

Appendix B. Compatibility Determinations

Introduction

The compatibility determinations (CDs) developed during the CCP planning process evaluates uses projected to occur under Alternative 2, the Preferred Alternative in the Draft CCP/EIS. The evaluation of funds needed for management and implementation of each use also assumes implementation as described under Alternative 2. Chapter 6 of the Draft CCP/EIS also contains analysis of the impacts of public uses to wildlife and habitats. That portion of the document is intended to be incorporated through reference into this set of CDs.

Uses Evaluated at this Time

The following section includes full CDs for all refuge uses that are required to be evaluated at this time. According to Service policy, CDs will be completed for all uses proposed under a CCP. Existing wildlife-dependent recreational uses must also be reevaluated and new CDs prepared during development of a CCP or every 15 years whichever comes first. Uses other than wildlife-dependent recreational uses are not explicitly required to be reevaluated in concert with preparation of a CCP, unless conditions of the use have changed or unless significant new information relative to the use and its effects have become available or the existing CDs are more than 10 years old. However, the Service planning policy recommends preparing CDs for all individual uses, specific use programs, or groups of related uses associated with the proposed action. Accordingly, the following CDs are included in this document for public review.

Table B.1 Summary of Compatible Use Determinations

See Page	CD #	Refuge Use	Refuge*/Compatible	Next Year Due for Re-evaluation
B-7	B.1	Waterfowl Hunting; Crims, Wallace, Price and Hunting Islands	JBH/yes	2025
B-17	B.2	Elk Hunting; Mainland Unit	JBH/yes	2020
B-23	B.3	Sport Fishing	JBH/yes	2025
B-29	B.4	Environmental Education, Interpretation, Wildlife Observation and Photography	JBH/yes	2025
B-35	B.5	Trapping Nutria	JBH/yes	2020
B-39	B.6	Haying, Silage Harvest and Cattle Grazing	JBH/yes	2020
B-45	B.7	Waterfowl Hunting	LAC/yes	2025
B-53	B.8	Sport Fishing	LAC/yes	2025
B-59	B.9	Environmental Education, Interpretation, Wildlife Observation and Photography	LAC/yes	2025
B-65	B.10	Trapping Nutria	LAC/yes	2020

* Julia Butler Hansen Refuge (JBH) and Lewis and Clark Refuge (LAC)

Compatibility - Legal and Historical Context

Compatibility is a tool refuge managers use to ensure that recreational and other uses do not interfere with wildlife conservation, the primary focus of refuges. Compatibility is not new to

the Refuge System and dates back to 1918, as a concept. As policy, it has been used since 1962. The Refuge Recreation Act of 1962 directed the Secretary of the Interior to allow only those public uses of refuge lands that were “compatible with the primary purposes for which the area was established.” Legally, refuges are closed to all public uses until officially opened through a compatibility determination. Regulations require that adequate funds be available for administration and protection of refuges before opening them to any public uses. However, wildlife-dependent recreational uses (hunting, fishing, wildlife observation and photography, and environmental education and interpretation) are to receive enhanced consideration and cannot be rejected simply for lack of funding resources unless the refuge has made a concerted effort to seek out funds from all potential partners. Once found compatible, wildlife-dependent recreational uses are deemed the priority public uses at the refuge. If a proposed use is found not compatible, the refuge manager is legally precluded from approving it. Economic uses that are conducted by or authorized by the refuge also require compatibility determinations.

Under compatibility policy, uses are defined as recreational, economic/commercial, or management use of a refuge by the public or a non-Refuge System entity. Uses generally providing an economic return (even if conducted for the purposes of habitat management) are also subject to compatibility determinations. The Service does not prepare compatibility determinations for uses when the Service does not have jurisdiction. For example, the Service may have limited jurisdiction over refuge areas where property rights are vested by others; where legally binding agreements exist; or where there are treaty rights held by tribes. In addition, aircraft over-flights, emergency actions, some activities on navigable waters, and activities by other Federal agencies on “overlay refuges” are exempt from the compatibility review process.

The compatibility policy required by the National Wildlife Refuge System Improvement Act of 1997 (Improvement Act), was adopted by the Service in October, 2000. The policy requires that a use must be compatible with both the mission of the Refuge System and the purposes of the individual refuge. This standard helps to ensure consistency in application across the Refuge System. The Improvement Act also requires that compatibility determinations be in writing and that the public have an opportunity to comment on most use evaluations.

The Refuge System mission emphasizes that the needs of fish, wildlife, and plants must be of primary consideration. The Improvement Act defined a compatible use as one that “. . . in the sound professional judgment of the Director, will not materially interfere with or detract from the fulfillment of the mission of the System or the purposes of the Refuge.” Sound professional judgment is defined under the Improvement Act as “. . . a finding, determination, or decision, that is consistent with principles of sound fish and wildlife management and administration, available science and resources. . .” Compatibility for priority wildlife-dependent uses may depend on the level or extent of a use.

Court interpretations of the compatibility standard have found that compatibility is a biological standard and cannot be used to balance or weigh economic, political, or recreational interests against the primary purpose of the refuge (*Defenders of Wildlife v. Andrus* [Ruby Lake Refuge]). The Service recognizes that compatibility determinations are complex. For this reason, refuge managers are required to consider “principles of sound fish and wildlife management” and “best available science” in making these determinations (House of

Representatives Report 105-106). Evaluations of the existing uses on Julia Butler Hansen and Lewis and Clark refuges are based on the professional judgment of refuge personnel including observations of refuge uses and reviews of appropriate scientific literature.

In July 2006, the Service published its Appropriate Refuge Uses Policy (603 FW1). Under this policy, most proposed uses must also undergo a review prior to compatibility. Exceptions from the policy include the six wildlife-dependent public uses and uses under reserved rights – see policy for more detail. Appropriate use reviews that are not found appropriate are included here for camping and dog training (Appendix A).

Compatibility Determinations for Julia Butler Hansen Refuge

This section contains Compatibility Determinations for the following uses on Julia Butler Hansen Refuge:

- Environmental education, interpretation, wildlife observation and photography
- Waterfowl hunting
- Sport Fishing
- Elk Hunting (Mainland Unit only)
- Haying, Silage and Cattle Grazing (Mainland/Tenasillahe Island units only)
- Trapping Nutria

Julia Butler Hansen Refuge Location

Location: Wahkiakum County Washington and Columbia and Clatsop County, Oregon
Date Established: 1971

Establishing and Acquisition Authorities

- Endangered Species Act of 1973, as amended [16 U.S.C. 1531-1544])
- Refuge Recreation Act (16 U.S.C. 460k-460k-4), as amended)
- Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j, not including 742d-1)
- Estimated Land Acquisition under the (P.L. 88-578) Land and Water Conservation Fund Act of 1965
- Final Environmental Statement, Proposed Additions to and Operation of the Columbian White-tailed Deer National Wildlife Refuge Oregon and Washington, May 10, 1973
- Draft Environmental Assessment, Proposed Additions to Julia Butler Hansen Refuge for the Columbia White-tailed Deer, Clatsop and Columbia Counties, Oregon, December 1990
- Categorical Exclusion for the Willamette Industries Addition October 1998

Refuge Purpose(s)

- “... to conserve (A) fish or wildlife which are listed as endangered species or threatened species.or (B) plants ...” 16 U.S.C. 1534 (Endangered Species Act of 1973)

- “... suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species...” 16 U.S.C. 460k-1
- “...the Secretary...may accept and use...real...property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors” 16 U.S.C. 460k-2 (Refuge Recreation Act (16 U.S.C. 460k-460k-4), as amended).
- “...for the development, advancement, management, conservation, and protection of fish and wildlife resources...” 16 U.S.C. 742f(a)(4) “... for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude ...” 16 U.S.C. 742f(b)(1) (Fish and Wildlife Act of 1956)
- “The lands proposed for acquisition are essential to the preservation of the endangered Columbia white-tailed deer, *Odocoileus virginianus leucurus*.” Estimated Land Acquisition FY 1967
- “...and management of these lands primarily for the benefit of the endangered Columbian white-tailed deer and public enjoyment derived there from.” DOI Final Environmental Statement, May 10, 1973
- “...to secure additional habitat for the benefit of the endangered Columbian White-tailed deer.” Draft Environmental Assessment, December 1990
- “...to preserve native spruce swamp habitat for the Endangered CWTD” Categorical Exclusion, October 1998

Compatibility Determinations for Lewis and Clark Refuge

This section contains Compatibility Determinations for the following uses on the Lewis and Clark National Wildlife Refuge:

- Environmental education, interpretation, wildlife observation and photography
- Waterfowl hunting
- Sport Fishing
- Trapping Nutria

Lewis and Clark Refuge Location

Location: Clatsop County, Oregon

Date Established: 1972

Establishing and Acquisition Authority(ies):

- Migratory Bird Conservation Act of 1929 (45 Stat.1222), as amended
- Federal Property & Admin. Services Act of 1949 (P.L. 80-537)
- Refuge Recreation Act (16 U.S.C. 460k-460k-4), as amended)

Refuge Purpose(s):

- “To preserve an important wintering and feeding area for migratory waterfowl in the Pacific Flyway” (Migratory Bird Conservation Commission: Memorandum #2 dated September 21, 1971)
- “Wintering area for migratory waterfowl” (Migratory Bird Conservation Commission: Memorandum #7 dated May 14, 1974)
- “...wildlife conservation purposes” (U.S. Department of Labor, General Services Administration, land transfer documents, 41 acre Tongue Point Unit) March 20, 1979
- “...maintain existing habitat for the threatened bald eagle, as well as support it’s eventual recovery.” (U.S. Department of Labor (GSA) land transfer documents of Emerald Heights and Tongue Point units to the Service) March 15, 1990
- “Public Waterfowl hunting, recreational fishing, and commercial fishing, in accordance with established custom and usage in accordance with State and Federal rules and regulations.” Clatsop County, Oregon, Land donation documents; Bargain and Sale of Deed (4328 acres refuge islands), May 20, 2004

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System is “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans” (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee]).

References

Defenders of Wildlife v. Andrus (Ruby Lake Refuge I). 11 Env'tl. Rptr. Case 2098 (D.D.C. 1978), p.873.

House of Representatives Report 105-106 (on NWRSA) -
<http://refuges.fws.gov/policyMakers/mandates/HR1420/part1.html>

Compatibility regulations, adopted by the Service in October, 2000:
(<http://refuges.fws.gov/policymakers/nwrpolicies.html>)

B.1 Compatibility Determination for Waterfowl Hunting on Julia Butler Hansen Refuge for the Columbia White-tailed Deer

Use: Hunting (waterfowl)

Refuge Names: Julia Butler Hansen Refuge for the Columbian White-tailed Deer

Description of Use(s): This compatibility determination examines existing and proposed sport hunting for waterfowl on designated units of the refuge. Existing waterfowl hunt areas include the Hunting Islands and Wallace Island units of the Julia Butler Hansen Refuge. Proposed waterfowl hunt areas include the Crims Island Unit, which is located in Columbia County, Oregon, and the Service owned portion of Price Island which is located in Wahkiakum County, Washington. Maintaining hunting opportunities on Hunting and Wallace Islands and opening the Service owned portions of Crims and Price Islands to waterfowl hunting will complement State permitted activities. This will resolve potential problems over the exact position of the refuge boundary that would exist with a waterfowl hunt closure, and associated enforcement of relevant laws and regulations. Hunting is currently permitted on Oregon and Washington State-owned waters and tidelands surrounding the four islands. These adjacent waters are all tidally influenced submerged lands below mean high water (MHW).

Under this proposal, hunting would be allowed consistent with State regulations except as specifically noted herein. Geese, ducks, coots, and common snipe will be permitted to be taken. Specific species/numbers to be taken and hunting periods will be set by ODFW and WDFW to match adjacent areas open to waterfowl hunting. The shoreline of the islands as well as the interior sloughs and adjacent slough banks will be opened for hunting. Areas interior to the river shoreline and slough banks will be closed as the dense forested interiors provide no real waterfowl hunting opportunities.

Hunters may use dogs to aide in retrieval of birds but dogs will need to be kept under control at all times. Hunters may set up temporary blinds along the shoreline which must be removed at the conclusion of each hunting period. Since this hunt will occur on islands in the Columbia River access is only available by boat.

Hunting and Price Islands are located in Wahkiakum County, Washington, adjacent to the Mainland Unit while both Wallace and Crims Islands are located in Columbia County, Oregon. Refuge ownership of the islands is confined to land above MHW with the States of Washington and Oregon owning and regulating use of the surrounding tidal and submerged land.

Recreational hunting (a wildlife-dependent activity) has been identified in the National Wildlife Refuge System Improvement Act of 1997 as a priority public use, provided it is compatible with the purpose for which the refuge was established.

Availability of Resources: The proposed continuation of waterfowl hunting on Hunting and Wallace Islands and expansion of waterfowl hunting to include the Service owned portions of Crims and Price Islands would not require any new infrastructure or personnel. Administration of the hunt and annual coordination with the States of Oregon and Washington would be

required as would some law enforcement patrols, however refuge staff is in place and capable of conducting these additional duties. Revision and printing of the refuge brochure, updating the refuge web site and other outreach information would be required at an estimated cost of \$9,000. Base funding is available to cover these costs.

Category and Itemization	One-time (\$000)	Annual (\$000/yr)
Administration and management:	\$0000.00	\$2,000.00
Maintenance:	\$0000.00	\$1,000.00
Monitoring:	\$0000.00	\$4,000.00
Special equipment, facilities, or improvements:	\$500.00	\$2,000.00
Offsetting revenues:	\$0000.00	\$0000.00

Anticipated Impacts of the Use: The primary refuge purpose is to maintain the refuge in optimum condition for the Columbian white-tailed (CWT) Deer. Wallace Island currently supports approximately 20 CWT Deer, Crims Island supports about 25 CWT deer, and Hunting/Price Islands support around 20 CWT deer. This proposed use would not result in any degradation of the islands in terms of its suitability for CWT deer. Due to the limited number of hunters, limited field time, and the activity being confined to essentially the shoreline, no effects to vegetation are anticipated.

While the presence of hunters and dogs would cause some disturbance to CWT deer on the island, this level of disturbance is expected to be minor and inconsequential. There is abundant hiding cover on the islands for CWT deer. Hunters would have no reason to penetrate the island’s interior and due to the dense vegetation it is not suitable habitat for waterfowl hunting or walking. Hunter’s dogs would be expected to stay at the blind or boat, as they are trained to do, except when retrieving birds.

The number of hunters expected to use the shoreline of each island would be small, probably 2-4 parties at most per day. Waterfowl hunting already occurs on state-owned waters and tidelands surrounding the islands. Opening the island to hunting is not expected to increase the amount of hunting or boat traffic that occurs in close proximity to the island. A closure of the shoreline would be unenforceable because the refuge boundary is described as the mean high water line, which cannot be precisely determined in many areas.

White-tailed deer in general are quite tolerant of moderate human disturbance. They often live in suburban neighborhoods and city parks, where human presence is nearly constant (Etter 2002, Raik et al. 2006, Harveson et al. 2007). The relatively minor disturbance caused by a few hunters using the shoreline of Wallace Island is not expected to have any measurable negative effect on CWT deer.

Other species which may be affected by the proposed alternative include bald eagles, great blue herons and other birds which reside along island shorelines and in riparian vegetation in the Columbia River. No effects are expected for Columbia River or refuge fish populations.

Nearby resting and feeding areas will be available for use by waterfowl, deer and other refuge species that are disturbed. These species would likely move to other areas of the refuge which are less accessible to the hunters. The Service is required by the Endangered Species Act of

1973 to complete a Section 7 evaluation of the proposed activity to ensure that the action does not unacceptably affect listed species. The completed Section 7 determined that the proposed action would not be likely to adversely affect any endangered mammals or birds in the area and would have no effect on bull trout.

Effects on other public uses are expected to be minimal as the islands are accessible only by boat and due to the time of year waterfowl hunting occurs, other recreational uses such as kayaking or boating in the Columbia River have ceased or are at minimal levels in the fall/winter months.

Although hunting directly impacts individuals, the amount of waterfowl harvest is not expected to change or to have a measurable effect on refuge, lower Columbia River, or Pacific Flyway populations, as waterfowl hunting is already occurring on the shorelines surrounding all three islands below MHW and waterfowl hunting activity is not extremely high. Hunting may be either compensatory or additive to natural mortality (Anderson 1995). Compensatory mortality occurs when hunting substitutes for other forms of mortality (disease, competition, predation, severe weather, etc.). Additive mortality occurs when hunting compounds the total mortality. In some cases, hunting can be used as a management tool to control populations. In concert with Canada, Mexico, and multi-state flyway councils, the Service and State wildlife agencies regulate hunting so that harvest does not reduce populations to unsustainable levels.

Direct effects of hunting on waterfowl are mortality, wounding, and disturbance (DeLong 2002). Hunting can alter behavior (e.g., foraging time), population structure, and distribution patterns of wildlife (Owens 1977, Raveling 1979, White-Robinson 1982, Thomas 1983, Bartelt 1987, Madsen 1985, and Cole and Knight 1990). In Denmark, hunting was documented to affect the diversity and number of birds using a site (Madsen 1995). Avian diversity changed from predominantly mute swan and mallard to a more even distribution of a greater number of species when a sanctuary was established. Hence, species diversity increased with the elimination of hunting. There also appears to be an inverse relationship between the numbers of birds using an area and hunting intensity (DeLong 2002). In Connecticut, lesser scaup were observed to forage less in areas that were heavily hunted (Cronan 1957). In California, the numbers of northern pintails on Sacramento Refuge's non-hunt areas increased after the first week of hunting and remained high until the season was over in early January (Heitmeyer and Raveling 1988). Following the close of hunting season, ducks generally increased their use of the hunt area; however, use was lower than before the hunting season began.

Human disturbance to wintering birds and other wildlife using the open waters of the Columbia River surrounding the islands would occur as a result of hunting activity. Migratory and wintering waterfowl generally attempt to minimize time spent in flight and maximize foraging time because flight requires considerably more energy than any other activity, other than egg laying. Human disturbance associated with hunting includes loud noises and rapid movements, such as those produced by shotguns and boats powered by outboard motors. This disturbance, especially when repeated over a period of time, compels waterfowl to change food habits, feed only at night, lose weight, or desert feeding areas (Madsen 1995, Wolder 1993). Disturbance levels from hunting activity outside Chincoteague Refuge were found to be high enough to force wintering black ducks into a pattern of nocturnal feeding within surrounding salt marsh and

diurnal resting within refuge impoundments (Morton et al. 1989a, 1989b). Unhunted populations have been documented to behave differently from hunted ones (Wood 1993).

These impacts can be reduced by the presence of adjacent sanctuary areas where hunting does not occur, and birds can feed and rest relatively undisturbed. Sanctuaries or non-hunt areas have been identified as the most common solution to disturbance problems caused from hunting (Havera et. al 1992). Prolonged and extensive disturbances may cause large numbers of waterfowl to leave disturbed areas and migrate elsewhere (Madsen 1995, Paulus 1984). In Denmark, hunting disturbance effects were experimentally tested by establishing two sanctuaries (Madsen 1995). Over a 5-year period, these sanctuaries became two of the most important staging areas for coastal waterfowl. Numbers of dabbling ducks and geese increased 4 to 20 fold within the sanctuary (Madsen 1995). On Julia Butler Hansen Refuge, both the Tenasillahe Island and Mainland units are closed to all public entry and with numerous wetlands and sloughs available, it acts as a sanctuary during the waterfowl season. In addition, two established sanctuaries exist on the adjacent Lewis and Clark Refuge and vast portions of the Columbia River, they act as de facto sanctuaries due to the amount of open water not subject to waterfowl hunting pressure.

Intermittent hunting can be a means of minimizing disturbance, especially if rest periods in between hunting events are weeks rather than days (Fox and Madsen 1997). It is common for refuges to manage hunt programs with non-hunt days. At Sacramento Refuge, 3 percent to 16 percent of pintails were located on hunted units during non-hunt days, but were almost entirely absent in those same units on hunt days (Wolder 1993). In addition, northern pintails, American wigeon, and northern shovelers decreased time spent feeding on days when hunting occurred on public shooting areas, as compared to non-hunt days (Heitmeyer and Raveling 1988). However, intermittent hunting may not always greatly reduce hunting impacts. The intermittent hunting program of three hunt days per week at Sacramento Refuge results in lower pintail densities on hunt areas during non-hunt days than non-hunt areas (Wolder 1993). In Germany, several studies reported a range from a few days to approximately three weeks for waterbird numbers to recover to pre-disturbance levels (Fox and Madsen 1997). The proposed hunt will not be intermittent in order to provide consistent management with the existing refuge waterfowl hunt program as well as on adjacent State lands and waters.

Public Review and Comment: Open house style public meetings were held, verbal and written comments were solicited from the public during public scoping for the Draft CCP/EIS. Appendix I of the Draft CCP/EIS further details public involvement undertaken during development of the CCP. Additional public review and comment will be solicited during the Draft CCP/EIS comment period.

Determination:

Use is Not Compatible

Use is Compatible with the Following Stipulations

Stipulations necessary to ensure compatibility:

- Waterfowl hunters would be expected to comply with all current and applicable State and refuge regulations. This will be achieved through a combination of printed information, signing, outreach efforts, and enforcement of regulations by State and refuge law enforcement officers.
- The shorelines of Wallace Island (approximately 5.8 miles of shoreline and the navigable interior sloughs), Crims Island (Service owned 5.1 Miles), Price Island (Service owned 0.7 miles) and the Hunting Islands (approximately 6.9 miles of shoreline and navigable interior sloughs) under refuge jurisdiction these areas will be opened to public waterfowl hunting.
- The only exception to the open hunting zones is waterfowl hunting along the shoreline of Hunting Island where it parallels the Elochoman Slough, this area would be closed because the hunt zone is directly adjacent to the wildlife viewing site on the Steamboat Slough Dike Road. Having a hunt area so close to a wildlife viewing area could lead to conflicting public uses as well as safety issues.
- Geese, ducks, coots, and common snipe will be allowed to be taken. Limits and hunting periods will be set by ODFW and WDFW to match adjacent areas open to waterfowl hunting.
- Refuge staff and ODFW/WDFW staff will consult on issues regarding law enforcement and any significant changes in the number or behavior of wildlife. Refuge regulations will be in accord with state regulations. Refuge and ODFW/WDFW officers will patrol to ensure hunters are complying with all regulations and restrictions.
- Temporary blinds may be constructed, but they must be available to everyone on a first-come, first-served basis.
- Hunters may use dogs to aide in retrieval of birds but dogs will need to be kept under control at all times.
- Only non-toxic shot will be allowed for the hunt.
- Camping, overnight use and fires are prohibited.

Justification:

Hunting is one of the six designated wildlife-dependent public uses of the Refuge System. Refuges grant these six uses special consideration in planning and management. When on a refuge-specific basis one or more of these uses is determined compatible with the refuge purpose(s) and the Refuge System mission, the refuge is to strongly encourage (facilitate) the use(s). Providing a quality hunting program contributes to achieving refuge goals and purposes.

By incorporating Crims ,Wallace, Hunting and Price Islands into an existing waterfowl hunt program, no habitat degradation would be anticipated, disturbance to CWT deer would be temporary and localized, and ample amounts of additional quality habitat for waterfowl and other wetland birds exists on the refuge and in the lower Columbia River. Opening up the refuge-owned portion of Crims, Wallace, Hunting and Price Islands for waterfowl hunting compliments activities permitted by Oregon and Washington on adjacent waters and tidelands and provides distinct, manageable hunt units that can be more easily delineated, posted, and enforced,

resulting in less confusion for the waterfowl hunting public. In addition, due to the time of year and the limited access except by boat, no conflicts among refuge user groups is anticipated.

It is anticipated that wildlife populations will find sufficient food resources and resting places such that their abundance and use of the refuge will not be measurably lessened from allowing this use to occur. The relatively limited number of individuals expected to be adversely affected will not cause wildlife populations to materially decline, the physiological condition and production of affected species will not be impaired, their behavior and normal activity patterns will not be altered dramatically, and their overall welfare will not be negatively impacted.

The program as described was determined to be compatible because potential impacts from waterfowl hunting around Wallace Island on CWT deer, other area waterfowl, and wildlife would be minimal and not materially interfere with or detract from achievement of the Refuge System mission or from the Service's ability to achieve refuge wildlife, habitat, or other public-use-related purposes and goals.

Mandatory Re-Evaluation Date (provide month and year for "allowed" uses only):

Mandatory 15-year Re-Evaluation Date will be provided in the Final EIS/CCP (for priority public uses)

Mandatory 10-year Re-Evaluation (for all uses other than priority public uses)

NEPA Compliance for Refuge Use Decision (check one below):

Categorical Exclusion without Environmental Action Statement

Categorical Exclusion and Environmental Action Statement

Environmental Assessment and Finding of No Significant Impact

Environmental Impact Statement and Record of Decision

References

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Signatures approving and concurring with B.1 Compatibility Determination for Waterfowl Hunting on Julia Butler Hansen Refuge (Use is compatible with stipulations)

Refuge Determination:

Prepared by: _____
(Signature) (Date)

Refuge Manager/
Project Leader
Approval: _____
(Signature) (Date)

Concurrence

Refuge Supervisor: _____
(Signature) (Date)

Regional Chief,
National Wildlife
Refuge System: _____
(Signature) (Date)

B.2 Compatibility Determination for Elk Hunting on Julia Butler Hansen's Mainland Unit

Use: Elk hunt on the Mainland Unit

Refuge Name: Julia Butler Hansen Refuge for the Columbian White-tailed Deer

Description of Use: This compatibility determination examines the existing elk hunt on the Mainland Unit of the refuge. The elk hunt program originates from the alternative selected in the Refuge Elk Management Plan and Environmental Assessment (EA) developed to manage the over-population and habitat competition of elk on the refuge in 2004.

The elk hunt takes a three-tier approach. The initial tier includes a state regulated limited permit muzzleloader hunt with a maximum of 10 permits issued per designated hunt period with a maximum of 2 hunt periods per year. The number of permits and type of animals to be taken (cow, spike, bull etc.) is determined annually by the refuge based on the number of elk found on the refuge, as determined by surveys conducted by refuge staff.

If the limited hunts do not reduce herd numbers to management goals then the refuge proceeds to an "as needed" hunt activity. This hunt draws from the pool of hunters who have applied for a muzzleloader permit but who have not yet been allocated a permit. The number of permits in this "as needed" hunt is limited to a maximum of ten covered under two hunt periods.

Hunters participating in either type of hunt are required to check in at the refuge headquarters for a pre-hunt briefing. Hunters are also required to sign out at the end of the day, reporting any success at that time.

If management goals are still not met with the "as needed" hunt then the refuge proceeds to a final tier. The third tier involves either a management cull (elk removed by a professional sharpshooter) or relocation of the elk (elk moved off of the refuge). However, the State has affirmed that they will consider relocation only as an option of last resort. Because the final tier is a Service authorized management activity, it is not subject to a compatibility determination.

Hunting is considered one of the priority wildlife-dependant public uses of the Refuge System. Hunting on the Mainland Unit would occur only if elk population numbers exceeded population goals for the refuge. Based on the updated elk management plan, the maximum refuge population target is 20 elk, the majority of which should be larger bulls to provide for viewing and photography opportunities. There are presently approximately 20-25 elk on the refuge mainland, but numbers are expected to grow through immigration and reproduction.

Timing of the hunt is targeted for the fall hunting season but depending on success rates, if additional as needed hunts are required; they may be done anytime from September 1 to April 30. Due to safety concerns such as nearby roads and residences, high-powered rifles will not be allowed on the refuge.

Availability of Resources: The proposed elk hunt would not require any new infrastructure or personnel. Hunters would be required to check in at the refuge headquarters for a pre-hunt briefing but this would not create much of an additional load on current staff. Parking would be allowed in the existing headquarters parking area or along existing pullouts at Steamboat Slough Road. Maintenance of these areas already occurs and the additional use by hunters is not expected to create an additional maintenance load. Hunters would have to travel on foot from the parking lot or roadside to the designated hunt area. Once an elk was downed, it would have to be moved without the aide of vehicles to the closest county or state road for retrieval.

Refuge staff would be required to occasionally monitor hunter activities but since the number of hunters and hunt period is limited in scope, no additional personnel resources are anticipated and the impact on the existing staff should be limited to a few hours a week. It is expected that refuge and WDFW law enforcement personnel will assist with any enforcement related problems.

Maps, printed regulations and other printed materials would be required to administer the hunt and conduct annual trainings. Annual printing is anticipated to cost approximately \$500. Signs designating safety zones may be required in certain areas. Initial signage is expected to cost approximately \$500 for signs and posts.

Anticipated Impacts of Described Use: This proposed use would result in temporary displacement of waterfowl in the hunt area. Other species which may be affected by the proposed alternative include Columbian white-tailed deer, bald eagles, great blue herons and other birds which reside in and near refuge wetlands. Elk hunters can be expected to disturb waterfowl and other species by their movements and shooting activities in the field. The limited number of hunters allowed (maximum of 10 per hunt period), limited duration of the hunt (daylight hours only for no more than five consecutive days), and type of weapon allowed (muzzleloader) should limit the disturbance factor.

Nearby resting and feeding areas will be available for use by waterfowl, deer and other refuge species that are disturbed. These species would likely move to other areas of the refuge which are less accessible to the hunters. The Service has consulted under Section 7 of the Endangered Species Act to ensure that the action does not unacceptably affect listed species.

Due to the limited number of hunters and limited field time, no effects to vegetation are anticipated. In addition, no effects are expected to refuge fish populations because activities will not take place environments used by fish.

Effects to other public uses are expected to be minimal due to the location of the hunt which will be on the interior of the Mainland Unit which is generally closed to public use during the fall and winter. Some noise from the muzzleloaders may be experienced from the public driving around the auto tour road (dike road) and the public may occasionally observe elk or other wildlife species flushed into the open due to hunter activity. Again due to the limited scope and timing of the activity, all effects are expected to be minor and of short duration.

For detailed information concerning: 1) the purpose and need for the proposed action; 2) a description of the proposed action; 3) a description of affected habitats and wildlife; and 4) the environmental consequences of the proposed action the reader may reference the Environmental Assessment for Control of Elk on the Julia Butler Hansen Refuge for the Columbian White-tailed Deer.

Public Review and Comment

Open house style public meetings were held, verbal and written comments were solicited from the public during public scoping for the Draft CCP/EIS. Appendix I of the Draft CCP/EIS further details public involvement undertaken during development of the CCP. Additional public review will be solicited during the Draft CCP/EIS public comment period.

Determination:

Use is Not Compatible

Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility: In order to ensure that that elk hunting within the designated boundaries of the Mainland Unit is compatible with refuge purposes, the refuge will need to issue specific hunting regulations. The following regulations are required in order for a safe and quality hunt to proceed:

- Hunting of elk will be by permit only.
- Use of muzzleloader only weapons with safety zones established near roads and residences.
- A maximum of ten hunters will be allowed to use the refuge in any one day with one hunt period consisting of five consecutive days (Monday through Friday only).
- A maximum of four hunt periods will be allowed per hunt season; two regular permit and if required two “as needed” permit.
- One person per permitted hunter will be allowed to assist the hunter during the hunt.
- Additional help will be allowed to retrieve an elk.
- Timing will generally coincide with WDFW hunting season.
- The State Second Elk Tag As-Needed hunt program will be used as necessary to control elk numbers in months outside the normal hunting season, except no hunting will be allowed during April–August.
- All refuge elk hunters must attend a refuge-led orientation each year prior to hunting on the refuge.
- Elk hunters must sign in and out each day they hunt.
- Elk hunters must report success/failure and any hit-but-not-retrieved animals when they sign out each day.
- Initial hunts will utilize the Advanced Hunter Education Program to help minimize the chances of missed shots and impacts on other species.
- A Section 7 Consultation was conducted for the elk hunt program (August 2004).

Justification: The primary refuge purpose is to maintain the refuge's habitat for the CWT deer. High elk numbers have the potential of causing unacceptable damage to CWT deer habitat through feeding and movement activities. Although a small herd of 20 animals cause a level of damage that is generally tolerable to the CWT deer, larger numbers can cause serious problems for the deer recovery effort. There was an average of 73 elk on the refuge mainland during the period of 1982-2004. To date the elk hunt has had the desired effect of reducing the number of elk on the refuge. During the previous two elk hunts (2005 and 2006) five elk were removed from the refuge. A large group of the remaining cow elk has moved off the refuge due to the hunting pressure. As of October 2007, there are about 20 bull elk and a couple of cow elk on the Mainland Unit; all within the management goals.

Because the refuge's main purpose is to provide high quality habitat for the CWT deer, and high numbers of elk in a relatively restricted environment can degrade deer browsing and resting areas, elk population numbers must be controlled on the refuge. Controlling elk numbers on the refuge also helps to maintain the biological integrity, diversity, and environmental health of the refuge as whole. Options for controlling the size of the elk herd are limited due to state concerns regarding relocation of animals, limited funds for moving elk, and the lack of effective birth control technologies.

Based on the stipulations noted above designed to limit timing and amount of impact, it is anticipated that wildlife populations will find sufficient food resources and resting places such that their abundance and use of the refuge will not be measurably lessened from this activity. The relatively limited number of individuals expected to be adversely affected will not cause wildlife populations to materially decline, the physiological condition and production of this species will not be impaired, their behavior and normal activity patterns will not be altered dramatically, and their overall welfare will not be negatively impacted. Thus, removal of elk through hunting activities is found to be in support of and compatible with the purposes for establishment of the refuge and the mission of the Refuge System. The proposed use is also one of the priority wildlife-dependent uses refuges are required to facilitate, where compatible.

Mandatory 10- or 15-year Re-Evaluation Date:

Mandatory 15-year Re-Evaluation Date (for priority public uses)

Mandatory 10-year Re-Evaluation Date (for all uses other than priority public uses)

NEPA Compliance for Refuge Use Decision: *Place "X" in appropriate space.*

Categorical Exclusion without Environmental Action Statement

Categorical Exclusion and Environmental Action Statement

Environmental Assessment and Finding of No Significant Impact

Environmental Impact Statement and Record of Decision

References Cited:

Dublin, H.T. 1980. Relating deer diets to forage quality and quantity: the Columbian white-tailed deer. M.S. Thesis, University of Washington, Seattle. 136pp.

Gavin, T.A., L.H. Suring, P.A. Vohs, Jr., and E.C. Meslow. 1984. Population characteristics, spatial organization, and natural mortality in the Columbian White-tailed Deer. *Wildl. Monogr.* No. 91, October 1984.

Johnson, B.K., J.W. Kern, M.J. Wisdom, S.L. Findholt, and J.G. Kie. 2000. Resource selection and spatial separation of mule deer and elk during spring. *J. Wildl. Manage.* 64(3):685-697.

Kirchhoff, M.D., and D.N. Larsen. 1998. Dietary overlap between native Sitka black-tailed deer and introduced elk in southeast Alaska. *J. Wildl. Manage.* 62(1):236-242.

Leslie, D.M, Jr., E.E. Starkey, and M. Vavra. Elk and deer diets in old-growth forests in western Washington. 1984. *J. Wildl. Manage.* 48(3): 762-775.

Nelson, J.R., and T.A. Leege. 1982. Nutritional requirements and food habits. *In Elk of North America: ecology and management*, eds. J.W. Thomas and D.E. Toweill, pp. 343-357. Wildlife Management Institute, Stackpole Books, Harrisburg, PA. 698pp.

Stewart, K.M., R.T. Bowyer, J.G. Kie, N.J. Cimon, and B.K. Johnson. 2002. Temporospatial distributions of elk, mule deer, and cattle: resource partitioning and competitive displacement. *J. Mammalogy* 83(1):229-244.

Suring, L.H., and P.A. Vohs, Jr. 1979. Habitat use by Columbian white-tailed deer. *J. Wildl. Manage.* 43:610-619.

Verme, L.J., and D.E. Ullrey. 1984. Physiology and nutrition. *In White-tailed deer: ecology and management*, ed. L.K. Halls, pp. 91-118. Wildlife Management Institute, Stackpole Books, Harrisburg, PA. 698pp.

Signatures approving and concurring with B.2 Compatibility Determination for Elk Hunting on Julia Butler Hansen’s Mainland Unit (Use is Compatible with Stipulations)

Refuge Determination:

Prepared by: _____
(Signature) (Date)

Refuge Manager/
Project Leader
Approval: _____
(Signature) (Date)

Concurrence:

Refuge Supervisor: _____
(Signature) (Date)

Regional Chief,
National Wildlife
Refuge System: _____
(Signature) (Date)

B.3 Compatibility Determination for Sport Fishing on Julia Butler Hansen Refuge

Use: Sport Fishing.

Refuge Name: Julia Butler Hansen Refuge for the Columbian White-tailed Deer

Description of Use: Sport fishing is currently permitted in the small pond (less than one acre) at the refuge pumping station on the Mainland Unit from the county road. Anglers gain access to the pond and fish from Brooks Slough Road. The fishing here is generally incidental to fishing the adjacent Brooks Slough from the county road. The pond is generally fished by local anglers and currently there is very little fishing pressure. Fish species caught here are warm water fish (bluegill, bass).

Sport fishing commonly occurs in the State owned waters adjacent to the refuge boundary from the Mainland and Tenasillahe Island units. The refuge generally has jurisdiction over the land base, including shorelines, but not water in these areas. Access to fishing the Columbia River via the shoreline is gained from the adjacent county road on the mainland and via boat on Tenasillahe.

This Compatibility Determination will reassess and evaluate sport fishing from all shoreline and slough areas on the refuge. Under this use fishing would be allowed consistent with State regulations. Specific species/numbers to be taken and open periods will be set by ODFW and WDFW to match adjacent areas open to fishing.

Establishment of fishing opportunities along the shorelines of the various refuge units—Crims, Hunting, Price, Wallace and Westport and continuation of fishing along the exterior dikes of the Mainland and Tenasillahe Island units will complement State permitted activities. This will also resolve potential problems over the exact position of the refuge boundary that would exist with a fishery closure, and associated enforcement of relevant laws and regulations. Fishing is currently permitted on Oregon and Washington State-owned waters and tidelands surrounding all of the refuge units. These adjacent waters are all tidally influenced submerged lands below mean high water (MHW).

Hunting and Price Islands are located in Wahkiakum County, Washington, adjacent to the Mainland Unit while Wallace and Crims Islands and the Westport Unit are located in Columbia County, Oregon. Refuge ownership of the islands is confined to land above MHW with the States of Washington and Oregon owning and regulating use of the surrounding tidal and submerged land.

Recreational fishing (a wildlife-dependent activity) has been identified in the Improvement Act as a priority public use, provided it is compatible with the purpose for which the refuge was established.

Availability of Resources: The proposed sport fishery program would not require any new infrastructure or personnel. Administration of a fishing program would require coordination with

the States of Oregon and Washington, and require some law enforcement patrols, however refuge staff is in place and capable of conducting these additional duties. Revision and printing of the refuge brochure, updating the refuge web site and other outreach information would be required at an estimated cost of \$6,000. Base funding is available to cover these costs.

Category and Itemization	One-time (\$000)	Annual (\$000/yr)
Administration and management:	\$0000.00	\$3,000.00
Maintenance:	\$0000.00	\$1,000.00
Monitoring:	\$0000.00	\$2,000.00
Special equipment, facilities, or improvements:	\$2,500.00	\$0000.00
Offsetting revenues:	\$0000.00	\$0000.00

Anticipated Impacts of Use: Fishing as a solitary and stationary activity tends to be less disturbing to wildlife than hunting or motorized boating (Tuite et al. 1983). It is well recognized that fishing can give many people a deeper appreciation of fish and wildlife and a better understanding of the importance of conserving habitat, which has ultimately contributed to the Refuge System mission. A goal of Julia Butler Hansen Refuge is to provide opportunities for wildlife-dependent recreation. Fishing is one of the six priority public uses in the Refuge System. Of key concern then, is to manage the activity to keep any potential adverse impacts within acceptable limits.

Any angler activities on the Refuge are and will remain consistent with State guidelines. Related impacts for fish stocks associated with sport fishing in the Columbia and Elochoman Rivers are estimated annually and taken into consideration by the State in their development of annual fishing agreements and associated regulations. Therefore, impacts to fish populations should be minimized.

Additional disturbance would be caused to birds and other wildlife using the open waters and where fishing would occur. Fishing activities may influence the composition of bird communities, as well as abundance, and productivity of waterbirds (Tydeman 1977, Bouffard 1982, Bell and Austin 1985, Edwards and Bell 1985, and Cooke 1987). Anglers often fish in shallow, sheltered bays and creeks that birds prefer, negatively impacting distribution and abundance of waterfowl, grebes, and coots (Cooke 1987). Increases in anglers and associated shoreline activity discouraged waterfowl using otherwise suitable habitat (Hunt 1964). Anglers influenced the numbers, behavior, and diurnal distribution of avian scavengers present at sites in Washington, when compared to non-fishing days (Knight et al. 1991). Shoreline activities, such as human noise, would cause some birds to flush and go elsewhere. In addition, trampling of vegetation and deposition of sewage or other chemicals are expected to commonly occur (Liddle and Scorgie 1980). Disturbance and destruction of riparian vegetation, bank stability, and water quality may result from high levels of bank fishing activities.

Boating associated with fishing can alter bird distribution, reduce use of particular habitats or entire areas by waterfowl and other water-birds, alter feeding behavior and nutritional status, and cause premature departure from areas (Knight and Cole 1995). Impacts of motorized boating can occur even at low densities, given their noise, speed, and ability to cover extensive areas in a short amount of time. Anglers accessing the refuge shoreline at high tides by boat may fish from the refuge in the state waters.

Despite the potential impacts that fishing and supporting activities (boating) can have on local wildlife, it is anticipated impacts from allowing fishing will be minor. The reason impacts are expected to be minor is that the majority of waterfowl use on the refuge occurs in the winter and spring months, with some birds as early as September and October. Since the majority of the fishing activity occurs in the summer and fall (through mid-October), disturbance to waterfowl species is reduced. In addition, there is more than an adequate amount of undisturbed estuary, open water, and riverine habitat available to the majority of waterfowl, waterbirds, and other wildlife for escape and cover. Lastly, impacts are expected to be minor because there is a large area available for fishing and very small numbers of bank fisherman are expected to use the area.

Public Review and Comment: Open house style public meetings were held, and verbal and written comments were solicited from the public during public scoping for the Draft CCP/EIS. Appendix I of the Draft CCP/EIS further details public involvement undertaken during development of the CCP. Additional public review and comment will be solicited during the Draft CCP/EIS comment period.

Determination:

Use is Not Compatible

Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility: Law enforcement patrols to assure compliance with fishing regulations will be conducted. State Fish and Wildlife Officers also patrol the refuge. Harvest and season lengths are established by the States of Oregon and Washington. All interior sloughs on the Tenasillahe Island Unit and Mainland Unit, except the pond adjacent to the Brooks Slough Pump station, are closed to prevent disturbance to the CWT deer.

Justification: Recreational fishing is one of the six priority public uses of the Refuge System. Providing a quality fishing program contributes to achieving one of the refuge's goals.

It is anticipated that wildlife, primarily waterbirds, will find sufficient food resources and resting places and their abundance and use of the refuge will not be measurably reduced. The fishing pressure received will not cause fish stocks to decline. The physiological condition and production of waterfowl and other waterbirds will not be impaired, their behavior and activity patterns will not be altered dramatically, and their overall welfare will not be impaired. Thus, allowing fishing to occur as described with stipulations will not materially detract or interfere with the purposes for which the refuge was established or the refuge mission.

Mandatory Re-Evaluation Date (provide month and year for “allowed” uses only):

Mandatory 15-year Re-Evaluation Date will be provided in the Final EIS/CCP (for priority public uses)

Mandatory 10-year Re-Evaluation (for all uses other than priority public uses)

NEPA Compliance for Refuge Use Decision (check one below):

Categorical Exclusion without Environmental Action Statement

Categorical Exclusion and Environmental Action Statement

Environmental Assessment and Finding of No Significant Impact

Environmental Impact Statement and Record of Decision

References:

Bell, D.V. and L.W. Austin. 1985. The game-fishing season and its effects on overwintering wildfowl. *Biol Conserv.* 33:65-80.

Bouffard, S.H. 1982 Wildlife values versus human recreation: Ruby Lake National Wildlife Refuge. *N. Am. Wildl. Conf* 47: 553-556.

Cooke, A.S. 1987. Disturbance by anglers of birds at GrafamWater. *ITE Symposium* 19: 15-22.

Edwards, R.W. and D.V. Bell. 1985. Fishing in troubled waters. *New Science* 1446, 7 March: 19-21.

Jahn, L.R. and R.A. Hunt. 1964. Duck and coot ecology and management in Wisconsin. *Wisconsin Conserv. Dep. Tech Bull No.33* 212pp.

Knight, R.L., D.P. Anderson and N.V. Marr. 1991. Responses of an Avian Scavenging Guild to Anglers. *Biol Conservation* 56: 195-205

Liddle, M.J. and H.R.A. Scorgie. 1980. The effects of recreation on freshwater plants and animals: a review. *Biol. Conserv.* 17: 183-206

Tuite, C.H., M. Owen and D. Paynther. 1983. Interaction between wildfowl and recreation at Llangorse Lake and Talybont Reservoir, South Wales. *Wildfowl* 34:48-63

Tydeman, C.F. 1977. The importance of the close fishing season to breeding bird communities. *J of Environmental Management* 5: 289-296.

Signatures approving and concurring with B.3 Compatibility Determination for Sport Fishing on Julia Butler Hansen Refuge for the Columbian White-tailed Deer (Use is compatible with stipulations)

Refuge Determination

Prepared by: _____
(Signature) (Date)

Refuge Manager/
Project Leader
Approval: _____
(Signature) (Date)

Concurrence

Refuge Supervisor: _____
(Signature) (Date)

Regional Chief,
National Wildlife
Refuge System: _____
(Signature) (Date)

B.4 Compatibility Determination for Environmental Education, Wildlife Observation, and Photography on Julia Butler Hansen Refuge

Use: Environmental Education, Wildlife Observation and Photography.

Refuge Name: Julia Butler Hansen Refuge for the Columbian White-tailed Deer

Description of Use(s): This compatibility determination examines existing and proposed non-consumptive wildlife-dependent recreational uses on Julia Butler Hansen Refuge.

Environmental Education: Environmental Education comprises those activities which seek to increase the public’s knowledge and understanding of wildlife and contribute to the conservation of such wildlife. Activities would include non-staff conducted environmental education, teaching students, teacher workshops, interpretation, interpretation and interpretive sites. Environmental education activities generally occur on the Mainland Unit of the refuge.

Wildlife Observation: Wildlife Observation is probably the most popular activity on the refuge. The Mainland Unit is completely surrounded by county and state roads which form a 10 mile loop. Visitors drive along the roads and stop to observe wildlife. In the lower estuary, refuge visitors to both refuges travel by either motorized or non-motorized boat for wildlife viewing and other wildlife oriented activities. Only one island, Tenasillahe, has a dike allowing visitors to walk around the periphery of the refuge. Dense vegetation on many of the islands limits observation to the shorelines and accessible slough banks.

Wildlife Photography: Wildlife Photography is a popular activity which occurs year round on the refuge. Visitors drive around the Mainland Unit of the refuge using their vehicles as blinds to take advantage of photographic opportunities. Other refuge units including Crims, Wallace and the dike road at Tenasillahe Island provide more limited photographic opportunities because visitors must use boats to access these Columbia River Islands.

Availability of Resources: Additional funding for operational costs would be needed to fully implement the environmental education, wildlife observation, and photography programs identified in the CCP. These needs are expected to be added from the CCP and are tied to funding requests in the form of Refuge Operating Needs System (RONS) and Maintenance Management System (MMS) projects for these activities. Other funding sources would be sought through strengthened partnerships, grants, and donations to administer and manage a safe and quality environmental education, wildlife observation, and photography program as described.

Category and Itemization	One-time (\$000)	Annual (\$000/yr)
Administration and management:	\$0000.00	\$2,000.00
Maintenance:	\$0000.00	\$1,000.00
Monitoring:	\$0000.00	\$1,000.00
Special equipment, facilities, or improvements:	\$500.00	\$2,000.00
Offsetting revenues:	\$0000.00	\$0000.00

Anticipated Impacts of the Use(s): Activities that occur outside of vehicles (e.g., wildlife observation, trail hiking, and environmental education programs) tend to increase disturbance potential for most wildlife species (Klein 1993). Human activities along trails disturb wildlife, often resulting in flushing from roosting, feeding, nesting, or resting areas. Flushing may result in expenditure of energy reserves, abandonment from preferred habitat, and increased exposure to predation during relocation. In riparian habitats, the abundance of bird species requiring shrub cover (e.g., MacGillivray's warbler and lazuli bunting) may be reduced at recreation sites, while species that forage in tree canopies may be unaffected. Trails in riparian areas may encourage the penetration of new animal species, including nest predators, into formerly protected forests (Knutson and Neaf 1997). Wildlife photographers tend to have the largest disturbance impacts because they may remain close to wildlife for prolonged periods (Klein 1993). Casual photographers with low-power lenses may approach wildlife closer than other users.

Most wildlife viewing and photography on the Julia Butler Hansen Refuge would occur at the Mainland Unit along the existing county dike road. Wildlife of primary concern is CWT Deer, several species of waterfowl including Canada geese and ducks, wading and shorebirds and raptors. Even with a seasonal closure (October 1 through May 31st) continued public use of the Center Road Trail on the Mainland Unit may cause intermittent disturbance impacts to wildlife in adjacent habitat that are within visual or auditory range of the trail.

Public uses on the Mainland Unit are limited to the dike surface road, which is set back from the fields along the outside boundary of the refuge. The dike's elevation above surrounding terrain allows road/trail users to view wildlife at the interior of the refuge at a distance that would not noticeably disturb the wildlife. The dike is sufficiently wide at its base to provide a buffer to wildlife from public use occurring on the dike top (road). Primary foraging areas for CWT deer are sufficiently distant from the road to prevent recurring human disturbance. Further, riparian forest and old field vegetation buffer the managed fields and provide a visual barrier. The shoulders of the dike have minimal value as wildlife habitat. While the dike roads provide excellent viewing and travel opportunities for refuge visitors, it should be noted that the roads surrounding the refuge are managed by Wahkiakum County therefore the Service had no management control over the roads.

Impacts from the general public on the islands of the lower Columbia River are for the most part self limiting. This is because the islands are accessible only by boat which reduces the number of potential visitors. Along with the dense almost impenetrable vegetation on many of the rivers islands and daily tidal changes this makes visitation of the islands a challenge. Most visitor impacts on the lower river come from visitation of the adjacent shorelines and interior sloughs which may cause birds which use riparian habitat to flush. Still, observable numbers of visitors remains low at this point leading to the conclusion that for now, no additional stipulations are needed to protect refuge habitat from the limited amount of public use.

Impacts to wildlife resulting from disturbance from these uses are expected to be minor because there are more than adequate amounts of undisturbed habitats available for escape and cover.

Public Review and Comment: Open house style public meetings were held, verbal and written comments were solicited from the public during public scoping for the Draft CCP/EIS. Appendix I of the Draft CCP/EIS further details public involvement undertaken during development of the CCP. Additional public review and comment will be solicited during the Draft CCP/EIS comment period.

Determination:

Use is Not Compatible

Use is Compatible with the Following Stipulations

Stipulations necessary to ensure compatibility:

- Wildlife-dependent public uses would be restricted to refuge-specific designated trails, public use facilities, or approved guided events. Unguided recreational activity occurring in closed areas would not be allowed unless operating under provisions of a Special Use Permit and stipulations set by the Refuge Manager.
- The Mainland Unit will serve as the focal point for environmental educational activities for both refuges (Julia Butler Hansen and Lewis and Clark refuges). The wildlife viewing site adjacent to highway 4 and the refuge headquarters site will serve as the key areas for the general public to learn about and visit the refuge.
- The mainland dike roads which surround the refuge (Steamboat Slough and Brooks Slough) will continue to provide the main opportunity for visitors who wish to view and photograph wildlife and walk around the refuge.
- The Center Road on the Mainland Unit will remain open seasonally (June through September) until a better solution (as discussed in the preferred) is developed. The dike road surrounding the Tenasillahe Island unit will also remain open for visitor to walk and observe wildlife. All other areas of the mainland and Tenasillahe Island units, inside of the dikes, will remain closed to reduce disturbance to CWT deer. All public use areas managed by the refuge will remain open dawn to dusk.
- Wildlife observation and photographic activities will continue to be available on the refuge islands in the lower estuary of both refuges. Impacts associated with differing levels and types of public use will be evaluated by staff annually. Monitoring information gathered by staff, would be critically analyzed and used by the Refuge Manager to develop future modifications, if necessary, to ensure compatibility of wildlife observation and photography in all refuge locations.

Justification: The National Wildlife Refuge System Improvement Act of 1997 identified wildlife observation, photography, interpretation, and environmental education as four of the six, priority, wildlife-dependent recreational uses to be facilitated in the Refuge System, and the Act encouraged the Service to provide opportunities for these uses.

Currently, there are very few places in the surrounding area to view and interpret the regions once common, now rare habitat type the Sitka spruce swamp. Two developed wildlife viewing sites available on the Mainland Unit, offer viewing opportunities of mostly managed short-grass

field habitat. The Highway 4 refuge wildlife viewing site was originally established for safe observation/photography of a large elk herd which caused unsafe traffic congestion. In recent years, to reduce competition for CWT deer habitat, through the use of fencing and an elk management hunt, the elk have been encouraged to shift their use of the refuge's endangered CWT deer habitats and utilize habitats off the refuge. The Highway 4 viewing site currently lacks adequate interpretive displays and needs updated refuge program and refuge system information. Updating this display to interpret the refuges mission, natural resources, and programs would provide the public an opportunity to understand the purposes and resources of the refuge.

The refuge currently has one walking trail the Centerline walking trail, which bisects the refuge Mainland Unit and which has several drawbacks; it doubles as a service road, is closed much of the year to limit disturbance to CWT deer, generally floods in winter months, and is in a poor location to observe/photograph wildlife. The refuge will improve and expand wildlife observation/photography opportunities to provide a quality viewing experience for the public, while limiting potential disturbance to CWT deer. The staff will work with the County to identify and develop where appropriate walking trails along Brooks Slough Road and Steamboat Slough Road.

By developing a new walking trail and viewing area/auto tour pull-out for interpreting these important habitat types; Sitka-spruce swamp and the riparian forests, visitor experiences and knowledge about the resource will be enhanced. Development of a new walking trail and/or view points will be limited to areas which do not create a wildlife or resource disturbance.

The refuge headquarters viewing platform provides a good opportunity to view/photograph wildlife and has an excellent interpretive display. No changes to this area are proposed. Developing additional viewing sites adjacent to other habitat types would provide the public with a more varied wildlife viewing opportunity by highlighting different habitats.

Many members of the public are not familiar with national wildlife refuges and confuse them with other Federal land management systems such as national parks or with state parks. Providing information through programs written materials and interpretive panels helps to build an understanding and appreciation of the unique purposes and activities of national wildlife refuges. Providing information regarding the mission of the Service, the purposes of the refuge, along with specific resource information may alleviate potential negative impacts on wildlife by educating our visitors.

Local teachers are interested in bringing their students out to the refuge, developing curriculum driven learning opportunities for students is one way to increase school visits. Creating and developing specific study sites for classes to utilize on the refuge would reduce potential disturbance issues to wildlife, yet allow for students to get hands on experiences in science and nature.

The Youth Conservation Corps program provides an avenue for high school aged students to work on the refuge and learn more about the refuge resources and careers associated with the field of natural resources. Many students receive credit from their high school for participation

in this paid position. Having a crew located on the refuge would provide local high school students with summer employment while assisting the refuge staff with a variety of resource management activities (fencing, tree planting, invasive species removal).

Although all of these activities can result in disturbance to wildlife, disturbance will be intermittent and short-term. There are more than adequate amounts of undisturbed habitat available to wildlife for escape and cover. It is anticipated that wildlife populations will find sufficient food resources and resting places such that their abundance and use of the refuge will not be measurably lessened from allowing the above activities to occur. The relatively limited number of individuals expected to be adversely affected will not cause wildlife populations to materially decline, the physiological condition and production of local wildlife species will not be impaired, their behavior and normal activity patterns will not be altered dramatically, and their overall welfare will not be negatively impacted. Thus, allowing these uses to occur with stipulations will not materially detract or interfere with the purposes for which the refuge was established or the refuge mission.

Mandatory Re-Evaluation Date:

Mandatory 15-year Re-Evaluation Date will be provided in the Final EIS/CCP (for priority public uses)

Mandatory 10-year Re-Evaluation (for all uses other than priority public uses)

NEPA Compliance for Refuge Use Decision:

Categorical Exclusion without Environmental Action Statement

Categorical Exclusion and Environmental Action Statement

Environmental Assessment and Finding of No Significant Impact

Environmental Impact Statement and Record of Decision

References:

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Signatures approving and concurring with B.4 Compatibility Determination for Environmental Education, Wildlife Observation, and Photography on Julia Butler Hansen Refuge (Use is compatible with stipulations)

Refuge Determination

Prepared by: _____
(Signature) (Date)

Refuge Manager/
Project Leader
Approval: _____
(Signature) (Date)

Concurrence

Refuge Supervisor: _____
(Signature) (Date)

Regional Chief,
National Wildlife
Refuge System: _____
(Signature) (Date)

B.5 Compatibility Determination for Trapping Nutria on Julia Butler Hansen Refuge

Use: Trapping Nutria

Refuge Name: Julia Butler Hansen Refuge for the Columbian White-tailed Deer

Description of Use(s): This use consists of a permittee program to trap nutria. This is a reevaluation of the refuge trapping program that is currently in effect. Permittees are required to make sets only for nutria, although they may keep other legal furbearers that are caught incidentally. Permittees may trap only during the open State furbearer season generally November 1 through January 31, inclusive, each year and must abide by State trapping regulations. However, there may be situations requiring trapping outside of these state seasons when necessary to protect public health and safety or significant refuge structures.

Availability of Resources: There will be no major management actions required for this program. Population surveys will be conducted. This typically will take 2-3 days for two personnel. There should be no significant administration and management costs for the government associated with this specific proposed use. Minimum administrative time will be required for annual program development, news release, issuing the special use permits, documenting nutria harvest and issuing harvest reports. There would be no special equipment, facilities or improvements necessary to support this management activity. Since we would not be putting in any facilities or improvements on refuge property for this specific use, there would be no significant maintenance costs associated with this use.

Anticipated Impacts of the Use: Trapping activities have the potential to cause some disturbance to migratory waterfowl and other wildlife. However, the disturbance is minimal because of the low level of trapping activity. Trapping activity hours have never exceeded 150 and have been less than half that amount in recent years. Some native furbearers are taken incidentally in the nutria traps. Incidental take in recent years have been less than 3-4 muskrat and a few beaver. There are no known instances of animals other than legal furbearers being killed or injured in the traps.

Public Review and Comment: Open house style public meetings were held, verbal and written comments were solicited from the public during public scoping for the Draft CCP/EIS. Appendix I of the Draft CCP/EIS further details public involvement undertaken during development of the CCP. Additional public review and comment will be solicited during the Draft CCP/EIS comment period.

Determination:

Use is Not Compatible

Use is Compatible with the Following Stipulations

Stipulations necessary to ensure compatibility: Trapping will be restricted to nutria only (except for unavoidable incidental catch). The number of permits issued annually will be limited to approximately 3 per refuge (at present, only one permit is being issued due to lack of demand). Trapping will be permitted only during the open State trapping season and in accordance with State regulations. The permittee does not have the exclusive use of the site(s) or lands covered by the permit. This permit may be cancelled or revised at any time by the Refuge Manager for non-compliance or in case of emergency (e.g., public safety, unusual resource problems). The permittee shall provide a monthly report of the number of animals and species taken to the Refuge Manager.

Justification: The nutria (*Myocastor coypus*), a large, semi-aquatic rodent native to South America, was originally brought to the United States in 1889 for its fur. When the nutria fur market collapsed in the 1940s, thousands of nutria were released into the wild by ranchers who could no longer afford to feed and house them. Entrepreneurs began selling the herbivores to control noxious weeds. Wildlife agencies further expanded the range of the nutria by introducing the species into new areas of the United States. While the nutria did devour weeds and overabundant vegetation, they also destroyed aquatic vegetation, crops, and wetland areas.

In Washington nutria are classified as a Prohibited Aquatic Animal Species. In Oregon, nutria are classified as unprotected Nongame Wildlife. There is no closed season on nutria in either Oregon or Washington. Nutria dig burrows for dens and favored sites on the refuge include dikes and ditch banks. While the dikes that protect the refuge from tidal flooding are too big for nutria to burrow completely through, dens often collapse and may then function as a starting point for erosion. Collapsed dens along ditch banks may lead to soil eroding into ditches, partially filling them and impeding drainage.

Nutria compete with muskrats, waterfowl, and other native wildlife for marsh vegetation. Adult nutria consume about three pounds of plant material per day. Preferred foods include bulrushes, sedges, grasses and a variety of aquatic foods. Exact population estimates are unavailable but given the size of the refuges it is likely that the average number of breeding adults exceeds 750. They are prolific breeders—a female typically produces two litters of 4-6 young annually.

Limiting factors for nutria include habitat (wetland) availability, trapping and hunting, disease, predation, and the occasional severe winter. At its present level, the refuge trapping program is not controlling nutria numbers and it is doubtful that it did even when trapping interest/use was greater (the take never exceeded about 350). However, nutria numbers can be controlled by trapping and even a minimal degree of trapping can help reduce habitat degradation.

Most trapping occurs when there are few visitors on the refuge. Although pelts of animals trapped may be sold, trapping is not a major commercial venture. Trapping occurs either as a subsistence or recreational activity. The current level of trapping, or even a substantial increase in trapping activities, would have only negligible adverse effects on the resources of the refuges because of State and Federal harvest management and the special conditions included in refuge trapping permits. Thus removal of nutria through trapping is found to be in support of and compatible with refuge purposes and the mission of the Refuge System.

Mandatory Re-Evaluation Date (provide month and year for “allowed” uses only):

_____ Mandatory 15-year Re-Evaluation Date will be provided in the Final EIS/CCP (for priority public uses)

X Mandatory 10-year Re-Evaluation (for all uses other than priority public uses)

NEPA Compliance for Refuge Use Decision (check one below):

_____ Categorical Exclusion without Environmental Action Statement

_____ Categorical Exclusion and Environmental Action Statement

_____ Environmental Assessment and Finding of No Significant Impact

X Environmental Impact Statement and Record of Decision

Signatures Approving and Concurring with B.5 Compatibility Determination for Trapping Nutria on Julia Butler Hansen Refuge (Use is compatible with stipulations)

Refuge Determination

Prepared by: _____
(Signature) (Date)

Refuge Manager/
Project Leader
Approval: _____
(Signature) (Date)

Concurrence

Refuge Supervisor: _____
(Signature) (Date)

Regional Chief,
National Wildlife
Refuge System: _____
(Signature) (Date)

B.6 Compatibility Determination for Haying, Silage Harvest, and Cattle Grazing on Julia Butler Hansen Refuge

Use: Haying, Silage Harvest and Cattle Grazing.

Refuge Names: Julia Butler Hansen Refuge for the Columbian White-tailed Deer

Description of Use(s): This is a reevaluation of the haying, silage harvest and cattle grazing program that was initially determined to be compatible with refuge purposes in 1994. The purpose of the program is to manage short grass foraging habitat for Columbian White-tailed deer along with wintering and migrating Canada geese.

Under the preferred alternative the refuge haying and grazing allotments would total approximately 850 acres of pastures on the Mainland and Tenasillahe Island units. Currently four local permittees graze and hay introduced reed canary grass (*Phalaris arundinacea*), native grasses, tame pasture grasses, sedges (*Carex* spp.) and rushes (*Juncus* spp, *Eleocharis* spp.) on refuge pastures. The haying program is rather minimal at this time and involves only 24 total acres all on the refuge Mainland Unit.

Cattle grazing and haying are considered refuge management economic activities. These activities have been and are proposed to continue to be conducted under a cooperative land management agreement (CLMA), which have been established between the refuge and the livestock operator (cooperator). The CLMA is an in-kind program, which means that both parties receive benefits from the land. In this case, the cooperator receives grazing and haying privileges, and the Service receives management actions conducted primarily for the benefit of the Columbian white-tailed deer and Canada geese on the Julia Butler Hansen Refuge.

Availability of Resources:

An estimated \$6,000 of refuge staff time is needed annually for planning, oversight and coordination of this use. Before each field season, the Refuge Manager reviews the annual work plan, discusses it with Refuge Complex headquarters staff, and makes necessary changes to the plan. Then the manager identifies changes with the cooperator prior to initiation of grazing.

Periodically, assistance may be required of refuge maintenance staff to maintain the watering and fencing systems. Refuge staff monitors the grazing operations and haying operations, and periodically evaluate habitat conditions before, during and after the grazing season. At the end of the season, refuge staff members review the worksheets provided by the cooperator to determine actual animal unit months grazed, hay removed from the refuge, and work provided by the cooperator, followed by a report to the cooperator outlining the details of their performance in comparison to the work plan. The overall cost to the refuge in terms of labor is considered to be low, considering the benefits provided to the refuge in meeting the previously described goal and objectives.

Anticipated Impacts of the Use: Negative impacts from grazing are mostly associated with difficulties in containing the cattle. Cattle are attracted to water and therefore can damage

sensitive wetland areas if they gain access to those sites. They can also cause damage in riparian forest sites by trampling the understory and making the areas undesirable for other wildlife. By fencing off any sensitive areas and focusing the grazing in the pastures, negative impacts from grazing are minimized. Other negative impacts can result from soil compaction and poor water quality from livestock entering sensitive waterways. These impacts are significantly reduced by restricting livestock use to the spring through early fall time period and by development of site specific watering areas.

All three activities can cause some degree of disturbance to the CWT deer. The deer will generally avoid areas where cattle are concentrated and will not enter those pastures until after the cattle have moved. In addition, haying and silage activities may cause deer to move from the immediate area where the farming equipment is operating. However, since these disturbances are short term and localized, the deer can easily moved to an adjacent undisturbed location. Restricting the pasture management activities from spring thorough early fall provides the CWT deer and Canada geese optimum habitat conditions when they most need it, in the fall through winter seasons.

Public Review and Comment: Open house style public meetings were held, verbal and written comments were solicited from the public during public scoping for the Draft CCP/EIS. Appendix I of the Draft CCP/EIS further details public involvement undertaken during development of the CCP. Additional public review and comment will be solicited during the Draft CCP/EIS comment period.

Determination:

Use is Not Compatible

Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:

Cooperative Farming Agreements will contain the following special conditions to insure compatibility:

- Special emphasis is applied to fencing wetlands and riparian zones to prevent cattle from trampling/grazing sensitive habitat. Fencing and ditching are used to contain cattle and focus grazing on specific pastures during the dry season.
- Season of use is from mid-April through mid-October to avoid disturbance to Canada geese and avoid grazing under wet soil conditions.
- Permittees are required to leave fields with 2 to 4 inches of grass and forbs growth at season's end.
- Cooperative farmers are required to perform habitat maintenance work to sustain the field conditions for the benefit of wildlife. Work may include mechanical weed control, fertilization and pasture mowing.
- The agreement does not imply or establish a use precedent. Future use of the area will be based on the most satisfactory use of the land for wildlife benefits, Cooperator performance, habitat management needs and administrative needs.

- Cooperative farmers will exercise care to prevent fire and will assume responsibility for fire which may result from farming operations.
- Permittee will exercise extreme caution to avoid hitting young fawns. No hay or silage cutting is allowed during the month of June when new-born fawns are most likely to be concealed in the standing grass.
- Sub-leasing is prohibited. Animals must be the property of the cooperator.
- At the end of the permit period, cooperator is responsible for removing all his equipment and animals from refuge lands.
- Cooperator shall be responsible for repairing damage to refuge facilities or habitat beyond normal wear and tear resulting from his operation.
- The use of firearms or other weapons is prohibited on refuge lands except as authorized by the Refuge Manager.
- Stocking rates of livestock may be altered should pasture conditions warrant, dependant upon judgment of the Refuge Manager.
- The cooperator will notify the Refuge Manager at least three days in advance of the date cattle are to be turned in or removed from the refuge. Any changes in the number of animals shall be immediately reported to the Refuge Manager. Livestock will be contained in assigned units and fences must be maintained by the cooperator.
- Cooperator is responsible for removing dead livestock carcasses from the refuge within three days of discovery.
- The cooperator shall comply with the livestock regulations of the State of Washington relating to health and sanitation requirements.

Justification: The haying, silage and grazing cooperative land management program contributes to achieving refuge purposes and goals as identified in the CCP and the Refuge System mission by providing valuable foraging areas and conditions for Columbian white-tailed deer and wintering and migrating Canada geese. It also contributes by economically providing weed control and other habitat maintenance functions which are not feasible for limited refuge staff to accomplish.

Grasses and forbs are the primary food sources for the CWT deer on the refuge. Browse is also used, but the deer prefer to feed in fields where the vegetation had been kept short by cattle grazing and mechanical cutting. The new actively growing plants are more succulent and digestible than mature plants, and deer naturally seek out the most nutritious food forages. The short grass pastures complement the marsh habitat on and around the refuge in providing forage and resting habitat for migrating and wintering Canada geese. Many off-refuge pastures are gradually being converted to other uses that exclude goose use. Refuge pastures also provide foraging habitat for ducks, raptors and elk. Grazing and haying are desirable means of maintaining this type of habitat because the climate is too wet for prescribe burning and repeated mowing of the pastures is beyond the capability of the refuge staff.

Prior to the acquisition of the refuge, the native riparian habitat was altered from its original native condition by the creation of a dike to hold back the waters of the Columbia River followed by introduction of non-native grasses and intensive grazing practices. In order to maintain the biological integrity and diversity of the refuge, in a relatively small area, the threatened and endangered species component, mainly CWT deer, needs to be managed more intensively than

was found historically in the area. The use of moderate grazing to reduce the build-up of annual introduced grassland biomass is viewed as beneficial to the CWT deer. By restricting the intensity and duration of grazing, and by adhering to the stipulations for this use, the environmental health of the refuge will be maintained.

Although allowing haying, silage harvest, and cattle grazing on the refuge can result in disturbance to wildlife, disturbance will be intermittent and short-term. There is more than adequate amounts of undisturbed habitat available to wildlife for escape and cover. The relatively limited number of individuals expected to be adversely affected will not cause wildlife populations to materially decline, the physiological condition and production of species will not be impaired, their behavior and normal activity patterns will not be altered dramatically, and their overall welfare will not be negatively impacted. Thus allowing haying, silage harvest, and cattle grazing on the refuge is found to be in support of and compatible with the purposes for establishment of the refuge and the mission of the Refuge System.

Mandatory Re-Evaluation Date :

Mandatory 15-year Re-Evaluation Date will be provided in the Final EIS/CCP (for priority public uses)

Mandatory 10-year Re-Evaluation (for all uses other than priority public uses)

NEPA Compliance for Refuge Use Decision (check one below):

Categorical Exclusion without Environmental Action Statement

Categorical Exclusion and Environmental Action Statement

Environmental Assessment and Finding of No Significant Impact

Environmental Impact Statement and Record of Decision

Signatures approving and concurring with B.6 Compatibility Determination for Haying, Silage Harvest, and Cattle Grazing on Julia Butler Hansen Refuge (Use is compatible with stipulations)

Refuge Determination

Prepared by: _____
(Signature) (Date)

Refuge Manager/
Project Leader
Approval: _____
(Signature) (Date)

Concurrence

Refuge Supervisor: _____
(Signature) (Date)

Regional Chief,
National Wildlife
Refuge System: _____
(Signature) (Date)

B.7 Compatibility Determination for Waterfowl Hunting on Lewis and Clark Refuge

Use: Hunting (waterfowl).

Refuge Names: Lewis and Clark National Wildlife Refuge.

Description of Use(s): This compatibility determination (CD) examines existing sport hunting for waterfowl on designated units of the refuge. Sport hunting for waterfowl is currently allowed on refuge islands. This CD will reassess that program. As proposed, waterfowl hunting would be consistent with State regulations except as specifically noted herein. Geese, ducks, coots, and common snipe will be permitted to be taken. Specific species/numbers to be taken and hunting periods will be set by ODFW to match adjacent areas open to waterfowl hunting. The shoreline of the islands as well as the interior sloughs and adjacent banks will be opened for hunting. Areas interior to the river shoreline and slough banks will be closed as the dense forested interiors provide no real waterfowl hunting opportunities.

Hunters may use dogs to aide in retrieval of birds but dogs will need to be kept under control at all times. Hunters may set up temporary blinds along the shoreline which must be removed at the conclusion of each hunting period. Since this hunt will occur on islands in the Columbia River access is only available by boat.

Maintaining hunting opportunities on the Lewis and Clark Refuge will complement State permitted activities and resolve potential problems over the exact position of the refuge boundary that would exist with a waterfowl hunt closure, and associated enforcement of relevant laws and regulations. Hunting is currently permitted on Oregon's state-owned waters and tidelands surrounding refuge islands. These adjacent waters are all tidally influenced submerged lands below mean high water (MHW).

The refuge islands are located in Clatsop County, Oregon. Refuge ownership of the islands is confined to land above MHW with the State of Oregon owning and regulating use of the surrounding tidal and submerged land.

Recreational hunting (a wildlife-dependent activity) has been identified in the National Wildlife Refuge System Improvement Act of 1997 as a priority public use, provided it is compatible with the purpose for which the refuge was established.

Availability of Resources: The proposed continuation of waterfowl hunting on refuge islands would not require any new infrastructure or personnel. Administration of the hunt and annual coordination with the State of Oregon would be required as would some law enforcement patrols, however, refuge staff is in place and capable of conducting these additional duties. Revision and printing of the refuge brochure, updating the refuge web site and other outreach information would be required at an estimated cost of \$9,000. Base funding is available to cover these costs.

Category and Itemization	One-time (\$000)	Annual (\$000/yr)
Administration and management:	\$0000.00	\$2,000.00
Maintenance:	\$0000.00	\$2,000.00
Monitoring:	\$0000.00	\$3,000.00
Special equipment, facilities, or improvements:	\$0000.00	\$2,000.00
Offsetting revenues:	\$0000.00	\$0000.00

Anticipated Impacts of the Use: The primary refuge purpose is to “to preserve an important wintering and feeding area for migratory waterfowl in the Pacific Flyway” as “a Wintering area for migratory waterfowl” and “to help maintain existing habitat for the threatened bald eagle, as well as support it’s eventual recovery.” The proposed use would not result in any degradation of the islands in terms of its suitability for those purposes. Due to the limited number of hunters, limited field time, and the activity being confined to essentially the shoreline, no effects to vegetation are anticipated.

While the presence of hunters and dogs would cause some disturbance to wildlife on the islands, this level of disturbance is expected to be minor and inconsequential. Hunters would have no reason to penetrate the island’s interior because of the thick brush which is not suitable habitat for waterfowl hunting or walking. Hunter’s dogs would be expected to stay at the blind or boat, as they are trained to do, except when retrieving birds.

The number of hunters expected to use the shoreline of each island would be small, probably 2 to 4 parties at most per day. Waterfowl hunting already occurs on state-owned waters and tidelands surrounding the islands. Opening the island to hunting is not expected to increase the amount of hunting or boat traffic that occurs in close proximity to the islands. A closure of the shoreline would be unenforceable because the refuge boundary is described as the mean high water line, which cannot be precisely determined in many areas.

Species which may be affected by the proposed alternative include bald eagles, great blue herons and other birds which reside along island shorelines and in riparian vegetation in the Columbia River. No effects are expected for Columbia River or refuge fish populations. Nearby resting and feeding areas will be available for use by waterfowl, eagles and other refuge species that are disturbed. These species would likely move to other areas of the refuge which are less accessible to the hunters. The Service is required by the Endangered Species Act of 1973 to complete a Section 7 evaluation of the proposed activity to ensure that the action does not unacceptably affect any listed species. The completed Section 7 determined that the proposed action would not be likely to adversely affect any endangered mammals or birds in the area and would have no affect on bull trout.

Effects on other public uses are expected to be minimal as the refuge islands are accessible only by boat and due to the time of year waterfowl hunting occurs, other recreational uses such as kayaking or boating in the Columbia River have ceased or are at minimal levels.

Although hunting directly impacts individuals, the amount of waterfowl harvest is not expected to change or to have a measurable effect on refuge, lower Columbia River, or Pacific Flyway populations, as waterfowl hunting is already occurring on the shorelines surrounding all three

islands below MHW and waterfowl hunting activity is not extremely high. Hunting may be either compensatory or additive to natural mortality (Anderson 1995). Compensatory mortality occurs when hunting substitutes for other forms of mortality (disease, competition, predation, severe weather, etc.). Additive mortality occurs when hunting compounds the total mortality. In some cases, hunting can be used as a management tool to control populations. In concert with Canada, Mexico, and multi-state Flyway councils, the Service and State wildlife agencies regulate hunting so that harvest does not reduce populations to unsustainable levels.

Direct effects of hunting on waterfowl are mortality, wounding, and disturbance (DeLong 2002). Hunting can alter behavior (e.g., foraging time), population structure, and distribution patterns of wildlife (Owens 1977, Raveling 1979, White-Robinson 1982, Thomas 1983, Bartelt 1987, Madsen 1985, and Cole and Knight 1990). In Denmark, hunting was documented to affect the diversity and number of birds using a site (Madsen 1995). Avian diversity changed from predominantly mute swan and mallard to a more even distribution of a greater number of species when a sanctuary was established. Hence, species diversity increased with the elimination of hunting. There also appears to be an inverse relationship between the numbers of birds using an area and hunting intensity (DeLong 2002). In Connecticut, lesser scaup were observed to forage less in areas that were heavily hunted (Cronan 1957). In California, the numbers of northern pintails on Sacramento Refuges non-hunt areas increased after the first week of hunting and remained high until the season was over in early January (Heitmeyer and Raveling 1988). Following the close of hunting season, ducks generally increased their use of the hunt area; however, use was lower than before the hunting season began.

Human disturbance to wintering birds and other wildlife using the open waters of the Columbia River surrounding the islands would occur as a result of hunting activity. Migratory and wintering waterfowl generally attempt to minimize time spent in flight and maximize foraging time because flight requires considerably more energy than any other activity, other than egg laying. Human disturbance associated with hunting includes loud noises and rapid movements, such as those produced by shotguns and boats powered by outboard motors. This disturbance, especially when repeated over a period of time, compels waterfowl to change food habits, feed only at night, lose weight, or desert feeding areas (Madsen 1995, Wolder 1993). Disturbance levels from hunting activity outside Chincoteague Refuge were found to be high enough to force wintering black ducks into a pattern of nocturnal feeding within surrounding salt marsh and diurnal resting within refuge impoundments (Morton et al. 1989a, 1989b). Unhunted populations have been documented to behave differently from hunted ones (Wood 1993).

These impacts can be reduced by the presence of adjacent sanctuary areas where hunting does not occur, and birds can feed and rest relatively undisturbed. Sanctuaries or non-hunt areas have been identified as the most common solution to disturbance problems caused from hunting (Havera et. al 1992). Prolonged and extensive disturbances may cause large numbers of waterfowl to leave areas and migrate elsewhere (Madsen 1995, Paulus 1984). In Denmark, hunting disturbance effects were experimentally tested by establishing two sanctuaries (Madsen 1995). Over a 5-year period, these sanctuaries became two of the most important staging areas for coastal waterfowl. Numbers of dabbling ducks and geese increased 4 to 20 fold within the sanctuary (Madsen 1995). On Julia Butler Hansen Refuge, both the Tenasillahe Island and Mainland units are closed to all public entry and with numerous wetlands and sloughs available,

acts as a sanctuary during the waterfowl season. In addition, two established sanctuaries exist on adjacent Lewis and Clark Refuge and vast portions of the Columbia River act as de facto sanctuaries due to the amount of open water not subject to waterfowl hunting pressure.

Intermittent hunting can be a means of minimizing disturbance, especially if rest periods in between hunting events are weeks rather than days (Fox and Madsen 1997). It is common for refuges to manage hunt programs with non-hunt days. At Sacramento Refuge, 3-16% of pintails were located on hunted units during non-hunt days, but were almost entirely absent in those same units on hunt days (Wolder 1993). In addition, northern pintails, American wigeon, and northern shovelers decreased time spent feeding on days when hunting occurred on public shooting areas, as compared to non-hunt days (Heitmeyer and Raveling 1988). However, intermittent hunting may not always greatly reduce hunting impacts. The intermittent hunting program of three hunt days per week at Sacramento Refuge results in lower pintail densities on hunt areas during non-hunt days than non-hunt areas (Wolder 1993). In Germany, several studies reported a range from a few days to approximately three weeks for waterbird numbers to recover to pre-disturbance levels (Fox and Madsen 1997).

Public Review and Comment: Open house style public meetings were held, verbal and written comments were solicited from the public during public scoping for the Draft CCP/EIS. Appendix I of the Draft CCP/EIS further details public involvement undertaken during development of the CCP. Additional public review and comment will be solicited during the Draft CCP/EIS comment period.

Determination:

Use is Not Compatible

Use is Compatible with the Following Stipulations

Stipulations necessary to ensure compatibility:

- Waterfowl hunters would be expected to comply with all current and applicable State and refuge regulations. This will be achieved through a combination of printed information, signing, outreach efforts, and enforcement of regulations by State and refuge law enforcement officers.
- The shorelines of and interior sloughs of the refuge islands under refuge jurisdiction will be opened to public waterfowl hunting.
- The exceptions to the open hunting zones are the diked portion of Karlson Island and the interior embayment of Miller Sands Island which are closed to hunting because 60% of the land purchased with duck stamp money is required to be closed to hunting. In addition, all other refuge lands outside the designated portions of the refuge islands are also closed to waterfowl hunting. These include Tongue Point, Emerald Heights and Brownsmead.
- Geese, ducks, coots, and common snipe will be allowed to be taken. Limits and hunting periods will be set by ODFW to match adjacent areas open to waterfowl hunting

- Refuge staff and ODFW staff will consult on issues regarding law enforcement and any significant changes in the number or behavior of wildlife. Refuge regulations will be in accord with state regulations. Refuge and ODFW officers will patrol to ensure hunters are complying with all regulations and restrictions.
- Temporary blinds may be constructed, but they must be available to everyone on a first-come, first-served basis.
- Hunters may use dogs to aide in retrieval of birds but dogs will need to be kept under control at all times.
- Only nontoxic shot will be allowed for the hunt.
- Camping, overnight use and fires are prohibited.

Justification: Hunting is one of the six designated wildlife-dependent public uses of the Refuge System. Refuges grant these six uses special consideration in planning and management. When on a refuge-specific basis one or more of these uses is determined compatible with the refuge purpose(s) and the NWRS mission, the refuge is to strongly encourage (facilitate) the use(s). Providing a quality hunting program contributes to achieving refuge goals and purposes.

Maintaining a waterfowl hunting program on the refuge owned islands compliments activities permitted by Oregon on adjacent State-owned waters and tidelands and provides a distinct, manageable unit that can be more easily delineated, posted, and enforced, resulting in less confusion for the waterfowl hunting public. In addition, due to the time of year and the limited access except by boat, no conflicts amongst refuge user groups is anticipated.

It is anticipated that wildlife populations will find sufficient food resources and resting places such that their abundance and use of the refuge will not be measurably lessened from allowing this use to occur. The relatively limited number of individuals expected to be adversely affected will not cause wildlife populations to materially decline, the physiological condition and production of affected species will not be impaired, their behavior and normal activity patterns will not be altered dramatically, and their overall welfare will not be negatively impacted.

The program as described was determined to be compatible, as potential impacts from waterfowl hunting on area waterfowl and other wildlife would be minimal and not materially interfere with or detract from achievement of the NWRS mission or from the Service's ability to achieve refuge wildlife, habitat, or other public-use-related purposes and goals.

Mandatory Re-Evaluation Date (provide month and year for "allowed" uses only):

Mandatory 15-year Re-Evaluation Date will be provided in the Final EIS/CCP (for priority public uses)

Mandatory 10-year Re-Evaluation (for all uses other than priority public uses)

NEPA Compliance for Refuge Use Decision (check one below):

Categorical Exclusion without Environmental Action Statement

_____ Categorical Exclusion and Environmental Action Statement

_____ Environmental Assessment and Finding of No Significant Impact

X Environmental Impact Statement and Record of Decision

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Signatures approving and concurring with B.7 Compatibility Determination for Waterfowl Hunting on Lewis and Clark Refuge (Use compatible with stipulations.)

Refuge Determination

Prepared by: _____
(Signature) (Date)

Refuge Manager/
Project Leader
Approval: _____
(Signature) (Date)

Concurrence

Refuge Supervisor: _____
(Signature) (Date)

Regional Chief,
National Wildlife
Refuge System: _____
(Signature) (Date)

B.8 Compatibility Determination for Sport Fishing at Lewis and Clark Refuge

Use: Sport Fishing.

Refuge Name: Lewis and Clark National Wildlife Refuge.

Description of Use: Sport fishing is currently allowed from the shorelines and in the waters immediately adjacent to the refuge islands. This CD will reassess this program to determine if it is currently compatible with refuge purposes. This use would allow fishing on refuge owned lands and waters consistent with State regulations. Specific species/numbers to be taken and open periods will be set by ODFW and WDFW to match adjacent areas open to fishing.

Establishment of fishing opportunities from the shorelines of the various refuge islands in the lower Columbia River Estuary will complement State permitted activities. Allowing fishing may also resolve potential problems over the exact position of the refuge boundary that would exist with a fishery closure, and associated enforcement of relevant laws and regulations. Fishing is currently permitted on Oregon and Washington state-owned waters and tidelands surrounding all of the refuge units. These adjacent waters are all tidally influenced submerged lands below mean high water (MHW).

Recreational fishing (a wildlife-dependent activity) has been identified in the Improvement Act as a priority public use, provided it is compatible with the purpose for which the refuge was established.

Availability of Resources: The proposed sport fishery program would not require any new infrastructure or personnel. Administration of the hunt and annual coordination with the States of Oregon and Washington would be required as would some law enforcement patrols, however refuge staff is in place and capable of conducting these additional duties. Revision and printing of the refuge brochure, updating the refuge web site and other outreach information would be required at an estimated cost of \$3,000. Base funding is available to cover these costs.

Category and Itemization	One-time (\$000)	Annual (\$000/yr)
Administration and management:	\$0000.00	\$1,000.00
Maintenance:	\$0000.00	\$0000.00
Monitoring:	\$0000.00	\$1,000.00
Special equipment, facilities, or improvements:	\$0000.00	\$1,000.00
Offsetting revenues:	\$0000.00	\$0000.00

Anticipated Impacts of Use: Fishing as a solitary and stationary activity tends to be less disturbing to wildlife than hunting or motorized boating (Tuite et al. 1983). It is well recognized that fishing can give many people a deeper appreciation of fish and wildlife and a better understanding of the importance of conserving habitat, which has ultimately contributed to the Refuge System mission despite the potential impacts of fishing, a major goal of the Lewis and Clark Refuge is to provide opportunities for wildlife-dependent recreation. Fishing is one of the six priority public uses of the Refuge System. Of key concern then, is to manage the activity to

keep adverse impacts to within acceptable limits. Angler activities on the refuge are and will remain consistent with State guidelines. Related impacts for fish stocks associated with sport fishing in the lower Columbia River are estimated annually and taken into consideration by the State in their development of annual fishing agreements and associated regulations. Therefore, impacts to fish populations should be minimized.

Additional disturbance would be caused to birds and other wildlife using the open waters and where fishing would occur. Fishing activities may influence the composition of bird communities, as well as abundance, and productivity of waterbirds (Tydeman 1977, Bouffard 1982, Bell and Austin 1985, Edwards and Bell 1985, and Cooke 1987). Anglers often fish in shallow, sheltered bays and creeks that birds prefer, negatively impacting distribution and abundance of waterfowl, grebes, and coots (Cooke 1987). Increases in anglers and associated shoreline activity discouraged waterfowl using otherwise suitable habitat and Hunt 1964). Anglers influenced the numbers, behavior, and diurnal distribution of avian scavengers present at sites in Washington, when compared to non-fishing days (Knight et al. 1991). Shoreline activities, such as human noise, would cause some birds to flush and go elsewhere. In addition, trampling of vegetation and deposition of sewage or other chemicals are expected to commonly occur (Liddle and Scorgie 1980). Disturbance and destruction of riparian vegetation, bank stability, and water quality may result from high levels of bank fishing activities.

Boating associated with fishing can alter bird distribution, reduce use of particular habitats or entire areas by waterfowl and other waterbirds, alter feeding behavior and nutritional status, and cause premature departure from areas (Knight and Cole 1995). Impacts of motorized boating can occur even at low densities, given their noise, speed, and ability to cover extensive areas in a short amount of time.

Because fishing success is generally much better using a boat than on the shoreline, it is anticipated that this program will be very small, likely generating less than 100 visits per year. However, because fishing is one of the priority public uses of the refuge system refuge visitors will be given the opportunity to fish from refuge lands and waters.

Despite the potential impacts that fishing and supporting activities (boating) can have on local wildlife, it is anticipated impacts from allowing fishing will be minor. The reason impacts are expected to be minor is that the majority of waterfowl use on the refuge occurs in the winter and spring months, with some birds as early as September and October. Since the majority of the fishing activity occurs in the summer and fall (through mid-October), disturbance to waterfowl species is reduced. In addition, there is more than an adequate amount of undisturbed estuary, open water, and riverine habitat available to the majority of waterfowl, waterbirds, and other wildlife for escape and cover. Lastly, impacts are expected to be minor because there is a large area available for fishing and very small numbers of bank fisherman are expected to use the area.

Public Review and Comment: Open house style public meetings were held, verbal and written comments were solicited from the public during public scoping. Appendix I of the Draft CCP/EIS further details public involvement during development of the CCP. Additional public review and comment will be solicited during the Draft CCP/EIS comment period.

Determination:

Use is Not Compatible

Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility: Federal law enforcement patrols to assure compliance with fishing regulations will be conducted. State Fish and Wildlife Officers also patrol the refuge. Harvest and season lengths are established by the States of Oregon and Washington. Bank fishing is only allowed during daylight hours.

Justification: Recreational fishing is one of the six priority public uses of the Refuge System. Providing a quality fishing program contributes to achieving one of the refuge's goals.

It is anticipated that wildlife, primarily waterbirds, will find sufficient food and resting places such that their abundance and refuge use will not be measurably reduced. Fishing pressure in this location will not cause fish stocks to decline. The physiological condition and production of waterfowl and other waterbirds will not be impaired, their behavior and activity patterns will not be altered dramatically, and their overall welfare will not be impaired. Thus, allowing fishing to occur as described with stipulations will not materially detract or interfere with the purposes for which the refuge was established or the refuge mission.

Mandatory Re-Evaluation Date (provide month and year for “allowed” uses only):

Mandatory 15-year Re-Evaluation Date will be provided in the Final EIS/CCP (for priority public uses)

Mandatory 10-year Re-Evaluation (for all uses other than priority public uses)

NEPA Compliance for Refuge Use Decision (check one below):

Categorical Exclusion without Environmental Action Statement

Categorical Exclusion and Environmental Action Statement

Environmental Assessment and Finding of No Significant Impact

Environmental Impact Statement and Record of Decision

References:

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- Tuite, C.H., M. Owen, and D. Paynter. 1983. Interaction between wildfowl and recreation at Llangorse Lake and Talybont Reservoir, South Wales. Wildfowl 34:48-63
- Tydeman, C.F. 1977. The importance of the close fishing season to breeding bird communities. J of Environmental Management 5: 289-296.

Signatures approving and concurring with B.8 Compatibility Determination for Sport Fishing at Lewis and Clark Refuge (Use is compatible with stipulations.)

Refuge Determination

Prepared by: _____
(Signature) (Date)

Refuge Manager/
Project Leader
Approval: _____
(Signature) (Date)

Concurrence

Refuge Supervisor: _____
(Signature) (Date)

Regional Chief,
National Wildlife
Refuge System: _____
(Signature) (Date)

B.9 Compatibility Determination for Environmental Education, Wildlife Observation, and Photography at Lewis and Clark Refuge

Use: Environmental Education, Wildlife Observation and Photography.

Refuge Name: Lewis and Clark National Wildlife Refuge

Description of Use(s): This compatibility determination examines existing and proposed non-consumptive wildlife-dependent recreational uses on the Lewis and Clark National Wildlife Refuge.

Environmental Education: Environmental Education comprises those activities which seek to increase the public’s knowledge and understanding of wildlife and contribute to the conservation of such wildlife. Activities would include staff and non-staff conducted environmental education, teaching students, teacher workshops, interpretation, and interpretive sites. Environmental education activities could occur on the on refuge islands but because of access problems will generally be focused on the refuge’s Mainland.

Wildlife Observation: Wildlife Observation is probably the most popular activity on the refuge. In the lower estuary, refuge visitors to both refuges travel by either motorized or non-motorized boat for wildlife viewing and other wildlife oriented activities. Access to refuge islands is limited due to mode of transportation. Dense vegetation on many of the islands limits observation to the shorelines and accessible slough banks.

Wildlife Photography: Wildlife Photography is a popular activity but is somewhat limited in scope because visitors must use boats to access the refuge islands. As with wildlife observation, access to refuge islands is limited due to lack of visitor facilities. In addition, in most cases, dense vegetation limits photography to the shorelines and accessible slough banks on the islands

Availability of Resources: Additional funding for operational costs would be needed to fully implement the environmental education, wildlife observation, and photography programs identified in the CCP. These needs are expected to be added from the CCP and are tied to funding requests in the form of Refuge Operating Needs System (RONS) and Maintenance Management System (MMS) projects for these activities. Other funding sources would be sought through strengthened partnerships, grants, and donations to administer and manage safe and quality environmental education, wildlife observation, and photography programs as described above.

Category and Itemization	One-time (\$000)	Annual (\$000/yr)
Administration and management:	\$2,000.00	\$6,000.00
Maintenance:	\$0000.00	\$5,000.00
Monitoring:	\$0000.00	\$3,000.00
Special equipment, facilities, or improvements:	\$2,500.00	\$3,000.00
Offsetting revenues:	\$0000.00	\$0000.00

Anticipated Impacts of the Use(s): Activities that occur outside of vehicles (e.g., wildlife observation, trail hiking, and environmental education tours) tend to increase disturbance potential for most wildlife species (Klein 1993). Human activities along trails disturb wildlife, often resulting in flushing from roosting, feeding, nesting, or resting areas. Flushing may result in expenditure of energy reserves, abandonment from preferred habitat, and increased exposure to predation during relocation. In riparian habitats, the abundance of bird species requiring shrub cover (e.g., MacGillivray's warbler and lazuli bunting) may be reduced at recreation sites, while species that forage in tree canopies may be unaffected. Trails in riparian areas may encourage the penetration of new animal species, including nest predators, into formerly protected forests (Knutson and Neaf 1997). Wildlife photographers tend to have the largest disturbance impacts because they may remain close to wildlife for prolonged periods (Klein 1993). Casual photographers with low-power lenses may approach wildlife closer than other users.

Most wildlife viewing and photography on the Lewis and Clark Refuge would occur on the Columbia River with visitor activities occurring from recreational boaters including motorboats, kayaks and canoes. Waterfowl species are considered wildlife of primary concern, including Canada geese and ducks, wading and shorebirds raptors and neotropical migrants. Because of the lack of public facilities and access difficulties, the Mainland Unit of the Julia Butler Hansen Refuge will serve as the focal point for environmental education activities for both refuges.

Impacts from the general public on the islands of the lower Columbia River are for the most part self limiting. This is because the islands are accessible only by boat which reduces the number of potential visitors. Along with the dense almost impenetrable vegetation on many of the rivers islands and daily tidal changes this makes visitation of the islands a challenge. Most visitor impacts on the lower river come from visitation of the adjacent shorelines and interior sloughs which may cause birds which use riparian habitat to flush. Still, observable numbers of visitors' remains low at this point leading to the conclusion that for now impacts to refuge wildlife are intermittent and very limited in scope. Thus at the current level of public use no additional stipulations are needed to protect refuge habitat and wildlife.

Impacts to wildlife resulting from disturbance from these uses are expected to be minor because there are more than adequate amounts of undisturbed habitats available for escape and cover.

Public Review and Comment: Open house style public meetings were held, verbal and written comments were solicited from the public during public scoping for the Draft CCP/EIS. Appendix I of the Draft CCP/EIS further details public involvement undertaken during development of the CCP. Additional public review and comment will be solicited during the Draft CCP/EIS comment period.

Determination:

Use is Not Compatible

Use is Compatible with the Following Stipulations

Stipulations necessary to ensure compatibility: The Mainland Unit will serve as the focal point for environmental educational activities for both the Lewis and Clark and Julia Butler Hansen Refuges. The wildlife viewing site adjacent to highway 4 and the refuge headquarters site will serve as the key areas for the general public to learn about and visit the refuge. All public use areas managed by the refuge will remain open dawn to dusk. Wildlife observation and photographic activities will continue to be available on the refuge islands in the lower estuary of both refuges. To ensure disturbance to lower estuary wildlife remains minimal, monitoring protocols would be developed to examine the impacts associated with differing levels and types of public use. Monitoring data would be critically analyzed and used by the Refuge Manager to develop future modifications, if necessary, to ensure compatibility of wildlife observation and photography in all refuge locations.

Justification: The National Wildlife Refuge System Improvement Act of 1997 identified wildlife observation, photography, interpretation, and environmental education as four of the six, priority, wildlife-dependent recreational uses to be facilitated in the Refuge System, and the Act encouraged the Service to provide opportunities for these uses.

Currently, there are very few places in the surrounding area to view and interpret the regions once common, now rare habitat type the Sitka spruce swamp and the lower Columbia River estuary. Opportunities to view the lower river sloughs and islands using kayaks, canoes and motorboats provide a unique perspective for the refuge visitor to view and appreciate the areas unique wildlife and habitat.

Many members of the public are not familiar with refuges and confuse them with other federal land management systems such as National Parks or with State Parks. Providing information through programs written materials and interpretive panels helps to build an understanding and appreciation of refuge's unique purposes and activities. Providing information regarding the mission of the Service, the purposes of the refuge, along with specific resource information may alleviate potential negative impacts on wildlife by educating our visitors.

Although all of these activities can result in disturbance to wildlife, disturbance will be intermittent and short-term. There are more than adequate amounts of undisturbed habitat available to wildlife for escape and cover. It is anticipated that wildlife populations will find sufficient food resources and resting places such that their abundance and use of the refuge will not be measurably lessened from allowing the above activities to occur. The relatively limited number of individuals expected to be adversely affected will not cause wildlife populations to materially decline, the physiological condition and production of local wildlife species will not be impaired, their behavior and normal activity patterns will not be altered dramatically, and their overall welfare will not be negatively impacted. Thus, allowing these uses to occur with stipulations will not materially detract or interfere with the purposes for which the refuge was established or the refuge mission.

Mandatory Re-Evaluation Date (provide month and year for "allowed" uses only):

 X Mandatory 15-year Re-Evaluation Date will be provided in the Final EIS/CCP (for priority public uses)

_____Mandatory 10-year Re-Evaluation (for all uses other than priority public uses)

NEPA Compliance for Refuge Use Decision (check one below):

_____ Categorical Exclusion without Environmental Action Statement

_____ Categorical Exclusion and Environmental Action Statement

_____ Environmental Assessment and Finding of No Significant Impact

X Environmental Impact Statement and Record of Decision

References

Klein, M. L. 1993. Waterbird behavior responses to human disturbances, *Wildl. Soc. Bull.* 21:31-39.

Knutsen, K. L., and V. L. Naef. 1997. Management recommendations for Washington's priority habitats: riparian. Wash. Dept. Fish and Wildl., Olympia. 181pp.

Signatures approving and concurring with B.9 Compatibility Determination for Environmental Education, Wildlife Observation, and Photography at Lewis and Clark Refuge (Use is compatible with stipulations.)

Refuge Determination

Prepared by: _____
(Signature) (Date)

Refuge Manager/
Project Leader
Approval: _____
(Signature) (Date)

Concurrence

Refuge Supervisor: _____
(Signature) (Date)

Regional Chief,
National Wildlife
Refuge System: _____
(Signature) (Date)

B.10 Compatibility Determination for Trapping Nutria at Lewis and Clark Refuge

Use: Trapping Nutria

Refuge Name: Lewis and Clark National Wildlife Refuge

Description of Use(s): This use consists of a permittee program to trap nutria. This is a reevaluation of the refuge trapping program that is currently in effect. Permittees are required to make sets only for nutria, although they may keep other legal furbearers that are caught incidentally. Permittees may trap only during the open State furbearer season generally November 1 through January 31, inclusive, each year and must abide by State trapping regulations. However, there may be situations requiring trapping outside of these state seasons when necessary to protect public health and safety or significant refuge structures.

Availability of Resources: There will be no major management actions required for this program. Population surveys will be conducted. This typically will take 2-3 days for two personnel. There should be no significant administration and management costs for the government associated with this specific proposed use. Minimum administrative time will be required for annual program development, news release, issuing the special use permits, documenting nutria harvest and issuing harvest reports. There would be no special equipment, facilities or improvements necessary to support this management activity. Since we would not be putting in any facilities or improvements on refuge property for this specific use, there would be no significant maintenance costs associated with this use.

Anticipated Impacts of the Use: Trapping activities have the potential to cause some disturbance to migratory waterfowl and other wildlife. However, the disturbance is minimal because of the low level of trapping activity. Trapping activity hours have never exceeded 150 and have been less than half that amount in recent years. Some native furbearers are taken incidentally in the nutria traps. Incidental take in recent years have been less than 3-4 muskrat and a few beaver. There are no known instances of animals other than legal furbearers being killed or injured in the traps.

Public Review and Comment: Open house style public meetings were held, verbal and written comments were solicited from the public during public. Appendix I of the Draft CCP/EIS further details public involvement undertaken during development of the CCP. Additional public review and comment will be solicited during the Draft CCP/EIS comment period.

Determination:

Use is Not Compatible

Use is Compatible with the Following Stipulations

Stipulations necessary to ensure compatibility: Trapping will be restricted to nutria only (except for unavoidable incidental catch). The number of permits issued annually will be limited

to approximately 3 per refuge (at present, only one permit is being issued due to lack of demand). Trapping will be permitted only during the open State trapping season and in accordance with State regulations.

The permittee does not have the exclusive use of the site(s) or lands covered by the permit. This permit may be cancelled or revised at any time by the Refuge Manager for non-compliance or in case of emergency (e.g., public safety, unusual resource problems). The permittee shall provide a monthly report of the number of animals and species taken to the Refuge Manager.

Justification: The nutria (*Myocastor coypus*), a large, semi-aquatic rodent native to South America, was originally brought to the United States in 1889 for its fur. When the nutria fur market collapsed in the 1940s, thousands of nutria were released into the wild by ranchers who could no longer afford to feed and house them. Entrepreneurs began selling the herbivores to control noxious weeds. Wildlife agencies further expanded the range of the nutria by introducing the species into new areas of the United States. While the nutria did devour weeds and overabundant vegetation, they also destroyed aquatic vegetation, crops, and wetland areas.

In Washington nutria are classified as a Prohibited Aquatic Animal Species. In Oregon, nutria are classified as unprotected Nongame Wildlife. There is no closed season on nutria in either Oregon or Washington. Nutria dig burrows for dens and favored sites on the refuge include dikes and ditch banks. While the dikes that protect the refuge from tidal flooding are too big for nutria to burrow completely through, dens often collapse and may then function as a starting point for erosion. Collapsed dens along ditch banks may lead to soil eroding into ditches, partially filling them and impeding drainage.

Nutrias compete with muskrats, waterfowl, and other native wildlife for marsh vegetation. Adult nutrias consume about three pounds of plant material per day. Preferred foods include bulrushes, sedges, grasses and a variety of aquatic foods. Exact population estimates are unavailable but given the size of the refuges it is likely that the average number of breeding adults exceeds 750. They are prolific breeders—a female typically produces two litters of 4-6 young annually.

Limiting factors for nutria include habitat (wetland) availability, trapping and hunting, disease, predation, and the occasional severe winter. At its present level, the refuge trapping program is not controlling nutria numbers and it is doubtful that it did even when trapping interest/use was greater (the take never exceeded about 350). However, nutria numbers can be controlled by trapping and even a minimal degree of trapping can help reduce habitat degradation.

Most trapping occurs when there are few other visitors on the refuge. Although pelts of animals trapped may be sold, trapping on both is not a major commercial venture. Trapping occurs either as a subsistence or recreational activity. The current level of trapping, or even a substantial increase in trapping activities, would have only negligible adverse effects on the resources of the refuges because of State and Federal harvest management and the special conditions included in refuge trapping permits. Thus removal of nutria through trapping is found to be in support of and compatible with refuge purposes and the mission of the Refuge System.

Mandatory Re-Evaluation Date (provide month and year for “allowed” uses only):

Mandatory 15-year Re-Evaluation Date will be provided in the Final EIS/CCP (for priority public uses)

Mandatory 10-year Re-Evaluation (for all uses other than priority public uses)

NEPA Compliance for Refuge Use Decision (check one below):

Categorical Exclusion without Environmental Action Statement

Categorical Exclusion and Environmental Action Statement

Environmental Assessment and Finding of No Significant Impact

Environmental Impact Statement and Record of Decision

Signatures Approving and Concurring with B.10 Compatibility Determination for Trapping Nutria at Lewis and Clark Refuge (Use is compatible with stipulations.)

Refuge Determination

Prepared by: _____
(Signature) (Date)

Refuge Manager/
Project Leader
Approval: _____
(Signature) (Date)

Concurrence

Refuge Supervisor: _____
(Signature) (Date)

Regional Chief,
National Wildlife
Refuge System: _____
(Signature) (Date)