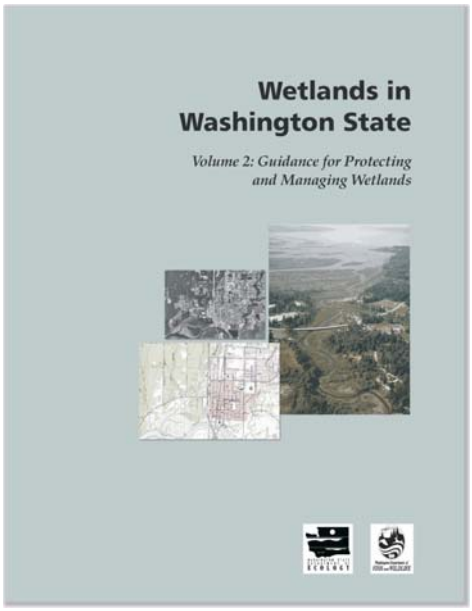

Draft Wetlands in Washington State Volume 2: Guidance for Protecting and Managing Wetlands

Responses to Comments

WASHINGTON STATE
DEPARTMENT OF
ECOLOGY

Washington Department of
FISH and WILDLIFE

April 2005
Ecology Publication #05-06-009

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Volume 2: Guidance for Protecting and Managing Wetlands

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For the Draft *Wetlands in Washington State – Volume 2: Guidance for Protecting and Managing Wetlands*, which was used for the public review, refer to Publication #04-06-024.

For the Final *Wetlands in Washington State - Volume 2: Guidance for Protecting and Managing Wetlands* refer to Publication #05-06-008.

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Introduction

This document contains all of the comments received by the Washington State Department of Ecology during the public review of the draft of *Wetlands in Washington State - Volume 2: Guidance for Protecting and Managing Wetlands.* Anyone who wanted to review the document was encouraged to do so. All entries in the project's mailing list (over 1,200) received an announcement when the draft was available for review. Seven individuals or groups responded by providing comments. A list of the reviewers is provided in Table 1 and in Appendix 1-B of Volume 2.

The authors suggested that reviewers review Volume 2 in its entirety. However, the authors realized that some reviewers would not have the time and suggested that at a minimum, reviewers do the following:

- Scan the table of contents
- Read Chapter 1 as an introduction
- Scan the rest of the document reading the introductions for each chapter
- Review as much of the rest as possible (prioritizing chapters or sections for which the reviewer had the most expertise, experience, or interest)

The authors also requested that the reviewers read the appendices, which contained many of the specific recommendations (buffers, ratios, etc.) in the document. In addition, reviewers were asked if there were any chapters or sections that were poorly organized, unclear, or illogical and if they had any ideas or suggestions to improve the organization.

The comments received are provided in the following pages and are organized first by general comments, then by chapter, and within each chapter by page. The comments are numbered sequentially within each chapter; for example, comments for Chapter 2 range from 2.1 to 2.3. There are 3 comments for that chapter.

For each comment submitted, the authors of Volume 2 prepared the response that follows each comment which describes: 1) whether the authors agreed and made a change, 2) if they disagreed and the reason why, or 3) they acknowledged the comment if no change was needed (i.e., Comment noted). In some cases, the intent of the comment was unclear and no change was made. Occasionally, an explanation was given to clarify a point made in Volume 2 that may have been misinterpreted or that was unclear.

Comments generated during the development of the draft, such as internal reviews by the Core Team and discussions with the environmental and business communities about concepts and early drafts of various chapters are not included in this document (see Appendix 1-B in the final version of Volume 2 for a list of the organizations involved in early drafts). These groups are not listed in the table that follows unless they submitted comments during the public review. In the table, the Washington Department of Fish and Wildlife is listed as a commenter for, in addition to having staff on the Core Team and reviewing internal drafts, staff (not on the Core Team) submitted comments on the draft that was sent out for public review.

Table 1. List of reviewers of Volume 1.

Name of Individual or Organization	Affiliation at the Time of Review (if Individual)
Harriet Beale, Outreach Manager	Puget Sound Action Team
Jerry Gorsline, Policy Associate	Washington Environmental Council (WEC)
Maxine Keesling	Private Citizen
Mary J. Roberts, Watershed Steward	WSU Cooperative Extension/King County
Tim Trohimovich, AICP, Planning Director	1000 Friends of Washington
Sarah Cooke, Dee Arntz	Audubon WETNET Scientific Advisory Committee
Washington State Department of Fish & Wildlife[1]	

[1] Staff from the Washington State Department of Fish and Wildlife that were not on the Core Team.

General Comments

G.1 Comment: Volume II is clearly and beautifully written. The sections on Landscape Analysis in Appendices 5-B and 5-C are particularly good. I did not see any specific references to wetland mosaics in volume II.

The following points were brought out at several critical areas ordinance public hearings: (1) city staff and some public would like definitive statements of best available science; (2) since Ecology is evaluating a new classification system, class IV wetlands are being dropped from protection / regulation until research results are in; (3) concern that increased buffers widths in urban areas will result in expansion of the urban growth boundary.

I am concerned that class IV isolated wetlands less than 10,000 square feet receive adequate protection / regulation. These wetlands may be part of a valuable source stream system, have groundwater connections to other wetlands, and play a part in groundwater resource preservation. While not mentioned per se, I assumed your buffer widths took into consideration the role the hyporheic zone plays in stream health, groundwater quality, and wetland integrity. Toxics can travel miles via the hyporheic zone and enter estuarine systems. A landscape perspective that may include several watersheds and jurisdictions gives a better sense of impacts to any given system. While this perspective many not yet be implemented, it opens a dialogue about cumulative impacts and an expanded sphere of influence. The functions of a system are a product of processes encompassing both time and space. The precautionary principle reminds us that we are looking at a snapshot of time and space and that there are questions we cannot ask because we lack the knowledge to do so. We would do well to act with care and caution, and learn the lessons nature has to teach us by observing much and doing less. Volume II is a fine educational and resource tool. Thank you for inviting these comments.

The following note was provided on the envelope that contained the above comments: There is also concern by city staff + the public that more data from the PNW be cited.

The Commenter also provided questions on hard copies of page 9, Appendix 8-C and pages 1 and 2, Appendix 8-E for clarification purposes.

Response: Thank you for complimenting us on Volume 2 and your thoughts on incorporating a landscape perspective.

Wetland mosaics are not addressed in Volume 2 directly, but are covered in the Washington State wetland rating systems. These documents are complementary to Volume 2 and should be used in conjunction with the recommendations made here.

In regard to the concern about Category IV wetlands, these wetlands are not being "dropped from protection." Volume 2 provides specific recommendations on what is needed to protect Category IV wetlands. The new rating system only changes the criteria used to establish a Category IV wetland and does not eliminate them. Furthermore, the recommendations in this document specifically state that even small wetlands have some functions. In Volume 1, we make no recommendations that local governments should exempt wetlands smaller than

10,000 square feet. We attempted to cite all the relevant information from the Pacific Northwest that we found. One purpose of the external review was to seek local information that we may have missed, and we have added relevant citations to Volume 1 that have been suggested by reviewers.

G.2 Comment: In the light of concerns about private property rights, both individual landowners and municipalities; please consider the following:

Washington Trout has a program called cooperative compliance, an agreement with Cherry Creek Drainage District 7, in WRIA 7, agriculturists, and fisheries biologists, to do what is best for both salmon and farmers. NOAA fisheries, Washington State University in Pullman – John Thielbahr, EPA, and Wash State Dept of Fish and Wildlife are sponsors of the process. Burt Beardslee, the Executive Director of Washington Trout made a training video on the process of cooperative compliance, and it should be available from Washington Trout or Wash State Dept of Fish and Wildlife; both of whom may be accessed off the web doing Google search.[2]

Additionally, the Meridian Institute, which facilitates peaceful conflict resolution, and the Cooperative Adaptive Management Institute, sponsored a two-day workshop 9/15-16/04 piggybacking the "Restore Our Estuaries" conference at the Washington State Convention Center in Seattle. The workshop in collaborative adaptive management was excellent, and dealt with conflict resolution regarding science, policy, and people, the latter being the linchpin of any collaborative process. If you are interested, the workshop summary and a list of attendees/presenters may be downloaded of the web at: **http://www.adaptivemanagement.net**. The summary includes success stories throughout the U.S. and Canada. Your office is welcome to contact any of the presenters/attendees for further information.

Response: Thank you for this information. We are not sure if the Commenter is suggesting a revision to Volume 2 in regard to the information. We have accessed the web site mentioned and will pass the links on to Ecology and Fish & Wildlife staff and any we encounter who may be of need of such information.

G.3 Comment: (Landscape / Watershed Scale)

P. 1-3: "The protection and management of wetlands will be integrated with the management of all environmental resources across the landscape."

P. 1-5: "Ecological Principles…The Ecological Society of America has taken a lead in compiling and explaining scientific principles (that) illustrate the need to take a more holistic landscape approach to managing our natural resources."

P. 3-2: "…it can be assumed that wetlands and their functions…will be adequately protected…only if protection and management occur at a larger geographic scale… (a watershed approach)

[2] This is a national program – cooperative compliance - , and Washington Trout's program was chosen best in the state of Washington.

In the metropolitan area of the state's most populous county (King) that is also the economic engine of the state, it is to be expected that man, a seemingly unrecognized element of nature, will have impacts. Landscape/watershed-wide preservation is not realistic. The "science", as epitomized by the Ecological Society of America, is as biased and goals-oriented as would an environmentalist consider science on grazing that came from the Cattlemen's Association.

Response: We disagree. The Ecological Society prepared their reports with a goal of informing the general public on the extent of current ecological research and practices. These are "white papers" that represent the consensus of many ecologists and are based on the "best available science" as defined in the Growth Management Act.

In addition, in Volume 2 we do not say that "landscape/watershed-wide preservation" is realistic in urban areas. We concluded that effective protection and management of wetlands should incorporate the information generated from a landscape analysis and consider cumulative impacts. We therefore, have not made any significant revisions to the sentences mentioned in the comment, except for a few minor edits.

G.4 Comment: Thank you for the opportunity to provide comments on the state's guidance for protecting and managing wetlands. My comments are limited to Chapter 6 of the document: Developing Plans and Policies: Landscape-Based Land Use Planning. The [Commenter] strongly supports incorporating a landscape approach into the guidance to encourage planning jurisdictions to make site-specific land use decisions in a larger context of natural processes operating at various scales. This approach offers an important tool for integrating watershed and restoration planning with land use planning.

Response: Thank you for your comment and your agreement with our emphasis, throughout the document and especially in Chapter 6, on incorporating a landscape approach in the protection and management of wetlands. No change is needed to the document.

G.5 Comment: Landscape-based land use planning is a complex topic to introduce to planners, but doing so is extremely important to begin to move land use decisions beyond the site level to protecting landscape processes. Chapter 6 describes several well-chosen examples and approaches with good detail and makes an important contribution to the guidance. Our recommendations are intended to support the goals of the chapter in providing examples of some of the tools available. We commend Ecology for developing this guidance, and especially for presenting information on the fiscal benefits of protecting landscape processes. Chapters 4 and 5 and other parts of the guidance also provide good examples of the leadership Ecology is providing in developing tools for landscape analysis.

This document will serve planners, local governments, developers and citizens of the state in efforts to protect wetlands and other resources. In addition, it supports several of the core conservation and recovery priorities of the Puget Sound Action Team. Congratulations on completing this important work.

Response: Thank you for your agreement with the guidance provided in Volume 2. No change is needed to the document.

G.6 Comment: I recommend that [the Commenter] and the Department of Ecology meet to discuss how we can address two of our primary concerns in the guidance document, namely 1) the reductions of buffers on small wetlands, and 2) reduced protection of listed species in the new wetland rating system. I'm confident that we can craft revised language that will give guidance to local jurisdictions that reflects the policies and priorities of both agencies on these issues. *Note: This comment was reiterated in a second follow-up letter that was sent with additional comments.*

Response: Ecology and the Commenter met and resolved these issues. The following are changes agreed upon during the meeting:

- Highlighted the issue of threatened and endangered (T&E) species by placing a box in the appendices stating that they need to be protected beyond the measures linked to the rating system.
- Added a table with recommendations for widths of buffers around wetlands with specific T&E species.
- Removed the section containing guidance on buffers around small wetlands.
- Clarified language regarding improving vegetation in buffers and made clear that we don't advocate changing the habitat. Habitat in the buffer should be appropriate to the region and setting.
- Looked at the issue of cumulative impacts to buffers in areas that will have infilling through expanded UGAs through landscape approach/comprehensive planning.
- Ensured that there is language that restoration is the first choice in regard to compensatory mitigation.
- Looked at language for lead shot and edited to make sure it didn't appear to reflect an anti-hunting mindset.

G.7 Comment: In a watershed or landscape approach to wetland planning and permitting, it would be helpful to add the Watershed Characterization Methodology developed for the Transportation Permitting Efficiency and Accountability Committee (TPEAC) by Dick Gersib and others (http://www.wsdot.wa.gov/environment/watershed/docs/methods.pdf). This methodology is lacking some of the shallow groundwater analysis of the Ecology method in the document, but it does look at structure and biological integrity at the landscape level to identify watershed process of movement and routing of water, wood, sediment, pollutants and nutrients. It also examines existing structure and indices of biological integrity in identifying areas as "properly functioning," "at-risk" and "not properly functioning." This could be an important tool for local governments when they identify areas to protect and restore for greatest functional benefit.

Response: We are aware of the work done by Richard Gersib and the committee. Most of his work is not cited in this document because it is not currently available to the general public in a form that can be used by local governments, although we do cite proceedings (Gersib 2001) from a symposium in which he presented some of his results. Mr. Gersib began work on methods for landscape analysis (specifically for wetland restoration) while working for the Department of Ecology and the landscape analysis being developed by Ecology and mentioned several times in the document incorporates many aspects of Richard's work.

G.8 Comment: [The Commenter's] greatest issues occur in Appendix 8 in the model for reducing buffers and replacement ratios for what are classed as low and medium levels of development, and the reduction of buffers to 50% their size around small wetlands. There are some situations where these reductions might not result in significant losses of functions, but there are other cases where they would. Some of these buffer reductions would diminish waterfowl breeding habitat, amphibian habitat, and mammal habitat, and they would make the wetlands less sustainable into the future. Generally speaking, when buffers are reduced it is important to compensate and expand in other areas for development of corridors and natively vegetated connectors along drainage ways and connecting wetlands. This would more closely resemble buffer averaging. Even if the development is initially low, secondary development can increase concentrated development in the future. There is no scientific basis for generically reducing the buffer recommendations as proposed. When exceptional circumstances occur, they can be handled by variances or other mechanism rather than a standard 50% buffer reduction process.

A related problem with stated minimums is that the minimums will likely become the maximums in the context of local governments. State agencies need to keep this in mind whenever buffer ranges are proposed.

Response: Our approach has been to develop recommendations that provide a "moderate" risk to the resource rather than "no risk,' as explained in Chapter 8. We believe that the recommendations for reductions in the buffer widths maintain the level of risk at "moderate" and do not increase the risk. Very small wetlands usually do not provide habitat for the larger species of animals using wetlands that would require the larger buffers. Regarding the second point, the recommendations specifically do not provide ranges of widths for buffers because ranges can result in a jurisdiction defaulting to the width at the lower end of the range as stated by the commenter.

G.9 Comment: [The Commenter] recognizes that this volume represents the culmination of Ecology's multi-year project to develop the basis for an improved wetland rating system that can be used to assess wetland functions, as well as development of science-based guidance to local governments to better inform decisions about protecting and managing wetlands to meet the GMA requirement to protect critical areas functions and values.

We appreciate the "holistic, landscape-based" approach represented by this guidance and believe it will lead to better protection for wetland functions and values and to a better understanding and management of cumulative effects on those functions and values.

We also appreciate the alternative approaches offered for setting buffer widths, ranging from a simple, conservative, default approach to one that combines wetland category, intensity of impacts, and wetland functions or special characteristics. This latter approach (Buffer Alternative 3) recognizes the variability in both type and level of performance for wetland functions across the landscape and gives local governments flexibility while providing an appropriate level of protection for individual wetlands. The approach is very similar to the one [the commenter] advocates through the Habitat Protection Toolkit (available at: http://www.wecprotects.org/habitat/habitattoolkit.cfm).

We thank the Department for its good work in providing valuable technical assistance to local governments for their review of comprehensive plans and development regulations, including critical area ordinances. We will be recommending Ecology's approach to wetland protection in our future work with local governments.

Response: Thank you for your appreciation. No revisions to the document are needed.

G.10 Comment: Thank you for the opportunity to comment on *Wetlands in Washington - Volume 2: Guidance for Protecting and Managing Wetlands*. The Growth Management Act, in RCW 36.70A.130 (5) (b), encourages state agencies to provide technical assistance to the counties and cities in the review of comprehensive plans and development regulations, including critical area ordinances. [The Commenter] is very pleased that Ecology has provided technical assistance to cities and counties by preparing and publishing *Wetlands in Washington - Volume 2: Guidance for Protecting and Managing Wetlands*. [The Commenter] also strongly supports the recommendations in the report. We particularly like that you have provided alternatives where appropriate, this gives local governments choices. We believe the report's recommendations will help cities and counties meet their obligation to ensure no net loss of critical areas functions and values, which is required by the Growth Management Act. We have provided cities and counties with copies of this report and have advocated for cities and counties to adopt and implement its recommendations.

The report's recommendations emphasize a landscape approach to critical area protection, which we strongly support. This approach is entirely consistent with the Growth Management Act. For example the Growth Management Act requires the identification of critical areas before designating urban growth areas and adopting comprehensive plans and directing growth away from critical areas.[3]

Response: Thank you for your support. No revisions to the document are needed.

G.11 Comment: We are pleased to have the opportunity to comment on Wetlands in Washington State: Volume 2: Guidance for Protecting and Managing Wetlands. We are very encouraged that the document has incorporated so many of the Best Available Science concepts and that the orientation is landscape-based. We would like to compliment Ecology on a job well done. It is clear that a great deal of work went into this document.

We are concerned, however, that an approach as complex as the landscape approach including analyzing and using landscape level data as well all the detailed requirements for identifying wetlands, doing functional assessments, are beyond the ability of many of Washington's jurisdictions. We strongly recommend that the Department of Ecology seek funding for a technical assistance and training program for local jurisdictions as well as private consultants (see Chapter 8.2.2). Also, training is recommended throughout the document. Unless there is such a follow-up, we are fairly certain this elaborate document will have only a small fraction

[3] *Bremerton, et al. v. Kitsap County*, CPSGMHB Case No.: 95-3-0039c Final Decision and Order pp. *33 – 34 (October 6, 1995) (footnote omitted), *Friends of Skagit County v. Skagit County*, WWGMHB No. 95-2-0075 Final Decision and Order p. *8, 1996 WL 650300 p. *6 (January 22, 1996) (quoting *Bremerton*), & *Confederated Tribes and Bands of the Yakima Indian Nation v. Yakima County*, EWGMHB 94-1-0021, Final Decision and Order, 1995 WL 903191 p. *5 (Mar. 10, 1995).

of its potential impact. [The commenter] would certainly like to support DOE in effort to develop and to find funding for such project.

Response: Thank you for your compliment. The Department of Ecology has received funding from the U.S. Environmental Protection Agency to develop a training program and the corresponding curricula. A survey was distributed to local governments to ascertain their needs and preferences regarding several training related issues. Comprehensive training curricula will be developed following the completion of the final versions of Volumes 1 and 2 as well as guidance on compensatory mitigation that is currently in draft form. The curriculum for training in the rating systems for eastern and western Washington has already been completed and training will take place in May and June of 2005 with additional trainings in the planning stages.

G.12 Comment: Another issue that needs to be addressed is inter-jurisdictional cooperation. Is there a way of facilitating information exchange, burden sharing for data collection and analysis? Is it contemplated that the WRIA planning process is such a mechanism, if so, how can it be used to best effect. Even more crucial, how will cross-jurisdictional implementation be promoted?

Response: Inter-jurisdictional cooperation is needed, but guidance on this issue is not within the scope of this document. The authors of the document do not have the expertise to provide this type of guidance, and local governments are urged to contact the Washington State Coordinated Resource Program (www.crmwashington.org) or the Department of Community, Trade, and Economic Development.

G.13 Comment: Generally, use of a landscape-based approach to replace both wetland area loss (sq. ft.) and appropriate wetland functions are a viable alternative to traditional in-kind wetland compensatory mitigation. Application of this alternative should be applied on a case-by-case basis. [The Commenter] does not support application of this approach when it can result in the net loss of wetlands area (sq. ft.).

Response: Comment noted. No revisions to the document are needed. Issues relating to the policies to be used for compensatory mitigation are also developed and discussed in a companion document: Guidance for Wetland Mitigation in Washington State, Ecology Publications 04-06-013a, b.

G.14 Comment: We also appreciate the thoroughness of the discussion in Chapter 8, including the mention of accessory documents that supplement different discussions throughout the chapter.

Response: Thank you for your appreciation. No revisions to the document are needed.

G.15 Comment: [The Commenter] appreciates the discussion of balancing the prescriptive approach of regulating critical areas and the need to maintain flexibility to allow for more environmentally sound alternatives under individual situations. We especially appreciate the mention that the flexible approach requires a higher level of staff review and expertise and hope that you emphasize this statement in the final draft.

Response: Thank you for your appreciation.

Chapter 1 – Introduction to Volume 2

Page 1-2

1.1 Comment: 1.2 Purpose and Goal of Volume 2, Paragraph 3. [The Commenter] supports the use of Best Available Science in decision making about critical areas that include wetlands. There are many places in the document where this is done. However, we do not see Best Available Science in Appendix 8 that deals with buffer reductions. Reduced buffers and replacement ratios would lead to reduced functions and wetland areas in many cases.

Response: See response to Comment G.8.

Page 1-8

1.2 Comment: *Non-GMA protection of wetlands is not addressed in Volume 2*. This section explains why Volume 2 does not cover protection of wetlands under the Shoreline Management Act (SMA). Federal regulations: Section 401 of the Clean Water Act, and the Endangered Species Act should be included here. Although the first paragraph mentions federal and tribal regulations and programs, the use of SMA as an example could lead the reader to assume that may be the only regulation in addition to GMA implemented by listed governments to protect wetlands. We recommend (first sentence): "...federal, state, and tribal governments (e.g., Section 401 of the Clean Water Act, Endangered Species Act)..."

Response: The suggested change has been made.

Chapter 2 – The Growth Management Act and Protection of Critical Areas

Pages 2-2 thru 2-7

2.1 Comment: (*Hearings Board/Court Cases*) The cited science appears remarkably goals-oriented, with environmental wins almost solely featured. There is no mention of Isla Verde Int'l v. City of Camas, 99 Wn, App, 127, Dec. '99, which was intensely discussed at a lawyer's seminar in Seattle in 2001 and in which the appeals court found a blanket 30% setaside failed to pass constitutional scrutiny because of lack of nexus and proportionality.

While on page 2-7 the subject document did discuss (WEAN) v. Island Cy, 118 Wn. App.567, 76 P.3d. 1215 (2003), there was no hint of the court's page 591 statement: "The analysis concerning type 3, 4, and 5 stream buffers supports the conclusion that 50-foot buffers are needed to protect most functions, including wildlife habitat."

The GMA in RCW 36.70A.370 requires the attorney general to establish a process to enable agencies and local governments "to evaluate proposed regulatory or administrative actions to assure that such actions do not result in an unconstitutional taking of private property." While

this is to be done "at least on an annual basis" the last such update was in 1995. The attorney general's oversight does not excuse agencies and local governments from liability, including on a personal basis, from lawsuits based on the jurisdiction's own responsibility to be cognizant of takings law and to implement the GMA planning goal of protecting private property rights. (RCW 36.70A.020 (6)).

Attached is SOUTH WHIDBEY RECORD 8-16-88 article quoting DOE personnel to the effect that "clearcutting, properly executed, leads to more water in the area" (including groundwater); plus a more recent article on water penetration in treed vs. non-treed areas on north Whidbey indication non-treed areas as best for water penetration and recharge.

Response: The comment to add to the discussion of relevant court and Board cases by including the Isla Verde International v. City of Camas case is noted. This was an important case in planning decisions in establishing the need for a connection between action and remedy (a nexus) and proportionality. The referenced HEAL case also established that there is a need to establish a nexus to support development regulations to protect critical areas, through the inclusion of information from the best available science. We do not see a need to add to the listed citations in support of this point.

The discussion of the WEAN v. Island County case was necessarily condensed and attempted to convey the salient points of the decision. The referenced language from the court's decision does not contradict the relevant points but, if considered out of the context of the decision, might confuse the reader. The text does not have the meaning implied by the comment: namely that the use of 50 ft. buffers protects most functions. The case findings suggested that requiring a 50 ft buffer on small streams was needed, in lieu of NO buffers, not in lieu of other (i.e. larger) buffers. The 50-foot buffer referenced was only presented in this context. The decision is not considered a scientific basis for limiting stream buffers to only 50 feet.

The comment on RCW 36.70A.370 is noted and accurately describes the situation, but we see no need to change the text in Volume 2 to address this specific planning goal. Guidance prepared by the state attorney general on the subject of protecting private property rights is available to local governments as envisioned in the law.

Concerning the final comment about a newspaper article from Whidbey Island, it is unclear as to what is being stated or requested. It appears that this information is related to a specific geographic area, and thus may be of limited applicability. No changes are being made to the text on this issue.

Page 2-4

2.2 Comment: The report accurately quotes the *Pilchuck Audubon II* Central Puget Sound Growth Management Hearings Board decision for the proposition that the use of the term "protect" means to preserve the structure, value, and functions of critical areas. However, based on a superior court remand, the Central Board has subsequently amended this formulation in *Tulalip Tribes I* to exclude the "structure" of critical areas. As the board wrote in that case:

In view of the Decision on Appeal, and the additional evidence and argument presented in the instant case, the Board concludes that it is appropriate to revise, clarify and amplify the *Pilchuck II* holding. For purposes of comparison, the Board repeats below language from the *Pilchuck II* holding, showing new language with underlining and deleted language with strike-throughs:

The Board holds that the Act's requirement to protect critical areas, particularly wetlands and fish and wildlife habitat conservation areas, means that the ~~structure,~~ values and functions of such ~~natural~~ ecosystems ~~are inviolate~~ must be maintained. While local governments have the discretion to adopt development regulations that may result in localized impacts upon, or even the loss of, some critical areas, such flexibility must be wielded sparingly and carefully for good cause, and in no case result in a net loss of the ~~structure,~~ value and functions of such ~~natural~~ ecosystems within a watershed or other functional catchment area.[4]

Therefore, I would recast the second sentence on page 2-4 as follows: To "protect" critical areas ~~generally~~ means to maintain ~~preserve~~ their ~~structure,~~ values~~,~~ and functions, this requires no net loss of critical areas functions and values." This change does not affect any of the analysis or recommendations in your report. Indeed it supports it.

Response: Thank you for the updated information on this case and the revisions made in the Final Decision and Order. The text has been changed to reflect this updated language.

Page 2-6

2.3 Comment: In footnote 18, the report accurately cites the *HEAL* and *WEAN* cases. However, the *WEAN* citation is to a decision that has been withdrawn and replaced. The best cite for the WEAN decision is: *Whidbey Environmental Action Network [WEAN] v. Island County*, ___ Wn. App. ___, 93 P.3d 885, 893 (2004). *WEAN* continues to stand for the propositions for which the report cites the case.

Response: Thank you for the updated citation, which has been changed in the footnote.

Chapter 3 – Key Conclusions from Volume 1

3.1 Comment: Wetland Buffers, Paragraph 1. Wetland buffers are part of the aquatic-terrestrial interface or watershed system. They not only protect wetland system functions, they provide wetland system functions.

Response: We agree that buffers also provide functions in the ecosystem. The question of whether to consider these a function of the wetland or of the surrounding landscape is an issue

[4] *Tulalip Tribes of Washington v, Snohomish County (Tulalip Tribes I),* CPSGMHB Case No. 96-3-0029 Final Decision and Order p. *8 (Dec. 6. 1995) (emphasis in original).

of semantics based on the legal framework under which we operate. From a regulatory perspective, environmental functions that occur outside the wetland boundary cannot be considered a wetland function even if they are linked. The same can be said for any function outside the wetland, such as groundwater recharge that provides water to a wetland that is fed mostly by groundwater. We agree that all these functions are linked and often "interact." By recommending a program that incorporates information from the entire landscape we are trying to point out that these linkages are important.

3.2 Comment: Wetland Buffers, Paragraph 3. The document states: "To protect wildlife that depends on wetlands, the literature has documented the need for significantly larger buffers than those that are adequate to provide sediment removal and nutrient uptake. Research confirms that many wildlife species depend upon wetlands for only portions of their life cycles and they require upland habitats adjacent to the wetland to meet all their life needs. Some species use upland habitats that are far removed from the wetland. The literature documents that, without access to appropriate upland habitat and the opportunity to move safely between habitats across a landscape, it is not possible to maintain viable populations of many species."

This is an important paragraph. The National Academy of Sciences in their report on Wetland Mitigation (National Research Council. 2001. Compensating for Wetland Losses under the Clean Water Act. Washington, DC: National Academy Press) had more on this topic, and sections of this report might be incorporated into the current document.

In land use planning, areas of high biodiversity and function would need to be protected as would wetlands, buffers, riparian areas, and connectors between habitats. Degraded systems would need to be restored to provide original connectivity, and compensatory efforts should also be directed to areas where isolated subpopulations of animals could be reconnected and resulting wetland systems would be sustainable. This could require retrofits such as requiring all surface parking lots to be pervious and infiltrate precipitation in order to reduce impacts of high impervious surface.

Response: The information on the importance of buffers is covered in Volume 1 of this two-volume report. We did not think it appropriate to repeat that information in this volume. In regard to the second part of the comment, we agree that protection and restoration need to be addressed in land-use planning, and this information is presented in Chapters 6-9 of this volume although not to the level of detail suggested in the comment. No additional text was included because the basic premise was clear: land-use decisions in general, not just those concerning wetland protection, need to be made using a landscape perspective.

3.3 Comment: Wetland Buffers, Paragraph 5. From a fish and wildlife standpoint, we do not feel existing functions can be retained in many cases with the proposed buffer reductions for moderate or low-intensity land uses. The proposed reductions are not based on available science, and therefore they should not be a recommendation of state natural resource agencies.

Response: See response to Comment G.8.

Page 3-12

3.4 Comment: Ecological Effectiveness, Paragraphs 1, 2. Even though a summary, the language is unnecessarily vague and therefore, virtually meaningless i.e., "mixed results", "low level of success". Be more specific? Also, it is our understanding that studies have been done and for instance, enhancement was found to be very ineffective.

Response: The statements made represent the summaries of the appropriate chapters in Volume 1 (the synthesis of the science). Since the two documents are supposed to be used together, we did not want to repeat all the information presented in Volume 1. The text has been clarified by referencing the appropriate Chapter in Volume 1. The conclusion presented in Volume 1 does indicate that enhancement was found to be less effective than creation or restoration.

Page 3-13

3.5 Comment: Types of Wetlands Produced. This section is vague as well. Paragraph 1 - "The ability of compensatory mitigation …varies." Be more specific, it would talk one more sentence. Paragraph 2 - You describe a situation, but not why this is a problem. Perhaps it is self-evident. Paragraph 3 – It is our understanding that the wetlands cited cannot be reproduced. What justifies using the word "may."

Response: See response to Comment 3.4. Volume 1 provides the specific information on which these conclusions are based.

Chapter 4 – Framework for Protecting and Managing Wetlands Using Best Available Science

Page 4-2

4.1 Comment: 4.2 Four-Step Framework for Management and Protection of Wetlands, Paragraph 1. In landscape or watershed analysis, one needs to examine the causes of non-functioning and incompletely functioning systems and design corrections in the systems. We need to examine sustainability of the compensatory wetlands we are incorporating into the landscape.

Response: We agree. The steps for examining non-functioning and designing corrections are described in Chapter 5. Chapter 4 is meant to provide an introduction to landscape analysis. The details are described in Chapter 5 and in the appendices.

4.2 Comment: 4.2 Analyzing Wetlands at the Site Scale. In analyzing wetlands at site and watershed scale, we need to examine total impervious areas and look for sustainable compensatory mitigation opportunities to restore movement of water, sediment, wood, nutrients, and genetic material.

Response: See response to Comment 4.1.

Page 4-10

4.3 Comment: Characterizing the Risk…Sentence 5 is essentially without content. The last sentence should be stressed.

Response: Comment is unclear because Sentence 5 is the last sentence of the paragraph. If we assume the reviewer meant Sentence 4, then we disagree. We consider it important to state that solutions that provide higher risks to the resource need to be balanced by other actions that reduce risk to the resource.

Chapter 5 – Analyzing the Landscape and Its Wetlands

Page 5-3

5.1 Comment: Bulleted list—"actions" of wildlife is a bit awkward, we suggest use of: "The movement, <u>population dynamics and habitat use</u> of wildlife."

Response: The change has been made.

Page 5-9

5.2 Comment: Question 4, Sentence 1. Add "or can be restored."

Response: We have separated "maintaining processes" from "restoring processes" to facilitate planning and data analysis. Restoration is addressed in Question 5.

Chapter 6 – Developing Plans and Policies: Landscape-Based Land Use Planning

Pages 6-4 and 6-5, Smart Growth

6.1A Comment: Section 6.4 Smart Growth. Smart Growth is defined and described in this section as an "alternative approach" to managing growth. Washington State regulates a number of aims of the Smart Growth approach through the Growth Management Act (GMA), including concentrating urban development and infrastructure, preserving critical areas, and conserving resource lands for long-term resource use. It would be helpful to place Smart Growth in context for Washington State residents by noting that GMA is designed to achieve a number of Smart Growth goals through a regulatory approach. Many of the other Smart Growth elements such as mixed-use zoning, urban design, revitalization, and tax incentive can be applied within the GMA context, resulting in an integration of the two approaches that brings the best of both to Washington State planning.

Response: We agree. Language has been included to the chapter to express this concept.

6.1B Comment: The Puget Sound Action Team helped to fund and participated in the Kitsap County Alternative Futures project that produced a draft sub-area land use plan for the Chico Creek sub-basin. One of the greatest challenges of the landscape approach and alternative futures is that there is much existing development and zoning that cannot be changed. It would be helpful on page 6-4 to note some other applications for these tools in addition to determining "the content of comprehensive plan elements", because in many cases those elements have been determined. For example, these tools also might be applied to sub-area plans based on sub-basin boundaries or the appropriate landscape area. Another specific application could be in using the approach to evaluate options for expanding Urban Growth Area (UGA) boundaries or designating new Urban Growth Areas.

Response: We agree. Language has been revised.

6.2A Comment: On page 6-5 the reference to low impact development (LID) should state that this term applies to a technical approach to stormwater management. Please delete mention of compact building design as a low impact development stormwater practice. While low impact development stormwater practices are compatible with a Smart Growth approach, they are not always linked together and can occur separately. The document should define low impact development more clearly as separate from but compatible with Smart Growth, including the key LID elements of treating and managing stormwater onsite and mimicking the natural hydrology. For further references on low impact development, see the PSAT website at http://www.psat.wa.gov/Programs/LID.htm.

Response: We agree. The text concerning Low-impact Development (as the Puget Sound Action Team defines it under stormwater practices) has been clarified.

6.2B Comment: Smart Growth, Alternative Futures, Green infrastructure Planning, and low impact development are all different approaches and tools that are consistent with a landscape analysis-based planning process. While there is some overlap, they are not all considered part of Smart Growth, and it might be more accurate to avoid using Smart Growth as an "umbrella" term for these other approaches. The title of this section could describe examples of tools and planning approaches consistent with landscape analysis, and then the section could briefly introduce Smart Growth and the other tools/approaches and provide a short description of each. This will reduce confusion and better clarify both the distinctions between these approaches and their relationship to each other.

Response: We disagree. The discussion in this chapter focuses primarily on Smart Growth, Alternative Futures, and Green Infrastructure. The literature clearly indicates that Green Infrastructure is a planning arm of Smart Growth. The use of Smart Growth is a conceptual framework with clearly defined principles to help guide decisions about land use. Since both Green Infrastructure and Alternative Futures both very clearly meet the Smart Growth principles, by default, they serve to implement Smart Growth.

Page 6-6

6.3 Comment: 6.4.1 Green Infrastructure (GRIST). Green Infrastructure (GRIST) Planning is an important recommendation in the document. It seems to presuppose sufficient staff to accomplish this. Can small local governments receive grants to accomplish this comprehensive planning approach that integrates open space and natural areas into land use planning and protecting landscape processes? If so, it might be helpful to identify funding opportunities.

Response: We agree that funding is important. There is already a section in Appendix 6-A to address this. Funding sources are scarce right now but some CTED grant options from the Washington Department of Community, Trade, and Economic Development and sources named in a federal web site have been recently added.

Page 6-13

6.4 Comment: 6.4.2 Alternative Futures. Alternative Futures is another important land use planning tool that makes informed land use decisions based on different future scenarios after consideration of each scenario for its effect on water quality and quantity, fish and wildlife habitat, and landscape processes.

Response: Comment noted. No changes to the document are needed.

6.5 Comment: Step 6 (6.4.1 Green Infrastructure Planning) mentions that implementing a GRIST plan might lead to revised zoning designations. This may be perceived as a barrier to using the tool by local governments that went through intensive community processes to establish zoning during the first round of GMA planning. It would be helpful to acknowledge the concerns local governments and citizens might have with re-zoning and mention that a GRIST plan also could be applied in areas where new zoning is being developed, such as new master planned communities, UGAs being designated or VGA boundaries proposed for expansion.

Response: We agree. Language has been added to the text to acknowledge this.

6.6 Comment: Section 6.4.2 Alternative Futures. This section does not clearly describe how the Alternative Futures approach is part of a Smart Growth process. Kitsap County and other participants did not consider the Chico Creek project to be "Smart Growth" which is a term that has different meanings for some members of the public. The alternative futures approach is being applied in Kitsap County in the context of the Growth Management Act and other state initiatives for watershed and salmon recovery planning. Kitsap County calls it "Planning by Watershed." It would be accurate to describe it without linking it to Smart Growth.

Response: We agree and disagree. Language has been added to provide a clearer link between the concepts of Alternative Futures as a planning tool for Smarter Growth. Chico Creek remains an example under the Alternative Futures discussion, and as such is also linked to Smart Growth. Please also refer to the response to Comment 6.2 regarding the concept of Smart Growth.

Page 6-14

6.7 Comment: In the Chico Creek project, the "strong development scenario" was the one that was dropped early on, when the severity of impacts became apparent. The document states that the current regulatory condition was dropped, while it was actually the current regulatory condition that by default became the "strong development scenario."

Response: Thank you. We agree. The correction to this error has been made.

Page 6-15

6.8 Comment: 6.4.3 Combining Complementary Approaches. The discussion of metrics and Marina Alberti's work is relevant and worth mentioning. These comments would benefit from a more complete description of how researchers are able to establish and calibrate the metrics. I recommend adding a sentence or two on the recent advances in research through the use of spatial analysis with GIS technology so as to introduce this concept, and then continue the discussion of its potential applications with the GRIST approach. This would provide the reader unfamiliar with this research with a better understanding of what the metrics are and how they are derived.

Response: We agree. Additional language has been added to elaborate on the concerns expressed by the Commenter, with further clarification received during a follow up phone conversation.

Chapter 7 – Developing Plans and Policies: Comprehensive Planning

Page 7-5

7.1 Comment: 7.2.1 County-wide Plans and Policies, Paragraph 3. The document states: "Because critical areas such as wetlands and landscape processes that support them often span multiple jurisdictions, local governments should consider whether their current policies and regulations are consistent with the programs of neighboring jurisdictions." WDFW would not recommend that a local government adopt less restrictive protection measures because an adjacent local government had done so; this needs to be clarified. Adjacent local governments could enter into inter-local agreements on mitigation efforts, especially in the context of mitigating watershed processes for multiple jurisdiction benefits.

Response: We acknowledge that the text does not specifically address the potential of a local government reducing their protection for wetlands in order to be consistent with an adjacent jurisdiction that is less stringent or that does not include the best available science. We have added a statement to the text to clarify this issue.

Page 7-16

7.2 Comment: Frequently Flooded Areas, Second Paragraph. We are glad to see the *Diehl V. Mason County* decision cited. This decision has been important guidance for local jurisdictions which should differentiate the Flood Hazard Ordinance, required by Federal Emergency Management Agency (FEMA) from that required for this element under GMA. However, we recommend excluding "seasonal" from the second section. Habitat use of floodplain may vary between species, but this section implies that habitat use in general is seasonal. Floodplain habitat would be used year-round by wildlife.

Response: Comment noted. The word "seasonal" has been removed from the text to remove the unintended inference that habitat use is limited seasonally.

Page 7-19

7.3 Comment: 7.3.4 Transportation Element. Associated with transportation are opportunities to decrease impervious surface by requiring all surface parking lots (including retrofits) to be pervious and infiltrate precipitation and water run-off.

Response: This is a helpful comment as an example of anticipating long-range impacts and planning to compensate for unavoidable effects in advance. We have added to the existing text to introduce this concept at the end of the second paragraph.

Page 7-20

7.4 Comment: 7.4 Optional Elements of Comprehensive Plans. Conservation Element. There are existing GIS tools that could assist in identifying lands to be protected and restored through regulatory and non-regulatory methods to meet identified needs in comprehensive plans. These tools include ecoregional conservation assessments of areas with high biodiversity, priority habitat and species maps, salmonscape, and the Salmon and Steelhead Habitat Inventory and Assessment Program (SSHIAP). Watershed characterization methods such as those developed by WSDOT could be used in conjunction with Ecology Landscape model to identify areas for restoration of watershed process.

Response: Comment noted. GIS-based tools are included in Appendix 5-B, but our focus is on methods that can be used to develop an understanding of environmental processes that affect wetlands. We agree there are numerous tools that have been developed to identify areas for conservation, but we did not try to include these because it is beyond the scope we established for this document. See also response to Comment G. 7 regarding the method developed by Richard Gersib and the Washington State Department of Transportation.

Page 7-21

7.5 Comment: 7.4 Optional Elements of Comprehensive Plans. Conservation Element (Introduction). It might be helpful to identify some of the major non-regulatory opportunities to restore wetlands and riparian systems, such as USDA's Wetland Reserve Program, the Conservation Reserve program, and local land trusts. The Wetland Reserve Program restores approximately 2,000 acres of wetlands and riparian areas each year in Washington State.

Response: Comment noted. These are good suggestions and have been added to the text to provide more information.

Page 7-23

7.6 Comment: Cites the SMA guidelines - replace RCW 173-26… with WAC 173-26

Response: Comment noted and the change has been made.

Chapter 8 – Developing Regulatory Tools

Page 8-7

8.1 Comment: Designating, identifying, and mapping wetlands. Superimposing the NWI, soils maps, and local field-based maps is the best basic approach to mapping wetlands; however, with most local governments using GIS for planning and decision- making, we recommend using additional layers which easily would provide additional information, particularly regarding wetland functions. Two important sources of information are the Priority Habitat and Species maps (PHS), a database established and maintained by Washington Department of Fish and Wildlife; and the Flood Insurance Rate Maps (FIRM), developed by the Federal Emergency Management Agency (FEMA). Some are currently digitized, and FEMA is currently working on making all of these available in GIS format. PHS data will help identify fish and wildlife issues associated with wetlands that might arise during project development. Although conservative and sometimes out-of-date, the FIRM maps can be useful when used with other data, particularly when seasonal or forested wetlands may not be included in the NWI.

Response: Comment noted. Federal Emergency Management Agency (FEMA) and Priority and Habitat Species (PHS) digital layers were added to Appendix 5-A which lists digital layers for Geographic Information System (GIS) wetland coverage. Note that FEMA digital layers in GIS format are currently not available statewide.

Page 8-9

8.2 Comment: Paragraph 4. It is crucial to require a critical areas reconnaissance for the implementation of an ordinance that has a separate critical areas permit. Very few jurisdictions require a site reconnaissance and since local inventories often miss small wetlands they can be present but not detected.

Response: We agree. The recommendation for a site reconnaissance is applicable regardless of how the wetland provisions are triggered. This is particularly true in situations where non-trained staff conduct the site review, or the site is evaluated during the dry season and wetland indicators are difficult to detect. Recommendation for site reconnaissance was added to the end of the first paragraph under Section 8.3.2.

Page 8-11

8.3 Comment: Paragraph 2. Caution should be taken with exempted activities. [The Commenter] highly recommends some State oversight for emergency activities that kick a project into be allowed because of an emergency status. We are aware of projects that have occurred over the years by jurisdictions themselves that sailed through the process because they were granted emergency status when, in fact, they were not emergency projects at all and had nothing to do with protection of public health or good.

Response: The Growth Management Act does not grant the state authority to provide oversight of emergency activities. A critical areas ordinance should, however, distinguish the difference between emergency activities and activities that require mitigation; local codes should clearly address emergency activities that may require after-the-fact mitigation. Language has been added to Chapter 8 and Appendix 8-B to address this concern.

Page 8-12

8.4 Comment: We cannot emphasize too strongly that allowance for wetland fills without compensatory mitigation because of a minimum acreage threshold is not supported by science and should not be an option for any ordinance. We hope the DOE rewords this section to emphasize this more strongly. Additionally, compensation should be done by function on site if at all possible even if a fee in lieu program is approved. Functions that can be compensated on site even if no habitat area is available should include water storage and water quality improvement. Section 8.3.3.1 Paragraph 2 is very confusing.

Response: Sections 8.3.3.1 and 8.3.3.2 acknowledge the lack of scientific support for allowing wetlands to be filled without appropriate mitigation. Local governments are directed to conduct a landscape analysis to evaluate the cumulative effects of what should be a limited exemption process in their critical areas ordinance. Minor impacts are best mitigated through either an in-lieu fee or restoration program. Such efforts are carried out at the basin scale and would likely require coordination among city and county agencies. Language was added to Section 8.3.3.2 calling attention to the need to monitor and report on the effectiveness of a

critical areas ordinance in achieving "no net loss" with respect to exemptions for small wetlands and small impacts to wetlands.

Pages 8-13, 14

8.5 Comment: The section on isolated wetlands is excellent. Also, we thank you for including the discussion of PC wetlands. Loss of these types of wetland areas is for obvious reasons a concern to [the Commenter] because of their importance for over-wintering habitat for waterfowl.

Response: Thank you for your compliment.

Page 8-14

8.6 Comment: It is not necessary to re-state the definition of a wetland again on this page. You could just refer to the previous quotation on page 8-6.

Response: We agree that it is repetitive to re-state the definition in this section but feel that close reading of the definition, as suggested by the text that follows the definition, is facilitated by including it, especially since some readers may not read the entire document.

Page 8-18

8.7 Comment: [The Commenter] is highly concerned about the use of agricultural maintenance to drain lands and then allowance for their conversion for development. We believe that the document should recommend a moratorium on the conversion of agricultural lands where recent agricultural maintenance has occurred.

Response: New language has been added to Section 8.3.3.9 and to Appendix 8-B to address the conversion of wetlands to new agricultural uses and the conversion to non-agricultural uses. Although a moratorium is not recommended, the text describes changes in land use that are preceded by an activity, such as ditch maintenance, that alters wetlands before adequate review takes place. It recommends that critical areas ordinances should specify what constitutes maintenance and what documentation is necessary to prevent inappropriate wetland draining activities and a change in management.

Pages 8-19, 20

8.8 Comment: Hazard tree Removal. We recommend discussion of replacement for the allowance of removal of hazard trees. Trees should either be replaced in kind or with species that are underrepresented in the community. We highly recommend a 2:1 replacement ratio for younger trees and a 4:1 replacement ratio for mature and old growth trees.

Response: We agree. We have added language to Chapter 8 and to Appendix 8-B regarding replanting.

Page 8-22

8.9 Comment: A definition should be provided for the term "rarity". Rare in the jurisdiction, watershed, state?

Response: Category I wetlands include those that represent a unique or rare wetland type on the landscape. "Rarity" is not defined in either wetland rating system. Instead of defining rarity, two technical review teams that were assembled to guide updating the rating systems for eastern and western Washington identified wetland types they considered rare. "Rare" wetlands include coastal lagoons, Natural Heritage wetlands, and interdunal wetlands in western Washington; and alkali wetlands, Natural Heritage wetlands, and forested wetlands with more than 50 percent cover of *Populus tremuloides* (aspen). Because the decisions regarding rarity were made through a consensus process during the process of revising the rating systems, the authors of volume 2 didn't provide any further information on this issue.

Page 8-26

8.10 Comment: Paragraph 3. Mention is made of replacement of functions out-of-function but no mention is made of what function exchanges are appropriate to allow. If the DOE does not provide guidance on this, then where is the small jurisdiction going to get the information? At the very least, some general statements could be made that would help. For example … If a function is highly represented in a wetland or in the sub-basin, then it may be appropriate to emphasize a function that is currently lacking or functioning at a low-level in exchange for the function that is already highly functioning.

Response: We agree. Language was added to the discussion of "replacement of function vs. area" and an example is provided.

8.11 Comment: Bullet Number 5, Preservation. If a wetland type is not currently well protected, then doesn't it make sense to strengthen the local Critical Areas regulations to afford protection as required by GMA rather than to allow for preservation that results in net loss of wetland acreage and function?

Response: We agree that local governments should regulate the clearing of trees in wetlands that are not zoned for forestry through their critical areas ordinance. Local ordinances, however, cannot prevent the clearing of trees on lands zoned for forestry if those lands are managed for timber production. The use of preservation as a mitigation tool is intended for use in very limited circumstances and in combination with other forms of mitigation (creation, re-establishement, rehabilitation, and/or enhancement). In most circumstances, a minimum of 1:1 acreage replacement should be provided by re-establishment (also called restoration) or creation. Preservation can play a role in ensuring that adequate buffers and corridors are provided for wetlands with significant habitat value. This is particularly true for forested wetlands on bona fide forest lands.

Page 8-28 cites an example of a forested wetland that can be logged under current forest practice regulations (i.e., is under imminent threat). Appendix 8-C provides additional

guidance on the use of wetland preservation for compensatory mitigation. Please note that the ratios for the use of preservation are between 10:1 and 20:1 when used in combination with other forms of mitigation. Ratios start at 20:1 when preservation is used alone and projects can satisfy the conditions listed in Appendix 8-C.

Page 8-28

8.12 Comment: Preservation. See comment above (page 8-26).

Response: See response to Comment 8.11.

Page 8-29

8.13 Comment: Paragraph 1. State what these ratios should be: 6:1, 10:1? Without these recommendations the local jurisdictions may think that 2:1 is sufficient, when in fact it isn't.

Response: Appendix 8-C contains a detailed discussion on using wetland preservation for compensatory mitigation and contains guidance on suitable mitigation ratios.

Page 8-30

8.14 Comment: In-lieu fee programs. [The Commenter] is concerned that this program will be implemented and critical functions that could be replaced on site using non-wetland means (water storage, erosion control, water quality improvement) will not be considered. These are functions that can be replaced using typical stormwater manual designs.

Response: An in-lieu fee (ILF) program is listed in Chapter 8 as a "special" type of compensatory mitigation. An ILF program is not a substitute for stormwater controls and best management practices during the construction phase. That said, we assume that your comment is in reference to replacing some wetland functions on the site through over-designing structural stormwater facilities (swales, ponds), beyond what would be required for a project.

Local governments considering using an ILF program should evaluate the potential for cumulative and unmitigated impacts as part of the program evaluation and a review through the State Environmental Protection Act. Language was added at the end of the section discussing an ILF program. It recommends that local governments evaluate the potential for cumulative impacts of a program using ILF and evaluate over-sizing stormwater controls as a way to replace some wetland functions on-site.

Page 8-31

8.15 Comment: In Lieu Fee Programs. [The Commenter] suggests adding another bullet: "Offset cumulative effects not compensated in the permit process."

Response: A fifth bullet was added.

Page 8-34

8.16 Comment: 8.3.8 Buffers. A problem with variable width buffers is that local governments often default to the minimum and the minimum actually become the maximum required by local government. These decisions are based on compromise and not on science. Variances can be used to decrease buffers when it can be demonstrated that that the expected function or benefit is not present or could be protected with a reduced buffer.

Response: See response to Comment G-8.

Pages 8-32 to 8-34

8.17 Comment: There is only a brief mention of buffer characteristics in this discussion (in the variable-width approach). Buffer effectiveness is a function of its width and characteristics. For example, there could be an allowance for reduction in buffer width if someone went from a lawn to a multi-canopy- system provided the functions that will be needed for the buffer are met with this multi-canopy type of community. Why isn't this concept mentioned?

Response: The variable width discussion on page 8-34 is a general description of a conceptual approach to determining the appropriate width of a buffer. The section does not give any specific examples. The concept you are suggesting is covered in Section 8.3.8.5. No change to the text is needed.

Page 8-35

8.18 Comment: Buffers, Combining the fixed-width approach with site-specific variables. It is true that most local governments currently use the state wetland rating system. The recent rewrite of the eastern Washington Rating System in most ways is a great improvement on the previous edition. It reflects how much we have learned in 10+ years. The major difference between the original and the current Rating System is the elimination of factoring in threatened and endangered species in determination of the wetland category. The reader is well-alerted to this issue in the first pages of the rating system, but we are seeing a tendency to rely solely on the worksheet without consideration of listed species and the possible need to increase wetland buffers. For that reason, it is important to include guidance within this Volume 2, and this page should emphasize that. We suggest using a text box similar to that on Page 3 of the eastern Washington Wetlands Rating System (2004) to remind the user to consider fish and wildlife, and that is required under the Growth Management Act.

Response: A text box been added, together with a cautionary note.

Page 8-36

8.19 Comment: Paragraph 1 and 2. Reasonable Use. Telling the jurisdictions that accommodating for buffer reduction for "Reasonable Use" is allowable to prevent a "takings" claim is not acceptable to [the Commenter] unless mention is also made that any buffer reductions must be

followed with buffer improvements that will lessen or prevent wetland impacts resulting from the reduction. For example, if the buffer width is allowed to be reduced by 75 percent, then a 6-foot continuous wood fence will be required at the buffer edge to prevent encroachment. Or alternatively, double-density plantings will be required in the reduced-width buffer.

Response: Language has been added to address this concern.

8.20 Comment: Paragraph 3. The same issues arise with buffer averaging. It is important to stress to jurisdictions that allowance for buffer averaging will mean that some areas will be more at risk from potential impacts. The areas where the buffer reductions are going to occur must be enhanced to assist with their ability to function to protect the wetland. This may mean fencing or plantings. In addition, few jurisdictions realize that it is a typical trick to place the widest part of the buffer in an area that is least at risk. Project reviewers should be made cognizant to the fact that in most cases, extending buffers in areas where the existing buffer affords sufficient protection does little for overall buffer functioning to protect the wetland and the issue of the encroachment area being at risk for failing to protect the wetland is not being addressed.

Response: Comment noted. A sentence was added recognizing the need to widen the buffer where it will benefit the wetland the most and narrow the buffer where it will degrade the wetland the least.

Page 8-36

8.21 Comment: 8.3.8.3 Buffer Averaging. Buffer average should incorporate an inner buffer that cannot be compromised and an outer buffer that is averaged.

Response: This concern is addressed by the statement that buffer averaging typically requires a minimum width or percentage of the standard width that cannot be reduced. No change to text needed.

Page 8-37

8.22 Comment: Enhancement and Restoration of Buffer Areas. It is often true that a well vegetated buffer may function better than a poorly vegetated buffer. However, buffer enhancement should be very carefully approached with consideration of current functions. A “sparsely vegetated” buffer may have limited function for water quality protection, but wildlife functions will likely change if the system is changed with additional vegetation. The user should be advised to approach enhancement on the landscape level, and to avoid altering properly function habitat in order to create a different system. For example, shrub steppe habitat may be considered sparsely vegetated, but planting trees and more hydrophytic vegetation while possibly increasing diversity in the buffer, may be eliminating habitat of species that have evolved to depend on this. We also recommend a reminder that avoidance is the most successful form of mitigation, and success of restoration and enhancement is much less predictable.

Response: Comment noted. We included a statement to acknowledge the differences in habitat that exist across the state and that the buffer should be re-vegetated to a condition natural to the ecoregion. We do not agree that "avoidance" makes sense in this context, since we are talking about a situation where the buffer has already been degraded by human actions and the restoration or enhancement is intended to improve the current situation. We added a statement that buffer enhancement/restoration requires the same diligence as wetland enhancement/restoration and requires monitoring and follow-up to ensure success.

8.23 Comment: 8.3.8.4. Uses within Buffers. We have seen projects begin as trails in buffers and end up being paved jogging trails on top of fills. These are in effect dikes that interrupt hydrology in the wetland and its buffer. Trails can also allow pets to access the wetland or wetland buffer and prey on fish and wildlife. While interpretative uses of buffers and wetlands are helpful, these uses can result in impacts to the system and may not be entirely benign.

Response: We agree. Language addressing impacts from trails and interpretive facilities has been added.

Page 8-41

8.24 Comment: 8.3.8.8 Buffers in Urban Areas, Paragraph 2. We strongly concur with the statement: "Buffers do not function any differently in urban settings than in rural settings."

Response: Comment noted. No changes to document needed.

Page 8-42

8.25 Comment: Buffers Around Small Wetlands. It is good that this section includes the statement "while a strictly scientific perspective may nonetheless support the buffer size ……" however, the rest of this section is not supported by any kind of science. Very often, the buffer becomes degraded because the wetland buffers or characteristics were insufficient to protect the wetland. Allowances for a reduction will just further this degradation.

Response: This section of the document has been deleted, based on concerns raised above.

8.26 Comment: 8.3.8.9 Buffers around Small Wetlands (that allow buffers to be reduced by 50%.) We do not believe there is best available science to support this. Rather than for state agencies to suggest a political compromise, it may be better to recommend buffer averaging based on defensible criteria.

Response: This section of the document has been deleted.

8.27 Comment: Buffers Around Small Wetlands. Local government does need advice on what approach to take in protection of small wetlands, but this should be based on science. It appears that the justification for these reduced buffers is the difficulty in application of the local regulations. This is a good argument for landscape level decision making. Vernal pools

in Eastern Washington are a good example of what might happen on a site-by-site analysis that results in a landscape of individually protected wetland donuts. Rather than use a "one size fits all" approach for these small wetlands we recommend using the variable width approach if landscape analysis is not available to prioritize such components in the landscape.

Response: This section of the document has been deleted.

Appendices for Chapter 8

General Comments

A8.1 Comment: Although generally support in Appendices 8A-F, we think the scientific citations should be carried forward from Volume 1 and repeated in this document. No one is going to have the time or inclination to go back and forth between the documents and look this up.

Response: The two volumes are designed to be used in conjunction with each other. The authors decided to structure the documents in this way since Volume 2 would be redundant if all of the references cited were repeated in both documents.

A8.2 Comment: The concept assumed throughout is that compensation can be a net gain in area or function. This is too flexible and leaves the door open to offset wetland losses resulting in a net loss of wetland area. Be consistent. [The Commenter] supports emphasis on the replacement of both area and functions.

Response: We are not sure what "concept" you are referring to. Please refer to Appendix 8-C and 8-D for the mitigation ratios that are recommended for the type of mitigation action being considered. Appendix 8-F contains the rationale for the mitigation ratios. The ratios recommended for enhancement are twice that needed for rehabilitation and four times that needed for re-establishment or creation, because the risks of not replacing the functions are much higher using enhancement and there is a net loss of wetland area.

Appendix 8-A – Protecting Wetland Functions: An Overview of Considerations for Management

Page 4

A8A.1 Comment: Paragraph 1. If some functions cannot be replaced within a regulatory framework what should be done? This document just drops this point and it is very important – especially with respect to forest wetland mitigation. For example, should there be no allowance for disturbance of forested wetlands like there is for bogs? Is there another way to determine if a temporal trajectory will be met in a regulatory allowable (3-10 year) framework? Does anyone have any ideas on this? Let's state them and get the discussion going because this issue has been mentioned for two decades now but no one has suggested how to resolve it.

Response: The approach we recommend is to: 1) apply avoidance stringently to the wetland types that are the most difficult, or take the longest, to replace; 2) require higher ratios for unavoidable impacts to these types of wetlands; 3) require longer monitoring ($\geq$ 10 years) and try to ensure that the mitigation site is on a trajectory to achieve the desired future condition when we "close out" a mitigation site. Similar language has been added to this section.

Page 5

A8A.2 Comment: Paragraph 6. This paragraph is not very clear. I understand the concept, but it needs to be rewritten so that all readers get the idea- that is more than one function is being mitigated and the design mitigates one function at 50% and the other function at 20%

Response: We are not sure we understand the question being asked. Reviewers contacted the Commenter for clarification but did not receive response by the publication deadline.

Pages 4-8

A8A.3 Comment: Information on buffer widths necessary for the protection of wetlands in general and Natural Heritage sites is the same (60m, 75 m) the information is supplied three times across these pages and could be consolidated and the sections shortened.

Response: Pages 6-8 of Appendix 8-A discusses the protective measures for wetlands with special characteristics. The structure of the appendix is intended to follow the rating system and thus necessitates the repetitive citations.

Page 7

A8A.4 Comment: Buffers. Is a 60-meter buffer around a Natural Heritage site sufficient to protect that site's other functions? Would a 60-meter buffer preclude establishment of aggressive non-native plants or provide for wildlife needs in that Heritage site system? Note that 60-meter buffers were not sufficient to protect the integrity of a bog mat in King County as the surrounding watershed was developed. Especially in classical bogs that have a watershed from a relatively small kettle area, we question whether 60 meters would be sufficient to remove risk if/when the remaining watershed develops.

Response: We concur that 60-meter buffers would not be sufficient to protect the hydroperiod of sensitive sites such as bogs when the upgradient watershed is highly developed. In fact, no buffer can completely protect a wetland from the kinds of impacts that result from urban densities upgradient of the wetland. However, buffers in the 200-250 foot (60 – 75m) range should be sufficient to protect Natural Heritage sites from invasion of non-native plants and will provide good protection of habitat functions. No change was made to the text.

Page 10

A8A.5 Comment: Wetlands in Estuaries and Coastal Lagoons, Buffers. Seeps in buffers do have an influence on local salinities and provide niches. In estuarine systems, buffers provide source of wood and sediment that nourish the beaches.

Response: Comment noted. Changes have been made to the paragraph.

Appendix 8-B – Recommendations for Elements of a Wetland Regulatory Ordinance

Page 1

A8B.1 Comment: Paragraph 1, Recommendations for Elements of a Wetland Regulatory Ordinance. WDFW does not see where the science that identifies buffers needed for wetland functions also demonstrates that buffer reductions of 50% would not reduce functions. This is a serious issue that needs to be resolved between the two agencies in this wetlands guidance document.

Response: Appendix 8-B does not contain language regarding buffer reductions. Appendix 8-C recommends that wetland buffers be increased by 50% when slopes greater than 30% abut wetlands.

Page 15

A8A.6 Comment: H1. add: e. Preservation shall be limited to a small percentage of the total compensation package.
#2. No. We strongly believe that preservation should never be considered as the sole means of compensation. We must remember "no net loss."

Response: See response to Comment 8.11.

Pages 20-21

A8B.2 Comment: Unauthorized Alterations and Enforcement. Under penalties, it is important that a fine be developed and collected monies directed to a specific account to fund watershed/landscape based restoration. Unless there is a dedicated fund, there would not be a nexus for mitigation.

Response: Language in the section has been added on penalties regarding a restoration account.

A8B.3 Comment: Unauthorized Alterations and Enforcement C. Minimum Performance Standards for Restoration, 3. It will take time for a site with replicated functions to reach equilibrium and become functional, and this is why a penalty would be important. The replicated site will not fully function immediately, but if penalties are directed to the preservation or restoration of watershed process and functions, then the losses could be appropriately compensated.

Response: Please refer to Comment A8B.2. Language was added to the last paragraph in Appendix 8-B.

Appendix 8-C – Guidance on Widths of Buffers and Ratios for Compensatory Mitigation to be Used with the Western Washington Rating System

General Comment

A8C.1 Comment: Buffer Width Recommended Alternatives. While acceptance and application of Alternative 1 affords the least risk to a jurisdiction, we see the adoption of Alternative 3 by many jurisdictions as the most palatable alternative. Alternative 3 is a sound alternative since it gives local jurisdictions the ability to amend buffer widths based functions or special char of wetlands that needs to be protected. For example providing access to access to corridors that would supply a landscape connection to other wildlife corridors.

Response: We agree. To date, most local governments have adopted, or are in the process of adopting, Buffer Alternative 3.

Page 1

A8C.2 Comment: Buffers, Paragraph 2, First Sentence. The document states: "The primary purpose of buffers is to protect and maintain the wide variety of functions and values provided by wetlands." Buffers not only protect wetland functions, but as part of the aquatic/terrestrial interface they provide wetland system functions. Wetlands and surrounding uplands with shallow ground waters all function as part of the aquatic system.

Response: We surmise that this is largely an issue of semantics. The document makes clear that buffers provide habitat necessary to maintain the wildlife that are closely associated with wetlands. Therefore, we have not made a change to the text. No change to text required.

Pages 3 and 4

A8C.3 Comment: Buffer Alternative 2 (width based on wetland category and modified by impacts of proposed land use). Once a buffer is removed and land converted, for all practical purposes the losses are permanent. We do not find that the buffer reductions are based on best available science. This approach also does not consider cumulative impacts that occur as infilling takes place. In table 4, the proposed reduced buffers appear to be inadequate to maintain functions associated with the wetland systems.

Response: We do not agree. The best available science synthesized in Volume 1 makes it clear that buffer widths should be set based, in part, on the type of impacts from adjacent land use. Under the GMA, it is not defensible to set all buffers based on the greatest, possible intensity of land use that may occur at some point in the future. The law can only address impacts based on current zoning or proposed actions. We believe the buffer widths recommended in the various tables in Appendix 8-C do include the best available science and represent an approach that is moderate in risk as stated in the document. No change has been made to the text.

Page 4

A8C.3 Comment: Table 3. There can be significant impacts associated with land uses in what is classed as moderate and low categories. Agriculture can cause drainage of areas and additions of manure and pesticides. Logging roads increase mass wasting in watershed by factors in the thousands. Forestry can create hydrologic problems with rain on snow events and blow out of beaver dam and riparian wetlands when slopes are greater than 4%.

Response: We agree. The impacts listed can be significant but are unlikely to be mitigated by a wider buffer. Appropriate best management practices are required to ameliorate the potential impacts. Also see Comment A8D.6.

Pages 4-7

A8C.4 Comment: Buffer Alternative 3 (width based on wetland category, intensity of impacts, and wetland functions or special characteristics). The buffer widths around Natural Heritage Wetlands, Bogs, Forested wetlands and estuarine wetlands (Table 7) and wetlands with high levels of function in low and moderate land uses categories appear inadequate to retain functions in many cases (Table 6). The only way in which buffer reductions can protect functions in the landscape is with buffer averaging (where especially sensitive upland components are protected – for example, mature forest or connectors between wetlands and riparian areas).

Response: We do not agree. We believe the buffer widths recommended for low and moderate land uses are consistent with the best available science. What you are suggesting is that wetlands have the same buffers irregardless of type of adjacent land use: this is not consistent with the best available science, nor is it defensible under the GMA. We believe buffer averaging is appropriate for modifying the recommended buffers on a case-by-case basis. No change has been made to the text.

A8C.5 Comment: Condition 2 (reductions in buffer widths where existing roads or structures lie within the buffer). Again, where the buffers have been compromised, buffer averaging or increasing buffers in other areas is important. We would not concur with the statement: "For example, the widening of an existing road along its upland edge without any further roadside development would not likely change the nature or intensity of the impacts. If the road is

only 50 feet from the edge of a Category II wetland, additional buffer is not needed to provide protection for the wetland."

Response: We do not agree that existing development that may fall within the area of a standard prescribed buffer should necessitate increasing buffers in other areas. Existing uses are essentially "grandfathered," and the GMA does not require restoration. However, new development within the standard buffer width on the upland side of existing built environment would need to be set back further (or buffer averaging applied) if it would create new impacts to the wetland. The language in Condition 2 has been revised to clarify this. Also see Comment A8D.9.

Page 8

A8C.6 Comment: Condition 1 (reduction in buffer width based on reducing the intensity of impacts from proposed land uses). The example listed would apply only in a buffer averaging scenario.

Response: This condition does not apply to buffer averaging. Condition 1 allows buffers to be reduced from those prescribed for high-intensity land uses to those prescribed for moderate-intensity land uses if appropriate site-development measures are taken to "reduce impacts at the source." The rationale is that, by reducing the impacts from the high-intensity development, a wetland can be adequately protected with buffer widths for moderate-intensity land uses. No change to the text was made.

Page 10

A8C.7 Comment: Condition 1 (buffer is not vegetated with plants appropriate for the region), Last Sentence, First Paragraph: "Generally, improving the vegetation will be more effective than widening the buffer." In most cases WDFW would not agree with this statement. An existing wide buffer can be vegetated with native plants over time. While vegetation enhancement would be important, reducing buffer width requirements as incentives are not beneficial in the long term.

Response: This condition does not allow buffer reduction in exchange for vegetation enhancement. This condition requires that, if an existing buffer area is poorly vegetated, either the standard buffer widths be re-vegetated, or the width be <u>increased</u>. No change was made to the text.

Page 12

A8C.8 Comment: Ratios for Compensatory Mitigation, Basic Assumptions for using the Guidance on Ratios, Last Bullet. The text states: "If the area of impacted wetland is replaced at a 1:1 ratio through restoration or creation, the remainder of the area needed to meet the ratio for restoration or creation can be replaced at a 2:1 ratio. For example, impacts to 1 acre of a Category II wetland requiring a 3:1 ratio for creation can be compensated by creating a 1 acre and enhancing 4 acres (instead of the additional 2 acres of creation that would be required)."

Unless and until the wetland creation demonstrated success and full function, this introduces risk into the equation. With Ecology studies by Johnson et al. (Johnson, Patricia A., D.L. Mock, A. McMillan, L. Driscoll, T. Hruby. 2002. Washington State Wetland Mitigation Evaluation Study Phase 2: Evaluating Success. Publication No. 02-06-009. Washington Department of Ecology) that showed poor success for enhancement, why would Ecology be willing to accept the proposed ratio?

Ratios in areas with high levels of impervious surfaces in the sub-basin might need higher ratios to break even in the new hydrologically flashy systems.

Response: The ratios for enhancement, when used in conjunction with 1:1 replacement of wetland area, have been doubled in the final version of the appendix. In the example, an additional 8 acres of enhancement would be required.

Page 15

A8C.9 Comment: Table 9: Mitigation ratios for projects in western Washington that do not alter the hydrogeomorphic setting of the site used for mitigation. Regarding the enhancement only option and Category 2 with 1:1 Creation/Restoration and 4:1 enhancement, it seems that the Ecology mitigation study demonstrated the lack of success of enhancement projects; in light of that study, are these options justified?

Response: We believe that enhancement should remain a "tool" in the mitigation "toolbox". Many of the problems with enhancement can be addressed through better site selection and design and, particularly, better maintenance and follow-up. For Category II wetlands, the ratios for enhancement when used in conjunction with 1:1 replacement of wetland area, has been changed to 8:1 (in order to be consistent across the board). No additional change to text required. Also see Comment A8D.10.

Page 16

A8C.10 Comment: Conditions for Increasing or Reducing Replacement ratios. [The Commenter] recommends adding another bullet under “Increases” and adding “High levels of total impervious area in sub basin.”

Response: We do not agree. It depends on several factors, including whether the wetland being impacted lies in a basin with high impervious area and whether the mitigation is designed to address largely water quality/quantity functions or habitat. Basins with high levels of total impervious area in the sub-basin require stormwater retrofitting and other watershed improvement actions to address the problem of imperviousness.

Appendix 8-D – Guidance on Widths of Buffers and Ratios for Compensatory Mitigation to be Used with the Eastern Washington Rating System

General Comments

A8D.1 Comment: Guidance on Widths of Buffers and Ratios for Compensatory Mitigation (to be used with the eastern Washington rating system). We point out that wetlands in both eastern and western Washington with high fish and wildlife values (i.e., support threatened and endangered species) have been downgraded, so what was Category I for fish and wildlife are now Category II, and many wetlands with extremely high value for wildlife are now rated as Category III (and in come cases are even Category IV) instead of Category II. Our comments on this section are the same for comments on the western Washington section. We do not see a nexus between Best Available Science and wetland buffer reductions proposed.

Response: The requirements for managing and protecting threatened and endangered (T/E) species in a wetland are very species specific. Recommendations on buffers and mitigation ratios that result from this categorization are too generic to adequately protect a single species. For example, an increase in mitigation ratios and buffers that is usually assigned to wetlands of a "higher" category does not necessarily protect a specific T/E species from impacts.

The Department of Ecology does not have the expertise to specify standards for protecting each individual T/E species that might be found in a wetland. Local jurisdictions should consult with the appropriate state and federal agencies (U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, Washington State Department of Fish and Wildlife) to develop standards for protecting T/E species using wetlands in their jurisdiction.

Threatened and endangered species need specific protection, but this protection cannot be accomplished using the recommendations associated with the category rating of the wetland. If a T/E species is found living in or using a wetland, the appropriate state or federal agency will need to be consulted to determine what is needed to protect that species in the wetland.

This information can be considered as an "overlay" on the category rating. A wetland containing T/E species will have to be protected to meet the requirements of the T/E species as well as those associated with its Category. If the T/E species using the wetland needs to be protected with larger buffers, or by some other measures (e.g. no disturbance during the nesting season), then these measures should be applied.

The Growth Management Act and Shoreline Management Act require local governments to protect areas such as eelgrass beds and to protect fish and wildlife habitat. Local governments will also need to protect these resources under the Fish and Wildlife Conservation Areas category of the GMA.

The changes in the ratings are also linked to changes in the guidance on buffers. Buffers will be determined based on the score for habitat functions as well as the category rating. A

Category 3 wetland that is providing moderate habitat will receive the same buffer as a Category 2 wetland providing moderate habitat. The average buffers required for the 122 wetlands used as reference sites did not change. Using the mid-points of the recommendations in the old rating system, the average buffer for the 122 wetlands would be 152 ft. The average buffer for the same 122 wetlands using the new rating system and the new recommendations (Option 3) is 148 ft.

Page 1

A8D.2 Comment: Page 1 illustrates the one-sidedness of this document and the extent to which we have departed from utilizing the prime characteristic upon which wetlands preservation was initially sold to the public: that wetlands are such marvelous filterers of runoff. It says, under "Buffers", that adjacent uplands buffers "reduce impacts to the wetland from adjacent land uses." There is no mention of the impacts on adjacent land uses from weed seed and creepers from un-maintained overgrown buffers. (In King County artificial wetlands are now required to be constructed in drylands to protect the wetlands/buffers from runoff.)

Response: We do not agree. Wetland protection has been based on the many functions wetlands provide, including water quality improvement, flood storage, wildlife habitat, etc. Buffers adjacent to wetlands are necessary to maintain all of the wetland functions as explained in great detail in the synthesis of the science in Volume 1. We are unaware of any scientific literature on the "impacts" of buffers on adjacent lands through dispersal of seeds or growth of "creepers." No change has been made to the text.

A8D.3 Comment: Buffers, Second Paragraph. Buffers not only protect wetland functions, they also provide wetland system functions.

Response: We believe this is largely an issue of semantics. The document makes clear that buffers provide habitat necessary to maintain the wildlife that are closely associated with wetlands. No change was made to the text.

Page 3

A8D.5 Comment: Table 2. The buffers proposed for low and moderate land use areas appear to be inadequate if protection of function is a goal.

Response: We do not agree. We believe the buffer widths recommended for low and moderate land uses are consistent with the best available science. No change was made to the text.

Page 4

A8D.6 Comment: Table 3. Many land uses listed as moderate or low can have significant impacts that can affect wetland functions.

Response: We agree, see the response to Comment A8C.3.

Page 5

A8D.7 Comment: Table 5. Most of the buffer widths in this table for low and moderate land uses appear inadequate to maintain functions.

Response: We do not agree. We believe the buffer widths recommended for low and moderate land uses are consistent with the best available science. No change was made to the text.

Pages 6 and 7

A8D.8 Comment: Table 6 and Table 7. Low levels of altered land use on waterfowl concentration areas result in significantly reduced waterfowl associated with those wetlands. We would not expect the proposed buffer widths to be adequate to maintain wildlife functions, especially in the low to moderate land use categories.

Response: We do not agree. We believe the buffer widths recommended for low and moderate land uses are consistent with the best available science. No change was made to the text.

Page 9

A8D.9 Comment: Condition 2 (reductions in buffer widths where existing roads or structures lie within the buffer). Again, where the buffers have been compromised, buffer averaging or increasing buffers in other areas can be important. We would not concur with the statement: "For example, the widening of an existing road along its upland edge without any further roadside development would not likely change the nature or intensity of the impacts. If the road is only 50 feet from the edge of a Category II wetland, additional buffer is not needed to provide protection for the wetland."

Response: We do not agree; see the response to Comment A8C.5.

Page 15

A8D.10 Comment: Table 9: Regarding the enhancement only option and Category II with 1:1 Creation/Restoration and 4:1 enhancement, it seems that the Ecology mitigation study demonstrated a lack of success of enhancement projects; in light of that study, why are these options included?

Response: See the response to Comment A8C.9.

Appendix 8-E – Rationale for Draft Guidance on Buffers and Other Protection for Wetlands

Page 1

A8E.1 Comment: Wetlands that function well for habitat as wildlife: The document proposes: "Buffers: In eastern Washington: 200 feet for land uses with high impacts; 150 feet for moderate impacts; 100 feet for low impacts… "In western Washington: 300 feet for land uses with high impacts, 225 feet for moderate impacts; 150 for low impacts." Again, we need to know that Best Available Science supports these standards.

Response: We believe that the best available science does support these standards. They are consistent with recommendations from numerous studies described in great detail in Volume 1: Synthesis of the Science. No change was made to the text.

Page 3

A8E.2 Comment: Natural Heritage Wetlands. The document states: "Buffers: In both eastern and western Washington: 250 feet for land uses with high impacts; 190 feet for moderate impacts and 125 feet for low impacts." Again, there are heritage sites that could cease to function as heritage sites if invasive and aggressive non-native species are introduced as a result of reduced buffers.

Response: We have not seen any literature that supports the notion that non-native species will invade heritage sites without ground disturbance with buffers of any size. These buffers are based on protection of the suite of functions provided by these wetlands. No change to text was made.

Page 4

A8E.3 Comment: Bogs. The document states: "Buffers: In both eastern and western Washington: 250 feet for land uses with high impacts; 190 feet for moderate impacts and 125 feet for low impacts." WDFW would not expect these reduced buffers to protect the bog functions in many cases.

Response: We have not received any scientific literature citations to suggest that these buffers would be inadequate. Based on our review of the best available science, we believe these buffers are adequate. No change was made to the text.

Appendix 8-F – Rationale for the Draft Guidance on Ratios for Compensatory Mitigation to be Used with the Wetland Rating System

Page 1

A8F.1 Comment: Rationale for the draft guidance on ratios for compensatory mitigation to be used with the wetland rating system, paragraph 1. Third sentence: "Ecology and Fish and Wildlife are providing guidance on ratios to use for compensatory mitigation that is linked to the Washington State Wetlands Rating System (See Appendices 8-C and 8-D)." In the recent rating systems, wetlands with high value for fish and wildlife are downgraded and what previously was a Category I wetland because of habitat for threatened or endangered fish/wildlife now ranks as Category II, and what were Category II wetlands that supported concentrations of wildlife now rank as Category III and Category IV. These reductions result in significant loss of essential habitats and reduced buffers (300 to 200 feet; 200 to 100-25 feet). Is WDFW misinterpreting the on-the-ground outcomes of the new ranking system?

Response: See response to Comment A8D.1.

Page 3

A8F.2 Comment: Rationale for the draft guidance on ratios for compensatory mitigation to be used with the wetland rating system, paragraph 1, last sentence: "The ratios recommended for enhancement are twice that needed for creation or restoration because the risks of not replacing the functions are much higher using enhancement, and there is a net loss of wetland area." The National Academy of Science 2001 report recommended restoration over creation because of increased potential for success:
"4. Whenever possible, choose wetland restoration over creation. Select sites where wetlands previously existed or where nearby wetlands still exist. Restoration of wetlands has been observed to be more feasible and sustainable than creation of wetlands . . ."
(National Academy of Science National Research Council (NRC) report, 2001. Page 106, Compensating Wetland Losses Under the Clean Water Act).

In the recent Ecology mitigation study, creation was much more successful than enhancement, but creation still appeared to produce only moderate success about half the time. Also, the question about loss of wetland area in "enhancement only" is important. In designing compensatory mitigation for wetland loss, we need to evaluate if our compensation will produce no net loss of wetland area or function. The "no-net loss of both wetland area and function" still needs to be the directive that we use to design mitigation.

Response: We agree. We state in Chapter 8 and in Appendix 8-B that restoration should be the preferred compensation method, followed by creation and then enhancement. In addition, the text in 8-F is incorrect: ratios for enhancement are four times the ratios for re-establishment and creation. The error has been corrected in the text.

Chapter 9 - Developing Non-Regulatory Tools

Page 9-9

9.1 Comment: 9.4.2 Landowner Incentives. The document might give some emphasis to those landowner incentive programs that are most common, such as USDA's programs with primary benefits to current or previous agricultural lands (Wetland Reserve Program, Conservation Reserve Program, Wildlife Habitat Incentive Program) where landowners can be paid to restore wetlands, buffers, and riparian areas. At the state level, Duck Stamp monies and Salmon Recovery funds can be used for restoration efforts on private lands. Federal funding sources tend to give priorities to partnerships. The Bureau of Reclamation and Bonneville Power Administration have funds to compensate for their past actions where losses have not been restored. WDFW has a Landowner Incentive Program that has small grants (up to $50,000) to landowners for fish and wildlife restoration work.

Response: We both agree and disagree. We agree that these are valuable programs that warrant the attention of landowners. However, there are many programs that may be of interest. Therefore, instead of trying to name and describe a select few we refer the reader to, "Exploring Wetlands Stewardship," which contains a comprehensive listing of existing federal, state, and local programs related to the acquisition and/or restoration of wetlands.

Chapter 10 - Characterizing the Risks from Proposed Solutions to Protect and Manage Wetlands

Page 10-6

10.1 Comment: Table 10-2 last column for urban zoning. While requiring infiltration of surface waters in recharge areas would be an important mitigation element, [the Commenter] questions whether that alone would reduce risk to wetlands to an acceptable level.

Response: Text has been clarified in the first column to indicate urban zoning in a recharge area that is not immediately adjacent to the wetland.

Chapter 11 - Implementing Regulatory and Non-Regulatory Programs

No comments were received on Chapter 11.

Chapter 12 – Monitoring and Adaptive Management

No comments were received on Chapter 12.