

Appendix E. Wilderness Inventory for the Lewis and Clark National Wildlife Refuge

E.1 Introduction

The Lewis and Clark Refuge's acquisition boundary encompasses 33,000 acres of the Columbia River estuary, including 18 named islands and several unnamed islands sand bars, mud flats, intertidal marshes, and areas of open water in northern Clatsop County, Oregon. The refuge also includes three small parcels on the Oregon mainland at Tongue Point, Emerald Heights, and Brownsmead.

The Service and the state of Oregon share ownership within the refuge's land acquisition boundary; however because the river is constantly in flux, acreage figures are not entirely accurate. According to the original realty records, the Service owns approximately 12,167 acres in the lower Columbia River estuary with the remainder of the slightly over 21,000 acres consisting of mostly tidelands and a few uplands owned by the state of Oregon. However, recent GIS mapping of the area based on the approximate high tide line delineated using color-infrared photos taken on May 20, 2001, around the 1:00 p.m. tide (taken from Astoria Tongue Point site) reveals that the total acreage for Service owned uplands (i.e., areas above the approximate high tide line) is 6,934 acres with the remainder consisting of either tidelands or permanent channels and waterways.

At one time the refuge had agreements with both the State and County to manage their public lands which were within the refuge's acquisition boundary. Both agreements have expired; with Clatsop County donating all county lands to the refuge (see Section 1.6.1 in the Draft CCP/EIS). The refuge is managed by the Service and is one of more than 550 national wildlife refuges in the United States.

E.1.1 Policy and Direction for Wilderness Reviews

Service policy (Sec 602, also Sec 610 of Refuge Manual) requires wilderness reviews to be completed as part of the CCP planning process. A wilderness review is the process we use to determine whether or not we should recommend to the U.S. Congress that Refuge System lands and waters should be designated wilderness. The wilderness review process consists of three phases: inventory, study, and recommendation. The inventory is a broad look at the refuge to identify lands and waters that meet the minimum criteria for wilderness. All areas meeting the criteria are classified as Wilderness Study Areas (WSAs). If WSAs are identified, the review moves on to the study phase.

During the study phase, WSAs are further analyzed for all values (ecological, recreational, cultural), resources (wildlife, water, vegetation, minerals, soils), and uses (management and public) within the WSA. The findings of the study determine whether or not the WSAs merit recommendation for inclusion in the Wilderness System or should be managed under an alternate set of goals and objectives that do not involve wilderness designation.

The final phase, the recommendation phase consists of forwarding or reporting any wilderness recommendations from the Service's Director through the Interior Secretary and the President to Congress in a wilderness study report. Congress has reserved the authority to make final decisions on wilderness designations. The wilderness study report is prepared after the Record of Decision for the Final CCP/EIS has been signed.

If it is determined during the inventory that no areas qualify as WSAs or if it is concluded from the study that we should not recommend any areas as wilderness, we prepare a brief report that documents the unsuitability of the lands and waters for wilderness study or recommendation. That report is submitted to the Director.

E.1.2 Previous Wilderness Reviews

There have been no previous Wilderness Reviews conducted on this refuge.

E.1.3 Lands Considered Under This Wilderness Review

All Service-managed lands (areas under fee title or agreement) within the Lewis and Clark Refuge's current approved boundaries were considered during the inventory of wilderness areas. This is consistent with current policy. These lands include 18 named islands and several unnamed islands and sandbars in the lower Columbia River between Skamokawa, Washington, and Astoria, Oregon. In addition, three mainland parcels of land—one near Knappa and two near Astoria, Oregon—were also considered because they are part of the Refuge.

E.2 Wilderness Inventory

E.2.1 Criteria for Lands to Be Identified as for Potential Inclusion in the National Wilderness Preservation System

Criteria for identifying areas as wilderness are described further on in Section 2(c) of the Act, and are elaborated upon in the Service Wilderness Management Policy (610 FW 1-5). We inventory Refuge System lands and waters to identify areas that meet the definition of wilderness in section 2(c) of the Wilderness Act.

(1) Size, an area meets the size criteria if it:

- has no permanent roads and is 5,000 contiguous acres or more;
- has no permanent roads and is of sufficient size as to make practicable its preservation and use in an unimpaired condition; or
- is a roadless island.

(2) Naturalness, an area meets the naturalness criteria if it would look fairly natural to the average visitor who would not realize that historic conditions of the ecosystem had been modified by man. This means that an area:

- that was once logged, used for agriculture, or otherwise significantly altered by humans may be eligible for wilderness designation if it now appears substantially natural.

- that contains trails, trail signs, bridges, fire towers, fire breaks, stream barriers, snow gauges, research monitoring markers air quality monitoring devices, fencing, spring developments and similar human impacts may be eligible.
- exposed to the “sights and sounds” of civilization located outside the areas (e.g. overhead airplanes, a view of a city or town in the distance, boat traffic on an adjacent river) may be eligible.
- with established or proposed refuge management activities or refuge uses that require the prohibited uses of Sec. 4 (c) may be eligible.

(3) Opportunities for solitude or primitive and unconfined recreation, an area meets these criteria if it offers:

- outstanding opportunities for solitude—visitors can experience nature essentially free of the reminders of society; or
- outstanding opportunities for primitive and unconfined recreation—dispersed, undeveloped recreation not requiring prohibited uses.

Outstanding opportunities do not have to be present on every acre and the area does not have to be open to public entry and use. At the end of the inventory, we may have identified no, one, or several Wilderness Study Areas based on the above criteria.

E.2.2 Process of Analysis

In February of 2006 the CCP team began the inventory phase of the wilderness review by visiting most of the refuge islands and completing a preliminary assessment and documenting the team findings. The following process was used to evaluate Refuge lands and waters for their suitability for wilderness designation.

- Determination of refuge unit sizes.
- For any areas that met the size criterion, an assessment was made of its capacity to provide opportunities for solitude or primitive and unconfined recreation.
- For any areas that met the size criterion, an assessment was made of its naturalness.
- For any areas that met the size criterion, an assessment was made of its features of scientific, educational, scenic, or historic value.

More detail on the actual factors considered used for each assessment step follows.

E.2.2.1 Identification of Roadless Areas and Roadless Islands

Identification of roadless areas and roadless islands required gathering land status maps, land use and road inventory data, and aerial photographs of existing Refuge mainland tracts and islands. “Roadless” refers to the absence of improved roads suitable and maintained for public travel by means of motorized vehicles primarily intended for highway use. Only lands currently owned by the Service in fee title were evaluated. The Tongue Point Unit did not meet the roadless criteria. The Emerald Heights Unit and Brownsmead Unit as well as the river islands did meet the roadless criteria.

E.2.2.2 Unit Size: Roadless areas met the size criteria if any one of the following standards applied.

- An area with over 5,000 contiguous acres. State and private lands are not included in making this acreage determination.
- A roadless island of any size. A roadless island is defined as an area surrounded by permanent waters or that is markedly distinguished from the surrounding lands by topographical or ecological features.
- An area of less than 5,000 contiguous Federal acres that is of sufficient size as to make practicable its preservation and use in an unimpaired condition, and of a size suitable for wilderness management.
- An area of less than 5,000 contiguous Federal acres that is contiguous with a designated wilderness, recommended wilderness, or area under wilderness review by another Federal wilderness managing agency such as the Forest Service, National Park Service, or Bureau of Land Management.

Both management roads and public access roads were considered as roads. Rail beds were also considered to comprise roads, since they are permanent structures. None of the refuge mainland units (Tongue Point Unit, Emerald Heights Unit, Brownsmead Unit), met the 5,000 acre size criteria but all of the refuge islands did meet the roadless island of any size criteria. This group of nearly 20 islands collectively called the Lewis and Clark Islands, vary in acreage from approximately 1.5 acres on one unnamed island to approximately 1,095 acres for Karlson Island.

E.2.2.3 Solitude or Primitive and Unconfined Recreation:

A WSA must provide outstanding opportunities for solitude or primitive recreation. The area does not have to possess outstanding opportunities for both solitude and primitive and unconfined recreation, and does not need to have outstanding opportunities on every acre. Further, an area does not have to be open to public use and access to qualify under this criteria; Congress has designated a number of wilderness areas in the Refuge System that are closed to public access to protect resource values.

Opportunities for solitude refer to the ability of a visitor to be alone and secluded from other visitors in the area. Primitive and unconfined recreation means non-motorized, dispersed outdoor recreation activities that are compatible and do not require developed facilities or mechanical transport. These primitive recreation activities may provide opportunities to experience challenge and risk; self reliance; and adventure.

These two opportunities “elements” are not well defined by the Wilderness Act but, in most cases, can be expected to occur together. However, an outstanding opportunity for solitude may be present in an area offering only limited primitive recreation potential. Conversely, an area may be so attractive for recreation use that experiencing solitude is not an option.

In the wilderness inventory for the roadless islands on the Lewis and National Wildlife Refuge, the following factors were the primary considerations in evaluating the availability of outstanding opportunities for solitude or primitive and unconfined recreation:

- island size;
- availability of vegetative screening;
- presence of motorized boats or vehicles within the area or typically used to access the area; and
- noise levels from motorized boats or vehicles.

Most of the Lewis and Clark Islands appear to have some degree of solitude and while a few of the islands are rather small, taken as a whole the islands within the refuge do provide a degree of solitude that would appear to meet with the objectives of the wilderness act. All of the islands have opportunities for unconfined recreation; however, access to the interior of several of the islands can be difficult due to tall dense vegetation and/or daily tidal inundation.

Two of the mainland units (Brownsmead and Emerald Heights) do not meet the solitude designation due to their locations immediately adjacent to highways and structures that combined with their limited size make it unlikely that visitors could find outstanding opportunities for solitude or primitive recreation. One unit, Tongue Point has the potential for both because its location adjacent to the lower Columbia River and its topography helps to shield it from the adjacent jobs corps and Coast Guard facilities.

E.2.2.4 Naturalness

In addition to being roadless, a WSA must meet the naturalness criteria. Section 2(c) defines wilderness as an area that "...generally appears to have been affected primarily by the forces of nature with the imprint of man's work substantially unnoticeable." The area must appear natural to the average visitor rather than "pristine." The presence of historic landscape conditions is not required. An area may include some human impacts provided they are substantially unnoticeable in the unit as a whole. Significant human-caused hazards, such as the presence of unexploded ordnance from military activity, and the physical impacts of refuge management facilities and activities are also considered in evaluation of the naturalness criteria. An area may not be considered unnatural in appearance solely on the basis of the "sights and sounds" of human impacts and activities outside the boundary of the unit.

In this wilderness inventory, the following factors were primary considerations in evaluating naturalness:

- the presence of buildings or facilities;
- the presence of irrigation structures and/or crops;
- the presence of water control structures or dikes; and
- the presence of motorized boats or vehicles.

The three mainland units; Tongue Point, Emerald Heights and Brownsmead units all have man-made structures and/or roads either on or directly adjacent to those properties which would disqualify them via the naturalness criteria. In addition, the Brownsmead Unit has active ongoing management of habitat that includes grazing of cattle and mowing of pasturelands. The

Emerald Heights Unit encompasses a second-growth fir forest and a large apartment complex; a road system is located directly adjacent to the unit. At the Tongue Point Unit an old fueling tank and machinery gun range from World War II are located on the property.

The river islands appear to qualify under the definition of natural. There are no structures on any of the Service-owned portions of the islands, and there are essentially in the same natural condition as they were during the Lewis and Clark Expedition which came through this area from 1805 to 1806.

The only nonnatural conditions are at the old diked portion of Karlson Island, in one area at Marsh Island, and adjacent to Miller Sands and Welch Islands. A portion of Karlson Island was managed as a farm until the early 1970s when it was sold to the Service. At that time sections of the dike breached allowing the daily tidal cycles of the Columbia River to once again flood the area. While portions of the dike and old wooden fences are still visible, the essential character of this 1,095 acre island remains wild and natural and will be included in the wilderness study.

Areas adjacent to two islands, Miller Sands and Welch, have large sand spits made up of dredge spoil materials. Both these dredge spoil islands are owned by the state of Oregon and will be excluded from potential wilderness study. In addition, about 30 percent of Marsh Island (approximately 280 acres) is owned and managed by the Oregon Department of State Lands (ODSL). One floating recreational cabin is currently located on the ODSL parcel at Marsh Island. This structure is slated to be removed from the upland portion of the island at some point in the future according to ODSL personnel.

Depending on the refuge visitor's location and the various island locations, presence and visibility of boat traffic, the noise from boat traffic can vary and depend upon several factors from weather conditions and the time of year. During the summer months recreational motorized boat traffic increases as compared to the winter months. The USCG does not maintain boater use statistics within this area of the Columbia River. The larger shipping channel traffic has a daily presence on the river. These ships can be seen from a long distance and from many of the island shorelines. Dense vegetation on many of the islands makes viewing boats very unlikely along all areas but the immediate shorelines.

E.2.2.5 Features of value

Wilderness areas may contain other values or features, including ecological, geological, scientific, educational, scenic or historical values. These values or features are not required for designation. Where appropriate these items are listed on the maps for each of the islands. Features of value that are located on the refuge include a variety of unique wildlife and habitats which occur in the lower Columbia River estuary

E.2.2.6 Preliminary Inventory Results

Based on this preliminary inventory, all of the refuge owned islands inside the refuge boundary appear to possess wilderness qualities. After public review and comment on the Draft CCP/EIS, the Service will identify in the final CCP which refuge islands if any, will be the subject of a

subsequent wilderness study. The wilderness study, which will be available for public review, will then identify, if warranted, Wilderness Study Areas. If warranted, the Service's Director will make suitable wilderness recommendations to the Secretary of the Interior, the President, and Congress.

Table E.1 Results of Wilderness Inventory for Lewis and Clark Refuge

Area	Unit Acres	Meets Island and/or Size Criterion	Meets Solitude/ Primitive Recreation Criterion	Meets Naturalness Criterion	Meets Supplemental Values Criterion (optional)	Preliminary Conclusion: Suitable for further consideration in Wilderness study.
Brownsmead Unit	45	no	no	no	no	no
Tongue Point Unit	121	no	yes	yes	yes	no
Emerald Heights Unit	89	no	no	no	yes	no
Russian Island	866	yes	yes	yes	yes	yes
Minaker Island	186	yes	yes	yes	yes	yes
Welch Island	796	yes	yes	yes	yes	yes
Lois Island	487	yes	yes	yes	yes	yes
Karlson Island	1,095	yes	yes	yes	yes	yes
Grassy Island (West)	36	yes	yes	yes	yes	yes
Seal Island	181	yes	yes	yes	yes	yes
McGregor Island	8	yes	yes	yes	yes	yes
Green Island	112	yes	yes	yes	yes	yes
Marsh Island	842	Yes	yes	yes	yes	yes
Horseshoe Island	565	Yes	yes	yes	yes	yes
Brush Island	112	Yes	yes	yes	yes	yes
Snag Islands	60	Yes	yes	yes	yes	yes
Tronson Island	128	Yes	yes	yes	yes	yes
Quinns Island	373	Yes	yes	yes	yes	yes
Goose Island	25	Yes	yes	yes	yes	yes
Woody Island	208	Yes	yes	yes	yes	yes
Miller Sands	178	Yes	yes	yes	yes	yes
Grassy Island (East)	62	Yes	yes	yes	yes	yes
Fitzpatrick Island	20	Yes	yes	yes	yes	yes
Unnamed Islands and Sandbars	405	Yes	yes	yes	yes	yes

All island acreages were calculated in GIS based on the Approximate High Tide line delineated using color-infrared photos taken on May 20, 2001, around the 1:00 p.m. tide (taken from Astoria Tongue Point site). Acreages for the mainland units are based on information available in the Service's Division of Realty and Refuge Information.

