strip ranging from 0 to 20 ft.; and an outer zone ranging from 30 to 75 ft. where agriculture activities are allowed if all applicable BMPs are being implemented. This is a significant level of protection. While streams without forest potential are only found on the east side of the state, it is not the entire east side of the state as suggested by the commenter.

This distinction between areas with historic riparian forest potential and those without riparian forest potential forest potential due to climate conditions is consistent with the WDFW Priority Habitat and Species Guidance. To ensure consistency with our two guidance documents we adopt the same 100 ft. RMZ.

In most cases there will be easily accessible information to identify whether the riparian area historically had forest potential. We would ask whether the riparian area for a given location would naturally and historically support large, native tree species (e.g., cottonwoods, lodgepole, ponderosa pines, Douglas fir, cedars, hemlock, aspen and alder), and whether these trees would have naturally formed a forested riparian area or mosaic of tall trees and trees/shrubs. Likewise in areas of the state that were historically desert, or semiarid shrub-steppe areas, we believe that landowners and implementers can easily identify areas where historically trees could not grow in the area directly adjacent to the stream or river. The key distinction is whether trees historically would have grown in the riparian area. Ecology recognizes that there are small areas of the state where this distinction may be difficult to make but we believe that in those situations local and/or historic data and information can be used to make determinations on a case-by-case basis. WDFW's mapping tool[3] can provide a starting point for determining where riparian areas without forest potential may exist.

[3] https://wdfw.maps.arcgis.com/apps/MapJournal/index.html?appid=35b39e40a2af447b9556ef1314a5622d

If we find that implementers are having difficulty distinguishing between streams with forest potential vs. streams without forest potential or we find that implementers are over identifying riparian areas without forest potential, we will revisit these terms in the future.

The comment also recognizes the importance of what is planted in the buffer. For the guidance we ultimately landed on a results-based standard: a native vegetation community with a species mixture and density that is within the range of natural variability for the site's ecological potential. See definitions section and the "Recommendations for RMZ Configuration and Management". We leave it to individuals to work with local and state implementers (and those implementers best professional judgement) to select species of trees and other plants to plant and to develop a planting plan that will achieve that standard.

Ideally, the guidance would include, or point to, more specific planting guidelines. Given time constraints we could not develop specific planting guidelines for the entire state. Additionally, we worked with the advisory group to locate resources and/or existing planting guidelines that we could point to in the guidance. Unfortunately, we could not locate comprehensive planting guidelines for our state. We provided the level of detail to the extent possible based on the information available to us in accordance with the commitments we made.

The commenter does not provide any resources or guidance that we could use to provide more detailed planting guidance. We encourage the commenter and others to provide planting resources/guidelines, and we will update the guidance if we receive it.

NWEA [3]

Pages 29b–31b: In a section titled "Western WA- Additional Buffer Configuration and Modification Recommendations" it is absolutely unclear what applies where Ecology, a landowner, or another agency determines that a stream lacks riparian forest potential.

Response

The guidance lays out only one scenario where Ecology believes there would not be forested potential on the west side of the state: areas where there are wetlands adjacent to the stream.

NWEA [4]

Page 99b: The guidance states that "[t]he core zone of the RMZ should be vegetated with a native plant community consistent with the ecological site potential, as discussed later in this guidance." Id. (emphasis added). But there is no discussion about "ecological site potential" later in the guidance other than page 126b that identifies site potential tree heights and suggests that where there are "no data" the area is "unsuitable for trees." If the reference to what comes "later in the guidance" is to the entire guidance, that's simply another way of Ecology's saying nothing about what "ecological site potential" means.

Response

The Riparian chapter was edited to remove the reference to "as discussed later in this guidance". Site potential is the ability of a site to support specific vegetation communities. We used ecological site potential as a results base standard (i.e., we recommend planting native

plants that would historically be at the location in the densities that would historically been at the location).

NWEA [5]

Page 126b: Ecology defers to NRCS yet again in its description of "ecological site conditions are unsuitable for trees (e.g., arid sub-regions of the Columbia Plateau), or where current and expected future land use was judged by NRCS to never allow trees to become established (e.g., intensive agriculture)." There is no clarity as to whether Ecology is actually adopting the NRCS conclusion about intensive agriculture (and other views) and no explanation by Ecology of why such streams would be excluded from meeting water quality standards.

Response

Ecology does not exclude any streams from meeting water quality standards. The section the commenter is pointing to was developed by WDFW and was only used in our guidance as a basis for establishing the default RMZ SPTH widths for the east (150 ft.) and west (215 ft.) sides of the state.

NWEA [6]

However, to return to the central issue, which is what defines a stream "without riparian forest potential," we want to make the following points. First, Ecology in its guidance and in some of its advisory committee meetings (where it referred to "natural riparian areas"), appears to take the position that in much of Eastern Washington there is no "riparian forest potential." For example, in the guidance, Ecology states that "for western Washington in particular, the majority of agricultural lands adjacent to buffers were historically forested." Id. at 111b. Second, Ecology is mistaken in this assumption and hinting that such potential does not exist and therefore drastically different guidelines apply—compare zones in "preferred option" and tables at 32b–34b with those on 35b–36b—because Ecology ignores the historic role played by beavers in retaining water in streams and creating the very conditions required for riparian forest potential.

Beavers, however, are not mentioned with regard to determining whether streams in Eastern Washington (or anywhere in the state) have "riparian forest potential." A key issue is beaver occupancy, which was historically widespread. Beavers are the only efficient, cost-effective, and proven method of improving stream flow, hydrology, and habitat conditions in the highly damaged agricultural areas of Eastern Washington to support riparian forests in areas that have "climate conditions," another phrase not defined by Ecology. But rather than look at the historic riparian forests that protected water quality and the key role beavers played in supporting those forests, Ecology uses the concept of "climate condition" as a get-out-of-jail card.

Instead, the whole of the guidance mentions beavers exactly once, at page 102b ("beaver ponds can have reach-scale effects upon stream temperatures, e.g., by influencing shading, water surface area, water velocity, etc.") as compared to the literature review that includes, for example, a summary of Kozlowski et al., Guidance at 235b, who are described as noting an "improvement in hydrology resulting from increased beaver dam occurrence." Thereafter, the

only references to beavers in the literature review are how they can cause damage to unprotected restoration seedlings. It's as if Ecology intentionally put on blinders to an entire area of study in the field of restoration ecology.

Ecology needs to better understand that it incorrectly implies that eastern Washington has no riparian forest potential. We suggest that, to start, Ecology read the following, which we will not summarize here: (1) NMFS, Oregon Beavers Engineer Better Fish Habitat, More Fish (July 14, 2016) available at https://www.fisheries.noaa.gov/feature-story/oregon-beavers-engineer-betterfish- habitat-more-fish; (2) USDA, Forest Service, Pacific Northwest Research Station, Forestry Sciences Laboratory, Using Beaver Dam Analogues for Fish and Wildlife Recovery on Public and Private Rangelands in Eastern Oregon (July 2019); (3) Christian Dewey, et al., Beaver dams overshadow climate extremes in controlling riparian hydrology and water quality, Nature Communications (2022) 13:6509; T.J. Beechie et al., Channel incision, evolution and potential recovery in the Walla Walla and Tucannon River basins, northwestern USA, 33 Earth Surf. Process. Landforms 784-800 (2008); (5) Jeff Baldwin, Institutional Obstacles to Beaver Recolonization and Potential Climate Change Adaptation in Oregon, 79 Yearbook of the Association of Pacific Coast Geographers 93-114 (2017); (6) Rita K. McCreesh, et al., Reintroduced Beavers Rapidly Influence the Storage and Biogeochemistry of Sediments in Headwater Streams (Methow River, Washington) 93 Northwest Science 112-121 (2019); and (7) Nicholaas Bouwes, et al., Ecosystem experiment reveals benefits of natural and simulated beaver dams to a threatened population of steelhead (Oncorhynchus mykiss), Scientific Reports, 6:28581, DOI: 10.1038/srep28581 (2016). There is a great deal more literature on the historic role beavers played in maintaining riparian forests and how they can restore the streams that agricultural uses have destroyed.

Moreover, we urge Ecology to read these documents and then follow the science by including as agricultural BMPs the actions by landowners that will return beaver occupancy to streams, namely preventing: mechanical destruction of bank dens and tunnels by grazing cattle; destruction of banks' sedimentation and root structure needed for bank dens and refuge holes; stream dewatering below 2.5 feet; trapping or killing of established beavers, pregnant beavers, adult beavers caring for young under two years of age; and high velocity stream flows that blow out beaver dams—i.e., requiring the installation of beaver dam analogues ("BDAs") form mitigation. The omission of beaver-related actions by landowners is a huge oversight by Ecology in its agricultural BMP guidance. This omission also renders the guidance inconsistent with the commitments made by Ecology in NWEA v. Commerce, item 2.a.iv (emphasis added):

> "For the BMPs involving riparian areas, Washington shall establish necessary widths, and base riparian buffer plant composition guidance on mature vegetation communities composed of native species and consistent with ecological site potential, to meet water quality standards to the extent possible[.]"

Determining and achieving "ecological site potential" requires Ecology's evaluation of and identifying the conditions for restoring beavers on the landscape.

Response

See response to NWEA [2]. We do not believe eastern Washington has no forest potential. Significant areas of the eastside of the state have riparian forest potential. We believe the majority of the eastside has forest potential.

We do not discount the significant impact beavers have had on eastern Washington as detailed in the articles shared by the commenter as well as discussed in WDFW's Priority Habitats and Species Document-Riparian Ecosystems, Volume 1: Science Synthesis and Management Implications Chapter 7. We support beaver restoration projects and the positive impact that can have for ecosystems.

NWEA [7]

Page 13b: Ecology states that "[t]he goal for this chapter is to develop guidelines for riparian management zones that, when implemented, will help restore and protect Washington State waters from agricultural pollution and facilitate the achievement of water quality standards." However, the commitment by Ecology in NWEA v. Commerce for riparian area BMPs specifically is "to meet water quality standards to the extent possible." "Facilitating the achievement" and designing practices to meet water quality standards is not the same thing. Not only does Ecology need to change its "goal" for the riparian chapter, it needs to conform its goal to its binding commitments.

Response

Ecology does not see a significant difference in the language. Our goal is to meet water quality standards. In both cases (using "to the extent possible" and "to facilitate") Ecology is merely trying to capture that a single BMP will not by itself ensure meeting the water quality standards. Suites of BMPs implemented throughout watersheds (by agriculture as well as other sources) will be necessary to achieve water quality standards.

NWIFC [1]

The NWIFC considers Ecology's guidance on riparian areas and surface water protection an important opportunity to advance protection and restoration of water quality and help producers in Washington meet their obligations under the Clean Water Act (CWA). Importantly, the publication of this guidance will provide an initial expression of Governor Inslee's commitment to protect riparian areas based on site potential tree height comprehensively across state agencies and land uses. As such, it is critical that the guidance honors both the intent and substance of the governor's commitment.

Response

Comment noted.

NWIFC [2]

Ecology's recommendation to extend the Riparian Management Zone (RMZ) to 215' on the westside and 150' on the eastside is a good start at developing management strategies that will protect and restore water quality in the state. We also support Ecology's recommendation to restore the forested landscape to the full RMZ and retain forest cover in places where an

existing RMZ already consists of forest. Finally, we support Ecology's recommendation to adhere to WDFW's guidance regarding controlling or limiting activities that may occur in a RMZ. However, we recognize the WDFW guidance was written to cover a range of land uses, including the developed landscape, so tailoring and refining this guidance specifically to activities that occur on a farm would make the guidance more applicable and useful to agricultural land-uses. Critically, we think it is important to emphasize activities that may hinder or prevent the eventual full reforestation of a site potential RMZ not be allowed and should be avoided.

Response

Comment noted. Ecology agrees that this guidance is a significant opportunity to advance protection and restoration of water quality, and help producers comply with the state Water Pollution Control Act and support meeting water quality standards. As we state in the introduction:

> "If an operation uses suites of practices consistent with the recommendations in this guidance and appropriate to all farm-specific pollutants and water quality concerns, Ecology will presume that water quality is being adequately protected by the operation. Providing this certainty and predictability to producers and farm planners is one of the main goals of this guidance."

Ecology agrees that the guidance should highlight agricultural activities that should not be located in the RMZ. We added language in the guidance to include a recommendation that listed activities should not be located in the RMZ, including roads, waste storage facilities, confinement areas, winter feeding areas, off-stream water facilities, heavy use areas and barns/other buildings.

NWIFC [3]

1. Clearly state that one site potential tree height buffers consisting of "minimally-managed" "site potential plant communities" are the protection standard Ecology has adopted to determine the adequacy of RMZs to protect water quality, provide sufficient shading for thermal protection, protect streambanks from accelerated erosion, provide an ongoing source of large wood to streams (i.e., where applicable) and provide maintenance of at least the strongest portion of stream/riparian microclimate gradient.

The draft guidance states that fully forested RMZs is Ecology's recommendation, but given the inclusion of alternative RMZ configurations as part of the guidance, it is unclear whether Ecology actually supports this RMZ configuration as the protection standard. Instead, the guidance only states that Ecology's preferred management option of fully forested RMZs is consistent with the recommendations made by WDFW.2 Significantly, in forested regions the draft guidance allows agricultural practitioners to adopt RMZ configurations that require vegetated buffers that are considerably less than a fully forested RMZ. The guidance allows any practitioner under any circumstance (other than in riparian areas that are already currently forested) to select those alternative RMZ configurations. Realistically, farmers will adopt RMZs with the narrowest possible buffer requirement, which can be as small as 65' wide along fish

bearing streams. As such, inclusion of these alternative RMZ options with no guidance on when and where it is acceptable to install them, represent a substantial exemption to the one site potential tree height resource protection standard committed to by the governor and tribal leadership. Instead of moving toward supporting a riparian protection framework that is consistent across Washington, these alternative RMZ configurations, as currently structured, reinforce the status quo of riparian protection standards varying by jurisdiction, land use and agency prerogative, resulting in continued inconsistent protection of water quality and fish and wildlife habitat across Washington.

Response

Ecology agrees that RMZs that are already fully forested should be protected. We added language to the preferred option tables to clarify that our only recommendation is to retain all trees in places where an existing riparian area is fully forested.

The riparian chapter sets a RMZ width that is equivalent to one SPTH as defined by WDFW guidance. That default one SPTH width is 215 ft. on west side of the state and 150 ft. on the eastside of the state. We then discuss, similar to WDFW guidance, different activities that can occur in that RMZ. The preferred option in both guidance documents is to have a fully forested RMZ that has no activities in the RMZ.

Ecology's guidance recognizes that some activities can occur within the RMZ, and water quality would still be protected. The different options presented define what those activities are and where they can be located within the RMZs (core, inner, and outer zones). All of the options presented are protective of water quality. And we have reinforced in the guidance that our preferred option, consistent with WDFW, is a no touch RMZ that is fully forested.

NWIFC [4]

2. Describe under what specific conditions it is acceptable for minimally managed vegetated buffers not to meet the full site potential tree height protection width standard.

Allowing practitioners to adopt buffer configurations that are significantly less than the full site potential tree height standard without any meaningful guidance on when and where that is acceptable or appropriate undercuts accomplishing a consistent SPTH standard. We recognize that as a practical matter, voluntary guidance protecting natural resources needs to be flexible in how it is implemented. Specific site conditions can and do influence how buffers can be designed and the level of protection they provide. To maintain the integrity of the site potential tree height standard, the conditions and circumstances in which it is acceptable to adopt an RMZ configuration with vegetated buffers less than that standard need to be carefully described. As written, the current draft guidance defers to the landowner to determine the feasibility of meeting the full buffer protection standard, except in circumstances when the RMZ is currently already fully vegetated. The guidance should emphasize that the buffer widths (core zones) in the alternative RMZs are absolute minimums and that these widths are only acceptable under clearly identified conditions and circumstances and only with approval by Ecology. Examples of such conditions that Ecology could provide include:

- The presence of a structure

- Property lines
- Infrastructure (e.g., roads, railways, pipelines, powerlines or other utilities)
- Topography that impedes the ability to meet or achieve the preferred option
- The property is a small parcel in which a vegetated buffer would cover more than 50 percent of the parcel

There may be others, but the point is that without clear guidance on where and when it is not feasible to meet the recommended fully forested RMZ, the likely outcome is that practitioners will install the smallest buffers possible without any justification and the SPTH standard loses its meaning.

Response

The guidance's preferred option is a fully forested buffer with all agriculture uses excluded from that area. On the westside of the state, the default Site Potential Tree Heigh width is 215 ft. on each side of every perennial, intermittent, and ephemeral stream. This equates to a 430 ft. no touch buffer if an operation spans both sides of stream. While we understand the desire to see no touch buffers of that size on all streams, we do not believe that it is feasible for all farmers to implement that wide of a buffer. Further, we do not believe that no touch buffers of that size are necessary at every site in Washington to only achieve water quality goals. Therefore, when the 215 ft. (430 ft. accounting for both sides of the stream) no touch buffer is not feasible, we provide additional options that the science supports as being protective of water quality.

When developing our guidance, we tried to balance flexibility with our goal that if an operation uses practices consistent with our recommendations, then we will presume water quality is being adequately protected at that operation. We understand that each farm is unique, and each producer is managing a unique set of site, soil, and climate factors-and to the extent we wanted to provide flexibility and recognize those site specific factors. The three-zone approach has been successfully used by other land uses such as forestry. We believe that a similar approach can be used in the agricultural context.

We did not articulate all the situations where we believe the preferred option is not feasible because we wanted to preserve flexibility for implementers and did not think we could foresee all the situations where we believe it would be infeasible to implement the preferred option.

However, the commenter does list some examples that we agree are situations where the preferred option would not be feasible. We edited the document to include those examples.

As we move to implementing the guidance we will work to promote and find was to incentivize the preferred option.

NWIFC [5]

3. Where site-specific limitations exist (as described above), require a minimum 100' buffer width along fish-bearing streams on the alternative RMZ configuration options.

In 2013 the National Marine Fisheries Service (NMFS) advanced to the Environmental Protection Agency (EPA) and Natural Resources Conservation Service a minimum buffer width of 100' along fish bearing streams for conservation programs those agencies funded.3 While

not published science, this minimum buffer guidance was developed to support transition to guidance developed by WDFW. The minimum buffer widths in the draft guidance do not meet this minimum standard. By recommending buffers as narrow as 65' along fish bearing streams, the current draft guidance represents a step backwards from the NMFS 2013 guidance. As currently written, the riparian area protection guidance does not distinguish between fish vs non-fish streams when making buffer recommendations. This guidance framework reflects Ecology's reluctance to develop riparian buffer BMPs that fully recognize that protection and restoration of fish habitat is a critical element of the SPTH standard. The 2013 letter from the EPA and National Oceanic and Atmospheric Administration cited above emphasizes the state's responsibility includes protecting salmon and steelhead habitat. In site-specific situations where installing SPTH buffers along fish streams is not feasible, 100' minimally managed vegetated buffers represent an absolute minimum interim width until the standard of full SPTH buffers can be installed. Given projections of global warming and the continued decline of treaty-protected fish stocks, we cannot afford a step backwards.

Response

Comment noted. The 2013 NMFS buffer table was recommended for use on an interim basis. When we agreed to use it in our funding guidelines it was with the knowledge that we would be working on this guidance, and we would update our funding guidance when the Voluntary Clean Water Guidance for Agriculture was completed. As expected, the guidance differs from the NMFS table: our preferred option is wider than any of the minimum buffers found in the NMFS buffer table. The other options vary. In some situations, the core zone is larger than the NMFS buffer table and in some cases it is smaller. All the options are designed to protect water quality and help meet water quality standards if implemented by farmers.

Our review of the science supports the recommendations found in the guidance. To develop the guidance, we worked with an advisory group and reviewed several hundred studies and secondary sources. A comprehensive review of research addressing the ability of riparian buffers to attenuate different pollutant types is provided in the effectiveness synthesis section of the guidance. Additionally, Ecology has completed a thorough annotated bibliography for the literature that was reviewed in development of the guidance. Taken together, the effectiveness evaluation and annotated bibliography provide the technical basis for our recommendations. This is one of the most comprehensive and detailed analysis of riparian buffer effectiveness that has been produced in the country.

We will work to promote and incentivize our preferred option including changes to our funding guidelines that will hopefully incentivize buffers larger than the NMFS buffers.

NWIFC [6]

Because EPA has final approval of the Nonpoint Plan, it is imperative that Ecology develop riparian protection guidance that does not conflict with EPA's trust responsibility to the tribes to protect and restore treaty-reserved resources and their habitats.

Response

We agree. We have made our best effort to do so with this submittal.

NWIFC [7]

The most consequential practice we can adopt to begin reversing decades of destructive riparian management practices is also one of the most difficult - installing healthy and functioning riparian buffers. Successful adoption of site potential tree height as a workable riparian buffer standard is a vital first step to that goal. Recognizing the many challenges to implementing such a standard, it is critical we maintain SPTH as both a long and short-term goal, even as we allow flexibility through site-specific implementation. Where we no longer have flexibility is in protecting salmon and other treaty-protected resources. There is no more compromise to give when protecting our region's dwindling salmon population. Predicted global warming and population growth patterns will only exacerbate the issue, and the need for bold leadership in riparian protection is more important today than it has ever been.

Response

Comment noted.

Peterson [1]

My experience with planting trees along riparian areas in eastern Washington indicates that Ponderosa pine is actually a good selection. Ponderosa grow along many creeks and rivers in Spokane County and do very well with little maintenance. They tolerate flooding, as well as drought, unlike many hardwood species that are hard to get started and need watering for several years.

Response

Comment noted.

Peterson [2]

I have participated in a study that indicated biochar is very capable of trapping contaminents, including PCB's, metals and petroleum products. I believe that applying biochar along riparian areas could assist in trapping fertilizers and herbicides that are making their way from farms and ranches into water bodies. Biochar has other benefits as well that could benefit riparian restoration, and there is a gassifier located near Rockford that could be used to produce it locally.

Response

We appreciate that biochar has the potential to effectively reduce water pollutants. However, our evaluation focused on the effectiveness of riparian vegetation to trap and reduce pollutants, without the inclusion of soil amendment such a biochar. With future development of the Clean Water Guidance for Agriculture we plan to expand our review of vegetative practices to reduce nonpoint source pollution. At that time, it may be possible to evaluate the effects of using biochar along with vegetation to reduce nonpoint source pollution.

Peterson [3]

While physical fences are discussed as ways to keep livestock out of riparian areas, I did not see mention of using electronic fencing, which could be a way to herd and keep livestock our of key areas, while not impacting wildlife like physical fences can do.

Response

See response to BlakeD [4].

Peterson [4]

Thank you for your work on this important issue of protecting riparian areas and surface water from agricultural impacts. Please feel free to reach out if you want more details about Ponderosa planting or biochar.

Response

Comment noted.

Sexton [7]

Including RMZ in acronyms lists (also maybe define at first use in the first sentence of introduction when RMZ is written without the acronym).

Response

We added RMZ to the acronym list. A definition for the term "riparian management zone" is provided in the "Definitions as Used in this Document" section. Because we have the definitions section, we elected not to define terms elsewhere in the document.

Sexton [8]

Is the omission of Benton and Franklin counties on 145b intentional due to a lack of data or was this an oversight?

Response

We used data and graphs provide by WDFW. Benton and Franklin counties were not included in the information provided by WDFW. We edited the documents to reflect that Benton and Franklin were not included in the analysis.

Snoqualmie [1]

We are concerned about the unintended effects this guidance may have on the implementation of the best management practices laid out in the document. For example, it is unclear under what circumstances the "alternatives options" (described in the table beginning on page 26 of the draft chapter for riparian areas and surface water protection) will be utilized over the preferred practice of site potential tree height buffer widths. Who will determine when an alternative is appropriate, and which option to use?

Response

The guidance's preferred option is a fully forested buffer with all agriculture uses excluded from that area. On the westside of the state, the default SPTH width is 215 ft. on each side of every

perennial, intermittent, and ephemeral stream. This equates to a 430 ft. no touch buffer if an operation spans both sides of stream. While we understand the desire to see no touch buffers of that size on all streams, we do not believe that it is feasible for all farmers to implement that wide of a buffer. Further, we do not believe that no touch buffers of that size are necessary at every site in Washington to achieve water quality goals. Therefore, when the 215 ft. (430 ft. accounting for both sides of the stream) no touch buffer is not feasible, we provide additional options that the science supports as being protective of water quality.

When developing our guidance, we tried to balance flexibility with our goal that if an operation uses practices consistent with our recommendations, then we will presume water quality is being adequately protected at that operation. We understand that each farm is unique, and each producer is managing a unique set of site, soil, and climate factors-and to the extent we wanted to provide flexibility and recognize those site specific factors. The three-zone approach has been successfully used by other land uses such as forestry. We believe that a similar approach can be used in the agricultural context.

We did not articulate all the situations where we believe the preferred option is not feasible because we wanted to preserve flexibility for implementers and did not think we could foresee all the situations where we believe it would be infeasible to implement the preferred option.

We edited the document to include a non-exhaustive list of examples where we think it may not be feasible to implement the guidance's preferred option.

As we move to implementing the guidance we will work to promote and find was to incentivize our preferred option.

Snoqualmie [2]

Considering that the guidance in the draft is voluntary, when these practices are implemented, what recourse is there to determine whether these guidelines have been followed and will continued to be followed over the long term?

Response

In general, agricultural sources are not required to have permits or are otherwise subject to oversight of the BMPs they implement. Compliance with the State Water Pollution Control Act, which protects state waters, continues to be required of farmers. However, voluntary decisions about how to achieve compliance, about whether to implement recommended BMPs, and about which practices to choose, remain in the hands of the producer. This guidance is intended as a technical resource to support and inform those decisions.

There is no easy way to collect comprehensive information or ensure the guidance recommendations are followed everywhere. Having said that, there are several ways that Ecology and partners can get information on what BMPs have been implemented. Ecology can observe sites from public right aways and other areas where we have permission to be. We can also work with partners to understand what they have implemented in watersheds and talk directly to farmers about what they have implemented at their farms. Additionally, if a producer accepts grant funds, we have reporting forms that collect information on what BMPs have been implemented and grant agreements that ensure practices stay implemented for the

term of the agreement. The Nonpoint Plan details the varies programs and strategies that Ecology uses to address nonpoint sources of pollution and get BMPs implemented by farmers.

Swinomish [1]

The Riparian Guidance is similarly deficient because it fails to provide a cohesive path to achieving water quality standards, despite being over twenty years in the making. The Riparian Guidance fails to adhere to the 2021 Stipulated Order wherein the State's Riparian Guidance is required to establish necessary widths to meet water quality standards to the extent possible. The "preferred alternative" of implementing riparian habitat at 1 site potential tree height in width adheres to best science for meeting water quality standards and follows Governor Inslee's 2019 Centennial Accord directive to state agencies. However, the Riparian Guidance opens the door to any landowner self-declaring that the scientifically necessary riparian habitat standard is not "feasible" – an allowance that has no established metrics or process - at which time the landowner can proceed to implement a 3-zone approach where significant industrial uses – also undefined in the Riparian Guidance – are allowed. These are problematic loopholes in the Riparian Guidance, and are a source of serious concern about the efficacy of this policy to achieve the intended purpose of achieving water quality standards. As a result, the Swinomish Tribe is left with no choice but to recommend that EPA Region 10 reject the Riparian Guidance until these and other concerns noted below are remedied.

Response

Our review of the science supports the recommendations found in the guidance. To develop the guidance, we worked with an advisory group and Washington Fish and Wildlife (WDFW) and reviewed several hundred studies and secondary sources.

Numerous factors influence riparian buffer effectiveness at controlling specific pollutants including climate and weather; geology; geomorphology and topography; soil characteristics; buffer vegetation type, height, and density; land use and land use intensity and practices; runoff volumes, rates, and flow types; and buffer size, and the area of land comprising a buffer relative to the area of land contributing surface and subsurface flow to the buffer (i.e., buffer area ratio). Accordingly, the removal of a specific pollutant will typically vary as combinations of these factors vary across field, parcel, watershed, and landscape scales. Furthermore, a given combination of these factors may affect the removal of different pollutants in different ways. For example, site characteristics that lead to an enhanced removal rate of one pollutant may not affect the removal of another pollutant. In some cases, site characteristics may even result in a decreased removal rate of pollutants.

A comprehensive review of research addressing the ability of riparian buffers to attenuate different pollutant types is provided in the effectiveness synthesis section of the guidance. Additionally, Ecology has completed a thorough annotated bibliography for the literature that was reviewed in development of the guidance. Taken together, the effectiveness evaluation and annotated bibliography provide the technical basis for our recommendations. This is one of the most comprehensive and detailed analysis of riparian buffer effectiveness that has been produced in the country.

We also worked with WDFW as we used and incorporated their guidance. We are confident that all the options we provide are protective and support meeting water quality standards.

All RMZs are equal in with to one SPTH at 200 years.

The guidance's preferred option is a fully forested buffer with all agriculture uses excluded from that area. On the westside of the state, the default SPTH width is 215 ft. on each side of every perennial, intermittent, and ephemeral stream. This equates to a 430 ft. no touch buffer if an operation spans both sides of stream. While we understand SITC's desire to see no touch buffers of that size on all streams, we do not believe that it is feasible for all farmers to implement that wide of a buffer. Further, we do not believe that no touch buffers of that size are necessary to meet water quality at every site in Washington. Therefore, when the 215 ft. (430 ft. accounting for both sides of the stream) no touch buffer is not feasible, we provide additional options that the science supports as being protective of water quality. These other options also use the 1 SPTH width to establish the RMZ.

When developing our guidance, we tried to balance flexibility with our goal that if an operation uses practices consistent with our recommendations, then we will presume water quality is being adequately protected at that operation. We understand that each farm is unique, and each producer is managing a unique set of site, soil, and climate factors-and to the extent we wanted to provide flexibility and recognize those site-specific factors. The three-zone approach has been successfully used by other land uses such as forestry. We believe that a similar approach can be used in the agricultural context.

Swinomish [2]

The Tribe is concerned that most of the July 6, 2022 comments submitted on the Draft Riparian Guidance this past summer by Swinomish and the staff at the Northwest Indian Fisheries Commission have not been addressed in the final Riparian Guidance. Those comments are incorporated herein by this reference. As a result the Riparian Guidance recommends minimum buffer widths that are too small to remedy widespread temperature pollution and achieve a riparian microclimate. The minimum buffer widths are contradicted by the best available science, including the scientific literature cited in Riparian Guidance Bibliography. (Footnote: See Quinn, T. et all (2018). "The authors conclude that in areas with riparian forest potential, a buffer width equal to one site-potential tree height will fully protect riparian functions (including WQ protection) and associated contribution to aquatic habitat. In areas without riparian forest potential, the authors conclude that a buffer width of 100ft should protect riparian functions and aquatic habitat.")

Response

Ecology made significant changes to the riparian chapter based on the comments previously submitted by Swinomish and Northwest Indian Fisheries Commission (NWIFC) staff. We also put together responses to the comments Swinomish and NWIFC staff provided in July of 2022. On multiple occasions we offered to meet to discuss the comments, the changes we made to the guidance, and our responses to the comments. Unfortunately, these offers were not accepted. It is not clear from this current comment letter which comments from July SITC believes were not addressed in the current draft.

The recommendations found in the guidance do not contradict the best available science. They are designed to protect both temperature and microclimate. Swinomish staff have provided broad/general statements about how they believe the guidance is not protective. They have not provided a technical basis (additional studies to review, or specifics technical comments on what part of our analysis they believe is wrong and why) for these conclusions. Due to the unclear nature of the comments we, have not made any additional changes. Ecology remains open to technical feedback on the guidance.

Swinomish [3]

For over twenty years, best science has clarified what salmon need in the very thorough, rigorous analysis included in WDFW's Priority Habitats & Species for Riparian Habitat Volumes I ("PHS"). The Riparian Guidance relies on its own less rigorous and non-peer reviewed collection of literature to then recommend riparian buffer widths that are much narrower and not supported by science. Of concern, the Riparian Guidance contradicts the 2004 Lower Skagit Temperature TMDL (Skagit TMDL). It established 75% of 1 site potential tree height as the minimum riparian habitat width necessary to remedy temperature pollution and achieve and maintain a riparian microclimate.

Response

Ecology's guidance does not contradict the Lower Skagit River Tributaries Temperature Total Maximum Daily Load Study (Lower Skagit Temp TMDL). As we have previously explained, the Lower Skagit Temperature TMDL did not "establish 75% of 1 SPTH as the minimum riparian habitat width necessary to remedy temperature pollution and achieve and maintain microclimate."

The TMDL used effective shade as a surrogate measure of heat flux. The part of the TMDL frequently misinterpreted above is a model input: "A canopy density of 75% was used for all site potential vegetation (Brazier et al. 1973 and Steinblums et al. 1984). Tree heights (at 100-year site index) ranged from 37 to 53 meters. Riparian zone widths were estimated as 75% of average tree height (FEMAT 1993) and ranged from 28 to 40 meters…." (Lower Skagit Temp TMDL at page 76).

The TMDL load allocation is expressed as effective shade, not a specific buffer width. The TMDL states:

> "Load allocations for effective shade in the lower Skagit River study area are as follows:
>
> • For Carpenter, Fisher, Hansen, Lake, Turner, Red, and Otter Pond creeks, the load allocation is the effective shade that would result from 100-year-old riparian vegetation.
>
> • For Nookachamps and East Fork Nookachamps creeks, the load allocation is the effective shade that would result from 100-year-old riparian vegetation and natural reductions in channel width-to-depth ratios.
>
> Load Allocations for effective shade are quantified in Tables 17-22 for the following modeled creeks of the lower Skagit River study area: Carpenter, Fisher, Hansen, Lake, Nookachamps, and East Fork Nookachamps. The recommended load allocations for

effective shade and reduced channel widths are predicted to result in significant reductions of the flux of solar radiation to streams within the lower Skagit River basin.

The potential future vegetation at 100 years was assumed to be represented by average tree heights ranging from 37 to 53 meters. Riparian zone widths were estimated as 75% of average tree heights (FEMAT 1993) and ranged from 28 to 40 meters. Canopy densities at these widths were estimated as 75%.

The load allocations established by this TMDL study are identical to the loading capacity with both existing channel morphology and reduced channel widths. For those reaches downstream of Big Lake and Lake McMurray, the loading capacity is equal to the natural condition caused by warm outflow temperatures. For Nookachamps and East Fork Nookachamps creeks, the load allocation is based on achieving a stable channel with decreased width-to-depth ratios. The load allocations were compared to the estimated current condition effective shade derived for the model calibration and verification (Tables 17-22)." (pg. 87)

The TMDL does not take the next step to recommend or establish a minimum buffer width to meet that effective shade target. This lack of buffer width prescriptions was not an uncommon practice at the time the TMDL was developed. We have started to develop TMDLs that are more prescriptive regarding buffer width recommendations. This guidance will help with the technical basis for future buffer width recommendations. This will be a significant improvement over what is found in the Lower Skagit Temperature TMDL. Future TMDLs could also refine buffer recommendations to address watershed specific factors by modeling different buffer width and compositions (something the Lower Skagit Temp TMDL did not do) to further inform recommendations in TMDLs.

The commenter also suggests that the Ecology guidance is not as rigorous as the Washington Department of Fish Wildlife Priority Habitats & Species guidance. This is simply not true. Ecology worked with an advisory group with years of technical expertise. As detailed above, to develop the guidance, we reviewed several hundred peer reviewed studies and secondary sources. In the effectiveness synthesis we provide a comprehensive review of research addressing the ability of riparian buffers to attenuate different pollutant types. Additionally, Ecology has completed a thorough annotated bibliography for the literature that was reviewed in development of the effectiveness synthesis. Taken together, the effectiveness evaluation and annotated bibliography provide the technical basis for our recommendations. This is one of the most comprehensive and detailed analysis of riparian buffer effectiveness that has been produced in the country. Therefore, it is unclear how this guidance lacks in scientific rigor.

Swinomish [4]

The 2022 Plan, discussed above, notes on page 160, that an objective is to "identify BMPs and measures that are designed to comply with the Water Quality Standards . . . and ensure compliance with state and federal law." Conversely, the goal of the Riparian Guidance is to "develop guidelines for riparian management zones that, when implemented will help restore and protect Washington State waters from agricultural pollution and facilitate the achievement of water quality standards." These are two very different standards. The Riparian Guidance 3-

zone approach readily admits that "future modifications may be needed in order to achieve water quality and habitat protection goals." Over two decades have passed since Ecology was supposed to have put these recommendations in place. It unreasonable to recommend riparian habitat that will now provide the shade and microclimate restoration that salmon desperately need.

Response

As supported by our review of the literature, the recommended RMZ recommendation options will provide shade and support microclimates that will help protect and restore water quality. Also see response to NWEA [7].

Swinomish [5]

Ecology notably recommends restoring forest to one site potential tree height at 200 years across the agricultural landscape. Unfortunately, the Riparian Guidance immediately pivots to allow, whenever a landowner determines it is not "feasible" to restore full riparian habitat functions, a three-zone Riparian Management Zone (RMZ). There is no definition of "feasible" beyond "not practicable to have a fully forested RMZ due to natural or anthropogenic factors," and there is no process for who decides what qualifies as natural or anthropogenic factor and what the process is for making that determination including the ability to appeal. Because of these key missing definitions, the pivot toward the 3-zone RMZ creates a large loophole that renders the Riparian Guidance ineffectual. The 3-zone approach is taken from forest practices that apply to mature stands of trees or managed forests with rapid replanting program, not denuded low-lying agricultural lands and areas of development.

Response

See response to Swinomish [1] regarding RMZ width recommendations.

Swinomish [6]

The Riparian Guidance purports to be based on the best science related to temperature pollution: WDFW's Priority Habitats & Species for Riparian Habitat Volume I ("PHS"). However, the Riparian Guidance recommendation for minimum buffers is 20% smaller than best science recommends for non-fish bearing streams. These buffer recommendations for water quality standards in fish-bearing streams are not based on site potential tree heights, or science. Given the commitment by Ecology to base the riparian BMPs on the site potential tree height standard, the actual buffer widths being recommended continue to be unexpectedly narrow and insufficient to meet water quality standards.

Overall, the buffer recommendations in the Riparian Guidance appear to be as narrow as possible. The recommended widths assume the buffers will by default function at peak efficiency with little to no margins of error – any failure in the buffer performance given their narrow widths will directly translate to degradation of water quality and fish habitat degradation. We need to do more, and do it more quickly, before our fish lose any more habitat.

Response

As supported by our review of the literature, the RMZ recommendation options will help protect and restore water quality. As detailed in the response to Swinomish [1] and Swinomish [3] above, to develop the guidance, we reviewed several hundred peer reviewed studies and secondary sources. We also worked with WDFW as we used and incorporated their guidance. We are confident that all the options we provide are protective and help support meeting water quality standards on agricultural lands.

Regarding the commenter's statement ("the Riparian Guidance recommendation for minimum buffers is 20% smaller than best science recommends for non-fish bearing streams") it is not clear how the commenter came up with the 20% smaller calculation. We assume the commenter is referring to the recent majority recommendation for NP streams that the Forest Practices Board approved to move forward in the rule making process. The majority option is not a single distance but has options and different widths (and levels of management within the RMZ). Prescriptions range from a 75 ft. no harvest buffer to a two-sided 50 ft. fixed-width no harvest buffer for streams less than 3' wide.

The preferred option (215 ft. buffer) in this guidance is significantly larger than the forest practices majority recommendation. Under the three-zone option for westside perennial/intermittent streams that are less than 5', there is a minimum 65 ft. minimally managed core zone with a 0 to 25 ft. filter strip (depending on topography, soils, and land use) inner zone and a 125 to 150 ft. outer zone, where all other applicable BMPs must be implemented.

Even if you only focus on the core zone for the streams that are less than 5 ft. in width, the recommendation in the riparian chapter of the guidance are within the range of buffer widths found in the Forest Practices preferred option. It makes sense to have slightly different buffer prescriptions because these are different land uses.

WCA [5]

In addition to our comments regarding the Livestock Management Recommendations, we want to comment further regarding the chapter on Riparian Areas. Using Site Potential Tree Height (SPHT) for riparian restoration, even on a voluntary basis, ignores responsible stewardship. In addition, we don't feel this recommendation adequately considers the positive impacts of current state and federal conservation practices such as CREP, ACEP, EQUIP CRP and others including the Washington Voluntary Stewardship Program, which is not even mentioned in draft chapters continues to be significantly underfunded.

Response

Comment noted. See response to BlakeD [7] regarding the use of SPTH in the guidance and its relevance to federal funding programs.

WFB [4]

As the VCWG in its entirety stands as a voluntary recommendation, the proposed language in Chapter 12 is far too broad and impractical. Using SPTH for riparian restoration ignores responsible stewardship, dismisses comprehensive science and is void of practical application.

The proposed riparian buffer best management practices do not adequately consider the positive impacts of current state and federal conservation practices such as CREP, ACEP, EQIP, CRP and others including the Washington Voluntary Stewardship Program, which is not even mentioned in Chapter 12 and continues to be underfunded. The economic impact of volunteering lands for SPTH on any size farm would require serious considerations and may lead a farmer to implement federal conservation programs that require less land removed from production and are more economically balanced.

Response

Comment noted. Our review of the science supports the recommendations found in the guidance. To develop the guidance, we reviewed several hundred studies and secondary sources. A comprehensive review of research addressing the ability of riparian buffers to attenuate different pollutant types is provided in the effectiveness synthesis section of the guidance. Additionally, Ecology has completed a thorough annotated bibliography for the literature that was reviewed in development of the guidance. Taken together, the effectiveness evaluation and annotated bibliography provide the technical basis for our recommendations. This is one of the most comprehensive and detailed analysis of riparian buffer effectiveness that has been produced in the country. We also worked with WDFW as we used and incorporated their guidance. We are confident that all the options we provide are protective, supported by the scientific literature, and help support meeting water quality standards.

The guidance's preferred option is a fully forested RMZ with all agriculture uses excluded from that area. However, when our preferred option is not feasible, we provide additional options that the science supports as being protective of water quality.

When developing our guidance, we worked with an advisory group, and tried to balance flexibility with our goal that if an operation uses practices consistent with our recommendations, then we will presume water quality is being adequately protected at that operation. We understand that each farm is unique, and each producer is managing a unique set of site, soil, and climate factors-and to the extent we wanted to provide flexibility and recognize those site specific factors.

The guidance is designed to complement NRCS guidance, and the recommendations can be supported by the funding programs cited by the commenter. We hope VSP programs will utilize the guidance when working with landowners to address water quality issues.

WFB [5]

We encourage the Department of Ecology to draft voluntary guidelines that use comprehensive science and conservation strategies already in place by other programs.

Response

Comment noted. See responses to WSF [3] and Swinomish [1].

WSRC [9]

The Department recommends that riparian areas are established along streams and "Ecology's preferred option is to have a fully forested RMZ equal to 1 SPTH at 200 years." This is a policy

determination that should be made at the legislative level. Our primary concern is that after the legislative policy failed, the agency has chosen to move forward to make the legislative action to establish an overly broad, riparian zone that could potentially ruin the viability of agricultural operations across the state.

Response

Our review of the science supports the recommendations found in this voluntary clean water guidance. We began work on this guidance several years ago. To develop it, we reviewed several hundred studies and secondary sources. A comprehensive review of research addressing the ability of riparian buffers to attenuate different pollutant types is provided in the effectiveness synthesis section of the guidance. Additionally, Ecology has completed a thorough annotated bibliography for the literature that was reviewed in development of the guidance. Taken together, the effectiveness evaluation and annotated bibliography provide the technical basis for our recommendations. This is one of the most comprehensive and detailed analysis of riparian buffer effectiveness that has been produced in the country. We also worked with WDFW as we used and incorporated their guidance. We are confident that all the options we provide are protective, supported by the scientific literature, and help support meeting water quality standards.

The guidance's preferred option is a fully forested RMZ with all agriculture uses excluded from that area. However, when our preferred option is not feasible, we provide additional options that the science supports as being protective of water quality.

When developing our guidance, we tried to balance flexibility with our goal that if an operation uses practices consistent with our recommendations, then we will presume water quality is being adequately protected at that operation. We understand that each farm is unique, and each producer is managing a unique set of site, soil, and climate factors-and to the extent we wanted to provide flexibility and recognize those site specific factors.

WSRC [10]

We appreciate that the Nonpoint Source document addresses the nutrient problem in the Puget sound. It is important to focus on actual problems with real solutions when developing policy about salmon recovery. Instead of pontificating about preferred options, Ecology should focus on encouraging and funding ongoing conservation efforts like the Family Forest Fish Passage Program which has over 1,000 pending applications.

Response

Comment noted. We appreciate your support for addressing nonpoint sources that contribute nutrients to Puget Sound. We also support the Family Forest Fish Passage Program.

WSRC [11]

These Best Management Practices are impractical and a dangerous overreach by the Department. Stream health and riparian regions can be developed better through technical assistance and customized incentive based plans such as those built by the Voluntary Stewardship Program. Prescriptive Best Management Practices monitored by "windshield

surveys" and intrusive satellite mapping will only result in creating resentment in the regulated public as well as discouraging agriculture in this state.

Response

When developing our guidance, we worked with an advisory group and tried to balance flexibility and implementability with our goal that if an operation uses practices consistent with our recommendations, then we will presume water quality is being adequately protected at that operation. We understand that each farm is unique, and each producer is managing a unique set of site, soil, and climate factors-and to the extent we wanted to provide flexibility and recognize those site-specific factors.

We spent a significant amount of upfront time working with stakeholders and tribes to design the process we have used to develop the guidance. As a result of that stakeholder feedback, we worked with a diverse advisory group to develop the guidance.

Our review of the science supports the recommendations found in the guidance. We reviewed several hundred peer reviewed studies and secondary sources to inform our review of how effective BMPs are at addressing different pollutant types. This information is provided in the effectiveness synthesis section of each chapter of the guidance. We also wanted to make sure that our guidance is implementable. Therefore, we also worked with our advisory group to put together implementation evaluations for each chapter. We looked at costs, operation and maintenance issues, and other potential barriers as well as opportunities to overcome those barriers in that implementation analysis.

We are confident that all the BMP recommendations and options we provide are protective, supported by the scientific literature, and help support meeting water quality standards.

We hope VSP programs will utilize the guidance when working with landowners to address water quality issues.

Nonpoint Plan and General Comments

BlakeD [11]

Lastly, there must be some federal study about how many cattle operations are making money. From middle-sized herds like ours, to larger herds or the folks who only have a few animals, very few are making money, let alone a living. Everyone relies on off the farm jobs to help the ranch break even. The fencing, drilling of wells, installing water diversions, and removing productive acreage will kill the cattle industry in Washington state. The same industry which the document notes in the opening is so important to the state’s economy. There is nothing more noble than providing food for people and this document will make it impossible for us to continue our operation.

Response

This is outside the scope of the Nonpoint Plan and guidance.

Dunlap [1]

After reviewing your nonpoint plan and guidance for Agricultural I would like to say I find this to be offensive and very troubling for a magnitude of reasons. If the DOE thinks that this charade they call public comment is fooling anyone to believe that they are fulling the requirement for public participation they are not. They know they are not and everyone involved knows it. We get invited to a webinar where you introduce reams of what can only be called complicated rhetoric on December 14th and the public is allowed to make comments until December 23th. Give me a break. The first thing I would recommend is to change the title. Don't call it Voluntary Clean Water Guidance for Agricultural. It's 444 pages and that's just one chapter of what's going to be more then 13 chapters. I don't know any agricultural producers who is going to want to seek guidance from this garbage. There is nothing useful in it and it contradicts itself. There is so much trash that I don't know where to begin. You have made the document so complicated that the average person can't understand it. These DOE experts are really scientist that have spent all their life in a classroom or a lab studying numbers and graphs looking at lab results and plotting numbers to make graphs and trends. Whereas agricultural producers have spent their lives working to protect and care for their land and their animals while supplying food for the world. I know what the DOE is doing because I have had years of experience working with the DOE. They are manipulating the science to get the results they want so they can make their own rules. You don't think there is already science and guidelines for agricultural producers. The NRCS has used science and experts that have been guiding agricultural producers for decades. Helping and assisting agricultural producers to make farm plans and nutrient management plans. The WDFW has guidelines for agricultural producer along with the Department of Agricultural. Seems like everyone has guidelines for the agricultural producers but the DOE doesn't like any of that guidance, they want their own. Because the State of Washington has created this DOE that wants absolute power to dictate and govern and they also have immunity from any liability of their guidance. A more appropriate title would be Field Guide for DOE Agents To Put Farmers Out Of Business.

This is just a wolf trying to disguise themselves in sheep clothing. Someone in the webinar claimed that some agricultural producers were bad actors and wouldn't Volunteer to comply with keeping water clean because they are only interested in doing what makes them money. That shows the huge disconnect between most people and their agricultural producers. Nothing could be farther from the truth. The farmers have been the stewards of the land for centuries. Livestock producers and dairy producers in particular care for their land and their animals out of love for the land and the animal. They aren't in it for the money the livestock producer can hardly sell his livestock for what he has invested in it. The dairy farmer is producing milk that cost him $2.00 to produce but is only getting paid $1.45 to produce it. Nobody wants to ask how can they survive then, because they can't. The agricultural producers also know about keeping the water clean, they have been blamed and unfairly fined for water violation for decades now. Do you actually think that the people in agriculture don't want clean water? The have been made to be the scapegoat by the DOE for all the other pollution because they are the easiest target. Oh look farm animals, they must be pooping in the water.The livestock producers and dairy producers go to extremes to prevent being blamed and fined

because fines further reduce their already thin profit margins or losses you might as well call them.

I noticed you could resist mentioning in your plan about the Joe Lemire vs. Department of Ecology. Why would mention legal case law in your management plan or agriculture guidance except to make a subtle threat or for intimidation. You want to make the point that Ecology's authority now includes the ability to require a nonpoint source polluter to implement DOE best management practices (BMPs). Ecology's authority can be used to prevent nonpoint pollution and require their own BMPs, as necessary whether or not there is any actual pollution and whether or not there is already proven BMP in place.. You are putting your own spin on the facts to make It look like a livestock producer was polluting and DOE was the hero and required buffer fencing in this case. When in fact there was no evidence of any pollution and you don't mention what Mr. Lemire plan was or what BMPs he was using. He is no longer with us because the amount of stress you put him through with harassment I am sure contributed to his early and young demise. So you can pat yourselves on the back for that, you not only put a cattle rancher out of business but you could say you contributed to his early death.

Since you.want to mention past case law in your plan Let's mention another case Dunlap vs. Department of Ecology. In that case the livestock producer was fined $500 everyday for having buffer fencing to keep livestock out of the water. The livestock producer worked with the NRCS, whereas the made a farm plan using BMP as necessary to protect water quality. The worked was going to be partially funded by a grant program similar to CREP but required a permit to actually perform the work because some of the work would be within the buffer area. The livestock producer was required to have a public hearing in order to get permits to perform the necessary work. The DOE provided input and guidance to the regulatory agency making the decision on the matter. The regulatory agency on the advise of DOE denied portions of the permits for buffer fencing and water crossings. A bunch of bureaucrats who didn't know anything about agriculture or had never been to the farm decided that they knew better then the NRSC experts and just picked and choose what portions of the permit they would allow because they wanted strict adherence to the 50' and 100' buffers and they felt the 35' buffer wouldn't be enough even though the science showed 35' buffers to be sufficient. They also denied the water crossings portion of the permits. The plan the agricultural producer was left with was 50' buffer fencing along the waterway that went through this property. Basically creating (3) separate islands of property with no way to get livestock or equipment from one island to any of the other island. They also informed the agricultural producer he could install movable fencing and bring his livestock in the other end of his daylight basement barn. Anyone who understands daylight basement knows that one end is open to the daylight and the other end is covered up with the soil. Those bureaucrats who did the picking and choosing from the plan never mentioned how the agricultural producer could remedy the problems they created. Dig a pit in the dirt and install a freight elevator to bring livestock in and out of the barn? They never addressed how to move from one island parcel to the next island parcel either. Maybe they wanted him to install a barge or ferry system to get across the waterways? That would of required another public hearing and permits or maybe he was just suppose to have some large helicopter pad and fly animals and equipment from one parcel to the other. After the agricultural producer was left with just a remnant of a useful plan and he lost portions of his

funding and was forced to appeal the permit denials and was again fined for his 35' buffer fencing $500.00 a day because his fencing was within the 50 foot buffer and now without a permit. He appealed to the Shoreline hearings board, Growth Management Hearings board and Superior court whereas the DOE has the Washington State Attorney General represent them in all those action, but in none of those court proceeding was he allowed to bring up his Constitutional rights. Because the DOE has you confined to appeal their decisions to these State Boards who have no authority to rule on constitutional issues. So you are basically confined to a kangaroo court where they hold all the cards. Then after exhausting all those administrative remedies. The agricultural producer was able bring his own action of a lawsuit claiming an unconstitutional taking of property and address the Constitutional issues he was unable to bring up before. The first thing the DOE did was filed a motion to be dismissed from the action which was granted because they have immunity from liability even though they participated all along the way. They regulation agency also made a motion to be dismissed from the action claiming they were only acting as an agent for the State doing what the DOE was advising them. The court denied the agency request which left the regulatory agency that conducted the public hearing and ultimately voted on the decision to deny the permits holding the bag even though he DOE was guiding them all along the way. In other words the DOE provided the gun the bullets and the encouragement telling them to pull the trigger, but because their finger wasn't actually on the trigger they get a free pass. Absolute immunity! After the case bounced around from Whatcom Superior Court, Skagit County Superior Court, U.S. District Court, Washing State Court of Appeals, and Washington State Supreme Court. It resulted in the only case in Washington State History where the regulation of a buffer area resulted in a total taking of property. You also didn't mention in your plan where you wanted to review case law what one of Washington State Court of Appeals Division I Justices said, in the Dunlap case," it doesn't matter the reason you took it... You took the man's property and now your going to pay for it!"

I believe the DOE is sincere in their effort to protect water quality but they are run by special interest groups. They are bias, manipulative, unreasonable, and want to blame Agricultural for all the pollution because they are the easiest target. Because the facts show that the DOE punish agricultural producers for not building buffer fences, and also punish and fine the agricultural producer for building buffer fences. You can't have it both ways, except apparently you guys can and you want to disregard the current science and BMPs and build your own science and your own rules and BMPs that aren't conducive to agriculture and not be held responsible for any of your actions. It is pretty clear to me after my experience with your agency that your end game is to put agriculture out of business. I think a better title to your book of complicated rhetoric would be Crusade To Crush Agricultural. I wish you luck on your crusade, because if your successful in your mission you will starve to death without food because you guys don't know the first thing about farming. So I take some comfort in that thought.

Response

Comments noted.

FOTC [1]

Page 4: FOTC notes that the WA State Dept. of Ecology (Ecology) Agriculture and Water Quality Committee's work group on non-point source pollution did not contribute to development of this document. We wonder how active that work group has been. FOTC could have added an important community and environmental perspective to the work of the Ag & WQ committee, and the NPS workgroup, but we were denied membership. Consequently we comment today, with a few weeks of preparation, on a document that other groups have studied for months and years.

Response

The nonpoint plan has been available for public comment since December 1, 2022. The Voluntary Clean Water Guidance chapters have been on different timelines as each of the chapters has been completed in draft form through the Voluntary Clean Water Guidance advisory committee. The tillage and residue management chapter has been available since 2020. The Voluntary Clean Water Guidance for Agriculture advisory group includes a diverse set of perspectives, including environmental group representatives.

FOTC [2]

> Page 5: The draft states: "The passage of the state Water Pollution Control Act and federal Clean Water Act helped Washington State make important progress in cleaning up our rivers, lakes, and coastal waters largely by controlling pollution from factories, sewage plants, and other "point" sources of pollution."

This is incomplete/misleading. Washington State could have done better. Pollution from Washington concentrated animal feeding operations (CAFOs) is significant. There is overwhelming evidence that unpermitted CAFO dairies in Washington State pollute rivers, streams, and groundwater that feeds surface waters. There are well over 250 CAFOs in Washington State yet only 26 have National Pollutant Discharge Elimination System (NPDES) permits.

Response

Comment noted.

FOTC [3]

> The draft states: "This plan aims to protect public health and restore our state's waters by setting clearer goals and standards, and emphasizing the implementation of proven suites of best management practices to prevent pollution."

This is incomplete. There is no official list of approved best management practices for CAFOs in Washington State as required by 33 U.S. Code § 1329(2)(A). FOTC bases this statement on replies from Ecology and the WA State Department of Agriculture (WSDA) when we asked for such a list. Both agencies said there were no records.

Best Management Practices (BMPs) and suites of BMPs are referenced throughout this document. FOTC has inquired about BMPs on a Yakima dairy and the WA State Dept. of Agriculture Dairy Nutrient Management Plan (WSDA DNMP) inspector simply told us that the

dairy complied with the BMPs in their dairy nutrient management plan. This is not good enough. It is impossible for citizens to know whether compliance takes place unless we know the BMP content.

Response

Comment noted. The Voluntary Clean Water Guidance for Agriculture is intended to be used for a variety of agriculture operations. It is not designed and organized for specific farm producers. Instead, it is designed to address specific pollution sources. Many of the BMPs can and should be used by Concentrated Animal Feeding Operations (CAFOs). For permitted CAFOs, the National Pollutant Discharge Elimination System (NPDES) permit identifies the required BMPs that the CAFO is required to implement.

FOTC [4]

> Page 7: The draft states: "To support development of the NPS Plan, Ecology conducted a study of existing information regarding nonpoint source pollution in Washington.2 The objective of this study was to research and document the current known extent of NPS pollution, evaluate the land uses and human activities that can generate NPS pollution, and look at the linkage between land uses, human activities, and NPS pollution in Washington.

This study was published in 2014, so the data is at least eight years old. Study recommendations on page 106 were:

> "Recommendations from this study include:
>
> - Improve the identification, quantification, and prioritization of nonpoint sources as part of developing load allocations and implementation in a TMDL.
> - Explore ways to obtain more detailed GIS land-use information and techniques to link that information to pollutant sources and best management practices (BMPs).
> - Consider improving reporting under state and federal grants to provide more accurate and consistent information about the nonpoint sources being addressed.
> - Consider improving the tracking of water quality enforcement actions to categorize activities as permit-related (under permit or needing a permit) or nonpoint source.
> - Continue studying the effectiveness of TMDL and of BMP implementation in controlling the most common and significant sources of nonpoint pollution.
> - Provide clearer and more organized and centralized guidance on the toolbox of specific BMPs that match the range of land-use activities and pollutant sources found in Washington.
> - Explore ways to improve and present information to the public and the regulated community about the causes and solutions to NPS pollution problems."

FOTC believes that few of these recommendations have been implemented. Many of the recommendations have likely been forgotten and are no longer part of Ecology planning. This highlights a chronic problem for the agency, namely a slow rate of response to pressing issues and a high rate of postponing/abandoning goals and objectives.

Response

Ecology has been working to implement many of these recommendations. Next to each recommendation is updated information and the pages of the nonpoint plan that addresses all or portions of this recommendation.

- Improve the identification, quantification, and prioritization of nonpoint sources as part of developing load allocations and implementation in a TMDL.
    - Each of our water cleanup plans should identify the key sources of nonpoint pollution and actual programs to address those pollution sources. In addition, we have developed Straight to Implementation (STI) projects where we know the nonpoint sources and then move directly to implementing solutions. See pages 40-48 of the Nonpoint Plan.
- Explore ways to obtain more detailed GIS land-use information and techniques to link that information to pollutant sources and best management practices (BMPs).
    - We have been trying to incorporate updated GIS information into our TMDL work and STI work. We have also used it for the work we are doing in specific areas related to shellfish recovery areas, addressing specific watersheds where we are doing nonpoint pollution inventories.
- Consider improving the tracking of water quality enforcement actions to categorize activities as permit-related (under permit or needing a permit) or nonpoint source.
    - We developed a nonpoint pollution tracking database that helps us track sites we have visited and areas with pollution that we are trying to remedy. An update on that project can be found on page 49 of the Nonpoint Plan.
- Continue studying the effectiveness of TMDL and of BMP implementation in controlling the most common and significant sources of nonpoint pollution.
    - We have spent a significant amount of our energy over the last couple of years developing the Voluntary Clean Water Guidance for Agriculture. This has involved looking at many scientific studies on BMP effectiveness and has provided the foundation for our recommended BMPs in the guidance. In addition, our Forestry Program has a very robust science program that looks extensively at the effectiveness of forest practices. Please see page 64-72 and 136-140 for information on forest practice effectiveness monitoring. See the Voluntary Clean Water Guidance for Agriculture BMPs effectiveness sections.
- Provide clearer and more organized and centralized guidance on the toolbox of specific BMPs that match the range of land-use activities and pollutant sources found in Washington.
    - This has been where we have focused a large amount of energy over this last time period. Specifically putting together the Voluntary Guidance for Agriculture along with the work to update the Forest and Fish Rules to have prescriptions in place that protect water. See pages 64-72 and the Voluntary Clean Water Guidance for Agriculture
- Explore ways to improve and present information to the public and the regulated community about the causes and solutions to NPS pollution problems.

- We are consistently trying to make sure the public understands the sources of nonpoint pollution. All of our field staff and water cleanup plan leads have this as a key part of their jobs. We also regularly update our publications and web material to assist in this educational aspect of our work.

Also, Ecology reports annually to EPA on the performance of our nonpoint program. Those are not published reports that are on our website, but they do have significant information on what our nonpoint program has accomplished. We would be happy to provide you with copies so you can get a detailed overview of the actual work that had been accomplished.

FOTC [5]

Page 9 Atmospheric Deposition: FOTC suggests adding forest fires to sources of atmospheric deposition. According to Ecology, Smoke from wildfires is the largest source of particle pollution in Washington. (See Wildfire Smoke Information at https://ecology.wa.gov/Air-Climate/Air-quality/Smoke-fire/Wildfire-smoke)

Response

Comment noted. We have added smoke from wildfires to Table 2 on page 9.

FOTC [6]

Page 22 Shellfish Protection Districts: the draft says: "Chapter 90.72 RCW encourages, and in some cases, requires counties to establish shellfish protection districts and programs to curb the loss of productive shellfish beds caused by nonpoint sources of pollution, such as storm water runoff, failing on-site sewage systems, and runoff from farm animal wastes."

The draft fails to note that Chapter 90.72.070 RCW says: "A dairy animal feeding operation with a certified dairy nutrient management plan as required in chapter 90.64 RCW and any other commercial agricultural operation on agricultural lands as defined in RCW36.70A.030 shall be subject to fees, rates, or charges by a shellfish protection district of no more than five hundred dollars in a calendar year."

Five hundred dollars is a minor cost of doing business for large CAFOs and does little to stop pollution that seriously threatens shellfish producers.

Response

Comment noted. We agree that small penalties can have little impact and do little to change behavior. In response, we have comprehensive programs that address education, technical assistance, and then enforcement. This strategy has been more productive than a pure penalty-based approach.

FOTC [7]

Pages 17 & 18 Dairy Nutrient Management Act: The draft says: "The program is managed in conformance with a Memorandum of Understanding established between WSDA and Ecology in 2011. Ecology is responsible to EPA for Clean Water Act compliance for animal feeding operations (AFO)s and confined animal feeding operations (CAFOs) and retains the authority under Chapter 90.48 RCW to take compliance actions on any livestock operations where human

health or environmental damage has or may occur due to potential or actual discharges. However, in accordance with the MOU, Ecology recognizes WSDA as the lead on all compliance actions against non-permitted dairies."

This law effectively shields Washington dairies from accountability when they discharge pollutants to waters of the state. There are CAFO dairies with high levels of nitrates, phosphorous, and other contaminants in annual soil tests year after year. This information is available to DNMP inspectors and there are no consequences.

FOTC has shown how water pollution complaints to the WSDA are routinely dismissed as unfounded by WSDA inspectors. See ERTS Complaints on www.friendsortoppenishcreek.org.

RCW 90.64, the Dairy Nutrient Management Act, and the Memo of Understanding between WSDA and Ecology have failed to protect ground and surface waters. The statute should be declared void and the MOU rescinded.

Response

Comment and the concerns have been noted.

FOTC [8]

Page 28 Section 303(d) and 303(c)-Water Quality Standards and Water Clean-up Plans (TMDLs)

This section makes it appear that Washington's TMDL program is healthy. It is not. Here are some examples of inadequate studies, based on data from the Washington Water Quality Web Page:

- It is well known that nutrients – nitrogen and phosphorous – are responsible for much of the eutrophication in Washington waters. Yet there is only one sampling for total nitrogen listed in Washington's water quality data. That sample was taken in 1996 at Sunday Lake in Snohomish County.
- Problems with over application of manure and fertilizer are well documented in Yakima County. Yet there is only one sampling for total phosphorous in Yakima listed in Washington's water quality data. That sampling was done in 2012 at Giffen Lake. There is no apparent follow-up.
- Ecology initiated a TMDL for bacteria in the Granger Drain in 2001. The 303(d)/305(b) list contains six water studies. Ecology's last sampling was done in 2005 and bacteria levels were still high at that time. A 2013 Adaptive Management Monitoring Report for the Granger Drain TMDL appears to rely heavily on irrigation district samples from a single site near the mouth of the drain That site had a fecal coliform density of > 5,000 colony forming units (cfu) per hundred milliliters in 1997. By 2013 the number was around 800 cfu/100 ml, only four times the WA standards of 100 cfu/100 ml. But Ecology felt confident that the target would be met by 2016, so, at least to our reading of the data, no further testing was performed
- There are sixty-eight studies for the Nooksack River Watershed Bacteria TMDL in Ecology's 303(d)/305(b) list – ten times more studies than the number in Yakima. The 2000 document Nooksack River Watershed Bacteria Total Maximum Daily Load says, "There are 16 dairies in the Nooksack watershed that will be under the dairy general

permit within a month." But, in 2022 three or fewer Nooksack valley dairies have NPDES permits, and the watershed is still listed as impaired

Response

Comments noted. Washington state does not have a numeric criteria for nitrogen, due to its naturally variable levels in surface waters across the state. Instead, we rely on dissolved oxygen information to identify whether there are nutrient sources of pollution that need to be addressed. This explains why there is little information on nutrients in the Water Quality Assessment. Also, it is important to note that the Water Quality Assessment is not a comprehensive monitoring repository.

We rely on data we generate, along with data provided to us to populate the water quality assessment.

See pages 150 through 152 of the nonpoint plan for more information on specific data related to groundwater nitrogen pollution.

FOTC [9]

Page 33 Endangered Species Act.

Pacific Lamprey migrate up rivers throughout the Columbia Basin, including the Wenatchee and the Yakima. Pacific Lamprey are "identified as a Species of Greatest Conservation Need (SGCN) under the WA State Wildlife Action Plan (SWAP). SGCN-classified species include both those with and without legal protection status under the Federal or State Endangered Species programs, as well as game species with low populations." (WA State Dept. of Fish and Wildlife, 2022, https://wdfw.wa.gov/species-habitats/species/entosphenus-tridentatus#conservation) Lamprey are especially susceptible to rising water temperatures.

Endangered species in Washington that depend on healthy rivers and streams include: Upper Columbia spring Chinook salmon, sockeye salmon in the Snake River, humpback whale, and southern resident killer whale. Threatened species in Washington that depend on healthy rivers and streams include: Lower Columbia River Chinook salmon, Puget Sound Chinook salmon, Snake River fall run Chinook salmon, Snake River spring/summer Chinook salmon, Columbia River chum salmon, Hood Canal summer chum salmon, Lake Ozette sockeye salmon, Lower Columbia River steelhead, Puget Sound steelhead, Snake River steelhead, Upper Columbia River steelhead, and bull trout.

For FOTC, our neighbors and friends, the ESA alone is sufficient reason to treat non-point pollution seriously. Because of this list of threatened and endangered species FOTC strongly supports mandates for healthy, robust riparian buffers in Washington State.

Response

Comment noted.

FOTC [10]

Page 39: The document states:

> "Ecology will continue to support the implementation of the following key regulatory programs:
>
> - State's Forest Practice Rules.
> - Dairy Nutrient Management Program.
> - Local regulation of on-site sewage systems.
> - NPDES/State Waste Discharge Permit program"

FOTC objects to Ecology support for the Dairy Nutrient Management Program. Based on FOTC experience, this program serves to shield polluters from scrutiny and allows polluting dairies to continue polluting. FOTC believes that Ecology's NPDES/State Waste Discharge Permit program for CAFOs could and should be more robust and more protective. For this reason FOTC engages in litigation to hopefully achieve stronger permits.

Response

Comment noted.

FOTC [11]

> The document states: "The ideal is to have all of the agencies managing these disparate programs working together to create a single unified program that links all of these efforts into a more cost-effective program to address nonpoint pollution and achieve compliance with the WQ Standards."

FOTC congratulates Ecology on stating this lofty ideal. It will take money and dedication on the part of the bureaucracy to come close to achieving this ideal. FOTC observes that striving to ascertain the truth about air, water, and soil quality in Washington State will go a long way toward environmental health. We are aware of Ecology's emphasis on quality assurance and acknowledgement of the important role of data gathering. Accurate and comprehensive data is essential for effective oversight, equity, adaptive management, species preservation, sustainable farming, and environmental protection.

Response

Comment noted.

FOTC [12]

The document states:

> "DNMP conducts routine inspections at all dairy and permitted CAFO operations approximately every 22 months, and including a wet-weather inspection every five years."

FOTC believes that DNMP inspections are not adequate to identify leakage from aging manure lagoons. FOTC is prepared to defend this statement with facts. It is misleading for Ecology to imply that the DNMP protects Washington waters.

Response

Commented noted. Ecology works closely with the Washington State Department of Agriculture (WSDA) dairy inspectors and has seen them address several pollution issues very effectively. WSDA's annual report on their enforcement program has been added to the appendix of the Nonpoint Plan.

FOTC [13]

The document states:

> "DNMP partners with other agencies (Ecology, Health, local agencies) and technical assistance providers to educate manure users and to identify and correct actual or potential violations from non-dairy livestock operations in watersheds with documented water quality issues."

FOTC believes that this effort is inadequate to protect ground and surface waters. For example, no agency assesses discharge to groundwater from the approximately 500 acres of manure compost in the Lower Yakima Valley.

Response

Comment noted.

FOTC [14]

> Page 77: "Ecology will work to ensure that the nonpoint program is well-integrated with our regulation of point source pollution. Specifically, Ecology will focus on connections between the nonpoint and TMDL programs, and the regulation of storm water and confined animal feeding operations."

How can FOTC learn about and attend these discussions at the earliest possible stages of development?

Response

This work happens at each of our regional offices where we are working on specific TMDLs or STI projects. Ecology hosts a public meeting every fall season to highlight where we are doing this work. This meeting is a good way to stay informed on where this work is happening. Specific projects will be identified at these meetings and along with the staff that will be working on them. Working directly with those staff and their supervisors is the best way to stay informed on project details and how those projects are addressing nonpoint and point source pollution. Our TMDL webpage[4] will provide some more information on the process and individual projects. The staff contact on the page can make sure you are put in contact with the correct regional staff and supervisors.

[4] https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Total-Maximum-Daily-Load-process

FOTC [15]

> Page 85: "Toxic chemicals pollute storm water, streams and lakes in Washington. Exposure to these chemicals affects people's health and the health of the environment. Ecology will continue to use our TMDL and STI approaches to address impairments caused by toxics. In addition, Ecology will look for additional tools outside the Clean Water Act to address toxics."

FOTC observes that Ecology has done almost no testing of soils, ground and surface waters in the central part of the state for per- and polyfluoroalkyl substances (PFAS), especially where bio-solids have been applied to cropland.

Response

Comment noted.

FOTC [16]

> Page 88: "Ecology works collaboratively with key local and state entities to coordinate the implementation of NPS control measures in high priority watersheds. While recognizing the importance of statewide coordination, Ecology also emphasizes the need to coordinate with partners at the local level. Regional offices lead local coordination efforts through multiple avenues."

FOTC wishes to document a likely problem dealing with the local Yakima Regional Clean Air Agency regarding greenhouse gas emissions. We are prepared to share information showing that the YRCAA has practiced a "head in the sand" approach to air emissions from animal agriculture. While the YRCAA has ignored the problem, CAFO dairies in Yakima County have produced so much methane that investors are willing to put up millions of dollars to build manure methane digesters. There are serious implications for climate change and for NPS water pollution that the YRCAA does not address.

Response

Comment noted.

FOTC [17]

> Page 90: "In 2020, the WQ Program convened an Environmental Justice Working Group to implement the EJ Policy, by providing guidance and procedures for staff to include in their daily work. The primary objective of the working group is to ensure that the WQ Program incorporates the elements of the EJ Policy across all business practices to provide Washingtonians with an equal opportunity for their voices to matter in our efforts to protect, preserve, and enhance our natural environment."

Will this EJ Working Group address Environmental Justice problems with the Lower Yakima Valley Groundwater Management Area?

Response

This Environmental Justice workgroup has participants on it from our Central Regional office, so those connections should be made. The Water Quality Program Section Manager in our Central

Regional office is very committed to addressing environmental justice issues in the Lower Yakima Valley Groundwater Management Area.

FOTC [18]

> Page 110; "Where existing regulatory programs provide specific oversight and enforcement authority related to a category of NPS pollution, Ecology will generally defer to the implementation of those programs, and not develop independent guidance. Current regulatory programs include:
>
> - Forest Practices Rules
> - Onsite Sewage Systems Regulations and Ordinances
> - Dairy Nutrient Management Program"

FOTC strongly suggests that Ecology cease deference to the Dairy Nutrient Management Program because that program has failed to stop major leaching of nutrients to groundwater.

Response

Comment noted.

FOTC [19]

> Page 128: "Lower Yakima Valley Aquifer The Lower Yakima Valley has been the site of known groundwater nitrate contamination. Starting in October 2008, the Yakima Herald Republic ran a series of article entitled "Hidden Wells, Dirty Water" to highlight nitrate in drinking water used in large part by low income, farm families. At the request of Yakima Valley and in cooperation with the Department of Ecology the Lower Yakima Valley Groundwater Management Area advisory committee was formed. The committee has initiated sampling of groundwater at 170 domestic groundwater wells and in 2019 installed 30 dedicated groundwater monitoring wells to assess nitrate distribution and concentration in groundwater throughout the Lower Yakima Valley (PGG, 2019). https://ecology.wa.gov/Water-Shorelines/Water-quality/Groundwater/Protectingaquifers/Lower-Yakima-Valley-groundwater"

There is more to this story. The LYV GWMA well monitoring currently taking place is designed to establish a baseline so Ecology can document trends going forward from 2022. After twenty years Ecology has decided to establish a baseline for LYV groundwater quality.

Response

Comment noted. This information will be important for the more comprehensive 2025 Nonpoint Plan update.

FOTC [20]

> Page 133: "Yakima Ground Water Management Area Washington State Department of Agriculture (WSDA) has been heavily involved with the nitrate groundwater contamination issues in the lower Yakima valley for over a decade. Recent work on the groundwater management area (GWMA) included staffing the technical committees and committing resources through an interagency agreement to conduct a

comprehensive nitrogen loading assessment. Completion of this assessment will allow members of the GWMA to focus nitrogen management actions on land uses that contribute excess nitrogen most significantly to degradation of groundwater quality in the area"

This information is misleading and outdated. Despite terms of the agreement WSDA did not complete a nitrogen loading assessment for the LYV GWMA. WSDA and Yakima County completed something different, a nitrogen availability assessment, with help from Ecology in 2018. That study was never approved by the LYV GWMA advisory committee due to serious flaws in the data analysis.

Response

We have removed this outdated information. Page 149 has updated information on work we are doing related to monitoring the Yakima Ground Water Management Area (GWMA).

FOTC [21]

Page 147: "Ecology has regulatory authority to prevent pollution, require the Groundwater Quality Standards to be complied with and require that dischargers to waters of the state obtain a permit. Permits include the Concentrated Animal Feeding Operation General Permit, Biosolids General Permit and individual State Waste Discharge permits for land application of wastewater."

A quick read of this paragraph leads one to believe that all dischargers to groundwater have NPDES permits. This is not true. Only sixteen Washington CAFO dairies have NPDES permits, but most of the over 250 Washington dairies discharge to groundwater. In some cases, such as the unpermitted Henry Bosma Dairy in the LYV, discharge quantities are massive.

Response

This section was updated to clearly articulate the implementation of groundwater standards. References to specific permits were removed.

FOTC [22]

Page 150: "In the Lower Yakima Valley many people depend on ground water as a drinking water source. Past study results show that 12% of the valley's wells that have been tested do not meet drinking WQ Standards for nitrate. About 20% have elevated levels of nitrates, and many are above the background level for the area."

This is an understatement of the problem. All people in the LYV are dependent on groundwater for drinking, unless they rely on bottled water. By citing the lowest numbers Ecology minimizes the impact of LYV groundwater pollution. In fact, 61% of domestic wells one mile down gradient from cluster of LYV dairies were found to have nitrate levels above the safe drinking water standard of 10 mg/L. One monitoring well on the dairy cluster had nitrate levels as high as 234 mg/L. The first three rounds of LYV GWMA sampling from thirty purpose-built monitoring wells found that 45% to 48% of the wells had nitrate levels above 10 mg/L in 2021 & 2022.

Response

We have updated the language in this section to more accurately reflect the groundwater situation in the Lower Yakima Valley.

Gady [9]

These draft chapters (Chapters 1,6,10, and 12) from Department of Ecology have a definite bias. That bias is to get rid of agriculture, even though it outlines how important agriculture is to Washington State. The reason I say this is that in each draft chapter, there is no data to show the economic impact to the farmer or rancher to your voluntary recommendations, just the impact to the environment.

Response

Comment noted. The Voluntary Clean Water Guidance will be used to assist farmers that are interested in BMPs that protect water quality and for identifying BMPs that are necessary to address pollution in water cleanup efforts. It will also be used to update our guidelines for grants we provide to farmers for protecting water quality. These are not regulations.

Gady [10]

It also bothers me that I am only given 23 days to respond to these chapters. Something that Ecology has spent many years, months, days and hours working on, with what I assume is multiple people. It would take more than 23 days for good researcher that was well versed in each of the chapters to fully comprehend what you have in these chapters.

Response

Comment noted. We worked with an advisory committee to develop the draft Guidance Chapters. That process is described on our Voluntary Clean Water Guidance for Agriculture webpage[5] and includes the representatives that were the advisory committee's implementation workgroup and effectiveness workgroup.

Gady [11]

It also of great concern to me that you call this voluntary clean water guidance for agriculture. Remember I live in Spokane County, I have seen where Department of Ecology has put their "voluntary guidance" to farmers or ranchers and then been told that if you do not work with Department of Ecology, that Department of Ecology has the ability to fine you to make you comply. That does not sound voluntary.

Response

Comment noted. This is an important point. Polluting Washington waters is not allowed under state statute (RCW 90.48). If a landowner is polluting, then you are correct that implementing measures to stop further pollution is not voluntary.

[5] https://ecology.wa.gov/About-us/Accountability-transparency/Partnerships-committees/Voluntary-Clean-Water-Guidance-for-Agriculture-Adv

Mendoza [1]

The current draft of Washington's Water Quality Management Plan to Control Nonpoint Sources of Pollution references Washington's General Permit for Bio-solids on page 23, stating:

> "Bio-solids are the nutrient-rich organic materials resulting from the treatment of sewage sludge (the name for the solid, semisolid or liquid untreated residue generated during the treatment of domestic sewage in a treatment facility). Bio-solids facilities in Washington operate under a statewide General Permit for Bio-solids Management issued by Ecology. This permit covers land application of bio-solids and other related processes and aspects of operations related to biosolids. The state bio-solids program regulates bio-solids (including septage) applied to the land, bio-solids sold or given away in a bag or other container, bio-solids being stored, bio-solids transferred from one facility to another, and sewage sludge disposed in a municipal solid waste landfill. The existing general permit expires on August 20, 2015. Ecology is currently in the process of developing a new general permit. There are currently about 200 applicable facilities in the state."

This statement is incorrect. Washington issued a new General Permit for Bio-solids in June 2022 that became effective in July 2022. As many commenters noted there is inadequate testing for harmful pollutants in permitted bio-solids. Bio-solids have been misclassified and incorrectly applied, endangering nearby rivers and streams with endangered and threatened species. Bio-solids have been applied to forests where they pollute runoff. Applications are not adequately monitored in Washington State, and the impact of the thousands of chemicals in bio-solids on public health, plants and animals is largely unknown. At a minimum Washington's Water Quality Management Plan to Control Nonpoint Sources of Pollution should acknowledge the risks of non-point source pollution from bio-solids to the surface waters of our great state.

Response

Comment noted. We will update this part of the nonpoint plan to make sure the issuance of the Biosolids general permit is correct.

NWEA [8]

Lack of comments on portions of the plan does not imply that NWEA agrees with the statements therein or the completeness of this document. We incorporate by reference the following two documents: (1) Letter from Nina Bell, NWEA, to Joelle Gore, National Oceanic and Atmospheric Administration ("NOAA"), Re: Coastal Nonpoint Pollution Control Program: Intent to Find that Washington has Satisfied All Conditions of Approval Placed on its Coastal Nonpoint Pollution Control Program (Sept. 14, 2020); (2) Letter from Nina Bell, NWEA, to Ben Rau, Ecology, Re: Draft Washington's Water Quality Management Plan to Control Nonpoint Sources of Pollution (June 5, 2015). These are documents that Ecology has in its possession and are therefore not attached. These previous comments continue to apply to Washington's nonpoint source program because, as the slight amount of editing of the 2022 219 Plan demonstrates, not much has changed.

Response

Comment noted. This Nonpoint Plan update was focused on keeping the plan up-to-date and capturing significant changes/updates. We intend to spend more time doing a broader update for the 2025 Nonpoint Plan update submittal.

NWEA [9]

Plan at 7–8: The draft Plan does not state that in describing how Ecology updated its Plan, Ecology included (or in some cases did not) the binding commitments made by Ecology in Northwest Environmental Advocates v. U.S. Department of Commerce, Case No. C16-1866-JCC (Stipulated Order of Dismissal) (Jan. 8, 2021). For example, the red-lined addition on page 41 comes from this document.

Response

We have updated the plan to include these commitments in the federal CWA portion of the Nonpoint Plan and included settlement agreement in the appendix. Many of the commitments from the settlement agreement (identifying and reporting on focus watersheds and progress on the Voluntary Clean Water Guidance for Agriculture progress) are included in the annual reporting that we provide to EPA every spring. The information in the annual report is helpful for tracking the accomplishments and status of our nonpoint work and grant programs. This is a good reminder that much of our nonpoint work accomplishments are reported on annually and those report as are not included in this nonpoint plan. That being said those annual reports do provide helpful information on the number of BMPs installed, landowner visits etc.

NWEA [10]

Page 8: Lack of riparian protection is a source that contributes to nutrient pollution and dissolved oxygen depletion that should be included in Table 1.

Response

We agree and have added this to the Nonpoint Plan.

NWEA [11]

Page 9: Table 2 is missing that mercury from atmospheric deposition enters waterways from agriculture and logging. See, e.g., EPA/Oregon Department of Environmental Quality's Willamette River basin Total Maximum Daily Load ("TMDL") for mercury (demonstrating that these nonpoint sources are the majority source of mercury loadings to the Willamette).

Response

We agree and have added this to the Nonpoint Plan.

NWEA [12]

Page 16: We appreciate Ecology's addition of the Lemire case. Ecology should also include information on the number of enforcement actions it has taken since its last plan, evaluate and explain the reasons why it has and has not used enforcement as a tool to address nonpoint sources, and explain how it plans on using enforcement action in the years covered by the Plan.

For example, enforcement is a key component of the Straight-to-Implementation ("STI") alternative to TMDLs. If Ecology does not use enforcement, what effect will it have on the efficacy of the STI approach?

Response

We use a progressive approach to addressing pollution from nonpoint sources. Our goal is assisting landowners to gain compliance with the state law through the implementation of effective BMPs. We do that by providing technical assistance and funding for effective BMPs. In those situations where we are not successful and we have ongoing pollution, we do escalate to informal and then formal enforcement. That formal enforcement is site specific and based on the specific set of facts at the site. All of this work is foundational for our nonpoint program and straight to implementation (STI) work. Since the 2015 Nonpoint Plan was put into place, we have achieved a number of BMPs on the landscape through technical assistance, providing funding, and informal and formal enforcement. Every year we report that data to EPA in our annual 319 report. We think the annual report is an excellent way to make a determination on what we have accomplished each year with our nonpoint program, and we use that information to help highlight our work in this nonpoint plan. Data on our enforcement actions are available in our annual reports along with the BMPS that we have funded. We are happy to provide copies of those annual reports if requested. They are an excellent way to understand all the implementation that has happened over a year and include all of our nonpoint work, grants, cleanup plans and technical assistance and enforcement.

The annual report for 2021 reported 7 formal enforcement actions and the implementation of the implementation of BMPs (Table 2).

Table 2. Summary of Best Management Practices (BMPs) implement across Washington in 2021.

Best Management Practice	Amount Implemented
Conservation Tillage Residue Management	1,273,071.20 ac.
Fence	14.7 mi
Filter Strip	41.65 ac. 6.9 mi
Heavy Use Area Protection	0.26 ac.
Invasive Species/Noxious Weed Control	10,879.42 ac. 7,823.9 mi.
Riparian Forest Buffer	1,403.33 ac. 85.12 mi
Stream Habitat Improvement and Management	15 ac.
Stream Channel Stabilization	39.73 ac. 14.07 mi.
Tree/Shrub Establishment	2,178.03 ac. 33.56 mi.
Watering Facilities	8 units
Wetland Restoration	235 ac. 2 mi.

NWEA [13]

Page 16: Ecology states that it has enforcement authority with regard to logging. Has it ever used this authority?

Response

Ecology's enforcement authority for forestry applies when Ecology determines the Forest Practices Rules related to water quality are not being enforced by DNR or enforcement is not adequate to protect water quality. Any water quality concerns our field staff identify are handled in a multi-level approach, ranging from informal (interdisciplinary team, dispute resolution) to formal, such as initiate the "24-hour notice" procedure (RCW 76.09.100). To date, Ecology has been able to resolve issues through the informal route.

NWEA [14]

Pages 17–18: Please inform the readers of how well the regulation of the dairy program has been working.

Response

We added WSDA's most recent annual report to the appendix of the Nonpoint Plan.

NWEA [15]

Pages 18–19: Please inform the readers of how well the on-site septic program has worked with regard to upgrading septic systems to control nitrogen pollution in Puget Sound. Does Ecology agree or disagree with NWEA's assessment of this program set out in pages 67–73 of the

above-referenced NWEA comments on the EPA/NOAA proposed CZARA approval, in particular its discussion of the Marine Recovery Areas?

Response

The Washington State Department of Health (WADOH), through a grant from the Puget Sound Partnership completed research on this issue back in 2005. Their report highlights some of the challenges associated with nitrogen removal by onsite septic systems (WADOH, 2005). WADOH has also funded some additional pilot tests of onsite septic systems to determine their nitrogen removal capabilities (WADOH, 2014).

The Department of Ecology has not made our own assessment of WADOH onsite system programs. Many of these programs are managed by individual local health jurisdictions, with assistance from WADOH.

NWEA [16]

Page 26: Please amend the list of items that the Clean Water Act supports with regard to nonpoint sources to include the requirements set out in the statute and discussed in the following pages, including not just "plans and programs" but also the identification of best management practices.

Response

This is a reference to current EPA guidance. The quoted language is accurate.

NWEA [17]

Page 31: Add in the recent history of Washington's CZARA approval, namely that EPA and NOAA held a public comment period on the proposed approval and the date of that proposal.

Response

This information was added to the Nonpoint Plan.

NWEA [18]

Pages 33–34: Ecology should include here under the Federal Farm Bill Programs (or elsewhere in the Plan) an explanation of how those programs do and do not meet the minimum BMPs that Ecology and its staff believe are necessary to meet water quality standards. Does Ecology believe that these conservation practices promoted by the federal agencies and their programs fully meet the need to control nonpoint source pollution to Washington waters?

Response

We have included information on the gap between federal farm program funding conservation goals and meeting Washington state's water quality standards. In addition, we have included a memo in the appendix that was developed in 2010 when we spent a year working on this topic with Washington's NRCS office, Washington Department of Agriculture, Washington Conservation Commission, and the Northwest Indian Fisheries Commission. This memo highlights the different processes and outcomes between the federal farm funding programs

and the work needed to address nonpoint pollution so that state water quality standards are achieved.

NWEA [19]

Page 41: It is incorrect for Ecology to assert that "our TMDL approach . . . [d]esignates suites of BMPs for various land-use categories." It may in the future but it has not done so to date.

Response

We do rely on a suite of BMPs in the current TMDLs that are being developed. Those suites are from our funding guidance, stormwater manuals and/or Forest Practice Rules. You are correct that we are not relying on the suites of BMPs that are in the Voluntary Clean Water Guidance, since that has not been finalized. Once finalized those will be used for future TMDLs.

NWEA [20]

Page 43: It is not enough for Ecology to state that "[i]f implementation [or TMDLs] stalls, for instance because of recalcitrant landowners, Ecology will utilize enforcement tools as necessary and appropriate." The Plan should evaluate whether this statement is an accurate reflection of the way in which Ecology has conducted its nonpoint program in the recent past and explain how it will be the same or different in the future.

Response

We think this is an accurate depiction of how we implement our nonpoint program. It is consistent with internal guidance for working on nonpoint issues.

NWEA [21]

Page 44: The description of the STI process omits commitments made in the NWEA v. Commerce case, namely how it will conduct "watershed evaluations," which is a term used to describe the STI process, in item nos. 2.a.i ("Washington shall . . . use the BMPs for . . . TMDL alternatives, including but not limited to Straight To Implementation projects, with nonpoint components" and 2.d.i–iv ("When pollution sources are identified and property operators are contacted, Washington shall discuss and recommend BMPs consistent with the agricultural BMP guidance"; "Washington shall track what BMPs are implemented at those sites"; "Washington shall provide training to its field staff on how to use the BMP guidance"; and "Washington shall develop outreach materials for each set of BMPs that can be used by field staff to assist in Washington's communication and recommendation of BMPs."). Note that on page 46 in the discussion of TMDL alternatives, Ecology has added the following language: "Ecology will discuss and recommend BMPs consistent with the Voluntary Clean Water Guidance for Agriculture when addressing agriculture sources." This captures some but not all of the commitments that Ecology has made for TMDL alternatives.

Response

We have added the settlement language to the appendix of the nonpoint plan.

NWEA [22]

Page 45: Ecology's reference to the East Fork Lewis River Alternative Restoration Project is not consistent with its description of "Other Water Clean-up Projects in Advance of a TMDL." Specifically, at 196 pages long, it hardly meets the description of such projects: "To reach that goal, like STIs, the focus is on doing, not planning."

Response

Comment noted.

NWEA [23]

Page 46: See comments for page 44.

Response

We have added the settlement language to the appendix of the nonpoint plan.

NWEA [24]

Page 49: Why is there only a reference to integrating with TMDLs instead of also STIs and other TMDL alternatives?

Response

The statement in the Nonpoint Plan reads" ...integrated with other water quality efforts such as TMDLs,". There is no specific reason that STI was not included. We were using TMDLs as an example.

NWEA [25]

Pages 49–51: The description of the new tracking system is impressive. The Plan needs to describe how the tracking system will improve Washington's poor record of achieving nonpoint source controls. Tracking on its own does not help the designated uses of human health protection and aquatic life.

Response

We will plan on updating this section in the 2025 nonpoint plan. Our current efforts have been focused on developing the tracking system and getting it implemented in our regional offices. As we work with the system, we will have more information to share in the 2025 plan on how it will help improve our nonpoint work.

NWEA [26]

Page 54: Ecology correctly reflects its commitment to "use the Voluntary Clean Water Guidance when developing education and outreach materials related to agricultural sources" but it fails to state if and when it will "develop outreach materials for each set of BMPs that can be used by field staff to assist in Washington's communication and recommendation of BMPs," as it committed to do in NWEA v. Commerce item 2.3.iv.

Response

We have not specifically intended to use the Nonpoint Plan as a vehicle for our reporting on NWEA v Commerce. We first need to get the Guidance in place. We are currently focusing our efforts on that work. We have also been focusing on educating and working with our regional field staff on the draft chapters. We will also work with them on outreach materials. We have included the settlement agreement commitments in the Appendix and have referenced those commitments in the document.

NWEA [27]

Page 56: Noting typos: "The water quality program made changes to our nonpoint fuuunding based on feedback"; " There are no longer match requeirements for our nonpoint source funding."

Response

We have made these corrections.

NWEA [28]

Pages 55–56: The one thing that is most important to remedy environmental injustice is to actually implement nonpoint source controls to improve water quality, support healthy populations of fish and shellfish, and support the quality of fish and shellfish consumed by people. There is nothing in this section that makes that commitment. That suggests that Ecology believes the status quo is sufficient to address environmental injustice (as well as climate change, threatened and endangered species, and tribal treaty rights).

Response

Comment noted. This is not the message we intended. We believe implementing the actions in the nonpoint plan and addressing nonpoint pollution is one important way to address environmental injustice, climate change, threatened and endangered species and tribal treaty rights. We have modified the plan to further clarify this belief.

NWEA [29]

Pages 62–71, 110: Ecology needs to include the existing logging practices in this 319 Plan Update so that the plan meets statutory requirements and so that the practices are reviewed by EPA when it evaluates this Plan.

Response

We have included the Timber Harvest Rules Chapter 222-30 Washington Administrative Code (WAC) as an appendix to the Nonpoint Plan.

NWEA [30]

Pages 72–74, 111: Have there been any instances where Ecology has seen that since the Washington Department of Agriculture took over the regulation/oversight of Washington's Dairy Nutrient Management program, water quality has deteriorated?

Response

We have not done this analysis. We did include a copy of the WSDA Dairy Nutrient Management Program annual report in the Appendix of the Nonpoint Plan.

NWEA [31]

Pages 74–77, 111: Is Ecology aware of any instances when Marine Recovery Area (MRA) plans have been prepared if a local health jurisdiction identifies any areas where nitrogen has been identified as a contaminant of concern. See WAC 246-272A-0015 (1)(b)(ix). Why is this not discussed in the Plan?

Response

This program is administered by WADOH and local health districts. Many of the plans that were adopted focus on septic inspections and areas with shellfish impacts. King County does provide links to areas that have nitrogen contamination in the groundwater, although, it is unclear whether those areas were specifically adopted as part of their Marine Recovery Area.

A summary of these early 2000 plans was not included in this nonpoint plan since many of them are dated.

NWEA [32]

Page 78: We understand that Ecology has not devoted sufficient time to updating this plan but it is peculiar in the extreme to assert three relevant 2016 goals and then to have made no determination of whether those goals were met.

Response

We could not find updated information on the progress and outcomes. We provided some updated information and will relook at this work in the 2025 nonpoint plan update.

NWEA [33]

Page 81: It is sad that Ecology can say nothing more about nitrogen reductions from nonpoint sources that will be needed to meet water quality standards in Puget Sound. You might at least note the very significant percentage of anthropogenic nitrogen that Ecology believes will be necessary to reduce from nonpoint sources.

Response

The Puget Sound Nutrient Source Reduction Plan will provide more detail on the amount of nitrogen reduction needed from nonpoint. The model runs for that plan are still in progress. These model runs will be used to inform the final Puget Sound Nutrient Reduction Plan. We can provide more information on this subject in the 2025 Nonpoint Plan. That being said, we do know that we will need significant nitrogen reduction efforts all across the Puget Sound. The existing programs we have highlighted in this plan are important, along with any other new programs that address nitrogen pollution.

NWEA [34]

Pages 84–85, 86–87, 88–90, 97–98: Sections on recovering wild fish, climate change, environmental justice, and Washington's tribes could be improved by a more clear focus on the most important nonpoint source control action that can be taken: protecting and restoring riparian areas. Ecology could reference its obligation to, for the agricultural BMPs, "establish necessary widths, and base riparian buffer plant composition guidance on mature vegetation communities composed of native species and consistent with ecological site potential, to meet water quality standards to the extent possible[.]" See NWEA v. Commerce item no. 2.1.iv. It should also describe how it will vastly increase its efforts to ensure that riparian areas are protected and replanted with sufficient vegetation to meet water quality standards. Business as usual is not adequate.

Response

We agree. We have added language discussing the important role of establishing and protecting riparian areas.

NWEA [35]

Pages 153–167: Because Ecology does not discuss the Clean Water Act section 319(h) annual work plants and annual reports in its Plan, it has not included the commitments made in NWEA v. Commerce, item nos. 2.e, f that pertain to these respectively. Please amend the Plan accordingly. As it stands, the only reference to these requirements is on page 166 ("Annual Section 319 project reports document accomplishments in aligning programs."). This is not adequate.

Response

See response to NWEA [21]. We have updated this section to reflect those additions. Including annual work plan and reporting references in the nonpoint plan is not required and we do not believe the lack of those references does not impact how we are fulfilling commitments made in the settlement agreement. Each year Ecology provides at least 90 pages of information to EPA on our nonpoint program. This includes information such as: staff funded, BMPs implemented, landowner assistance, contacts and formal enforcement, number of water cleanup efforts and where they are, success stories etc. Those annual reports can inform potential updates we want to do in our 5-year nonpoint plan—but they are not an actual part of the plan. They are full of excellent information and a valuable resource, and they will include additional information such as the information we committed to provide in the NWEA v Commerce agreement.

NWEA [36]

Page 221: Please include an "Appendix I" with the current logging practices in order to meet the statutory requirements for a 319 plan.

Response

We have made this change and added the Timber Harvest rules as an appendix.

NWIFC [8]

The state's efforts at addressing nonpoint sources of pollution under the Coastal Zone Act Reauthorization Amendments (CZARA) are important to protecting and restoring tribal treaty resources. That awareness, and related threshold of expectation is documented in the April 23, 2013, letter from the federal approving agencies to Ecology (attached herein). This letter highlights the need for Ecology to ensure revisions to its Nonpoint Source Pollution Program includes the necessary protections for salmon and salmon habitat to better protect treaty-reserved fish populations.

Response

Comment noted.

Rommereim [1]

We oppose further regulation of private property. Current Federal and State regulations cover this area adequately and do not need anymore confusing overlay of additional regulations. The agriculture community is the best steward of private land, Ecology would much better focusing on urban pollution sources. The eastern and western sides of Washington can not be lumped together in any plan, the geography and farming practices are too varied.

Response

The Clean Water Guidance for Agriculture is guidance and not a regulation. Please see response to WSPC [1].

We appreciate the responsibility and ownership the agricultural community has for stewarding working lands. With that, agricultural lands are a leading source of nonpoint source pollution in the country and significant progress is needed. Our goal is to provide guidance that can support agriculture producers as they make management choices, including the choice to protect and restore water quality. Further, our guidance outline practices, that when implemented, will be assumed to be protecting water quality. We believe this assurance helps provide better certainty for the agricultural community and the general public. As part of implementing this guidance, the Department of Ecology plans to update our funding guidelines to ensure that practices included in the Clean Water Guidance are eligible for our grant funding.

Snoqualmie [3]

While it is clear that the Department of Ecology has spent a lot of time and resources developing these standards based on the best available science, we request that more time be spent on the policy regarding these recommendations and how they might be implemented in the future to benefit water quality.

Response

Comment noted. We open to more discussion and suggestions on how we can implement the recommendations in the Voluntary Clean Water Guidance for Agriculture. We are going to start promoting implementation of the guidance's recommendations through grant program, our technical assistance and education and outreach efforts, and by integrating their use into our clean-up plans/projects (TMDLs and STIs).

Swinomish [7]

As you are aware, there is a widespread temperature pollution crisis, with over 2,000 miles of salmon streams across Puget Sound, and 112 miles just in the Lower Skagit River basin, that are listed under 303(d) of the Clean Water Act for temperature impairment. Climate warming is already exacerbating this temperature pollution crisis in salmon streams. Swinomish has been calling for urgent, bold action to remedy this threat to salmon recovery for years. We believe the State's sole reliance on open-ended, sporadic, and geographically diffuse voluntary incentive programs has been, and will continue to be, insufficient to meet water quality standards within sufficient time for the biological needs of ESA-listed Chinook and Steelhead.

Response

We believe that both voluntary and regulatory programs are needed to protect and restore water quality, as well as establish and protect riparian areas. These will help to address some of the temperature impacts to Washington waters.

We agree that temperature is an important issue for Washington State. Washington State has some very robust voluntary programs. Washington also has significant regulatory programs that are designed to address the temperature impacts of nonpoint pollution. The Nonpoint Plan identifies this work, and our grant programs and staff work to get implementation happening on the landscape.

A good example of one of Washington's regulatory programs to address nonpoint and temperature is Washington State's Forest and Fish Program. It is designed to make sure that Washington's temperature standards are met. It is not a voluntary program. Significant time and resources have been spent on this program, which is highlighted in the nonpoint plan. Recent work by the tribes, conservation caucus, WDFW and Ecology has been successful in getting the Forest Practices Board to vote to update rules for buffer sizes to type Np waters. Those prescriptions are specifically designed to meet Washington's water quality standards for temperature.

Swinomish [8]

The natural condition of the Lower Skagit River is forested riparian habitat, but development and agriculture have removed the majority of that functioning habitat. As a Treaty Tribe, Swinomish has incurred ongoing harm to its federally protected property rights from the EPA's and State's inaction to address the need for riparian habitat restoration. Endangered Species Act-listed salmon have not received the water quality protection and recovery actions that have been called for since 1999. Ecology's Riparian Guidance makes little mention of this, nor the fact that it has been nearly twenty-five (25) years since Ecology was supposed to create riparian habitat guidance for agricultural lands. The cumulative lack of action has brought us to a terrible trifecta of a climate, endangered species and Treaty fishery emergency. Yet, Ecology's documents indicate that no such an emergency exists, and from the Tribe's perspective, Ecology still has no actual plan to achieve water quality standards for salmon streams and remedy the ongoing harms to Swinomish's Treaty rights.

Response

How the Nonpoint Plan is organized does not reflect the sentiment that we do not consider temperature issues in Washington state as a critical issue that needs to be addressed. We agree temperature is an important issue and will continue to grow in importance as we face climate impacts.

Many of the actions in the 2022 Nonpoint Plan are designed to address all nonpoint pollution. The plan is not organized on a pollutant-by-pollutant basis. Consistent with federal Section 319 of the CWA requires that state nonpoint source (NPS) management programs "identify best management practices and measures to control each category and subcategory of nonpoint sources…" The plan is therefore partially organized by land uses that contribute nonpoint pollution. The goal of the Nonpoint Plan is to address unpermitted pollution from these land holistically (address all relevant pollutants that come from a source), not solely individual pollutants.

The implementation of many of these regulatory and voluntary programs will address many pollutants, including temperature impacts. While temperature is not specifically called out as a focus on its own, the programs and initiatives described in the Nonpoint Plan do address temperature, along with other pollutants.

Please see response to NWEA [12] for some more specific examples of what has been accomplished with the nonpoint program in 2021. We provide an annual report to EPA that has significant detail on the on-the-ground work that has been done across the state. Much of this work is designed to address temperature issues and restore riparian areas. This annual report is developed every spring and we are happy to provide copies to the tribe.

We added a reference to the importance of restoring riparian areas and addressing temperature pollution.

Swinomish [9]

The 2022 Plan and the Riparian guidance together comprise key components of Washington's Coastal Nonpoint Pollution Control Program ("Nonpoint Program") under the Coastal Zone Act Reauthorization Amendments of 1990 ("CZARA"). Taken individually and collectively, the 2022 Plan and the Riparian Guidance do not correct the many deficiencies that Swinomish pointed out in our September 14, 2020 CZARA comments to EPA and NOAA about the Nonpoint Program.

Response

Comment noted. We believe the state's coastal program meets the requirements of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA).

Swinomish [10]

The 2022 Plan does not set out a timeline to achieve water quality standards for designated uses in salmon-bearing streams, nor does it set out a schedule for achieving implementation of management measures to remedy nonpoint sources of pollution. In short, the 2022 Plan lacks any accountability measures, including goals or objectives with metrics, to reduce widespread

and harmful temperature pollution that threatens the recovery of ESA-listed species and meaningful Treaty fishing rights. That is, the 2022 Plan is not an actual plan to implement measures that will remedy temperature pollution. As a result, the Swinomish Tribe is left with no choice but to recommend that EPA Region 10 disapprove the 2022 Plan and the State's coastal nonpoint source pollution program. Ecology's continued reliance on voluntary measures maintains the status quo of ineffectual complacency that is failing our salmon.

Response

Washington has several programs that address nonpoint pollution, both regulatory programs and incentive programs. Many of these programs are designed to address temperature, along with other pollutants. The nonpoint plan does address temperature and has several actions and milestones to specifically address temperature over the next five years. This is probably most clearly articulated in the section on updates to the Forest and Fish Program.

Notably the state and tribes have spent significant resources to make sure that forest practices implemented in Washington are protective of the state's Water Quality Standards. Please see the updates on the Forest and Fish Program on Pages 62-71. This section captures recent critical work to ensure temperature standards are met in this regulatory program.

In addition, we complete many actions on an annual basis that are designed to address temperature and other pollutants by restoring riparian areas. These actions are reported annually to EPA in our 319 annual reports and provide a good summary of the work that the nonpoint program has accomplished over each year. See response to NWEA [21]. We are happy to provide a copy of this annual report to the tribe.

Swinomish [11]

The Chapter 9, Goals and Strategies, states at page 153 that Table 8, pages 154-167, "provides measurable outputs that could be used to track progress and specific measurable milestones that will be used over the next five years." Yet, a reading of Table 8 leaves one wondering if some pages are missing – it simply does not contain 5-year measurable metrics for remedying temperature pollution. It is unclear how Ecology expects to making meaningful progress to remedy widespread nonpoint source pollution based on it.

Response

Comment noted. While the milestones are designed to meet federal guidance requirements, we do think they are important milestones that are geared toward getting BMPs implemented. Below are some of the milestones that have been identified in the nonpoint plan. We believe they are substantive and reflect real action on the landscape.

- Complete 159 TMDLs/STI/ Other Restoration plans by 2025 (average 53 per year)
- Focus on a minimum of 8 priority watersheds to implement our nonpoint strategy per year.
- Number and types of BMPs implemented. Number of sites where complete suites of BMPs were implemented.
- Number of TMDLs and STI/Other Restoration workplans completed.
- Number of watershed evaluations completed.

- Number of sites identified as having nonpoint source pollution problems.
- Number of these sites that now have BMPs that protect water quality.
- Number and type of BMPs implemented to address nonpoint sources of pollution.
- Watersheds where we are doing effectiveness monitoring and results of that effectiveness monitoring.
- Number of complaints received and responded to by Ecology.
- Number of complaints resolved.

In addition to the milestones, and the settlement agreement actions we have committed to the following actions and reporting on them in our 319 annual report. Those reports can be up to 100 pages, and they cover in detail the data and information related to the milestones above and additional detailed information on the progress we are making in implementing our nonpoint program. We are happy to provide these annual reports to the tribe and their staff if you think they would be helpful. We think they have an excellent summary of our nonpoint work for the year and give us important information on where we may want to focus upcoming nonpoint plan updates.

- Update about the status and progress of BMP guidance development
- Description of updates to Washington funding guidelines based on BMP guidance development.
- Use of BMP guidance for technical assistance
- Use of BMP guidance in new TMDLs and TMDL implementation plans, TMDL implementation, and TMDL alternatives
- BMP outreach materials developed, and training provided to field staff.
- Number of watershed evaluations conducted per watershed.
- Number of complaints received and summary of complaint types.
- Number and type of landowner contacts
- Formal enforcement data
- Number of PIC programs developed.
- Number and type of BMPs implemented to address nonpoint sources of pollution.
- Number of fund projects that address failing OSS.
- Update on achieving the following estimated reduction per year: Achieve the following estimated reductions per year:
    - 14,000 lbs. of phosphorous
    - 8,000 tons of sediment
    - 40,000 lbs. of nitrogen
- 70 OSS repair/ replacement projects completed by SRF/ Centennial funded local loan programs.
- 100% of sites evaluated by Ecology are entered into the nonpoint tracking system.

WSPC [1]

While programs and techniques to address natural resource concerns and production challenges continue to evolve, the federal approach, which our farmers appreciate relies on voluntary farmer participation in designed on farm conservation programs to help agricultural

producers make and maintain improvements on their land. Participation in these conservation programs is driven by direct technical and financial assistance.

This is an important reference in the context of the impact of the proposed Riparian Management Zones (RMZs) on potato farmers. The "Voluntary Clean Water Guidance for Agriculture" seems to introduce the RMZs as voluntary. However, the "Washington's Water Quality Management Plan to Control Nonpoint Sources of Pollution" identifies their primary tools to guide and promote implementation of the strategy to include actions that are regulatory rather than voluntary (e.g., TMDLs, STI projects):

- Water Clean-Up Plans -TMDLs, which are plans for restoring impaired waters, as required by the federal Clean Water Act
- Straight to Implementation (STI) projects, which implement BMPS to achieve compliance with
- state water quality law using Ecology's state nonpoint authority
- Other water clean-up projects in advance of a TMDL
- Grant and loan programs
- Complaint Response and Inspectors
- Education and outreach, and voluntary programs

Specifically, under the Ecology plan potato farmers could be precluded from federal assistance, if the plan is regulatory. Can potato farmers continue to operate and function without the help of federal conservation guidance? If not, that would seem to directly contradict the stated intent to "help agricultural producers make and maintain improvements on their land." Without federal conservation assistance potato farms will not be able to work towards the State's water quality goals.

Response

The Voluntary Clean Water Guidance is meant to articulate the BMPs, that if implemented, protect water quality. These will inform what we pay for with our grant programs. Also, if there is pollution occurring then a landowner could use this guidance to help address pollution on their site.

In all these circumstances, it is up to the landowner whether to use this guidance.

In TMDLs, we will articulate that this guidance is to be used for any landowners that are contributing pollutants to the water. The guidance does not have to be used by the landowner to address their pollution. However, each landowner has a duty under state law to prevent pollution from being discharged (RCW 90.48).

WSPC [2]

The "Washington's Water Quality Management Plan to Control Nonpoint Sources of Pollution" draft also lays out specific key principles in the implementation of the proposed nonpoint strategy. This includes the following principle: "Target effectiveness monitoring where implementation of BMPs has occurred." By targeting water quality monitoring to areas where the best management practices (BMPs) have been implemented, the Department of Ecology is

missing the critical opportunity to validate whether these BMPs are effective in comparison to other potential approaches.

Response

Comment noted. The goal of targeting the monitoring where implementation has happened is twofold:

- to see whether the waterbody is actually getting cleaner and
- depending on how the monitoring is conducted, to see if the implemented BMPs are actually effective.

In the past effectiveness monitoring has occurred on a rotational basis in watersheds without knowing whether any BMPs (Ecology recommended or BMPs implemented following other guidance) have been implemented. That is not a good use of resources. This refence in the plan was simply meant to say that effectiveness monitoring should be done in places where we actually expect to see a change and inform active implementation work.

WSPC [3]

There are fundamental issues within the current document which need attention. The state must make a workable program for all farms in Washington State to meet the legislative intent of keeping farms viable in our state.

Response

Comment noted.

WSRC [12]

Above all, our concern is that the hundreds of pages written claim to be voluntary guidance and simple research regarding Best Management Practices (BMP)'s. However, these documents represent overly broad recommendations that may be used to create overly restrictive regulations that threaten the rights of private property owners and threaten to take any functional or economic use of viable agricultural land.

In previous legislative sessions, there has been legislation to impose draconian rules regarding riparian areas. This legislation has failed to be implemented. Unfortunately, it appears that this work by the Department of Ecology is an attempt to implement similar restrictions without the benefit of the legislative process.

Response

Comment noted. We are not developing legislation or regulations. Please see response to WSPC [1].

WSRC [13]

With regard to the Nonpoint Source document specifically, the section labeled Nonpoint & Implementation Tracking System, describes how staff routinely conduct "windshield surveys" and a detailed mapping system. It is concerning to us that these collection methods may be

conducted without explicit permission from landowner for entry. What are the protections for personal property rights incorporated into these systems?

Response

This work is either done with consent of landowner or from public rights-of-way.

WSRC [14]

Page 90 clearly indicates that "the goal of the Agriculture and Water Quality Advisory Committee is to improve working relationships and ensure both water quality protection and a healthy agricultural industry." We are concerned that the changes made to the Nonpoint Source document increase agency authority over the agricultural industry and will serve to discourage small farmers with overly burdensome regulations.

Response

Comment noted. We are not developing legislation or regulations. Please see response to WSPC [1].

WSRC [15]

We appreciate the acknowledgement of the various incentive programs that exist in state government. It is shocking that over 1,273 projects wait for funding from the Family Forest Fish Passage Program. We strongly encourage the Department of Ecology to include the funding for that program in any budget requests to the legislature. Voluntary incentive-based programs will be far more effective in supporting riparian health than any meddlesome, burdensome regulations perpetuated by the Department.

Response

Comment noted.

WSRC [16]

We do applaud the focus of the Non-point Source document on nutrient management in the Puget Sound. The nutrient level in the Puget Sound is detrimental to salmon recovery and does need to be addressed.

Response

Thank you for your support on addressing nutrient pollution in Puget Sound.

WSRC [17]

The Nonpoint Source document contains some important updates; however, we are overall concerned that an increase in regulations and oversight and monitoring does not remedy pollution. Please consider putting in structures that will protect private property rights and that encourage farming and agricultural activities instead of the opposite.

Response

Comment noted.

Comments and Responses: June 2023

Livestock Management: Animal Confinement, Manure Handling & Storage

FOTC [23]

FOTC is seriously concerned that Ecology's efforts to protect ground and surface water may be too little and too late to turn back the many impacts of climate change including impairment of water quality. We strongly urge Ecology to take a more aggressive approach regarding climate change and global warming and water pollution before the aquifers are irreparably contaminated and endangered species become extinct.

Response

Comment noted. These comments focused on the broader nonpoint program and are outside the scope of this comment period on Chapter 11 of the Voluntary Clean Water Guidance for Agriculture.

FOTC [24]

Ecology's 2023 Washington's Water Quality Management Plan to Control Nonpoint Sources of Pollution states on page 46, "*enforcement authority under state law provides a regulatory backstop. This regulatory backstop is necessary because there must be reasonable assurance that the abatement strategies for nonpoint sources will actually take place.*" FOTC does not witness any regulatory backup in South Yakima County where concentrated feeding operations (CAFOs) frequently ignore recommendations for best management practices designed to protect water quality.

FOTC asks Ecology to seriously consider the position of FOTC and others who believe that raising farm animals in confined animal feeding operations (CAFOs) is a failed experiment. Ecology should abandon costly efforts to shore up this method of farming that damages the environment and increasingly relies on public funding to survive. CAFOs produce such large quantities of manure that it is not feasible to prevent pollution of the ambient air and nearby groundwater or surface water. There are estimates of costs to producers to follow these guidelines, but to the best of our knowledge there is no accounting of the costs to people, taxpayers, and the environment when animal agriculture does not follow these guidelines.

Response

Comment noted. These comments focused on the broader nonpoint program and issues outside the scope of this comment period.

FOTC [25]

FOTC is concerned that the voluntary measures outlined in Chapter 11, Livestock Management-Animal Confinement, Manure Handling & Storage, only provide the appearance that best management practices will protect Washington waters. Meanwhile industrial agriculture continues business as usual which means treating the land, the waters, the air, and the people

who live close to the land like chattel. There are no provisions in this non-point source (NPS) plan for surveillance to determine how many operations implement best management practices and how effective these efforts are at improving water quality.

Response

Comment noted. These comments focused on the broader nonpoint program and issues outside the scope of this comment period.

FOTC [26]

The term “animal confinement area” is not well defined. This term appears to include sacrifice areas and feedlots. Does it include operations in which cows or other animals are confined in barns? Heavy traffic areas? Compost bedded pack barns? Milking parlors? Quarantine and hospital areas? Animal transport? At times the document conflates heavy use areas and animal confinement areas.11 Is there a distinction?

Response

We edited the “Heavy Use Area” definition to better represent the variety of areas that can be covered by this term and added a definition for “Animal Confinement Area.” See updated definitions below:

> **Animal Confinement Areas:** Lots, yards, corrals, barns or similar structures in which the concentration of livestock is such that a vegetative cover is not maintained. Confinement areas are sometimes referred to sacrifice areas or winter paddocks.
>
> **Heavy Use Area (HUA):** Locations where livestock congregate or use intensively. Examples of these areas include confinement areas, as well as high traffic area such as the areas around bale feeders and off-stream water facilities, gateways, and alleyways.

FOTC [27]

The glossary does not provide an adequate description of compost bedded pack barns. Does the bedded pack allow the use of fiber from composted manure as bedding? Does Ecology have ethical concerns about requiring animals to sleep on their own excrement. Has Ecology consulted animal rights groups regarding this practice?

Response

Compost bedded pack barns is a livestock management system that includes a variety of design and management considerations which isn’t easily captured in a simple definition. The guidance (beginning on page 16) provides additional information including design, operation, and maintenance considerations. This approach to animal housing relies on the continual addition of dry, organic material such as hay, sawdust, straw, woodchips, or other dry fibrous material which theoretically could include dried fibers from manure separation. Compost bedded pack barns are one of many approaches used to house animals when access to pasture and rangelands is not recommended. This approach is intended to provide a dry, level, and well-ventilated area during the winter months. Ecology did not consult animal rights groups when reviewing this practice because the guidance focuses on water quality.

FOTC [28]

For dairy CAFOs removal of manure from barns and sheds can be done by flushing which requires significant quantities of water or by scraping. Different BMPs apply to each method. Should Ecology evaluate manure management in barns and sheds by flushing or scraping and recommended ways to avoid pollution of groundwater and surface water from these actions?

Response

The commenter highlights two scenarios. The guidance expects that scraped solids material will be stored in manure storage facilities that are located and designed in a way that prevents discharges to surface and ground waters. Additionally, the guidance recommends operation and maintenance plans that address manure collection. Liquid manure and water used for flushing will be addressed in a separate and future guidance chapter.

FOTC [29]

Does the recommendation not to locate animal confinement areas next to surface waters apply to the entire production area? This happens frequently in Washington State. Historically small farms have grown into CAFOs without regulatory oversight, so CAFOs that never received approval for citing are now found next to waterways. If CAFOs place animal confinement areas next to surface waters, is there regulatory backup that requires monitoring for pollution of the rivers and streams?

Response

We recommend locating confinement areas, other heavy use areas and manure storage facilities away from surface water (outside of the Riparian Management Zone). However, we recognize that there are existing facilities. In those cases, we recommend producers move those facilities outside the Riparian Management Zone, if feasible.

For unpermitted CAFOs, there is not a blanket monitoring requirement for confinement areas close to surface waters.

FOTC [30]

FOTC suggests that *Chapter 11, Livestock Management-Animal Confinement, Manure Handling & Storage, of Ecology's Voluntary Clean Water Guidance for Agriculture* should address:

- Pollution from storage of animal feed, especially silage.
- Pollution from flushing and scraping manure from milk parlors and barns.
- Quantification of atmospheric deposition on surface waters due to emissions of ammonia, particulate matter, hydrogen sulfide, volatile organic compounds, and methane from animal confinement areas and manure composting operations.
- Methodology for surveillance and measurement of discharges to groundwater, surface waters, and the ambient air.
- Methodology for measurement of the effectiveness of riparian buffers and vegetative strips on individual operations.
- Impact of uncovered composting operations that are located on bare ground.

- Potential disposal of animal carcasses, including unwanted calves, in manure biodigesters.
- Management of calf feeding operations.
- Management of manure digesters.
- Open storage of lime used to treat manure in cow pens
- Benefits of manure solids separators.
- Benefits of pasture based dairying.

Response

The commenter highlights several areas of livestock operations and requests the guidance address those areas. Some of the areas are outside of the scope of this chapter but may be addressed in other guidance chapters. For example, "pollution from flushing and scraping manure from milk parlors and barns" and "the benefits of manure solids separators" will be covered in the upcoming chapter focused on liquid manure.

There are additional areas that are not explicitly addressed by the current scope of the guidance. For example, "pollution from storage of animal feed, especially silage," "management of manure digesters," "pasture based dairying," and "open storage of lime used to treat manure in cow pens." To the extent that these are located in confinement areas, the guidance's recommendations to prevent clean water from coming into contact with these areas and capture polluted runoff to prevent a discharge apply.

The guidance could be expanded in the future to specifically cover these additional areas. However, we request the commenter provide additional information on the specific BMPs they believe should be recommended for these areas if they want them included in the guidance.

The list also includes a request to have additional guidance on mortality management of livestock. In the implementation section we reference NRCS guidance. We edited the guidance to also refer to Ecology solid waste guidance and include information on mortality management in the recommendations section.

Additionally, the commenter asks us to address "management of calf feeding operations." It is not clear from the comment what additional BMPs the guidance should include for these types of operations. Again, the guidance's recommendations are to prevent clean water from coming into contact with these areas and capture polluted runoff to prevent a discharge apply to these operations. If there are additional BMPs that the commenter believes should be in the guidance, we request that that information be provided to us for consideration in future updates to the guidance.

Finally, the commenter suggests providing guidance on methodologies for monitoring several areas to determine impacts and to measure effectiveness of buffers/filter strips. We did not include monitoring in the scope of this chapter because the focus is on BMPs that treat pollutants, capture polluted stormwater, divert clean water, and prevent the discharge of pollution. We may consider adding a section to the guidance on monitoring in the future.

FOTC [31]

There is an incorrect statement in Appendix B on page 50:

"*AFOs that meet the regulatory definition of a concentrated animal feeding operation (CAFO) are regulated under the National Pollutant Discharge Elimination System (NPDES) permitting program. The NPDES program regulates the discharge of pollutants from point sources to waters of the United States and CAFOs are point sources, as defined by the CWA [Section 502(14)].*"

This guidance only applies to non-permitted operations. There are over 250 CAFOs in Washington State but only about 25 have NPDES permits. This means that at least 225 unpermitted CAFOs in Washington State are theoretically treated as non-point sources.

The Clean Water Act and the WA Water Pollution Control Act, RCW 90.48, provide tools that citizens may use to protect waters of the state. Here is an example of how this system fails.

Since July 2021 FOTC has submitted complaints to Ecology's Environmental Report Tracking System (ERTS) because an unpermitted Yakima CAFO dairy with several thousand milk cows composts manure in the same pens where dairy cows live. This practice overlays leaching of pollutants from pens on top of leaching from compost. This practice reduces the surface area available to animals for rest and relaxation by half. The ERTS system referred our complaint to the WSDA Dairy Nutrient Management Program (DNMP). To date the DNMP has never responded to this specific complaint. Instead WSDA has sidestepped the issue by stating that the dairy complies with their dairy nutrient management plan.

The Dairy Nutrient Management Act, RCW 90.64, requires dairies to write dairy nutrient management plans (DNMPs), but these plans are not available to the public. Indeed, these plans are not shared with Ecology. The WSDA Dairy Nutrient Management Program reviews DNMPs every two years when inspectors visit dairies, yet there is no legal requirement for dairies to follow their own plans. Evidence from the Yakima Valley proves that some dairies do not follow their own plans.

This incident and others demonstrate a failure of the State of Washington to regulate non-point source pollution from CAFOs. *Chapter 11, Livestock Management-Animal Confinement, Manure Handling & Storage, of Ecology's Voluntary Clean Water Guidance for Agriculture* does not satisfy requirements that Ecology must protect groundwaters and surface waters from agricultural pollution.

Response

We understand that animal feeding operations may be subject to CAFO NPDES permit requirements. We included the language on page 50 to clarify that our guidance is for non-permitted facilities. Animal feeding operations subject to CAFO NPDES permit requirements must meet the conditions and follow the practices outlined in the CAFO NPDES permit. The additional comments are noted. These comments focused on the broader nonpoint program and issues outside the scope of this comment period.

FOTC [32]

Please note that FOTC has been excluded from the preparation of Chapter 11 and other components of Ecology's Voluntary Clean Water Guidance for Agriculture. We are only allowed to listen and not speak at twice yearly meetings of the Ag and Water Quality Advisory

Committee. Meanwhile the dairy industry has a seat at the table and provides substantive advice to the those who write these guidelines.

Response

Comment noted.

King [1]

Page 14 & 19, under Site Section, "*Manure storage sites should be located away from any surfacewater (perennial, intermittent, or ephemeral). Consistent with the Riparian Areas & Surface Water Protection recommendations (Chapter 12) manure storage facilities should be located outside the riparian management zone (at least 215-feet away from surface waters for western Washington locations and 150-feet away from surface waters for eastern Washington locations.*"

1. Do you have a scientific article that shows that 215 feet & 150 feet is the right setback for Manure storage facilities from surface water? Where did this number come from? I would recommend having a scientific basis for such a setback number. The footnote here should refer to the article.
2. There is the footnote "10" for the setback, however many farms in western Washington might not have any of their farm that is over 215 feet from a surface water. There should be additional guidance for in the document for when manure storage must be located with-in 215 feet. King County Livestock Mangement Ordinance (for example) has a tiered approach to regulations of manure near surface water. Basically: Prefer 200 feet away. 200 - 100 feet - tarping or roof is required in winter. 100 - 50 feet - manure bin much have leachate containment. 50 - 0 feet – Not allowed.

Response

Chapter 12-Riparian Areas & Surface Water Protection includes our review of scientific literature related to buffer effectiveness. We based our setback recommendations on extensive review of the scientific literature.

We recognize that it may not be feasible to locate manure storage facilities outside of the Riparian Management Zone. If a manure storage facility is located in the Riparian Management Zone, we recommend additional site-specific engineered stormwater solutions to prevent discharges including secondary containment. We do recommend all manure storage facilities in the westside of the state be covered with a cover/roof.

Mendoza [2]

What are the regulatory backups for these voluntary recommendations? What can Ecology do when producers choose to ignore the recommendations?

Response

The Voluntary Clean Water Guidance is meant to articulate the BMPs, that if implemented, protect water quality. These will inform the types of best management practices Ecology's grant

programs will fund. Also, a landowner could use this guidance to prevent or address pollution concerns on their site.

In all these circumstances, it is up to the landowner to use this guidance.

In TMDLs, we will articulate that this guidance is to be used for any landowners that are contributing pollutants to the water. The guidance does not have to be used by the landowner to address their pollution. However, each landowner has a duty under state law to prevent pollution from being discharged to waters of the state (RCW 90.48).

Mendoza [3]

Does Ecology surveille facilities to determine how many follow the voluntary guidance?

Response

Ecology does not surveille facilities. We do respond to complaints and conduct watershed evaluations, where we identify pollution sources and prioritize operations to contact. We will work with producers and partners to implement the recommends found in the guidance. In those cases, we will record what gets implemented. Additionally, we track BMPs implemented through our funding program.

Mendoza [4]

Are there monitoring wells downgradient from these operations to measure leaching to the aquifer?

Response

This is a site specific question that is outside the scope of this guidance.

Mendoza [4]

Below are aerial pictures of two calf feeding facilities near Mabton, WA. As nearly as I can tell there are no vegetative strips to absorb runoff from thousands of calf hutches. There is continuous traffic necessary to feed the calves and hopefully remove excrement in a timely manner. This means compacted surfaces with increased risk of runoff.

[Note: the commenter included several photos of large livestock confinement areas]

Response

This is a site specific question that is outside the scope of this guidance.

References

Agouridis, C. T., Workman, S. R., Warner, R. C., & Jennings, G. D. 2005. Livestock grazing management impacts on stream water quality: a review 1. Journal of the American Water Resources Association, 41(3), 591-606. https://doi.org/10.1111/j.1752-1688.2005.tb03757.x

Belsky, A. J., Matzke, A., & Uselman, S. 1999. Survey of livestock influences on stream and riparian ecosystems in the western United States. Journal of Soil and Water Conservation, 54(1), 419-431. https://www.jswconline.org/content/54/1/419

Environmental Protection Agency. 2012. Section 319 Program Guidance: Key Components of an Effective State Nonpoint Source Management Program. November 2012. https://www.epa.gov/sites/default/files/2015-09/documents/key_components_2012.pdf

Granger, T., T. Hruby, A. McMillan, D. Peters, J. Rubey, D. Sheldon, S. Stanley, E. Stockdale. April 2005. Wetlands in Washington State - Volume 2: Guidance for Protecting and Managing Wetlands. Washington State Department of Ecology. Publication #05-06-008. https://apps.ecology.wa.gov/publications/documents/0506008.pdf

Kauffman, J. B., & Krueger, W. C. (1984). Livestock impacts on riparian ecosystems and streamside management implications... a review. Rangeland Ecology & Management/Journal of Range Management Archives, 37(5), 430-438. https://doi.org/10.2307/3899631

Kauffman, J. B., Thorpe, A. S., & Brookshire, E. J. 2004. Livestock exclusion and belowground ecosystem responses in riparian meadows of eastern Oregon. Ecological Applications, 1671-1679. https://doi.org/10.1890/03-5083

Magilligan, F. J., & McDowell, P. F. 1997. Stream channel adjustments following elimination of cattle grazing 1. Journal of the American Water Resources Association, 33(4), 867-878. https://doi.org/10.1111/j.1752-1688.1997.tb04111.x

Miller, J. J., Chanasyk, D. S., Curtis, T., & Willms, W. D. 2010. Influence of streambank fencing on the environmental quality of cattle-excluded pastures. Journal of Environmental Quality, 39(3), 991-1000. https://doi.org/10.2134/jeq2009.0233

Nagle, G. N., & Clifton, C. F. 2003. Channel changes over 12 years on grazed and ungrazed reaches of Wickiup Creek in eastern Oregon. Physical Geography, 24(1), 77-95. https://doi.org/10.2747/0272-3646.24.1.77

Owens, L. B., Edwards, W. M., & Van Keuren, R. W. 1996. Sediment losses from a pastured watershed before and after stream fencing. Journal of Soil and Water Conservation, 51(1), 90–94. Pell, A. N. (1997)

Ranganath, S. C., Hession, W. C., & Wynn, T. M. 2009. Livestock exclusion influences on riparian vegetation, channel morphology, and benthic macroinvertebrate assemblages. Journal of Soil and Water Conservation, 64(1), 33–42. https://doi.org/10.2489/jswc.64.1.33

Revised Code of Washington. Chapter 90.48 RCW. Water Pollution Control. https://app.leg.wa.gov/rcw/default.aspx?cite=90.48

Revised Code of Washington. Section 76.06.100. Failure to comply with water quality protection-Department of ecology authorized to petition appeals board-action on petition. https://app.leg.wa.gov/rcw/default.aspx?cite=76.09.100

Rigge, M et al. 2013. Optimal placement of off-stream water sources for ephemeral stream recovery. Rangeland Ecology & Management 66(4) 479–486. https://doi.org/10.2111/REM-D-12-00099.1

Trimble, S. W., & Mendel, A. C. 1995. The cow as a geomorphic agent—a critical review. Geomorphology, 13(1-4), 233-253. https://doi.org/10.1016/0169-555X(95)00028-4

Washington State Department of Fish and Wildlife. Priority Habitats and Species: Riparian Ecosystems and the Online SPTH Map Tool. https://wdfw.maps.arcgis.com/apps/MapJournal/index.html?appid=35b39e40a2af447b9556ef1314a5622d

Washington State Department of Health. 2005. Nitrogen reducing technologies for onsite wastewater treatment systems. Publication #337-093. https://doh.wa.gov/sites/default/files/legacy/Documents/Pubs/337-093.pdf

Washington State Department of Health. 2014. How nitrogen from septic systems can harm water quality. Publication #337-142. https://doh.wa.gov/sites/default/files/legacy/Documents/4450/337-142-Nitrogen-Removal-from-OSS-FactSheet.pdf