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Appendix M – Summary of Public Comment and the Service’s Responses

1.0 INTRODUCTION

This appendix contains a detailed summary of all comments that were received in response to the Draft Comprehensive Conservation Plan/Environmental Impact Statement (Draft CCP/EIS) for Nisqually NWR during the official public comment period. Public comments on the Draft CCP/EIS were accepted from December 20, 2002 to February 21, 2003; in addition, comments dated within one week after the official close of the comment period were accepted and analyzed.

All comments were reviewed and organized so that an objective analysis and presentation of the comments could be made (see Section 2). Each piece of correspondence was assigned an identification number. Note that for simplicity sake, the word “letter” is generally used throughout this appendix to refer to any comment received, whether by letter, fax, postcard, e-mail, comment sheet, or telephone call. A database was created to help analyze the nature and extent of the range of comments received. Comments recorded on flip chart at the public meetings held in January 2003 were also transcribed and considered. Service responses are included in Section 3. The names and affiliations of all of the people who commented are listed at the end of this Appendix (Section 4). In cases where a letter pointed out a minor typographical or editorial error in the Draft CCP/EIS/ the change was made in the Final CCP/EIS, but no response is included in this summary.

2.0 QUANTITATIVE ANALYSIS OF COMMENTS RECEIVED

2.1 Summary of Comments Received on the Draft CCP/EIS and the Response Process

The Service received a total of 1,717 comments (by letter, fax, postcard, e-mail, comment sheet, or telephone call) on the Nisqually NWR CCP/EIS during the 60-day comment period. This number of comments suggests a very significant level of interest in Nisqually NWR. Other CCPs have generally not generated nearly this level of response during the public comment process; indeed, planning projects proposed by federal agencies typically do not receive a great deal of public response.

Public Meetings

To facilitate public review and comment on the Draft CCP/EIS, the Service hosted two public meetings, the first at Nisqually NWR (January 15, 2003, at the Visitor Center), and the second in Tacoma, Washington (January 16, 2003 at the downtown public library). Although no formal presentation was made at the meetings, Service staff and visual aids, including detailed GIS maps and tables, were available at each topical station to facilitate dialog. Copies of the Draft CCP/EIS and the separately bound Executive Summary were available for the public to review and take with them.

At the meetings, the public was invited to provide comments on the contents of the Draft CCP/EIS. Comment sheets were provided. In addition, each station had a flipchart; comments were summarized by Service staff on the flip charts and later transcribed. Although comments recorded on flip charts at the public meetings were not included in the quantitative analysis of written comments, they were all reviewed and considered in revising the document, and unique comments were also included in the comment summary in Section 3. People who provided comments in this fashion were also encouraged to submit more formal written comments during the comment period.

The public meetings were attended by a wide range of people, including federal, state, and local agency staff; representatives of organizations; tribal representatives; neighbors of the Refuge; and other members of the general public. Both meetings were held in the late afternoon and evening (3 p.m. to 8:30 p.m.). The Nisqually NWR meeting was attended by approximately 220 individuals, and about 30 people attended the Tacoma Public Library meeting. An additional meeting was held on January 11, 2003 with approximately 30 Refuge volunteers. Comments gathered there were also included in the comment summary in Section 3 and considered in development of the final document.

Affiliations

Table M-1 presents a breakdown of the affiliation of comments received. Names and entities are listed at the end of this Appendix (Section 4).

Table M-1. Affiliation Type of Comments Provided.

Affiliation Type	Number of Letters Received
Federal Agencies*	5
State Agencies*	3
Local Agencies* (County, City)	4
Tribes*	2
Organizations*	23
Businesses*	4
General Public	1,676

* Each agency, organization, tribe, and business represents numerous individuals.

Comment Media

Comments were received in a variety of formats during this process, including letters (and postcards), e-mails, faxes, phone conversations, and comment sheets distributed by the Service (primarily at public meetings) to facilitate the comment process. The distribution of media type is summarized below in Table M-2. Note: no petitions were received as part of the comment process, although a few of the form letters contained up to 8 signatures.

It should be recognized that the increased use of e-mail and other internet-based communication tools contributed to the large number of comments received on the Draft CCP/EIS. The Service considered all comments received as part of the decision-making process.

Table M-2. Medium of Comment

Type of Media	Number of Comments Received
Letter	148
E-mail	1,464
Fax	1
Phone Record	6
Comment Sheet	98

Place of Origin of Commentors

Nisqually NWR is a recognized resource of regional significance, well known in Puget Sound, the Pacific Northwest, and along the entire West Coast. Its proximity to the major urbanized area of Puget Sound, as well as its direct access off of Interstate 5, contribute to a very high annual and broad-based visitation. The origins of comments received reflect this visitation pattern. The greatest number of respondents (20%) was from Washington, followed by California (10%) and New York (8%).

Table M-3. Origin of Respondents

STATE	# Of respondents	STATE	# Of respondents
Outside of the U.S.	18	Mississippi	4
Alabama	6	Montana	2
Arkansas	4	North Carolina	34
Arizona	35	North Dakota	2
California	176	Nebraska	3

Table M-3. Origin of Respondents

Colorado	30	New Hampshire	4
Connecticut	23	New Jersey	46
District of Columbia	1	New Mexico	6
Delaware	2	Nevada	8
Florida	86	New York	129
Georgia	22	Ohio	32
Hawaii	1	Oklahoma	8
Iowa	3	Oregon	24
Idaho	3	Pennsylvania	61
Illinois	66	Rhode Island	5
Indiana	24	South Carolina	5
Kansas	16	Tennessee	15
Kentucky	13	Texas	68
Louisiana	15	Utah	7
Massachusetts	46	Virginia	30
Maryland	49	Washington	346
Maine	9	Wisconsin	13
Michigan	34	West Virginia	6
Minnesota	24	Wyoming	1
Missouri	20	None available for record	132

2.2 Quantitative Summary of Comments Received – Alternatives and Issues

Section 3 of this Appendix presents a summary of specific comments received, followed by the Service’s responses. However, it is first useful to present a general summary of the nature of comments received, based on issue type. The information presented in this section includes a relatively quantitative analysis of the information received and analyzed. A more precise analysis was difficult due to the overlap of key issues and the open ended nature of the comment process. Data were input only for issues specifically identified by commentors. For example, if a letter specifically addressed only one key issue, it was tallied in that issue only, even though a position was implied on other key issues. Thus, evaluation and assessment of comments is strongly tied to the nature and content of the specific comments received. Service staff have read and reviewed every letter received during the comment process, and the information contained in those comments was used to help develop the Final CCP/EIS, and refine the Preferred Alternative.

Alternative Support

The Draft CCP/EIS presented an analysis of 4 alternatives: Alternatives A, B, C, and D. Commentors often expressed their explicit support for (or opposition to) a particular alternative by name. In many instances, commentors qualified their support for a given alternative, that is, they noted that they preferred a particular alternative overall, but also recommended certain additions or deletions of specific action components. For this analysis, the Service refers to this conditional support as support “with qualifications.” There was strong support expressed for Alternative D, the Preferred Alternative (73%, with and without qualifications). In addition,

almost all agencies, governments, and tribes expressed support for the Preferred Alternative, and the great majority of organizations, sometimes representing large memberships, also expressed support for the Preferred Alternative. Several letters expressed concern over the costs associated with implementing the Preferred Alternative. Table M-4 summarizes the commentors' stated support for the given alternatives.

Table M-4. Support for the Defined CCP/EIS Alternatives.

Alternative	Number (percent)
Alternative A	27 (15%)
Alternative A with Qualifications	1 (0.5%)
Alternative B	15 (8%)
Alternative B with Qualifications	0 (0%)
Alternative C	5 (2.5%)
Alternative C with Qualifications	2 (1%)
Alternative D	83 (45%)
Alternative D with Qualifications	53 (28%)
Total Comments on Alternative Preference	186

In a few cases (although rare), commentors specifically mentioned their lack of support or opposition for a given alternative (i.e., they would NOT prefer), as summarized in Table M-5.

Table M-5. Commentor Preference for NOT Implementing an Alternative (i.e., Opposing)

Alternative	Number
Alternative A	2
Alternative B	3
Alternative C	3
Alternative D	10

Issue 1 – Refuge Expansion

Numerous commentors (1,263 people) addressed the issue of Refuge expansion. The response on this key issue was strikingly unified, with support for Refuge expansion almost unanimous (99.4%). The majority of people raising the issue simply stated a preference of support for expanding the boundaries of the Refuge, without offering additional details on the topic. Many people offered specific support or feedback on proposed areas of expansion (such as McAllister Creek). In addition, many noted that a larger amount of forested habitat in the vicinity of Hoffman Hill should be included in Refuge expansion. A few identified other areas that should be considered for expansion.

Of the comments received on this issue, only 8 people stated opposition to expansion. Some of the reasons noted for such opposition included: a sense that expansion was a waste of taxpayer money, or opposition to specific areas or parcels being included in the proposed expansion area.

Issue 2 – Habitat Restoration and Management of the Diked Area

Approximately 193 people specifically commented on the issue of estuarine restoration and/or breaching the dikes. Because a wide range of perspectives was expressed on this issue, it was difficult to quantify in the database, but generalizations can be made. Slightly more people expressed support for breaching the dikes in favor of estuarine restoration, while slightly fewer

people specified their opposition to dike breaching. In many cases, the commentors noted that they would oppose the full breaching of the dike system but might support a partial breach. Several letters expressed concern over the loss of freshwater habitats as a result of estuarine restoration efforts, and suggested acquisition and restoration of freshwater wetland and riparian habitats prior to or at the same time as dike removal or breaching. The range of comments received also addressed the commentors' reasons for either supporting or opposing dike breaching, as summarized in Section 3. Analysis of this issue in particular needs to be considered within the context of Alternative preference, as well as related issues, especially trail configuration.

Issue 3 – Environmental Education Opportunities

Approximately 90 people commented on the issue of environmental education (EE) opportunities at the Refuge. Most people raising this issue noted the overall importance for continuing the EE program at the Refuge. Several commentors noted a preference for implementing a larger EE program as part of the Preferred Alternative.

Issue 4 – Wildlife Observation, Interpretation, Trails, and Public Access

Approximately 138 people raised the issue of hiking and trail use on the Refuge. The majority of these commentors expressed their preference for either maintaining the dike trail system, or for its reduction in favor of dike breaching and estuarine restoration. Of those who specifically commented on trails, slightly more people voiced their preference for maintaining the existing 5½-mile dike trail than those who favored trail changes to accommodate restoration efforts. Those in support of maintaining the existing trail system often noted the trail's importance in providing opportunities for an urbanized public to experience nature; several commentors thought that the trail was the most important aspect of the Refuge. Some people commented that the Service should consider maintaining the trail by partially breaching the dikes and constructing bridges over the breached portions. Of the commentors supporting dike trail changes, most mentioned that while they recognized the importance of the trail and that they would miss the ability to use it in its current state, the opportunity for habitat restoration was more important. Other comments on the trail system included other suggested areas for trail improvements, or the need for more viewing platforms and photography blinds.

In the database, public access was addressed separately from trail use, but due to the linkage of these issues, they are addressed together in Section 3.4 of this Appendix. Approximately 167 people mentioned the issue of public access.

A total of 1,262 people raised the issue of wildlife observation. Most people commenting noted the value of the Refuge as a place where people could observe wildlife in their natural habitat. Numerous people expressed support for the interpretation program and its enhancement. Many people expressed their opinion that habitat preservation was more important than people's ability to observe wildlife.

Issue 5 – Waterfowl Hunting on Nisqually NWR

The most comments received on the Draft CCP/EIS dealt with the singular issue of hunting on Refuge lands. A total of 1,484 people commented on their preference for or opposition to waterfowl hunting on the Refuge. Of this total 1,434 (96.6%) voiced opposition to hunting on the Refuge. This contrasts with 41 letters received that voiced support for allowing hunting to occur. In addition, 9 people expressed a preference for hunting, although with qualifications. Many commentors expressed their opposition to reducing the size of the RNA to allow for hunting.

Issue 6 – Fishing and Shellfishing

Relatively few people (15 letters) raised the issue of fishing or shellfishing. Most of these letters were in support of maintaining user access to areas for fishing or shellfishing. Other letters noted potential water quality effects (such as fecal coliform) to shellfishing resources.

Issue 7 – Boating and Personal Watercraft (PWC) Use

A total of 54 people opposed allowing PWC use in the Refuge; nobody wrote in support of PWC use. Approximately 33 other letters addressed general issues related to boating. Of these, many expressed a desire to eliminate all motorized boating in Refuge waters. Many other letters wrote in support of the 5 mph speed limit for boats.

Issue 8 – Wildlife and Habitat Issues

Approximately 112 letters raised the issue of wildlife or their habitat. Many of these identified wildlife and habitat as management priorities at the Refuge. Some letters discussed species-specific data presented in the CCP/EIS related to wildlife, and some letters identified measures to benefit particular species or species groups (such as raptors).

Issue 9 - TES Wildlife

Fifty-eight people raised the issue of Threatened and Endangered Species (TES). Most of these comments addressed Chinook salmon use of Refuge habitats.

Issue 10 – Cultural Resources

Relatively few people commented on the issue of cultural resources; 11 letters were received addressing this topic. Specific issues raised included the historic resources associated with the Twin Barns, as well as the potential presence and management of archaeological sites in the proposed expansion areas.

Issue 11 – Process

Approximately 36 people raised the issue of the overall Draft CCP/EIS. Many of these commentors complimented the Service for doing an overall good or excellent job in preparing

the plan; others complimented the Service for conducting a valuable public outreach effort as part of Draft CCP/EIS preparation. Some of the commentors specifically addressed the issue of NEPA compliance, providing mostly positive comments on meeting the public scoping requirements.

3.0 SUMMARY OF COMMENTS AND SERVICE RESPONSES

This section provides a summary of the individual comments received on the Draft CCP/EIS, followed by the Service's responses to those comments. The comments were organized into 14 main topic areas:

- Alternatives
- Refuge Expansion
- Estuarine Restoration
- Freshwater Wetland and Riparian Restoration
- Environmental Education Opportunities
- Wildlife Observation, Interpretation, Trails, and Public Access
- Waterfowl Hunting
- Fishing and Shellfishing
- PWC Use and Boating
- Wildlife and Wildlife Habitat
- Threatened and Endangered Species
- Cultural Resources
- Process
- Miscellaneous Comments

Within the major topic heading, similar or related comments were grouped by subtopic and presented as bulleted items. In many cases, the text in the bulleted comment is a quote from a particular letter; in some cases, very similar comments were merged into a single bullet or comments were paraphrased to make them more concise. Every effort was made to present all substantive comments in this summary; the specific comments presented here are a representative sample of all the comments received. A comment that addressed several issues was sometimes placed in a single bullet, in the section to which it was most closely related. Therefore, there is some overlap between topics. Please see Table M-6 to help determine where specific comment topics were addressed in the Comment Summary. The Service response follows each group of comments. A copy of all of the original comments received on the Draft CCP/EIS is maintained on file at Nisqually NWR.

Table M-6. Where to find specific comments and the Service's response.

Topic	Response in Appendix M
Public Comment on Alternatives and Preference for Alternatives	
Support for Alternative D	Page M-14
Support for Alternative D with Qualifications	Page M-15
Concerns Over Costs of Preferred Alternative	Page M-15
Opposition to Alternative D	Page M-16
Support for Alternative A	Page M-16
Opposition to Alternative A	Page M-17
Support for Alternative B	Page M-17
Opposition to Alternative B	Page M-17
Support for Alternative C	Page M-17
Other Comments on Alternatives	Page M-18
Refuge Expansion	
Support for Refuge Expansion	Page M-20
Opposition to Expansion	Page M-20
Additional Areas Suggested for Expansion	Page M-21
Landowner Concerns	Page M-22
Comments Regarding Local Mineral Extraction and Asphalt Plant	Page M-23
Socioeconomic Effects of Refuge Expansion	Page M-24
Transportation Planning	Page M-27
Coordinate and Work with Neighbors	Page M-27
Management Suggestions Related to Refuge Expansion	Page M-28
Suggested Edits or Changes to Final Document	Page M-29
Other Comments Related to Refuge Expansion	Page M-30
Restoration	
Support for Estuarine Restoration Efforts/Dike Breaching	Page M-31
Opposition to Dike Breaching/Restoration	Page M-32
Restoration Management Suggestions	Page M-35
Tidal Dynamics	Page M-36
Concerns and Questions	Page M-37
Other Comments Related to Estuarine Restoration	Page M-38
Freshwater Wetland and Riparian Restoration	
Freshwater Habitat Restoration	Page M-39
Balance of Freshwater Wetlands and Estuarine Restoration	Page M-39
Suggested Areas for Freshwater Wetland & Riparian Restoration	Page M-40
McAllister Springs	Page M-40
Environmental Education Opportunities	
Support for Expanded EE Programs	Page M-41
Local Programs and Partnerships	Page M-41
Expand Alternative D EE Program	Page M-42
Opposition to Expanded EE Program	Page M-42
EE Program Improvements/Suggestions	Page M-42
Opposition to Butterfly Garden	Page M-43
Funding Relationship w/ Restoration	Page M-43
Wildlife Observation, Interpretation, Trails, and Public Access	
Value of Existing Trail System	Page M-43
Support for Trail Changes	Page M-44
Opposition to Trail Changes	Page M-44
Trail Improvements/Suggestions	Page M-45
Trail User vs. Hunter Conflicts	Page M-47

Table M-6. Where to find specific comments and the Service's response.

Topic	Response in Appendix M
East Bluff Trail	Page M-48
East Side Trail	Page M-48
Boardwalk Trail	Page M-48
Connecting Individual Trails and Facilities	Page M-49
Crowding and Visitor Use Limits	Page M-49
Types of Use and Impacts	Page M-50
Waterfowl Hunting	
Opposition to Waterfowl Hunting on the Refuge	Page M-50
Support for Waterfowl Hunting on the Refuge	Page M-51
Additional Areas Requested to be Opened or Remain Opened to Waterfowl Hunting	Page M-52
Areas Requested to Close or Remain Closed to Waterfowl Hunting	Page M-53
Hunt Days	Page M-54
Shell Limit	Page M-55
Boundary Changes & Regulation Enforcement	Page M-55
Research Natural Area Reduction	Page M-56
Hunters and Other Users	Page M-58
Other Management Suggestions	Page M-58
Other Comments Related to Waterfowl Hunting	Page M-59
Fishing and Shellfishing	
Improved Access	Page M-60
Reduce Fishing	Page M-61
Implement a Fishing/Shellfishing Fee	Page M-61
Impacts to Shellfish	Page M-61
Lack of Focus on Fishing	Page M-62
PWC Use and Boating	
Ban PWC Use	Page M-62
Boating	Page M-63
5 mph Speed Limit	Page M-64
Other Management Suggestions	Page M-64
Wildlife and Wildlife Habitat	
Value of Wildlife and Habitat	Page M-65
Plants	Page M-65
Raptors and Small Mammals	Page M-66
Waterfowl	Page M-67
Bird Habitat	Page M-67
Minimize Impacts of Infrastructure on Wildlife & Habitat	Page M-69
Other Comments Related to Wildlife and Habitat	Page M-69
Threatened and Endangered Species	
Benefits to TES	Page M-70
Salmon Protection	Page M-70
Nesting Bald Eagles	Page M-71
Protect and Reintroduce TES	Page M-71
Cultural Resources	
Benefits to Our Cultural Heritage	Page M-71
Archaeological Sites	Page M-71
Historical Resources	Page M-72
Process	
Timeframe Concerns	Page M-73
Comment Period and Public Meetings	Page M-73

Table M-6. Where to find specific comments and the Service's response.

Topic	Response in Appendix M
Overall Praise ("good job")	Page M-74
National Wildlife Refuge System Improvement Act	Page M-74
Suggested Revisions and Additional Analyses	Page M-74
NEPA Compliance and Involvement of Other Groups	Page M-76
Miscellaneous Comments	
Consolidate WDFW Inholdings	Page M-78
Disturbance from I-5, Fort Lewis	Page M-78
Fruit Gathering	Page M-78
Importance of the Refuge to the Community	Page M-78
Effects of Global Warming	Page M-79
Suggested Addition to Section 5.4 (Resource Specific Plans)	Page M-79

3.1 Public Comment on Alternatives and Preference for Alternatives

Many of the comments included within the Alternatives section are also found under specific key issues that follow. To minimize redundancy, detailed responses to comments on specific issues can be found under those headings.

Support for Alternative D

- Full dike removal in Alternative D provides the most scientifically justifiable approach to the Refuge. Partial removal does not guarantee estuarine restoration.
- We support Alternative D because of its focus on estuarine restoration, Refuge expansion, and interpretation/education opportunities.
- Alternative D is most consistent with the Puget Sound Water Quality Management Plan, particularly the goal to restore and enhance the ecological processes that create and maintain marine and freshwater habitats.
- Alternative D best achieves the Refuge purpose, visions, and goals.
- We support Alternative D primarily because: (1) dike removal will restore historical estuarine conditions; (2) Nisqually is an ideal location for a model environmental education program; and (3) the alternative ensures opportunities for fish and wildlife oriented recreation.
- Alternative D should be identified as the preferred alternative because: cost-effectiveness and economies of scale; optimum habitat potential increase for a suite of organisms; additional protection for varied endangered species' life history phases; expanded educational opportunities; and an expanded Refuge boundary.
- Habitat restoration under Alternative D would be of greatest benefit to fish, shellfish, waterfowl, migrant birds, and other wildlife.
- Wildlife come first, and the preferred alternative is the result of the best efforts on the part of the professionals who developed and will implement any such plan.

Service Response: We appreciate the thoroughness with which commentors reviewed the Draft CCP/EIS and the detailed comments provided in support of Alternative D.

Support for Alternative D with Qualifications

- Alternative D is a good start but boundary expansion needs to be increased by adding 200 acres of forest lands on Hoffman Hill, and PWC need to be banned.
- Emphasize restoration, expansion lands, and trail improvements.
- Saltmarsh restoration should occur at least at the 80% level; it provides better habitat for fish and wildlife.
- As part of Alternative D, the FWS should acquire as much upstream land and habitat as possible.
- The Preferred Alternative should incorporate the hunting program proposed in Alternative C – it is important to continue to have the support of hunters and to provide some multiple use benefits if not in conflict with fish and wildlife preservation.
- Change the hunt program to 3 days/week in the Preferred Alternative.
- Alternative D should be modified to include the maximum EE program.
- Clearly define hunting areas and boundaries.
- The restoration of seasonal wetlands and riparian forests should be an explicit high priority goal of the plan on the newly acquired lands south of I-5.
- Reduce the area designated as huntable under Alternative D.
- Numerous people listed all of the following additional elements to include in Alternative D: secure funds for additional Refuge expansion; improve management on the Refuge; restore critical saltmarsh habitat; expand the EE program; ban PWC use; and do not reduce the size of the RNA.

Service Response: The amount of expansion included in Alternative D in the Hoffmann Hill area was based on habitat needs and watershed protection. The City of DuPont’s comprehensive land use plans and planning efforts by the primary landowner, Weyerhaeuser, were also considered in the analysis. The waterfowl hunting program in Alternative D was supported by WDFW; the program in Alternative C was not and would have directly affected State lands. Acquisition of areas south of I-5 that could be restored as freshwater wetlands were identified as a high priority in Appendix K, Land Protection Plan and a strategy was added to Objective 1.3 emphasizing freshwater wetland restoration sites as a priority for acquisition.

Also see responses under Refuge Expansion, Estuarine Restoration, Environmental Education, Wildlife Observation, Waterfowl Hunting, and PWC/Boating.

Concerns Over Costs of Preferred Alternative

- Implementing the Preferred Alternative would be extremely expensive – with a total first year cost of \$5.479 million (without land acquisition costs).
- How likely is it that Alternative D would be adopted given the current DOI budget?
- Concerned that funding won’t be available for all Alternative D actions. Management actions should be prioritized by ensuring the following: control of noxious weeds; hire adequate enforcement staff; coordinate hunting with WDFW; build new trail system before removing old; and develop a boating enforcement plan.

Service Response: The project list and associated costs are included to identify project needs (Appendix F), but it is true that not all of the funding would become available in the near future. However, substantial funding is currently available to initiate habitat restoration, and there is

good potential for obtaining additional funds from other sources (i.e., grants and partners) for restoration measures. All of the alternatives involve substantial costs, even Alternative A, in part because of the extensive repair work that would be required if dikes were retained. Alternative D requires less dike construction and maintenance than the other action alternatives. Suggestions on funding priorities are noted in the CCP/EIS with the emphasis on meeting the greatest natural resource needs and providing quality wildlife dependent recreation. Implementation of a waterfowl hunting program would necessarily require enforcement staff.

Opposition to Alternative D

- Alternative D will destroy a system that's over 100 years old and safe. This will ruin an existing wonderland for a politically correct agenda for fish and wildlife.
- Now is not the time to spend money on unnecessary projects such as dike removal or Refuge expansion.
- Under Alternative D, songbirds, people, and other mammals lose.
- Alternative D ignores the needs of an increasingly urbanized population in need of access to nature and trails; the users need the existing trail.
- The Alternative D loop trail is a token; it offers just a taste and with only 2 spots to see the river wildlife and ecosystem.

Service Response: Alternative D was designed to address the highest priority needs of fish, wildlife, and habitat, while continuing to provide quality wildlife dependent recreation. To restore estuarine habitat effectively, substantial changes would be required in the dike configuration, and consequently the trail system. However, trail improvements and new trails have been included to continue to provide quality wildlife viewing opportunities. Alternative D was identified as the best alternative to achieve Service and Refuge mission, purposes, and goals. Also see Wildlife Observation and Estuarine Restoration responses.

Support for Alternative A

- I would support managing the Refuge as it is managed today, with additional alternative components such as Refuge expansion, an expanded education program, changed hunting rules, and continuing to restore existing wetlands.
- Alternative A is preferable because it would retain the dike.
- Alternative A (or B) would be preferable as they tend to disturb the existing land less; over time, nature has adapted to human intervention and is currently in a state of balance. Major changes to restore historic conditions would upset the adapted balance.
- The proposed changes would detract from the value of this great setting and significantly reduce the opportunity for people to enjoy the Refuge.

Service Response: Alternative A was evaluated in detail but was determined not to meet Service or Refuge goals for restoration of native habitats and associated fish and wildlife, recovery of threatened and endangered species, and providing quality environmental education and wildlife dependent recreation opportunities. The CCP provides a unique opportunity for the Refuge to more effectively contribute to protection and restoration of the Nisqually delta and lower watershed and to respond to changing conditions since the Refuge was established in 1974. Also see Chapter 4 and responses to Estuarine Restoration.

Opposition to Alternative A

- Alternative A is unacceptable – it does nothing to address the needs of wildlife, visitors, neighbors; it perpetuates infrastructure problems.

Service Response: Comment is noted.

Support for Alternative B

- Alternative B represents the least impact while improving the Refuge.
- Alternative B is the best alternative as it adds some expansion territory, vastly increases the EE program, prohibits hunting, and focuses on preserving what the Refuge already has.
- Alternative B is preferred as it prohibits hunting in the Refuge.
- Alternative B is preferred as it retains the trail system.
- Alternative B is preferred because it allows gradual change over time.
- Alternative B provides important improvements in expanding tideflats while maintaining public access to the Refuge, and a greater public education effort is afforded.

Service Response: Alternative B was not selected as the Preferred Alternative because it was not as effective in addressing the highest priority fish and wildlife goals. The effects of retaining dikes to support trails, while still trying to achieve successful estuarine restoration would result in reduced tidal function, compromising the effectiveness of estuarine restoration (see Estuarine Restoration responses, Chapter 4, and Appendix J). This alternative would not have provided the same level of new habitat protection through Refuge expansion, nor would it have provided quality waterfowl hunting opportunities that are included in the Preferred Alternative.

Opposition to Alternative B

- Alternative B does little to ameliorate long-standing problems and does little for education, interpretation, or trails.
- Alternative B lacks integrity – we should not have to choose between having a natural environment and educating about it.

Service Response: Comments are noted.

Support for Alternative C

- The expanded EE program under Alternative C might be more beneficial than the 184 additional acres of estuarine habitat restoration proposed under Alternative D.
- Alternative C presents greater flexibility ecologically, educationally, economically, and programmatically relative to Alternative D.
- The hunt area boundary of Alternative C is preferable to that proposed in Alternative D.
- I support Alternative C for two reasons: (1) the 3 days/week hunting schedule and (2) Alternative D does not provide enough trail walking opportunities.
- If the following changes to Alternative D can't be made, then I prefer Alternative C: follow the hunt program outlined in Alternative C, except that hunting could occur more than 3 days/week. Key benefits would include hunt land consolidation; elimination of hunting in the McAllister Creek area (which provides prime habitat for a diversity of species); the needs of the non-hunting users are better met; etc.

Service Response: Fish, wildlife, and habitat needs take priority over other uses on National Wildlife Refuges. Alternative C did not restore as much estuarine habitat, and was not as effective as the Preferred Alternative in restoring the McAllister Creek system to tidal influence. Waterfowl hunting described in Alternative C was not supported by WDFW, and this alternative directly affected management of their lands. Also see Chapter 4 and responses to Estuarine Restoration and Waterfowl Hunting.

Other Comments on Alternatives

- It's unclear how the costs of each alternative compare or how funding decisions would be made to support a given alternative.
- The plan should include long-term budgeting for year round staff of enforcement personnel, educators, maintenance workers, and management.
- The range of alternatives presented in the DEIS is not broad enough; to comply with NEPA, additional alternatives showing greater Refuge expansion and different hunting configurations should be analyzed.
- The FWS should consider a new alternative with the following major components: remove some of the existing perimeter dike along McAllister Creek but breach and bridge the remaining dike; maintain most of the existing loop trail. Construct pedestrian bridges over all dike breaches to maintain the trail. Open a larger portion of the refuge to hunting including the east side of the Nisqually River and part of the restored area; and do not put a new trail on the east side. Hunting access and restrictions would allow for a quality hunt experience while not conflicting with other users. Partial estuarine restoration would allow us to test the effects and results of saltmarsh restoration.
- Several commentors wrote in to express their support for the comment above:
 - This proposes to make modest changes now, monitor the results, and make further changes based on actual effects.
 - This would retain dike walking, enhance hunting opportunities, while protecting waterfowl.
 - Benefits include providing quality public access.
- Treaty rights – especially fishing harvest, access, and healthy habitat- are protected by treaty and affirmed by US vs. Washington. The tribes and the state of Washington share co-management of fisheries resources within waters identified as usual and accustomed. This Refuge and its management have been sensitive and supportive of this cultural connection; it is a fine example of the USFWS as a federal agency, acting appropriately in its trust responsibility.

Service Response: The CCP provides long-term guidance for management decisions, sets goals, objectives, and strategies needed to accomplish refuge purposes, and identifies the Service's best estimate of future needs. This plan details program planning levels that are sometimes substantially above current budget allocations and, as such, are primarily for Service strategic planning and program prioritization purposes. The plan does not constitute a commitment for staffing increases, operational and maintenance increases, or funding for future land expansion. However, the CCP identifies Refuge priorities which would be used in evaluating budget needs through the annual budget process. Also see Appendix F, Plan Implementation, which includes a project list with costs, and projected staffing needs.

We believe the range of alternatives is appropriate within the context of the practical management considerations for Nisqually NWR (Section 2.1.1). The Service has worked extensively with the public and key partners for more than 5 years crafting the range of alternatives. The EIS contains a detailed description explaining the broad range of alternatives considered (Section 2.3), those found to be impractical, and the rationale for the range of alternatives included.

The CCP alternatives are based on the need to meet Refuge purposes, a topic fully explained in the EIS. Estuarine restoration alternatives drive many of the other key components (especially many of the public use alternatives), and include a range of 0 to 70% estuarine restoration within the 1000-acre diked area. Higher percentages (85 to 100%) were considered but were not selected for detailed analysis due to the limited amount of freshwater wetlands and the reduction in public use access that would result (Section 2.4).

A variety of other alternatives were considered that included the components mentioned above (see Section 2.4). In addition, Alternative B similarly would retain substantial portions of the dike, with bridges over breached sections. See Chapter 4, Appendix J, and responses to Estuarine Restoration for more detailed responses regarding the difficulties posed by retaining dikes with limited breaches when trying to successfully restore estuarine habitat. Restoring a large area with a limited number of stabilized breaches restricts flows, alters tidal patterns, reduces the ability of sediments to reach the restoration site and build substrates for salt marsh recovery, reduces the ability of fish and invertebrates to freely move into the restored site, creates ponding which could entrap fish, and focuses high velocities and erosion problems at breach sites, among other difficulties.

Wildlife observation (primarily trail issues) is heavily driven by the range of estuarine restoration options. There are three additional trail ideas included in the considered but not selected alternatives (Section 2.4). Environmental education ranges from no change (5,000 students) to 20,000 students. Waterfowl hunting ranges from no hunting to opening 713 acres of Refuge lands to hunting. Waterfowl hunting described in Alternative D was designed based on extensive coordination efforts with WDFW and the Nisqually Indian Tribe, regarding their respective lands. The Preferred Alternative was identified as the best option to provide quality hunting opportunities, sufficient wildlife sanctuary areas, reduce conflicts among users, reduce confusion for hunters, and provide new opportunities for quality wildlife viewing through the creation of a trail on the east side of the Nisqually River. Four other alternatives are described in the considered but not selected alternatives for waterfowl hunting (Section 2.4). Waterfowl hunting in much of the east side of the Refuge as proposed above, would reduce wildlife sanctuary and affect use of the new east side trail. Reducing the number of days/week for hunting on State lands was not supported by WDFW.

Boating restrictions (boat speed, seasonal restrictions in the RNA) and RNA restrictions (prohibiting consumptive uses) are common to all action alternatives because it was determined necessary to provide improved wildlife sanctuary, make these uses compatible, and to comply with Refuge policies in RNAs (Section 2.2.2, Appendix G.1, G.2, and G.3).

The CCP/EIS benefited from a good working relationship between the Service and local tribes in addressing common goals and areas of mutual interest. Treaty rights are also recognized in Chapter 2 as being common to all alternatives. It is our policy to provide Native Americans reasonable access to Service lands or waters for traditional activities when they are consistent with treaties, mandates, or laws, and are compatible with refuge purposes.

3.2 Refuge Expansion

Support for Refuge Expansion

- We strongly support expansion of Nisqually National Wildlife Refuge.
- The FWS should take advantage of every opportunity to acquire expansion lands south of I-5.
- Expansion provides multiple benefits – habitat for migratory birds, habitat for threatened and endangered species, better water quality, and protection from development.
- Acquire as much natural wildlife habitat as possible and reclaim as much abused land as possible for restoration.
- As the area becomes more urbanized and developed, land will only become more difficult to obtain; the time for Refuge expansion is now. It's already too late to acquire some of the needed lands, such as the gravel pit (an industry not supported by the community).
- Expansion is important for minimizing user conflicts – hunters, hikers, birders, and anglers. Every user group needs access, and overlapping uses can be dangerous.
- Expansion and restoration efforts are the No. 1 priority – education and trails funding can come later.
- The Refuge should be expanded to the largest size possible to provide as much wildlife habitat as possible.
- Expanding the Refuge will do the most to help restore and protect the endangered Chinook salmon runs.

Service Response: Comments noted.

Opposition to Expansion

- Don't spend money on expanding the Refuge boundary; instead, spend on dike repair and a new educational barn. In addition, newly acquired lands would require additional staff to manage.
- I see no need to acquire so much land south of I-5; it appears goals could be met by acquiring only the riparian habitat along the Nisqually River.
- As a landowner and single parent, I don't want to lose my property and move the children again. Expansion is a bad idea.

Service Response: Costs relating to land purchases within a Refuge boundary are appropriated through the Land and Water Conservation Fund or approved by the Migratory Bird Conservation Commission. Both funding sources are specifically tied to land acquisition. Expenses associated with staff salaries and refuge operations and maintenance are appropriated in the President's budget. The Service is not permitted to utilize funds for purposes other than their original intent.

Acquiring only the riparian habitat along the Nisqually River addresses just one habitat in need of protection. The current Refuge and the adjacent habitats of the Nisqually Valley on the south side of I-5 and along the Nisqually River and McAllister Creek are ecologically inseparable. In the Preferred Alternative, the expansion area would provide the greatest protection of bluffs, floodplain wetlands, and the river corridor south of I-5. See Section 1.8, Issue 1: Refuge Boundary Expansion and Section 2.3.4 Alternative D.

The Service has a longstanding policy to acquire lands only from willing sellers. Individual landowners are under no obligation to sell their lands to the Service. (Refer to Appendix K-5, Section 1.5.1 Willing Seller policy.)

Additional Areas Suggested for Expansion

- The most frequently mentioned areas proposed for Refuge expansion were a larger portion of the Hoffman Hills area (for forested habitat), lands south of I-5 along McAllister and Medicine Creeks (as freshwater wetlands), and along the Nisqually River (as riparian forest).
- We encourage the FWS to consider further expansion southward, along the riparian corridor; upstream areas include important forested areas.
- High priority should be given to acquiring forest lands on the eastern slopes nearest Puget Sound.
- The plan should consider transferring certain additional lands from Fort Lewis to the Refuge; 500 acres just south of I-5 and above the Nisqually River could be considered; and another 1,000 acres of floodplain and high banks east of the river could be added to the Refuge. None of these parcels is considered in Alternative D.
- I suggest that the boundary along the outer limits of the McAllister Creek channel be extended westward to provide better administrative control for protection of the tideflats along the creek channel.
- Private lands on the Thurston County side of the river should be acquired.
- Expansion should be explored on the farmlands south of I-5; it might take 50 to 100 years to fully acquire, but it should be done.
- We support the maximum proposed Refuge expansion. In the long term, it would be ideal to see a “glacier to Sound” park along the entire river.
- Incorporation of the East Bluff area would limit adverse impacts from potential residential/commercial development in the area.
- South of I-5, expansion area should be to perimeter road.
- Refuge should consider the option of water-ward expansion (towards Puget Sound)
- Discuss in the Final Version why not modify the Acquisition Boundary to run northeast along shore (McAllister Creek outflow) toward Johnson’s Point, and to include the ‘hole in donut’ south of I-5.
- The Refuge requires a larger buffer to reduce threats to its precious ecosystem. A larger Refuge boundary would protect habitat from the encroachment of increasing development in the watershed.

Service Response: Lands encompassed by the expansion area boundary include those with: (1) intact habitats important to wildlife; (2) habitat corridors; (3) native habitats threatened by development; and (4) areas with restoration potential. The expansion boundaries were based on the locations of intact habitats and habitat corridors, potential development threats to native

habitats, and restoration potential. A larger area for expansion was considered (equal to the study area of 5,390 acres) but was not analyzed because of conflicts with other land uses, high costs, and because some areas were judged to be lower priority for Refuge protection. For example, some areas containing very high levels of residential development were not included. Land along the Nisqually River south of I-5 was eliminated from detailed study because it overlapped with the Nisqually Indian Tribe's established reservation boundary. See Section 2.4, Alternative Components Considered but Eliminated from Detailed Study. U.S. Army lands within the Nisqually Indian Tribe's established reservation boundary are not included in the expansion boundary.

The forested lands on the East Bluff have been given a high priority for acquisition in the Land Protection Plan (Appendix K) to provide a habitat corridor, prevent sedimentation, and protect water quality from the effects of the planned residential development. The landowner has shown interest in selling a portion of the bluff area and negotiations with the Service are underway. The amount of expansion included in Alternative D in the Hoffmann Hill area was based on identifying a corridor of habitat that would support wildlife, wildlife movement, and that would help to protect the slope, watershed, and river below. It also considered comprehensive land use plans by the City of DuPont and planning efforts by the primary landowner, Weyerhaeuser.

The northern boundary of the Refuge coincides with the natural habitat transition of mudflats to deep open water. The deep water areas of Puget Sound and mudflat areas west of the mouth of McAllister Creek are relatively protected from being developed and were not considered for inclusion in the study area.

Landowner Concerns

- As additional lands are acquired, City of Olympia is very concerned about public access to McAllister Springs (Olympia's main water source); the City should be notified about any proposed activity in this area and would like to see notification/coordination as part of Alternative D.
- It's important that landowners south of I-5 can continue working their agricultural lands, despite any Refuge acquisition in that area.
- Were all of the landowners in the expansion area notified? It doesn't seem like all of the owners are aware of the Refuge's expansion plans.
- Will the elevated water table at the expanded area affect the houses on the developed island within the expansion boundary?
- Will Alternative D incorporate 6th Avenue SE?
- WSDOT is on record that they plan to proceed with the Amtrak Cascades project, with the railway line traveling along the Nisqually River and the Refuge's western border; if the Refuge boundary expands south of I-5 (as under Alternative B, C, D), the rail project will affect those lands; Section 4(f) consultation would be required. Expansion plans must therefore take into account the planned future rail project.
- Our (Thurston County) property taxes include conservation futures money, which should preserve/conservate open space. The CCP/EIS makes no mention of this.

Service Response: County records were used to generate a list of landowners within the existing and proposed boundary. All landowners were added to the CCP mailing list, which is

provided in Appendix B. The CCP team conducted an extensive consultation and coordination process to ensure full public involvement, which included a Planning Update focused completely on Refuge expansion that was sent to the mailing list of more than 1,000 addresses. The public process is outlined in Chapter 6. We recognize the City of Olympia's concern about public access to McAllister Springs, its main water source. We are committed to coordinating with all affected and interested landowners, individuals, government entities, and organizations about Refuge activities and we assure the City of Olympia that we will coordinate with them regarding any public access plans.

The Service does not impose restrictions on private lands that are located within a Refuge boundary (Section 4.8.2.2). Management practices are limited to those lands under FWS ownership or by cooperative agreement. Adjacent owners may continue permitted uses allowed under current zoning regulations.

Wetland restoration of agricultural lands around the "developed island within the expansion boundary" could include periodic mowing, discing, sculpting, seeding, planting of native trees or shrubs, and flooding in the fall and winter months. Before any Refuge lands were restored, hydrological studies and restoration design of the site would be completed so that restoration activities were designed to ensure no adverse impacts to adjacent landowners.

The expansion boundary in Alternative D runs along the north side of 6th Avenue SE and includes lands bounded by Old Pacific Highway and the Nisqually River. See Appendix K, Land Protection Plan, Figure 4, Area 3, Tract Map.

It is recognized that the Thurston County Conservation Futures Fund is one of many local programs that has the potential to complement our habitat protection proposals outlined in the CCP by contributing to wildlife conservation efforts in the Nisqually Valley. This program (Purchase of Development Rights) was briefly described in Section 3.8.3.1.

We recognize Washington State Department of Transportation's plans for the Amtrak Cascades project. Text has been added in Section 3.8.1.3, Transportation Patterns. Section 4(f) consultation will only be required for projects that pass through lands actually administered by the Service. We will work with the WSDOT Rail office in Olympia to coordinate rail line improvements with proposed Refuge expansion.

Comments Regarding Local Mineral Extraction and Asphalt Plant

- Thurston County is in the planning stages of designating 518 acres of land along the west side of Reservation Road as mineral resource lands of long-term commercial significance; this would allow full mining of sand and gravel in this area. Such action would have profound adverse environmental impacts on the Refuge goals and objectives for land protection; habitat restoration; fish and wildlife; special status species; environmental education; and wildlife dependent recreation. Similarly, Section 3.8.3.1 should include a discussion of the proposed gravel mining operation and its impacts on habitat. Additional coordination with the County is suggested due to the dynamic nature of these plans.
- For commercial reasons, any expansion south of Old Pacific Highway in the area of the Holroyd mine would be totally inappropriate. This mine is an operating gravel pit and

cement operation and should not be considered as potential Refuge expansion area. Refuge expansion in this area would limit commercial activities at the site, which would be unlawful without compensation. We have no interest in selling the property, or granting a Refuge easement.

- If Alternative C is adopted, how will the FWS address the pollution and land loss issues created by the gravel extraction and hot mix asphalt plant? Both of these are in the expansion zone and would negatively affect the Refuge.
- Neighbors are opposed to the proposed asphalt plant (within the expansion area).

Service Response: The 518 acres of forested upland considered for designation for mineral extraction by Thurston County were not included in the proposed expansion. Nonetheless, the Service recognizes the impacts that certain proposed land use changes may have on air, water and habitat quality, and the animal and plant community in the Nisqually Valley and the Refuge. We will continue to provide comments on such proposed land use changes where possible and appropriate, as we did on the proposed asphalt plant.

A discussion of the proposed gravel mining operation and its impact on habitat is outside the scope of analysis necessary for assessing the environmental effects associated with the various management options presented in this Final CCP/EIS. We will provide comments on such proposals and will continue coordination with Thurston County and other entities regarding activities in the Nisqually River Valley and Delta.

The approved gravel pit and cement operation would continue to operate in accordance with its permits and approvals. The designation of an approved Refuge boundary would not affect this operation. The Service recognizes the prior existence of this approved project as an ongoing and permitted mining operation. See Section 4.8.2.2. Under current mining regulations, permitted mines must have a reclamation plan in place for the future, when the site is no longer profitable for mining. At that time, the property would make a valuable addition to the Refuge.

Alternative D includes the existing gravel mine and a potential asphalt plant within the proposed expansion zone. These commercial activities are subject to applicable State, County, and local regulations. We recognize there will be negative impacts associated with these permitted activities; however, the Service has no authority to regulate activities on privately owned lands. Properties threatened by development are a common problem in many areas, and the Service regularly works with conservation partners to acquire these important resources from willing sellers.

Socioeconomic Effects of Refuge Expansion

- The analysis does not address potential impacts to the local planning efforts, embodied in the City of DuPont's CLUP (prepared according to GMA). The impact to loss of considerable residential development referenced in the Plan is not addressed. The City of DuPont and its Comprehensive Plan and Zoning Code are not recognized in Chapter 5.
- The CCP needs a more robust and straightforward analysis of impacts to private property, especially in regards to the Hoffman Hill/East Bluff area. For example, Table 1 in Appendix K is misleading in its assessment of 3 "protection methods" available; only acquisition of fee

simple makes sense. The financial aspects of such a broad property acquisition are not even mentioned.

- Address effects if Nisqually Valley area is no longer in farmland – what crops and economic changes would occur?
- City of DuPont is concerned about some of the proposed expansion areas, as they might threaten the balance that has been achieved in several key areas in the City. Impacts could be expected to the City's form and economy, especially in the bluff south of Sequelitchew Creek, along the former DuPont Company dock site (where a plan for a waterfront park is proposed), and in the Hoffman Hill area (where private home development is proposed). Based on these concerns, the City requests a meeting with the FWS to discuss potential alternatives to expansion.
- Options B and C would remove the more stable human element from the valley and upset the current political strength these people give. The valley is currently balanced between the neighborhood element, conservation element, and the industrial element. Option D will remove even more of the valley residents. There is value in keeping people in the mix.
- Refuge expansion would greatly change the existing diverse community to a single wildlife refuge and change the cultural fabric of our community.
- The draft EIS fails to address the financial costs of refuge expansion.

Service Response: Under the Preferred Alternative's proposed Refuge expansion, the extent of affected agricultural lands and residents depends on the number of willing sellers and acquisition funds being appropriated by Congress. These factors suggest that changes in land ownership and land use would likely occur slowly over time. Within the proposed expansion area, it is unlikely that all agricultural lands will be taken out of production or that all residents will be relocated. Thus, the Service believes that the open space and the rural character of the Nisqually Valley would still be retained consistent with County plans.

Even if Refuge expansion were not to occur, the character of the community is likely to change over time with the increasing pressures of population growth and urbanization in the area. Refuge expansion may, in fact, increase the chances that this part of the Nisqually Valley retains an open space character. Please see Section 4.8.2.2, which has been revised.

Effects on agricultural lands in Alternatives B, C, and D are described in Sections 4.8.2.2 and 4.8.2.4. Pierce and Thurston counties contained 50,868 acres and 56,300 acres, respectively, of land in farms in 1997 (USDA, National Agricultural Statistics Service). The main crops in the proposed expansion area are hay, corn, Christmas trees, and lesser amounts of vegetables and fruits such as strawberries and raspberries. In Pierce and Thurston counties, approximately 190 acres and 1,100 acres, respectively, of agricultural land could be acquired for conservation purposes. In the context of the farm economies in Pierce and Thurston counties, the potential losses of production from this area compared to the overall agricultural economy would be minor.

The Service has met several times with both the City of DuPont and representatives of Quadrant Corporation to discuss the proposed Refuge expansion. The Service has developed alternatives to minimize the effects of Refuge expansion on both parties while still meeting the goals of Refuge expansion. The Service is aware that Quadrant Corporation is proceeding with

development plans for the bluff area and may not be interested in selling a conservation easement or entering into a management agreement with the Service. In this case, fee acquisition is the only land protection method that makes sense for this landowner at this time. Table 1 of the Land Protection Plan is only designed to show the entire array of land protection methods that are available to landowners, should they wish to pursue any of these options. If Quadrant Corporation were interested in selling a portion of their lands to the Service, the City of DuPont's Comprehensive Plan may be affected; however, it is noted that individual site plans have not yet been submitted for final approval, making it difficult to accurately assess the impacts of acquisition by the Service.

The City of DuPont stated that the proposed Refuge expansion along the top of the bluff south of Sequelitchew Creek includes one sixth or approximately 54 acres of the business and technology park envisioned by the City's Comprehensive Plan. If the business and technology park remain as proposed and if this area is acquired by the Service, the City's configuration and economy could be impacted. The proposed Refuge expansion in the Hoffman Hill area also includes approximately 200 planned residential lots. If the Service acquired this area, the City may lose some of its ability to attract services, which is based on the number of homes constructed. These impacts to the local economy will be minimized by revenue sharing payments which the Service pays to the County to help offset losses realized by lands brought into the National Wildlife Refuge System.

A 3-acre community park on the north side of the business and technology park is proposed at a site overlooking Puget Sound above the mouth of Sequelitchew Creek. The developer is required to construct a road to the park that may ultimately provide a view of the Puget Sound. If the Service acquired this area, the City stated that the proposed road would have to be moved inward and the public would lose their view of Puget Sound from the roadway. Until the exact location of the road has been determined, it is difficult to accurately assess these impacts. The City is also concerned that the cost to access the proposed community park would increase if it were located within the Refuge boundary; however, any changes in distances to access the park would be relatively small, and the Service would continue to coordinate with the City of DuPont regarding access issues in this area.

The proposed Refuge expansion boundary extends up to the former DuPont Company dock site at the mouth of Sequelitchew Creek. The City of DuPont stated that the proposed expansion of the Refuge boundary could seriously jeopardize the City's adopted plans for a waterfront park. Acquisition by the Service of lands in this area could affect the City of DuPont's adopted plans for a waterfront park. However, in reviewing the City's waterfront park plans, we find both the City's plans and the Service's proposal very similar. Both the City and the Service propose to provide trail access in nearly the same locations, and the trails would provide access to the former dock site, affording the public recreation opportunities in that area.

Ultimately, the City's plan for balance is dependent on final plat submittal and approval. While Service acquisition may have some impacts to the local community and their planning efforts as described above, we expect that these impacts will be minimal. Text has been added to Section 4.8.2.2 to describe the effects of the proposed Refuge expansion on the City of DuPont. In

addition, text has been added to the end to Section 5.6.4 to describe the City of DuPont's Comprehensive Land Use Plan and Land Use Code.

The future acquisition cost of each alternative is impossible to determine because the actual cost to purchase lands would be determined by an appraisal of each parcel of land and the type of interest acquired (fee title, conservation easement, or cooperative agreement) based on future unknown real estate market conditions. Purchase price could vary greatly on a particular parcel, depending on what the highest and best use of the land is at the time of purchase. Furthermore, all land within the proposed expansion area may not be acquired, with the amount depending upon willingness of the landowners to sell and the amount of acquisition funding appropriated by Congress. However, examining County-assessed values of properties within the proposed expansion area can provide a rough approximation of the values involved if all lands were acquired in fee title. Based on values from the Pierce County and Thurston County Assessor Offices for the assessment year 2002, the assessed values of Alternative B/C and Alternative D are approximately \$20.2 million and \$31.6 million, respectively. However, these values are relative, i.e., Alternative D is approximately 57% more than Alternatives B and C. We are unable to include the value of East Bluff property because the developer has not received final approval of development plans.

Transportation Planning

- The CCP/EIS lacks adequate discussion of transportation planning; analyses are lacking for access, parking, and circulation; these elements should be included in any new CCP. Suggested additions include: (1) projections for visitation, traffic, and parking over the timeframe covered by the plan; (2) Refuge traffic counts and parking use; (3) additional transportation-related analyses in Sections 3.6.1, 3.8.1.3, and 4.6; and (4) more analyses on listed Refuge Road Project Lists.
- We support a cooperative and coordinated effort between FWS and federal/state transportation planners, especially in regards to any major reconstruction along I-5.

Service Response: As requested we added more information and analysis to the Final CCP/EIS related to access, refuge parking, and transportation patterns. These additions can be found in Section 3.6.1 (Public Access), Section 3.8.1.3 (Transportation Patterns), Section 4.8.2 (Effects to Land Use and Transportation Patterns), and Appendix F: Plan Implementation.

Coordinate and Work with Neighbors

- Work with property owners to place conservation easements on their properties and prevent development.
- I encourage you to continue working with your neighbors (private landowners, WDFW, US Military, City of Olympia, and the Nisqually Tribe) to consistently manage Refuge lands.
- Consider creative easements rather than purchasing land in expansion areas.

Service Response: Conservation easements are an effective way to protect important habitat by limiting development and other activities that impact natural resources. The Service is very interested in acquiring easement interests from property owners and will continue to look for these creative opportunities. We would continue to work to strengthen cooperative efforts with

neighbors and partners in the community to benefit natural resources on the Refuge and in the Nisqually watershed.

Management Suggestions Related to Refuge Expansion

- Expansion needs to be balanced with education, public access, and usability (conditional support for expansion plans).
- Management of the acquired area upstream from the Pacific Highway Bridge should focus on maintenance and/or restoration of natural riverine processes of flooding and channel migration, with limited access for recreation.
- As part of the expansion efforts (south of I-5), foster ecological connection between the north and south portions, while still providing a transportation corridor. Put I-5 on a pier-type bridge and remove riprap.
- If Department of Defense lands are acquired, the RNA designation should remain upstream of Pacific Highway; the boundary of the RNA should be examined to accommodate recreation downstream – consider expanding the boundary on the west bank of the river south of the highway.
- We hope that the acquired acres south of I-5 will replace every acre of grassland lost when the dike is breached; freshwater wetlands are just as threatened as saltmarsh habitat, and they have a place at Nisqually.

Service Response: Acquisition expenditures for land within a Refuge boundary are appropriated from the Land and Water Conservation Fund or approved by the Migratory Bird Conservation Commission. Both funding sources are specifically tied to land acquisition. Expenses associated with environmental education, restoration, and public access are prioritized and separately funded through appropriations in the President's budget.

Depending on areas acquired and protected, active management and restoration of the riparian area could reduce habitat damage caused by unregulated public access and the existing network of dirt roads and trails in the riparian corridor. Restoration of freshwater wetlands south of I-5 could provide improved habitat for a variety of wildlife. Some grasslands would also be managed and enhanced. We recognize the importance of freshwater wetlands, and we would also continue to make improvements in areas that would remain diked in the Preferred Alternative. These combined efforts could increase the size and complexity of the wetland habitat mosaic in the lower watershed over time.

The current Refuge and the adjacent habitats of the Nisqually Valley on the south side of I-5 and along the Nisqually River and McAllister Creek are ecologically inseparable. Many migratory birds move between these areas on a daily basis to feed and roost. Salmon migrate through the Refuge into the rivers and creeks of the Nisqually Valley. There are areas where terrestrial mammals can travel beneath I-5 to access habitats on either side of the interstate. Redesigning I-5 to facilitate wildlife movements is beyond the scope of this Final CCP/EIS.

The boundaries of the candidate RNA on Fort Lewis are the Nisqually River to the west, the top of the Seventh Infantry Bluff to the east, I-5 to the north, and the confluence of Muck Creek and the Nisqually River to the south. The boundaries of this Nisqually Floodplain Candidate RNA

will not be changed because it is the largest remaining example of a low elevation stream and riparian system in the Puget Trough. See Section 3.8.3.2, Special Status Lands.

Suggested Edits or Changes to Final Document

- Although I support expansion, I think more justification needs to be provided as to why particular areas are desired. Native ecosystems are needed, but not wildlife food plots. Plus, freshwater wetland restoration can be very expensive (especially in areas currently used for agriculture).
- On page 1-15, discussing Refuge expansion, add the following: “Greater protection for wildlife could occur by providing a continuous corridor of habitats of forested uplands.”
- CCP/EIS should give more details/plans on how habitat restoration would occur on expansion lands.
- We suggest that Dept. of Defense boundaries be clearly referenced on maps to provide better context for expansion proposals.
- A portion of the proposed Refuge expansion area overlaps with a hazardous waste site subject to remediation under MTCA. The EIS should consider the potential impacts resulting from the overlap. The remediation process entails institutional controls (such as deed restrictions) for this site, which is currently and likely to remain in private ownership. Development and use restrictions should be addressed in the EIS.
- The description of the “willing seller policy” in the Land Protection Plan is simplistic and superficial. To simply say an appraisal determines the fair market value understates the complications involved in negotiations. Overall, the EIS makes it sound as if preexisting property rights of private owners are not significant.

Service Response: A strong ecological connection exists between Refuge habitats and the East Bluff and Nisqually Valley and River corridor, where expansion is proposed. Many fish and wildlife that use the existing Refuge also depend on habitats in the proposed expansion areas; some move between these areas on a daily basis. These lands could greatly benefit from improved protection and restoration. Some areas are threatened with imminent development. More effective protection of the lower watershed would benefit water quality; reduce sedimentation; improve riparian and freshwater wetland habitats; provide continuous corridors to support wildlife movement; and further salmon recovery. The proposed expansion of the approved Refuge boundary provides a unique opportunity to make the Refuge more ecologically whole, and protect the habitats necessary to ensure that the tremendous resource values of the Nisqually Delta and lower watershed can be sustained and restored.

Expansion of the Refuge south of I-5 would allow new options to protect and enhance freshwater wetlands to help provide new areas for migratory birds or other wildlife that are dependent on this habitat. See Section 1.8, Planning Issues, Concerns, and Opportunities. The specific details of a habitat restoration plan for the expansion lands are not available because the plan depends upon the areas acquired. In general, wetland restoration of agricultural lands could include periodic mowing, disking, sculpting, seeding, planting of native plants, and flooding in the fall and winter months. See Section 4.3.4.2 Refuge Expansion, Effects to Estuarine, Freshwater Wetland, Riverine and Riparian, and Upland Habitats. Text was also added to Section 2.2.2, Features Common to All Action Alternatives, describing habitat restoration efforts in new areas that would be acquired. Current land ownerships are delineated on Figure 1.1-2.

The Proposed Refuge boundary on the East Bluff does minimally overlap into areas that are within Parcel 1 and 2 of the former DuPont Works hazardous waste clean-up site. Parcel 2 has been cleaned up and was removed from the State hazardous sites list in 1997. A major clean-up of Parcel 1 is currently underway and is scheduled to be complete in 2007.

Additional analysis has been added to the Final CCP/EIS on the existing clean-up program and the effects of Refuge expansion related to the ongoing hazardous waste remediation at the former DuPont Works Site on the East Bluff (see Environmental Contaminants Section 3.1.5 and Section 4.1 Effects to the Physical Environment). It is assumed that clean-up efforts will be completed prior to Refuge acquisition efforts. It is also assumed that Refuge management of these lands is consistent with the deed restrictions associated with the DuPont Works Site. A copy of the deed restrictions has been obtained for the planning record. Additional information on the DuPont Works hazardous waste site has been added to Section 3.1.5. We also added a bullet entitled “Hazardous waste sites and spill response” to Section 2.2.1 which briefly addresses Service policy regarding hazardous waste sites. Deed restrictions are a common reality on National Wildlife Refuges and it is not practical to discuss all of the possible implications of various restrictions in this document. While we would not purchase lands that could not contribute to the mission of the National Wildlife Refuge System, many types of deed restrictions would not limit, for example, use of the property for wildlife habitat.

If a landowner expresses an interest in selling land within an approved Refuge boundary to the Service, a professional, certified real estate appraiser will conduct an appraisal to determine the fair market value of the property as required by Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. The Service is required by this law to offer 100% of fair market value. The Service carefully considers the desires of the landowner and acknowledges that negotiations with a landowner can be complex. The Service respects the rights of landowners and treats them fairly and equitably throughout the acquisition process.

Other Comments Related to Refuge Expansion

- Great mushroom/fungi in expanded (D) Refuge boundary – northeast corner, near I-5 and the Nisqually River. Does not want to lose access in the spring.
- Very risky losing current property with the taking down of the dike and without definite plans for future acquisition of property.
- We urge the FWS to complete maximum expansion within the existing Refuge boundary.
- Thurston County requests that FWS reimburse the County for the cost of Development Rights as property is incorporated into the Refuge.
- The FWS should have acquired the farm on the east side of the Nisqually River, as well as the hillside on the south. Don’t pass up future expansion opportunities.

Service Response: There are 1,011 acres of land located within the existing Refuge boundary that are owned by others. The Service continues to look for acquisition opportunities to acquire real property interests in these lands, as well as in the expansion area.

Specific uses would be addressed as areas are acquired. In general, mushroom gathering has not been allowed on Nisqually NWR due to the high priority to minimize wildlife and habitat

disturbance outside of trail systems and the availability of other multipurpose areas that are available and more appropriate for this activity.

FWS recognizes that the County has utilized the PDR program to purchase development rights on properties located within the boundary of the expanded Refuge. If these properties were acquired, the Land and Water Conservation Fund legislation directs states, counties, and municipalities to donate real property interests located within established Refuge boundaries. In the event that donations are prohibited by statute, documentation must be submitted for review by the FWS and a determination will be made as to whether Congressional concurrence will be required. Migratory Bird Commission approval is required if the Migratory Bird Conservation Fund is used.

The Service is in the process of finalizing a Cooperative Agreement with the Nisqually Tribe to manage the farm (now Tribal lands) on the east side of the Nisqually Refuge as part of the Refuge (Section 2.2.1).

3.3 Restoration

3.3.1 Estuarine Restoration

Support for Estuarine Restoration Efforts/Dike Breaching

- Dike removal and full estuarine habitat restoration will be essential to the survival of Puget Sound Chinook, a threatened species under the Endangered Species Act.
- We strongly support proposed restoration of estuarine habitat; the rarity of such habitat underscores the need for such efforts.
- Restoration would provide benefits for anadromous and saltwater fish species.
- It's about time that restoration efforts were initiated – the rewards of dike removal will far outweigh any negative impacts.
- Benefits of estuarine restoration outweigh the loss of public trail access.
- The marsh needs to be put back in its original state to provide habitat lost by regional development.
- Restoration would be of great ecological and educational value to allow the river and the sound, and all the wildlife to move and live as they see fit.
- An aggressive restoration program is needed to enhance and restore native habitats, which will provide great benefits to fish and wildlife and promote recovery efforts for the Nisqually Rivers' threatened Chinook salmon.
- Salmon recovery will never be possible unless more estuarine habitat is restored.
- Another benefit of estuarine restoration is the elimination of reed canarygrass.
- The restoration of estuarine habitat is a welcome reversal of the loss of immensely important wildlife habitat, especially for salmonid species.
- Brackish nursery grounds for young fish are essential for salmon recovery efforts; Nisqually, as the last pristine river mouth in the NW, offers a unique effort for restoration.
- Habitat that supports fish and wildlife should come first at Nisqually; people are only visitors.
- The viability of salmon populations of Puget Sound will benefit substantially from significant restoration of historic estuarine wetland habitat.

- Restoration will provide sanctuary for wintering ducks and shorebirds; wildlife values will increase.
- Maximizing the diversity of native species known to have historically inhabited the estuary will best promote system functionality and long-term viability
- In informal observation records of wildlife use within and outside the dike system, there were scores of shorebirds, ducks, and raptors counted in the natural estuary for every songbird and duck observed within the diked system. Based on such observation, we maintain that restoration of the natural estuarine environment provides an extraordinary chance to preserve an ecosystem unique to our continent.
- The dikes north of the Twin Barns should be removed to restore critical salt marsh habitat.
- The Nisqually Fall Chinook Recovery Plan identifies the loss of estuarine habitat as the single greatest impact on Nisqually Chinook production; restoration is the single-most effective restoration action available for Chinook. Based on this, the Tribe ideally recommends a 100% maximum restoration effort – more than the 70% proposed under Alternative D. Recognizing the FWS need to balance multiple habitat needs and public use, the Tribe does support Alternative D; we would like to see the CCP identify Alternative D as a compromise as it still represents a substantial loss of habitat relative to natural conditions.

Service Response: Support for estuarine restoration is noted. Alternatives that restored a larger area than described in Alternative D were considered but not analyzed in detail because of the limited amount of freshwater wetland habitats and wildlife dependent public uses that would have been provided (see Section 2.4).

Opposition to Dike Breaching/Restoration

- Breaching the dikes would have serious negative impacts to a host of wildlife species that currently use the Refuge, including mice, voles, and rabbits, as well as ground-nesting birds like ducks, geese, and harriers. Estuarine restoration would displace hundreds of species that occur on the Refuge to accommodate the needs of a few species.
- Dike breaching is an irrevocable act; it cannot be undone if theorized results don't occur. It's better to retain/repair what we have now, which benefits both wildlife and people.
- Area to be restored to saltmarsh is currently providing excellent feeding habitat for dabblers; it makes more sense to retain this area of highest use.
- I have serious doubts the enhancement expected will materialize in quantities worth the deprivation of recreational opportunities.
- The Refuge was founded for migratory waterfowl; how do we know that breaching the dikes won't diminish migratory bird holding capacity?
- I oppose using tax dollars for salmon restoration. The alternative is to improve existing conditions, which would be money more wisely spent.
- I am not convinced that a greater good would be served by the proposed restoration. Restoration to original conditions isn't possible – "you can't walk twice in the same river."
- Dike removal would destroy wildlife and their habitat, as well as people's opportunity to observe and enjoy them.
- I don't support breaching the dikes, unless public access can be maintained in that area of the Refuge. Losing such access represents a loss of both educational and recreational importance.

- Estuarine restoration changes the entire focus of the Refuge; the place is a gem; please don't allow it to be lost.
- Flooding may or may not improve the survival rate of salmon, and it's not worth the risk.
- This Refuge was created for migratory birds, not salmon; estuarine restoration is benefiting salmon at the expense of bird habitat.
- The DEIS does not provide adequate data supporting the assertion that estuarine restoration would benefit more species than the existing freshwater systems; it seems that salmon would mainly benefit from restoration.
- A better solution is to improve existing habitats, as has been started in the past few years.
- Do not flood the interior of the Refuge without the complete and full level of knowledge necessary to know what will be lost by doing so.
- The CCP is biased toward estuarine habitat restoration; it wasn't the original purpose of the Refuge.
- Comparing Alternative C and D, the 184 additional acres of restored estuarine habitat under Alternative D might not be justified given the potential impacts of loss of important freshwater habitats; in particular, consider impacts to insects, herptiles, passerines, herons, snipe, bittern, killdeer, rails, and raptors, all of which depend on freshwater and grassland habitat.
- A flooded interior wouldn't give outward migrating fish (from McAllister Creek and the Nisqually River) any more refuge habitat to hide from predators.
- The restoration efforts on the east side of the Nisqually River are an example of how they've ruined high quality duck and goose hunting just for salmon. The FWS should keep an earthen dike on the east side of the river for a peripheral trail.
- It would be wiser to use money slated for restoration on habitat acquisition on the other side of I-5, rather than moving forward with the costly dike removal proposal.

Service Response: Nisqually NWR provides a unique opportunity to restore historic estuarine habitat, helping to reduce the severe depletion of this important habitat type within the Nisqually estuary and throughout Puget Sound. Few regional opportunities exist on this scale, because the ability to restore estuaries is limited to the narrow margins where rivers meet salt water, and where development or other changes do not already prevent restoration. Alternatives that considered retaining dikes and/or not restoring estuarine habitat were considered, but these were deemed not to meet FWS or Refuge goals. Estuarine restoration would benefit many forms of wildlife and fish, help to recover threatened and endangered species, restore native habitats of the area, and provide quality wildlife viewing opportunities, which would all contribute toward meeting Refuge goals. Estuarine restoration would improve ecosystem function within the Nisqually delta, which would provide wildlife and natural landscapes for quality viewing experiences in a relatively undisturbed environment. While restoration described in the Preferred Alternative would result in trail reductions and changes, access to a diversity of habitat types would be provided for quality education and recreational opportunities through new trails, trail reconfiguration, and interpretive displays. Also see responses to Wildlife Observation.

Public hunting in the Nisqually delta occurs entirely within estuarine habitats now and not within the diked area proposed for estuarine restoration. Hunting is identified as a wildlife-dependent recreational use in the Improvement Act (see Section 1.4.2.1), and Alternative D would provide for waterfowl hunting on Refuge lands adjoining WDFW lands already opened to hunting. The

protection and enhancement of fish, wildlife, and their habitats are our first priority. For more information on changes to public access, education, and recreational opportunities, please see Sections 2.3.4 and 4.6.4.

A detailed analysis was done on the effects of Alternatives A-D to fish, wildlife, and their habitats. Please see Chapter 4, Environmental Consequences, and Appendix J, the Hydrodynamic and Sediment Transport Modeling Summary, for more details. One of the main factors found to limit salmon populations in the Nisqually watershed is the inadequate estuary. The restored estuary would provide a more complex system of tidal channels that would provide salmon greater protection from predators. Fish migrating out of the Nisqually River and McAllister Creek stay in the estuary to forage and to gain size and strength. Those fish that eventually move into the open ocean (anadromous) use a healthy estuary to transform from freshwater to marine adapted animals. According to salmon fisheries biologists, the most critical period in salmon life is the time spent as a smolt (young fish living in an estuarine habitat). The physiological transition a small salmon undergoes between freshwater and a saline environment takes considerable amounts of energy and time. Estuarine habitats need to be large and productive enough to provide abundant food and cover for smolts during this stressful period. Estuarine restoration would benefit not only salmon. The Preferred Alternative would provide an extremely depleted habitat type that would support a whole host of species, ranging from macroinvertebrates to large marine mammals. Rather than focusing on species management, this would be a habitat and ecosystem function based plan.

The purposes of Nisqually NWR include “use as an inviolate sanctuary, or for any other management purpose, for migratory birds” and for “the development, advancement, management, conservation, and protection of fish and wildlife resources.” The Preferred Alternative was identified as the best at achieving FWS and Refuge mission, purposes, and goals. The Refuge would continue to provide and enhance habitat for migratory birds, including many key species or groups (Chapter 4). For example, many species of migratory shorebirds and waterfowl use estuarine habitat, including the most abundant duck on the Refuge, the American wigeon. About 90% of wigeon are found outside the diked area in estuarine habitats in aerial surveys. Much of the Nisqually River’s surge plain and riparian corridor would continue to provide habitat for migratory passerines. Additional surge plain habitat would also be restored in Alternative D.

Estuarine restoration described in Alternative D would result in shifts and displacement of some species. In particular, species that depend primarily on grassland habitats and some that are highly dependent on freshwater wetlands would be most affected. As noted in the Final CCP/EIS, a smaller amount of freshwater wetlands would remain diked and be enhanced to provide habitat for freshwater-dependent species. Acquisition of lands south of I-5 that could be restored to freshwater wetlands and some grasslands would be sought, but this is a long-term effort that would occur over many years, and not necessarily simultaneously. Acquisition of suitable areas was identified as a high priority in Appendix K, Land Protection Plan. Through these efforts, the Refuge would continue to provide a mosaic of habitats for a diversity of fish and wildlife. For more information on species supported by estuarine habitat and the anticipated effects to fish, wildlife, and their habitats, please see Sections 3.2.1.1, 4.2.4, 4.3.4, 4.4.4, 4.4.1.4, 4.4.2.4, 4.4.3.4, 4.4.4.4, 4.4.5.4, and 4.4.6.4.

The FWS gets funding for operations and projects in the President's budget; these funds cannot be used for acquisition. Acquisition funds are appropriated by Congress from other sources, or originate from the Migratory Bird Conservation Fund when approved by the Migratory Bird Conservation Commission. Also see Refuge Expansion responses.

Restoration Management Suggestions

- Consider leaving some portions of the dike as islands, which would increase habitat diversity.
- Don't leave dike islands with big trees as it will prevent woody debris build up needed for restoration.
- According to our review of several other estuarine restoration projects, one of the greatest risks to the success of such a project is failing to remove all of the dikes; total dike removal would be much more effective as it promotes unhindered tidal exchange.
- I suggest breaching the brown dike only in 2 or 3 places, where the water comes up to the dike during high tide; there are a couple of ideal places to breach the dike without tearing it down completely.
- If restoration proceeds, it makes more sense to take small actions performed slowly to allow observation and evaluation of effects.
- We recommend that the CCP include ongoing estuarine restoration monitoring as a project action.
- Baseline fish monitoring should occur prior to any restoration efforts. Gather as much pre-breaching data as possible. In particular, collection of otoliths is crucial. Information could be shared with recent restoration efforts on the Skagit.
- Restoration timing for freshwater wetland areas should be coordinated with dike removal to buffer impacts on waterfowl.
- Estuarine restoration won't influence processes upstream, such as delivery of bed load sediment. Alternative measures should be identified.
- The dike trail should be breached with a small portion taken out on McAllister Creek side. Vehicles should not be on the dike to maintain its structure longer. The ATV system would be a better suggestion.
- Also, include fallback plans if things don't go as planned.
- Want to see river sinuosity return, but slowly.
- After dike breaching, I would like to see progress reports at regular intervals; we need to use adaptive management as guidance during the process, modifying plans along the way.
- Estuarine restoration should be balanced with the needs of songbirds and freshwater birds.

Service Response: We received a number of comments with suggestions on how to breach the dike during the planned restoration. One comment addresses this issue well: "research has shown a greater chance at successful estuarine function when all dikes are removed during restoration versus a partial dike breaching or muted breaching." We are committed to using the method that would return the most natural function to the system. There are a number of reasons why partial or muted breaching is undesirable. Please see Sections 4.2.2.1, 4.2.3.1, 4.2.4.1, 4.3.4.1, 4.3.5.2, and Appendix J to gain more understanding on the effects that different forms of breaching would have on natural river and estuary function. In addition to the biological reasons

found in the suggested readings, a muted system with ‘bridges’ spanning breaches would require costly maintenance to try to keep breaches from eroding.

We agree that pre-restoration monitoring is an important component of this large-scale restoration effort. Refuge biologists have been conducting biological monitoring that has provided some baseline data; however, there is still a need for more information in the following areas: some key species or groups, hydrology, sedimentation, benthic utilization, prey availability, native vegetation recruitment, and invasive vegetation control. Monitoring studies would be conducted by Refuge staff, cooperators, other agencies, and interested researchers, based on level of funding and interest. We would continue to coordinate and share information with other estuarine restoration projects, as well as with other agencies and organizations that can provide expertise and experience. We would monitor the restoration and periodically reevaluate our progress to ensure that we are meeting our goals. Monitoring would support an adaptive management approach, allowing improvements or modifications to be made over time.

Freshwater wetland enhancement would continue in the areas that would remain diked prior to and continuing after estuarine restoration. This should benefit freshwater wetland dependent species in these areas. While all restoration efforts south of I-5 depend on available funds, willing sellers, and site specific plans, we would make every effort to complete habitat restoration on newly acquired lands as soon as possible.

Tidal Dynamics

- According to the hydrologist at the open house, they have not studied what impacts the dike breaching will have on lands south of I-5; these studies should be done before any management option is selected/implemented.
- Additional analyses should be presented for tidal surge dynamics (e.g., quantified and compared to baseline conditions); in addition, restoration trajectories should be established to allow appropriate adaptive management (including native vegetation recruitment, invasive vegetation displacement, accretion and erosion rates, benthic utilization, etc.).
- Any severe flooding of McAllister Creek (such as in 1996) represents a severe threat to the drinking water supply of Olympia. The City discourages any plans that could contribute to additional flooding. Based on the hydrological modeling, it appears that Alternative D would minimize the risk of flooding.

Service Response: The issues of tidal surge dynamics and restoration trajectories will be examined in further detail during the development of specific monitoring studies and site plans, and as part of the permit process. Monitoring both native and invasive vegetation recruitment, sedimentation deposition, and benthic populations and use would be part of the biological work plan for the restoration. See EIS Appendix F; Plan Implementation regarding monitoring plans.

Based on the Hydrodynamic and Sediment Transport Model report (available for reading at the Refuge), specific conclusions regarding flooding south of I-5 were as follows: (a) removal of dikes including the cross dike to McAllister Creek (as in Alternative D) would efficiently move flood waters off the Refuge, thereby reducing the flood impacts to Nisqually NWR as long as there is no cross-dike extending to McAllister Creek; and (b) flooding upstream of I-5 is not expected to be adversely impacted by habitat restoration. In fact, the selected alternative is

expected to be beneficial, since flood waters at the McAllister overflow would not be stored behind dikes, allowing flood waters in the overflow channel to move quickly into estuarine habitats. Estuarine restoration should provide a larger area for flood water drainage and would lessen the possibility of flood waters impacting McAllister Springs, a source of Olympia's drinking water. The issue of flooding will be examined in more detail as part of the specific site plan.

Concerns and Questions

- Regarding the restoration analysis, information on the vegetation component is incomplete. If dikes are removed, is saltmarsh vegetation expected to spread? How long will it take for habitat for young salmonids to develop? Would removal of existing vegetation speed the process?
- The conversion to estuarine/saltwater habitat will affect certain trophic species; will these losses be compensated in any way?
- I have concerns that previous years of agricultural use would adversely affect Puget Sound water quality once the dikes are breached, as the former farm fields become saltwater estuary.
- Concerned about residual pesticide inside Brown Farm dike.

Service Response: Vegetation would change when the dikes were breached and removed. Observations recorded during the restoration process of Red Salmon Slough by the Nisqually Tribe (located east of the Nisqually River) showed that the existing grasses, forbs, and other vegetation die off in months. Seeds and rooting plant pieces from nearby salt marsh plants float into the newly opened lands and enhance vegetation conversion. The Nisqually Tribe reported 20% revegetation (primarily pickleweed) of the Red Salmon Slough restoration area within 11 months. Once tidal influence is restored to an area, fish and other marine animals can begin to colonize it. Fish were observed moving into the Red Salmon Slough restoration site on the first tide cycle. Juvenile chinook and chum salmon were found using the restoration site the first spring (2003) following restoration, and invertebrate prey items were detected in the restoration site within one year or less of the reintroduction of tidal influence. Based on results in these nearby restoration projects, salt marsh vegetation composition would be expected to shift (species changes and areas of occurrence) as sediments accumulate. The sloughs, channels, and salt marsh communities would take many years to develop and stabilize.

The suggestion to remove existing vegetation to enhance estuarine habitat development was considered by the Nisqually Indian Tribe in their restoration projects. Their study plots included an area scraped free of plant matter and areas left intact at inundation. Neither plot showed a significant difference in the speed of vegetation conversion or in anaerobic conditions during the transition. Additionally, vegetation removal causes ground disturbance and soil exposure, providing optimal conditions for non-native and invasive plants to infest the area before and after dike breaching.

Restoring historic estuarine wetlands would not significantly affect the number of trophic levels, but the trophic structure would change to represent a marine-influenced system. Replacement of trophic levels is not a requirement when wetlands are restored to historic conditions; other estuarine restoration projects along the Pacific Coast have been handled similarly. Freshwater

wetlands that remain would be enhanced, improving the value and function of these areas, as would areas acquired and restored south of I-5.

Four contaminant investigations were conducted on Nisqually NWR by the Service, Ecological Services, between 1985 and 1988, and in 1999. Twenty sites and 122 samples were tested for 14 polycyclic aromatic hydrocarbon compounds, 22 organochlorine compounds, and 10 metals. Many samples and sites showed no trace, or traces below NOAA minimum threshold values. Areas in the orchard, near the Twin Barns, and behind the office showed slightly elevated metal levels, but those areas are not within the area that would be restored to estuary in Alternative D. Some samples in 2-4 sites within areas that would be restored in Alternative D showed levels of some metals slightly above minimum exposure levels; however, all contaminant levels detected were below Apparent Effects Threshold levels (NOAA standards). Contaminants were also detected outside the diked area in the Nisqually River, Nisqually Reach, and McAllister Creek. The groundwater on the Refuge shows no signs of contamination, as evidenced by the well used for drinking water. Overall, contaminant levels were not considered to present a problem in these studies, and contamination of the estuary would not be expected to increase as a result of estuarine restoration. However, the Refuge would continue to strive to have periodic contaminant monitoring conducted as part of the FWS Biological and Environmental Status and Trends program. All planned restoration activities would also undergo an extensive permitting process that would further consider environmental effects, including the release of potential contaminants.

Other Comments Related to Estuarine Restoration

- Based on extensive observations at the Refuge, I would say that even if dikes were breached/removed, it still would not flood that much of the inner wall, unless it were an exceptionally high tide.
- Dike removal would eliminate the costs associated with repairing the dike system.
- Very little money has actually been spent on dike repair in the last 6 years; visitor usage fees should cover such costs, as well as trail maintenance. Also, I have observed very little earthquake damage to the dike system that requires actual repair.
- We compliment you on your efforts to work with the Tribe in restoring 300 acres of diked wetlands on Tribal lands.

Service Response: The Hydrodynamic and Sediment Transport Model was used to evaluate hydrology under various restoration scenarios (Appendix J). Results indicated that the Preferred Alternative would produce tidal conditions that would fully penetrate the restoration area. Inundation of specific sites within the restoration area would vary depending on tide heights, flow conditions in the Nisqually River, topography, and sedimentation in the restored area over time.

Dike repair and maintenance has been costly in recent years. More than \$500,000 has been spent on specific dike repairs since 1996, and this does not include costs of day-to-day maintenance or minor repairs, which includes vegetation control, graveling, and resurfacing. These repairs have been temporary approaches until long-term management decisions could be made in the CCP. In order to retain the entire dike, extensive repairs would be needed to provide needed structural integrity to the dike system. Engineering inspections over the years, including following the

Nisqually Earthquake, clearly indicate that the dikes do not meet current safety or structural requirements and that the earthquake caused further damage. Entrance fee collections are used primarily to benefit education and public use programs and are not used for dike repair or maintenance; annual fee collections only equal a small fraction of the costs needed to repair or maintain dikes or trails.

There are many partners working together with the local community to restore and protect habitat in the Nisqually watershed. The Nisqually Tribe is a key partner and leader in this area. We are gaining important knowledge from the restoration effort led by the Tribe on their lands east of the river.

3.3.2 Freshwater Wetland and Riparian Restoration

Freshwater Habitat Restoration

- Freshwater wetland restoration should occur prior to dike breaching so that wildlife displaced as part of the estuarine restoration effort have new habitat to go to.
- Restored wetlands should be self-maintaining; naturally functioning systems are preferable for ecological and economic reasons.

Service Response: We have begun smaller scale freshwater wetland restoration projects in the vicinity of Refuge headquarters in recent years. These efforts would be expanded in areas to remain diked, helping to provide higher quality freshwater wetlands in greater proportion prior to estuarine restoration. Estuarine restoration and the associated permit process would take some time to plan and implement, so every effort would be made to restore freshwater wetland areas within existing Refuge lands and to acquire appropriate lands elsewhere prior to dike removal. Lands where freshwater wetland restoration could be accomplished were given a high priority for acquisition. A strategy was also added to Objective 1.3 emphasizing acquisition of areas suitable for freshwater wetland restoration as a high priority. However, acquisition of areas that can be managed or restored as freshwater wetlands would depend on willing sellers and the availability of funding. This is a long-term effort that may take years, so estuarine restoration may precede many acquisitions.

Restored estuarine areas would be allowed to function naturally and should require a minimum of active management once established. Freshwater wetland and grassland habitats would require regular maintenance, including water level management, and a periodic combination of mowing, disking, sculpting, invasive vegetation control, fertilizing (for grasslands), planting, and reseeded. Active management would be used in wetland and grassland areas that remain diked and appropriate lands acquired south of I-5.

Balance of Freshwater Wetlands and Estuarine Restoration

- I support an equal balance of fresh and saltwater restoration areas.
- I object to any net loss of freshwater habitat in favor of estuarine restoration.
- In Puget Sound, freshwater marshes undoubtedly provide homes to many more creatures than estuarine environments.
- The Final CCP/EIS should discuss how proposed actions will comply with Executive Order 11990, the Presidential goal of No Net loss of wetlands, and replace lost wetland functions.

Service Response: We are striving to provide a healthy balance of habitats in the Nisqually Delta including estuarine, freshwater wetland, surge plain, riparian, and grassland. Estuarine restoration would necessarily reduce the amount of freshwater and grassland habitat within current Refuge boundaries. Refuge expansion would provide great potential to acquire and restore freshwater wetlands within the lower watershed. Also see Estuarine Restoration responses.

Suggested Areas for Freshwater Wetland & Riparian Restoration

- Re-establishing wetlands in upper McAllister Creek should be an objective; this would restore historic habitats and could help offset the loss of freshwater wetlands resulting from dike removal.
- Objectives for riparian and wetland restoration along McAllister Creek need to be more clearly stated; the actions are only identified as opportunities.
- The creek adjoining Hartman Road used to be exceptional breeding habitat for cinnamon teal, blue-winged teal, American bittern, green herons, and wood ducks. In the last 5 years, the creek has been choked with vegetation, reducing habitat quality and wildlife use. This is an opportunity for creek restoration for FWS staff.
- The plan should specifically state that the restoration of seasonal wetlands and riparian forests on newly acquired lands south of I-5 will be a high priority.
- As ponded freshwater habitats were likely not present in the Brown Farm diked area, efforts to recreate them in proximity to tidal influence are likely to be difficult. Focusing such efforts along the floodplains of the Nisqually River and along McAllister Creek upstream of I-5 would be more effective.

Service Response: Additional language was added to Section 2.2.2, Features Common to All Action Alternatives, on habitat restoration on lands that are acquired south of I-5 and in strategies under Objectives 1.3 and 1.4, to identify freshwater wetland and riparian restoration in the expansion area as a high priority, including in the McAllister Creek area. If appropriate sites were acquired along McAllister Creek, restoration efforts would focus on reestablishment of a riparian corridor.

McAllister Springs

- The City of Olympia's planned management of McAllister Springs might have some impacts on the FWS plans for restoration activities for freshwater and estuarine wetlands. Reduced withdrawals of source water are likely at the Springs, which might cause flow fluctuations in McAllister Creek.

Service Response: The planned reduction in water withdrawal from McAllister Springs should benefit fish and wildlife communities along McAllister Creek. We would coordinate with the City of Olympia so that information on water withdrawals could be considered in any habitat restoration plans. Increased flow or fluctuation should not negatively impact any portion of the plan.

3.4 Environmental Education Opportunities

Support for Expanded EE Programs

- I support an expanded EE program at the Refuge.
- Educational opportunities should be maximized in the future – Nisqually is one of the largest marine estuaries on the West Coast and provides an excellent opportunity for educating people on the importance of this habitat type.
- Children need to experience and learn about the natural world.
- Without EE programs, each successive generation will learn about the costs of environmental degradation through dreadful loss and bitter experience.
- An important mission of the Refuge is to educate the public about the importance of the species and habitat protected at the Refuge.
- Education, not recreation, should be the focus of the plan; as the restoration process proceeds, a recreation plan can be prepared based on public opinion.
- We strongly support EE efforts at Luhr Beach, which will better inform visitors about restrictions, closures, and hunting rules.

Service Response: We acknowledge comments received in support of having an expanded environmental education program at the Refuge. The importance of environmental education at the Refuge is demonstrated by having one of the four goals of the Refuge specifically focus on environmental education. Compatible wildlife recreation programs as well as environmental education, will be put in place as the restoration process proceeds. By installing an information kiosk at Luhr Beach, the Refuge staff will work to better inform visitors entering the Refuge from this location about restrictions, closures, and hunting rules.

Local Programs and Partnerships

- There is a potential for duplication of effort at McAllister Creek & Nisqually Reach nature center programs.
- The Black Hills Audubon Society offers to partner with FWS to increase EE opportunities on the Refuge.
- The Nisqually Delta Association would like to participate as a partner in new educational initiatives.
- The Nature Center Board should be contacted regarding any changes that would affect wildlife viewing opportunities, safety, parking, or access.
- McAllister Springs offers an excellent educational opportunity, and the City would like to work with FWS in developing such an opportunity.

Service Response: The Refuge will continue to work with local partners in the watershed including Luhr Beach Nature Center, to ensure the various environmental education programs are compatible and to minimize duplication of efforts. The Refuge will work to strengthen partnerships with Black Hills Audubon Society, the Nisqually Delta Association, and the City of Olympia at McAllister Springs to provide an expanded environmental education program at the Refuge. The Refuge will stay in close contact with Luhr Beach Nature Center about changes that would affect their program.

Expand Alternative D EE Program

- Alternative D should be modified to serve 20,000 students.
- To better mitigate the loss of public trail access, Alternative D could be modified to include the greater EE program proposed under Alternative B. An additional benefit of such education would be to cultivate in today's students (i.e., tomorrow's taxpayers) an understanding of the benefits of restoration.
- Alternative D would be better if it included a larger EE program for children; could hunters be charged something extra to help fund the hiring of extra staff?

Service Response: Alternative D has a target of expanding the environmental education program to 15,000 students. With the Refuge opening to waterfowl hunting under this alternative, it is expected that limited staff will not be able to serve as many students because of time needed to manage the hunting program. The Outdoor Recreation Planner oversees both of these programs, and public use and other staff will need to divide time to ensure quality programming in both areas. Charging hunters to help fund an extra staff person to run the hunting program would take a substantial administrative cost to operate and would require a sizable additional fee per hunter or hunter visit. Hunters are already paying a variety of fees, including purchase of the required Federal duck stamp each year. These funds have been used to purchase 5 million acres of waterfowl habitat in the U.S., including many National Wildlife Refuge lands. Alternative D would still triple the number of students served at the Refuge and provide a higher quality environmental education program. The Refuge staff understands and supports the importance of environmental education, which is one of the four Refuge goals.

Opposition to Expanded EE Program

- The proposed environmental education program threatens the Refuge with huge numbers of people that could ruin the Refuge; wild animals do not like huge numbers of people.

Service Response: Alternative D has a target of expanding the environmental education program to 15,000 students. A number of stipulations are described in Appendix G.4, Compatibility Determination on Environmental Education, to minimize disturbance and ensure compatibility. The program maintains the current policy of no more than 100 students per day on the Refuge; requires reservations; limits activities to facilities, trails, and study sites; and encourages trail etiquette and the use of spotting scopes to view wildlife at a distance. It does mean that students would be coming more days throughout the year, instead of the current concentration in the spring. The Refuge will monitor impact of the program on wildlife as trails and habitats change, and will make adjustments as needed.

EE Program Improvements/Suggestions

- User education is needed to reduce conflicts, as well as to inform people why Refuges were established and funded. Without such understanding, we'll lose the support from hunters, Ducks Unlimited, WDFW, etc.
- The FWS needs to educate the public that hunters paid for most of the Refuge, and that trail users get to use it most of the rest of the year.
- The plan should better educate visitors on the significant history that has occurred there, such as the Medicine Creek Treaty, the Boldt Decision, as well as laws related to wildlife and Nisqually River fish.

- Is there a vision for an education site at McAllister Springs?

Service Response: User education will be expanded and provided in brochures, interpretive panels, signage, and at various other public contact points at the visitor center, on the trails, and at special events. This would include information about hunting and the role hunters have played in support of conservation. Staff will look at all the different interpretive messages including significant historical topics, such as the Medicine Creek Treaty, to include in future brochures, interpretive panels, and programs. The vision for an education program at McAllister Springs has not currently been planned.

Opposition to Butterfly Garden

- The proposed establishment of a butterfly garden for educational purposes contradicts the Refuge goal of enhancing native habitat; few butterfly species are native to our lowland wooded area and wetlands, and habitat needs of rare butterflies cannot be replicated in a butterfly garden.

Service Response: Any garden that is developed on the Refuge will contain only site-specific native plants; thus, it provides the possibility of attracting native butterflies of which there are a number of species in the lowland, wooded areas. The purpose of such a garden would be to provide hands-on activities for students to learn about native plants and how some of these species can attract native wildlife and insects, such as butterflies.

Funding Relationship w/ Restoration

- The relationship between funding for educational programs and dike breaching is unclear; why would there be no increase in educational funding if there is no change in the Refuge?

Service Response: Alternative A is the no action or status quo alternative, and describes no changes in programs on the Refuge, as required by NEPA. Therefore, Alternative A does not include any increases in the environmental education program. The remaining alternatives describe a range of levels or scenarios for each key issue or program. We did not intend to indicate that there was a direct relationship between funding for environmental education and estuarine restoration.

3.5 Wildlife Observation, Interpretation, Trails, and Public Access

Value of Existing Trail System

- The existing trail system is enjoyed by thousands of visitors and is an important tool for environmental education.
- There are very few nature walks as nice as those at Nisqually; it's an interesting walk as the seasons change, and it's close to parking.
- The dike loop trail is an incredible public benefit, enjoyed by tens of thousands of people each year.
- The trail system is the icon that identifies the Nisqually Refuge. It is one of the Refuge's strongest draws and is related directly to education and wildlife observation. It is an outstanding public resource with numerous other values, such as exercise, fresh air, and aesthetics.

- This Refuge is a local treasure – there are so few areas to access wildlife areas so near a large urban area; we need these trails.

Service Response: We likewise recognize the value of the existing trail system.

Support for Trail Changes

- Numerous people specifically commented that although they greatly valued, used, and would miss the existing dike trail system, the benefits and importance of restoring historical estuarine habitat was more important as part of the future management of the Refuge.
- I'd happily give up the 5 ½ mile trail to increase and improve the estuarine habitat, providing fish and wildlife a much needed sanctuary.
- The heavy use of the trail is one of the greatest negative impacts on wildlife, in particular birds; the trail is used not so much by wildlife enthusiasts but by the local community as a general recreational outlet.

Service Response: We appreciate your willingness to support trail changes in order to restore more of the Nisqually delta and estuary. Trail alterations and use management would be designed to promote quality wildlife observation and interpretation rather than fitness or general recreational uses.

Opposition to Trail Changes

- Breaking down the dike trail would be a tremendous loss to the community; it's a source of enjoyment for tens of thousands of people.
- Don't breach dikes and eliminate the trails; it is a multi-use facility for handicapped people, and the trails and walkways should be left as is.
- I oppose any changes that would exclude public access to the full length of the existing trail.
- The trail plan under Alternative D is silly, making two short trails that users have to drive to in order to access.
- Priority uses should be the perimeter trail, despite the importance of habitat restoration.
- I oppose closing the dike trail; thousands of people use this trail, and it is a major resource enabling people to observe wildlife and their habitat. It is a vital source of exercise, fresh air, and wildlife observation.
- I support the minimum reduction of trails in the existing Refuge area.
- Keep the dike trail – the existing trail system educates people; this leads to support for preservation and expansion.
- The perimeter trail is a world class wildlife viewing trail; it must be retained. If the dike is removed, a replacement trail should be built on pilings.
- The reasons given for eliminating the dike trail (cost of maintenance, and incompatibility with estuarine restoration) do not hold water; breaching the dikes at existing remnant channels and prohibiting heavy motor traffic would solve both problems and allow us to retain the trail system.

Service Response: We acknowledge that the changes in the dike trail in Alternative D are considered to be a major loss by many individuals. Retention of the dike trail with minimal changes was considered in detail in Alternative B, while still allowing some estuarine restoration. However, detailed analysis of this alternative showed that retention of the dike compromised the ability to successfully restore estuarine habitat (see Chapter 4 and Appendix J). The first priority of Nisqually NWR is to promote biological integrity, diversity, and environmental health through conservation, management, and restoration of fish and wildlife populations and habitats. Wildlife and habitat needs take precedence over wildlife viewing and recreational opportunities. The ecological benefits of a more fully restored estuarine environment in the South Puget Sound area was deemed to be of greater importance. However, the trail system in the Preferred Alternative was designed to provide quality wildlife observation opportunities and access to a diversity of habitats, including new opportunities through new trails and trail configurations. Public comments throughout the scoping process emphasized the importance of quality wildlife viewing opportunities and access to various habitats as most important, if the trail system were to change. This is also consistent with FWS and Refuge goals for quality wildlife-dependent recreation.

The new trails would provide a similarly rewarding experience for visitors of Nisqually NWR, with a continued emphasis on wildlife-related public uses. The new trail system would similarly provide interpretive information designed to help visitors learn about the wildlife and habitats of the Nisqually Delta. We recognize the important relationship between education and future support for conservation measures.

We would continue to be a multi-use facility for disabled people. The new boardwalk in the estuarine restoration area and the new loop trail on the east side of the Nisqually River would be handicapped accessible. The accessible Twin Barns loop trail would remain as is.

Although the trail plan under Alternative D would require visitors to drive from one trail to another, it is meant to provide visitors with a diverse array of experiences by providing access into a variety of habitats.

Bridged breaches at existing remnant channels would not allow full estuarine restoration, and dikes would require vehicle and heavy equipment access for maintenance. Vehicle traffic is kept to the minimum necessary to manage the Refuge and ensure visitor safety. However, vehicle use is not the cause of dike problems. Engineering inspections have indicated that dikes do not meet safety or structural standards due to their age, materials, and construction. The dikes have many structural deficiencies, leaks, earthquake damage, and erosion; encroaching vegetation must constantly be maintained. A replacement boardwalk trail for the entire dike would be extremely costly and difficult to maintain.

Trail Improvements/Suggestions

- To compensate for the loss of the dike trail, the replacement trail system should be completed as soon as possible. Ideally, the new trail system should be in place prior to destruction of the dike trail.
- To buffer the loss, and to gather more public support for estuarine restoration, I'd suggest a more extensive trail system, especially in areas of boundary expansion.

- Alternative D/estuarine restoration should be balanced with public access to trails within the Delta.
- Other possible trail locations include the outer dikes and some of the inner dikes SW of the Visitor Center, as well as lands near McAllister Creek south of I-5.
- Rather than eliminating the loop trail, the dikes could be partially breached; the trail could continue with walkways and bridges over the breached areas (this option was mentioned frequently).
- Consider an additional trail (or loop trail).
- Hikers appreciate loop trails.
- Additional improvements could include re-routing trails, building boardwalk trails, photo blinds, viewing platforms, and overlooks.
- For trails south of Martin Way, consider a “fee access” system to allow public to view private property, with strict controls implemented.
- I ask that you give strong consideration to maintaining and improving public access to the stream for quality canoeing, fishing, and waterfowl hunting opportunities in a manner consistent with estuarine habitat restoration.
- Wants to see more trips and facilities for those in wheelchairs.
- Assure new main trail has view of Olympic Mountains and saltwater. Place or move observation tower here.
- Establish an overlook place for cars to stop; this would provide an interpretive opportunity with information about the history and wildlife of the area, with potential views of Mt. Rainier, the Valley, and the Olympics. Thousands of people would use it and benefit.
- Since Refuge has handicap accessible trails, advertise to facilities that cater to these publics; provide more guided tours for these.
- Permanent informational signs should stress the extreme shortage of natural saltwater estuary so that the need for reduction of current dike-walking opportunities will be understood and appreciated.
- The FWS should improve recreation and education by reconfiguring the trail system, but this needs to be done in a manner that protects the native fish and wildlife and their habitat.

Service Response: We are dedicated to providing high quality wildlife observation, interpretation, and educational opportunities, while ensuring the protection and enhancement of fish and wildlife and their habitats. The trail system in the Preferred Alternative was designed to provide new quality wildlife observation opportunities, through new trails and trail redesign, while allowing the restoration of historic estuarine habitat. In creating new trails, we would make every effort to provide high quality wildlife viewing experiences and access to a diversity of habitats, while minimizing disturbance to wildlife resources. The new trail system would provide the same amount of trail length as the current trail system. If an East Bluff trail is constructed, the resulting mileage would be even greater. We would build two new boardwalk trails, along which we would plan to include photo blinds, viewing platforms, and interpretive information about wildlife and habitats encountered and their relationships. Accessible trails and facilities would continue to be provided and increased outreach efforts conducted.

We would be providing a new loop trail on the east side of the Nisqually River. A boardwalk loop trail in the restored estuarine area, a West Bluff trail, and an eastside shore trail were all considered but not included as alternatives for various reasons. Please see Section 2.4 for more

details. We did not consider a scenic overlook along I-5 primarily due to safety concerns associated with such a high speed and highly traveled roadway. Specific trail options would be developed in the expansion area south of I-5 and Martin Way when appropriate areas were acquired.

The remaining freshwater wetland area in Alternative D is relatively small in size (263 acres). Trails would be located on the north and east sides of this diked area, and the Refuge entrance road would line the south end. Placing trails on the inner or outer dikes would greatly bisect or fragment this area and increase the amount of disturbance to the wildlife that use it. In addition to limiting the amount of wildlife sanctuary, trails on these dikes would decrease the quality of viewing opportunities due to frequent flushing of wildlife. Bridged breaches along the outer existing dike were not adopted as part of the Preferred Alternative because they would result in the establishment of a muted estuarine environment, rather than a fully functional estuary. Please see Appendix J, Chapter 4, and responses to Estuarine Restoration for more details.

Funding for restoration and trails may not occur simultaneously. However, we would strive to time restoration activities and trail construction to provide continuous quality viewing opportunities to the greatest extent possible. Wherever possible, we would construct new trails and boardwalks prior to or shortly after dike removal. Public access for canoeing, fishing, and waterfowl hunting opportunities will continue to be provided at the WDFW Luhr Beach boat launch at the mouth of McAllister Creek.

Trail User vs. Hunter Conflicts

- Alternative D would entail seasonal closure of trail near McAllister Creek to avoid hiker/hunter conflicts; we recommend modifying hunter restrictions, not trail user restrictions.
- A plan should be worked out to allow full use of the Refuge all year by walking and canoeing birders; birding use and access shouldn't be restricted by hunters.
- We oppose closing large portions of the trail system during the entire hunting season.
- Further coordination with WDFW is required to resolve the hunter/trail user conflict at Luhr Beach; the trail shouldn't be closed ¼ of the year. Hunting restrictions should be negotiated and implemented (e.g., hunt periods could be limited).
- Hikers should have more access and not be restricted because of the hunting season; consider a non-7 days/week option.
- Hunters should be separated from trail users, with hunting occurring far enough away to avoid trail closures.
- We would like to see the seasonal closure changed; the whole trail should be open at least 2 days/week during hunting season, not completely closed because of conflicts with hunters.
- The presence of hunting on the Refuge keeps hikers, photographers, etc. away from the Refuge; who wants to compete with a gun?
- The proposed 200-yard separation between walkers and hunters along McAllister Creek may not be adequate for safety.
- As a non-hunter, the December-January trail closure has not greatly affected me in the past, and I see no impact on my visits in the future.

Service Response: Great effort was made throughout the planning process to try to reduce or eliminate conflicts between users. Extensive coordination and cooperation with a key partner, WDFW, was a fundamental element of the CCP process. A seasonal trail closure was requested by WDFW to minimize conflicts with hunters on WDFW lands along McAllister Creek. This seasonal closure would be monitored and evaluated on a regular basis.

East Bluff Trail

- We question the potential to implement a trail on the East Bluff; have studies been undertaken regarding the feasibility of such a trail?
- It doesn't make sense to put a trail here (on the East Bluff) – it is too remote, too steep, too wooded, full of seeps and springs, and highly unstable.
- Trail on East Bluff should not be part of public use. It is the most undisturbed near the RNA and should remain that way. Instead, consider an alternative trail on the West Bluff.

Service Response: The East Bluff Trail has been conceptually identified by the City of DuPont in their comprehensive planning efforts for the area. Actual design and specific location has not been finalized. Trails on Refuge lands would need to meet acceptable safety and feasibility standards, as well as be designed in a way to minimize resource impacts. Trail changes described in the Preferred Alternative were examined for potential impacts to wildlife and the RNA. The East Bluff trail would not be expected to negatively impact the RNA because of the separation created by distance, steep terrain, and forest cover.

East Side Trail

- An east side trail would be OK as long as conditions would be controlled (e.g., managed and used for guided, special events).
- The proposed trails on the east side of the Nisqually River would be like building a nature walk trail along the Alaskan Way Viaduct in Seattle; it's too close to the freeway and too far from the river's mouth.

Service Response: The east side trail would be managed to provide quality wildlife viewing opportunities, similar to other trails on the Refuge. It would need to be seasonally closed during the waterfowl hunt season while the private club continues to operate. Although we strive to provide serene wildlife viewing opportunities, portions of the trail would necessarily be close to the freeway; however, larger portions of the trail would be more distant, helping to reduce the noise and visual effects. We believe a high quality trail experience can be created on the east side of the river.

Boardwalk Trail

- The boardwalk proposed under Alternative D would be potentially unstable and unsafe, subject to tidal action, wind/wave action, storms, tree falls, and earthquakes. Wet, freezing weather and the growth of algae would make the boardwalk slippery and unsafe.
- I have no wish to see expensive and short-lived boardwalks built, but will be happy to enjoy the area in whatever way is least intrusive for wildlife.

Service Response: All trails, including new boardwalks, would be constructed to provide a safe experience. Boardwalk construction methods would be similar to those used that have proven

extremely sturdy at Nisqually NWR, and also in estuarine habitat at Grays Harbor NWR. This boardwalk system is pinned in place, reducing the impacts to wetlands caused by driving pilings. After the dike is removed to grade, the northern portion of the boardwalk would be built on the remaining dike substrate. This should add to the boardwalk's stability since the materials immediately beneath the dike have undergone more extensive settling than the adjacent wetlands.

Connecting Individual Trails and Facilities

- Cable ferry – transport people around Refuge!
- Trails should be connected over the river.
- Consider a canopy bridge connecting the various trails in the system.
- The trail plan in Alternative D does not allow for adequate parking or access to Refuge lands; too much driving would be needed to get to the Visitor Center.

Service Response: Trails are the best way for visitors to peacefully experience the Refuge's offerings. While the connectivity between trails on the east and west sides of the Nisqually River is lacking, visitors would be able to drive between the trails on I-5 or secondary roads. Because of the extreme water level fluctuations in the Nisqually River, regular storm and flood events, bank erosion, use of the river by boats, and the regular passage of huge debris and driftwood down the river, a safe way to bridge the river to connect trails does not appear feasible. A new parking area would be developed associated with the new trail on the east side of the Nisqually River. Information kiosks would be provided at all new Refuge access points.

Crowding and Visitor Use Limits

- Will visitor numbers ever be limited/controlled? As trail length is decreased, that will increase the density of people using accessible Refuge lands. Will we be exceeding the carrying capacity, and could this cause adverse impacts to existing resources?
- The plan is misleading because it shows trails that might be developed, but not necessarily so. Under Alternatives C and D, public use access is concentrated in a smaller area and would lead to a less enjoyable experience.
- Proposed estuarine restoration will change the nature of the visitor experience, crowding an increasing number of visitors into a smaller trail configuration and limiting access to much of the Refuge; visitors will have to grow accustomed to this change in recreation opportunities.

Service Response: We do not propose to limit visitor use in the CCP/EIS. We would continue to monitor visitor numbers and use patterns, and evaluate the effects of increased visitor use on the quality of experience and on wildlife and habitat resources. Management changes would be considered if needed in the future to maintain quality and minimize wildlife disturbance. Currently, visitor use tends to be self limited by available parking. A new trail and parking on the east side would actually create more options for visitors and would be expected to spread use over a larger area. We have every intention to develop the trails outlined in the Preferred Alternative; we expect the new trail system would handle a similar number of visitors to what is currently received at the Refuge. The new trail system would likely provide a different type of experience, with an increased focus on wildlife observation.

Types of Use and Impacts

- This is a Refuge – priority uses should not include hunting, biking, powered watercraft, dogs, jogging, etc. Trail loops should be minimized so they don't attract joggers. Human access should only be for quiet observation and maintenance.
- General exercise and nature walks should not be promoted; Nisqually is a Refuge, not a park, and its value lies in wildlife and habitat protection and appreciation.
- Wildlife might be better off with no birdwatchers using the trail network.
- To minimize disturbance to wildlife, walking on designated trails should be permitted only during appropriate times; Refuge staff should determine appropriate times and publish a schedule of appropriate times, areas, and trails.
- Trails without dogs are regionally scarce.

Service Response: The Refuge Improvement Act identifies six priority wildlife-dependent recreational uses: hunting, fishing, wildlife observation, photography, environmental education, and interpretation. Biking, jogging, and dogs have never been allowed on the Refuge, and no changes are proposed in the Preferred Alternative. These restrictions reduce wildlife disturbance, enhance the quality of wildlife viewing, and reduce conflicts for visitors participating in priority public uses. All recreational uses must not materially interfere with or detract from the fulfillment of the NWRS mission or the purposes of the Refuge. Trail locations are chosen to best minimize disturbance to wildlife during times trails are in use, which includes daylight hours only.

3.6 Waterfowl Hunting

Opposition to Waterfowl Hunting on the Refuge

- I oppose hunting on a Refuge – by its very nature it is incompatible with the concept of a wildlife refuge.
- Allowing hunting to occur on a Refuge is hypocritical; the word “refuge” should not be used for an area where hunting is allowed. (Dictionary definition of “refuge” given).
- A wildlife refuge should not be used for government-sponsored, taxpayer-supported killing and torturing of wildlife.
- The great majority of Americans believe wildlife refuges should be a refuge, a safe haven for wildlife, not a place where they can be hunted or trapped.
- Please don't add Nisqually NWR to the list of Refuges with the dubious distinction of allowing recreational killing of the wildlife you are charged to protect.
- Hunting contradicts the FWS mission “to administer a national network of lands and waters for the conservation, management... and future generations of Americans.”
- FWS literature states “Wildlife come first”; an extensive hunt program does not support this stated objective.
- Hunting should only be allowed on the Refuge to protect animals from starvation, overpopulation, etc. None of these conditions occur at Nisqually.
- I am in favor of yearlong sanctuary for our wildlife.
- The Refuge should not be opened to hunting until the Service finalizes its wildlife-dependent recreational uses policy.

- In addition to opposition to hunting on Refuge lands, many commentors expressed their opposition to trapping, ranching, and logging on the Refuge and other federally managed lands.

Service Response: We appreciate the effort so many commentors took in providing input on the subject of opening Nisqually NWR to waterfowl hunting. Congress identified hunting as one of six priority public uses of the Refuge System in the Refuge Improvement Act of 1997. All uses must also be determined to be compatible with Refuge purposes before they can be allowed (see Appendix G.3). Because of the confusing boundaries with State hunted lands located within Refuge boundaries, unauthorized waterfowl hunting has been occurring on parts of Nisqually NWR for many years. The Preferred Alternative was designed to provide quality waterfowl hunting opportunities, improve wildlife sanctuary, ensure compatibility, reduce confusion for hunters, and reduce conflicts with other users as much as possible.

Although waterfowl hunting directly impacts individual birds, the amount of waterfowl harvest is not expected to have a measurable effect on Refuge population levels, especially since waterfowl hunting activity is not extremely high in the delta. In addition, hunting is highly regulated and designed to ensure that harvest does not reduce populations to unsustainable levels.

Human disturbance to wintering birds and other wildlife using the open waters and marshes on the Nisqually delta would occur as a result of hunting activity. These impacts would be reduced by the presence of adjacent sanctuary areas where hunting does not occur, and birds can feed and rest relatively undisturbed. The CCP/EIS includes several strategies or stipulations to protect wildlife including: the RNA (764 acres) will be closed to hunting and fishing and will also be closed to boats from October 1 through March 31; the restored estuarine habitats (699 acres) will be designated as sanctuary for estuarine-dependent wildlife by prohibiting public boating and consumptive uses; a new 5 mph boat speed limit will be implemented on all Refuge waters to improve wildlife and habitat protection and reduce disturbance; a limited hunting area will be clearly posted and enforced; a 25-shell limit will be imposed; and periodic biological and social monitoring and evaluation of the hunting program will be conducted to determine if objectives are being met.

Support for Waterfowl Hunting on the Refuge

- As the management agency, the WDFW is committed to preserving the quality hunting opportunity traditionally available at Nisqually, especially given the loss of huntable lands throughout Puget Sound over the last decades. WDFW is committed to maintaining its ownership and management authority for recreational opportunities on its land holding in the delta; therefore, Alternative C is unworkable in its current form, and we support Alternative D.
- I would like to see the culture of hunting maintained within the limits of the resource.
- It is very important to maintain the opportunity for waterfowl hunting as the Refuge expands; historically, sports hunters of waterfowl have been the strongest supporters of both the Refuge and of waterfowl themselves.
- I support duck hunting in the Refuge, and I'm not even a hunter.

- I am writing to voice support for increased hunting opportunities on the Refuge; as a community, waterfowl hunters have shown that they are a responsible and ethical partner in the conservation of our nation's natural resources.
- Hunting is a time-honored and scientific method of managing wildlife populations.
- Please give hunters access to the Refuge; hunting lands are becoming more and more difficult to find, especially in areas with large populations.
- Hunting is a legitimate part of the Federal Refuge system mandate, and funds from hunters have been a long-term base for buying the Refuge system.
- We acknowledge the value of hunting in the Refuge; hunters make contributions to the Refuge system via duck stamps and excise tax programs, and helped create the NWR System.
- The Refuge was acquired with Duck Stamp dollars, as well as from the sale of firearms and ammunition. It's unfair that hunting is being limited as hunters paid for the preservation of the Refuge.
- Duck stamp monies were used to purchase lands and require that 40% of those lands be open to hunting.
- It's illegal to close lands to hunting that were obtained by Duck Stamps.

Service Response: We acknowledge the important contributions by waterfowl hunters in wildlife conservation and the purchase of some National Wildlife Refuge System lands. The Preferred Alternative is designed to provide quality waterfowl hunting opportunities on Nisqually NWR and to reduce confusion for hunters on Refuge and WDFW lands. Purchase of lands with duck stamp funds do not require that they be opened to waterfowl hunting; however, it is correct that hunting cannot be allowed on more than 40% of those lands in order to provide undisturbed areas where waterfowl can rest and feed.

Additional Areas Requested to be Opened or Remain Opened to Waterfowl Hunting

- Make all the area proposed in Alternative C open to boat hunting only, 7 days/week; on lands purchased with duck stamps, make hunting opportunities a priority.
- Please expand the hunt area to the east, making the County line the boundary.
- I would like to see all of WDFW land left open to waterfowl hunting; there is so little hunting land left in S Puget Sound. Include WDFW land along McAllister Creek in the designated hunt area.
- It's important to keep the McAllister Creek area open for hunting; closing it would cram all of the hunters into a smaller area and severely reduce the quality of the experience for everyone.
- Keep WDFW lands on McAllister Creek open to hunting except the current dogleg at the south end. In addition, open all Refuge lands on McAllister Creek that lie to the east of this WDFW parcel. A portion of the restored tidal areas within the perimeter dike (but restored with bridged breaches) should be open to designated blind hunting on Saturdays and Wednesdays, and effects monitored. If the proposed trail were eliminated on the east side of the Nisqually River, this would be one of the best places to allow public hunting.
- Acquisition area south of I-5 could be converted from agriculture to a combination of Refuge and managed, fixed blinds in upper McAllister Creek and other areas, with portions set aside for hunting.
- The east side of the slough (Nisqually River) should be open for hunting.

- I am frustrated by the lack of proposed access to hunting areas where ducks and geese concentrate in freshwater wetlands; I support the concept of walk-in hunting areas on lands acquired on the west side of the river (south of I-5) but more such opportunities are needed.

Service Response: All of WDFW lands will remain open to waterfowl hunting under the Preferred Alternative, including the McAllister Creek area. WDFW was not supportive of Alternative C, which would have closed the McAllister Creek area to hunting. A variety of other alternatives were considered (see Section 2.4 Alternative Components Considered but Eliminated from Detailed Study), including waterfowl hunting on the east side of the Nisqually River. However, a new trail on the east side of the Nisqually River was considered a priority to best serve Refuge visitors, and every effort was made to design the Preferred Alternative with minimal conflict between users. The restoration area would remain closed to all access (not just hunting) to allow estuarine recovery and monitoring, as well as maximize wildlife observation opportunities for those restricted to trails. Waterfowl hunting would be considered south of I-5 if sufficient lands are acquired that would provide adequate wildlife sanctuary and minimal conflict with other priority public uses.

Areas Requested to Close or Remain Closed to Waterfowl Hunting

- Protect and close the area east of the river, near the bluffs; birds use and need this area.
- Hunting use must be configured so that it does not impair key waterfowl refugia or unduly hinder other users of the Refuge.
- We cannot support the hunting area proposed under Alternative C because the EIS fails to disclose the bird disturbance impacts. These impacts should be addressed further if the hunt boundaries are expanded beyond Alternative D.
- The McAllister Creek hunt area should be closed so that the trail system can be open for educational purposes year round.
- Hunting in the McAllister Creek WDFW lands needs to be restricted to waterfowl due to the proximity of private homes.
- Regarding acquiring the McAllister Creek property, in the DEIS there is no analysis or consideration of potential options or mitigation that could convince WDFW to sell, exchange, encumber, or co-manage resources in the delta such that the property could be acquired or otherwise administered to lessen or mitigate the effects of hunting.
- The McAllister Creek area also has bald eagle roosts and a heron rookery. Will continued hunting there (in combination with development nearby) disturb these critical elements of the Refuge?
- The compatibility analysis is inadequate because allowing hunting or firearms possession within 200 yards of residences is a serious and substantial safety risk and conflicts with other priority uses. The FWS should continue to prohibit hunting and firearms possession within 200 yards of any residence within the Refuge boundary, as well as the Visitor's Center. Hunting access by boat has less impact than land-based hunting and associated blinds. We are seriously concerned about allowing land-based hunting and the establishment of permanent blinds, the disturbance to riparian habitat this would cause, and the need for sanitation facilities.
- We cannot support the proposed walk-in hunting opportunities (south of I-5) until additional information is provided on location and number of set blinds, frequency, duration, and number of hunting trips, and impacts on wildlife and other resources.

Service Response: Waterfowl hunting areas were designed to provide quality waterfowl hunting opportunities, sufficient wildlife sanctuary, reduce confusion for hunters, and minimize conflict with other users. Closing McAllister Creek to waterfowl hunting was considered (Alternative C); however, WDFW did not support this alternative, which directly affected their lands. Extensive coordination meetings were held to discuss this and other issues with WDFW, including the exploration of a variety of options regarding the McAllister Creek area. WDFW has indicated their support for Alternative D. Wildlife disturbance in the McAllister Creek area, including effects on bald eagles and great blue herons, remains a concern for the Refuge (also see the Compatibility Determination, Appendix G.3), so Refuge lands within this area were not proposed to be opened to waterfowl hunting as part of Alternative D.

Walk-in hunting is not currently proposed, although if appropriate lands were acquired south of I-5 that provided sufficient wildlife sanctuary and minimal conflict with other users, hunting would be considered. A waterfowl hunt plan and Environmental Assessment would be completed to address opening new areas to hunting in the future, for example south of I-5, which would include opportunities for public participation. Sanitation facilities are available at Luhr Beach, the closest boat launch site, and are not practical to establish on open water.

The Refuge CCP/EIS does not propose to establish hunting areas on Refuge lands within 200 yards of residences or the Visitor Center. WDFW holds an easement across a portion of what is now Refuge lands on the West Bluff, which provides land access to their lands along McAllister Creek. FWS acquired this property subject to these easement rights and has no authority to change the terms of this agreement. Compatibility does not apply in cases where jurisdiction is lacking. WDFW retains responsibility for management of hunting and other activities on their lands.

Hunt Days

- Hunting should be open 7 days/week, primarily because of tidal action.
- Please keep the area open for hunting during the entire hunt season; due to weather and tides it isn't practical to limit hunting to certain days or times.
- As hunters, we support a 3 days/week hunt.
- Hunting should be limited to 3 days/week, not 7.
- Hunters oppose a 3-days/week limit primarily because of tidal activity and weather, which already naturally limit access.
- A 3 days/week hunting restriction would work for walk-in areas, but not boat-in areas due to tides.
- Retain existing dike trail and open hunting area 5 days/week so trail can be open 2 days /week during hunt season; open east side lowlands (east of Nisqually River) to hunting 2 days/week when the west side is closed, and do not put a new trail on east side.

Service Response: The Preferred Alternative includes hunting 7 days/week throughout the waterfowl hunt season. This would make hunt days consistent on Refuge and WDFW lands, which is important to make the hunt program manageable. A 3 day/week hunt schedule was described as part of Alternative C; however, WDFW was not supportive of restrictions on

days/week on their lands. The seasonal trail closure along McAllister Creek was requested by WDFW to minimize conflict with waterfowl hunters on State lands.

Shell Limit

- I support a 25 shell/day limit.
- The 25-shell limit is OK (e.g., under Alternative C), but it's harder w/ steel shot relative to lead; it leads to more crippling.
- For the area north of I-5, it should be a 50-shell/day limit due to local conditions (i.e., weather, open water during higher tides).

Service Response: The 25 shell limit was designed to improve waterfowl hunting quality. This standard is common on many National Wildlife Refuges, and WDFW has concurred with this limit on State lands as well.

Boundary Changes & Regulation Enforcement

- Numerous people commented on the need to clarify/simplify the boundary of legally hunted lands in the vicinity of the Refuge. People noted that the current patchwork configuration of land ownership makes it difficult to determine which lands are actually closed to hunting. Many additional people requested that the boundaries of the huntable area be clearly marked with boundary markers of some sort.
- Illegal hunting/trespass should be eliminated/controlled. More effective enforcement is needed.
- We do not understand why gross violations of trespass and illegal hunting have been tolerated. Unauthorized hunting does not seem to be a problem of miscommunication or misunderstanding of the boundaries, but a disregard for State and Refuge rules concerning hunting.
- While hunting is controversial and the issue is complex, the current situation of allowing hunting in areas not officially designated for it cannot continue.
- The RNA is sanctuary area; poaching should be enforced. Use the County River Buoy as a boundary marker.
- The Refuge hunt area needs to be clearly posted so that hunters know where legal hunting can occur.
- Refuge management must have a recognizable boundary for proper enforcement. Boundaries of the hunting area should be clearly marked for proper enforcement. Boundaries of the hunting area should be clearly marked and strictly enforced.
- There should be a no hunting boundary at the north side of the Refuge (coinciding with the approved Refuge boundary); it (Alternative D boundary) would be difficult to post without putting more "hazards to navigation" in an area already choked by logs and stumps.
- The northern boundary of WDFW ownership and the Alternative D hunt area follows an east west line that does not correspond to any natural feature, presenting a never-ending challenge for enforcement. A consolidated hunting area as in Alternative C, but using the Nisqually River as the eastern boundary would provide an easily identifiable demarcation of the hunting boundary.
- Suggestion – a land exchange between WDFW & USFWS (especially in the RNA) would better clarify the hunting/WDFW boundary and facilitate enforcement.

- The currently shared hunt area (managed by both the WDFW/FWS) is too difficult to manage/enforce; we recommend using the Nisqually River as the natural hunt boundary.
- An agreement should be reached between WDFW and Nisqually NWR to coordinate and regulate hunting prior to allowing any hunting in Nisqually NWR lands.
- I am not confident in FWS's ability to educate hunters and enforce hunt area boundaries; I would suggest using natural boundaries that are more easily identifiable.
- Hunting boundary should be "squared" to clarify lands open to hunting.
- Establishing a clear hunt/no hunt boundary should be feasible.
- We support hiring a part-time wildlife agent specifically to enforce hunting restrictions.
- Adequate personnel should be hired and trained to monitor hunting prior to allowing any hunting in Nisqually NWR lands.
- Anything is fair game on the Refuge, especially on weekends – illegal hunting, mushrooming, fishing. The newly proposed rules won't help because there is inadequate enforcement.

Service Response: The CCP/EIS addresses several important key issues, including resolving the long standing unauthorized waterfowl hunting on Nisqually NWR. The hunt area will have to be posted and enforced upon opening Refuge lands to waterfowl hunting. Strategies under Objective 4.1, Waterfowl Hunting, include provisions to post and sign the area, develop a hunting brochure, hire a 0.5 FTE Refuge Officer to enforce hunting regulations, and a 0.5 FTE Biological Technician to monitor harvest and compliance. Where possible, natural boundaries or simple boundary configurations were used in designing the hunt area to facilitate posting and enforcement. If a cooperative agreement can be developed with WDFW for the Luhr Beach area, a visitor contact station would be established that would provide an ideal location for providing information to hunters using the Refuge. The possibility of land exchanges were discussed with WDFW; however, no options were found that were acceptable. WDFW has expressed support for the Preferred Alternative. Continued coordination and cooperation with WDFW will be a part of the waterfowl hunting program.

Research Natural Area Reduction

- Many commentors stated that there should be no reduction in the size of the RNA.
- Improving the delineation of the hunting area is NOT sufficient justification for reducing the RNA.
- If RNA is reduced to accommodate hunting, an equal amount of RNA land should be acquired elsewhere.
- Removal of land from an existing RNA should only be done under extraordinary circumstances.
- Reduction in RNA lands could only be justified if: (1) WDFW closes the McAllister Creek Unit to hunting; (2) FWS evaluates intertidal areas acquired in the future as additions to RNA; (3) FWS evaluates newly restored estuarine area as addition to RNA; and (4) CCP/EIS identifies community types that occur in the area proposed from deletion from RNA.
- The CCP's stated purpose for creating a consolidated hunting area is to make it easier for hunters to recognize the boundaries in the field. Yet Alternative D proposes to create an arbitrary, imaginary line as the eastern boundary. We see no reason why the existing RNA boundary cannot be used.

- Hunt area in Alt D. Take the NE corner of hunt zone back...make Eastern Hunt Line the Nisqually River Bed.
- Hunting should be excluded from the RNA; primary uses of an RNA should be research, conservation, and education – not recreation.
- Hunting should be accommodated by agency coordination and seasonal trail closures, not through RNA reduction.
- Very few hunters use the RNA area; it's good to have protected areas.

Service Response: In response to these comments, we did a more detailed analysis of the effects if the RNA were reduced by 73 acres to accommodate hunting, as described in the Preferred Alternative. Vegetation information was determined using the vegetation mapping that was developed for the Draft CCP/EIS.

The RNA was depicted as an 837 acre area in the Draft CCP/EIS (see Figure 2.3-1), which includes 595 acres of mudflat, 152 acres of vegetated intertidal habitat (saltmarsh), and 90 acres of open water. The 73-acre portion to be removed from RNA designation includes 37 acres of mudflat and 36 acres of saltmarsh, which would reduce these community types within the RNA by 6% and 23%, respectively. However, while preparing our response to public comments, we discovered during a search of our files that the RNA boundary depicted in the Draft CCP/EIS was incorrect and included a 44-acre piece at the southern end that was not part of the designated RNA. This rectangular area juts southward at the southern boundary of the RNA (see Figure 2.3-1). We believe the Refuge's property ownership boundary was inadvertently used when the map layer was created, rather than the true RNA boundary.

The correct size of the RNA is 793 acres without this southern piece. This 44-acre area is made up of 43 acres of saltmarsh, 0.8 acres of mudflat, and 0.5 acres of open water. Recalculating the impact of reducing the RNA by 73 acres to accommodate hunting using the correct RNA acreage, shows that the 36 acres of saltmarsh removed would reduce this type of habitat by 33% in the RNA. We acknowledge that this is a sizable reduction of this rare and declining habitat within the RNA.

In an effort to reduce the effects of the RNA reduction to accommodate hunting, we propose to expand the RNA to formally include the 44-acre area to the south that was depicted in the Draft CCP/EIS. This includes 43 acres of saltmarsh, which would partially offset the effect of the RNA reduction of 73 acres. However, the 43 acres of saltmarsh that would be added are not directly equivalent to the 36 acres of saltmarsh to be removed, because the salt marsh found at the mouth of the Nisqually River is undoubtedly a more complex saltmarsh, with more sloughs and channels than is found in the 43 acres to the south, where less tidal flushing occurs.

We also added a strategy to Objective 1.2, Reduce Human Disturbance, that would allow consideration of future additions to the RNA upon completion of restoration or if intertidal habitat were acquired in the future. These areas would not be appropriate for RNA designation until after restoration is accomplished, due to the definition of RNAs as natural, functioning systems. Estuarine restoration will eventually result in the formation of new salt marsh and shifts in marsh distribution. Through monitoring of this dynamic process, we would continue to

evaluate habitat composition in the RNA and use this information to assess potential RNA additions.

Hunters and Other Users

- According to a USFWS survey, people who come to refuges for wildlife observation or to experience nature outnumber hunters/trappers by 15:1.
- Do not let 1,000 hunter visits direct the other 99,000 other visitors.
- A recent (1999) poll found that 88% believe that wildlife and habitat preservation should be the highest priority of the Refuge system.
- In general, public education and non-consumptive uses (photography, sightseeing, hiking) are preferable uses to hunting on Refuge lands.
- If waterfowl hunters are allowed to bring dogs onto the Refuge, then the Service must stop prohibiting non-waterfowl hunters from bringing dogs.

Service Response: The first priority of every Refuge is to conserve, manage, and, if needed, restore fish and wildlife populations and habitats. The CCP was designed to meet that primary mission. Hunting is one of the six priority public uses identified in the Refuge Improvement Act of 1997, which also includes fishing, interpretation, wildlife observation, environmental education, and wildlife photography. Extensive efforts were made in the Preferred Alternative to provide quality waterfowl hunting opportunities that were compatible with Refuge purposes, and to minimize conflicts with other priority uses.

Waterfowl hunters would be allowed to bring dogs onto the Refuge while hunting for the express purpose of retrieving downed waterfowl from the hunt area. This standard practice reduces waste (the loss of harvested birds) and improves the quality of waterfowl hunting. It is a common allowance on National Wildlife Refuges.

Other Management Suggestions

- Adaptive management principles should be used to regulate hunting activities so they are compatible with habitat protection and recreation.
- The FWS should use an adaptive management strategy to plan hunting on the Refuge; use should be assessed annually for at least several years once restoration has begun.
- Under any hunt program, effects to wildlife should be monitored to ensure that wildlife values are not diminished in closed areas.
- Examine impacts of hunting – in RNA, to trail users, to bald eagle roost, to heron rookery.
- Require a Refuge-sponsored training class (for hunters).
- Establish a volunteer education program to explain to the non-hunting public the history of hunting's role in conservation.
- Hunting access should be improved/enlarged, such as more parking at the Luhr Beach launch site.
- Provide safe hunting areas for falconers (small ponds and ditches are ideal).
- Would like to see dog training allowed outside of the bird nesting season.
- Dog training areas already available locally (Fort Lewis) – not necessary for NWR.
- An ADA-accessible hunting area (one that you could drive to) would be a very positive addition to the Refuge and hunting experience.

- A walk-in ADA-accessible hunt area south of I-5 would be a valuable addition if appropriate areas were acquired.
- Try to prevent hunting-related conflicts with maintenance crews in the Refuge (e.g., maintenance vehicles on the dikes during designated hunting times).
- Hunters could be charged an extra fee to help fund a more robust EE program; do not cut 5,000 students to accommodate 1,000 hunters.

Service Response: In response to some of these comments, a strategy was revised to strengthen monitoring of the hunt program, including harvest, use, and feedback from hunters and other affected users to allow for adaptive management. Regular wildlife monitoring, including bald eagle and great blue heron nesting surveys, will be continued. Outreach and education will be conducted through hunting brochures, presentations, and other efforts where possible. WDFW is currently responsible for the Luhr Beach area, including the parking area.

Waterfowl hunting using falcons is not proposed as part of the Final CCP/EIS. The waterfowl hunt area is located within estuarine habitats, rather than the small ponds and ditches preferred by falconers. This use was considered inappropriate because of the limited areas available, the focus on the six priority public uses, the need to minimize conflicts with those users, and the importance of providing sufficient wildlife sanctuary. Dog training is not being proposed as part of the Final CCP/EIS. Dog training is not considered an appropriate use at Nisqually NWR and would create conflicts with other users and affect wildlife use in sensitive habitats within this small Refuge.

If appropriate areas were acquired south of I-5 to provide sufficient sanctuary and walk in hunting areas, waterfowl hunting would be considered. Disabled access hunt areas would also be considered at that time. Also see responses to Environmental Education comments.

Other Comments Related to Waterfowl Hunting

- Before Nisqually was a Refuge, the Brown Farm was a private gun club with hunting occurring from the freeway to the tideflats. Despite widespread hunting, there were as many waterfowl then as now. During the day, the ducks sought refuge in the open waters of the Nisqually Reach.
- Most people I know avoid areas where hunting is allowed for personal safety reasons, especially for children.
- Very concerned that once habitat is changed near State land, that hunting will be expanded.
- Nisqually is one of the few remaining places for the average citizen of average means to hunt and fish.
- It would be useful to detail what percentage of dollars came from Duck Stamps when the Refuge land was acquired.
- If waterfowl are being shot, the lakes and rivers are contaminated with lead.
- Waterfowl don't occur uniformly across saltmarsh habitat; with major changes to estuarine habitat proposed, it doesn't make sense to designate hunt areas until waterfowl use is established – we don't know where the waterfowl will be after the proposed changes are implemented.

- The DEIS failed to consider reasonable alternatives including enforcing the prohibition of hunting on the Refuge, hunting permits, auctions of hunting rights, short or long-term hunting leases, etc.
- “Insufficient wildlife sanctuary” is used to justify hunting closures. However, waterfowl have 100% use of all areas of the Delta at night, and the hunting season (winter) is a season of more dark than daylight. Hunting plans in the CCP create such large sanctuary areas that waterfowl will have no need or desire to venture into the limited hunting areas. Wildlife sanctuary areas do not need to be large (as they are proposed in Alternative D) and could effectively terminate waterfowl hunting opportunity.

Service Response: Every effort was made to design a quality waterfowl hunt program that was safe and minimized conflicts for all users. Nontoxic shot is required to be used in National Wildlife Refuge waterfowl hunt areas, including Nisqually NWR, thereby reducing the exposure of waterfowl to lead.

Through fiscal year 2002, 48% of the funds spent on land acquisition and 66% of the acres acquired at Nisqually NWR (including the Black River Unit) originated from the Migratory Bird Conservation Fund. A strategy that included monitoring of the hunt program was strengthened under Objective 4.1, Waterfowl Hunting, to better support adaptive management. Hunting activity will be monitored to determine if objectives are being met. Alternative B included posting and enforcing the closure of Nisqually NWR to hunting, but it was not selected as the Preferred Alternative (also see Chapter 4, EIS). National Wildlife Refuges where hunting is allowed are managed to provide public hunting opportunities, rather than exclusive opportunities. Where numbers of hunters or hunting opportunities need to be limited, permits or drawings are sometimes used. However, limiting the number of hunters through the use of permits, set blinds, or other measures was not considered necessary at Nisqually NWR to provide sufficient wildlife protection and quality waterfowl hunting. The design of Alternative D was consistent with management of WDFW lands, making it possible to manage and enforce a consistent hunt program within the Nisqually Delta. Providing habitat for waterfowl only at night does not meet Refuge objectives. Areas closed to hunting were designed to ensure that primary Refuge objectives to protect and enhance wildlife and habitat would be met, to provide quality waterfowl hunting, and to minimize conflicts with other users. The program would be monitored and assessed regularly to ensure that objectives were being met.

3.7 Fishing and Shellfishing

Improved Access

- We support the proposal to improve fishing access (e.g., at Trotters Woods). We suggest additional language that establishes a solid commitment to provide recreation for anglers, including improving facilities and dependable access.

Service Response: Fishing is one of six priority wildlife-dependent recreational uses identified by the Refuge Improvement Act and is a traditional form of recreation in the delta. We are dedicated to providing new quality fishing opportunities, along both the Nisqually River and McAllister Creek. The proposed fishing opportunities in the Preferred Alternative are contingent upon the creation of a new loop trail on the east side of the Nisqually River north of I-5, land

acquisition south of I-5 (Trotter's Woods area), and the development of a cooperative management agreement with WDFW (Luhr Beach area).

Reduce Fishing

- Fishing (and logging) are the causes of salmon and steelhead depletion; the dikes are not the problem. Don't remove the dikes – reduce fishing pressure.

Service Response: Within the Nisqually River and McAllister Creek watersheds, there are a variety of land use practices that have negatively impacted salmonid resources. There is an entire suite of factors limiting salmonid populations, most of which are related to habitat quality. Salmon habitat includes the physical, chemical, and biological components of both freshwater and estuarine environments that support salmon. Estuaries are critically important to salmon production because they provide important habitat for foraging, predator avoidance, and for the physiological transition from fresh to saltwater (Section 3.3.1). The Nisqually River estuary has lost 30% of its historical intertidal and subtidal habitat, 54% of its intertidal emergent marsh habitats, and much of its ecological functionality (Kerwin 1999). Besides impeding the natural migration across the floodplains, dikes located along McAllister Creek and Nisqually River limit lateral channel migration and off-channel rearing opportunities for salmon. Removal of the Brown Farm Dike as proposed in the Preferred Alternative would restore 70% of the diked area to full estuarine habitat, and would allow the river and creek channels to flow unimpeded.

Washington's salmon and steelhead fisheries are managed cooperatively by WDFW and Indian tribes. Tribal and state biologists cooperate in analyzing the size of fish runs as salmon and steelhead migrate back to their native rivers and hatcheries. This ensures sport, tribal, and non-Indian commercial fisheries are appropriate for the actual salmon returns and allow optimum numbers of fish to spawn. Public fishing seasons are set by WDFW.

Implement a Fishing/Shellfishing Fee

- Fish and shellfish are wildlife; it is difficult to justify their harvest if wildlife comes first. If harvest is permitted, the cost of any additional staff or equipment this requires should be borne by fees charged to the people who do the fishing and shellfishing.

Service Response: All fishing and shellfishing activities must comply with State regulations. Anglers already pay a variety of fees in the form of appropriate licenses, stamps, and access fees. Additional fees specific to fishing are not typically charged on Refuges in addition to State fees. It would be extremely difficult to administer a Refuge fee system for anglers because there are multiple access points to Refuge waters from Puget Sound and multiple land/water ownerships where fishing may occur in the vicinity.

Impacts to Shellfish

- The EIS should address impacts of estuarine restoration to shellfish beds (between McAllister Creek and the mouth of the Nisqually River). As the pasturelands are converted to estuary there may be additional inputs of fecal coliform bacteria due to past presence of livestock.
- Removing all dikes along McAllister Creek best contributes to solving the fecal coliform problem pertaining to shellfish in Nisqually Reach.

Service Response: Water quality of McAllister Creek and Nisqually Reach is an important concern for the Refuge. It has been over 30 years since livestock were maintained on diked Refuge lands. Fecal coliform bacteria require optimum temperature, pH, and moisture conditions for survival, and average survival times range from 20-23 months (Jamieson et al. 2002). Without any livestock inputs over the past 30 years, the concentrations of viable fecal coliform bacteria from livestock sources are expected to be minimal to none, causing little or no impact to the fecal coliform contamination of Nisqually Reach shellfish growing areas. In addition, prior to habitat restoration activities, the appropriate permits would be obtained, insuring that federal and state requirements are met. The Preferred Alternative proposes to remove dikes along McAllister Creek, which is expected to improve tidal flushing in this area.

Lack of Focus on Fishing

- The document is slanted; fishing is not handled fairly – fishing will be taken away with Alternative B, C, or D.

Service Response: Fishing was considered an important use throughout the planning process, as one of six priority public uses on National Wildlife Refuges. The only changes proposed for boat fishing opportunities include enforcement of closures in the RNA, which receives relatively low fishing use. Alternatives B, C, and D each provide more bank fishing opportunities than does Alternative A. Under Alternative A, the only bank fishing opportunity would be the existing site along McAllister Creek. Under the Preferred Alternative, this bank fishing site would be eliminated to accommodate restoration; however, a new bank fishing site would be created on the Nisqually River, and two accessible sites would be established or enhanced within the Refuge expansion area. All fishing opportunities must be safe, consistent with State regulations, and compatible with Refuge resources and purposes.

Note: Several comments related to access for fishing are addressed under the Wildlife Observation, Interpretation, Trails and Public Access topics.

3.8 PWC Use and Boating

Ban PWC Use

- Ban PWC use in Refuge – their presence is incompatible with Refuge objectives.
- Ban PWC, snowmobiles, 4WD, etc; it's a Refuge, not a motor-cross park.
- PWC use spoils the experience for hikers and birdwatchers.
- PWC use could increase in the future; the FWS should act now to keep the Refuge free from the noise, pollution, and wildlife harassment that could occur.
- PWC are fundamentally different than boats and will impact wildlife within the Refuge if allowed there. Because their method of operation is significantly different than boats, there should be no doubt that PWC would not hold the speed limit. The Refuge lacks the resources to enforce speed limits anyway. We request that they be explicitly banned now.
- It will be difficult to enforce a 5 mph speed limit; an outright ban is the only way to prevent wildlife disturbance and impacts.
- Numerous users from all types of user groups have complained about their impacts – birders, hikers, hunter, and anglers.

- Operation of PWC within the Refuge boundary is not a wildlife-dependent priority public use. While the 5 mph speed limit may limit or discourage PWC use on the Refuge, we recommend that they be specifically excluded.
- We would favor elimination of PWC from Refuge waters as they are designed for speed, and enforcement of the speed limit will be difficult to impossible. PWC have no legitimate place on Refuge waters.

Service Response: PWC are considered a non-wildlife dependent recreational activity, and it is not one of the priority public uses on Refuges. PWC use is currently low on Nisqually NWR. The 5 mph speed limit is expected to largely preclude PWC use within Refuge boundaries. However, we added a new strategy specific to watercraft use under Objective 1.2 in response to these comments. The Refuge will monitor watercraft use (including PWC) in Refuge waters and continue to evaluate the effects on fish, wildlife, and habitat on an annual basis. If use increases or the 5 mph speed limit proves ineffective in minimizing effects, additional restrictions on watercraft, including PWC will be considered.

Boating

- All boats (motorized/non-motorized) should be excluded from the RNA from October 1 to April 1 to protect wintering shorebirds and waterfowl.
- Powerboats and PWC should be banned in the Refuge; the only boating permitted should be connected to genuine wildlife related recreation.
- Boats, especially those with motors, do not belong in a fragile area which provides for juvenile fish, migrating birds, and the many species of animals and plants which allow that ecosystem to function.
- Motorized boats should be banned in the Refuge (except by permit and for FWS use). Non-motorized boats should be allowed on the Nisqually River and McAllister Creek at appropriate times.
- RE: boating impacts along McAllister Creek, we recommend a coordinated plan be developed between WDFW/FWS to address monitoring and enforcement.
- Anecdotal evidence shows that kayaks can approach quite close to many birds without disturbing them; little effort went into developing data on which to make the important decision, singling out kayaking as disturbances in the area.
- Consider allowing canoes and kayaks 2 years or so after initial restoration.
- We would like a walk-in boat launch along the Nisqually River and McAllister Creek for non-motorized boats.
- Request launch site near Visitor Center parking lot.

Service Response: The effects of motorized and non-motorized boats are described in Chapter 4, for example Section 4.4.1.1 and in Appendix G.1, Compatibility Determination for Recreational Boating. Every effort was made to use the best data and information possible, including the use of existing scientific literature on boat disturbance, including non-motorized boats. Restrictions in the Preferred Alternative were designed to reduce fish, wildlife, and habitat disturbance, while allowing boating that supports priority public uses, including fishing, waterfowl hunting, and wildlife observation. We added a new strategy specific to monitoring and evaluating watercraft use under Objective 1.2 in response to these comments.

We will continue to work to strengthen coordination with WDFW to improve management and wildlife protection within Refuge boundaries and the lower watershed, including McAllister Creek.

Estuarine restoration takes many years for processes to develop and stabilize. Minimizing human disturbance in the restored area, including excluding boat use, will allow monitoring of wildlife and habitat responses, and will maximize wildlife observation opportunities for wildlife observers restricted to trails.

The Luhr Beach boat ramp provides a safe, easily accessible launch site for boats, particularly into McAllister Creek. The Refuge headquarters is distant from McAllister Creek and the Nisqually River, and does not provide access to safe, easily accessed and maintained launch sites.

5 mph Speed Limit

- We support the 5 mph speed limit for boating over Refuge lands, as well as a seasonal closure of the RNA to all motorized boating activity.
- Boating associated with legitimate wildlife-related activities, such as hunting, fishing, or wildlife viewing should be permitted, provided a 5 mph speed limit is required.
- The 5 mph speed limit needs to be strictly enforced and the impacts from PWC and motorized boats monitored.
- While I understand the intent and benefits of this rule, it isn't always practical; it would take too long to travel from Luhr Beach to the mouth of the Nisqually, and the restriction might present a safety issue. Similarly, it is occasionally necessary to cross the RNA for safety reasons (e.g., due to strong winds).

Service Response: A specific strategy addressing monitoring of watercraft use was added to Objective 1.2. The 5 mph speed limit will be consistent with Thurston County regulations that already require a 5 mph speed limit within 200 feet of any shoreline. Like any regulation, boat speed restrictions and seasonal closures are not intended to endanger safety and extreme or extenuating circumstances would be taken into consideration.

Other Management Suggestions

- The poles on the outside boundary in the Sound only have reflectors on one side; they need to be completely wrapped in reflective material so they can be seen from all angles of approach. It is currently a water hazard.
- No off-road motorized recreation of any kind should be permitted on the Refuge – such activities are incompatible with Refuge objectives. This applies to ATVs, motorboats, PWC, etc.

Service Response: This is a good suggestion. Reflective marking will be added that circles the boundary posts.

ATVs are not allowed on the Refuge. The 5 mph speed limit for boats will highly restrict PWC use and use will be monitored over time. Boat speed limits and seasonal closures in the RNA should help to reduce impacts. Also see the Compatibility Determination on Recreational

Boating, Appendix G.1 for further explanation. A strategy was also added to Objective 1.2 to strengthen monitoring and evaluating of watercraft use.

3.9 Wildlife and Wildlife Habitat

Value of Wildlife and Habitat

- Most letters, either directly or indirectly, acknowledged the intrinsic value of Nisqually NWR, noting its importance as excellent habitat for a diversity of wildlife, especially waterfowl, shorebirds, and fish species.
- Numerous people expressed an attitude of “wildlife first,” noting that the Refuge should be managed primarily to promote the protection and preservation of wildlife and habitat; other uses and users are secondary in importance.
- The prime focus of the new management plan must be the protection and restoration of wildlife and wildlife habitats; recreational use may be expanded, but not at the expense of wildlife.
- Protection, acquisition, and restoration of wildlife habitat should be the number one goal.

Service Response: These comments are noted. We appreciate the strong public support regarding the intrinsic value of Nisqually NWR and wildlife and the primary importance of providing necessary habitats.

Plants

- Only plants native to the lower Nisqually Valley should be planted on the Refuge.
- A specific list of plants that the Refuge uses for restoration and where they are used on the Refuge should be included in the final plan; use the appropriate genotype for this area.
- We suggest you change language in the document (e.g., Appendix F), using “eradicate” instead of “monitor” when referring to invasive species; eradication should be the ultimate goal.
- Alternatives should specifically address control of non-native, invasive species; especially English ivy, blackberries, and Japanese knotweed.
- A program should be established to monitor and address the introduction of non-native invasive plants, such as *Spartina* sp., into the restored estuarine area prior to removal.
- Apart from estuarine restoration, consider additional means of controlling/eradicating reed canarygrass, including mowing, burning, and chemical means.
- Manage reed-canary grass, talk to USDA. Dike system will not solve reed canary grass problem.
- It is not cost-effective to use dike removal (under the Preferred Alternative) to control reed canarygrass; other Refuges have controlled this invasive species effectively by other means.
- Concern for grassland loss.

Service Response: The plant species, genotype, and numbers used in habitat restoration on Nisqually NWR are chosen to mimic site-specific native habitats, taking into consideration soil and sunlight conditions, and habitat goals. We work closely with several nurseries to ensure that native species and appropriate genotypes are used for restoration.

In response to these comments, we added specific strategies under Objective 1.3, Freshwater Wetlands and Grasslands, addressing development and implementation of an Integrated Pest Management Plan, invasive species data collection and mapping, and implementation of a volunteer program to assist in control efforts. Text was also added to Section 2.2.2, Features Common To All Action Alternatives, describing invasive species control efforts. The IPM Plan will provide a framework for managing non-native and invasive species on the Refuge. Although eradication of non-native and invasive plants is the ultimate goal, complete eradication is not always feasible. Refuge goals focus on restoring and enhancing native habitats and we prioritize invasive control measures based on the level of threat in achieving those goals. We choose control methods that are effective, feasible, and specific to the plant species, location, and time of year. We monitor the results and use this information to modify and improve control efforts. Management actions also include prevention of the introduction of new non-native species to the Refuge.

Reed canarygrass control requires an aggressive combination of management strategies over many years. Estuarine restoration would eliminate large portions of reed canarygrass due to saline water influence, although some may persist along the edges or in higher elevations. The Refuge is using a variety of control methods in diked areas, and these practices would be accelerated in the areas that remain diked or are managed as freshwater wetlands as described in the Preferred Alternative. We regularly exchange information with other Refuges, agencies, and academic sources to improve the effectiveness of our control efforts.

Restored or existing estuarine habitat could support aggressive *Spartina* species (*Spartina alterniflora*, *S. densiflora*, *S. patens*). *Spartina* has not yet been found growing in the South Sound; however, increased monitoring would be conducted. If it is discovered growing on the Refuge, aggressive control methods such as digging it out and removing all plant pieces from the site would be used to prevent large infestations.

Grasslands would be substantially reduced in the Preferred Alternative, although management would be intensified in remaining grasslands to improve the quality of the habitat. As more lands are acquired south of I-5, some would be managed as freshwater and riparian habitats, and smaller areas would be managed as grasslands.

Raptors and Small Mammals

- The FWS should provide ongoing raptor management/enhancement measures at the Refuge (such as perches, nest boxes)
- After the 1996 flood, most of the raptors left; will this be the case after estuarine restoration? What about the previous Refuge biologist's study on voles and their effect on raptors?
- Need to do more small mammal work.

Service Response: The Refuge supports raptor management by creating a mosaic landscape where natural perches, an adequate prey base, natural nesting sites and loafing sites are available. Comment noted regarding more small mammal work.

The Preferred Alternative would continue to provide a diverse mosaic of habitats. The 1996 flood event differs from estuarine restoration, in that water levels rose dramatically to 2 to 4 feet

throughout almost all of the diked interior and depending on the location, it took days to weeks to recede because it was trapped inside the dikes with limited ability to evacuate. According to studies conducted within the Pacific Northwest and in the Nisqually Delta, shrews, voles and mice all use salt marsh habitat for foraging, cover, and nesting. Small mammals would still be available prey items for raptors post restoration, but likely in less abundance. Raptors that feed primarily in grasslands or depend largely on small mammals, like red-tailed hawks, would be negatively affected. However, many raptors regularly forage in estuarine habitats, and thus habitat would be improved for these species, including eagles, falcons, osprey, and northern harriers. Other important prey items for raptors that may increase in abundance after restoration include waterfowl such as American wigeon, bufflehead, goldeneye, and brant, a variety of shorebirds which are prey for falcons, and spent chum which is a common prey item for bald eagles. Also see Section 4.4.1.3 and 4.4.1.3, Effects to Landbirds (Raptors).

Waterfowl

- Aerial survey data cited in the CCP/EIS are flawed; surveys should have been conducted under similar tidal conditions and days of year, not based on flying weather and schedule time.
- Observations of Berg et al. (1974) regarding the relationship between tidal exchange and feeding habits of dabblers are suspect; 1974 was not a representative year.
- Specifically, what about pintail and mallard habitat?

Service Response: Every effort is made to fly aerial waterfowl surveys in a consistent and repeatable manner in high tide conditions; however, there are numerous uncontrollable variables that affect survey schedules, including winter weather, visibility, tides, safe flying conditions, and personnel, pilot, and plane availability. Aerial surveys are widely used in collecting information on migratory birds throughout the continent, because of the ability to cover large, inaccessible areas in a short time in a repeatable manner. These surveys have provided a dataset at Nisqually NWR that spans more than 20 years, and provided very useful information in assessing waterfowl numbers and distribution (see Section 3.4.1).

There is no indication in the 1974 study by Berge et al. that 1974 may not have been a representative year for numbers of waterfowl, or that the observed pattern of feeding behavior in relation to the tides and time of day was unusual. Aerial survey data and other literature and observations through the years have been consistent with those findings. As part of the planning process, we have done an exhaustive literature search on all pertinent issues (see Appendix C) and have critically examined all data and literature available to us.

We would continue to provide habitat for pintails and mallards in the area that would remain diked as freshwater wetlands and in appropriate areas acquired south of I-5 in the future. Pintail and mallard do sometimes use estuarine habitats, particularly along shorelines. Please see Estuarine Restoration responses.

Bird Habitat

- Preserving habitat for birds should be a main priority.
- The most important consideration is to enhance and protect habitat for migratory birds along the Pacific Flyway. Other uses (public, salmon, other wildlife) should be secondary.

- The statement on page 3-36 is inaccurate; green herons, American bitterns, and Virginia rails breed in the marsh lands of the Refuge; they do not depart during the breeding season, these birds can also be found in the winter months although in smaller numbers. These species will be lost if Alternative D is implemented.
- Section 3.4.4.3 lists only a handful of nesting passerines; but the appendix lists 50 species of passerines that nest in the Refuge, including the willow flycatcher (a sensitive species). Alternative D would destroy a great deal of flycatcher habitat.
- Birds adapt quickly to change.
- Address relationship of Refuge to other preserves (state/federal, etc.) along Pacific Flyway.

Service Response: Our management decisions are guided by Refuge, NWRS, and FWS goals, and regional ecosystem, watershed and landscape management plans, many of which give considerable thought to conserving habitat for avian species (Chapter 5). We strive to contribute to high priority goals identified in Migratory Bird Management Plans such as the North American Waterfowl Management Plan, Partners in Flight Bird Conservation Plan, Shorebird Conservation Plan, North American Waterbird Conservation Plan, and North American Bird Conservation Initiative. The Preferred Alternative is consistent with those migratory bird planning efforts (also see Estuarine Restoration and TES responses).

Marsh birds such as American bitterns, green herons, and Virginia rails do nest in Refuge freshwater wetlands and some do winter at the Refuge. Minor text revisions were made; also see Section 3.4.2, Waterbirds and Seabirds in entirety. Freshwater wetlands that would be retained and enhanced in Alternative D would continue to provide smaller amounts of habitat for these birds. Additional wetlands would be restored and enhanced when appropriate lands south of I-5 were acquired.

Fifty of the 81 passerines that occur on the Refuge also nest here, including the willow flycatcher, a Federal Species of Concern. Text was corrected in Section 3.4.4.3. Willow flycatchers depend on riparian woodland habitat for nesting and feeding. The riparian woodland and surge plain habitat along the Nisqually River would remain intact and be further widened with native tree and shrub plantings. Riparian habitat along the sloughs in the southern portion of the Refuge would also be enhanced. It is true that a substantial amount of scrub shrub habitat used for feeding would be lost. We would continue to improve and enhance the existing riparian corridors on the Refuge for species that depend on these habitats and seek similar opportunities in expansion areas.

We agree that the Refuge's role as a migration site in relation to other habitats along the Pacific Flyway is an important concept. Efforts were made to consider this relationship throughout the CCP/EIS. For example, Figure 1.1-1 depicted Refuges in the North Coast region, various regional planning efforts were summarized in Chapter 5, land use and ownerships were considered in detail within the lower watershed, and goals, objectives, and strategies were developed based on the Refuge's role within a larger region.

Minimize Impacts of Infrastructure on Wildlife & Habitat

- To reduce wildlife mortality and public safety threats resulting from improved wildlife habitat, the City of Lacey should reduce the speed limit from 50 to 35 mph, assuming the FWS engages in reforestation activities on the Western Bluff.
- We suggest moving the existing maintenance facility south of I-5 to reduce habitat impacts.
- Move the Visitor Center to an upland location in the expansion area south of I-5 and convert the current center and parking lot area to wetland habitat, reflecting historic conditions. Build the new Environmental Education Center in this same area.
- Cover I-5 to allow wildlife movement from North to South, reduce noise and disturbance to wildlife.
- A major impediment to ecological connectivity is the I-5 corridor. The Final CCP/EIS should disclose how proposed activities will advance and promote ecological connectivity issues across the I-5 corridor and between the proposed Refuge parcels south of I-5.

Service Response: Speed limits on Meridian Road are under the jurisdiction of the City of Lacey. Reforestation of adjacent Refuge lands are not expected to create a safety hazard. If a documented problem occurs, the Refuge would be willing to work with the City of Lacey to address the issue.

Refuge headquarters facilities were constructed within the existing footprint of the old headquarters buildings to minimize impacts to wetlands and habitat. These facilities support public access for thousands of Refuge visitors. Public input was solicited during the planning stages of the new facilities early in the CCP/EIS process. We will continue to work to contain facilities within this area and minimize habitat impacts, in support of Refuge management, public use, and public safety programs.

Building a cover over I-5 is beyond the scope of the CCP/EIS. However, the Refuge has initiated a cooperative restoration project with Washington Department of Transportation, to plant native trees and shrubs between I-5 and the Refuge entrance road as a visual and sound barrier.

Other Comments Related to Wildlife and Habitat

- Not enough wildlife surveys – too many questions on what’s out there...
- Over time, nature at the Refuge has adapted to human intervention and is currently in a state of balance. Major changes to restore historic conditions would upset the adapted balance. The plants, animals, and land will support and adapt to whatever humans choose to do, although they would prefer to work in harmony with humans. Their intent is to be of service to humans. Even the cowbirds and reed canarygrass have their function.
- The FWS should adopt an ecosystem approach to pre- and post-project monitoring. Monitoring should address changes in salmonids, vegetation, invertebrates, ducks, shorebirds, and other species. Also, American bittern should be specifically monitored due to their apparently declining status.
- The plan must include provisions for the continued monitoring of the property.

Service Response: We agree that monitoring is a critical part of the CCP. See Appendix F, Plan Implementation, for a description of monitoring plans, including pre- and post-project

monitoring. We would continue to work with a wide variety of technical experts for their assistance in designing and conducting monitoring efforts (also see Section 1.7.1; Chapter, 6; and Appendix H, List of Preparers). Also see Estuarine Restoration and Freshwater Wetland and Riparian responses.

Note: Several comments related to wildlife and habitat are addressed under the Estuarine Restoration and Freshwater Wetland and Riparian Restoration topics.

3.10 Threatened and Endangered Species (TES)

Benefits to TES

- Estuarine Restoration would support recovery and protection efforts for Federal and State TES, species of concern, and their habitats – especially Chinook salmon populations.
- Expanding the Refuge would benefit TES species, including the peregrine falcon and gray whale.

Service Response: Comments are noted.

Salmon Protection

- While protecting salmon is crucial for traditional, symbolic, and economic reasons, the need to protect the salmon fishery should not in and of itself influence the selection of Alternative C or D.
- The Nisqually Delta no longer provides the high quality habitat it once did. A substantial restoration program is needed to promote recovery efforts for the Nisqually River's threatened Chinook salmon.
- It seems salmon enhancement is driving the proposed changes, despite the Refuge's stated purpose of providing the best and highest use for migrating waterfowl and other wildlife.
- Salmon runs have waxed and waned over the last 100 years; it makes more sense to monitor the success of the restoration efforts undertaken by the Nisqually Tribe; we should wait 10 years before breaching the dikes at the Refuge.
- If you look at the huge number of birds in the delta area outside the dike that would move inside to feed on small fish, you must understand why no salmon will survive there.
- The dikes have allowed the salmon in the region to be further threatened. The dike systems were made in a time when the health of the natural environment was not taken into account; please do as much as possible to get rid of them.

Service Response: Refuge goals focus on the restoration of native habitats and recovery of threatened and endangered species. Federal laws, acts, and policies including the Endangered Species Act, have provided direction throughout the planning process. Salmon are an important biological component of the ecosystem. Cederholm et al. (2000) shows the important interconnection between salmon and over 136 forms of wildlife and habitat. As a seasonal resource, salmon directly affect the ecology of many aquatic and terrestrial consumers, provide food to many species, and indirectly affect the entire food web. Birds that prey on fish should benefit, but at the same time, the intricate system of sloughs, channels, and salt marsh would provide cover for some salmon to escape predation. Estuarine restoration and Refuge expansion

would be expected to benefit salmon populations and many other wildlife, by improving habitat quality and productivity in the estuary and in the lower watershed.

The Nisqually Tribe has been monitoring restoration on the Red Salmon Slough (8 acres) since 1996 and on the 40-acre area recently restored (2002) along the Nisqually River. Juvenile salmon have been found using both restoration sites and salt marsh vegetation is already becoming established in the new restoration site. The fifth year report on Red Salmon Slough states the former diked and grazed pasture is developing into a viable saltmarsh and mudflat community.

Nesting Bald Eagles

- We are unaware of the presence of a bald eagle nest on the East Bluff (see Appendix K); as it would be near our property, we would likely have heard of it. When and by whom was it reported, and has its presence been confirmed?

Service Response: A bald eagle nest has been observed on the East Bluff according to the WDFW District Biologist, but it does not appear to be active. However, an adult pair has been seen in the vicinity of the East Bluff, so the possibility of active nesting remains.

Protect and Reintroduce TES

- The FWS should protect TES fish and wildlife as much as possible at the Refuge. Also, the plan should reintroduce species that have become locally extinct in their natural environment.

Service Response: An important goal of the Refuge and FWS is to assist in the recovery of endangered and threatened species. The Preferred Alternative is expected to benefit listed species found on the Refuge (Section 3.3.4; 3.4.10; and Chapter 4). Currently, endangered species reintroductions are not considered necessary to achieve these goals.

Note: Several comments related to TES are addressed under Refuge Expansion and Estuarine Restoration.

3.11 Cultural Resources

Benefits to Our Cultural Heritage

- Dike removal and restoration represent a unique opportunity that will benefit our children and their children; it also benefits our cultural heritage and keeps our history alive.

Service Response: While there are trade-offs to any course of action, we agree that the benefits to future generations of humans and wildlife are greatest with dike removal and restoration. In addition, information about the dike and its history will be included in the Refuge's interpretive and educational programs, because it also plays a role in the Refuge's cultural heritage.

Archaeological Sites

- The Nisqually Indian Tribe is one of the property owners on a MTCA remediation site that is shown as part of the Refuge expansion area. This site likely contains archaeological

resources, which are not addressed in the EIS. If indeed such sites are present, the Tribe may prefer the lands not to be put into public/federal ownership as a publicly used recreation area.

Service Response: Any lands acquired within the Refuge expansion area would be on a willing seller basis only. The Service has cultural resource professionals on staff, as well as specific guidelines and procedures, for protecting archaeological sites on lands owned and/or managed by the Service. Inventory for cultural resources within the expanded boundary prior to any undertaking that has the potential to impact cultural resources would be conducted in compliance with Section 106 of the National Historic Preservation Act (NHPA).

Historical Resources

- More historical/archaeological work should be conducted to determine National Register eligibility. Historic resources should be incorporated into the EE program. The historic Twin Barns should be restored and put to interpretive use. Nisqually offers an opportunity to increase our understanding of the region's history.
- The Twin Barns have significant historical value and should be given more consideration in the analysis.
- Please ensure that the historic significance of the Treaty Tree is protected and celebrated at the Center.
- A designated Medicine Creek Tree area should be established, and replacement tree plantings should occur for when the crown of the existing tree breaks. The area should include a swing bridge over McAllister Creek.

Service Response: Historical/archaeological work is conducted prior to all proposed ground disturbing projects in compliance with Section 106 of the NHPA. Additional work is conducted on a priority basis in compliance with Section 110 of the NHPA. Cultural resources are currently part of the Refuge's interpretation and education programs. Expansion of the programs in the Preferred Alternative will provide more opportunities to educate visitors about the cultural heritage of the Nisqually delta. The Twin Barns suffered severe structural damage in the 2001 earthquake. Engineering inspections identified repairs to make the Twin Barns earthquake safe that would have changed the historic structure and appearance of the barns, and been cost prohibitive. However, we plan to continue to provide interpretive information about the barns from a safe viewing distance.

We will protect the historical significance of the location where the Medicine Creek Treaty was signed. Trees on the site will be maintained as long as they are not a threat to public safety or cultural resources. Replacement tree plantings would have to be considered in conjunction with natural tree regeneration at the site and after reviewing the potential impact on the integrity of the significant cultural resource itself. We do not own the property on the opposite side of McAllister Creek and user conflicts could become a concern if a bridge were constructed. Wildlife disturbance issues would also have to be addressed, since a pair of nesting bald eagles and a great blue heron rookery are located on the west bank of McAllister Creek.

3.12 Process

Timeframe Concerns

- What timeframe is the DOI decision?
- How much time will affected homeowners be given?
- Timing not adequate for comments.
- It would be wise to reconsider the timing framework for CCP implementation, given the realities of economic conditions and the federal deficit. The Proposed Action will be a huge and expensive undertaking.

Service Response: The DOI decision is finalized with a Record of Decision, which is signed by the Regional Director a minimum of 30 days after the Final Environmental Impact Statement (EIS) is released. We anticipate the Record of Decision signed in the winter 2003-2004. Refuge expansion also requires the additional approval of the Director of the Fish and Wildlife Service in Washington, D.C. Following the Director approval of Refuge expansion, easements or acquisition of lands is phased in over time as willing sellers make their land available and funding becomes available.

We anticipate implementation of the CCP to occur over the 15-year life of the plan. Protecting land in the proposed expansion area could take even longer than the 15-year timeframe. Because of the long-term nature of implementation we have identified those activities, projects, and land parcels that are high priority. For further details see Appendix F (Plan Implementation); Appendix I (Goals, Objectives and Strategies); and Appendix K: (Land Protection Plan). Guidance provided in these sections will help to ensure efficient implementation of the CCP given the realities of the Federal budget system.

Comment Period and Public Meetings

- A longer comment period would be ideal, as well as a meeting farther south.
- If the comment period is extended for any individual or entity, please notify us in advance, so we can provide additional review and comment, or challenge such extension.
- It sounds like the Preferred Alternative is a done deal. How will public comment be considered when as part of the decision making process?
- Nuances of document are confusing; more outreach would have improved/focused public comment.
- Public comment “open house” was well organized; setup, written materials, visual displays, and experts at separate tables were well done and very helpful.
- I found the open house very helpful in understanding the proposals.
- The quality of the work presented at the public meeting was second to none.

Service Response: The comment period opened on December 20, 2002 and closed on February 21, 2003. Comments dated within one week after the official close of the comment period were accepted and analyzed. Two open house style public meetings were held on January 15 and January 16, 2003 to take comments and help reviewers in their understanding of the document. Open houses were held in Olympia and Tacoma to encourage participation and provide convenient locations to the largest number of interested people. No extensions to the comment period were given. Service policy identifies 45 days as the minimum length of a comment

period on a Draft EIS. For the Nisqually CCP process, the Service provided the public with a 60-day review period.

Public comment has been a key ingredient throughout the Nisqually planning process, and all comments gathered on the Draft CCP/EIS have been read, analyzed, and considered. The Final CCP/EIS must include and respond to all substantive comments received on the Draft EIS (40 C.F.R. 1503.4(b)). This Appendix M contains our response to the substantive comments received. The Preferred Alternative was not a “done deal”; however, it was carefully thought out, developed over a long period of time, and considered input throughout from members of the public, other agencies, and tribes who were involved in scoping efforts prior to the release of the Draft CCP/EIS (see Chapter 6 of Draft CCP/EIS). Based on comments received on the Draft CCP/EIS only minor changes were necessary to make in the Final CCP/EIS. These changes are identified in the Summary of Changes document, as well as discussed throughout this Appendix M.

Overall Praise (“good job”)

- Good job on developing a progressive approach to restoration and expansion, etc.
- It is evident that FWS staff worked long and hard to produce a plan that balances interests of a broad cross-section of stakeholders.
- The FWS did an excellent job coordinating with the Nisqually Indian Tribe throughout the course of CCP development (a “first-rate outreach campaign”), and the product is excellent.
- You did an excellent job with the CCP and explored thoughtful alternatives – congratulations.
- Thanks for keeping wildlife conservation your top priority and keeping the Refuge open to all the different recreational groups.
- You have done an excellent job developing and discussing a wide range of issues in a concise yet reader-friendly fashion.

Service Response: Comments noted.

National Wildlife Refuge System Improvement Act

- Abstract states that No Action Alternative would mean that no CCP would be prepared; this contradicts the System Improvement Act of 1997, requiring the preparation of a CCP.

Service Response: You are correct. If the No Action Alternative was selected, a CCP would be still need to be prepared based on current management direction. We have changed the abstract to reflect this.

Suggested Revisions and Additional Analyses

- Color maps were very helpful; however, change the cross-hatching pattern on the EIS maps to avoid confusion (especially regarding hunting boundaries between the various Alternatives).
- Provide an updated aerial photo showing recent development in the watershed; the existing photo is outdated and doesn’t represent current conditions.
- The Summary should be revised to include more information; this will help the public better understand the pros and cons of the various alternatives. Information on reed canarygrass,

hydrological modeling, and flooding should be included. Similarly, the appendix material should include the Tanner report, as well as the Restoration of Puget Sound Rivers document (by D. Montgomery).

- The Executive Summary needs a glossary to define terms like “passerine.”
- Figure S-1 (Regional Context) contains some inaccurate boundaries for coastal NWRs; the figure should be modified to be correct.
- A full EA should be prepared to examine potential impacts to species. If a given proposal does not provide benefits to more than 80% of the affected species, the proposal should be dropped. And each and every species affected should be specifically considered.
- EPA recommends that the Final CCP/EIS include additional analyses, including: more detail on the Purpose and Need; discussion of potential cooperative shareholders; ecological connectivity; no net loss of wetlands (Executive Order 11990); potential hazardous waste sites; and agricultural decommissioning. Based on the existing analyses, EPA has rated the document as DEIS-EC-2 (environmental concerns – insufficient information).

Service Response: We have made a few graphic changes to the preferred alternative map including changing the cross-hatching patterns related to hunting. The photo underlay used in the Draft CCP/EIS was the most up-to-date imagery available at the time the document was prepared. In response to this comment, a thorough search was conducted of numerous photo sources, but high quality, up-to-date imagery meeting all our requirements could not be found. We acknowledge that additional development has occurred in portions of the East and West Bluff area and in limited areas south of I-5 that are not captured in the photo underlay in the Final CCP/EIS; however, text and analysis were based on up-to-date County information and other data rather than the photos.

The summary was intended to be a very brief overview of the proposal. If more details were needed we directed the reader to the full document. The documents mentioned by the commentor have been referenced in the preparation of the EIS and we determined that it was not necessary to append them to the EIS. The hydrological modeling report was summarized in Appendix J. All reference materials are available for viewing at the Refuge office. The regional map was corrected in the Final CCP/EIS.

This document is an EIS which is a more detailed environmental document than an EA, (environmental assessment). Wildlife management decision-making is very complex and cannot be adequately addressed only by looking at percentages or numbers of species. We have focused our environmental analysis on the habitats affected by our proposal and groups of species dependent on these habitats such as birds, mammals, fish, as well as other species associated with both salt and freshwater environments. Key species or groups received more emphasis, including threatened and endangered species and migratory birds. However, the focus on habitat rather than solely on species management is a widely accepted ecological approach. This analysis method was chosen to provide a thorough analysis of all major species groups and habitats within a reasonable length of document.

The Purpose and Need section has been edited to improve clarity by separating out information that is background or supplemental in nature. The editorial changes have not changed the primary intent of the EIS Purpose and Need in the Final document. All other recommendations

in the EPA comment letter have been addressed and additional analysis or information was inserted into the appropriate locations in the Final CCP/EIS. These include: Other Cooperative shareholders are mentioned in the Partnership Opportunities section. We added partnership opportunities with the Federal Highway Administration and the Washington Department of Transportation to Appendix F: Plan Implementation.

We provided additional information on hazardous waste sites and spill response in Sections 2.2.1 and 3.1.5. Effects on agricultural lands including their conversion to native habitats in Alternatives B, C, and D are described in Section 4.8.2.2. While road decommissioning and pond removal may be a part of converting agricultural lands to native habitats, it is difficult to discuss these strategies in detail until the land is acquired.

We agree that I-5 is a barrier to some terrestrial wildlife. We have initiated a cooperative effort with WSDOT to plant native trees and shrubs between the Refuge entrance road and I-5, to create additional habitat and eventually provide a sound and visual barrier to I-5. We will continue to work with FHWA and WSDOT to work on solutions; however, identifying and evaluating additional wildlife corridor options is outside the scope of this planning effort. Additional information on the topic of connectivity has been added to the Final CCP/EIS in Section 3.8.1.3 and Appendix F.

The Preferred Alternative would not result in a loss of wetlands and would be in compliance with Executive Order 11990. Historic estuarine wetlands would be restored, and additional wetlands would be gained as a result of dike removal, including within the footprint of the existing dike. Wetland functions and values would be greatly enhanced in the restored area. A greater proportion of freshwater wetlands would be created in areas that remain diked, through wetland restoration efforts and sculpting of grassland areas (see Chapter 2, under Alternatives B, C, and D). In addition, more intensive water management in remaining freshwater wetlands would improve habitat functions and values. Acquisition of areas that could be restored to freshwater wetlands and riparian habitat have been identified as a high priority in Appendix K, Land Protection Plan.

Note: Several comments related to suggested revisions and additional analyses are addressed under the Refuge Expansion and Miscellaneous Comments topics.

NEPA Compliance and Involvement of Other Groups

- Regarding NEPA compliance – this CCP/EIS is complete, the alternatives are well thought out and well presented, and the EIS analysis is thorough and well done; the document fully complies with the purpose and intent of NEPA.
- I commend the USFWS for their efforts and the quality of the DEIS.
- The existing Preferred Alternative is inappropriate, and the DEIS fails to comply with NEPA; reasons include: the Refuge is surrendered to hunting; no expansion should occur as the FWS have insufficient resources to enforce current restrictions; the DEIS was prepared in large part by a private hunting advocacy group (Ducks Unlimited); maps and analyses in the DEIS are outdated; the DEIS fails to consider a reasonable range of alternatives (especially regarding the McAllister Creek property); ESA habitat enhancement has been inadequate; the cumulative impacts assessment is inadequate; the DEIS fails to adequately address effects on

residential inholdings and nearby residences (especially regarding hunting); etc. Overall, the DEIS appears to have prejudged the outcome.

- It's unfortunate that the financial (or political) involvement of Duck's Unlimited in the delta may influence the decision regarding the planning and management of this piece of our region.

Service Response: We believe we have fully complied with NEPA and considered a reasonable range of alternatives. We have done a thorough impacts analysis including cumulative impacts. Expansion of the Refuge is one of the most important things we can do to ensure there will be habitat for wildlife in this increasingly populated area. Adequate funding will be available for the necessary enforcement over the 15 year life of the plan. For additional responses to related comments also see the expansion and hunting responses.

The Refuge has not “surrendered” to hunting. Hunting is one of six priority public uses of the National Wildlife Refuge System as specified in the National Wildlife Refuge System Improvement Act of 1997. Hunting alternatives were developed by Service and WDFW staff who considered our priority public uses, wildlife and habitat needs, and public comments. Ducks Unlimited did not participate in discussions or alternative formulation regarding waterfowl hunting. The role of Ducks Unlimited staff was to provide technical assistance in habitat restoration and habitat management alternative development and analysis. A cooperative agreement was developed early in the planning process between the Service and Ducks Unlimited to facilitate this partnership, focusing on habitat restoration and management. Ducks Unlimited participated in information gathering, GIS mapping, wetland restoration design, surveying, wetland restoration workshops, and contracted topographic surveys and hydrological modeling.

Some confusion over DU's role may have come from the List of Preparers as it appeared in Appendix H in the draft EIS. Four DU staff are listed, followed by eleven names from various consulting firms. Because of confusion in headings in this table, it may have appeared that all were with DU. Headings in the List of Preparers were corrected in the Final CCP/EIS.

As the lead agency, the Service independently reviewed, analyzed, and judged all information provided by DU and our consultants EDAW and ENSR. As the lead agency, we had full responsibility for the decision-making process.

The original photo underlay was the most up-to-date imagery available early in the planning process. Because our planning process took place over several years and the area around the Refuge is rapidly being developed, the original aerial photos became dated. However, our analyses associated with the DEIS is current and valid because new data were collected from Thurston and Pierce counties in 2001 and 2002. A thorough search was conducted for newer aerial imagery; however, imagery that met standards of quality and covered the appropriate geographic area were not available.

The Nisqually NWR CCP process started in 1997 with a Federal Register Notice of Intent to Prepare a Comprehensive Management Plan and Associated Environmental Document. We are only aware of one newsletter, Planning Update #5, December 1998, that mentioned a FONSI. When it became clear of the need for a full EIS, we published a second Notice of Intent in the

Federal Register on February 9, 2000. This notice clearly identified the need and intent for the Service to produce an EIS. In addition, when we released the document to the public, we published a Notice of Availability of an EIS, dated December 20, 2002. Since February 2000, the Service has identified the NEPA document as an EIS. The decision document associated with an EIS is always a Record of Decision (ROD).

3.13 Miscellaneous Comments

Consolidate WDFW Inholdings

- Consolidate WDFW inholdings, and separate active/passive recreation activities.

Service Response: Numerous coordination meetings were held with WDFW as part of the development of draft alternatives. Consolidation of hunting on WDFW lands was considered as part of Alternative C; however, WDFW did not support this alternative. Every effort was made to separate uses and minimize conflicts among visitors in designing alternatives, including the Preferred Alternative.

Disturbance from I-5, Fort Lewis

- I hope that I-5 can be quieted and that Fort Lewis could limit their flythroughs.

Service Response: In 2003, the Refuge initiated a cooperative restoration effort with WSDOT to plant native trees and shrubs between the Refuge entrance road and I-5, to provide improved wildlife habitat and screen the noise and visual effects of I-5. These restoration efforts will be expanded this coming year. The Refuge will continue to work to strengthen coordination and cooperation with Fort Lewis to benefit the Nisqually Delta and the lower Nisqually watershed wherever possible.

Fruit Gathering

- I see no harm in harvesting windfall pears and berries on Refuge lands.

Service Response: The unlimited gathering of fruit and berries on the Refuge causes wildlife and habitat disturbance, because it draws visitors off designated trails. It is not a priority public use, as defined in the Refuge Improvement Act (1997). As described under Section 2.2.1, Features Common to All Alternatives, fruit gathering would be allowed on a limited basis, restricted to trails only and for consumption only while on the Refuge.

Importance of the Refuge to the Community

- Numerous people began or closed their comment letters referencing the regional (or national) importance of Nisqually Wildlife Refuge, stressing its unique benefits. The words “gem,” “world class,” and “treasure” were frequently used (as in “The Refuge is a gem”), and many people shared their personal connection over the years with the property (e.g., one commentor noted that their daughter said her marriage vows on the dike). Overall, these commentors stressed the Refuge as one of the region’s most valuable resources.

Service Response: We appreciate the strong connection that many people have with Nisqually NWR and the importance of the Refuge as a regional resource. The great interest and support within the community played a critical role in the development of the Draft and Final CCP/EIS.

Effects of Global Warming

- The CCP/EIS should examine the effects and associated risks of sea level rise (high, medium, low) due to global warming.

Service Response: We recognize that global warming will influence habitat and planning efforts; however, the effects are very long-term and are extremely difficult to quantify or analyze, extending well beyond the 15-year planning timeframe of the CCP. However, sea level rise would be expected to make dike maintenance more difficult and this comment was added to Section 4.1.1.1, Effects to Hydrology under Alternative A.

Suggested Addition to Section 5.4 (Resource Specific Plans)

- The Thurston County Land Use Ordinance or the Critical Area Ordinance are not discussed here, and should be.

Service Response: An overview of land use practices and regulations within the study area is described in Section 3.8.3.1. Also, a new Section 5.5.6 titled “Land Use Ordinances” has been added.

4.0 LIST OF PEOPLE AND ENTITIES THAT PROVIDED COMMENT

Federal Agencies

<u>Agency</u>	<u>Signature</u>
US Environmental Protection Agency	Leckrone Lee, J.
FHWA, Western Federal Lands	Rodman, V.
OR Coast Natl. Wildlife Refuge Complex	Lowe, R.
National Marine Fisheries Service	Longenbaugh, M.

State Agencies

<u>Agency</u>	<u>Signature</u>
WA Dept. of Transportation	Jeffers, K.
WA Dept. of Natural Resources	Chappell, C.
WA Dept. of Fish and Wildlife	Koenings, J.

Local Agencies

<u>Agency</u>	<u>Signature</u>
City of Olympia, Water Resources	Decillo, V. and Iwai, R.
City of DuPont	Clarke, D.
Thurston Co. Commissioners	Wolfe, C.

Indian Tribes

<u>Tribe</u>	<u>Signature</u>
Skokomish Indian Nation, NRD	Dublanica, K.
Nisqually Indian Tribe, NRD	Troutt, D.

Organizations

<u>Organization</u>	<u>Signature</u>
Action for Animals	Cole, A. (+ 5 more names)
Black Hills Audubon Society	Packard, H.
Columbia University Action Coalition	Divney, W.
Friends of the Carbon Canyon	Chowen, M.
Humane Education Network	Bancroft, S.
National Audubon Society	Cullinan, T.
National Wildlife Refuge Assoc.	Fields, R.
Nature Conservancy of WA	Barson, L.
NCW Audubon Society	Soest, J.
Nisqually Delta Association	Skjervold, T.
Nisqually Reach Nature Center	Myers, D.
People for Puget Sound	Dawson, J.
Puget Sound Action Team	Redman, S.

Organization

Refuge Keeper (PEER)
Seattle Audubon Society
Senior Citizens for Humane Legislation
Sierra Club Cascade Chapter
Tahoma Audubon Society
The Mountaineers
Voices for Animals
WA Farmers Assoc.
Washington Native Plant Society
Wetland Ecosystem Team

Signature

Hocutt, G.
Joyce, J.
Goodwin, M.
Johnston, M.
Flint, B.
Oswald, F.
Merjian, N.
Wood, B.
Fries, M.
Simenstad, C.

Businesses

Organization

Summit Law Group
Perkins Cole
Northwest Landing
Sid Shapiro

Signature

McNeill, P.
Mackie, A.
Moore, G.
Kelson, L.

General Public

Abazorius, A.
Adair, I.
Adams, C.
Adams, D.
Adams, S.
Adamsla, K.
Akehurst, S.
Albano, S.
Albrecht, S.
Alexander, J.
Allen, L.
Allen, M.
Allison, D. and G.
Allred, R.
Aloi, C.
Althoff, E.
Alvarez, C.
Ammon, C.
Ananda, C.
Anderlik, C. and R.
Anderson, A.
Anderson, C.
Anderson, J.
Anderson, M.
Anderson, P.
Anderson, R.
Anderson-Rosas, C.
Andrews, R.
Animobono, S.
Ankrum, I.

Anthony, J.
Aptakin, K.
Archuleta, P.
Arnold, J. and N.
Artley, D.
Arundel, M.
Askew, V.
Atkinson, G.
Aubin, H.
Autin, M.
Avarese, K.
Babiak, K.
Babs, A.
Babst, C.
Bacon, B.
Baetz, R.
Bahr, L.
Bail, J.
Baird, H.
Baird, R.
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Baker, M.
Bakey, A.
Baldwin, S.
Balkin, C.
Bankston, D.
Barbier, A.
Barel, J.
Barenholtz, L.
Barnes, D.

Barnes, M.
Barnes, W.
Barnett, J.
Barrow, L.
Barry, B.
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Bartsch, R.
Bash, D. and J. Oliver
Bassett, J.
Bates, N.
Batker, K.
Bauer, A.
Baughner Albertson, K.
Baumann, L.
Baut, J.
Baxter, J.
Baybusky, J.
Beal, C.
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Beers-Finley, S.
Belinsky, M.
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Bellemare, R.
Bemel, D.
Benedetti, J.
Benefield, J.

Bennet, J.
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Bennett, T.
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Bentrup, A.
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Betker, D. and L.
Beyda, W.
Bianco, I.
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Bohr, M.
Bokelman, C.
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Bonasera, K.
Bond, J.
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Bonometti, B.
Booher, A.
Boone, J.
Boos, L.
Borcherding, J.
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Borodin, J.
Bossert, R.
Bostaph, D.
Bowers, S.
Boyd, B.
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Costello, C.
Couture, O.
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de Graan, J.
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Douglas, D.
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 Griffin, R.
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 Grovenburg
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 Gudinas, D. and D.
 Guerra, L.
 Gundlach, B.
 Gustafson-Greenwood, K.
 Gwyn, T.
 Gyimoti, S.
 H., M.
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 Haccus, H.
 Hackenson-Allers
 Hackenson-Allers, L.
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 Halbreich, A.
 Hall, J.
 Hamilton, K.
 Hanneken, D.
 Hansen, M.
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 Hanson, L.
 Happy, E.
 Hardin, K.
 Hardy, E.
 Hardy, W. and L.
 Harman, L.
 Harper, R.
 Harper, S.
 Harpole, D.
 Harried, M.
 Harriman, A.
 Harris, G.
 Harris, J.
 Harris, S.
 Harrison, L.
 Hartmann, J.
 Hartness, J.
 Hartung, J.
 Hartung, Z.
 Hart-von Keller, G.
 Harwood, G.
 Harzewski, C.
 Hass, M.
 Hatch-Carlsen, G.
 Hatfield, M.

Hathaway, L.
Hatleberg, E.
Hawthorn, L.
Hayes, J. and R.
Haynes, J.
Head, K.
Heaps, J.
Heaps, W.
Hearner, B.
Hearty, S.
Heath, V.
Hebert, P.
Hecklinger, L.
Heller, E.
Helms, N.
Helms, W.
Hendricksen, J.
Hendrickson, D.
Henricksen, D.
Henrickson, L.
Henry, R.
Henson, N.
Herath-Veiby, G.
Herman, M.
Hernandez, A.
Herner, B.
Herz, M.
Herzberg, W.
Hess, G.
Hess, M.
Heywood, D.
Higgins, C.
Hill, R.
Hinkle, J.
Hinze, W.
Ho, N.
Hoagland, P.
Hoban, C.
Hobbs, T.
Hodge, D.
Hodges, C.
Hoffman, K.
Hoffman, R.
Holden, G.
Holland, D.
Holland, E.
Hollings, L.
Holmes, T.
Holtschulte, J.
Holtz, B.
Hopkinson, C.
Horner, D.
Horner, S.
Horseman, D.
Houston, J.
Howard, E.

Howard, S.
Hudyma, R.
Hueftle, K.
Huneycutt, C.
Hunt, H.
Hunter, J.
Hurtado-Webb
Hurtel, C.
Hutchinson, J.
Hutchinson, T.
Huyler, J.
Hyers, A.
Ingerman, K.
Interrante, K.
Irwin, T.
Isbell, S.
Jacir, D.
Jackson, K.
Jacobs, B.
Jacobs, R.
Jacobson, L.
Jacot, L.
Jacques, D.
Jagg, N.
Jakob, H.
Jakopak, L.
James, D.
Jameson, J.
Janicki, J.
Jasper, P.
Jauquet, J.
Jensen, B.
Jensen, D.
Jensen, E.
Jessler, D.
Johnson, B. & D.
Johnson, C.
Johnson, K.
Johnson, M.
Johnson, S.
Jones, C.
Jones, G.
Jones, R.
Jones, T.
Jonientz, C.
Jordal, A.
Jordan, Y.
Joscelyne, C.
Joy, C.
Joyce, K.
Juelson, T.
Kalan, S.
Kaminski, C.
Kampen, G.
Kandinsky, M.
Karlsvik, S.

Kasper, A.
Kassel, R.
Kateiva, A.
Katz, M.
Kauffman, C.
Kauffman, J.
Kaufmann, K.
Kavanaugh, R.
Kawanishi, A.
Kawazoe, K.
Kearns, K.
Kee, J.
Keefe, J.
Keigel, J.
Keilstrup, D.
Kelley, M.
Kelly, D.
Kemp, J.
Kennedy, A.
Kenney, M.
Kentala, J.
Kenton, M.
Kester-Oliver, K.
Khadduri, L.
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Kidman, B.
Kimball, L.
Kimball, M.
King, F.
King, H.
Kirby, M.
Kirsten, J.
Kitchen, E.
Kitzman, I.
Klawuhn, K.
Kligman, A.
Klinger, K. and Hansen, P.
Knollmeyer, C.
Koch, G.
Koehler, J.
Kolakowski, D.
Kopec, E.
Korbett, J.
Kordack, J.
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Kovich, J.
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Kramer, D.
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Krechnyak, K.
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Ksiazak, M.
Kuciej, W.
Kucsera, C.

Kunsch, L.
 Kuperburg, J.
 Kurp, P.
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 Kuypers, J.
 Kuzdeba, E.
 L., A.
 La Chusa, D.
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 La Voy, L.
 Lagerberg, R.
 Lamb, J.
 Lampman, T.
 Lang-Bartlett, C.
 Larish, J.
 Larsen, K. and G. Tolbert
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 Lastar, J.
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 Le Baron, P.
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 LeVasque, J.
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 Levin, M.
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 Lissauer, J.
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 Liu-Elizabeth, E.
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 Ludvigson, M. & Kevanda, C.
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 Lynch, J.(ohn)
 Lynn, D.
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 Mahutga, B. and B.
 Makela, L.
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 Martinez-Hixon, M.
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 Mathews, P.
 Mathieu, K. and K.
 Mathis, K.
 Mattson, J.
 Max, M. and P.
 Maxwell, J.
 Maze, K.
 McCann, Y.
 McCarthy, A.
 McCarty, J.
 McClintock, C.
 McCormick, A.
 McCoy, K.
 McCoy, M.
 McCreary, J.
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