

4 Alternatives



Dahl Lake is nestled in the Pleasant Valley.

The challenge for natural resource managers is to find ways to address the sometimes-conflicting goals for various aspects and levels of resource management and protection. For Lost Trail National Wildlife Refuge, restoration of historical, well-functioning stream systems and native vegetation were key factors driving development of management alternatives.

Each alternative for the Lost Trail National Wildlife Refuge's CCP has been designed to meet refuge goals through a unique set of objectives, levels of management, and timeframes—that form options for addressing ecosystem and resource needs and public use.

Four alternatives for management of the refuge were considered. The proposed action (alternative A) describes the draft CCP for the refuge. Current management is described in the no-action alternative (D).

This chapter describes alternative management options and includes the following sections.

- Summary of alternatives
 - management emphases
 - summarized objectives
 - eliminated alternatives
- Descriptions of alternatives
 - detailed objectives
 - strategies to carry out objectives
- Funding and staffing

The rationales for objectives and strategies are described in appendix H. The rationales describe the background, assumptions, and technical details so that the reader can understand how and why objectives and strategies were formulated. Reference is made to the applicable rationale(s) within the major topics in each alternative.

Note: Most measurements in the objectives are in United States measures. However, for meaning in

the scientific community, some measurements are displayed in the metric system. The conversion table below will help readers who wish to understand values in United States measures.

Table 11. Measurement unit conversions

| <i>Metric Measure</i> | <i>United States Measure</i> |
|-----------------------|------------------------------|
| 1 millimeter (mm) | = 0.04 inch |
| 1 centimeter (cm) | = 0.4 inch |
| 1 decimeter (dm) | = 3.94 inches |
| 1 meter (m) | = 39.4 inches |
| 1 square centimeter | = 0.16 square inch |

SUMMARY OF ALTERNATIVES

All alternatives have been designed to meet the refuge vision and goals, through a variety of themes for habitats, wildlife, and public use. The focus and level of management in each alternative are described in table 12 and are further reflected in alternative-specific objectives developed to meet the refuge goals (chapter 1).

- A goal is a descriptive, broad statement of desired future conditions that conveys a purpose, but does not define measurable units. [*Each alternative addresses all goals for the refuge.*]
- An objective is a concise statement of what we want to achieve, how much we want to achieve, when and where we want to achieve it, and who is responsible to achieve it. [*Complete objectives are included in the descriptions of alternatives.*]
- A strategy is a specific action, tool, or technique used to meet objectives. The strategies include restoration and development activities, monitoring, plans, partnerships, operations, and more. [*Strategies are listed after the objectives for each topic.*]

Table 12. Management emphases for alternatives for the CCP, Lost Trail National Wildlife Refuge, Montana

| <i>Alternative A (proposed action)</i> | <i>Alternative B</i> | <i>Alternative C</i> | <i>Alternative D (no action)</i> |
|--|---|--|---|
| — The biological potential of native plants and wildlife is provided through restored and enhanced habitats. | — Manipulated habitats maximize use by huntable and watchable birds and mammals, and sport fisheries. | — Habitats are restored. Natural ecological processes drive habitat functions and wildlife populations. | — Habitats are protected from further detrimental change. |
| — Use by an informed public does not impede reaching the biological potential. | — Maximum, compatible public use occurs. | — Public use is limited, with wildlife observation, photography, and interpretation occurring along roads and trails. Informed visitors do not disturb plants or wildlife. | — Minimum public use occurs. |
| — Staffing is minimal, and facilities are improved. | — Staffing is minimal, with additional law enforcement. Visitors have quality experiences at developed facilities | — Staffing is minimal, and facilities are improved. | — Minimal staff conduct custodial-level maintenance. |
| — Partnerships accomplish habitat management and foster conservation. | — Partnerships accomplish habitat management and foster conservation. | — Partnerships accomplish restoration. | — Partnerships accomplish basic needs. |

Table 13 displays the refuge goals and summarizes each alternative and its objectives. [A grayed box indicates where there is no corresponding objective for the topic area within an alternative.]

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

| <i>Riparian Habitat Goal</i> | <i>Restore, enhance, and maintain a mixed deciduous and coniferous riparian habitat to support indigenous wildlife species and perpetuate the ecological integrity of the Fisher River watershed.</i> | | |
|---|---|---|--|
| <i>Objectives for Alternative A (proposed action)</i> | <i>Objectives for Alternative B</i> | <i>Objectives for Alternative C</i> | <i>Objectives for Alternative D (no action)</i> |
| <ul style="list-style-type: none"> –Biological potential emphasis –Compatible public use opportunities | <ul style="list-style-type: none"> –Habitat and species protection –Maximum compatible, public use opportunities | <ul style="list-style-type: none"> –Habitat restoration and natural processes –Minimum public use opportunities | <ul style="list-style-type: none"> –Custodial management –Limited public use opportunities |
| <ul style="list-style-type: none"> ■ The Service will maintain coordination and collaboration for restoration of the stream vegetation and stream meander on the WRP easement to the south end of Pleasant Valley Creek, and Meadow Creek after it flows west from the water control structure until it joins with Pleasant Valley Creek, by meeting with the NRCS annually. | <p><i>same as alternative A</i></p> | | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

Riparian Habitat Goal

Restore, enhance, and maintain a mixed deciduous and coniferous riparian habitat to support indigenous wildlife species and perpetuate the ecological integrity of the Fisher River watershed.

| <p><i>Objectives for Alternative A</i> (proposed action)</p> <ul style="list-style-type: none"> –Biological potential emphasis –Compatible public use opportunities | <p><i>Objectives for Alternative B</i></p> <ul style="list-style-type: none"> –Habitat and species protection –Maximum compatible, public use opportunities | <p><i>Objectives for Alternative C</i></p> <ul style="list-style-type: none"> –Habitat restoration and natural processes –Minimum public use opportunities | <p><i>Objectives for Alternative D</i> (no action)</p> <ul style="list-style-type: none"> –Custodial management –Limited public use opportunities |
|--|---|--|---|
| <ul style="list-style-type: none"> ■ Inventory and evaluate willow, alder, and birch vegetation (20 acres) in the Dahl Lake wetlands within 5 years of CCP approval, to determine the potential to increase plant diversity and habitat for migratory songbirds. | <p><i>same as alternative A</i></p> <p>.....→</p> | | |
| <ul style="list-style-type: none"> ■ Restore streambank vegetation (willow, alder, hawthorn) within a 20-foot buffer with 75 percent canopy cover, along 0.9 mile of Pleasant Valley Creek (north of breached water control structure) within 5 years of CCP approval, to enhance nesting and foraging materials for migratory birds, and reduce water temperature for fish and amphibians. | <p><i>same as alternative A</i></p> <p>.....→</p> | | |
| <ul style="list-style-type: none"> ■ Evaluate three ponds, three water control structures, and three culverts along Pleasant Valley Creek within 5 years of CCP approval, to determine effects on stream quality (siltation and temperature) and downstream fisheries. | | | |
| <ul style="list-style-type: none"> ■ Enhance the integrity of the Pleasant Valley Creek restoration project by working with NRCS; MFWP; and private landowners to make the full length of Pleasant Valley Creek on and off the refuge fish passage-friendly within 8 years of CCP approval. | <p><i>same as alternative A</i></p> <p>.....→</p> | | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

Riparian Habitat Goal *Restore, enhance, and maintain a mixed deciduous and coniferous riparian habitat to support indigenous wildlife species and perpetuate the ecological integrity of the Fisher River watershed.*

| <p><i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities</p> | <p><i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities</p> | <p><i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities</p> | <p><i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities</p> |
|--|--|---|--|
| <p>■ Maintain, and increase when feasible, quaking aspen acreage on the refuge in the Dahl Lake wetland complex [currently unit 12 (3 acres), unit 14 (23 acres), and unit 19 (24 acres)].</p> | <p>..... <i>same as alternative A</i> →</p> | | |
| | <p>■ Evaluate feasibility, within 2 years of CCP approval, of restoration of Pleasant Valley Creek to a level that can sustain catch-and-release native trout fisheries, to restore native redband and westslope cutthroat trout fisheries and increase fishing opportunities.</p> | <p>■ Restore Pleasant Valley Creek to its natural form and function within 1 year of CCP approval, with a corridor of native vegetation, to decrease water temperatures and reduce siltation.</p> | |
| | | <p>■ Restore diverse, naturally occurring riparian plant communities while maintaining a minimum of the current acreage of aspen (70 acres), willow (13 acres), and birch and alder (6 acres), within 5 years of CCP approval, to increase vegetative diversity and stabilize soil.</p> | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

| <p>Wetland Habitat Goal <i>Provide breeding, resting, and feeding habitat for wetland-dependent species of northwestern Montana by restoring, maintaining, and enhancing a mosaic of lake, semipermanent, seasonal, temporary, and saturated wetlands.</i></p> | | | |
|--|--|---|--|
| <p><i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities</p> | <p><i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities</p> | <p><i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities</p> | <p><i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities</p> |
| <p>■ Recharge 100 percent of drained wetlands to 75–100 percent capacity within 5 years of CCP approval, to foster wetland recharge and promote wetland revegetation for wildlife habitat.</p> | <p>..... <i>same as alternative A</i>.....→</p> | <p>■ Restore drained wetlands, remove all structures, and allow drained wetlands to recharge and function with naturally occurring seasonal fluctuations and not hinder subsequent levels of emergent vegetation, within 7 years of CCP approval, to provide invertebrate foods and emergent vegetation for foraging habitat and nesting and brood cover.</p> | <p>■ Recharge one-third of drained wetlands to 75–100 percent capacity within 1 year of CCP approval, to foster wetland recharge, promote revegetation around wetlands, and provide waterfowl habitat.</p> |
| <p>■ Maintain wetland basins, other than the Dahl Lake complex, with a minimum 50:50 water-to-cover ratio well interspersed, within 5–10 years of CCP approval, to provide foraging and nesting habitat for water birds.</p> | | | <p>..... <i>same as alternative A</i>.....→</p> |
| <p>■ Restore Dahl Lake complex water levels to gain a minimum of 200 acres of temporary wetlands, and restore temporary wetlands (80 acres) to seasonal and semipermanent wetlands that fluctuate naturally, within 5 years of CCP approval, to provide water bird foraging and nesting habitat.</p> | <p>..... <i>same as alternative A</i>.....→</p> | | <p>.....→</p> |
| <p>■ Increase ground-nesting habitat with construction of up to five nesting islands on Dahl Lake within 11 years of CCP approval, if soil plasticity is suitable for proper construction, to increase wildlife habitat.</p> | <p>..... <i>same as alternative A</i>.....→</p> | | <p>..... <i>same as alternative A</i>.....→</p> |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

Wetland Habitat Goal

Provide breeding, resting, and feeding habitat for wetland-dependent species of northwestern Montana by restoring, maintaining, and enhancing a mosaic of lake, semipermanent, seasonal, temporary, and saturated wetlands.

| <p><i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities</p> | <p><i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities</p> | <p><i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities</p> | <p><i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities</p> |
|--|---|---|--|
| <p>■ Conduct a wetland study in the Dahl Lake complex to determine how montane wetlands function as recharge and discharge basins within 6 years of CCP approval, to determine effects on vegetative, invertebrate, and wildlife associations.</p> | <p><i>same as alternative A</i> →</p> | | |
| <p>■ Restore natural wetland vegetation in Dahl Lake wetland complex by reducing reed canarygrass by 40–80 percent within 10 years of CCP approved, to allow the reestablishment of sedge, rush, mint, pondweed, cattail, and bulrush as the dominant plant species.</p> | <p>■ Convert reed canarygrass by 40–80 percent in the Dahl Lake wetland complex by planting wild rice within 10 years of CCP approval, to increase forage for migratory waterfowl.</p> | <p><i>same as alternative A</i> →</p> | |
| <p>■ Inventory for fens (alkaline bogs) within 1 year of CCP approval, to protect from invasive plants.</p> | <p><i>same as alternative A</i> →</p> | | |
| | <p>■ Maximize water manipulation capabilities in wetland basins by installing two or three water control structures within 7 years of CCP approval, to increase diverse emergent vegetation and seed-producing annuals interspersed with open water for increased foraging habitat and brood cover for migratory waterfowl.</p> | | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

| <p>Wetland Habitat Goal</p> <p><i>Provide breeding, resting, and feeding habitat for wetland-dependent species of northwestern Montana by restoring, maintaining, and enhancing a mosaic of lake, semipermanent, seasonal, temporary, and saturated wetlands.</i></p> | | | |
|--|---|--|---|
| <p><i>Objectives for Alternative A</i> (proposed action)</p> <ul style="list-style-type: none"> -Biological potential emphasis -Compatible public use opportunities | <p><i>Objectives for Alternative B</i></p> <ul style="list-style-type: none"> -Habitat and species protection -Maximum compatible, public use opportunities | <p><i>Objectives for Alternative C</i></p> <ul style="list-style-type: none"> -Habitat restoration and natural processes -Minimum public use opportunities | <p><i>Objectives for Alternative D</i> (no action)</p> <ul style="list-style-type: none"> -Custodial management -Limited public use opportunities |
| | <ul style="list-style-type: none"> ■ Evaluate the feasibility of restoring Lower Moose pond's breached dam on Pleasant Valley Creek within 6 years of CCP approval, to determine potential for maintaining a permanent wetland for nesting waterfowl, wildlife observation, and photography. | | |
| <p>Grassland Habitat Goal</p> <p><i>Restore, enhance, and maintain Intermountain grasslands, with an emphasis on native bunchgrass prairie to provide habitat for migratory birds, species of concern, and associated wildlife species.</i></p> | | | |
| <ul style="list-style-type: none"> ■ Fence and post the entire refuge boundary within 3 years of CCP approval, to make clear to the public when they have entered or exited the refuge, and to prohibit unauthorized livestock grazing. | <p><i>same as alternative A</i></p> <p>-----></p> | | |
| <ul style="list-style-type: none"> ■ Develop soil descriptions for the entire refuge within 1 year of CCP approval (coordinate with NRCS), for a baseline understanding of soils to help with future management considerations. | <p><i>same as alternative A</i></p> <p>-----></p> | | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

| <i>Restore, enhance, and maintain Intermountain grasslands, with an emphasis on native bunchgrass prairie to provide habitat for migratory birds, species of concern, and associated wildlife species.</i> | | | |
|---|---|--|---|
| Grassland Habitat Goal | | | |
| <i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities | <i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities | <i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities | <i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities |
| <ul style="list-style-type: none"> ■ Maintain native grasslands (1,450 acres) not closely associated with wetlands (north of Pleasant Valley Road), for a healthy Palouse prairie grassland dominated by Idaho and rough fescues, and western wheatgrass (Idaho fescue with average 8–12 flower stalks/plant, 20–22 cm in maximum leaf length per plant, 14–17 sq. cm live basal area, and average 12.7–22.9 cm leaf height; and rough fescue with an average 25–30 cm leaf height), to provide a vigorous plant community for ground-nesting migratory birds and forage for other wildlife. | <ul style="list-style-type: none"> ■ Map and use adaptive management to maintain native bunchgrass prairie (dominated by 50–80 percent Idaho or rough fescue and western wheatgrass, with 5–10 percent forbs, and 0–5 percent shrubs) on 1,200 acres of uplands in management units 6 and 22, within 10 years of CCP approval, to provide habitat for migratory birds and winter range for elk and deer. | <ul style="list-style-type: none"> ■ Maintain native, upland grasslands (1,500 acres) with dominant grass species of Idaho and rough fescue and western wheatgrass, within 10 years of CCP approval, in appropriate composition percentages dependent on soil types (vigorous Idaho fescue with an average of 8–12 flower stalks/plant, 7.9–8.7” maximum leaf length/plant, and 2.2–2.7 sq. inches live basal area and average 5–9” leaf height; and rough fescue with average 9.8–11.8” leaf height), to restore and maintain vigorous bunchgrass uplands for nesting migratory birds and forage for other wildlife. | <ul style="list-style-type: none"> ■ Restore vigor to grasslands within 5 years of CCP approval, with rest from use of any management tool until reaching a minimum of 0.6” litter depth and a minimum 7.9” visual obstruction reading (VOR) in areas of tame grasses (Idaho fescue has an average of 8–12 flower stalks/plant, 7.9–8.87” maximum leaf length/plant, 2.2–2.7 sq. inches live basal area, and an average 5–9” leaf height; and rough fescue has an average 9.8–11.8” leaf height), to increase cover for nesting migratory birds and provide forage for other wildlife. |
| <ul style="list-style-type: none"> ■ Monitor, every 2 years, 336 acres of western wheatgrass in management units 13 and 14, and 45 acres of Kentucky bluegrass in management unit 19, and maintain as medium-tall, dense grasslands with litter depth of 15–30 mm and 1.5–2 dm VOR to provide habitat for nesting blue-winged and cinnamon teal. | <p><i>same as alternative A</i> →</p> | | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

| <i>Grassland Habitat Goal</i> | | | |
|--|--|---|---|
| <i>Restore, enhance, and maintain Intermountain grasslands, with an emphasis on native bunchgrass prairie to provide habitat for migratory birds, species of concern, and associated wildlife species.</i> | | | |
| <i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities | <i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities | <i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities | <i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities |
| <ul style="list-style-type: none"> ■ Monitor, every 2 years, 190 acres of Idaho fescue and western wheatgrass in upland grasslands around the Dahl Lake wetland complex (management unit 11), and maintain as tall, dense grasslands with litter depth of 15–30 mm and 3 dm VOR, to provide nesting habitat for mallard, gadwall, and lesser scaup. | <ul style="list-style-type: none"> ■ Inventory and use adaptive management to maintain 330 acres of Idaho fescue and western wheatgrass in upland grasslands around the Dahl Lake wetland complex (management units 11 and 12) as tall, dense grasslands with litter depth 0.6–1.2” and 11.8” VOR, starting within 5 years of CCP approval, to provide nesting habitat for mallard, gadwall, and lesser scaup. | | |
| <ul style="list-style-type: none"> ■ Monitor 900 acres dominated by Idaho fescue and rough fescue (management units 8–10, 12, 15, and 20) every 2 years; for Idaho fescue with an average 8–12 flower stalks per plant, 20–22 cm maximum leaf length per plant, 14–17 sq. cm live basal area, and an average 12.7–22.9 cm leaf height; to determine when management action is needed to maintain vigorous plant communities for ground-nesting migratory birds and forage for other wildlife. | <ul style="list-style-type: none"> ■ Monitor 770 acres dominated by Idaho fescue in management units 8–10, 15, and 20, starting within 5 years of CCP approval; for Idaho fescue—average 8–12 flower stalks/plant, 7.9–8.7” maximum leaf length/plant, 2.2–2.7 sq. inches live basal area, and 5–9” leaf height, to determine when management action is needed to maintain vigorous plant communities for ground-nesting migratory birds and forage for other wildlife. | <ul style="list-style-type: none"> ■ Evaluate grassland communities to determine ecological trend and similarity to climax community, in management units 10–15, 19, and 20, and define needs and opportunities in a habitat management plan developed within 2 years of CCP approval. | <ul style="list-style-type: none"> ■ Examine the biological potential of climax vegetative communities for grasslands of the uplands and bottomlands, and develop a habitat management plan that gives high priority to migratory bird habitat, within 2 years of CCP approval, to enhance biological integrity. |
| <i>Forest Habitat Goal</i> | | | |
| <i>Enhance and maintain Douglas-fir, ponderosa pine, aspen, and cottonwood forested habitats within the context of the Fisher River watershed for migratory birds, species of concern, and other associated wildlife species.</i> | | | |
| <ul style="list-style-type: none"> ■ Identify forest coverage types within 1 year of CCP approval, to ensure management activities do not hinder the biological potential of forest habitats. | <p><i>same as alternative A</i></p>  | | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

Forest Habitat Goal *Enhance and maintain Douglas-fir, ponderosa pine, aspen, and cottonwood forested habitats within the context of the Fisher River watershed for migratory birds, species of concern, and other associated wildlife species.*

| <p><i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities</p> | <p><i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities</p> | <p><i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities</p> | <p><i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities</p> |
|---|---|---|---|
| <ul style="list-style-type: none"> ■ Evaluate forest coverage, age, and density related to surrounding lands owned by PCTC and the USDA Forest Service within 4 years of CCP approval, to determine what habitat type is the least represented in the ecosystem that can be managed for on suitable refuge lands. | | | |
| <ul style="list-style-type: none"> ■ For the duration of the CCP, maintain a ponderosa pine, mixed-conifer forest with widely spaced trees (20-foot spacing between pines), open grassy areas, and an understory of fescue or junegrass and snowberry or kinnikinnick, to conserve a major forest type that facilitates the biological integrity of the ecosystem. | <ul style="list-style-type: none"> ■ Inventory and maintain a ponderosa pine, mixed-conifer forest with: (1) widely spaced trees (20-foot spacing between pines); (2) open grassy areas; (3) an understory of fescue or junegrass and snowberry or kinnikinnick; and (4) 20–30 percent of pole-sized stands to remain as cover; within 10 years of CCP approval, to provide foraging habitat and thermal cover for elk and deer. | <ul style="list-style-type: none"> ■ Manage forest as a natural component of the ecosystem without manipulation, unless deemed necessary for human safety or to protect neighboring resources to maintain natural habitat for Canada lynx in the future. | <ul style="list-style-type: none"> ■ Manage forest habitat with a “hands-off” policy, with the exception of wildland fire suppression, until a refuge manager and biologist are on-site to develop a management plan within 3 years after full staffing, to protect refuge and neighboring property. |
| | <ul style="list-style-type: none"> ■ Create nesting habitat for Merriam’s turkey by thinning 10 percent of pole-sized conifer stands and leaving the remaining tree slash on the ground (in forest on the west end of the refuge, remove Douglas-fir > 2 feet tall and up to 6” dbh, and ponderosa and lodgepole pine > 2 feet tall and up to 4” dbh), within 10 years of CCP approval, to maintain or increase the nonnative turkey population for hunting opportunities. | | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

| Forest Habitat Goal | | | |
|--|---|--|--|
| <i>Enhance and maintain Douglas-fir, ponderosa pine, aspen, and cottonwood forested habitats within the context of the Fisher River watershed for migratory birds, species of concern, and other associated wildlife species.</i> | | | |
| <i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities | <i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities | <i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities | <i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities |
| | | <ul style="list-style-type: none"> ■ Evaluate past use and historical fire regimes of forest types, and determine how fire can best be reintroduced to the ecosystem, within 5 years of CCP approval, to maintain a mosaic of open ponderosa pine with areas of Douglas-fir, lodgepole pine, larch, and spruce as defined by soil, slope, aspect, and moisture, to conserve forest and the biological integrity of the ecosystem. | |
| Invasive Plant Goal | | | |
| <i>Native plant communities, composition, occurrence, and density exist without degradation by invasive plants, and support associated wildlife.</i> | | | |
| <i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities | <i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities | <i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities | <i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities |
| <ul style="list-style-type: none"> ■ Develop and implement an invasive plant management plan within 1 year of CCP approval that identifies: (1) the extent of encroachment by spotted knapweed, tansy ragwort, and sulfur cinquefoil; (2) suitable control methods; and (3) monitoring needs; to document infestations and provide an index to effectiveness of management actions. | <p style="text-align: center;"><i>same as alternative A</i></p> <p style="text-align: center;">-----></p> | | |
| <ul style="list-style-type: none"> ■ Reduce spotted knapweed to a level of 25 percent or less of overall grassland area within 3 years of CCP approval, to maintain native vegetation for wildlife forage, cover, and nesting. | <p style="text-align: center;"><i>same as alternative A</i></p> <p style="text-align: center;">-----></p> | <ul style="list-style-type: none"> ■ Reduce spotted knapweed and other invasive plants to a level of 10 percent or less of overall grassland area, within 3 years of CCP approval, to maintain native vegetation for wildlife forage, cover, and nesting. | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

| Invasive Plant Goal | <i>Native plant communities, composition, occurrence, and density exist without degradation by invasive plants, and support associated wildlife.</i> | | |
|--|---|--|--|
| <i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities | <i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities | <i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities | <i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities |
| <ul style="list-style-type: none"> ■ Annually eradicate and maintain 75–90 percent control of tansy ragwort with an extensive survey and treatment effort coordinated with PCTC and the state coordinator for tansy ragwort, to maintain native vegetation for wildlife forage, cover, and nesting. | <p><i>same as alternative A</i></p> <p>-----></p> | | |
| <ul style="list-style-type: none"> ■ Annually conduct invasive plant control on 200–400 acres of upland grasslands for 15 years after CCP approval, to maintain native prairie composed of 90 percent native vegetation composition. | <ul style="list-style-type: none"> ■ Conduct invasive plant control on 300–400 acres of upland grasslands each year for the next 15 years, to maintain native prairie composed of 90 percent native vegetation composition. | | <p><i>same as alternative A</i></p> <p>-----></p> |
| <ul style="list-style-type: none"> ■ Restore native grasses and sedges over 85 percent of the area where there is introduced creeping meadow foxtail, starting within 1 year of CCP approval, to increase plant diversity and provide wildlife habitat. | <ul style="list-style-type: none"> ■ Determine the best method possible and begin restoration of 35 percent of the introduced creeping meadow foxtail in the bottomlands to native grass and sedges, within 1 year of CCP approval, while maintaining 25–40 percent of the foxtail tracts with a minimum of 0.6” litter depth and 3.9 to 7.9” VOR, to provide nesting habitat for blue-winged teal and mallard during the restoration process. | <ul style="list-style-type: none"> ■ Determine the best method possible and begin restoration of 100 percent of the introduced creeping meadow foxtail to native grass and sedges, within 1 year of CCP approval, to provide nesting habitat for blue-winged teal and mallard during the restoration process. | |
| <ul style="list-style-type: none"> ■ Conduct a surveillance program for new infestations of invasive plants by walk-through surveys every 2 years in priority areas (roads, boundaries, and heavy use areas), to maintain native prairie. | <p><i>same as alternative A</i></p> <p>-----></p> | | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

| <i>Preserve, restore, and enhance the ecological diversity and abundance of migratory birds of the Intermountain West forest, wetland complexes, riparian habitat, and bunchgrass prairie.</i> | | | |
|---|--|--|---|
| Migratory Bird Goal | | | |
| <i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities | <i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities | <i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities | <i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities |
| WATER BIRDS | | | |
| <ul style="list-style-type: none"> ■ Determine waterfowl nest success, causes of nest failure, and food availability through a cooperative project initiated within 5 years of CCP approval, and develop a waterfowl management plan that uses adaptive management to achieve a 5-year average of 25–40 percent nest success, to establish baseline data for a waterfowl management plan that increases waterfowl populations. | <ul style="list-style-type: none"> ■ Determine current levels of nesting and production of waterfowl, and develop a waterfowl management plan within 5 years of CCP approval that uses adaptive management until a 5-year average of 500 young fledged per year is obtained, to maximize duck production, and improve public use opportunities. | <ul style="list-style-type: none"> ■ Monitor levels of nesting and production of ducks, and maintain or increase production for the life of the CCP, to support population goals of the North American Waterfowl Management Plan. | <ul style="list-style-type: none"> ■ Annually monitor waterfowl and other water birds for species presence, population trends, use, and production to evaluate waterfowl production. |
| <ul style="list-style-type: none"> ■ Annually monitor goose populations in the Flathead Valley by conducting aerial pair and brood counts, to evaluate population trends and goose production. | <p><i>same as alternative A</i></p> <p>-----></p> | | |
| <ul style="list-style-type: none"> ■ Monitor water bird and shorebird use of the refuge during fall migration to determine limiting factors, within 10 years of CCP approval, to determine effective management to increase fall populations. | <ul style="list-style-type: none"> ■ Determine limiting factors to fall waterfowl populations, and use adaptive management to increase fall waterfowl numbers by at least 20 percent over the next 10 years, to provide habitat for migratory waterfowl, and improve public use opportunities. | | |
| <ul style="list-style-type: none"> ■ Evaluate biological potential for shorebirds and marsh birds (including American bittern, sandhill crane, long-billed curlew, and black-crowned night-heron), presence, and nesting within 7 years of CCP approval, to preserve biological integrity. | <p><i>same as alternative A</i></p> <p>-----></p> | | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

Migratory Bird Goal

Preserve, restore, and enhance the ecological diversity and abundance of migratory birds of the Intermountain West forest, wetland complexes, riparian habitat, and bunchgrass prairie.

| <p><i>Objectives for Alternative A</i> (proposed action)</p> <ul style="list-style-type: none"> -Biological potential emphasis -Compatible public use opportunities | <p><i>Objectives for Alternative B</i></p> <ul style="list-style-type: none"> -Habitat and species protection -Maximum compatible, public use opportunities | <p><i>Objectives for Alternative C</i></p> <ul style="list-style-type: none"> -Habitat restoration and natural processes -Minimum public use opportunities | <p><i>Objectives for Alternative D</i> (no action)</p> <ul style="list-style-type: none"> -Custodial management -Limited public use opportunities |
|--|---|--|---|
| | | | <ul style="list-style-type: none"> ■ Annually monitor and maintain goose-nesting structures to increase populations of cavity-nesting species. |
| <p>OTHER MIGRATORY BIRDS</p> <ul style="list-style-type: none"> ■ Monitor Neotropical migratory birds to determine species presence and refuge use; survey throughout habitat development and at least 10 years thereafter, to determine the effects of implementation of the habitat development plan and WRP restoration on these species. | | <p><i>same as alternative A</i> →</p> | |
| <ul style="list-style-type: none"> ■ Obtain baseline data on relative abundance and production of indicator species of Neotropical migratory birds (as set forth in guidelines by MPIF), owls, and hawks, within 7 years of CCP approval, to determine “best management practices” that will maintain or increase production in the next 10 years to comply with the Conservation of Avian Diversity in North America Policy. | <p><i>same as alternative A</i> →</p> | <ul style="list-style-type: none"> ■ Develop a conservation plan for Neotropical migratory birds on interagency and private lands in the Pleasant Valley area within 10 years of CCP approval, to preserve a variety of habitats on a landscape level that will maximize species diversity and viability. | |
| <ul style="list-style-type: none"> ■ Protect nesting habitats including 80 percent of natural snags, annually monitor and maintain bluebird and wood duck nest boxes, and allow installation of 20 additional nest boxes in available habitat, to increase populations of cavity-nesting species. | <p><i>same as alternative A</i> →</p> | | <ul style="list-style-type: none"> ■ Annually monitor and maintain bluebird and wood duck nest boxes to increase populations of cavity-nesting species. |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

| <p><i>Other Wildlife Goal</i></p> | <p><i>Restore and maintain resident and endemic wildlife populations of northwestern Montana to maintain and enhance species diversity of Lost Trail National Wildlife Refuge and Pleasant Valley.</i></p> | | |
|---|--|---|--|
| <p><i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities</p> | <p><i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities</p> | <p><i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities</p> | <p><i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities</p> |
| <p>LARGE MAMMALS</p> <ul style="list-style-type: none"> ■ Maintain deer, elk, and moose populations at a minimum of 75 percent of current levels on the refuge for the next 15 years, to maintain ecological diversity and a healthy ecosystem. | <p style="text-align: center;"><i>same as alternative A</i></p> <p style="text-align: center;">-----></p> | | |
| <ul style="list-style-type: none"> ■ Modify or remove all nonessential fences within 1 year of CCP approval, to enhance movement of large mammals. | <p style="text-align: center;"><i>same as alternative A</i></p> <p style="text-align: center;">-----></p> | | |
| <ul style="list-style-type: none"> ■ Develop a plan for chronic-wasting disease (surveillance and contingencies) within 1 year of CCP approval, to monitor and manage this large mammal disease, and complement state efforts. | <p style="text-align: center;"><i>same as alternative A</i></p> <p style="text-align: center;">-----></p> | | |
| <ul style="list-style-type: none"> ■ Annually monitor large mammal abundance, presence, and areas of use to establish baseline data for evaluating impacts on habitat, determining if ungulate populations are within the carrying capacity of the refuge, and applying adaptive management. | <ul style="list-style-type: none"> ■ Monitor large mammal population sizes and areas of use for 5 years after CCP approval, to establish baseline data for development of objectives that enhance viewing, hunting, environmental education, and photography. | <p style="text-align: center;"><i>same as alternative A</i></p> <p style="text-align: center;">-----></p> | <ul style="list-style-type: none"> ■ Annually compile sightings of and areas of use by large mammals, along with survey data from MFWP, to monitor large mammal populations in Pleasant Valley. |
| <ul style="list-style-type: none"> ■ Open the refuge to public use only on designated trails from December 15 through April 1 to decrease disturbance and related stress to wintering deer, elk, and moose and to allow recovery of body weight and health in the spring. | | <p style="text-align: center;"><i>same as alternative A</i></p> <p style="text-align: center;">-----></p> | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

Other Wildlife Goal *Restore and maintain resident and endemic wildlife populations of northwestern Montana to maintain and enhance species diversity of Lost Trail National Wildlife Refuge and Pleasant Valley.*

| <p><i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities</p> | <p><i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities</p> | <p><i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities</p> | <p><i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities</p> |
|---|--|---|--|
| <p>SMALL MAMMALS</p> <ul style="list-style-type: none"> ■ Monitor Columbian ground squirrel habitat acreage. If monitoring reveals an expansion of 100 percent above baseline, conduct an analysis to determine if habitat damage is sufficient to warrant preparation of a control plan. | <p><i>same as alternative A</i> →</p> | | |
| <p>RESIDENT BIRDS</p> <ul style="list-style-type: none"> ■ Annually inventory and monitor resident (nonmigratory) birds for 5 years after CCP approval, and evaluate effects of management actions on these species, to contribute to the conservation of resident birds. | <p><i>same as alternative A</i> →</p> | | |
| | <ul style="list-style-type: none"> ■ Biannually monitor upland game bird populations, and apply adaptive management to foster upland game bird populations, to provide public use opportunities and maintain a healthy ecosystem. | | |
| | | <ul style="list-style-type: none"> ■ Develop prescribed fire plans that would help meet habitat requirements of the flammulated owl and black-backed woodpecker in woodland and forest habitat, within 5 years of CCP approval, to conserve the biological integrity of the ecosystem. | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

| <i>Other Wildlife Goal</i> | <i>Restore and maintain resident and endemic wildlife populations of northwestern Montana to maintain and enhance species diversity of Lost Trail National Wildlife Refuge and Pleasant Valley.</i> | | |
|---|---|---|--|
| <i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities | <i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities | <i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities | <i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities |
| <p>AMPHIBIANS AND REPTILES</p> <ul style="list-style-type: none"> ■ Gather amphibian population data (in cooperation with the USGS, as part of the “Amphibian Research and Monitoring Initiative”) to develop “best management practices” within 5 years of CCP approval, to determine and address causes of suspected population declines. | <p style="text-align: center;"><i>same as alternative A</i> →</p> | <p style="text-align: center;"><i>same as alternative A</i> →</p> | <p style="text-align: center;"><i>same as alternative A</i> →</p> |
| <ul style="list-style-type: none"> ■ Biannually conduct surveys for bullfrogs, and take control actions to prevent the establishment of this species, to protect native amphibians and reptiles from this introduced animal. | <p style="text-align: center;"><i>same as alternative A</i> →</p> | <p style="text-align: center;"><i>same as alternative A</i> →</p> | |
| <ul style="list-style-type: none"> ■ Conduct surveys for reptiles every 5 years to determine the range and use of the refuge by reptile species. | | <ul style="list-style-type: none"> ■ Determine the presence of amphibians and reptiles (through inventories of representative samples of all habitats) to gather baseline and trend data; and establish habitat guidelines for all species found, within 3 years of CCP approval, to conserve the biological integrity of the ecosystem. | |
| | | <ul style="list-style-type: none"> ■ Determine what species of amphibians and reptiles are endemic to the refuge and develop restoration plans within 6 years of CCP approval, to conserve the biological integrity of the ecosystem. | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

Species of Concern Goal *Contribute to the conservation, enhancement, and recovery of endangered, threatened, and species of concern populations in Lost Trail National Wildlife Refuge and Fisher River watershed.*

| <p><i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities</p> | <p><i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities</p> | <p><i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities</p> | <p><i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities</p> |
|--|--|---|--|
| <p>■ Document sightings and locations of rare or unusual plants and wildlife, and consider these species’ needs when making management decisions, to ensure the continued existence of rare species.</p> | <p>[Redacted]</p> | <p>same as alternative A →</p> | <p>[Redacted]</p> |
| <p>■ Inventory and monitor species of concern, and rank species according to restoration and protection priorities, within 10 years of CCP approval, to develop guidelines for consideration of these species in management decisions.</p> | <p>■ Monitor for occurrences of species of concern and, for those species that exist on the refuge, develop management objectives that have minimum impact on public use, within 10 years of CCP approval, to protect species of concern while maintaining quality public use.</p> | <p>[Redacted]</p> | <p>[Redacted]</p> |
| <p>■ Develop a conservation easement program (preliminary project proposal), encompassing the Fisher River watershed, within 3 years of CCP approval, to protect private land from development to minimize wildlife/human conflicts and to conserve habitat for large, far-ranging carnivores.</p> | <p>same as alternative A →</p> | <p>[Redacted]</p> | <p>[Redacted]</p> |
| <p>[Redacted]</p> | <p>■ Develop, within 10 years of CCP approval, a list of birds known to inhabit the refuge including species of concern, their conservation needs, and suggested viewing areas, to raise awareness of species of concern and foster support for their conservation.</p> | <p>■ To enhance the Pleasant Valley ecosystem, within 10 years of CCP approval, monitor and research species of concern and develop restoration or enhancement plans for any species that have historically had a presence in the Pleasant Valley area.</p> | <p>[Redacted]</p> |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

Species of Concern Goal *Contribute to the conservation, enhancement, and recovery of endangered, threatened, and species of concern populations in Lost Trail National Wildlife Refuge and Fisher River watershed.*

| <p><i>Objectives for Alternative A</i> (proposed action)</p> <ul style="list-style-type: none"> -Biological potential emphasis -Compatible public use opportunities | <p><i>Objectives for Alternative B</i></p> <ul style="list-style-type: none"> -Habitat and species protection -Maximum compatible, public use opportunities | <p><i>Objectives for Alternative C</i></p> <ul style="list-style-type: none"> -Habitat restoration and natural processes -Minimum public use opportunities | <p><i>Objectives for Alternative D</i> (no action)</p> <ul style="list-style-type: none"> -Custodial management -Limited public use opportunities |
|--|--|--|---|
| <p>GRIZZLY BEAR</p> <ul style="list-style-type: none"> ■ Protect the grizzly bear habitat linkage zone between the CYE and the NDCE through coordination with neighboring landowners, within 5 years of CCP approval, to assist in recovery of the grizzly bear. | | <p style="text-align: center;"><i>same as alternative A</i> →</p> | |
| <ul style="list-style-type: none"> ■ Develop a plan to improve grizzly bear habitat on the refuge within 10 years of CCP approval, to assist in recovery of the grizzly bear. | <ul style="list-style-type: none"> ■ Improve habitat for grizzly bear within 15 years of CCP approval, to increase the chance of grizzly bear occurrence on the refuge, and improve the potential for public viewing opportunities. | | |
| <ul style="list-style-type: none"> ■ Prohibit livestock grazing if a grizzly bear is within 1 mile of the refuge, to decrease the likelihood of grizzly bear depredation, forage competition with livestock, and the chance of individual bears becoming habituated to livestock as a food source. | <p style="text-align: center;"><i>same as alternative A</i></p> | | <p style="text-align: right;">→</p> |
| <ul style="list-style-type: none"> ■ To ensure compliance with the ESA and to support the mission of the Service, minimize conflicts with and disturbance to grizzly bears on the refuge by implementing management and public use restrictions when grizzly bears are within 1 mile of the refuge. | <p style="text-align: center;"><i>same as alternative A</i></p> | | <p style="text-align: right;">→</p> |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

Species of Concern Goal *Contribute to the conservation, enhancement, and recovery of endangered, threatened, and species of concern populations in Lost Trail National Wildlife Refuge and Fisher River watershed.*

| <p><i>Objectives for Alternative A</i> (proposed action)</p> <ul style="list-style-type: none"> -Biological potential emphasis -Compatible public use opportunities | <p><i>Objectives for Alternative B</i></p> <ul style="list-style-type: none"> -Habitat and species protection -Maximum compatible, public use opportunities | <p><i>Objectives for Alternative C</i></p> <ul style="list-style-type: none"> -Habitat restoration and natural processes -Minimum public use opportunities | <p><i>Objectives for Alternative D</i> (no action)</p> <ul style="list-style-type: none"> -Custodial management -Limited public use opportunities |
|--|---|--|---|
| <ul style="list-style-type: none"> ■ To improve support for and understanding of grizzly bears, the refuge’s public use staff (or partners) will conduct or coordinate one workshop or field trip per year and will develop at least one interpretive display and one information sheet on the biology and role of grizzly bears in the ecosystem, living with grizzly bears, and the importance of linkage areas to endangered species survival. | <p><i>same as alternative A</i></p> <p>→</p> | | |
| <p><i>GRAY WOLF</i></p> <ul style="list-style-type: none"> ■ Evaluate the effects of management decisions on gray wolves prior to implementation, and restrict management and public use activities when wolves are present on the refuge, to minimize conflicts with, and disturbance to, gray wolves. | <p><i>same as alternative A</i></p> <p>→</p> | | |
| <ul style="list-style-type: none"> ■ Monitor and maintain habitat and sufficient native prey to support one pack of gray wolves in the Pleasant Valley ecosystem within 5 years of CCP approval (in coordination with MFWP, USDA Forest Service, and PCTC), to address a limiting factor to gray wolf survival. | <p><i>same as alternative A</i></p> <p>→</p> | | |
| <ul style="list-style-type: none"> ■ Prohibit livestock grazing when a wolf pack is present in Pleasant Valley to minimize conflicts with, and disturbance to, gray wolves. | <p><i>same as alternative A</i></p> <p>→</p> | | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

| <p>Species of Concern Goal</p> | <p><i>Contribute to the conservation, enhancement, and recovery of endangered, threatened, and species of concern populations in Lost Trail National Wildlife Refuge and Fisher River watershed.</i></p> | | |
|--|--|---|--|
| <p><i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities</p> | <p><i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities</p> | <p><i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities</p> | <p><i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities</p> |
| <ul style="list-style-type: none"> ■ To decrease human/wolf conflicts, work with the wolf recovery team to visit with at least 50 percent of neighboring landowners on a yearly basis to exchange wolf sightings and depredation information, and to educate landowners on the status of wolves and new aversion information and techniques. | | | |
| <ul style="list-style-type: none"> ■ To educate the public and foster support for wolf recovery, the refuge’s public use staff in collaboration with the wolf recovery team will have one interpretive field trip or workshop a year, and develop one interpretive display and one information sheet on the biology of wolves and their role in the Pleasant Valley ecosystem within 3 years of CCP approval. | <p><i>same as alternative A</i> →</p> | | |
| <p>CANADA LYNX</p> <ul style="list-style-type: none"> ■ Evaluate proposed management actions in Canada lynx habitats (forests and woodlands) prior to implementation and prohibit sport trapping of furbearers, to minimize negative impacts to Canada lynx habitat, and to prevent accidental death of Canada lynx. | <p><i>same as alternative A</i> →</p> | | <p><i>same as alternative A</i> →</p> |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

Species of Concern Goal *Contribute to the conservation, enhancement, and recovery of endangered, threatened, and species of concern populations in Lost Trail National Wildlife Refuge and Fisher River watershed.*

| <p><i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities</p> | <p><i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities</p> | <p><i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities</p> | <p><i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities</p> |
|--|--|--|--|
| <ul style="list-style-type: none"> ■ Identify potential denning and foraging habitat and topographical features important to Canada lynx movement; maintain denning habitat in patches generally larger than 5 acres on at least 25% of the denning area above 1,000 meters in elevation; and maintain habitat connectivity; within 10 years of CCP approval, to enhance habitat for lynx. | | | |
| <p>BALD EAGLE</p> <ul style="list-style-type: none"> ■ Annually monitor bald eagle nesting, and protect habitat within 0.5 mile of any occupied bald eagle nest until the bald eagle is delisted and 5 years thereafter, to eliminate disturbance and enhance bald eagle recovery. | <p><i>same as alternative A</i></p> <p>-----></p> | | |
| <ul style="list-style-type: none"> ■ To maximize the potential for nesting of the bald eagles on the north shore of Dahl Lake and the continued existence of nesting bald eagles on the refuge, maintain a mature forest stand comprised of aspen, Douglas-fir, ponderosa pine, or mixed conifers with low to moderate canopy cover, of at least 20 acres within 1 mile of Dahl Lake; the stand will contain at least two suitable nest trees and at least three perch trees. | <p><i>same as alternative A</i></p> <p>-----></p> | <ul style="list-style-type: none"> ■ Identify and manage suitable, unoccupied, bald eagle nesting habitat following the Habitat Management Guide for Bald Eagles in northwestern Montana, within 5 years of CCP approval, to enhance bald eagle recovery. | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

| <i>Contribute to the conservation, enhancement, and recovery of endangered, threatened, and species of concern populations in Lost Trail National Wildlife Refuge and Fisher River watershed.</i> | | | |
|---|--|---|--|
| Species of Concern Goal | | | |
| <i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities | <i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities | <i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities | <i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities |
| <ul style="list-style-type: none"> ■ Maintain suitable, bald eagle foraging habitat, minimize disturbance within key areas, and maintain the integrity of the breeding area between 0.5 and 1 mile of any occupied eagle nest until the bald eagle is delisted and 5 years thereafter, to enhance bald eagle recovery. | <ul style="list-style-type: none"> ■ To enhance recovery of the bald eagle in Montana, eliminate disturbance and protect or enhance breeding habitat within 0.25 mile of any occupied bald eagle nest, until the bald eagle is delisted and for 5 years thereafter. ■ To enhance recovery of the bald eagle in Montana, minimize disturbance and maintain the integrity of the breeding area between 0.25 and 1.0 mile of any occupied bald eagle nest, until the bald eagle is delisted and for 5 years thereafter. | <ul style="list-style-type: none"> ■ Maintain suitable, bald eagle foraging habitat, minimize disturbance within key areas, and maintain the integrity of the breeding area between 0.5 and 2.5 miles of any occupied eagle nest until the bald eagle is delisted and 5 years thereafter, to enhance bald eagle recovery. ■ Identify and protect bald eagle foraging habitat outside the 2.5-mile home range of known nesting eagles, within 5 years of CCP approval, to maintain adequate prey and minimize disturbance. | |
| <ul style="list-style-type: none"> ■ Remove carrion from roadsides immediately upon notification, limit shooting and trapping, and restrict the use of pesticides; evaluate power lines and reduce associated hazards within 5 years of CCP approval, to minimize direct mortality to bald eagles. | <p><i>same as alternative A</i> →</p> | | |
| | <ul style="list-style-type: none"> ■ Maximize opportunities for education, viewing, and photographing of bald eagles by developing one viewing and photography blind, one interpretive display, and one information sheet within 10 years of CCP approval. | <ul style="list-style-type: none"> ■ To promote bald eagle recovery and nesting success off-refuge, develop an interpretive handout and provide one outreach program per year about living with eagles and minimizing disturbance. | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

Species of Concern Goal *Contribute to the conservation, enhancement, and recovery of endangered, threatened, and species of concern populations in Lost Trail National Wildlife Refuge and Fisher River watershed.*

| <p><i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities</p> | <p><i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities</p> | <p><i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities</p> | <p><i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities</p> |
|--|--|---|--|
| <p>TRUMPETER SWAN</p> <ul style="list-style-type: none"> ■ Annually monitor trumpeter swan migration and nesting in the Pleasant Valley ecosystem, and protect nesting swans on the refuge from human disturbance from time of arrival until cygnets have fledged, to assist in trumpeter swan conservation. | <p><i>same as alternative A</i></p> | | |
| <ul style="list-style-type: none"> ■ Reintroduce trumpeter swans to the Fisher River watershed if suitable habitat is available, within 10 years of CCP approval, to restore trumpeter swans to unoccupied, historical breeding habitat and encourage broader winter distribution. | <ul style="list-style-type: none"> ■ Within 5 years of CCP approval, evaluate the impact that reintroduction of trumpeter swans to Dahl Lake would have on other lake-dependent species and associated public uses to determine the feasibility of introducing trumpeter swans. | <ul style="list-style-type: none"> ■ Establish up to four breeding pairs of trumpeter swans on the refuge and surrounding suitable habitat, within 6 years of CCP approval, to restore trumpeter swans to unoccupied, historical breeding habitat and encourage broader winter distribution. | |
| | <ul style="list-style-type: none"> ■ Annually monitor trumpeter swan migration and nesting in the Pleasant Valley ecosystem, to assist in trumpeter swan conservation, and to alert the public of potential viewing and photographic opportunities. | <ul style="list-style-type: none"> ■ To assist in the conservation and protection of trumpeter swans, within 3 years of CCP approval, develop an interpretive handout and provide one outreach program per year about living near swans and minimizing disturbance. | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

| <p><i>Species of Concern Goal</i></p> | <p><i>Contribute to the conservation, enhancement, and recovery of endangered, threatened, and species of concern populations in Lost Trail National Wildlife Refuge and Fisher River watershed.</i></p> | | |
|--|--|---|--|
| <p><i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities</p> | <p><i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities</p> | <p><i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities</p> | <p><i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities</p> |
| <p>BLACK TERN</p> <ul style="list-style-type: none"> Annually monitor the number of nesting black terns, and monitor the tern’s nesting and foraging habitat through the period of wetland restoration and enhancement to determine if emergent vegetation is provided at levels and densities equivalent to or above current levels (80 acres of palustrine, emergent, semipermanent, and flooded vegetation), with a water-to-emergent-vegetation ratio between 25 and 75 percent (as close to 50 percent as possible), and water depths between 0.5 and 1.2 meters at the emergent-vegetation/open-water interface, to establish baseline data for management decisions, and contribute to statewide conservation of black terns. | <p><i>same as alternative A</i></p> | <p><i>same as alternative A</i></p> | <p><i>same as alternative A</i></p> |
| <p>BOREAL TOAD</p> <ul style="list-style-type: none"> Assess the impacts that implementing the habitat development plan would have on the boreal toad population prior to wetland manipulation in those areas documented in 2001–2003 as breeding areas for this species. | <p><i>same as alternative A</i></p> | <p><i>same as alternative A</i></p> | <p><i>same as alternative A</i></p> |
| <p><i>[Redacted]</i></p> | <ul style="list-style-type: none"> Determine, during amphibian surveys, the extent of use of refuge habitats by the boreal toad. | <p><i>[Redacted]</i></p> | <p><i>[Redacted]</i></p> |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

Species of Concern Goal *Contribute to the conservation, enhancement, and recovery of endangered, threatened, and species of concern populations in Lost Trail National Wildlife Refuge and Fisher River watershed.*

| <p><i>Objectives for Alternative A</i> (proposed action)</p> <ul style="list-style-type: none"> -Biological potential emphasis -Compatible public use opportunities | <p><i>Objectives for Alternative B</i></p> <ul style="list-style-type: none"> -Habitat and species protection -Maximum compatible, public use opportunities | <p><i>Objectives for Alternative C</i></p> <ul style="list-style-type: none"> -Habitat restoration and natural processes -Minimum public use opportunities | <p><i>Objectives for Alternative D</i> (no action)</p> <ul style="list-style-type: none"> -Custodial management -Limited public use opportunities |
|---|---|---|---|
| <p>SPALDING'S CATCHFLY</p> <ul style="list-style-type: none"> ■ Maintain Spalding's catchfly populations in suitable upland grasslands (minimum population of 350 plants), and inventory 10 percent of suitable habitat each year until all suitable habitat has been evaluated, to protect Spalding's catchfly and provide unique opportunities for visitors to learn about threatened plants. | <p style="text-align: center;"><i>same as alternative A</i> →</p> | <ul style="list-style-type: none"> ■ Maintain known populations and plants of Spalding's catchfly and restore the catchfly in 75–90 percent of suitable sites, through evaluation of logistics and "best management practices, within 10 years of CCP approval, to protect and restore Spalding's catchfly. | <div style="background-color: #cccccc; height: 20px; width: 100%;"></div> |
| <ul style="list-style-type: none"> ■ Inventory for Spalding's catchfly prior to any management actions to prevent destruction of Spalding's catchfly plants or adverse modification of its habitat. | <p style="text-align: center;"><i>same as alternative A</i> →</p> | | |
| <ul style="list-style-type: none"> ■ Annually control invasive plants around any Spalding's catchfly population that has a minimum of 20 plants, until survey shows there are no invasive plants within a 100-m buffer, to maintain and increase Spalding's catchfly populations. | <p style="text-align: center;"><i>same as alternative A</i> →</p> | | |
| | <div style="background-color: #cccccc; height: 20px; width: 100%;"></div> | <ul style="list-style-type: none"> ■ Conduct a complete search of suitable habitat to locate Spalding's catchfly and protect its habitat—eliminate grazing, control invasive plants, eliminate herbicide use in the area of the plants, and encourage natural fire regimes—within 5 years of CCP approval, to enhance production and survival of the catchfly. | <div style="background-color: #cccccc; height: 20px; width: 100%;"></div> |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

| <p><i>Protect, manage, and interpret archaeological, cultural, and historical resources present at Lost Trail National Wildlife Refuge for the benefit of present and future generations.</i></p> | | | | |
|--|---|--|---|--|
| <p>Cultural Resources Goal</p> | <p><i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities</p> | <p><i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities</p> | <p><i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities</p> | <p><i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities</p> |
| <p>■ To preserve resources for all Americans and comply with applicable laws and legislation, maintain and protect documented cultural and historical resources.</p> | <p>same as alternative A</p> | | | |
| <p>■ Survey all refuge lands for cultural resources, within 15 years of CCP approval, to preserve resources for all Americans and comply with applicable laws and legislation.</p> | <p>same as alternative A</p> | | | <p>■ To preserve resources for all Americans and be in compliance with applicable laws and legislation, document, maintain, and protect any previously unknown cultural and historical resources discovered during normal refuge duties.</p> |
| <p>■ Develop an outreach program to educate the public about cultural and historical aspects of the refuge and foster support and understanding of the management program to protect sensitive aspects of these resources, within 5 years of CCP approval.</p> | <p>same as alternative A</p> | | | |
| | <p>■ As a steward of cultural and historical resources to the Nation, research feasibility and restoration of at least one cultural and historical resource, within 10 years of CCP approval.</p> | | <p>same as alternative A</p> | |
| | <p>■ To provide a cultural and historical foundation of Lost Trail National Wildlife Refuge and the Pleasant Valley, develop a museum with displays within 10 years of CCP approval.</p> | | | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

| <p><i>Provide quality wildlife-dependent recreational and educational opportunities for persons of all abilities to learn, understand, and enjoy the Intermountain ecosystem of northwestern Montana; its associated fish, wildlife, and plants of Lost Trail National Wildlife Refuge; and the National Wildlife Refuge System in a safe and compatible manner.</i></p> | | | | |
|--|--|---|--|--|
| <p>Public Use Goal</p> | <p><i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities</p> | <p><i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities</p> | <p><i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities</p> | <p><i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities</p> |
| <p>■ Develop a demographic profile of wildlife-dependent recreational users (users within a 2-hour commuting radius) within 2 years of CCP approval, to determine the long-term direction to provide for quality, public use opportunities.</p> | <p><i>same as alternative A</i></p> <p>→</p> | | | |
| <p>■ Develop and implement a visitor service plan within 2 years of CCP approval, to provide the highest quality wildlife-dependent recreational opportunities.</p> | <p><i>same as alternative A</i></p> <p>→</p> | | | |
| <p>■ Develop one accessible day use area within 3 years of CCP approval, to encourage participation in wildlife-dependent use opportunities, which will foster appreciation and support for fish, wildlife, and their habitat.</p> | <p><i>same as alternative A</i></p> <p>→</p> | <p>■ Develop accessible facilities such as restrooms and drinkable water, within 3 years of CCP approval, to provide quality, wildlife-dependent, public use opportunities.</p> | <p>■ Provide limited support facilities (drinking water and restrooms) at the visitor contact station within 1 year of CCP approval, to support authorized public use.</p> | |
| <p>■ To reduce disturbance and increase nest success probability, site-specific management activities or public use activities will not be permitted within 0.5-mile of any occupied golden eagle nest.</p> | <p><i>same as alternative A</i></p> <p>→</p> | | | |
| | <p>■ Allow access for nonmotorized floating devices on Dahl Lake, within 2 years of CCP approval, to support quality wildlife observation, photography, and fishing opportunities.</p> | | | <p>■ Adopt the public access guidelines outlined in the tear sheet in appendix F to provide visitors with compatible public use opportunities.</p> |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

Public Use Goal Provide quality wildlife-dependent recreational and educational opportunities for persons of all abilities to learn, understand, and enjoy the Intermountain ecosystem of northwestern Montana; its associated fish, wildlife, and plants of Lost Trail National Wildlife Refuge; and the National Wildlife Refuge System in a safe and compatible manner.

| <p><i>Objectives for Alternative A</i> (proposed action)</p> <ul style="list-style-type: none"> -Biological potential emphasis -Compatible public use opportunities | <p><i>Objectives for Alternative B</i></p> <ul style="list-style-type: none"> -Habitat and species protection -Maximum compatible, public use opportunities | <p><i>Objectives for Alternative C</i></p> <ul style="list-style-type: none"> -Habitat restoration and natural processes -Minimum public use opportunities | <p><i>Objectives for Alternative D</i> (no action)</p> <ul style="list-style-type: none"> -Custodial management -Limited public use opportunities |
|--|---|--|---|
| <i>HUNTING</i> | | | |
| <ul style="list-style-type: none"> ■ Allow elk, deer, mountain grouse, and turkey hunting under MFWP regulations, starting fall 2002 in designated areas; and provide a quality hunting experience to persons of all abilities within 5 years of hunt plan approval, resulting in at least 90 percent of hunters reporting a quality hunt, to provide quality opportunities for persons of all abilities to take part in hunting. | <p><i>same as alternative A</i></p> <p>-----></p> | | |
| <ul style="list-style-type: none"> ■ Provide special youth-only hunts for deer and elk, during the first week of archery season and the first week of rifle season, starting fall 2002 to promote understanding, appreciation, and stewardship of the refuge and all system lands. | <p><i>same as alternative A</i></p> <p>-----></p> | | |
| <ul style="list-style-type: none"> ■ Provide easily accessible information to and personal contact with hunters for at least 95 percent compliance with refuge regulations, within 5 years of CCP approval, to encourage hunters to practice the highest standards of ethical behavior in attempts at taking wildlife. | <p><i>same as alternative A</i></p> <p>-----></p> | | |
| <i>FISHING</i> | | | |
| <ul style="list-style-type: none"> ■ Determine, within 5 years of CCP approval, the feasibility of restoration of native sport fisheries, to address a previously unavailable use opportunity. | <p><i>same as alternative A</i></p> <p>-----></p> | | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

Provide quality wildlife-dependent recreational and educational opportunities for persons of all abilities to learn, understand, and enjoy the Intermountain ecosystem of northwestern Montana; its associated fish, wildlife, and plants of Lost Trail National Wildlife Refuge; and the National Wildlife Refuge System in a safe and compatible manner.

Public Use Goal

| <p><i>Objectives for Alternative A</i> (proposed action)</p> <ul style="list-style-type: none"> -Biological potential emphasis -Compatible public use opportunities | <p><i>Objectives for Alternative B</i></p> <ul style="list-style-type: none"> -Habitat and species protection -Maximum compatible, public use opportunities | <p><i>Objectives for Alternative C</i></p> <ul style="list-style-type: none"> -Habitat restoration and natural processes -Minimum public use opportunities | <p><i>Objectives for Alternative D</i> (no action)</p> <ul style="list-style-type: none"> -Custodial management -Limited public use opportunities |
|--|---|--|--|
| <ul style="list-style-type: none"> ■ Carry out planning, funding, evaluation, and implementation of a restoration program for native fisheries—through at least four partnerships—within 5 years of determining a native sports fisheries is feasible, to develop quality, sport-fishing opportunities. | <p><i>same as alternative A</i> →</p> | <ul style="list-style-type: none"> ■ Carry out evaluation and restoration of refuge wetlands and streams, with support and partners, within 1 year of CCP approval, to restore native fisheries and protect the Pleasant Valley ecosystem. | <ul style="list-style-type: none"> ■ Evaluate the existence of viable sport fish populations in Dahl Lake and Pleasant Valley and Meadow creeks every 5 years and, within 2 years of reaching a viable sport fishery population, develop a fishing plan that outlines steps to provide a quality fishing program, to increase public use opportunities. |
| <ul style="list-style-type: none"> ■ Open at least 30 percent of fishable waters along Pleasant Valley Creek and Dahl Lake, with a minimum of one accessible fishing area that provides safe and uncrowded fishing opportunities, within 2 years of restoring a viable sport fishery if determined feasible, to provide a quality fishing experience. | <ul style="list-style-type: none"> ■ Allow fishing on 60 percent of waters within refuge boundaries in compliance with MFWP, within 2 years of CCP approval, to facilitate fishing opportunities for persons of all abilities. | <ul style="list-style-type: none"> ■ Do not permit fishing for the duration of the CCP to protect natural resources. | <ul style="list-style-type: none"> ■ Provide a quality fishing experience to persons of all abilities, if fish population levels are viable, with at least 90 percent of anglers reporting quality fishing experiences within 5 years of the fishing plan approval, to increase public use opportunities. |
| <ul style="list-style-type: none"> ■ Provide one fishing event for youth per year, involving at least 20 participants, within 2 years of hiring a public use employee, to increase youth appreciation of fish and fishing. | <p><i>same as alternative A</i> →</p> | <ul style="list-style-type: none"> ■ Provide one off-refuge fishing event for youth per year involving at least 20 participants, in coordination with partners, within 2 years of hiring a public use employee, to increase youth appreciation of fish and fishing. | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

Public Use Goal *Provide quality wildlife-dependent recreational and educational opportunities for persons of all abilities to learn, understand, and enjoy the Intermountain ecosystem of northwestern Montana; its associated fish, wildlife, and plants of Lost Trail National Wildlife Refuge; and the National Wildlife Refuge System in a safe and compatible manner.*

| <p><i>Objectives for Alternative A</i> (proposed action)</p> <ul style="list-style-type: none"> -Biological potential emphasis -Compatible public use opportunities | <p><i>Objectives for Alternative B</i></p> <ul style="list-style-type: none"> -Habitat and species protection -Maximum compatible, public use opportunities | <p><i>Objectives for Alternative C</i></p> <ul style="list-style-type: none"> -Habitat restoration and natural processes -Minimum public use opportunities | <p><i>Objectives for Alternative D</i> (no action)</p> <ul style="list-style-type: none"> -Custodial management -Limited public use opportunities |
|---|---|--|--|
| <p>WILDLIFE OBSERVATION AND PHOTOGRAPHY</p> <ul style="list-style-type: none"> ■ Provide opportunities for wildlife observation and photography by providing public access with minimal disturbance to wildlife and habitat, and developing designated viewing sites (one wildlife drive, two accessible wildlife-viewing areas, and one accessible trail), resulting in a 90 percent visitor satisfaction rate within 5 years of CCP approval, to promote public appreciation of natural and cultural resources. | <ul style="list-style-type: none"> ■ Develop observation and photography sites (one wildlife drive, three accessible wildlife-viewing areas, one accessible viewing platform, two accessible trails, and one accessible observation blind) within 5 years of CCP approval, to develop wildlife observation and photography as the most common wildlife-dependent recreational use. | <ul style="list-style-type: none"> ■ Develop observation and photography sites (four accessible wildlife-viewing areas, one accessible wildlife-viewing platform, and one accessible trail) within 5 years of CCP approval, to promote quality opportunities to the public. | |
| <ul style="list-style-type: none"> ■ Make contact with 90 percent of visitors via the visitor contact station, interpretive materials, and interpretive kiosks, starting within 2 years of CCP approval, to provide quality wildlife observation and photography opportunities, and promote public appreciation of natural and cultural resources. | <p style="text-align: center;"><i>same as alternative A</i> →</p> | <ul style="list-style-type: none"> ■ Provide information about the best observation sites and successful photography techniques to 90 percent of visitors via the visitor contact station, interpretive materials, and interpretive kiosks to provide quality wildlife observation and photography opportunities. | <ul style="list-style-type: none"> ■ Provide information about wildlife observation and photography opportunities to 90 percent of visitors via the refuge office, parking lot kiosks, and public use tear sheets, within 2 years of CCP approval, to provide all visitors with opportunities to observe and photograph wildlife. |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

Provide quality wildlife-dependent recreational and educational opportunities for persons of all abilities to learn, understand, and enjoy the Intermountain ecosystem of northwestern Montana; its associated fish, wildlife, and plants of Lost Trail National Wildlife Refuge; and the National Wildlife Refuge System in a safe and compatible manner.

Public Use Goal

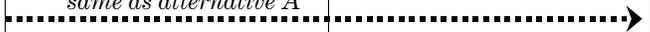
| <p><i>Objectives for Alternative A</i> (proposed action)</p> <ul style="list-style-type: none"> -Biological potential emphasis -Compatible public use opportunities | <p><i>Objectives for Alternative B</i></p> <ul style="list-style-type: none"> -Habitat and species protection -Maximum compatible, public use opportunities | <p><i>Objectives for Alternative C</i></p> <ul style="list-style-type: none"> -Habitat restoration and natural processes -Minimum public use opportunities | <p><i>Objectives for Alternative D</i> (no action)</p> <ul style="list-style-type: none"> -Custodial management -Limited public use opportunities |
|--|---|---|---|
| <ul style="list-style-type: none"> ■ Encourage the highest standards of ethical behavior by the public during wildlife observation and photography, with 90 percent of visitors understanding and following procedures within 5 years of CCP approval, to provide quality wildlife observation and photography opportunities and limit resource damage. | <p><i>same as alternative A</i></p>  | | |
| | <ul style="list-style-type: none"> ■ Permit authorized public access (mostly foot travel) within 2 years of CCP approval on 60–100 percent of the refuge at all times, unless closures are required to protect life, property, or resources, to provide visitors with opportunities to observe and photograph wildlife in its natural habitat without compromising the resources for which the refuge was established. | <ul style="list-style-type: none"> ■ Permit authorized public access on designated trails and roads to provide visitors with opportunities to observe and photograph wildlife in its natural habitat, and foster wildlife populations by limiting disturbance. | |
| | <ul style="list-style-type: none"> ■ Within 3 years of CCP approval and receiving adequate funding and staffing, develop and implement a program to allow for special wildlife observation and photographic opportunities under a regulated permit system to foster an appreciation of special resources. | | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

Public Use Goal Provide quality wildlife-dependent recreational and educational opportunities for persons of all abilities to learn, understand, and enjoy the Intermountain ecosystem of northwestern Montana; its associated fish, wildlife, and plants of Lost Trail National Wildlife Refuge; and the National Wildlife Refuge System in a safe and compatible manner.

| <p><i>Objectives for Alternative A</i> (proposed action)</p> <ul style="list-style-type: none"> -Biological potential emphasis -Compatible public use opportunities | <p><i>Objectives for Alternative B</i></p> <ul style="list-style-type: none"> -Habitat and species protection -Maximum compatible, public use opportunities | <p><i>Objectives for Alternative C</i></p> <ul style="list-style-type: none"> -Habitat restoration and natural processes -Minimum public use opportunities | <p><i>Objectives for Alternative D</i> (no action)</p> <ul style="list-style-type: none"> -Custodial management -Limited public use opportunities |
|---|---|---|---|
| <p>INTERPRETATION</p> <ul style="list-style-type: none"> ■ Develop interpretive materials and disseminate them to at least 90 percent of visitors, within 2 years of program funding and staffing to promote public appreciation of natural and cultural resources. | <p><i>same as alternative A</i></p> | | |
| <ul style="list-style-type: none"> ■ Develop interpretive themes within 10 years of hiring a public use specialist. Major themes will include wetlands, endangered species, history of Pleasant Valley, management of Lost Trail National Wildlife Refuge, the National Wildlife Refuge System, and the Service, to increase visitors' understanding and support, as well as their appreciation of fish, wildlife, plants, and their habitats. | <p><i>same as alternative A</i></p> | | |
| <ul style="list-style-type: none"> ■ Ensure that at least 75 percent of visitors understand wetland values and the refuge's contribution to restoration and protection of Pleasant Valley wetlands, within 5 years of CCP approval, to promote public appreciation of natural resources. | <ul style="list-style-type: none"> ■ Ensure that at least 80 percent of visitors understand wetland values and the refuge's contribution to restoration and protection of Pleasant Valley wetlands, within 5 years of CCP approval, to promote public appreciation of natural resources. | <ul style="list-style-type: none"> ■ Ensure that at least 85 percent of visitors understand wetland values and the refuge's contribution to restoration and protection of Pleasant Valley wetlands, within 5 years of CCP approval, to promote public appreciation of natural resources. | |
| | <ul style="list-style-type: none"> ■ Provide interpretive programs that receive public participation, with yearly increases of at least 10 percent, for the next 10 years, to foster appreciation and understanding of the refuge and its associated wildlife and habitats. | <ul style="list-style-type: none"> ■ Ensure that at least 75 percent of visitors understand and comply with restrictions of public access to large portions of the backcountry, to increase support of management decisions to restore and protect refuge resources. | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

Provide quality wildlife-dependent recreational and educational opportunities for persons of all abilities to learn, understand, and enjoy the Intermountain ecosystem of northwestern Montana; its associated fish, wildlife, and plants of Lost Trail National Wildlife Refuge; and the National Wildlife Refuge System in a safe and compatible manner.

Public Use Goal

| <p><i>Objectives for Alternative A</i> (proposed action)</p> <ul style="list-style-type: none"> -Biological potential emphasis -Compatible public use opportunities | <p><i>Objectives for Alternative B</i></p> <ul style="list-style-type: none"> -Habitat and species protection -Maximum compatible, public use opportunities | <p><i>Objectives for Alternative C</i></p> <ul style="list-style-type: none"> -Habitat restoration and natural processes -Minimum public use opportunities | <p><i>Objectives for Alternative D</i> (no action)</p> <ul style="list-style-type: none"> -Custodial management -Limited public use opportunities |
|--|---|--|---|
| <div style="background-color: #cccccc; height: 20px; width: 100%;"></div> | <ul style="list-style-type: none"> ■ To reduce disturbance to wildlife and educate the public, develop an interpretive display that informs visitors of the importance of winter range to ungulates, within 5 years of CCP approval. | <ul style="list-style-type: none"> ■ Develop a bald eagle interpretive handout and provide one outreach program per year. ■ Develop an interpretive, trumpeter swan handout and provide one outreach program per year. | <div style="background-color: #cccccc; height: 20px; width: 100%;"></div> |
| <p>ENVIRONMENTAL EDUCATION</p> <ul style="list-style-type: none"> ■ Develop an extensive environmental education program, including development of a formal partnership, within 5 years of CCP approval, to allow students and educators to gain hands-on experiences and appreciation of natural resources. | <p style="text-align: center;"><i>same as alternative A</i></p> <p style="text-align: center;">-----></p> | | <div style="background-color: #cccccc; height: 20px; width: 100%;"></div> |
| <ul style="list-style-type: none"> ■ Develop and maintain a lending library of extensive materials and resources within 2 years of CCP approval, to provide up-to-date and Service-related environmental education materials for educators. | <p style="text-align: center;"><i>same as alternative A</i></p> <p style="text-align: center;">-----></p> | | <p style="text-align: center;">-----></p> |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

| <p><i>Provide quality wildlife-dependent recreational and educational opportunities for persons of all abilities to learn, understand, and enjoy the Intermountain ecosystem of northwestern Montana; its associated fish, wildlife, and plants of Lost Trail National Wildlife Refuge; and the National Wildlife Refuge System in a safe and compatible manner.</i></p> | | | | |
|--|---|---|--|--|
| <p>Public Use Goal</p> | <p><i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities</p> | <p><i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities</p> | <p><i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities</p> | <p><i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities</p> |
| <p>■ Provide on-site field trips to educators and students upon request to foster stewardship of the land, understand the refuge mission of conserving natural resources, and experience the wonder of native fish, wildlife, and plants as well as the culture and history of the area.</p> | <p>■ Collaborate with local educational groups and schools (within 1-hour commuting distance—Pleasant Valley, Marion, and Kalispell), and conduct a minimum of one field trip or environmental education activity per school each year, to foster stewardship of the land, understanding of the refuge vision of conserving natural resources, and experiencing the wonder of natural and cultural resources.</p> | <p>■ Provide at least one in-class environmental education program per school each year, for schools within a 1-hour commute, to foster stewardship of the land, understanding of the refuge vision of conserving natural resources, and experiencing the wonder of native plants and animals, as well as cultural resources.</p> <p>■ Recruit students and educators to contribute to data-gathering and restoration activities, as measured by number of participants and number of returnees each year, to foster understanding of natural and cultural resources, and effectively achieve management and restoration goals.</p> | <p>■ Encourage students and educators within the Pleasant Valley, Lost Prairie, and Marion areas to visit the refuge once a year to foster stewardship of the land, understanding of the refuge vision of conserving natural resources, and experiencing the wonder of natural and cultural resources.</p> | |
| <p>■ Develop an accessible campground for overnight use by educational groups, within 1 year of implementation of an environmental education program, to allow students and educators to gain hands-on experience and appreciation of natural resources.</p> | <p>■ Develop an accessible campground with 10 campsites for overnight use by the public during the summer (Memorial Day weekend to Labor Day weekend) and to educational groups during spring and fall, within 4 years of CCP approval, to support and encourage quality wildlife-dependent recreational use, and allow students and educators to gain hands-on experience and appreciation of natural resources.</p> | <p>■ Develop an accessible campground for overnight use by educational groups within 2 years of implementation of an environmental education program, to allow students and educators to gain hands-on experience and appreciation of natural resources.</p> | | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

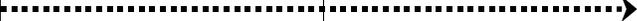
| <i>Provide staffing, funding, and facilities to maintain the long-term integrity of habitats and wildlife resources of Lost Trail National Wildlife Refuge in supporting the achievement of ecosystem and National Wildlife Refuge System goals.</i> | | | |
|--|--|--|--|
| Administration Goal | | | |
| <i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities | <i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities | <i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities | <i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities |
| OPERATIONS | | | |
| <ul style="list-style-type: none"> ■ Form a new complex comprised of Lost Trail National Wildlife Refuge, Swan River National Wildlife Refuge, and Flathead County units of the Northwest Montana WMD, separate from the National Bison Range complex, within 15 years of CCP approval, to better address interests unique to this area of northwestern Montana and anticipated increased public use. | <p><i>same as alternative A</i></p>  | | |
| <ul style="list-style-type: none"> ■ Provide adequate resources and staff to administer, develop, and maintain refuge habitat, facilities, programs, and public use for the period of this CCP, within 2 years of CCP approval, to perform the restoration, management, activities, and monitoring described in the CCP to achieve the refuge’s goals. | <p><i>same as alternative A</i></p>  | | <ul style="list-style-type: none"> ■ Continue coordination with the lead biologist for the National Bison Range complex regarding biological program needs and opportunities for the period of this CCP. ■ Maintain current equipment in a safe and efficient working condition to administer the refuge safely and efficiently. |
| <ul style="list-style-type: none"> ■ Provide on-site law enforcement (overt, covert, and preventative) within 1 year of CCP approval, to provide quality public use experiences, while ensuring the protection of refuge resources. | <p><i>same as alternative A</i></p>  | | <ul style="list-style-type: none"> ■ Provide law enforcement during hunting seasons and high visitor use periods, and coordinate with MFWP to enforce state hunting laws for the duration of this CCP, to provide natural resource protection and public safety. |
| <ul style="list-style-type: none"> ■ Annually use volunteers to assist with maintenance, biological monitoring, and public use activities to effectively and efficiently implement the CCP. | <p><i>same as alternative A</i></p>  | | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

| <p><i>Provide staffing, funding, and facilities to maintain the long-term integrity of habitats and wildlife resources of Lost Trail National Wildlife Refuge in supporting the achievement of ecosystem and National Wildlife Refuge System goals.</i></p> | | | |
|---|---|---|--|
| <p>Administration Goal</p> | | | |
| <p><i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities</p> | <p><i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities</p> | <p><i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities</p> | <p><i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities</p> |
| <p>FACILITIES</p> | | | |
| <p>■ Provide adequate administrative and maintenance facilities within 3 years of CCP approval, and ensure needed facilities and structures are maintained to Service standards during the period of this CCP, to provide support for refuge staff and programs, and for public safety.</p> | <p><i>same as alternative A</i> →</p> | | <p>■ Repair and maintain existing facilities, buildings, fences, and roads on an “as-needed basis” for the duration of this CCP, to provide basic support for refuge staff, and provide for public safety.</p> |
| <p>■ Identify and remove unnecessary structures and facilities within 10 years of CCP approval, to provide for restoration of habitat, protection of wildlife, reduction of maintenance needs, and public safety.</p> | <p><i>same as alternative A</i> →</p> | | |
| | <p>■ Restore and protect 28 miles of graveled and two-tracked grass roads and travel lanes for the duration of the CCP, to provide an efficient and safe road system for administrative and public use.</p> | <p><i>same as alternative B</i> →</p> | |
| <p>Partnership Goal</p> | | | |
| <p><i>Promote and develop partnerships with adjacent landowners, public and private organizations, and other interested individuals to preserve, restore, and enhance a diverse and productive ecosystem of which Lost Trail National Wildlife Refuge is an integral part.</i></p> | | | |
| <p>■ Meet once a year with the NRCS and private landowners in the Pleasant Valley to coordinate and collaborate on an interagency land steward partnership to protect more than 5,800 acres of wetland and wetland-related habitat, within 3 years of CCP approval.</p> | | | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

| <p><i>Promote and develop partnerships with adjacent landowners, public and private organizations, and other interested individuals to preserve, restore, and enhance a diverse and productive ecosystem of which Lost Trail National Wildlife Refuge is an integral part.</i></p> | | | |
|---|---|--|---|
| <p>Partnership Goal</p> | <p><i>Objectives for Alternative B</i></p> <p>–Habitat and species protection –Maximum compatible, public use opportunities</p> | <p><i>Objectives for Alternative C</i></p> <p>–Habitat restoration and natural processes –Minimum public use opportunities</p> | <p><i>Objectives for Alternative D</i></p> <p>(no action) –Custodial management –Limited public use opportunities</p> |
| <p><i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities</p> | | | |
| <p>■ Partner with nongovernmental organizations (RMEF, Audubon Society, Landmark Volunteers, MCC, and Flathead Wildlife, Inc.) to conduct habitat and maintenance activities and collect biological data for the first 5 years after CCP approval, to increase conservation efforts.</p> | <p><i>same as alternative A</i></p> | | |
| <p>■ Develop a “friends group” for a mutually agreed-upon area of the refuge within 3 years of CCP approval, to enhance management, programs, or funding of refuge programs.</p> | <p><i>same as alternative A</i></p> | | |
| <p>■ In conjunction with PCTC; MFWP, Montana DNRC; USDA Forest Service; and private landowners, determine the opportunities and feasibility for a forest legacy easement within 5 years of CCP approval.</p> | | | |
| <p>■ Share law enforcement responsibilities with MFWP during deer, elk, and upland game bird hunting seasons, on and adjacent to the refuge, for the duration of this CCP, to efficiently provide quality public use experiences, while ensuring the protection of refuge resources. Coordinate with the local sheriff’s office and the Montana Highway Patrol to address and deal with potential issues outside of the hunting season and to provide law enforcement personnel with backup and law enforcement assistance when needed.</p> | <p><i>same as alternative A</i></p> | | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

| <p><i>Promote and develop partnerships with adjacent landowners, public and private organizations, and other interested individuals to preserve, restore, and enhance a diverse and productive ecosystem of which Lost Trail National Wildlife Refuge is an integral part.</i></p> | | | | |
|---|--|--|---|--|
| <p>Partnership Goal</p> | <p><i>Objectives for Alternative A</i> (proposed action) –Biological potential emphasis –Compatible public use opportunities</p> | <p><i>Objectives for Alternative B</i> –Habitat and species protection –Maximum compatible, public use opportunities</p> | <p><i>Objectives for Alternative C</i> –Habitat restoration and natural processes –Minimum public use opportunities</p> | <p><i>Objectives for Alternative D</i> (no action) –Custodial management –Limited public use opportunities</p> |
| <p>■ Meet once a year with PCTC, RMEF, Flathead and Lincoln counties weed departments, and the USDA Forest Service to maintain partnerships for collaboration and mutual assistance with invasive plant control, access, and road maintenance issues, for the period of this CCP.</p> | <p><i>same as alternative A</i></p> | | | |
| <p>■ For the period of this CCP, collaborate with the Flathead County Road Department regarding refuge signage and potential cooperative road maintenance and possible relocation issues concerning Pleasant Valley Road.</p> | <p><i>same as alternative A</i></p> | | | |
| <p>■ Continue issuing annual special-use permits with the USDA Forest Service for use, maintenance, and invasive plant control on refuge road North 1019, as needed for the period of this CCP.</p> | <p><i>same as alternative A</i></p> | | | |
| <p>■ Continue coordination with Bonneville Power Administration regarding the power line easement for the duration of this CCP.</p> | <p><i>same as alternative A</i></p> | | | |
| <p>■ Maintain the statewide memorandum of understanding with the Montana DNRC for wildland-fire suppression efforts for 15 after CCP approval.</p> | | | | |
| <p>■ For the period of this CCP, continue coordination with PCTC and their lessee regarding grazing issues on adjacent PCTC lands.</p> | | | | |

Table 13. Summary of alternatives and objectives for the CCP for Lost Trail National Wildlife Refuge, Montana

| | | | |
|--|---|--|---|
| <p><i>Promote and develop partnerships with adjacent landowners, public and private organizations, and other interested individuals to preserve, restore, and enhance a diverse and productive ecosystem of which Lost Trail National Wildlife Refuge is an integral part.</i></p> | | | |
| <p>Partnership Goal</p> | | | |
| <p><i>Objectives for Alternative A (proposed action)</i></p> <ul style="list-style-type: none"> -Biological potential emphasis -Compatible public use opportunities | <p><i>Objectives for Alternative B</i></p> <ul style="list-style-type: none"> -Habitat and species protection -Maximum compatible, public use opportunities | <p><i>Objectives for Alternative C</i></p> <ul style="list-style-type: none"> -Habitat restoration and natural processes -Minimum public use opportunities | <p><i>Objectives for Alternative D (no action)</i></p> <ul style="list-style-type: none"> -Custodial management -Limited public use opportunities |
| | <ul style="list-style-type: none"> ■ Collaborate with the Retired Senior Volunteer Program to provide assistance with refuge maintenance, restoration, and public use programs, and provide volunteers an opportunity to stay and work within the Pleasant Valley. | | |

ELIMINATED ALTERNATIVES

Many ideas for the focus of management on the refuge were developed. One alternative that was considered, but eliminated from further analysis, is described below:

- Similar to alternative C, the former alternative E called for removal of all structures (excepting the peripheral fence delineating the refuge’s boundary). Natural processes would restore habitats their presettlement condition and function. All habitats would be protected from human-induced impacts.
- Close examination of this alternative revealed that some elements would not allow the purposes for which the refuge was established to be fulfilled.
- Useful components of alternative E were incorporated into an expanded alternative C.

Objectives from the hunt plan are included in all alternatives that follow. They are provided only as information in this EA, not as part of the decision process.

ALTERNATIVE A

PROPOSED ACTION

The biological potential of native plants and wildlife is provided through restored and enhanced habitats.

Use by an informed public does not impede reaching the biological potential.

Staffing is minimal, and facilities are improved.

Partnerships accomplish habitat management and foster conservation.

This alternative is the proposed action of the Service for the CCP for Lost Trail National Wildlife Refuge.



Hooded Merganser Brood
John and Karen Hollingsworth/USFWS

RIPARIAN HABITAT

Stream channels and associated vegetation are addressed in the management direction for riparian habitat. Water control structures that affect the functioning of riparian habitat, as well as fish passage, are addressed.

GOAL

Restore, enhance, and maintain a mixed deciduous and coniferous riparian habitat to support indigenous wildlife species and perpetuate the ecological integrity of the Fisher River watershed.

Riparian Habitat Objectives

The basis for the following objectives and strategies is described in rationales 1–5, found in appendix H.

- The Service will maintain coordination and collaboration for restoration of the stream vegetation and stream meander on the WRP easement to the south end of Pleasant Valley Creek, and Meadow Creek after it flows west from the water control structure until it joins with Pleasant Valley Creek, by meeting with the NRCS annually.
- Inventory and evaluate willow, alder, and birch vegetation (20 acres) in the Dahl Lake wetlands within 5 years of CCP approval, to determine the potential to increase plant diversity and habitat for migratory songbirds.
- Restore stream bank vegetation (willow, alder, hawthorn) within a 20-foot buffer with 75 percent canopy cover, along 0.9 mile of Pleasant Valley Creek (north of breached water control structure) within 5 years of CCP approval, to enhance nesting and foraging materials for migratory birds, and reduce water temperature for fish and amphibians.
- Evaluate three ponds, three water control structures, and three culverts along Pleasant Valley Creek within 5 years of CCP approval, to determine effects on stream quality (siltation and temperature) and downstream fisheries.
- Enhance the integrity of the Pleasant Valley Creek restoration project by working with NRCS; MFWP; and private landowners to make the full length of Pleasant Valley Creek on and off the refuge fish passage-friendly within 8 years of CCP approval.
- Maintain, and increase when feasible, quaking aspen acreage on the refuge in the Dahl Lake wetland complex [currently unit 12 (3 acres), unit 14 (23 acres), and unit 19 (24 acres); figure 2].

Strategies

Study stream characteristics and the biological potential of Pleasant Valley Creek, in collaboration with NRCS; MFWP; and Trout Unlimited.

Revegetate the north section of Pleasant Valley Creek where alders have died and channel meander is being restored at Lower Moose Pond, in collaboration with NRCS.

Manage riparian areas and willow stands to maintain or achieve midaged condition or higher in areas above 3,300 feet elevation for lynx habitat.

Determine viability of sport fish populations by evaluating species presence, potential for continued reproduction, population size capable of supporting expected fishing pressure, and recovery of absent species.

Remove fish barriers in Pleasant Valley Creek downstream from the refuge, in collaboration with NRCS and private landowners.

Use prescribed fire in early spring, late summer, or fall (Howard 1996, Tirmenstein 1988) to promote quaking aspen for rejuvenation of existing stands or increase coverage of aspen.

Review literature for water regimes and soil types required for willow, alder, and birch.

Provide one full-time biologist to monitor fish recovery and populations.

Monitor stream temperature and siltation in Pleasant Valley Creek each summer after revegetation has occurred, in collaboration with MFWP.

Monitor revegetation along Pleasant Valley Creek through vegetation classification every third year.

Establish point counts in stream habitat to determine if revegetation along Pleasant Valley Creek enhances use by birds.

Conduct surveys for migratory birds, songbirds, amphibians, and vegetation before and after restoration efforts in refuge ponds and Pleasant Valley Creek, in collaboration with NRCS and volunteers.

WETLAND HABITAT

Lakes, bogs, and other saturated wetland areas are addressed in the management direction for wetland habitat.

GOAL

Provide breeding, resting, and feeding habitat for wetland-dependent species of northwestern Montana by restoring, maintaining, and enhancing a mosaic of lake, semipermanent, seasonal, temporary, and saturated wetlands.

Wetland Habitat Objectives

The basis for the following objectives and strategies is described in rationales 8–13, found in appendix H.

- Recharge 100 percent of drained wetlands to 75–100 percent capacity within 5 years of CCP approval, to foster wetland recharge and promote wetland revegetation for wildlife habitat.
- Maintain wetland basins, other than the Dahl Lake complex, with a minimum 50:50 water-to-cover ratio well interspersed, within 5–10 years of CCP approval, to provide foraging and nesting habitat for water birds.
- Restore Dahl Lake complex water levels to gain a minimum of 200 acres of temporary wetlands, and restore temporary wetlands (80 acres) to seasonal and semipermanent wetlands that fluctuate naturally (figure 3), within 5 years of CCP approval, to provide water bird foraging and nesting habitat.
- Increase ground-nesting habitat with construction of up to five nesting islands on Dahl Lake within 11 years of CCP approval, if soil plasticity is suitable for proper construction, to increase wildlife habitat.
- Conduct a wetland study in the Dahl Lake complex to determine how montane wetlands function as recharge and discharge basins within 6 years of CCP approval, to determine effects on vegetative, invertebrate, and wildlife associations.
- Restore natural wetland vegetation in Dahl Lake wetland complex by reducing reed canarygrass by 40–80 percent within 10 years of CCP approved, to allow the reestablishment of sedge, rush, mint, pondweed, cattail, and bulrush as the dominant plant species.
- Inventory for fens (alkaline bogs) within 1 year of CCP approval, to protect from invasive plants.

Strategies

Restore or increase water holding capabilities in wetlands on the WRP easement, e.g., plug ditches, in coordination with the NRCS.

Install a water control structure in the culvert near headquarters to allow water to fill the wetland to road height without washing out the road.

If runoff should not be adequate the first year for wetland refill of each restored basin, divert water for 1 year to initiate recharge of the basin.

Plug wetland drain ditches in the wetlands west of Dahl Lake within the west mitigative parcel.

Fill the drain ditch (Meadow Creek) coming out of the west end of Dahl Lake with off-site spoils that remain on-site, and by trucking in spoils to fill the ditch back west to the location of the old water control structure (figure 3).

Use rest, grazing, haying, and prescribed fire to maintain open water and remove decadent, residual, emergent vegetation with adaptive management.

Allow wetlands to recharge and discharge with naturally occurring seasonal fluctuations. Use no control structures to manipulate water depth.

Construct 0.5-acre nesting islands to be irregular in shape with 5:1 slopes, top-dressed with soil, and seeded with native grasses and legumes for ground-nesting habitat.

Monitor wetland-vegetation coverage response to recharge every third year; map in the geographical information system (GIS).

Annually monitor vegetative response by measuring habitat coverage; map in GIS.

Survey wet meadows for dominant plant species and presence of peat; measure pH of soil in suspect areas.

Annually conduct pair-count surveys for water birds to monitor use of wetlands pre- and post-refill.

GRASSLAND HABITAT

This management direction is for the diverse grasslands that cover the majority of the refuge.

GOAL

Restore, enhance, and maintain Intermountain grasslands, with an emphasis on native bunchgrass prairie, to provide habitat for migratory birds, species of concern, and associated wildlife species.

Grassland Habitat Objectives

The basis for the following objectives and strategies is described in rationales 18–24, found in appendix H.

- Fence and post the entire refuge boundary within 3 years of CCP approval, to make clear to the public when they have entered or exited the refuge, and to prohibit unauthorized livestock grazing.
- Develop soil descriptions for the entire refuge within 1 year of CCP approval (coordinate with NRCS), for a baseline understanding of soils to help with future management considerations.
- Maintain native grasslands (1,450 acres) not closely associated with wetlands (north of Pleasant Valley Road, figure 4), for a healthy Palouse prairie grassland dominated by Idaho and rough fescues, and western wheatgrass [Idaho fescue with average 8–12 flower stalks per plant, 20–22 centimeters in maximum leaf length per plant, 14–17 square centimeters live basal area (Mueggler 1970, 1975), and an average 12.7–22.9 centimeters leaf height (Pond 1960); and rough fescue with an average 25–30 centimeters leaf height (McLean and Wikeem 1985)], to provide a vigorous plant community for ground-nesting migratory birds and forage for other wildlife.
- Monitor, every 2 years, 336 acres of western wheatgrass in management units 13 and 14, and 45 acres of Kentucky bluegrass in management

unit 19 (figures 2 and 4), and maintain as medium-tall, dense grasslands with litter depth of 15–30 mm and 1.5–2 decimeters VOR to provide habitat for nesting blue-winged and cinnamon teal (Barker et al. 1990, Gilbert and Woodling 1996, Livezey 1981).

- Monitor, every 2 years, 190 acres of Idaho fescue and western wheatgrass in upland grasslands around the Dahl Lake wetland complex (management unit 11, figures 2 and 4), and maintain as tall, dense grasslands with litter depth of 15–30 mm and 3 decimeters VOR (Kirsch et al. 1978, Duebbert and Lokemoen 1976, Kruse and Bowen 1996), to provide nesting habitat for mallard, gadwall, and lesser scaup.
- Monitor 900 acres dominated by Idaho fescue and rough fescue (management units 8–10, 12, 15, and 20; figure 2) every 2 years; for Idaho fescue with an average 8–12 flower stalks per plant, 20–22 centimeters maximum leaf length per plant, 14–17 square centimeters live basal area (Mueggler 1970, 1975), and an average 12.7–22.9 centimeters leaf height (Pond 1960); to determine when management action is needed to maintain vigorous plant communities for ground-nesting migratory birds and forage for other wildlife.

Strategies

Fence and post the refuge boundary; use staff from the National Bison Range complex or contracted personnel.

Use wildlife-friendly fencing in areas of high wildlife use, where feasible.

Survey or find markers in areas of uncertainty for the refuge boundary.

Use existing soils layers to determine which soils have not been classified.

Sample soils and describe associated climax vegetation for each unclassified type; perform through a request to the NRCS.

Gather technical guides for vegetative climax communities for each soil type; coordinate with NRCS.

Set priorities for restoration within the WRP easement (345 acres) in the bottomlands (see south of the county road, figure 4), in collaboration with NRCS restoration efforts.

Complete WRP restoration of the remaining 512 acres in the bottomlands and 145 acres in the uplands, after securing funding.

Determine the best restoration method and plant species of replacement; consult with experts and review literature.

Maintain native Palouse prairie habitat in and around the Spalding's catchfly site with sufficient, native forb composition to attract, but not compete for, pollinators.

Develop a habitat management plan describing how rest, prescribed fire, grazing, or haying will be used to maintain migratory bird nesting habitat in areas of: (1) western wheatgrass and Kentucky bluegrass; and (2) Idaho fescue and western wheatgrass on upland grasslands.

Use grazing and prescribed fire as habitat management tools for Idaho or rough fescue once monitoring results demonstrate management targets have been achieved and compatibility agreements have been developed with the NRCS.

Rest, grazing, and prescribed fire may be used as habitat management tools once monitoring results demonstrate native grassland targets have been achieved.

Use short-term management practices (e.g., grazing or fire) to remove decadent, residual vegetation every 5–7 years (Kirsch et al. 1978), 6–7 years (Gilbert and Woodling 1996), 5–10 years (Barker et al. 1990) depending upon productivity, precipitation, and monitoring results.

Monitor vegetation (live basal area, leaf height, leaf length, and flower stalks/plant) to determine current habitat condition and monitor for management thresholds every 2 years.

Monitor plant species occurrence and percent cover along with wildlife use pre- and postrestoration.

FOREST HABITAT

Coniferous and deciduous forests are addressed in the management direction for forest habitat.

GOAL

Enhance and maintain Douglas-fir, ponderosa pine, aspen, and cottonwood forested habitats within the context of the Fisher River watershed for migratory birds, species of concern, and other associated wildlife species.

Forest Habitat Objectives

The basis for the following objectives and strategies is described in rationales 29–32, found in appendix H.

- Identify forest coverage types within 1 year of CCP approval, to ensure management activities do not hinder the biological potential of forest habitats.
- Evaluate forest coverage, age, and density related to surrounding lands owned by PCTC and USDA Forest Service within 4 years of CCP approval, to determine what habitat type is the least

represented in the ecosystem that can be managed for on suitable refuge lands.

- For the duration of the CCP, maintain a ponderosa pine, mixed-conifer forest with widely spaced trees (20-foot spacing between pines), open grassy areas, and an understory of fescue or junegrass and snowberry or kinnikinnick, to conserve a major forest type that facilitates the biological integrity of the ecosystem.

Strategies

Inventory forest cover type, age, and density in Pleasant Valley through habitat classification and discuss management options for the refuge from an ecosystem perspective, in collaboration with PCTC, Montana Department of State Lands, and USDA Forest Service.

Categorize forest stands by species, age, and density; perform through a request to PCTC and USDA Forest Service. Determine how to best provide a corridor of habitat connectivity for the grizzly bear, gray wolf, and Canada lynx to national forests, working with endangered species biologists.

Survey for deteriorating aspen stands—as defined by a low density of stems that are young and small, and with poorer form and higher crown/stem ratios than healthy stands (Schier and Campbell 1978).

Review forest lands for habitat needs by rare, threatened, and endangered species.

Halt Douglas-fir encroachment of young even-aged stands of ponderosa pine; remove Douglas-fir > 2 feet tall and up to 6 inches dbh, and ponderosa pine > 2 feet tall and up to 4 inches dbh.

Suppress understory fires except in areas where age-class structure is being altered to abnormally dense stands dominated by younger trees.

Maintain all existing large snags and broken-top trees > 20 inches dbh for nesting purposes.

Maintain the bald eagle habitat (aspen stand) on the north shore of Dahl Lake in a healthy productive condition through the use of fencing, cattle grazing, flooding, prescribed fire, and protection from beavers.

Evaluate the potential for aspen and conifer stands around Dahl Lake to provide habitat for nesting bald eagles; apply appropriate management techniques.

Identify Canada lynx habitat by ground-truthing areas identified as mature forest through vegetative classification mapping.

Measure current woody debris and analyze the potential for lynx denning sites.

Maintain habitat connectivity by managing for intermediate successional stages in forest habitats between lynx foraging and denning habitat.

Provide prey for Canada lynx by managing for snowshoe hare habitat; identify areas of forest above 3,300 feet in elevation to manage in an early successional stage with dense understory.

Provide prey for Canada lynx by maintaining long-term habitat for snowshoe hare; identify suitable habitat on neighboring PCTC lands and coordinate with timber managers to maintain habitat.

Develop a fire management plan for forests above 3,300 feet in elevation that mimics natural fire regimes for Canada lynx habitat.

Protect lynx denning cover by creating firebreaks to prevent natural fire from spreading in or out of areas where fuels have built up in areas managed for Canada lynx denning.

Prohibit precommercial thinning or clear-cutting of woodland Canada lynx habitat.

Restrict livestock use in openings created by fire or timber harvest that would delay successful regeneration of the shrub and tree components in forests above 3,300 feet in elevation, for Canada lynx habitat.

Manage grazing in aspen stands to ensure sprouting and sprout survival in aspen stands above 3,300 feet elevation for Canada lynx habitat.

Review forest lands on and near the refuge for threats from development.

Determine opportunities for establishing a forest legacy easement, through discussions with partners.

Acquire a forest legacy easement to protect forests adjacent to the refuge and within the Pleasant Valley from development, in collaboration with all partners.

Classify forest vegetation into National Vegetation Classification Standards; map in geographic information system database.

Inventory forest use by Neotropical migratory birds, native mammals, amphibians, and reptiles to obtain baseline data.

Annually monitor for effects of any restoration project on aspen, willow, birch, and alder.

Annually monitor for negative effects of water level changes on aspen groves in management units 12 (3 acres), 14 (23 acres) and 19 (24 acres) to determine if there is a loss in acreage.

Monitor effects of prescribed fire in aspen and apply adaptive management.

INVASIVE PLANTS

Prevention and control of nonnative, invasive plants are addressed in the management direction for invasive plants.

GOAL

Native plant communities, composition, occurrence, and density exist without degradation by invasive plants, and support associated wildlife.

Invasive Plant Objectives

The basis for the following objectives and strategies is described in rationales 36–40, found in appendix H.

- Develop and implement an invasive plant management plan within 1 year of CCP approval that identifies: (1) the extent of encroachment by spotted knapweed, tansy ragwort, and sulfur cinquefoil; (2) suitable control methods; and (3) monitoring needs; to document infestations and provide an index to effectiveness of management actions.
- Reduce spotted knapweed to a level of 25 percent or less of overall grassland area within 3 years of CCP approval, to maintain native vegetation for wildlife forage, cover, and nesting.
- Annually eradicate and maintain 75–90 percent control of tansy ragwort with an extensive survey and treatment effort coordinated with PCTC and the state coordinator for tansy ragwort, to maintain native vegetation for wildlife forage, cover, and nesting.
- Annually conduct invasive plant control on 200–400 acres of upland grasslands for 15 years after CCP approval, to maintain native prairie composed of 90 percent native vegetation composition.
- Restore native grasses and sedges over 85 percent of the area where there is introduced creeping meadow foxtail (figure 4), starting within 1 year of CCP approval, to increase plant diversity and provide wildlife habitat.
- Conduct a surveillance program for new infestations of invasive plants by walk-through surveys every 2 years in priority areas (roads, boundaries, and heavy use areas), to maintain native prairie.

Strategies

Evaluate invasive plant infestations and control efforts since refuge establishment.

Evaluate invasive plant infestations within Pleasant Valley for priority areas of control by each partner.

Determine appropriate, effective control methods, e.g., mowing, chemical, biocontrol, and prescribed fire; consult with experts.

Determine the best restoration method and plant species of replacement in invasive plant infestations; consult with experts and review literature.

Gather information about cumulative impacts of chemical, biocontrol, and prescribed fire effects on invasive plants and on native vegetation response; review literature.

Determine the best method of reducing reed canarygrass, including use of chemicals, fire, disking, and grazing.

Evaluate soils and water regime for optimum sites for reed canarygrass control.

Use the GIS to predict areas at greatest risk of new invasions and develop early detection and prevention measures.

Share GIS layers of invasive plant infestations with PCTC and the USDA Forest Service.

Apply integrated pest management for spotted knapweed, consisting of: (1) proper spring and fall chemical applications; (2) mechanical mowing where practical, prior to seed head production; and (3) release of appropriate biocontrol agents, including seed head gall flies and other proven biocontrol agents.

Use hand pulling, hand spraying, and all-terrain vehicles (ATVs) for herbicide application in areas within 330 feet of Spalding's catchfly populations.

Evaluate the target species selectiveness of any biocontrol species prior to release.

Treat new invasions of tansy ragwort in late July and early August by bagging flower heads and burning them, and spraying rosettes with chemicals such as Transline or Tordon.

Control invasive plants with cutting and herbicide in forest.

Survey proposed spray areas for Spalding's catchfly prior to herbicide application.

Use ground and aerial herbicides to inhibit and eradicate encroachment by invasive plants.

Coordinate invasive plant control in Pleasant Valley by meeting at least once per year to share information and discuss control strategies: (1) with PCTC for spotted knapweed; and (2) with PCTC and the USDA Forest Service for tansy ragwort.

Continue to discuss, with partners, alternatives for invasive plant control within the Pleasant Valley.

Map sites of invasive plant treatment each year in the GIS.

Develop a strategy with partners for control of tansy ragwort and how to prevent it from becoming a dominant plant species within the Pleasant Valley.

Attain assistance with tansy ragwort control from the Tansy Trust Fund Grant program, as well as from the Service's challenge cost-share grants.

Attain herbicide and/or a technician to apply herbicide and assist with mapping by pursuing grant funding.

Attain assistance with invasive plants (applications and monitoring) by pursuing grant funding through the project advisory committee, e.g., RMEF grants, until the refuge can support its own needs for control.

Mitigate disturbance on refuge roads with invasive plant control and reseedling of native species through the ongoing memorandum of understanding with PCTC.

Limit off-road vehicle travel and wash the undercarriages of vehicles that access off-road areas.

Determine the extent of infestation of sulfur cinquefoil; create a baseline map.

Monitor infestation rates and effectiveness of control efforts; annually map the extent of infestation of spotted knapweed and tansy ragwort in GIS.

Identify locations of new infestations of tansy ragwort; map locations and collaborate with the state coordinator for mapping records for neighboring PCTC land.

Monitor reed canarygrass control efforts, vegetation coverage, and use adaptive management.

Monitor vegetation of upland grasslands for vigor and plant species composition every 2 years.

Gather information about invasive plant occurrence; inform all Service employees that may work on the refuge about plant and habitat characteristics of invasive plants to get help finding invasive plants during normal field duties.

Conduct walk-through surveys for invasive plants with volunteers to look for new infestations.

MIGRATORY BIRDS

Management direction for migratory birds addresses water birds (waterfowl, shorebirds, and other water birds) and other migratory birds.

GOAL

Preserve, restore, and enhance the ecological diversity and abundance of migratory birds of the Intermountain West forest, wetland complexes, riparian habitat, and bunchgrass prairie.

Migratory Bird Objectives

The basis for the following objectives and strategies is described in rationales in appendix H.

Water Bird Objectives

Rationales 42–47 are found in appendix H.

- Determine waterfowl nest success, causes of nest failure, and food availability through a cooperative project initiated within 5 years of CCP approval, and develop a waterfowl management plan that uses adaptive management to achieve a 5-year average of 25–40 percent nest success, to establish baseline data for a waterfowl management plan that increases waterfowl populations.
- Annually monitor goose populations in the Flathead Valley by conducting aerial pair and brood counts, to evaluate population trends and goose production.
- Monitor water bird and shorebird use of the refuge during fall migration to determine limiting factors, within 10 years of CCP approval, to determine effective management to increase fall populations.
- Evaluate biological potential for shorebirds and marsh birds (including American bittern, sandhill crane, long-billed curlew, and black-crowned night-heron), presence, and nesting within 7 years of CCP approval, to preserve biological integrity.

Strategies

Hire a biologist or biological technician to be stationed at the refuge.

Hire a full-time biologist or biological technician to be stationed at the refuge.

Determine limiting factors and conduct research; consult with the Montana Cooperative Wildlife Research Unit and other experts.

Use habitat manipulation and predator control as adaptive management tools to increase production when necessary to achieve objectives.

Determine nesting requirements of shorebirds and marsh birds and best management practices; review literature.

Prohibit haying, mowing, and grazing immediately proceeding and during the nesting season of shorebirds and marsh birds.

Restrict public use to designated trails and roads from May 15 to September 1 in bottomlands between South Pleasant Valley Road and the county road to decrease disturbance to nesting birds and increase nest success.

Continue to prohibit waterfowl hunting until a minimum average of 1,000 ducks from opening day

of waterfowl season until the start of freeze-up are present.

Evaluate sandhill crane nesting; develop a plan to improve nesting if cranes are nesting or attempting to nest on the refuge.

Conduct weekly waterfowl surveys from mid-August until freeze up.

Continue duck pair counts and implement duck brood index survey.

Survey for availability of dense, tall (>60 centimeters) emergent vegetation for nesting cover for bitterns, terns, and redheads.

Continue established point counts; conduct additional surveys (point counts, nest dragging, nest searching, and playback surveys) in the upland grasses, forest, and NRCS restoration areas.

Initiate nest dragging to determine hen success and rates of nest predation.

Conduct invertebrate and vegetation surveys to determine available forage from mid-August until freeze-up.

Monitor invertebrate levels in Dahl Lake and wetland complex to determine if this is a limiting factor.

Inventory and monitor emergent and submergent vegetation availability as forage or forage substrate in late summer and fall.

Monitor for shorebirds and marsh birds during duck pair and brood counts, Neotropical migratory bird surveys, and with playbacks.

Other Migratory Birds Objectives

Rationales 54–59 are found in appendix H.

- Monitor Neotropical migratory birds to determine species presence and refuge use; survey throughout habitat development and at least 10 years thereafter, to determine the effects of implementation of the habitat development plan and WRP restoration on these species.
- Obtain baseline data on relative abundance and production of indicator species of Neotropical migratory birds (as set forth in guidelines by MPIF), owls, and hawks, within 7 years of CCP approval, to determine “best management practices” that will maintain or increase production in the next 10 years to comply with the Conservation of Avian Diversity in North America Policy (USFWS 1990).
- Protect nesting habitats including 80 percent of natural snags, annually monitor and maintain bluebird and wood duck nest boxes, and allow installation of 20 additional nest boxes in available

habitat, to increase populations of cavity-nesting species.

Strategies

Construct and place new nest boxes for Neotropical migratory birds in unoccupied, suitable habitat using volunteers.

Set priorities for species by habitat and sensitivity rating and manage for key indicator species in each habitat; use the MPIF guidance.

Analyze survey data for the most common priority species and their habitat requirements; apply adaptive management to foster their populations.

Maintain diverse healthy habitat and an abundant prey base for raptors.

Protect snags in forest habitat.

Conduct Neotropical migratory bird surveys, and nest success monitoring in forest, shrubland, cottonwood, and aspen habitats.

Continue existing Neotropical migratory bird surveys along Pleasant Valley Creek and the refuge road system with staff or volunteers.

Conduct additional surveys and nest success monitoring for Neotropical migratory birds to more closely examine the effects of the Pleasant Valley Creek restoration project, working with NRCS, partners, and volunteers.

Conduct owl surveys in suitable habitat following the protocol set out in Guidelines for Nocturnal Owl Monitoring in North America (March 2001) as a silent listening technique, adding playback surveys that are recorded separately.

Conduct surveys that detect woodpeckers.

Monitor nesting and maintain structures and boxes using volunteers and refuge staff.

OTHER WILDLIFE

Resident wildlife including large and small mammals, resident birds, amphibians, and reptiles are addressed in the management direction for other wildlife.

GOAL

Restore and maintain resident and endemic wildlife populations of northwestern Montana to maintain and enhance species diversity of Lost Trail National Wildlife Refuge and Pleasant Valley.

Other Wildlife Objectives

The basis for the following objectives and strategies is described in rationales in appendix H.

Large Mammal Objectives

Rationales 61–67 are found in appendix H.

- Maintain deer, elk, and moose populations at a minimum of 75 percent of current levels on the refuge for the next 15 years, to maintain ecological diversity and a healthy ecosystem.
- Modify or remove all nonessential fences within 1 year of CCP approval, to enhance movement of large mammals.
- Develop a plan for chronic-wasting disease (surveillance and contingencies) within 1 year of CCP approval, to monitor and manage this large mammal disease, and complement state efforts.
- Annually monitor large mammal abundance, presence, and areas of use to establish baseline data for evaluating impacts on habitat, determining if ungulate populations are within the carrying capacity of the refuge, and applying adaptive management.
- Open the refuge to public use only on designated trails from December 15 through April 1 to decrease disturbance and related stress to wintering deer, elk, and moose and to allow recovery of body weight and health in the spring.

Strategies

Improve habitat quality through invasive plant control, native plant restoration, prescribed fire, and grazing.

Hire a biologist to monitor and evaluate wildlife population dynamics, and to conduct necessary control.

Hire biological staff or use the biologist from the National Bison Range complex, along with volunteers, to conduct monitoring

Construct temporary fences (electric or barbless wire) if needed.

Identify fence locations and determine their importance for refuge management; map using a global positioning system.

Remove all fences (interior only) or modify fences for wildlife-friendly movement. Remove either the top and bottom wire or two bottom wires so the bottom wire is at least 18 inches off the ground; remove stays to enhance movement or use lay-down wires.

Incorporate additional gates into fences where it is not feasible to modify them; keep gates open when livestock are not present in grazing units.

Develop a system to estimate deer and elk populations on the refuge; review literature for current, valid methods.

Determine best management practices to use in response to monitoring data on deer and elk populations and how they are being affected by refuge management or how they are affecting the refuge; coordinate with MFWP. Apply adaptive management, e.g., modify hunting seasons, or use fire, invasive plant control, or grazing to improve forage.

Determine areas of large mammal concentrations (winter range) and avoid public use in these areas.

Determine if large mammal resource damage is a result of local factors or reflects an ecosystem phenomenon, through comparison of deer and elk population trends on the refuge with MFWP trend data for the ecosystem.

Coordinate proposed prevention, surveillance, research, and control actions for chronic-wasting disease in cooperation with state wildlife and agriculture agencies.

Conduct outreach to surrounding communities and communication to refuge visitors regarding chronic-wasting disease and disease management.

Remain alert to potential threats from chronic-wasting disease or other diseases.

Determine baseline populations of large mammals; monitor for 3 years and consult MFWP.

Monitor abundance and presence of elk (in the winter), deer (in the summer), and moose (in the spring or summer).

Determine the cause of any decrease below 75 percent of current herd sizes for deer, elk, and moose; determine if modifications in management are warranted. Monitor deer and elk to determine high-use areas and design public use activities around these areas.

Categorize the vegetation in areas of high use by deer, elk, and moose; map locations and categories.

Ensure deer and elk are staying within the carrying capacity; evaluate areas of high use for browse-line impacts.

Evaluate the effects of public use in areas of habitat damage to determine if overuse of specific habitats by deer and elk is a result of wildlife response to disturbance.

Educate the public on how to minimize winter disturbance and stress to large mammals during recreation activities.

Conduct a passive surveillance program for clinical signs of chronic-wasting disease or other health problems (may lead to a targeted surveillance based on results); conduct monthly, opportunistic observations of deer and elk.

Monitor deer, elk, and moose use of refuge habitats to determine high-use areas and design public use activities around these areas.

Evaluate all public uses for their effects on herd numbers and distribution of wildlife on the refuge.

Small Mammal Objectives

Rationales 70–71 are found in appendix H.

- Monitor Columbian ground squirrel habitat acreage. If monitoring reveals an expansion of 100 percent above baseline, conduct an analysis to determine if habitat damage is sufficient to warrant preparation of a control plan.

Strategies

Determine ground squirrel activity centers; map by size of population and damage to vegetation in the GIS.

Determine an acceptable baseline level for habitat affected by ground squirrels and their population numbers, using initial data.

Maintain ground squirrel numbers within 20 percent of a baseline determined after initial monitoring and literature research.

Determine changes in acres affected by ground squirrels; monitor ground squirrel activity on a 3- to 5-year basis.

Resident Bird Objectives

Rationales 72–75 are found in appendix H.

- Annually inventory and monitor resident (nonmigratory) birds for 5 years after CCP approval, and evaluate effects of management actions on these species, to contribute to the conservation of resident birds.

[Specific objectives have not been developed for upland game birds under this alternative. However, it is expected that habitat objectives would indirectly benefit upland game species.]

Strategies

Limit disturbance within at least 0.5-mile from any occupied golden eagle nest; consider temporary implementation of alternate routes of public use or management.

Determine potential effects of management activities to species listed as priority for conservation by MPIF Plan (Casey 2000) or the Service's office of migratory bird management (1995).

Continue annual Neotropical migratory bird surveys and detect all resident and migratory birds through addition of one survey route in the uplands.

Inventory for Montana Bird Conservation Plan priority 1 species such as flammulated owls and black-backed woodpeckers.

Implement an owl survey once a year for the next 3 years, using volunteers.

Monitor for the arrival and nesting of golden eagles.

Record any incidental sightings of bird species on the refuge.

Amphibian and Reptile Objectives

Rationales 78–81 are found in appendix H.

- Gather amphibian population data (in cooperation with the USGS, as part of the “Amphibian Research and Monitoring Initiative”) to develop “best management practices” within 5 years of CCP approval, to determine and address causes of suspected population declines.
- Biannually conduct surveys for bullfrogs, and take control actions to prevent the establishment of this species, to protect native amphibians and reptiles from this introduced animal.
- Conduct surveys for reptiles every 5 years to determine the range and use of the refuge by reptile species.

Strategies

Develop habitat guidelines for amphibians and reptiles; consult experts.

Learn survey techniques and design surveys; coordinate with the “Amphibian Research and Monitoring Initiative” team.

Gather amphibian population data on the refuge as part of the “Amphibian Research and Monitoring Initiative,” in partnership with USGS researchers.

Teach all staff to identify bullfrogs.

Contact local experts about eradication procedures for bullfrogs.

Report amphibian data to the regional level, i.e., “Amphibian Research and Monitoring Initiative” team, to support ecosystem-level monitoring.

Collaborate with amphibian and reptile biologists to determine the effects of implementing the habitat management plan may have on the boreal toad.

Hire biological staff to conduct monitoring and control, if necessary, for bullfrogs.

Include the use of equipment, housing, or vehicles for refuge in-kind support to the USGS for the “Amphibian Research and Monitoring Initiative.”

SPECIES OF CONCERN

This management direction addresses wildlife listed by state or federal agencies as threatened and endangered (or proposed or candidate for listing), sensitive, rare, or species of concern. For the refuge, the species of concern are listed below:

- grizzly bear
- gray wolf
- Canada lynx
- bald eagle
- trumpeter swan
- black tern
- boreal toad
- Spalding's catchfly (plant)

GOAL

Contribute to the conservation, enhancement, and recovery of endangered, threatened, and species of concern populations in Lost Trail National Wildlife Refuge and Fisher River watershed.

Species of Concern Objectives

The basis for the following objectives and strategies is described in rationales 83–85 in appendix H.

General Objectives

- Document sightings and locations of rare or unusual plants and wildlife, and consider these species' needs when making management decisions, to ensure the continued existence of rare species.
- Inventory and monitor species of concern, and rank species according to restoration and protection priorities, within 10 years of CCP approval, to develop guidelines for consideration of these species in management decisions.
- Develop a conservation easement program (preliminary project proposal), encompassing the Fisher River watershed, within 3 years of CCP approval, to protect private land from development to minimize wildlife/human conflicts and to conserve habitat for large, far-ranging carnivores.

Strategies

Categorize species as follows: (1) priority 1—species that would be managed for protection or increase of populations; (2) priority 2—species that would be considered when evaluating effects of management options, but whose habitats would not be targeted for management; and (3) priority 3—species whose habitat requirements would not be considered in making management decisions.

Focus inventory efforts and determine reestablishment potential; research historical occurrence data and use.

Develop a conservation strategy with PCTC to protect their lands from future development.

Develop a preliminary project proposal for the conservation easement program, delineating a focus zone and priority areas.

Hire a biologist to be stationed at the refuge to coordinate grizzly bear, Canada lynx, and black tern management; and monitor the trumpeter swan reintroduction.

Seek funding from the Land and Water Conservation Fund for a conservation easement program.

Monitor for occurrence of species of concern in Pleasant Valley, in coordination with partners, interns, and volunteers.

Record sightings of rare species during routine staff and volunteer duties.

Survey for owls, rails, and rare species; and monitor bald eagle nests and black tern nesting colonies; request assistance from Audubon volunteers.

Hire a biologist to be stationed at the refuge to coordinate monitoring.

Monitor and survey to develop comprehensive species lists; use refuge staff, interns, and volunteers.

Grizzly Bear Objectives

Rationales 87–91 are found in appendix H.

- Protect the grizzly bear habitat linkage zone between the CYE and the NCDE through coordination with neighboring landowners, within 5 years of CCP approval, to assist in recovery of the grizzly bear.
- Develop a plan to improve grizzly bear habitat on the refuge within 10 years of CCP approval, to assist in recovery of the grizzly bear.
- Prohibit livestock grazing if a grizzly bear is within 1 mile of the refuge, to decrease the likelihood of grizzly bear depredation, forage competition with livestock, and the chance of individual bears becoming habituated to livestock as a food source.
- To ensure compliance with the ESA and to support the mission of the Service, minimize conflicts with and disturbance to grizzly bears on the refuge by implementing management and public use restrictions when grizzly bears are within 1 mile of the refuge.

- To improve support for and understanding of grizzly bears, the refuge’s public use staff (or partners) will conduct or coordinate one workshop or field trip per year and will develop at least one interpretive display and one information sheet on the biology and role of grizzly bears in the ecosystem, living with grizzly bears, and the importance of linkage areas to endangered species survival.

Strategies

Evaluate current grizzly habitat components of Pleasant Valley; use the GIS and consultation with neighbors.

Complete a biological assessment and interagency cumulative effects assessment of existing and proposed land uses that could affect grizzly bears or their habitat.

Work with the interpretation and education subcommittee of the Interagency Grizzly Bear Committee.

Concentrate refuge efforts to supply those components of grizzly bear habitat that are limiting in the Pleasant Valley area.

Determine the effects that proposed management actions would have on grizzly bears; consult with biologists.

Identify and secure funding for conservation easements in the grizzly linkage zone; coordinate with the Interagency Grizzly Bear Coordination Team, the Flathead and Kootenai national forests, PCTC, MFWP, Montana DNRC, NRCS, and private landowners.

Close designated areas to all public access (based on each particular situation) when one or more grizzly bears are within 1 mile of the refuge.

Close areas for grizzly bears through the use of signs and other informational material; enforce closures through law enforcement patrols.

Follow guidelines of the Grizzly Bear Compendium (LeFranc et al. 1987) to evaluate habitat and security within Pleasant Valley.

Follow guidelines of the Grizzly Bear Compendium (LeFranc et al. 1987) to provide habitat and security within the Pleasant Valley area.

Supply those components of grizzly bear habitat that are limiting in Pleasant Valley.

Limit administrative activity in areas of grizzly bear activity.

Prevent livestock–bear competition for spring forage by restricting livestock grazing if a grizzly bear is within 1 mile of the refuge.

Prohibit hunting of ground squirrels unless it becomes biologically necessary to protect resources.

Prohibit black bear hunting.

Monitor the occurrence and location of grizzly bears in Pleasant Valley, in collaboration with private landowners, MFWP, Interagency Grizzly Bear Coordination Team, USDA Forest Service, and PCTC.

Gray Wolf Objectives

Rationales 93–98 are found in appendix H.

- Evaluate the effects of management decisions on gray wolves prior to implementation, and restrict management and public use activities when wolves are present on the refuge, to minimize conflicts with, and disturbance to, gray wolves.
- Monitor and maintain habitat and sufficient native prey to support one pack of gray wolves in the Pleasant Valley ecosystem within 5 years of CCP approval (in coordination with MFWP, USDA Forest Service, and PCTC), to address a limiting factor to gray wolf survival.
- Prohibit livestock grazing when a wolf pack is present in Pleasant Valley to minimize conflicts with, and disturbance to, gray wolves.
- To decrease human/wolf conflicts, work with the wolf recovery team to visit with at least 50 percent of neighboring landowners on a yearly basis to exchange wolf sightings and depredation information, and to educate landowners on the status of wolves and new aversion information and techniques.
- To educate the public and foster support for wolf recovery, the refuge’s public use staff in collaboration with the wolf recovery team will have one interpretive field trip or workshop a year, and develop one interpretive display and one information sheet on the biology of wolves and their role in the Pleasant Valley ecosystem within 3 years of CCP approval.

Strategies

Determine the effects that proposed management actions would have on gray wolves; consult with biologists.

Maintain sufficient natural prey to support one pack of wolves in Pleasant Valley; use adaptive management.

Foster prey for the gray wolf (deer and elk) by improving winter range: apply integrated pest management, plant desirable forage species, and limit disturbance from public use.

When wolves are residing in Pleasant Valley, communicate with the wolf recovery team, MFWP, PCTC, and surrounding landowners.

Close the refuge to public access within 1 mile of any active wolf den or rendezvous site from May 1 to July 1.

Close designated areas of the refuge to all public access from December 1 to April 15 if wolves are in the Pleasant Valley watershed.

Prohibit sport trapping.

Coordinate with the wolf recovery team regarding new aversion techniques available to landowners in Pleasant Valley.

Use MFWP data and refuge monitoring of deer, elk, and moose populations to determine changes in the natural prey available to wolves on an annual basis.

Evaluate hunting for its effects on prey populations; however, hunting will remain an authorized public use unless determined to be in direct conflict with wolf survival.

Collaborate with the wolf recovery team and MFWP.

Canada Lynx Objectives

Rationales 103–105 are found in appendix H.

- Evaluate proposed management actions in Canada lynx habitats (forests and woodlands) prior to implementation and prohibit sport trapping of furbearers, to minimize negative impacts to Canada lynx habitat, and to prevent accidental death of Canada lynx.
- Identify potential denning and foraging habitat and topographical features important to Canada lynx movement; maintain denning habitat in patches generally larger than 5 acres on at least 25 percent of the denning area above 1,000 meters in elevation; and maintain habitat connectivity; within 10 years of CCP approval, to enhance habitat for lynx.

Strategies

Keep natural fires from spreading off-refuge by creating firebreaks, if necessary, in habitat for Canada lynx.

Evaluate the effects that Canada lynx management would have on other priority species against the probability that lynx would benefit from the management activity or prohibition of such activity.

Identify and designate suitable habitat for snowshoe hare in the vicinity of lynx denning habitat.

Hire a biologist to coordinate and monitor lynx activities.

Clearly post boundaries with appropriate Service signs.

Prohibit sport trapping for the life of this CCP to prevent accidental death of lynx.

Patrol the area using the seasonal law enforcement position for the refuge, staff from the National Bison Range complex, and MFWP wardens.

Determine snowshoe hare populations on the refuge and surrounding lands to evaluate the potential of lynx occupation.

Bald Eagle Objectives

Rationales 107–111 are found in appendix H.

- Annually monitor bald eagle nesting, and protect habitat within 0.5 mile of any occupied bald eagle nest until the bald eagle is delisted and 5 years thereafter, to eliminate disturbance and enhance bald eagle recovery.
- To maximize the potential for nesting of the bald eagles on the north shore of Dahl Lake and the continued existence of nesting bald eagles on the refuge, maintain a mature forest stand comprised of aspen, Douglas-fir, ponderosa pine, or mixed conifers with low to moderate canopy cover, of at least 20 acres within 1 mile of Dahl Lake; the stand will contain at least two suitable nest trees and at least three perch trees.
- Maintain suitable, bald eagle foraging habitat, minimize disturbance within key areas, and maintain the integrity of the breeding area between 0.5 and 1 mile of any occupied eagle nest until the bald eagle is delisted and 5 years thereafter, to enhance bald eagle recovery.
- Remove carrion from roadsides immediately upon notification, limit shooting and trapping, and restrict the use of pesticides; evaluate power lines and reduce associated hazards within 5 years of CCP approval, to minimize direct mortality to bald eagles.

Strategies

Delineate and protect key use areas of bald eagles (foraging and perching) to limit disturbance.

Evaluate all management decisions for their effects bald eagles prior to implementation to ensure that preferred nesting and feeding habitat characteristics are maintained.

Protect bald eagles by evaluating proposed pesticide use before application.

Design habitat alterations to ensure that prey base and important habitat components such as perch trees are maintained or enhanced for the bald eagle.

Monitor the effect on bald eagle use of any recreation permitted in the primary nesting zone.

Design and regulate permanent developments such as viewing areas, trails, parking lots, and kiosks to minimize disturbance and avoid conflict with key use areas for the bald eagle, between 0.5 and 1.0 mile of an active nest.

Hire a biologist to evaluate or facilitate the evaluation of the effects of existing power lines on bald eagles.

Prohibit sport trapping.

Follow the hunt plan (2002) that limits hunting to deer, elk, moose, turkey, and grouse and designates a closed area in which the existing bald eagle nest is located.

Monitor bald eagle nest success to ensure that breeding areas have at least 65 percent nest success, and at least five young fledged during the preceding 5 years.

Monitor occupied bald eagle nest sites to determine fledgling success, using staff or volunteers.

Conduct surveys in a noninvasive manner after the hatching of bald eagle young.

Submit the annual bald eagle nest survey form to the appropriate state authorities.

Trumpeter Swan Objectives

Rationales 116–118 are found in appendix H.

- Annually monitor trumpeter swan migration and nesting in the Pleasant Valley ecosystem, and protect nesting swans on the refuge from human disturbance from time of arrival until cygnets have fledged, to assist in trumpeter swan conservation.
- Reintroduce trumpeter swans to the Fisher River watershed if suitable habitat is available, within 10 years of CCP approval, to restore trumpeter swans to unoccupied, historical breeding habitat and encourage broader winter distribution.

Strategies

Evaluate Dahl Lake's suitability to sustain a healthy, reproducing population of trumpeter swans; evaluate emergent vegetation and aquatic invertebrates in the lake.

Implement the habitat development plan to benefit trumpeter swans: (1) maintain or increase the current amount of emergent vegetation; (2) maintain water depths below 4 feet over extended areas; and (3) maintain stable water levels during the swans breeding season.

Annually compile sightings and habitat use data for trumpeter swans in Pleasant Valley area; coordinate through neighboring landowners, MFWP, PCTC, and USDA Forest Service.

Provide lookouts during the swan migration and nesting season; seek assistance from Flathead Audubon volunteers.

Evaluate threats to swan-nesting success such as snapping turtles, lead shot, and power lines; reduce threats where possible.

Provide relatively disturbance-free swan-nesting areas.

Discourage sedentary swan flocks and prohibit supplementary feeding.

Introduce trumpeter swan cygnets and yearlings to area lakes and wetlands to reestablish nesting trumpeter swans in the Fisher River watershed; collaborate with the Trumpeter Swan Working Group and CSKT.

Limit public access in the trumpeter swan-nesting area, depending on nest site location.

Use signs to post trumpeter swan-nesting areas closed to public use; develop interpretive material to explain closures.

Monitor for trumpeter swans during routine duties including duck pair and brood counts.

Develop monitoring protocols for trumpeter swan restoration efforts.

Black Tern Objectives

Rationale 121 is found in appendix H.

- Annually monitor the number of nesting black terns, and monitor the tern's nesting and foraging habitat through the period of wetland restoration and enhancement to determine if emergent vegetation is provided at levels and densities equivalent to or above current levels (80 acres of palustrine, emergent, semipermanent, and flooded vegetation), with a water-to-emergent-vegetation ratio between 25 and 75 percent (as close to 50 percent as possible), and water depths between 0.5 and 1.2 meters at the emergent-vegetation/open-water interface, to establish baseline data for management decisions, and contribute to statewide conservation of black terns.

Strategies

Ensure refuge-specific data about black terns are included in statewide information; coordinate through MFWP.

Survey for presence, abundance, and nesting activity of black terns on Dahl Lake to determine the nesting population associated with current levels of emergent vegetation.

Monitor for number of black tern adults present, number of nests, and nest success through the use of volunteers, interns, or refuge staff.

Monitor black tern nesting response to changes in water levels of Dahl Lake during implementation of the habitat development plan and other management activities.

Determine the effects of wetland development on black tern habitat by doing pre- and postactivity

measurements of vegetation response and water depth in emergent-vegetation areas adjacent to open water; map acreages of emergent vegetation and open water in GIS.

Boreal Toad Objectives

Rationale 124 is found in appendix H.

- Assess the impacts that implementing the habitat development plan would have on the boreal toad population prior to wetland manipulation in those areas documented in 2001–2003 as breeding areas for this species.

Strategies

Locate breeding sites for boreal toads (Hossack et al. 2001).

Cross reference boreal toad sites against the habitat development plan to determine needed changes.

Determine methods of wetland restoration and management that have the least adverse effect on boreal toads.

Document the response of boreal toads to revegetation and restoration of Pleasant Valley Creek; continue collaborative project with USGS' Amphibian and Reptile Monitoring Initiative.

Determine what effects implementing the habitat development plan may have on the boreal toad, in collaboration with amphibian and reptile biologists.

Spalding's Catchfly Objectives

Rationale 125 is found in appendix H.

- Maintain Spalding's catchfly populations in suitable upland grasslands (minimum population of 350 plants), and inventory 10 percent of suitable habitat each year until all suitable habitat has been evaluated, to protect Spalding's catchfly and provide unique opportunities for visitors to learn about threatened plants.
- Inventory for Spalding's catchfly prior to any management actions to prevent destruction of Spalding's catchfly plants or adverse modification of its habitat.
- Annually control invasive plants around any Spalding's catchfly population that has a minimum of 20 plants, until survey shows there are no invasive plants within a 100-meter buffer, to maintain and increase Spalding's catchfly populations.

Strategies

Inventory all suitable habitat within the legislative boundary of the refuge for the presence of Spalding's catchfly.

Locate and map sites of Spalding's catchfly using global position system (GPS) technology.

Search suitable habitat for Spalding's catchfly plants using volunteers from local schools and the Montana Native Plant Society, and Landmark Volunteers.

Establish a list of volunteers that are willing to help inventory for Spalding's catchfly or control invasive plants in catchfly habitat.

Report locations of Spalding's catchfly populations to the Montana Natural Heritage Program.

Conduct site evaluations for habitat characteristics of Spalding's catchfly to better manage present and other potential sites of suitable habitat.

Evaluate short-term, long-term, and cumulative effects of management actions (e.g., invasive plant control and prescribed fire) on maintenance and restoration of Spalding's catchfly.

Maintain a robust native plant community using prescribed fire.

Coordinate and collaborate with Montana DNRC to maintain Spalding's catchfly plants.

Maintain native Palouse prairie habitat in and around the Spalding's catchfly site with sufficient native forb composition to attract, but not compete for, pollinators.

Protect Spalding's catchfly sites from trampling and grazing.

Monitor all Spalding's catchfly populations on the refuge to determine population trend.

Monitor Spalding's catchfly from mid- to late July when flowers are in bloom using walk-through surveys.

Monitor Spalding's catchfly sites for insect damage and apply adaptive management to protect plants.

Map invasive plant populations within and around all Spalding's catchfly populations.

CULTURAL RESOURCES

Archaeological and historical resources, as well as traditional uses, are addressed in the management direction for cultural resources.

GOAL

Protect, manage, and interpret archaeological, cultural, and historical resources present at Lost Trail National Wildlife Refuge for the benefit of present and future generations.

Cultural Resources Objectives

The basis for the following objectives and strategies is described in rationales 126–129, found in appendix H.

- To preserve resources for all Americans and comply with applicable laws and legislation,

maintain and protect documented cultural and historical resources.

- Survey all refuge lands for cultural resources, within 15 years of CCP approval, to preserve resources for all Americans and comply with applicable laws and legislation.
- Develop an outreach program to educate the public about cultural and historical aspects of the refuge and foster support and understanding of the management program to protect sensitive aspects of these resources, within 5 years of CCP approval.

Strategies

Survey for cultural resources before doing developments and restoration activities.

Use the most up-to-date techniques for surveying, documentation, preservation, restoration, and research through coordination with region 6's archaeologists, Montana State Historical Preservation Office, the CSKT THPO, and local scholars and experts.

Provide one full-time public use specialist to be trained to conduct and coordinate formal cultural surveys.

Accommodate access to and ceremonial use of sacred sites by religious practitioners of recognized Native American tribes in accordance with policy.

Develop a resource library of information about cultural and historical sites on the refuge.

Develop programs for the public to experience cultural resources with limited direct contact, e.g., access to photographs and replicas vs. actual site visits.

Work with region 6's archaeologist and education and visitor services staff to develop interpretive and educational products.

Provide one full-time law enforcement officer to enforce laws and regulations to protect cultural resources.

Provide one full-time and one part-time maintenance staff to prevent damage and deterioration of resources.

Work with region 6's archaeologist to develop and perform a formal review of documented resources every 5 years to ensure protection, evaluation of condition, and preservation.

Dispense outreach materials for cultural resources in partnership with local schools, colleges, and civic groups.

PUBLIC USE

Priority public uses (wildlife-dependent recreational uses) are addressed in the following management direction for public use. Priority uses are listed here:

- hunting
- fishing
- wildlife observation
- wildlife photography
- interpretation
- environmental education

The definition of authorized access (foot travel, snowshoes, skis, mountain bikes, horses) will be determined in the appropriate step-down plan(s).

GOAL

Provide quality wildlife-dependent recreational and educational opportunities for persons of all abilities to learn, understand, and enjoy the Intermountain ecosystem of northwestern Montana; its associated fish, wildlife, and plants of Lost Trail National Wildlife Refuge; and the National Wildlife Refuge System in a safe and compatible manner.

Public Use Objectives

Locations of public use and facilities are displayed in figure 12.

The basis for the following objectives and strategies is described in rationales 131–134, found in appendix H.

General Objectives

- Develop a demographic profile of wildlife-dependent recreational users (users within a 2-hour commuting radius) within 2 years of CCP approval, to determine the long-term direction to provide for quality, public use opportunities.
- Develop and implement a visitor service plan within 2 years of CCP approval, to provide the highest quality wildlife-dependent recreational opportunities.
- Develop one accessible day use area within 3 years of CCP approval, to encourage participation in wildlife-dependent use opportunities, which will foster appreciation and support for fish, wildlife, and their habitat.
- To reduce disturbance and increase nest success probability, site-specific management activities or public use activities will not be permitted within 0.5-mile of any occupied golden eagle nest.

Strategies

Collaborate with region 6's staff in education and visitor services (EVS).

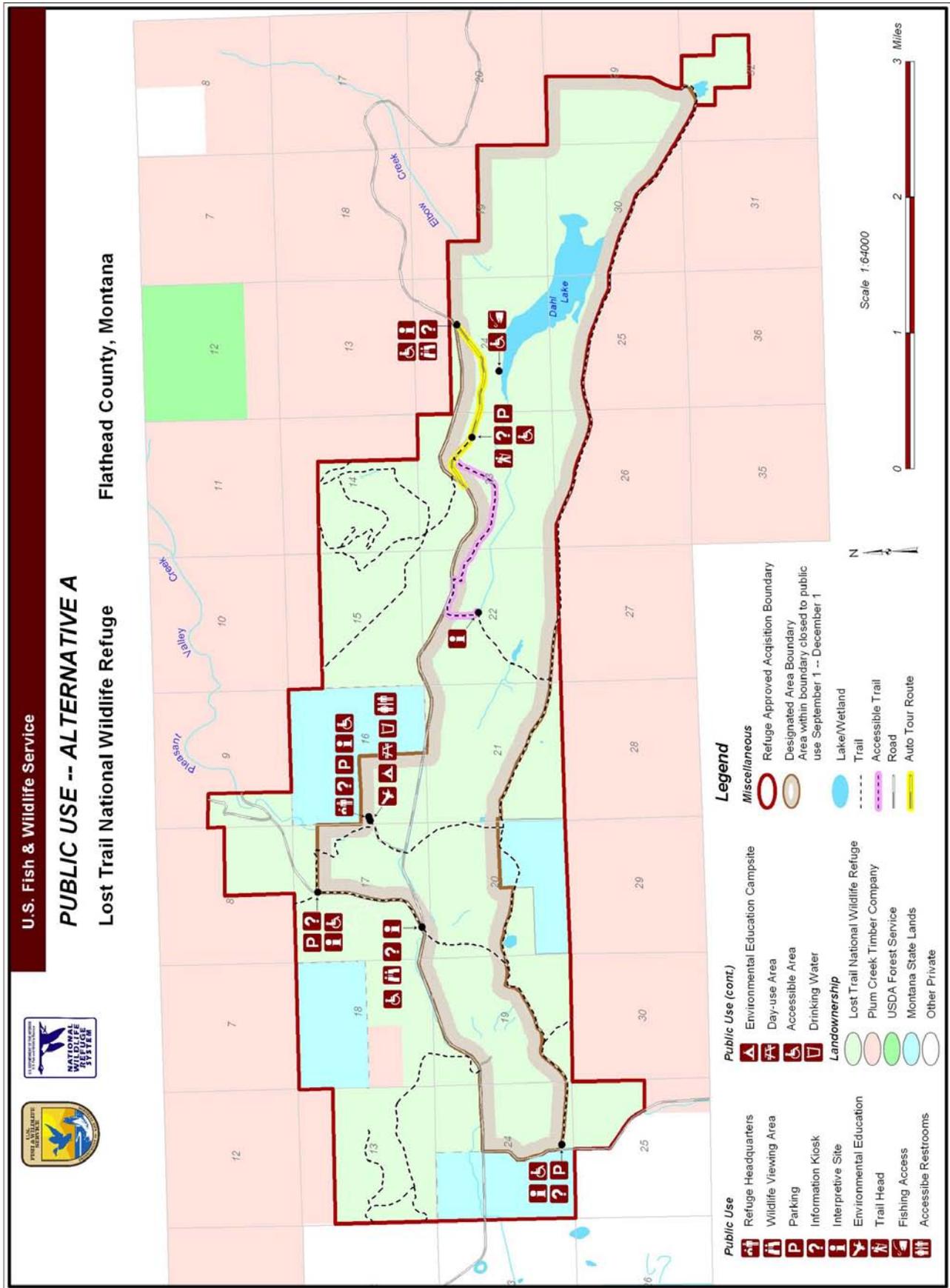


Figure 12. Public use under alternative A of the EA, Lost Trail National Wildlife Refuge, Montana

Provide one full-time public use specialist to work with EVS staff and the Office of Management and Budget to develop a demographic profile of current and future refuge visitors.

Request design assistance from the National Center on Accessibility, the Summit Independent Living Center, and other groups to ensure that sites are accessible for all users.

Develop partnerships with local angler and hunting groups such as Trout Unlimited, Ducks Unlimited, and RMEF to learn of fishing and hunting use in the area, access needs, and sport fishery and hunting goals.

Evaluate proposed changes in public access prior to implementation; monitor for effects related to the grizzly bear if access is approved.

Limit public access in trumpeter swan-nesting areas, depending on nest site location.

Incorporate suspension provisions into special-use permits for the presence of grizzly bears.

Incorporate suspension provisions into special-use permits for the presence of wolves.

Allow high-intensity activities outside the nesting season for bald eagles.

Allow existing levels of human activity if the bald eagle breeding area has at least 65 percent nest success, and has fledged at least five young during the preceding 5 years.

Limit disturbance to bald eagles by restricting construction of permanent developments such as kiosks, parking areas, and trails that may increase human activity within 0.5 mile of an occupied bald eagle nest or area with prime nesting potential.

Limit human activity in key bald eagle areas.

Provide one full-time law enforcement officer to contact the public, educate about and enforce ethical standards, and enforce rules and regulations.

Erect standard refuge entrance signs at entries along main roads.

Design and develop facilities to meet accessibility standards in coordination with region 6's EVS staff.

Ensure that sites are accessible for all users; request design assistance from the National Center on Accessibility, the Summit Independent Living Center, and other groups.

Develop one either-sex accessible restroom facility to be available during daylight hours.

Provide a source of drinkable water available during daylight hours.

Erect and maintain at least three accessible kiosks with maps, rules and regulations, and wildlife-dependent recreational opportunities (figure 12).

Develop an accessible day use area with six tables and fire pits.

Develop an accessible campground for 35 students and educators, with drinkable water and restroom facilities.

Provide one full-time and one half-time maintenance staff to construct and maintain public use facilities and areas.

Open the headquarters/contact station to the public a minimum of 5 days a week, including weekends during peak use (e.g., hunting season).

Provide one full-time public use specialist to recruit volunteers to staff the contact station to allow for minimum and increased operation.

Provide one half-time clerk to staff the contact station and dispense information.

Conduct a formal visitor services requirement evaluation with region 6's EVS staff to determine if the visitor service plan has been met and to determine future needs.

Obtain information on wildlife-dependent recreational users visiting the area, in coordination with MFWP, Flathead County Travel Board, Kalispell and Libby Chambers of Commerce, and the Institute for Tourism and Recreation Research (University of Montana).

Hunting Objectives

Rationales 141–144 are found in appendix H.

- Allow elk, deer, mountain grouse, and turkey hunting under MFWP regulations, starting fall 2002 in designated areas (appendix F); and provide a quality hunting experience to persons of all abilities within 5 years of hunt plan approval, resulting in at least 90 percent of hunters reporting a quality hunt, to provide quality opportunities for persons of all abilities to take part in hunting.
- Provide special youth-only hunts for deer and elk, during the first week of archery season and the first week of rifle season, starting fall 2002 to promote understanding, appreciation, and stewardship of the refuge and all system lands.
- Provide easily accessible information to and personal contact with hunters for at least 95 percent compliance with refuge regulations, within 5 years of CCP approval, to encourage hunters to practice the highest standards of ethical behavior in attempts at taking wildlife.

Strategies

Allow hunters access to portions of the refuge that would provide reasonable challenges and opportunities for taking targeted species under the described harvest objective and create minimal conflict with other priority wildlife-dependent recreational uses or refuge operations (appendix F).

Post and distribute refuge regulations prohibiting trapping to prevent accidental death of Canada lynx.

Make staff available at the contact station to provide rules, regulations, information, and first aid to hunters daily during the opening and closing weeks of archery and rifle seasons, and during weekends throughout hunting season. Staffing would be recruited from the National Bison Range complex, as well as volunteers.

Provide one full-time law enforcement officer to be available in the field during hunting season to inform hunters of rules, regulations, and ethical behavior.

Provide adequate law enforcement staffing during peak hunting periods, in collaboration with MFWP.

Erect appropriate signs to designate closed and restricted areas to reduce the chance of noncompliance and conflicts with nonhunters.

Inform hunters with disabilities (who have obtained a MFWP permit to hunt from a vehicle) about opportunities to access designated refuge management roads and trails, in collaboration with MFWP.

Provide information about opportunities on surrounding lands to allow hunters to plan for a quality experience, in collaboration with PCTC, Flathead National Forest, and MFWP.

Designate the first week of archery season and the first week of rifle season as youth-only hunts for hunters 12–14 years of age, accompanied by an adult at least 21 years of age.

Make law enforcement and other staff available during the youth hunts to provide a positive hunting experience and promote ethical hunting behavior; include volunteers and MFWP personnel, as well as one full-time, refuge, law enforcement officer.

Develop and implement a monitoring system to receive input from hunters about their hunting experiences using direct interviews, registration stations at parking areas and trailheads, and mail-in/drop-off cards left on vehicles, working with region 6's EVS staff and the Office of Management and Budget.

Annually monitor and evaluate the presence of boundary hunting adjacent to closed areas of the refuge. If necessary to discourage this practice, consider these actions: (1) alter hunt area boundaries

or habitat; and (2) eliminate parking areas and access roads—to distribute hunters or modify wildlife use patterns in ways that make boundary hunting less appealing.

Obtain information on hunting use in the area, access needs, and hunting goals, in coordination with local hunting groups such as Ducks Unlimited and RMEF.

Evaluate hunting for its impacts on prey populations for the gray wolf; continue to authorize hunting unless it is determined to be in direct conflict with gray wolf survival.

Fishing Objectives

Rationales 145–146 are found in appendix H.

- Determine, within 5 years of CCP approval, the feasibility of restoration of native sport fisheries, to address a previously unavailable use opportunity.
- Carry out planning, funding, evaluation, and implementation of a restoration program for native fisheries—through at least four partnerships—within 5 years of determining a native sports fisheries is feasible, to develop quality, sport-fishing opportunities.
- Open at least 30 percent of fishable waters along Pleasant Valley Creek and Dahl Lake, with a minimum of one accessible fishing area that provides safe and uncrowded fishing opportunities, within 2 years of restoring a viable sport fishery if determined feasible, to provide a quality fishing experience.
- Provide one fishing event for youth per year, involving at least 20 participants, within 2 years of hiring a public use employee, to increase youth appreciation of fish and fishing.

Strategies

Gather baseline resource data, review literature, and develop and implement restoration plans, in collaboration with NRCS, Trout Unlimited, MFWP, and USGS.

Provide one full-time biologist to coordinate refuge participation in sport-fishing partnerships.

Design, develop, and maintain parking areas, trails, and accessible fishing platforms to provide access and protect resources. Pursue funding sources such as partnerships, grants, and fee programs.

Provide one full-time public use specialist and one half-time park ranger to coordinate and conduct the fishing program for youth. Pursue funding sources such as partnerships, grants, and fee programs.

Provide one full-time public use specialist to provide and monitor quality fishing opportunities.

Provide one full-time law enforcement officer to contact anglers and enforce rules and regulations.

Develop informational handouts (tear sheets) with a map, access points, rules, and regulations; handouts will be available at kiosks. Open and closed areas to fishing will be clearly signed.

Collaborate with off-refuge youth fishing programs (such as MFWP, Hooked on Fishing, and Creston National Fish and Wildlife Center) and recruit community volunteers to help with events held at appropriate fishing sites off the refuge.

To attract more participants and provide more educational opportunities, conduct the youth fishing program during National Fishing Week (early June).

Work with youth programs such as Girl Scouts, Boy Scouts, and schools to encourage a broad spectrum of fishing event participation.

Develop a system to monitor the quality of fishing experiences using comment cards, personal contacts, and registration at fishing sites, working with the Service's region 6 EVS staff.

Obtain information on fishing use in the area, access needs, and sport fishery goals, in coordination with local angler groups such as Trout Unlimited.

Wildlife Observation and Photography Objectives

Rationales 148–152 are found in appendix H.

- Provide opportunities for wildlife observation and photography by providing public access with minimal disturbance to wildlife and habitat, and developing designated viewing sites (one wildlife drive, two accessible wildlife-viewing areas, and one accessible trail), resulting in a 90 percent visitor satisfaction rate within 5 years of CCP approval, to promote public appreciation of natural and cultural resources.
- Make contact with 90 percent of visitors via the visitor contact station, interpretive materials, and interpretive kiosks, starting within 2 years of CCP approval, to provide quality wildlife observation and photography opportunities, and promote public appreciation of natural and cultural resources.
- Encourage the highest standards of ethical behavior by the public during wildlife observation and photography, with 90 percent of visitors understanding and following procedures within 5 years of CCP approval, to provide quality wildlife observation and photography opportunities and limit resource damage.

Strategies

Instill ethical observation and photography behavior through presentations, workshops, and field trips, in collaboration with local outdoor groups such as the Flathead Chapter of the Audubon Society, Boy Scouts, and Girl Scouts.

Provide one full-time biologist work to work with MFWP and NRCS to gather data on wildlife and plants for development of species lists.

Provide one full-time public use specialist to work with the Service's region 6 EVS staff to design, develop, and monitor the program for wildlife observation and photography.

Develop one wildlife drive, one accessible wildlife-viewing area, one accessible trail, and one foot trail in areas that would provide observation and photography opportunities while minimizing disturbance to natural resources (figure 12).

Erect and maintain at least three accessible kiosks with maps, rules, and regulations. Post the best, current observational and photographic opportunities for wildlife (figure 12). Provide maintenance personnel to build and maintain kiosks.

Develop materials about wildlife-dependent recreational use allowed on the refuge, including rules and regulations; post at the contact station and at all kiosks, pullouts, and trailheads; include information to encourage ethical behavior among users.

The area between the county road and the South Pleasant Valley Road (figure 12) will be open to authorized public use only on designated trails and roads from May 15 to September 1 and December 15 to April 1. It will be open to authorized public use on and off trails from April 1 to May 15. It is closed to all public access from September 1 to December 15.

Uplands (figure 12) will be open to authorized public use only on designated trails and roads from December 15 to April 1 and will be open to public use on and off trails for the remainder of the year.

Monitor the wildlife observation and photography program with observation of visitor use, comment cards, car counters, personal contacts, review of law enforcement incidents, and tracking of wildlife movements and resource damage.

Develop partnerships with local wildlife groups such as Flathead Chapter of the Audubon Society and photography clubs to gather information on member use of local wildland areas for wildlife observation and photography.

Coordinate with local schools, Girl Scouts, Boy Scouts, MCC, and other youth groups to build viewing sites while providing an educational experience for youth.

Develop and distribute public use surveys to determine quality of observation and photography experiences.

Gather information on member use of local wildland areas for wildlife observation and photography, in collaboration with local groups such as the Flathead

Chapter of the Audubon Society and photography clubs.

Interpretation Objectives

Rationales 158–160 are found in appendix H.

- Develop interpretive materials and disseminate them to at least 90 percent of visitors, within 2 years of program funding and staffing to promote public appreciation of natural and cultural resources.
- Develop interpretive themes within 10 years of hiring a public use specialist. Major themes will include wetlands, endangered species, history of Pleasant Valley, management of Lost Trail National Wildlife Refuge, the National Wildlife Refuge System, and the Service, to increase visitors' understanding and support, as well as their appreciation of fish, wildlife, plants, and their habitats.
- Ensure that at least 75 percent of visitors understand wetland values and the refuge's contribution to restoration and protection of Pleasant Valley wetlands, within 5 years of CCP approval, to promote public appreciation of natural resources.

Strategies

Interpret the mission of the refuge, the National Wildlife Refuge System, and the Service through direct contact of staff with visitors.

Request design assistance from the National Center on Accessibility, the Summit Independent Living Center, and other groups to develop interpretive materials.

Provide one full-time public use specialist to work with region 6 EVS staff to develop a station brochure and handouts.

Distribute outreach materials for cultural resources in collaboration with local schools, colleges, and civic groups.

Erect and distribute interpretive signs and materials at parking areas, wildlife-viewing areas, trailheads, and the contact station.

Develop a public use brochure with a clear map, wildlife-dependent recreational opportunities, rules, and regulations; make brochure available at accessible points within 2 years (figure 12).

Design and develop interpretive displays for the contact station, working with the Service's region 6 EVS staff.

Provide one full-time maintenance staff to build and maintain the wildlife-viewing area and trails.

Develop interpretive materials about wetland restoration within 2 years, in partnership with NRCS.

Coordinate with local schools, Girl Scouts, Boy Scouts, MCC, and other youth groups to build interpretive nature trails while providing an educational experience for youth.

Develop interpretive materials about management of the refuge, the national wildlife Refuge System, and the Service.

Develop an interpretive handout with tips for ethical viewing behavior and the advantages of following them, i.e., less disturbance to wildlife provides more viewing opportunities.

Provide one half-time clerk to staff the contact station and dispense information.

Develop interpretive materials about the history of Pleasant Valley, in collaboration with the CSKT, local history groups, and neighbors.

Provide one full-time public use specialist to develop cultural resource materials to dispense to the public.

Provide one full-time public use specialist to work with region 6's EVS Staff and NRCS to design and develop interpretive displays about wetlands to be erected at the Dahl Lake wildlife-viewing area, along interpretive trails, and at the contact station (figure 12).

Use signs to post areas closed to the public during use by trumpeter swans; develop interpretive material to explain closures for swans.

Provide one public use specialist to work with region 6's EVS staff to develop a handout with observational and photographic and observational opportunities along with successful techniques a comprehensive map, rules, and regulations.

Educate the public on how to minimize winter disturbance and stress to large mammals during recreational activities.

Develop interpretive materials about endangered species, working with region 6's ecological services staff.

Develop an outreach program for the public on the grizzly bear and recovery efforts, to develop better support for and understanding of the species and to minimize adverse human actions and conflicts. Work with the interpretation and education subcommittee of the Interagency Grizzly Bear Committee.

Use letters, phone calls, informational meetings, and door-to-door visits to educate and inform the public on the progress of wolf recovery and the development of livestock protection methods.

Develop an interpretive panel about wolves to be displayed in the visitor contact station or at a kiosk.

Develop interpretive material about Spalding's catchfly to educate the public on identification of the

plant, habitat requirements, and why the plant is endangered.

Develop an interpretive display to post at the contact station, kiosks, parking areas, and trailheads to inform users of ethical behavior.

Produce and distribute a tear sheet with a map that designates areas open and closed to hunting, along with all pertinent rules, regulations, and restrictions so hunters can make informed decisions (appendix F).

Develop media contacts and outreach materials to inform the hunting community of hunting opportunities for youth.

Erect interpretive displays at designated parking areas (figure 12) and at the contact station that describe ways to hunt ethically and explain hunting rules, regulations, and restrictions.

Monitor interpretive services and messages through feedback from visitors—observation of visitor’s use and personal contacts, comment cards, car counters, law enforcement incidents, and registration at kiosks, observation sites, parking areas, contact stations, and trailheads.

Environmental Education Objectives

Rationales 161–166 are found in appendix H.

- Develop an extensive environmental education program, including development of a formal partnership, within 5 years of CCP approval, to allow students and educators to gain hands-on experiences and appreciation of natural resources.
- Develop and maintain a lending library of extensive materials and resources within 2 years of CCP approval, to provide up-to-date and Service-related environmental education materials for educators.
- Provide on-site field trips to educators and students upon request to foster stewardship of the land, understand the refuge mission of conserving natural resources, and experience the wonder of native fish, wildlife, and plants as well as the culture and history of the area.
- Develop an accessible campground for overnight use by educational groups, within 1 year of implementation of an environmental education program, to allow students and educators to gain hands-on experience and appreciation of natural resources.

Strategies

Determine environmental educational needs and student numbers within a 2-hour travel radius through collaboration with local schools, including

Flathead Valley Community College and the University of Montana’s Yellow Bay Biological Station.

Develop an environmental education manual that fulfills both the educational requirements of local and nearby students and the vision and goals of the refuge. Work closely with Pleasant Valley and Marion school districts.

Develop refuge-specific curriculum, lesson plans, and activity guides that complement school curricula and use the refuge as a living laboratory, in collaboration with local schools and region 6’s EVS staff.

Promote hunter education for youth by providing educational materials and outdoor education sites, in collaboration with MFWP.

Become a member of the Environmental Education Core Group, a coalition of local individuals and groups (private and governmental) involved in environmental education.

Provide one full-time public use specialist to develop, implement, and monitor the environmental education program.

Provide one career-seasonal park ranger to support the environmental education program.

Provide training to environmental education staff at least once a year to attain the knowledge, skills, and abilities to support environmental education at a minimum level.

Recruit and train volunteers to assist in developing and presenting environmental education programs.

Work with the region 6’s EVS staff to design the campground to meet accessibility standards.

Provide one full-time public use specialist to coordinate campground use with environmental education activities, organize a reservation system for qualified groups, and monitor the site during use.

Pursue grants that would allow schools to participate in environmental education at the refuge, in coordination with the school boards of Pleasant Valley and Marion schools.

Provide in-school materials to orient students prior to field trips to convey safety messages and describe appropriate field conduct to minimize resource damage.

Develop and present teacher workshops; obtain provider status from the Montana State Office of Public Instruction.

Provide information sheets and wolf education boxes to schools.

Develop a program to be presented to local schools on wolves, their biology, and their importance in the ecosystem.

Conduct at least one field trip or environmental education activity per year in collaboration with the Pleasant Valley and Marion schools to aid in students' biology education.

Conduct at least one hands-on project per year for biology student in collaboration with the Montana Academy to aid in students' biology education, as well as benefit refuge resources.

Work with MFWP, Glacier National Park, Flathead National Forest, and the CSKT to determine what they offer and whom they serve.

Work with local environmental education groups, including Flathead Chapter of the Audubon Society, Glacier Institute, Swan Ecosystem Center, and Crown of the Continent Ecosystem Education Consortium to determine what they offer and whom they serve.

Select and develop a designated environmental education site (figure 12), working with region 6's EVS staff and the National Center on Accessibility.

Research and obtain materials relevant to natural and cultural resources of the refuge and Pleasant Valley.

Develop and gather environmental education materials, working with region 6's EVS staff and the Service's National Conservation Training Center (NCTC), division of educational outreach.

Establish formal partnerships with school districts and community groups to assist with development, implementation, and promotion of the library.

Provide one full-time public use specialist to develop, organize, maintain, and distribute library materials.

Create a nonprofit group to support environmental education and research at the refuge, in coordination with the Montana State University extension office (Flathead County).

Develop on-site monitoring and research programs for students and educators with an emphasis on wildlife conservation and the importance of wetlands, working with the refuge's biology staff and the NRCS.

Develop partnerships with local schools, Girl Scout, Boy Scouts, the MCC, and other youth groups to provide an educational experience through participation in fence removal, facility maintenance, and other habitat management projects.

Seek assistance from the Montana Academy staff in areas that may be beneficial to the refuge as well as to students (e.g., tansy ragwort control).

Monitor the overall effectiveness of the environmental education program by tracking the number of teachers, students, and groups using the resources, and by providing feedback forms to educators.

ADMINISTRATION

Organizational structure, staffing, facilities, equipment, and maintenance are administrative items addressed in the management direction.

GOAL

Provide staffing, funding, and facilities to maintain the long-term integrity of habitats and wildlife resources of Lost Trail National Wildlife Refuge in supporting the achievement of ecosystem and National Wildlife Refuge System goals.

Administration Objectives

The basis for the following objectives and strategies is described in rationales in appendix H.

Operations Objectives

Rationales 169–178 are found in appendix H.

- Form a new complex comprised of Lost Trail National Wildlife Refuge, Swan River National Wildlife Refuge, and Flathead County units of the Northwest Montana WMD, separate from the National Bison Range complex, within 15 years of CCP approval, to better address interests unique to this area of northwestern Montana and anticipated increased public use.
- Provide adequate resources and staff to administer, develop, and maintain refuge habitat, facilities, programs, and public use for the period of this CCP, within 2 years of CCP approval, to perform the restoration, management, activities, and monitoring described in the CCP to achieve the refuge's goals
- Provide on-site law enforcement (overt, covert, and preventative) within 1 year of CCP approval, to provide quality public use experiences, while ensuring the protection of refuge resources.
- Annually use volunteers to assist with maintenance, biological monitoring, and public use activities to effectively and efficiently implement the CCP.

Strategies

Provide a separate organizational code and appropriations, by the Service's region 6 office, for future operations, maintenance, and administration of the refuge.

Transfer the annual funding for the National Bison Range, for one full-time employee for the on-site supervisory refuge operations specialist, to the reorganized refuge complex.

Recruit one supervisory refuge operations specialist (GS-12) to provide management operations, oversight, and administration for the refuge and other Service units north of the refuge.

Maintain the on-site, full-time refuge manager (GS-11, supervisory refuge operations specialist) to provide daily supervision and oversight to all activities and operations.

Recruit one maintenance worker (WG-8) to provide adequate resources to operate, maintain, and repair facilities.

Develop a web page to describe available maintenance resources and to monitor and track materials.

Recruit one full-time wildlife biologist (GS-11) to be stationed at the refuge for coordination of the biological program.

Hire one full-time biological technician (GS-9) to assist in habitat management, and habitat and facility maintenance.

Hire one public use specialist (GS-11) to coordinate the public use program and facilities.

Hire one full-time administrative support assistant (GS-4/5) to provide daily on-site clerical and administrative support.

Coordinate and plan equipment needs with the maintenance supervisor and project leader at complex headquarters through the refuge operating needs system (RONS) and maintenance management system (MMS) processes, to acquire appropriate equipment to maintain facilities and habitats (e.g., tractor, mower, backhoe, pickup, dump truck, motor boat, vehicle hoist, equipment repair tools and diagnostics, and carpentry tools and machinery).

Maintain equipment in a safe and efficient operating status.

Replace and add equipment through the RONS planning process as needed (due to normal deterioration and needed repair, and as staffing is increased).

Acquire necessary office equipment including computers and Internet access.

Provide microscopes and lab and other necessary equipment to support the environmental education curriculum.

Provide field guides, binoculars, and spotting scopes to assist with census work.

Provide VCRs, televisions, and slide projectors to preview audiovisual materials.

Provide satellite capacity for the Service's "distance from learning" program.

Communicate with MFWP staff to maintain adequate levels of law enforcement on and adjacent to the refuge.

Provide one full-time law enforcement officer to protect natural and cultural resources by coordinating with MFWP.

Provide the necessary office equipment and space to such partners as a "friends group."

Facilities Objectives

Rationales 186–189 are found in appendix H.

- Provide adequate administrative and maintenance facilities within 3 years of CCP approval, and ensure needed facilities and structures are maintained to Service standards during the period of this CCP, to provide support for refuge staff and programs, and for public safety.
- Identify and remove unnecessary structures and facilities within 10 years of CCP approval, to provide for restoration of habitat, protection of wildlife, reduction of maintenance needs, and public safety.

Strategies

Modify the horse arena to provide administrative space, a maintenance shop, and equipment storage; submit as a RONS project to modify the building and acquire equipment and tools including a phone system, computers, work stations, filing and storage cabinets, a vehicle lift, a vehicle wash bay, equipment repair tools, carpentry tools, and metal working tools.

Coordinate with Flathead Wildlife, Inc. to assist with building parking areas for designated public use activities and assist with habitat management projects.

Work with the Service's region 6 staff (education and visitor services) on design and accessibility requirements.

Develop a recreational vehicle trailer site to support a volunteer program.

Repair and maintain facilities, buildings, fences, and roads on an "as-needed basis."

Develop and implement a RONS and MMS projects list to provide necessary public use-dependent equipment and facilities.

Coordinate with the PCTC where shared-easement road maintenance is applicable.

Remove unnecessary facilities and structures including interior fences, east cattle station structures, guest cottage building, ranch office building, and feedlot corrals.

Complete facility maintenance and fence removal through assistance from the MCC and Landmark Volunteers.

Continue the annual fence removal project (RMEF challenge cost-share grant initiated in 2000).

Recruit volunteers for projects such as removal of the east cattle station, clean up or removal of other facilities, monitoring, and public use activities.

Operate under the statewide agreement with the Montana DNRC for fire suppression on the refuge.

Determine how to minimize any negative effects resulting from modifications to refuge portions of Pleasant Valley Creek on native fisheries downstream in Fisher River, through collaboration with MFWP and NRCS.

Coordinate fire suppression issues and protocols at annual meetings with Montana DNRC.

Continue coordination with PCTC regarding maintenance of existing fence lines.

Control beaver activities that impact Pleasant Valley Road, i.e., flooding, through coordination with MFWP.

Issue a special-use permit to the USDA Forest Service for use of road 1019 for the purpose of logging activities on land north of the refuge.

Continue to abide by rules and agreements in the existing power-line easement document. Annually review the easement document and coordinate all refuge activities that may affect the power line with Bonneville Power Administration.

PARTNERSHIPS

Partnerships that support overall management of the refuge are addressed in this management direction. Partnerships for single-type or localized activities have been described in the above topics.

GOAL

Promote and develop partnerships with adjacent landowners, public and private organizations, and other interested individuals to preserve, restore, and enhance a diverse and productive ecosystem of which Lost Trail National Wildlife Refuge is an integral part.

Partnership Objectives

The basis for the following objectives and strategies is described in rationales 192–201, found in appendix H.

- Meet once a year with the NRCS and private landowners in the Pleasant Valley to coordinate and collaborate on an interagency, land steward partnership to protect more than 5,800 acres of wetland and wetland-related habitat, within 3 years of CCP approval.

- Partner with nongovernmental organizations (RMEF, Audubon Society, Landmark Volunteers, MCC, and Flathead Wildlife, Inc.) to conduct habitat and maintenance activities and collect biological data for the first 5 years after CCP approval, to increase conservation efforts.
- Develop a “friends group” for a mutually agreed-upon area of the refuge within 3 years of CCP approval, to enhance management, programs, or funding of refuge programs.
- In conjunction with PCTC; MFWP; Montana DNRC; USDA Forest Service; and private landowners, determine the opportunities and feasibility for a forest legacy easement within 5 years of CCP approval.
- Share law enforcement responsibilities with MFWP during deer, elk, and upland game bird hunting seasons, on and adjacent to the refuge, for the duration of this CCP, to efficiently provide quality public use experiences, while ensuring the protection of refuge resources. Coordinate with the local sheriff’s office and the Montana Highway Patrol to address and deal with potential issues outside of the hunting season and to provide law enforcement personnel with backup and law enforcement assistance when needed.
- Meet once a year with PCTC, RMEF, Flathead and Lincoln counties weed departments, and the USDA Forest Service to maintain partnerships for collaboration and mutual assistance with invasive plant control, access, and road maintenance issues, for the period of this CCP.
- For the period of this CCP, collaborate with the Flathead County Road Department regarding refuge signage and potential cooperative road maintenance and possible relocation issues concerning Pleasant Valley Road.
- Continue issuing annual special-use permits with the USDA Forest Service for use, maintenance, and invasive plant control on refuge road North 1019, as needed for the period of this CCP.
- Continue coordination with Bonneville Power Administration regarding the power line easement for the duration of this CCP.
- Maintain the statewide memorandum of understanding with the Department of Natural Resource Conservation for wildland-fire suppression efforts for 15 after CCP approval.
- For the period of this CCP, continue coordination with PCTC and their lessee regarding grazing issues on adjacent PCTC lands.

Strategies

Collaborate with Partners for Fish and Wildlife to continue restoration on the refuge and adjacent lands.

Work with the Flathead County extension office to develop a “friends group” and a direction of focus.

Provide one three-quarters-time volunteer coordinator to implement the “friends program.”

Coordinate closely with the NRCS on stream and wetland restoration throughout the WRP.

Collaborate with USGS, Northern Rocky Science Center, on management of wetlands.

Coordinate protection of species of concern with conservation easement partners such as the NRCS WRP, MFWP, Montana Land Reliance, The Nature Conservancy, and Audubon Society.

Seek partners and volunteers to design and fund methods, and assist in determining production of waterfowl.

Share the expense and workload of aerial pair and brood counts for waterfowl with MFWP; Avista Utilities; and the CSKT.

Seek partners such as MFWP, PCTC, Defenders of Wildlife, Flathead and Kootenai National Forests, and the Great Bear Foundation, for grizzly bear conservation.

Coordinate and collaborate with Montana DNRC to maintain Spalding’s catchfly.

Meet with “friends group” volunteers at least twice a year to determine group direction and assist where appropriate.

Use students to assist with fence removal or various other habitat management projects.

Maintain adequate levels of law enforcement assistance on or adjacent to the refuge during hunting seasons for big game and upland game birds through continued communication with MFWP.

Provide one full-time law enforcement officer to protect natural resources by coordinating with MFWP.



Students from Pleasant Valley School work with goose nesting structures at the refuge.

Ray Washiak/USFWS

ALTERNATIVE B

Manipulated habitats maximize use by huntable and watchable birds and mammals, and sport fisheries.

Maximum, compatible public use occurs.

Staffing is minimal, with additional law enforcement. Visitors have quality experiences at developed facilities.

Partnerships accomplish habitat management and foster conservation.

RIPARIAN HABITAT

Stream channels and associated vegetation are addressed in the management direction for riparian habitat. Water control structures that affect the functioning of riparian habitat, as well as fish passage, are addressed.

GOAL

Restore, enhance, and maintain a mixed deciduous and coniferous riparian habitat to support indigenous wildlife species and perpetuate the ecological integrity of the Fisher River watershed.

Riparian Habitat Objectives

The basis for the following objectives and strategies is described in rationales 1–6, found in appendix H.

- The Service will maintain coordination and collaboration for restoration of the stream vegetation and stream meander on the WRP easement...*as in alternative A*
- Inventory and evaluate willow, alder, and birch vegetation...*as in alternative A*
- Restore stream bank vegetation (willow, alder, hawthorn)...*as in alternative A*
- Enhance the integrity of the Pleasant Valley Creek restoration project with fish passage...*as in alternative A*
- Maintain, and increase when feasible, quaking aspen...*as in alternative A*
- Evaluate feasibility, within 2 years of CCP approval, of restoration of Pleasant Valley Creek to a level that can sustain catch-and-release native trout fisheries, to restore native redband and westslope cutthroat trout fisheries and increase fishing opportunities.

Strategies

Study stream characteristics and the biological potential of Pleasant Valley Creek, in collaboration with NRCS, MFWP, and Trout Unlimited.

Develop plans for restoration of channel meander and stream vegetation of Pleasant Valley Creek within the refuge, in collaboration with NRCS, MFWP, and Trout Unlimited.

Excavate natural channel meander back into Pleasant Valley Creek.

Revegetate the north section of Pleasant Valley Creek where alders have died and channel meander is being restored at Lower Moose Pond, in collaboration with NRCS.

Manage riparian areas and willow stands to maintain or achieve midaged condition or higher in areas above 3,300 feet elevation for lynx habitat.

Evaluate the two water control structures from the north section of Pleasant Valley Creek (figure 3) for fish-passage-friendly structures and water temperature reduction. Excavate dirt berms, recontour slopes, remove pipe, and seed with native vegetation on upper and lower ponds.

Use prescribed fire in early spring, late summer, or fall (Howard 1996, Tirmenstein 1988) to promote quaking aspen for rejuvenation of existing stands or increase coverage of aspen.

Review literature for water regimes and soil types required for willow, alder, and birch.

Determine viability of sport fish populations by evaluating species presence, potential for continued reproduction, population size capable of supporting expected fishing pressure, and recovery of absent species.

Remove the drop structure at the old headquarters pond or install a fish ladder.

Remove fish barriers in Pleasant Valley Creek downstream from the refuge, in collaboration with NRCS and private landowners.

Complete riparian habitat enhancement and restoration of native fish, in collaboration with NRCS, MFWP, Partners for Wildlife, Trout Unlimited, and USGS.

Monitor stream temperature and siltation in Pleasant Valley Creek each summer after revegetation has occurred, in collaboration with MFWP.

Monitor revegetation along Pleasant Valley Creek through vegetation classification every third year.

Establish point counts in stream habitat to determine if revegetation along Pleasant Valley Creek enhances use by birds.

Conduct surveys for migratory birds, songbirds, amphibians, and vegetation before and after restoration efforts in refuge ponds and Pleasant Valley Creek, in collaboration with NRCS and volunteers.

Monitor vegetation coverage of willow, alder, and birch.

WETLAND HABITAT

Lakes, bogs, and other saturated wetland areas are addressed in the management direction for wetland habitat.

GOAL

Provide breeding, resting, and feeding habitat for wetland-dependent species of northwestern Montana by restoring, maintaining, and enhancing a mosaic of lake, semipermanent, seasonal, temporary, and saturated wetlands.

Wetland Habitat Objectives

The basis for the following objectives and strategies is described in rationales 8–12 and 14–15, found in appendix H.

- Recharge 100 percent of drained wetlands...*as in alternative A*
- Restore Dahl Lake complex water levels...*as in alternative A*
- Increase ground-nesting habitat...*as in alternative A*
- Conduct a wetland study in the Dahl Lake complex...*as in alternative A*
- Inventory for fens (alkaline bogs) ...*as in alternative A*
- Convert reed canarygrass by 40–80 percent in the Dahl Lake wetland complex by planting wild rice within 10 years of CCP approval, to increase forage for migratory waterfowl.
- Maximize water manipulation capabilities in wetland basins by installing two or three water control structures within 7 years of CCP approval, to increase diverse emergent vegetation and seed-producing annuals interspersed with open water for increased foraging habitat and brood cover for migratory waterfowl.
- Evaluate the feasibility of restoring Lower Moose pond's breached dam on Pleasant Valley Creek within 6 years of CCP approval, to determine potential for maintaining a permanent wetland for nesting waterfowl, wildlife observation, and photography.

Strategies

Restore or increase water-holding capabilities in wetlands on the WRP easement, e.g., plug ditches, in coordination with the NRCS.

Install a water control structure in the culvert near headquarters to allow water to fill the wetland to road height without washing out the road.

If runoff should not be adequate the first year for wetland refill of each restored basin, divert water for 5 years to initiate recharge of the basin.

Plug wetland drain ditches in the wetlands west of Dahl Lake within the west mitigative parcel.

Fill the drain ditch (Meadow Creek) coming out of the west end of Dahl Lake with off-site spoils that remain on-site, and by trucking in spoils to fill the ditch back west to the location of the old water control structure (figure 3).

Evaluate soils and water regime for optimal sites in the Dahl Lake wetland complex to plant wild rice.

Determine the best method to convert reed canarygrass to wild rice; consult with experts and review literature.

Use grazing, haying, and prescribed fire to maintain open water and remove decadent, residual, emergent vegetation with adaptive management.

Use spring flooding to increase colonization of macroinvertebrates (Nelson and Kadlec 1984), and fall flooding to stimulate growth and productivity of invertebrates (Reid 1985); monitor for adaptive management.

During migration, use shallow flooding or partial drawdowns to concentrate invertebrates (Fredrickson and Reid 1986); monitor for adaptive management.

Construct 0.5-acre nesting islands to be irregular in shape with 5:1 slopes, top-dressed with soil, and seeded with native grasses and legumes for ground-nesting habitat.

Evaluate and determine a fish-friendly passage that allows Lower Moose Pond to remain, working with NRCS during the Pleasant Valley Creek restoration.

Monitor wetland vegetation coverage response to recharge every third year; map in the GIS.

Annually monitor vegetative response by measuring habitat coverage; map in GIS.

Survey wet meadows for dominant plant species and presence of peat; measure pH of soil in suspect areas.

Monitor wild rice plantings for success of germination and survival; apply adaptive management.

Monitor invertebrate diversity and abundance.

Conduct migratory waterfowl surveys for spring and fall migration use of the refuge.

Annually conduct pair-count surveys for water birds to monitor use of wetlands pre- and post-refill.

GRASSLAND HABITAT

This management direction is for the diverse grasslands covering the majority of the refuge.

GOAL

Restore, enhance, and maintain Intermountain grasslands, with an emphasis on native bunchgrass prairie to provide habitat for migratory birds, species of concern, and associated wildlife species.

Grassland Habitat Objectives

The basis for the following objectives and strategies is described in rationales 18–22 and 25–26, found in appendix H.

- Fence and post the entire refuge boundary...*as in alternative A*
- Develop soil descriptions...*as in alternative A*
- Monitor, every 2 years, 336 acres of western wheatgrass...*as in alternative A*
- Map and use adaptive management to maintain native bunchgrass prairie (dominated by 50–80 percent Idaho or rough fescue and western wheatgrass, with 5–10 percent forbs, and 0–5 percent shrubs) on 1,200 acres of uplands in management units 6 and 22 (figures 2 and 4), within 10 years of CCP approval, to provide habitat for migratory birds and winter range for elk and deer.
- Inventory and use adaptive management to maintain 330 acres of Idaho fescue and western wheatgrass in upland grasslands around the Dahl Lake wetland complex (management units 11 and 12, figures 2 and 4) as tall, dense grasslands with litter depth 0.6–1.2 inches and 11.8 inches VOR (Kirsch et al. 1978, Duebbert and Lokemoen 1976, Kruse and Bowen 1996), starting within 5 years of CCP approval, to provide nesting habitat for mallard, gadwall, and lesser scaup.
- Monitor 770 acres dominated by Idaho fescue in management units 8–10, 15, and 20 (figure 2), starting within 5 years of CCP approval; for Idaho fescue, average 8–12 flower stalks/plant, 7.9–8.7 inches maximum leaf length/plant, 2.2–2.7 inches square live basal area (Mueggler 1970, 1975), and 5–9 inches leaf height (Pond 1960), to determine when management action is needed to maintain

vigorous plant communities for ground-nesting migratory birds and forage for other wildlife.

Strategies

Fence and post the refuge boundary; use staff from the National Bison Range complex or contracted personnel.

Use wildlife-friendly fencing in areas of high wildlife use, where feasible.

Survey or find markers in areas of uncertainty for the refuge boundary.

Use existing soils layers to determine which soils have not been classified.

Sample soils and describe associated climax vegetation for each unclassified type; perform through a request to the NRCS.

Set priorities for restoration within the WRP easement (345 acres) in the bottomlands (see south of the county road, figure 4), in collaboration with NRCS restoration efforts.

Determine the best restoration method and plant species of replacement; consult with experts and review literature.

Develop a habitat management plan describing how rest, prescribed fire, grazing, or haying will be used to maintain migratory bird nesting habitat in areas of: (1) western wheatgrass and Kentucky bluegrass; and (2) Idaho fescue and western wheatgrass on upland grasslands.

Use grazing and prescribed fire as habitat management tools for Idaho fescue once monitoring results demonstrate management targets have been achieved and compatibility agreements have been developed with the NRCS.

Conduct grazing and burning every 7–10 years to remove residual vegetation and restore vigor (Mueggler 1975).

Monitor areas dominated by Idaho fescue (live basal area, leaf height, leaf length, and flower stalks/plant) to determine current habitat condition and monitor for management thresholds every 2 years.

Monitor vegetation every third year to determine percent composition, amount of residual, litter, and condition of plants (vigor) prior to any type of management treatment.

FOREST HABITAT

Coniferous and deciduous forests are addressed in the management direction for forest habitat.

GOAL

Enhance and maintain Douglas-fir, ponderosa pine, aspen, and cottonwood forested habitats within the context of the Fisher River watershed for migratory birds, species of concern, and other associated wildlife species.

Forest Habitat Objectives

The basis for the following objectives and strategies is described in rationales 29–30 and 33–34, found in appendix H.

- Identify forest coverage types...*as in alternative A*
- Inventory and maintain a ponderosa pine, mixed-conifer forest with: (1) widely spaced trees (20-foot spacing between pines); (2) open grassy areas; (3) an understory of fescue or junegrass and snowberry or kinnikinnick; and (4) 20–30 percent of pole-sized stands to remain as cover; within 10 years of CCP approval, to provide foraging habitat and thermal cover for elk and deer.
- Create nesting habitat for Merriam's turkey (Lutz and Crawford 1987) by thinning 10 percent of pole-sized conifer stands and leaving the remaining tree slash on the ground (in forest on the west end of the refuge, remove Douglas-fir > 2 feet tall and up to 6 inches dbh, and ponderosa and lodgepole pine > 2 feet tall and up to 4 inches dbh), within 10 years of CCP approval, to maintain or increase the nonnative turkey population for hunting opportunities.

Strategies

Survey for deteriorating aspen stands—as defined by a low density of stems that are young and small, and with poorer form and higher crown/stem ratios than healthy stands (Schier and Campbell 1978).

Halt Douglas-fir encroachment of young even-aged stands of ponderosa pine; remove Douglas-fir > 2 feet tall and up to 6 inches dbh, and ponderosa pine > 2 feet tall and up to 4 inches dbh.

Chainsaw Douglas-fir poles and let lie.

Suppress understory fires except in areas where age-class structure is being altered to abnormally dense stands dominated by younger trees.

Provide bald eagle habitat by maintaining a mature forest stand comprised of aspen, Douglas-fir, ponderosa pine, or mixed conifers with low to moderate canopy cover of at least 20 acres within 1 mile of Dahl Lake; stand would contain at least two suitable nest trees and at least three perch trees.

Manage bald eagle habitat in the secondary nesting zone if suitable habitat does not exist in the primary nesting area; maintain mature forest comprised of aspen, Douglas-fir, ponderosa pine, or mixed conifers with low to moderate canopy cover of at

least 20 acres within 1 mile of Dahl Lake; stand would contain at least two suitable nest trees and at least three perch trees.

Develop a fire management plan for forests above 3,300 feet in elevation that mimics natural fire regimes for Canada lynx habitat.

Prohibit precommercial thinning or clear cutting of woodland Canada lynx habitat.

Restrict livestock use in openings created by fire or timber harvest that would delay successful regeneration of the shrub and tree components in forests above 3,300 feet in elevation, for Canada lynx habitat.

Manage grazing in aspen stands to ensure sprouting and sprout survival in aspen stands above 3,300 feet elevation for Canada lynx habitat.

Classify forest vegetation into National Vegetation Classification Standards; map in geographic information system database.

Annually monitor for negative effects of water level changes on aspen groves in management units 12 (3 acres), 14 (23 acres) and 19 (24 acres) to determine if there is a loss in acreage.

Monitor effects of prescribed fire in aspen and apply adaptive management.

INVASIVE PLANTS

Prevention and control of nonnative, invasive plants are addressed in the management direction for invasive plants.

GOAL

Native plant communities, composition, occurrence, and density exist without degradation by invasive plants.

Invasive Plant Objectives

The basis for the following objectives and strategies is described in rationales 36–39 and 41, found in appendix H.

- Develop and implement an invasive plant management plan...*as in alternative A*
- Reduce spotted knapweed...*as in alternative A*
- Annually eradicate and maintain 75–90 percent control of tansy ragwort...*as in alternative A*
- Conduct a surveillance program for new infestations of invasive plants...*as in alternative A*
- Conduct invasive plant control on 300–400 acres of upland grasslands each year for the next 15 years, to maintain native prairie composed of 90 percent native vegetation composition.

- Determine the best method possible and begin restoration of 35 percent of the introduced creeping meadow foxtail in the bottomlands to native grass and sedges (figure 4), within 1 year of CCP approval, while maintaining 25–40 percent of the foxtail tracts with a minimum of 0.6 inch litter depth and 3.9–7.9 inches VOR, to provide nesting habitat for blue-winged teal and mallard during the restoration process.

Strategies

Evaluate invasive plant infestations and control efforts since refuge establishment.

Evaluate invasive plant infestations within Pleasant Valley for priority areas of control by each partner.

Determine appropriate, effective control methods, e.g., mowing, chemical, biocontrol, and prescribed fire; consult with experts.

Determine the best restoration method and plant species of replacement in invasive plant infestations; consult with experts and review literature.

Gather information about cumulative impacts of chemical, biocontrol, and prescribed fire effects on invasive plants and on native vegetation response; review literature.

Use the GIS to predict areas at greatest risk of new invasions and develop early detection and prevention measures.

Continue to discuss, with partners, alternatives for invasive plant control within the Pleasant Valley.

Share GIS layers of invasive plant infestations with PCTC and the USDA Forest Service.

Apply integrated pest management for spotted knapweed, consisting of: (1) proper spring and fall chemical applications; (2) mechanical mowing where practical, prior to seed head production; and (3) release of appropriate biocontrol agents, including seed head gall flies and other proven biocontrol agents.

Use hand pulling, hand spraying, and ATVs for herbicide application in areas within 330 feet of Spalding's catchfly populations.

Evaluate the target species selectiveness of any biocontrol species prior to release.

Treat new invasions of tansy ragwort in late July and early August by bagging flower heads and burning them, and spraying rosettes with chemicals such as Transline or Tordon.

Control invasive plants with cutting and herbicide in forest.

Survey proposed spray areas for Spalding's catchfly prior to herbicide application.

Use ground and aerial herbicides to inhibit and eradicate encroachment by invasive plants.

Coordinate invasive plant control in Pleasant Valley by meeting at least once per year to share information and discuss control strategies: (1) with PCTC for spotted knapweed; and (2) with PCTC and the USDA Forest Service for tansy ragwort.

Map sites of invasive plant treatment each year in GIS.

Develop a strategy with partners for coordinated control of tansy ragwort and how to prevent it from becoming a dominant plant species within the Pleasant Valley.

Attain assistance with tansy ragwort control from the Tansy Trust Fund Grant program, as well as from the Service's challenge cost-share grants.

Attain herbicide and/or a technician to apply herbicide and assist with mapping by pursuing grant funding.

Attain assistance with invasive plants (applications and monitoring) by pursuing grant funding through the project advisory committee, e.g., RMEF grants, until the refuge can support its own needs for control.

Mitigate disturbance on refuge roads with invasive plant control and reseedling of native species through the ongoing memorandum of understanding with PCTC.

Limit off-road vehicle travel and wash the undercarriages of vehicles that access off-road areas.

Determine the extent of infestation of sulfur cinquefoil; create a baseline map.

Monitor infestation rates and effectiveness of control efforts; annually map the extent of infestation of spotted knapweed and tansy ragwort in GIS.

Identify locations of new infestations of tansy ragwort; map locations and collaborate with the state coordinator for mapping records for neighboring PCTC land.

Monitor vegetation of upland grasslands for vigor and plant species composition every 2 years.

Monitor plant species occurrence and percent cover, along with wildlife use, pre- and postrestoration.

Gather information about invasive plant occurrence; inform all Service employees that may work on the refuge about plant and habitat characteristics of invasive plants to get help finding invasive plants during normal field duties.

Conduct walk-through surveys for invasive plants with volunteers to look for new infestations.

MIGRATORY BIRDS

Management direction for migratory birds addresses waterfowl, other water birds, shorebirds, and Neotropical migratory birds.

GOAL

Preserve, restore, and enhance the ecological diversity and abundance of migratory birds of the Intermountain West forest, wetland complexes, riparian habitat, and bunchgrass prairie.

Migratory Bird Objectives

The basis for the following objectives and strategies is described in rationales in appendix H.

Water Bird Objectives

Rationales 42–45 and 48 are found in appendix H.

- Annually monitor goose populations...*as in alternative A*
- Evaluate biological potential for shorebirds and marsh birds...*as in alternative A*
- Determine current levels of nesting and production of waterfowl, and develop a waterfowl management plan within 5 years of CCP approval that uses adaptive management until a 5-year average of 500 young fledged per year is obtained, to maximize duck production, and improve public use opportunities.
- Determine limiting factors to fall waterfowl populations, and use adaptive management to increase fall waterfowl numbers by at least 20 percent over the next 10 years, to provide habitat for migratory waterfowl, and improve public use opportunities.

Strategies

Determine limiting factors and conduct research; consult with the Montana Cooperative Wildlife Research Unit and other experts.

Evaluate development of food plots to support migrating waterfowl.

Use habitat manipulation and predator control as adaptive management tools to increase production when necessary to achieve objectives.

Construct goose and duck nesting structures on Dahl Lake, Upper and Lower Moose ponds and SE Pond.

Evaluate creation of a nesting island out of the peninsula on the east end of Dahl Lake.

Determine nesting requirements of shorebirds and marsh birds and best management practices; review literature.

Continue to prohibit waterfowl hunting until a minimum average of 1,000 ducks from opening day of waterfowl season until the start of freeze-up are present.

Prohibit haying, mowing, and grazing immediately proceeding and during the nesting season of shorebirds and marsh birds.

Evaluate sandhill crane nesting; develop a plan to improve nesting if cranes are nesting or attempting to nest on the refuge.

Conduct weekly waterfowl surveys from mid-August until freeze up.

Continue duck pair counts and implement duck brood index survey.

Survey for availability of dense, tall (>60 centimeters) emergent vegetation for nesting cover for bitterns, terns, and redheads.

Continue established point counts; conduct additional surveys (point counts, nest dragging, nest searching, and playback surveys) in the upland grasses, forest, and NRCS restoration areas.

Initiate nest dragging to determine hen success and rates of nest predation.

Conduct invertebrate and vegetation surveys to determine available forage from mid-August until freeze-up.

Monitor invertebrate levels in Dahl Lake and wetland complex to determine if this is a limiting factor.

Inventory and monitor emergent and submergent vegetation availability as forage or forage substrate in late summer and fall.

Monitor for shorebirds and marsh birds during duck pair and brood counts, Neotropical migratory bird surveys, and with playbacks.

Other Migratory Birds Objectives

Rationales 54–57 are found in appendix H.

- Obtain baseline data on relative abundance and production of indicator species of Neotropical migratory birds...*as in alternative A*
- Protect nesting habitats including 80 percent of natural snags...*as in alternative A*

Strategies

Construct and place new nest boxes for Neotropical migratory birds in unoccupied, suitable habitat using volunteers.

Set priorities for species by habitat and sensitivity rating and manage for key indicator species in each habitat; use the MPIF guidance.

Analyze survey data for the most common priority species and their habitat requirements; apply adaptive management to foster their populations.

Maintain diverse healthy habitat and an abundant prey base for raptors.

Protect snags in forest habitat.

Conduct owl surveys in suitable habitat following the protocol set out in Guidelines for Nocturnal Owl Monitoring in North America (March 2001) as a silent listening technique, adding playback surveys that are recorded separately.

Conduct surveys that detect woodpeckers.

Monitor nesting and maintain structures and boxes using volunteers and refuge staff.

OTHER WILDLIFE

Resident wildlife including large and small mammals, resident birds, amphibians, and reptiles are addressed in the management direction for other wildlife.

GOAL

Restore and maintain resident and endemic wildlife populations of northwestern Montana to maintain and enhance species diversity of Lost Trail National Wildlife Refuge and Pleasant Valley.

Other Wildlife Objectives

The basis for the following objectives and strategies is described in rationales in appendix H.

Large Mammal Objectives

Rationales 61–66 and 68 are found in appendix H.

- Maintain elk, deer, and moose populations...*as in alternative A*
- Modify or remove all nonessential fences...*as in alternative A*
- Develop a plan for chronic-wasting disease...*as in alternative A*
- Monitor large mammal population sizes and areas of use for 5 years after CCP approval, to establish baseline data for development of objectives that enhance viewing, hunting, environmental education, and photography.

Strategies

Improve habitat quality through invasive plant control, native plant restoration, prescribed fire, and grazing.

Hire a biologist to monitor and evaluate wildlife population dynamics, and to conduct necessary control.

Hire biological staff or use the biologist from the National Bison Range complex, along with volunteers, to conduct monitoring.

Construct temporary fences (electric or barbless wire) if needed.

Identify fence locations and determine their importance for refuge management; map using a global positioning system.

Remove all fences (interior only) or modify fences for wildlife-friendly movement. Remove either the top and bottom wire or two bottom wires so the bottom wire is at least 18 inches off the ground; remove stays to enhance movement or use lay-down wires.

Incorporate additional gates into fences where it is not feasible to modify them; keep gates open when livestock are not present in grazing units.

Develop a system to estimate deer and elk populations on the refuge; review literature for current, valid methods.

Determine best management practices to use in response to monitoring data on deer and elk populations and how they are being affected by refuge management or how they are affecting the refuge; coordinate with MFWP. Apply adaptive management, e.g., modify hunting seasons, or use fire, invasive plant control, or grazing to improve forage.

Determine if large mammal resource damage is a result of local factors or reflects an ecosystem phenomenon, through comparison of deer and elk population trends on the refuge with MFWP trend data for the ecosystem.

Coordinate proposed prevention, surveillance, research, and control actions for chronic-wasting disease in cooperation with state wildlife and agriculture agencies.

Conduct outreach to surrounding communities and communication to refuge visitors regarding chronic-wasting disease and disease management.

Remain alert to potential threats from chronic-wasting disease or other diseases.

Determine baseline populations of large mammals; monitor for 3 years and consult MFWP.

Annually inventory deer and elk population sizes and areas of use.

Monitor abundance and presence of elk (in the winter), deer (in the summer), and moose (in the spring or summer).

Determine the cause of any decrease below 75 percent of current herd sizes for deer, elk, and moose; determine if modifications in management

are warranted. Monitor deer and elk to determine high-use areas and design public use activities around these areas.

Categorize the vegetation in areas of high use by deer, elk, and moose; map locations and categories.

Ensure deer and elk are staying within the carrying capacity; evaluate areas of high use for browse-line impacts.

Evaluate the effects of public use in areas of habitat damage to determine if overuse of specific habitats by deer and elk is a result of wildlife response to disturbance.

Conduct a passive surveillance program for clinical signs of chronic-wasting disease or other health problems (may lead to a targeted surveillance based on results); conduct monthly, opportunistic observations of deer and elk.

Monitor deer, elk, and moose use of refuge habitats to determine high-use areas and design public use activities around these areas.

Evaluate all public uses for their effects on herd numbers and distribution of wildlife on the refuge.

Small Mammal Objectives

Rationale 70 is found in appendix H.

- Monitor Columbian ground squirrel habitat acreage...*as in alternative A*

Strategies

Determine ground squirrel activity centers; map by size of population and damage to vegetation in the geographical information system (GIS).

Determine an acceptable baseline level for habitat affected by ground squirrels and their population numbers, using initial data.

Maintain ground squirrel numbers within 20 percent of a baseline determined after initial monitoring and literature research.

Determine changes in acres affected by ground squirrels; monitor ground squirrel activity on a 3- to 5-year basis.

Resident Bird Objectives

Rationales 72–73 and 76 are found in appendix H.

- Annually inventory and monitor resident (nonmigratory) birds...*as in alternative A*
- Biannually monitor upland game bird populations, and apply adaptive management to foster upland game bird populations, to provide public use opportunities and maintain a healthy ecosystem.

Strategies

Maintain aspen stands at current acreage for upland game birds with prescribed fire and by limiting grazing.

Determine potential effects of management activities to species listed as priority for conservation by MPIF Plan (Casey 2000) or the Service's office of migratory bird management (1995).

Determine whether management practices should be implemented to foster upland game birds; review refuge data with data gathered by MFWP.

Continue annual Neotropical migratory bird surveys and detect all resident and migratory birds through addition of one survey route in the uplands.

Inventory for Montana Bird Conservation Plan priority 1 species such as flammulated owls and black-backed woodpeckers.

Conduct surveys for upland grouse species.

Implement an owl survey once a year for the next 3 years, using volunteers.

Survey turkeys only if it is perceived that their population has increased to the point of resulting detrimental effects on habitat or other priority species.

Record any incidental sightings of bird species on the refuge.

Amphibian and Reptile Objectives

Rationales 78–80 are found in appendix H.

- Gather amphibian and reptilian population data...*as in alternative A*

Strategies

Develop habitat guidelines for amphibians and reptiles; consult experts.

Learn survey techniques and design surveys; coordinate with the “Amphibian Research and Monitoring Initiative” team.

Gather amphibian population data on the refuge as part of the “Amphibian Research and Monitoring Initiative,” in partnership with USGS researchers.

Include the use of equipment, housing, or vehicles for refuge in-kind support to the USGS for the “Amphibian Research and Monitoring Initiative.”

Report amphibian data to the regional level, i.e., “Amphibian Research and Monitoring Initiative” team, to support ecosystem-level monitoring.

SPECIES OF CONCERN

This management direction addresses wildlife listed by state or federal agencies as threatened and endangered (or proposed or candidate for listing), sensitive, rare, or species of concern.

GOAL

Contribute to the conservation, enhancement, and recovery of endangered, threatened, and species of concern populations in Lost Trail National Wildlife Refuge and Fisher River watershed.

Special of Concern Objectives

The basis for the following objectives and strategies is described in rationale 83, found in appendix H.

General Objectives

- Develop a conservation easement program (preliminary project proposal), for large carnivores...*as in alternative A*
- Develop, within 10 years of CCP approval, a list of birds known to inhabit the refuge including species of concern, their conservation needs, and suggested viewing areas, to raise awareness of species of concern and foster support for their conservation.
- Monitor for occurrences of species of concern and, for those species that exist on the refuge, develop management objectives that have minimum impact on public use, within 10 years of CCP approval, to protect species of concern while maintaining quality public use.

Strategies

Develop a conservation strategy with PCTC to protect their lands from future development.

Develop a preliminary project proposal for the conservation easement program, delineating a focus zone and priority areas.

Hire a biologist to be stationed at the refuge to coordinate management for the grizzly bear and monitor Canada lynx activities.

Seek funding from the Land and Water Conservation Fund for a conservation easement program.

Survey for owls, rails, and rare species; and monitor bald eagle nests and black tern nesting colonies; request assistance from Audubon volunteers.

Use data about species of concern collected in Neotropical migratory bird surveys, historic records, and observations recorded during routine staff duties to develop a bird list.

Grizzly Bear Objectives

Rationales 87–89 and 92 are found in appendix H.

- Prohibit livestock grazing if a grizzly bear is within 1 mile...*as in alternative A*
- To ensure compliance with the ESA and to support the mission of the Service, minimize conflicts with and disturbance to grizzly bears...*as in alternative A*
- To improve support for and understanding of grizzly bears, the refuge's public use staff (or partners) will conduct or coordinate one workshop or field trip per year and will develop at least one interpretive display and one information sheet...*as in alternative A*
- Improve habitat for grizzly bear within 15 years of CCP approval, to increase the chance of grizzly bear occurrence on the refuge, and improve the potential for public viewing opportunities.

Strategies

Evaluate current grizzly habitat components of Pleasant Valley; use the GIS and consultation with neighbors.

Determine the effects that proposed management actions would have on grizzly bears; consult with biologists.

Close areas for grizzly bears through the use of signs and other informational material; enforce closures through law enforcement patrols.

Limit administrative activity in areas of grizzly bear activity.

Prevent livestock–bear competition for spring forage by restricting livestock grazing if a grizzly bear is within 1 mile of the refuge.

Close designated areas to all public access (based on each particular situation) when one or more grizzly bears are within 1 mile of the refuge.

Work with the interpretation and education subcommittee of the Interagency Grizzly Bear Committee.

Monitor the occurrence and location of grizzly bears in Pleasant Valley, in collaboration with private landowners, MFWP, Interagency Grizzly Bear Coordination team, USDA Forest Service, and PCTC.

Follow guidelines of the Grizzly Bear Compendium (LeFranc et al. 1987) to evaluate habitat and security within Pleasant Valley.

Supply those components of grizzly bear habitat that are limiting in Pleasant Valley.

Prohibit hunting of ground squirrels unless it becomes biologically necessary to protect resources.

Prohibit black bear hunting.

Gray Wolf Objectives

Rationales 93–96 and 99–100 are found in appendix H.

- Evaluate the effects of management decisions on gray wolves...*as in alternative A*
- Monitor and maintain habitat and sufficient native prey to support one pack of gray wolves...*as in alternative A*
- Prohibit livestock grazing when a wolf pack is present in Pleasant Valley...*as in alternative A*
- To educate the public and foster support for wolf recovery, the refuge's public use staff in collaboration with the wolf recovery team will have one interpretive field trip or workshop a year, and develop one interpretive display and one information sheet...*as in alternative A*

Strategies

Determine the effects that proposed management actions would have on gray wolves; consult with biologists.

Maintain sufficient natural prey to support one pack of wolves in Pleasant Valley; use adaptive management.

Foster prey for the gray wolf (deer and elk) by improving winter range: apply integrated pest management, plant desirable forage species, and limit disturbance from public use.

When wolves are residing in Pleasant Valley, communicate with the wolf recovery team, MFWP, PCTC, and surrounding landowners.

Prohibit livestock grazing when a wolf pack, as defined by the wolf recovery team, is present in Pleasant Valley.

Close the refuge to public access within 1 mile of any active wolf den or rendezvous site from May 1 to July 1.

Close designated areas of the refuge to all public access from December 1 to April 15 if wolves are in the Pleasant Valley watershed.

Prohibit sport trapping.

Use MFWP data and refuge monitoring of deer, elk, and moose populations to determine changes in the natural prey available to wolves on an annual basis.

Evaluate hunting for its effects on prey populations; however, hunting will remain an authorized public use unless determined to be in direct conflict with wolf survival.

Collaborate with the wolf recovery team and MFWP.

Canada Lynx Objectives

Rationale 103 is found in appendix H.

- Evaluate proposed management actions in Canada lynx habitats...*as in alternative A*

Strategies

Evaluate the effects that Canada lynx management would have on other priority species against the probability that lynx would benefit from the management activity or prohibition of such activity.

Prohibit sport trapping for the life of this CCP to prevent accidental death of lynx.

Bald Eagle Objectives

Rationales 107–109 and 112–113 are found in appendix H.

- Annually monitor bald eagle nesting and protect habitat...*as in alternative A*
- To maximize the potential for nesting of bald eagles, maintain a mature forest stand...*as in alternative A*
- Remove carrion from roadsides...*as in alternative A*
- To enhance recovery of the bald eagle in Montana, eliminate disturbance and protect or enhance breeding habitat within 0.25 mile of any occupied bald eagle nest, until the bald eagle is delisted and for 5 years thereafter.
- To enhance recovery of the bald eagle in Montana, minimize disturbance and maintain the integrity of the breeding area between 0.25 and 1.0 mile of any occupied bald eagle nest, until the bald eagle is delisted and for 5 years thereafter.
- Maximize opportunities for education, viewing, and photographing of bald eagles by developing one viewing and photography blind, one interpretive display, and one information sheet within 10 years of CCP approval.

Strategies

Maintain bald eagle habitat by designing habitat alterations that meet preferred nesting and feeding habitat characteristics.

Protect bald eagles by evaluating proposed pesticide use before application.

Hire a biologist to evaluate or facilitate the evaluation of the effects of existing power lines on bald eagles.

Annually compile sightings and habitat use data for trumpeter swans in Pleasant Valley area; coordinate through neighboring landowners, MFWP, PCTC, and USDA Forest Service.

Prohibit sport trapping.

Follow the hunt plan (2002) that limits hunting to deer, elk, moose, turkey, and grouse and designates a closed area in which the existing bald eagle nest is located.

Allow low-intensity activities such as dispersed recreation if the bald eagle breeding area has had at least 65 percent nest success and has fledged at least five young during the preceding 5 years.

Evaluate the effects of the viewing display and blind to ensure that productivity objectives for the bald eagle are being met.

Monitor bald eagle nest success to ensure that breeding areas have at least 65 percent nest success, and at least five young fledged during the preceding 5 years.

Monitor occupied bald eagle nest sites to determine fledgling success, using staff or volunteers.

Conduct surveys in a noninvasive manner after the hatching of bald eagle young.

Evaluate all management activities proposed in the primary nesting zone; monitor the effects on bald eagles of any approved activity.

Trumpeter Swan Objectives

Rationales 116–117 and 119 are found in appendix H.

- Annually monitor trumpeter swan migration and nesting...*as in alternative A*
- Annually monitor trumpeter swan migration and nesting in the Pleasant Valley ecosystem, to assist in trumpeter swan conservation, and to alert the public of potential viewing and photographic opportunities.
- Within 5 years of CCP approval, evaluate the impact that reintroduction of trumpeter swans to Dahl Lake would have on other lake-dependent species and associated public uses to determine the feasibility of introducing trumpeter swans.

Strategies

Limit public access in the trumpeter swan-nesting area, depending on nest site location.

Use signs to post trumpeter swan-nesting areas closed to public use; develop interpretive material to explain closures.

Monitor for trumpeter swans during routine duties including duck pair and brood counts.

Survey the public to assess public opinion on the reintroduction of trumpeter swans.

Provide lookouts during the swan migration and nesting season; seek assistance from Flathead Audubon volunteers.

Black Tern Objectives

Rationales 121–123 are found in appendix H.

Annually monitor the number of nesting black terns, and monitor nesting and foraging habitat...*as in alternative A*

Strategies

Survey for presence, abundance, and nesting activity of black terns on Dahl Lake to determine the nesting population associated with current levels of emergent vegetation.

Determine the effects of wetland development on black tern habitat by doing pre- and postactivity measurements of vegetation response and water depth in emergent vegetation areas adjacent to open water; map acreages of emergent vegetation and open water in GIS.

Monitor black tern nesting response to changes in water levels of Dahl Lake during implementation of the habitat development plan and other management activities.

Boreal Toad Objectives

Rationale 124 is found in appendix H.

Determine, during amphibian surveys, the extent of use of refuge habitats by the boreal toad.

Strategies

Document the response of boreal toads to revegetation and restoration of Pleasant Valley Creek; continue collaborative project with USGS's Amphibian and Reptile Monitoring Initiative.

Spalding's Catchfly Objectives

Rationale 125 is found in appendix H.

- Maintain Spalding's catchfly populations...*as in alternative A*
- Inventory for Spalding's catchfly prior to any management actions...*as in alternative A*
- Annually control invasive plants around any Spalding's catchfly population that has a minimum of 20 plants...*as in alternative A*

Strategies

Inventory all suitable habitat within the legislative boundary of the refuge for the presence of Spalding's catchfly.

Locate and map sites of Spalding's catchfly using GPS technology.

Search suitable habitat for Spalding's catchfly plants using volunteers from local schools and the Montana Native Plant Society, and Landmark Volunteers.

Establish a list of volunteers that are willing to help inventory for Spalding's catchfly or control invasive plants in catchfly habitat.

Report locations of Spalding's catchfly populations to the Montana Natural Heritage Program.

Conduct site evaluations for habitat characteristics of Spalding's catchfly to better manage present and other potential sites of suitable habitat.

Evaluate short-term, long-term, and cumulative effects of management actions (e.g., invasive plant control and prescribed fire) on maintenance and restoration of Spalding's catchfly.

Protect Spalding's catchfly sites from trampling and grazing.

Monitor all Spalding's catchfly populations on the refuge to determine population trend.

Monitor Spalding's catchfly from mid- to late July when flowers are in bloom using walk-through surveys.

Monitor Spalding's catchfly sites for insect damage and apply adaptive management to protect plants.

Map invasive plant populations within and around all Spalding's catchfly populations.

Coordinate and collaborate with Montana DNRC to maintain Spalding's catchfly plants.

Maintain native Palouse prairie habitat in and around the Spalding's catchfly site with sufficient native forb composition to attract, but not compete for, pollinators.

CULTURAL RESOURCES

Archaeological and historical resources, as well as traditional uses, are addressed in the management direction for cultural resources.

GOAL

Protect, manage, and interpret archaeological, cultural, and historical resources present at Lost Trail National Wildlife Refuge for the benefit of present and future generations.

Cultural Resources Objectives

The basis for the following objectives and strategies is described in rationales 126–130, found in appendix H.

- To preserve resources for all Americans and be in compliance with applicable laws and legislation, maintain and protect documented cultural and historical resources...*as in alternative A*

- Survey all refuge lands for cultural resources...*as in alternative A*
- Develop an outreach program...*as in alternative A*
- As a steward of cultural and historical resources to the Nation, research feasibility and restoration of at least one cultural and historical resource, within 10 years of CCP approval.
- To provide a cultural and historical foundation of Lost Trail National Wildlife Refuge and the Pleasant Valley, develop a museum with displays within 10 years of CCP approval.

Strategies

Survey for cultural resources before doing developments and restoration activities.

Identify and nominate eligible properties to the National Register of Historic Places, working with appropriate agencies.

Use the most up-to-date techniques for surveying, documentation, preservation, restoration, and research through coordination with region 6's archaeologists, Montana State Historical Preservation Office, the CSKT THPO, and local scholars and experts.

Provide one full-time public use specialist to be trained to conduct and coordinate formal cultural surveys.

Collaborate in efforts to document an accurate and appropriate history of Pleasant Valley and its settlers by researching current and old literature about the area and its inhabitants.

Accommodate access to and ceremonial use of sacred sites by religious practitioners of recognized Native American tribes in accordance with policy.

Develop a resource library of information about cultural sites on the refuge.

Develop programs for the public to experience cultural resources with access to designated sites that are not culturally sensitive and can naturally, or be hardened to, withstand use.

Create a "friends group" to support and raise funds for museum development.

Retrofit the historical horse barn into a museum, making it accessible to all users, without impairing the integrity of the building.

Make the museum accessible to all users through coordination of facility design with the National Center on Accessibility, the Summit Independent Living Center, and other groups.

Research and develop appropriate themes for the museum, in collaboration with applicable Native American tribal representatives and local historians.

Provide one part-time historian to conduct formal survey and oversee restoration of sites.

Provide one full-time public use specialist to work with the Service's region 6 EVS staff to design interpretive displays for the museum.

Recruit interns to help develop and staff the museum, while providing educational development.

Provide one full-time law enforcement officer to enforce laws and regulations to protect cultural resources.

Provide one full-time and one part-time maintenance staff to prevent damage and deterioration of resources.

Work with region 6's archaeologist to develop and perform a formal review of documented resources every 5 years to ensure protection, evaluation of condition, and preservation.

Dispense outreach materials for cultural resources in partnership with local schools, colleges, and civic groups.

Develop partnerships with the Montana State Historic Preservation Office and CSKT THPO to provide expertise, personnel, and funding.

PUBLIC USE

Priority public uses (wildlife-dependent recreational uses) are addressed in the following management direction for public use.

GOAL

Provide quality wildlife-dependent recreational and educational opportunities for persons of all abilities to learn, understand, and enjoy the Intermountain ecosystem of northwestern Montana; its associated fish, wildlife, and plants of Lost Trail National Wildlife Refuge; and the National Wildlife Refuge System in a safe and compatible manner.

Public Use Objectives

Locations of public use and facilities are displayed in figure 13. The basis for the following objectives and strategies is described in rationales 131–137, found in appendix H.

General Objectives

- Develop a demographic profile of wildlife-dependent recreational users...*as in alternative A*
- Develop and implement a visitor service plan...*as in alternative A*
- Develop one accessible day use area...*as in alternative A*

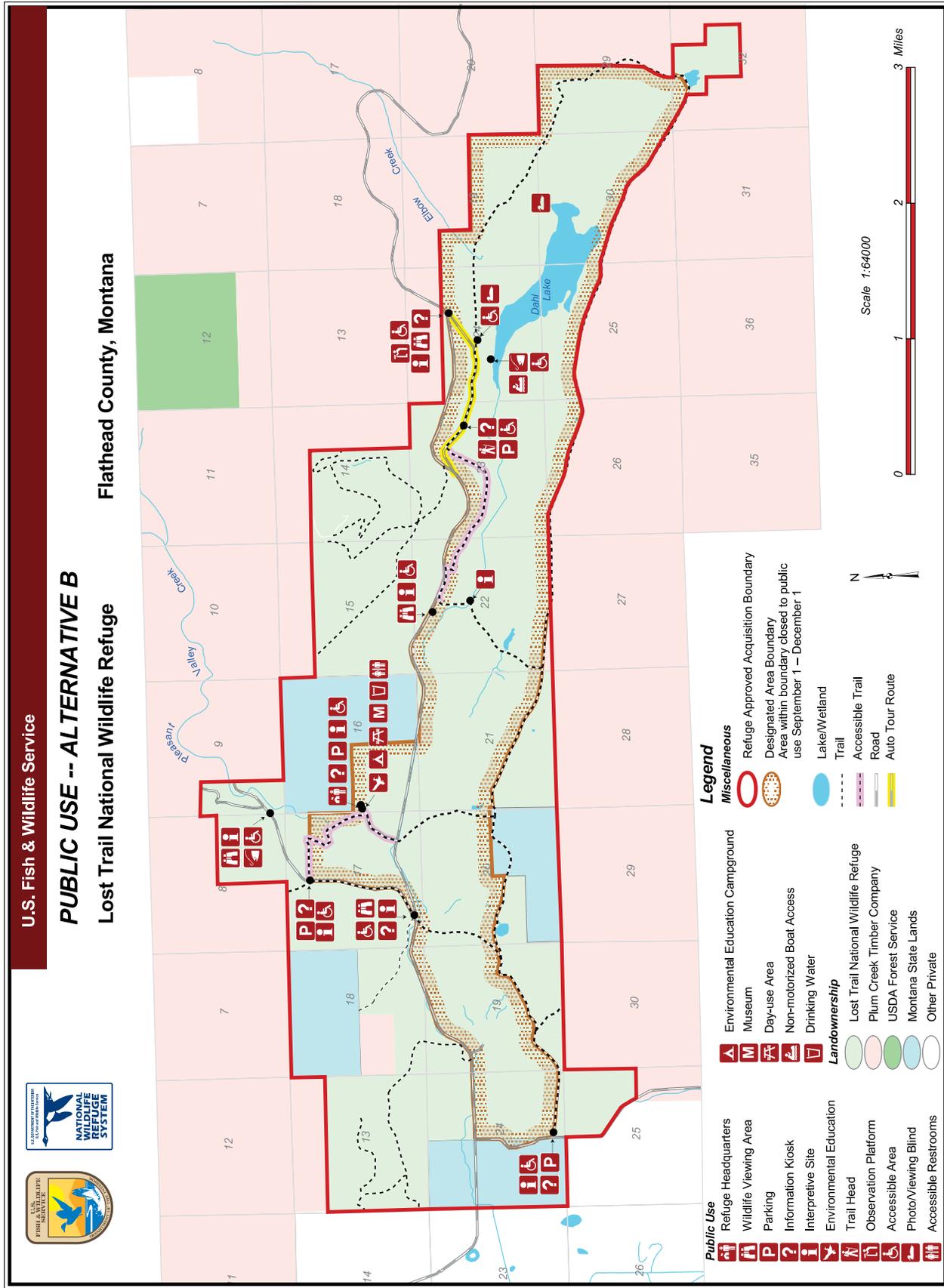


Figure 13. Public use under alternative B of the EA, Lost Trail National Wildlife Refuge, Montana

- To reduce disturbance and increase nest success probability, activities will not be permitted within 0.5-mile of any occupied golden eagle nest...*as in alternative A*
- Allow access for nonmotorized floating devices on Dahl Lake, within 2 years of CCP approval, to support quality wildlife observation, photography, and fishing opportunities.

Strategies

Collaborate with region 6's staff in EVS.

Provide one full-time public use specialist and one career-seasonal park ranger to work with the EVS staff to design, develop, and monitor the public use program.

Provide one full-time public use specialist to work with EVS staff and the Office of Management and Budget to develop a demographic profile of current and future refuge visitors.

Evaluate proposed changes in public access prior to implementation; monitor for effects related to the grizzly bear if access is approved.

Limit public access in trumpeter swan-nesting areas, depending on nest site location.

Incorporate suspension provisions into special-use permits for the presence of grizzly bears.

Incorporate suspension provisions into special-use permits for the presence of wolves.

Allow high-intensity activities outside the nesting season for bald eagles.

Allow existing levels of human activity if the bald eagle breeding area has at least 65 percent nest success, and has fledged at least five young during the preceding 5 years.

Limit disturbance to bald eagles by restricting construction of permanent developments such as kiosks, parking areas, and trails that may increase human activity within 0.25 mile of an occupied bald eagle nest.

Limit high-intensity activities near occupied bald eagle nests during nesting; evaluate and monitor effects of activities on nesting.

Provide one full-time law enforcement officer to contact the public, educate about and enforce ethical standards, and enforce rules and regulations.

Provide one career-seasonal volunteer coordinator to work with EVS staff to establish a volunteer program.

Provide for sales of educational and interpretive publications by developing a formal agreement with a cooperating natural history association.

Promote wildlife-dependent recreation at the refuge, in collaboration with Flathead County Travel Board, Kalispell and Libby Chambers of Commerce, and Travel Montana.

Erect standard refuge entrance signs at entries along main roads.

Design and develop facilities to meet accessibility standards in coordination with region 6's EVS staff.

Ensure that sites are accessible for all users; request design assistance from the National Center on Accessibility, the Summit Independent Living Center, and other groups.

Develop one either-sex accessible restroom facility to be available during daylight hours.

Provide a source of drinkable water available during daylight hours.

Develop and maintain at least three parking areas, three wildlife-viewing areas, one viewing platform, two trails, and two observation blinds (figure 13).

Develop and provide a parking area along East Cattle Station Road.

Develop an accessible day use area with 10 tables and fire pits.

Provide one full-time and one half-time maintenance staff to construct and maintain public use facilities and areas.

Research the potential of a fee program to support facilities.

Open the headquarters/contact station to the public 7 days a week, including weekends during peak use (e.g., hunting season).

Provide one full-time public use specialist to recruit volunteers to staff the contact station to allow for minimum and increased operation.

Provide one career-seasonal clerk and volunteers to daily staff the contact station daily during peak use seasons.

Provide one half-time clerk to staff the contact station and dispense information.

Coordinate with local groups such as Boy Scouts, Girl Scouts, Trout Unlimited, and Flathead Chapter of the Audubon Society to dispense information about low-impact wildlife-dependent recreational opportunities to their members.

Provide one full-time public use specialist to develop and present outreach materials and programs promoting wildlife-dependent recreation. Develop and hold special events and write press releases and news articles.

Determine what effect the presence of trumpeter swans would have on public use around Dahl Lake.

Conduct a formal visitor services requirement evaluation with region 6's EVS staff to determine if the visitor service plan has been met and to determine future needs.

Obtain information on wildlife-dependent recreational users visiting the area, in coordination with MFWP, Flathead County Travel Board, Kalispell and Libby Chambers of Commerce, and the Institute for Tourism and Recreation Research (University of Montana).

Request design assistance from the national Center on Accessibility, the Summit Independent Living Center, and other groups to ensure that sites are accessible for all users.

Develop partnerships with local angler and hunting groups such as Trout Unlimited, Ducks Unlimited, and RMEF to learn of fishing and hunting use in the area, access needs, and sport fishery and hunting goals.

Hunting Objectives

Rationales 141–144 are found in appendix H.

- Allow elk, deer, mountain grouse, and turkey hunting...*as in alternative A*
- Provide special youth-only hunts for deer and elk...*as in alternative A*
- Provide easily accessible information to, and personal contact with, hunters...*as in alternative A*

Strategies

Allow hunters access to portions of the refuge that would provide reasonable challenges and opportunities for taking targeted species under the described harvest objective and create minimal conflict with other priority wildlife-dependent recreational uses or refuge operations (appendix F).

Make staff available at the contact station to provide rules, regulations, information, and first aid to hunters daily during the opening and closing weeks of archery and rifle seasons, and during weekends throughout hunting season. Staffing would be recruited from the National Bison Range complex, as well as volunteers.

Provide one full-time law enforcement officer to be available in the field during hunting season to inform hunters of rules, regulations, and ethical behavior.

Provide adequate law enforcement staffing during peak hunting periods, in collaboration with MFWP.

Erect appropriate signs to designate closed and restricted areas to reduce the chance of noncompliance and conflicts with nonhunters.

Inform hunters with disabilities (who have obtained a MFWP permit to hunt from a vehicle) about opportunities to access designated refuge management roads and trails, in collaboration with MFWP.

Provide information about opportunities on surrounding lands to allow hunters to plan for a quality experience, in collaboration with PCTC, Flathead National Forest, and MFWP.

Designate the first week of archery season and the first week of rifle season as youth-only hunts for hunters 12–14 years of age, accompanied by an adult at least 21 years of age.

Make law enforcement and other staff available during the youth hunts to provide a positive hunting experience and promote ethical hunting behavior; include volunteers and MFWP personnel, as well as one full-time, refuge, law enforcement officer.

Develop and implement a monitoring system to receive input from hunters about their hunting experiences using direct interviews, registration stations at parking areas and trailheads, and mail-in/drop-off cards left on vehicles, working with region 6's EVS staff and the Office of Management and Budget.

Annually monitor and evaluate the presence of boundary hunting adjacent to closed areas of the refuge. If necessary to discourage this practice, consider these actions: (1) alter hunt area boundaries or habitat; and (2) eliminate parking areas and access roads—to distribute hunters or modify wildlife use patterns in ways that make boundary hunting less appealing.

Obtain information on hunting use in the area, access needs, and hunting goals, in coordination with local hunting groups such as Ducks Unlimited and RMEF.

Evaluate hunting for its impacts on prey populations for the gray wolf; continue to authorize hunting unless it is determined to be in direct conflict with gray wolf survival.

Fishing Objectives

Rationales 145–146 are found in appendix H.

- Determine, within 5 years of CCP approval, the feasibility of restoration of a native sport fisheries...*as in alternative A*
- Carry out planning, funding, evaluation, and implementation of a restoration program for native fisheries...*as in alternative A*
- Provide one fishing event for youth per year...*as in alternative A*
- Allow fishing on 60 percent of waters within refuge boundaries in compliance with MFWP,

within 2 years of CCP approval, to facilitate fishing opportunities for persons of all abilities.

Strategies

Gather baseline resource data, review literature, and develop and implement restoration plans, in collaboration with NRCS, Trout Unlimited, MFWP, and USGS.

Provide one full-time biologist to coordinate refuge participation in sport-fishing partnerships.

Develop at least two accessible fishing sites (figure 13).

Develop an accessible put-in/take-out point at Dahl Lake to minimize disturbance to one point along the shoreline.

Provide one full-time public use specialist and one half-time park ranger to coordinate and conduct the fishing program for youth. Pursue funding sources such as partnerships, grants, and fee programs.

Provide one full-time public use specialist to provide quality fishing opportunities.

Collaborate with off-refuge youth fishing programs (such as MFWP, Hooked on Fishing, and Creston National Fish and Wildlife Center) and recruit community volunteers to help with events held at appropriate fishing sites off the refuge.

To attract more participants and provide more educational opportunities, conduct the youth fishing program during National Fishing Week (early June).

Work with youth programs such as Girl Scouts, Boy Scouts, and schools to encourage a broad spectrum of fishing event participation.

Develop a system to monitor the quality of fishing experiences using comment cards, personal contacts, and registration at fishing sites, working with the Service's region 6 EVS staff.

Obtain information on fishing use in the area, access needs, and sport fishery goals, in coordination with local angler groups such as Trout Unlimited.

Wildlife Observation and Photography Objectives

Rationales 148–151 and 153 are found in appendix H.

- Make contact with 90 percent of visitors...*as in alternative A*
- Encourage the highest standards of ethical behavior...*as in alternative A*
- Permit authorized public access (mostly foot travel) within 2 years of CCP approval on 60–100 percent of the refuge at all times, unless closures are required to protect life, property, or resources, to provide visitors with opportunities to observe and photograph wildlife in its natural

habitat without compromising the resources for which the refuge was established.

- Develop observation and photography sites (one wildlife drive, three accessible wildlife-viewing areas, one accessible viewing platform, two accessible trails, and one accessible observation blind) within 5 years of CCP approval, to develop wildlife observation and photography as the most common wildlife-dependent recreational use.
- Within 3 years of CCP approval and receiving adequate funding and staffing, develop and implement a program to allow for special wildlife observation and photographic opportunities under a regulated permit system to foster an appreciation of special resources.

Strategies

Promote wildlife observation and photography, in collaboration with local groups such as the Flathead Chapter of the Audubon Society and photography clubs.

Map areas of deer and elk use and determine whether additional viewing, photography, or environmental education opportunities can be developed.

Instill ethical observation and photography behavior through presentations, workshops, and field trips, in collaboration with local outdoor groups such as the Flathead Chapter of the Audubon Society, Boy Scouts, and Girl Scouts.

Develop information on ways to successfully view and photograph species of concern while minimizing disturbance.

Open the area between the county road and the South Pleasant Valley Road to public use only on designated trails and roads from May 15 to September 1. Close the area to all public access from September 1 to December 15. Open the area to authorized public use on and off trails from December 15 to May 15 (figure 13).

Open the uplands to authorized public use throughout the year unless closed to protect life, property, or resources.

Provide one full-time biologist work to work with MFWP and NRCS to gather data on wildlife and plants for development of species lists.

Develop and distribute wildlife and bird lists.

Provide one full-time public use specialist and one career-seasonal park ranger to work with the Service's region 6 EVS staff to design, develop, and monitor the wildlife observation and photography program.

Erect and maintain at least three accessible kiosks with maps, rules, and regulations. Post the best,

current observational and photographic opportunities for wildlife (figure 13). Provide maintenance personnel to build and maintain kiosks.

Develop one scenic drive, three accessible viewing sites, one accessible observation platform, two trails (one accessible), and two observation blinds (one accessible) (figure 13).

Develop at least one accessible observation blind in a closed area (figure 13), in collaboration with local wildlife groups such as the Flathead Chapter of the Audubon Society and photography clubs.

Provide one full-time public use specialist to research, develop, and implement a fair and equitable observation blind permit system.

Provide one career-seasonal clerk and one career-seasonal park ranger to assist in implementation of the observation blind permit system.

Pursue funding sources such as partnerships, grants, and fee programs to help defray the costs of developing and implementing a viewing blind permit system.

Provide one full-time and one half-time maintenance staff to construct and maintain parking areas, access points, observation blinds, observation platforms, and trails.

If wolves den or establish a rendezvous site on the refuge, contact wolf recovery biologists to determine if there is a site that can be used for a blind that would allow observation without disturbing the wolves. Allow use of the blind by permit only.

Provide a viewing platform or blind if trumpeter swans occur on the refuge.

Coordinate with local schools, Girl Scouts, Boy Scouts, MCC, and other youth groups to build viewing sites while providing an educational experience for youth.

Develop partnerships with local wildlife groups such as Flathead Chapter of the Audubon Society and photography clubs to gather information on member use of local wildland areas for wildlife observation and photography.

Monitor the wildlife observation and photography program with observation of visitor use, comment cards, car counters, registration at kiosks, and personal contacts.

Monitor the success of the permit program for wildlife observation and photography using comment cards and personal contact.

Interpretation Objectives

Rationales 158–160 are found in appendix H.

- Develop interpretive materials...*as in alternative A*

- Develop interpretive themes...*as in alternative A*
- Ensure that at least 80 percent of visitors understand wetland values and the refuge's contribution to restoration and protection of Pleasant Valley wetlands, within 5 years of CCP approval, to promote public appreciation of natural resources.
- Provide interpretive programs that receive public participation, with yearly increases of at least 10 percent, for the next 10 years, to foster appreciation and understanding of the refuge and its associated wildlife and habitats.
- To reduce disturbance to wildlife and educate the public, develop an interpretive display that informs visitors of the importance of winter range to ungulates, within 5 years of CCP approval.

Strategies

Interpret the mission of the refuge, the National Wildlife Refuge System, and the Service through direct contact of staff with visitors.

Request design assistance from the National Center on Accessibility, the Summit Independent Living Center, and other groups to develop interpretive materials.

Develop and distribute public use tear sheets with clearly written rules, regulations, and a map at accessible points such as the contact station, kiosks, trailheads, wildlife-viewing areas, and parking areas.

Distribute outreach materials for cultural resources in collaboration with local schools, colleges, and civic groups.

Erect and distribute interpretive signs and materials at parking areas, wildlife-viewing areas, trailheads, and the contact station.

Provide two career-seasonal park rangers to develop and present interpretive programs such as walks, talks, and demonstrations.

Recruit volunteers to support interpretive activities—such as staffing the contact station, leading walks, and presenting interpretive programs—in collaboration with neighbors; MFWP; and local wildlife and outdoor groups such as Boy Scouts, Girl Scouts, RMEF, and Flathead Chapter of the Audubon Society.

Coordinate with local schools, Girl Scouts, Boy Scouts, MCC, and other youth groups to build interpretive nature trails while providing an educational experience for youth.

Develop interpretive materials about management of the refuge, the National Wildlife Refuge System, and the Service.

Develop interpretive materials about the history of Pleasant Valley, in collaboration with the CSKT, local history groups, and neighbors.

Provide one full-time public use specialist to develop cultural resource materials to dispense to the public.

Provide one full-time public use specialist to work with region 6's EVS Staff and NRCS to design and develop interpretive displays about wetlands to be erected at the Dahl Lake wildlife-viewing area, along interpretive trails, and at the contact station (figure 13).

Locate an interpretive display at least 0.25 mile from the occupied bald eagle nest site.

Use signs to post areas closed to the public during use by trumpeter swans; develop interpretive material to explain closures for swans.

Provide one public use specialist to work with region 6's EVS staff to develop a handout with observational and photographic and observational opportunities along with successful techniques a comprehensive map, rules, and regulations.

Develop an interpretive panel about the importance of winter range to deer and elk; display the panel seasonally at an interpretive site.

Develop interpretive materials about endangered species, working with region 6's ecological services staff.

Develop and disseminate information on conservation needs of species of concern.

Use letters, phone calls, informational meetings, and door-to-door visits to educate and inform the public on the progress of wolf recovery and the development of livestock protection methods.

Develop an interpretive panel about wolves to be displayed in the visitor contact station or at a kiosk.

Conduct a workshop or field trip on wolves.

Develop interpretive material about Spalding's catchfly to educate the public on identification of the plant, habitat requirements, and why the plant is endangered.

Develop an interpretive display to post at the contact station, kiosks, parking areas, and trailheads to inform users of ethical behavior.

Produce and distribute a tear sheet with a map that designates areas open and closed to hunting, along with all pertinent rules, regulations, and restrictions so hunters can make informed decisions (appendix F).

Develop media contacts and outreach materials to inform the hunting community of hunting opportunities for youth.

Erect interpretive displays at designated parking areas (figure 13) and at the contact station that describe ways to hunt ethically and explain hunting rules, regulations, and restrictions.

Develop a handout about the observation blind permit program as well as maps, rules, and regulations.

Develop a handout with tips for ethical viewing behavior and the advantages of following them, i.e., less disturbance to wildlife provides more viewing opportunities.

Monitor interpretive services through feedback from visitors—observation of visitor's use and personal contacts, comment cards, car counters, law enforcement incidents, and registration at kiosks, observation sites, parking areas, contact stations, and trailheads—as well as resource indicators such as wildlife movements and resource damage.

Evaluate the effects of the interpretive display and observation blind to ensure productivity objectives are still being met for bald eagles.

Develop a public use brochure with a clear map, wildlife-dependent recreational opportunities, rules, and regulations; make brochure available at accessible points within 2 years (figure 13).

Design and develop interpretive displays for the contact station, working with the Service's region 6 EVS staff.

Provide one full-time maintenance staff to build and maintain the wildlife-viewing area and trails.

Develop interpretive materials about wetland restoration within 2 years, in partnership with NRCS.

Develop and design an accessible contact station.

Develop a formal agreement with a cooperating natural history association to provide for sales of educational and interpretive publications.

Environmental Education Objectives

Rationales 161–166 are found in appendix H.

- Develop an extensive environmental education program...*as in alternative A*
- Develop and maintain a lending library...*as in alternative A*
- Collaborate with local educational groups and schools (within 1-hour commuting distance—Pleasant Valley, Marion, and Kalispell), and conduct a minimum of one field trip or environmental education activity per school each year, to foster stewardship of the land, understanding of the refuge vision of conserving natural resources, and experiencing the wonder of natural and cultural resources.

- Develop an accessible campground with 10 campsites for overnight use by the public during the summer (Memorial Day weekend to Labor Day weekend) and to educational groups during spring and fall, within 4 years of CCP approval, to support and encourage quality wildlife-dependent recreational use, and allow students and educators to gain hands-on experience and appreciation of natural resources.

Strategies

Determine environmental educational needs and student numbers within a 2-hour travel radius through collaboration with local schools, including Flathead Valley Community College and the University of Montana's Yellow Bay Biological Station.

Develop an environmental education manual that fulfills both the educational requirements of local and nearby students and the vision and goals of the refuge. Work closely with Pleasant Valley School District.

Develop refuge-based themes such as wetlands, endangered species, and local history and incorporate local, state, and national educational standards into programs, working with local schools.

Promote hunter education for youth by providing educational materials and outdoor education sites, in collaboration with MFWP.

Develop refuge-specific curriculum, lesson plans, and activity guides that complement school curricula and use the refuge as a living laboratory, in collaboration with local schools and region 6's EVS staff.

Become a member of the "Environmental Education Core Group," a coalition of local individuals and groups (private and governmental) involved in environmental education.

Provide one full-time public use specialist to develop, implement, and monitor the environmental education program.

Provide one career-seasonal park ranger to support the environmental education program.

Provide two career-seasonal park rangers to develop and present environmental education programs on- and off-site.

Provide training to environmental education staff at least once a year to attain the knowledge, skills, and abilities to support environmental education at a minimum level.

Recruit and train volunteers to assist in developing and presenting environmental education programs.

Accommodate educational groups whenever appropriate and compatible, to enhance their scientific and biological learning experiences.

Pursue grants that would allow schools to participate in environmental education at the refuge, in coordination with the school boards.

Provide in-school materials to orient students prior to field trips to convey safety messages and describe appropriate field conduct to minimize resource damage.

Develop and present teacher workshops; obtain provider status from the Montana State Office of Public Instruction.

Provide information sheets and wolf education boxes to schools.

Develop a program to be presented to local schools on wolves, their biology, and their importance in the ecosystem.

Conduct at least one field trip or environmental education activity per year in collaboration with the Pleasant Valley and Marion schools to aid in students' biology education.

Conduct at least one hands-on project per year for biology student in collaboration with the Montana Academy to aid in students' biology education, as well as benefit refuge resources.

Work with MFWP, Glacier National Park, Flathead National Forest, and the CSKT to determine what they offer and whom they serve.

Work with local environmental education groups, including Flathead Chapter of the Audubon Society, Glacier Institute, Swan Ecosystem Center, and Crown of the Continent Ecosystem Education Consortium to determine what they offer and whom they serve.

Design and develop an environmental education classroom and laboratory to be located at the contact station (figure 13), working with region 6's EVS staff and the National Center on Accessibility.

Select and develop a designated environmental education site (figure 13), working with region 6's EVS staff and the National Center on Accessibility.

Provide one full-time public use specialist to coordinate campground use with environmental education activities, organize a reservation system for qualified groups, and monitor during use.

Research and obtain materials relevant to natural and cultural resources of the refuge and Pleasant Valley.

Develop and gather environmental education materials, working with region 6's EVS staff and the Service's NCTC, division of educational outreach.

Develop a formal agreement with a cooperating natural history association to provide for sales of educational and interpretive publications.

Establish formal partnerships with school districts and community groups to assist with development, implementation, and promotion of the library.

Develop and maintain a web page with information on environmental education opportunities, lending library materials, Service links, and other resources.

Provide one full-time public use specialist to develop, organize, maintain, and distribute library materials.

Provide one full-time public use specialist with environmental education background to develop and coordinate on-site field trips.

Create a nonprofit group to support environmental education and research at the refuge, in coordination with the Montana State University extension office (Flathead County).

Develop on-site monitoring and research programs for students and educators with an emphasis on wildlife conservation and the importance of wetlands, working with the refuge's biology staff and the NRCS.

Develop partnerships with local schools, Girl Scouts, Boy Scouts, the MCC, and other youth groups to provide an educational experience through building observation blinds, trails, and wildlife-viewing areas.

Develop partnerships with local schools, Girl Scout, Boy Scouts, the MCC, and other youth groups to provide an educational experience through participation in fence removal, facility maintenance, and other habitat management projects.

Seek assistance from the Montana Academy staff in areas that may be beneficial to the refuge as well as to students (e.g., tansy ragwort control).

Monitor the overall effectiveness of the environmental education program by tracking the number of teachers, students, and groups using the resources, and by providing feedback forms to educators.

ADMINISTRATION

Organizational structure, staffing, facilities, equipment, and maintenance are administrative items addressed in the management direction.

GOAL

Provide staffing, funding, and facilities to maintain the long-term integrity of habitats and wildlife resources of Lost Trail National Wildlife Refuge in supporting the achievement of ecosystem and National Wildlife Refuge System goals.

Administration Objectives

The basis for the following objectives and strategies is described in rationales in appendix H.

Operations Objectives

Rationales 169–180 are found in appendix H.

- Form a new complex comprised of Lost Trail National Wildlife Refuge, Swan River National Wildlife Refuge, and the Northwest Montana WMD...*as in alternative A*
- Provide adequate resources and staff...*as in alternative A*
- Provide on-site law enforcement...*as in alternative A*
- Annually use volunteers...*as in alternative A*

Strategies

Provide a separate organizational code and appropriations, by the Service's region 6 office, for future operations, maintenance, and administration of the refuge.

Transfer the annual funding for the National Bison Range, for one full-time employee for the on-site supervisory refuge operations specialist, to the reorganized refuge complex.

Recruit one supervisory refuge operations specialist (GS-12) to provide management operations, oversight, and administration for the refuge and other Service units north of the refuge.

Maintain the on-site, full-time refuge manager (GS-11, supervisory refuge operations specialist) to provide daily supervision and oversight to all activities and operations.

Recruit one maintenance worker (WG-8) to provide adequate resources to operate, maintain, and repair facilities.

Develop a web page to describe available maintenance resources and to monitor and track materials.

Recruit one full-time wildlife biologist (GS-11) to be stationed at the refuge for coordination of the biological program.

Hire one full-time administrative support assistant (GS-4/5) to provide daily on-site clerical and administrative support.

Recruit one outdoor recreation planner (GS-11) to provide quality, wildlife dependent, consumptive and nonconsumptive public use opportunities.

Establish a volunteer coordinator position within 3 years of CCP approval, to build partnerships and

provide resources for recreational use, which will foster public appreciation and support for the vision of the refuge and mission of the Refuge System.

Coordinate and plan equipment needs with the maintenance supervisor and project leader at complex headquarters through the RONS and MMS processes, to acquire appropriate equipment to maintain facilities and habitats (e.g., tractor, mower, backhoe, pickup, dump truck, motor boat, vehicle hoist, equipment repair tools and diagnostics, and carpentry tools and machinery).

Maintain equipment in a safe and efficient operating status.

Replace and add equipment through the RONS planning process as needed (due to normal deterioration and needed repair, and as staffing is increased).

Provide microscopes, and laboratory and other necessary equipment to support the environmental education curriculum.

Provide field guides, binoculars, and spotting scopes to assist with census work.

Provide VCRs, televisions, and slide projectors to preview audiovisual materials.

Provide satellite capacity for the Service's "distance from learning" program.

Communicate with MFWP staff to maintain adequate levels of law enforcement on and adjacent to the refuge.

Provide one three-quarter-time volunteer coordinator to recruit, develop, organize, and monitor volunteer programs.

Facilities Objectives

Rationales 186–191 are found in appendix H.

- Provide adequate administrative and maintenance facilities...*as in alternative A*
- Identify and remove unnecessary structures...*as in alternative A*
- Restore and protect 28 miles of graveled and two-tracked grass roads and travel lanes for the duration of the CCP, to provide an efficient and safe road system for administrative and public use.

Strategies

Modify a portion of the horse arena to provide a visitor center, educational labs, and administrative space; submit as a RONS project.

Modify the horse arena to provide administrative space, a maintenance shop, and equipment storage; submit as a RONS project to modify the building

and acquire equipment and tools including a phone system, computers, work stations, filing and storage cabinets, a vehicle lift, a vehicle wash bay, equipment repair tools, carpentry tools, and metal working tools.

Develop environmental education and visitor information sites at strategic locations; submit as a RONS project.

Coordinate with Flathead Wildlife, Inc. to assist with building parking areas for designated public use activities and assist with habitat management projects.

Develop a recreational vehicle trailer site to support a volunteer program.

Work with the Service's region 6 staff (education and visitor services) on design and accessibility requirements.

Repair and maintain facilities, buildings, fences, and roads on an "as-needed basis."

Coordinate restoration and maintenance of PCTC easement roads according to terms of the existing cooperative road easement.

Coordinate with the PCTC where shared-easement road maintenance is applicable.

Remove unnecessary facilities and structures including interior fences, east cattle station structures, guest cottage building, ranch office building, and feedlot corrals.

Complete facility maintenance and fence removal through assistance from the MCC and Landmark Volunteers.

Continue the annual fence removal project (RMEF challenge cost-share grant initiated in 2000).

Recruit volunteers for projects such as removal of the east cattle station, clean up or removal of other facilities, monitoring, and public use activities.

Develop and implement a RONS and MMS projects list to provide necessary public use-dependent equipment and facilities.

PARTNERSHIPS

The management direction for partnerships addresses support to most refuge programs.

GOAL

Promote and develop partnerships with adjacent landowners, public and private organizations, and other interested individuals to preserve, restore, and enhance a diverse and productive ecosystem of which Lost Trail National Wildlife Refuge is an integral part.

Partnership Objectives

The basis for the following objectives and strategies is described in rationales 192–200 and 202, found in appendix H.

- Partner with nongovernmental organizations...*as in alternative A*
- Develop a “friends group”...*as in alternative A*
- Share law enforcement responsibilities with MFWP...*as in alternative A*
- Meet once a year with PCTC, RMEF, Flathead and Lincoln counties weed departments, and the USDA Forest Service to maintain partnerships...*as in alternative A*
- For the period of this CCP, collaborate with the Flathead County Road Department regarding refuge signage and potential cooperative road maintenance and possible relocation issues concerning Pleasant Valley Road...*as in alternative A*
- Continue issuing annual special-use permits with the USDA Forest Service for use, maintenance, and invasive plant control on refuge road North 1019...*as in alternative A*
- Continue coordination with Bonneville Power Administration regarding the power line easement...*as in alternative A*
- Collaborate with the Retired Senior Volunteer Program to provide assistance with refuge maintenance, restoration, and public use programs, and provide volunteers an opportunity to stay and work within the Pleasant Valley.

Strategies

Collaborate with Partners for Fish and Wildlife to continue restoration on the refuge and adjacent lands.

Work with the Flathead County extension office to develop a “friends group” and a direction of focus.

Operate under the statewide agreement with the Montana DNRC for fire suppression on the refuge.

Determine how to minimize any negative effects resulting from modifications to refuge portions of Pleasant Valley Creek on native fisheries downstream in Fisher River, through collaboration with MFWP and NRCS.

Coordinate fire suppression issues and protocols at annual meetings with Montana DNRC.

Continue coordination with PCTC regarding maintenance of existing fence lines.

Control beaver activities that impact Pleasant Valley Road, i.e., flooding, through coordination with MFWP.

Issue a special-use permit to the USDA Forest Service for use of road 1019 for logging activities on land north of the refuge.

Continue to abide by rules and agreements in the existing power-line easement document. Annually review the easement document and coordinate all refuge activities that may affect the power line with Bonneville Power Administration.

Provide one three-quarters-time volunteer coordinator to implement the “friends program.”

Coordinate closely with the NRCS on stream and wetland restoration throughout the WRP.

Collaborate with USGS, Northern Rocky Science Center, on management of wetlands.

Coordinate protection of species of concern with conservation easement partners such as the NRCS, WRP, MFWP, Montana Land Reliance, The Nature Conservancy, and Audubon Society.

Seek partners and volunteers to design and fund methods, and assist in determining production of waterfowl.

Share the expense and workload of aerial pair and brood counts for waterfowl with MFWP; Avista Utilities; and the CSKT.

Seek partners such as MFWP, PCTC, Defenders of Wildlife, Flathead and Kootenai national forests, and the Great Bear Foundation, for grizzly bear conservation.

Coordinate and collaborate with Montana DNRC to maintain Spalding’s catchfly.

Meet with “friends group” volunteers at least twice a year to determine group direction and assist where appropriate.

Use students to assist with fence removal or various other habitat management projects.

Maintain adequate levels of law enforcement assistance on or adjacent to the refuge during hunting seasons for big game and upland game birds through continued communication with MFWP.

Provide one full-time law enforcement officer to protect natural resources by coordinating with MFWP.

ALTERNATIVE C

Habitats are restored. Natural ecological processes drive habitat functions and wildlife populations.

Public use is limited, with wildlife observation, photography, and interpretation occurring along roads and trails. Informed visitors do not disturb plants or wildlife.

Staffing is minimal, and facilities are improved.

Partnerships accomplish restoration.

RIPARIAN HABITAT

Stream channels and associated vegetation are addressed in the management direction for riparian habitat. Water control structures that affect the functioning of riparian habitat, as well as fish passage, are addressed.

GOAL

Restore, enhance, and maintain a mixed deciduous and coniferous riparian habitat to support indigenous wildlife species and perpetuate the ecological integrity of the Fisher River watershed.

Riparian Habitat Objectives

The basis for the following objectives and strategies is described in rationales 1–4, found in appendix H.

- The Service will maintain coordination and collaboration for restoration of the stream vegetation and stream meander on the WRP easement...*as in alternative A*
- Enhance the integrity of the Pleasant Valley Creek restoration project with fish passage...*as in alternative A*
- Restore Pleasant Valley Creek to its natural form and function within 1 year of CCP approval, with a corridor of native vegetation, to decrease water temperatures and reduce siltation.
- Restore diverse, naturally occurring riparian plant communities while maintaining a minimum of the current acreage of aspen (70 acres), willow (13 acres), and birch and alder (6 acres), within 5 years of CCP approval, to increase vegetative diversity and stabilize soil.

Strategies

Study stream characteristics and the biological potential of Pleasant Valley Creek, in collaboration with NRCS; MFWP; and Trout Unlimited.

Determine the most efficient stream design to decrease water temperatures and reduce siltation for the benefit of Columbia redband trout and westslope cutthroat trout, in collaboration with MFWP.

Establish sites for riparian vegetation restoration based on soils, water levels, and wetland classification. Review literature for water regimes and soil types required for willow, alder, and birch.

Plant native vegetation in the Pleasant Valley Creek corridor.

Determine historical fish presence through review of historical records obtained by Trout Unlimited through interviews with residents and research documentation.

Remove fish barriers in Pleasant Valley Creek downstream from the refuge, in collaboration with NRCS and private landowners.

Complete riparian habitat enhancement and restoration of native fish, in collaboration with NRCS, MFWP, Partners for Wildlife, Trout Unlimited, and USGS.

Provide one full-time biologist to monitor fish recovery and populations.

Conduct surveys for migratory birds, songbirds, amphibians, and vegetation before and after restoration efforts in refuge ponds and Pleasant Valley Creek, in collaboration with NRCS and volunteers.

Annually monitor for effects of any restoration project on willow, birch, and alder.

Monitor water temperature and sediment load in streams, in collaboration with Trout Unlimited.



W.F. Kubichek/USFWS

Common snipe have been sighted in refuge habitats.

WETLAND HABITAT

Lakes, bogs, and other saturated wetland areas are addressed in the management direction for wetland habitat.

GOAL

Provide breeding, resting, and feeding habitat for wetland-dependent species of northwestern Montana by restoring, maintaining, and enhancing a mosaic of lake, semipermanent, seasonal, temporary, and saturated wetlands.

Wetland Habitat Objectives

The basis for the following objectives and strategies is described in rationales 8–11 and 16, found in appendix H.

- Restore Dahl Lake complex water levels...*as in alternative A*
- Conduct a wetland study in the Dahl Lake complex...*as in alternative A*
- Restore natural wetland vegetation in Dahl Lake wetland complex...*as in alternative A*
- Inventory for fens (alkaline bogs) ...*as in alternative A*
- Restore drained wetlands, remove all structures, and allow drained wetlands to recharge and function with naturally occurring seasonal fluctuations and not hinder subsequent levels of emergent vegetation, within 7 years of CCP approval, to provide invertebrate foods and emergent vegetation for foraging habitat and nesting and brood cover.

Strategies

Restore or increase water-holding capabilities in wetlands on the WRP easement, e.g., plug ditches, in coordination with the NRCS.

Fill the drain ditch (Meadow Creek) coming out of the west end of Dahl Lake with off-site spoils that remain on-site, and by trucking in spoils to fill the ditch back west to the location of the old water control structure (figure 3).

Use prescribed fire in early spring, late summer, or fall (Howard 1996, Tirmenstein 1988) to promote quaking aspen for rejuvenation of existing stands or increase coverage of aspen.

Monitor for deteriorating aspen stands as defined by low density of stems that are younger and smaller in size, and with poorer form and higher crown-to-stem ratios than healthy stands (Schier and Campbell 1978).

Monitor effects of using prescribed fire in riparian habitat and use adaptive resource management.

Monitor wetland vegetation coverage response to recharge every third year; map in the GIS.

Annually monitor vegetative response by measuring habitat coverage; map in GIS.

Survey wet meadows for dominant plant species and presence of peat; measure pH of soil in suspect areas.

Annually conduct pair-count surveys for water birds to monitor use of wetlands pre- and post-refill.

GRASSLAND HABITAT

This management direction is for the diverse grasslands covering the majority of the refuge.

GOAL

Restore, enhance, and maintain Intermountain grasslands, with an emphasis on native bunchgrass prairie to provide habitat for migratory birds, species of concern, and associated wildlife species.

Grassland Habitat Objectives

The basis for the following objectives and strategies is described in rationales 18–21 and 27, found in appendix H.

- Fence and post the entire refuge boundary...*as in alternative A*
- Develop soil descriptions...*as in alternative A*
- Maintain native, upland grasslands (1,500 acres) with dominant grass species of Idaho and rough fescue and western wheatgrass (figure 4), within 10 years of CCP approval, in appropriate composition percentages dependent on soil types [vigorous Idaho fescue with an average of 8–12 flower stalks/plant, 7.9–8.7 inches maximum leaf length/plant, and 2.2–2.7 square inches live basal area (Mueggler 1970, 1975) and average 5–9 inches leaf height (Pond 1960); and rough fescue with average 9.8–11.8 inches leaf height (McLean and Wikeem 1985)], to restore and maintain vigorous bunchgrass uplands for nesting migratory birds and forage for other wildlife.
- Evaluate grassland communities to determine ecological trend and similarity to climax community, in management units 10–15, 19, and 20 (figures 2 and 4), and define needs and opportunities in a habitat management plan developed within 2 years of CCP approval.

Strategies

Fence and post the refuge boundary; use staff from the National Bison Range complex or contracted personnel.

Use wildlife-friendly fencing in areas of high wildlife use, where feasible.

Survey or find markers in areas of uncertainty for the refuge boundary.

Use existing soils layers to determine which soils have not been classified.

Sample soils and describe associated climax vegetation for each unclassified type; perform through a request to the NRCS.

Determine native species composition according to soil types; use NRCS technical guides.

Determine the best restoration method and plant species of replacement; consult with experts and review literature.

Conduct habitat management monitoring every 2 years to determine current habitat condition.

Rest and prescribed fire may be used as habitat management tools once monitoring demonstrates native grassland targets have been achieved.

Monitor habitat management and compare to climax grassland communities as defined by soil type within 2 years of CCP approval.

FOREST HABITAT

Coniferous and deciduous forests are addressed in the management direction for forest habitat.

GOAL

Enhance and maintain Douglas-fir, ponderosa pine, aspen, and cottonwood forested habitats within the context of the Fisher River watershed for migratory birds, species of concern, and other associated wildlife species.

Forest Habitat Objectives

The basis for the following objectives and strategies is described in rationales 29–30, found in appendix H.

- Identify forest coverage types...*as in alternative A*
- Evaluate past use and historical fire regimes of forest types, and determine how fire can best be reintroduced to the ecosystem, within 5 years of CCP approval, to maintain a mosaic of open ponderosa pine with areas of Douglas-fir, lodgepole pine, larch, and spruce as defined by soil, slope, aspect, and moisture, to conserve forest and the biological integrity of the ecosystem.
- Manage forest as a natural component of the ecosystem without manipulation, unless deemed necessary for human safety or to protect neighboring resources to maintain natural habitat for Canada lynx in the future.

Strategies

Evaluate forest stand characteristics (age structure and tree density) relative to past land use, historical fire regime, soil, slope, aspect, and moisture.

Review forest lands for habitat needs by rare, threatened, and endangered species.

Protect lynx denning cover by creating firebreaks to prevent natural fire from spreading in or out of areas where fuels have built up in areas managed for Canada lynx denning.

Review forest lands on and near the refuge for threats from development.

Determine opportunities for establishing a forest legacy easement, through discussions with partners.

Acquire a forest legacy easement to protect forests adjacent to the refuge and within the Pleasant Valley from development, in collaboration with all partners.

Determine which fire regime criteria would promote desired forest characteristics, through a literature review.

Classify forest vegetation into National Vegetation Classification Standards; map in the GIS database.

INVASIVE PLANTS

Prevention and control of nonnative, invasive plants are addressed in the management direction for invasive plants.

GOAL

Native plant communities, composition, occurrence, and density exist without degradation by invasive plants.

Invasive Plant Objectives

The basis for the following objectives and strategies is described in rationales 36–39, found in appendix H.

- Develop and implement an invasive plant management plan...*as in alternative A*
- Annually eradicate and maintain 75–90 percent control of tansy ragwort...*as in alternative A*
- Conduct a surveillance program for new infestations of invasive plants...*as in alternative A*
- Determine the best method possible and begin restoration of 100 percent of the introduced creeping meadow foxtail (figure 4) to native grass and sedges, within 1 year of CCP approval, to provide nesting habitat for blue-winged teal and mallard during the restoration process.
- Reduce spotted knapweed and other invasive plants to a level of 10 percent or less of overall grassland area, within 3 years of CCP approval, to maintain native vegetation for wildlife forage, cover, and nesting.

Strategies

Evaluate invasive plant infestations and control efforts since refuge establishment.

Evaluate invasive plant infestations within Pleasant Valley for priority areas of control by each partner.

Determine appropriate, effective control methods, e.g., mowing, chemical, biocontrol, and prescribed fire; consult with experts.

Determine the best restoration method and plant species of replacement in invasive plant infestations; consult with experts and review literature.

Gather information about cumulative impacts of chemical, biocontrol, and prescribed fire effects on invasive plants and on native vegetation response; review literature.

Determine the best method of reducing reed canarygrass, including use of fire, disking, and grazing.

Evaluate soils and water regime for optimum sites for reed canarygrass control.

Use the GIS to predict areas at greatest risk of new invasions and develop early detection and prevention measures.

Share GIS layers of invasive plant infestations with PCTC and the USDA Forest Service.

Apply integrated pest management for spotted knapweed, consisting of: (1) proper spring and fall chemical applications; (2) mechanical mowing where practical, prior to seed head production; and (3) release of appropriate biocontrol agents, including seed head gall flies and other proven biocontrol agents.

Use hand pulling, hand spraying, and ATVs for herbicide application in areas within 330 feet of Spalding's catchfly populations.

Evaluate the target species selectiveness of any biocontrol species prior to release.

Treat new invasions of tansy ragwort in late July and early August by bagging flower heads and burning them, and spraying rosettes with chemicals such as Transline or Tordon.

Use herbicides and a prescribed fire program to eradicate invasive plants and maintain vigorous native grass and forb components.

Survey proposed spray areas for Spalding's catchfly prior to herbicide application.

Coordinate invasive plant control in Pleasant Valley by meeting at least once per year to share information and discuss control strategies: (1) with

PCTC for spotted knapweed; and (2) with PCTC and the USDA Forest Service for tansy ragwort.

Continue to discuss, with partners, alternatives for invasive plant control within the Pleasant Valley.

Develop a habitat management plan using prescribed fire and herbicides to maintain and restore native grassland communities.

In areas of heavy spotted knapweed infestation, where grass response will be limited or nonexistent, revegetate with seeding of native grasses following herbicide application.

Map sites of invasive plant treatment each year in the GIS.

Develop a strategy with partners for control of tansy ragwort and how to prevent it from becoming a dominant plant species within the Pleasant Valley.

Attain assistance with tansy ragwort control from the Tansy Trust Fund Grant program, as well as from the Service's challenge cost-share grants.

Attain assistance with invasive plants (applications and monitoring) by pursuing grant funding through the project advisory committee, e.g., RMEF grants, until the refuge can support its own needs for control.

Mitigate disturbance on refuge roads with invasive plant control and reseeded of native species through the ongoing memorandum of understanding with PCTC.

Limit off-road vehicle travel and wash the undercarriages of vehicles that access off-road areas.

Determine the extent of infestation of sulfur cinquefoil; create a baseline map.

Monitor infestation rates and effectiveness of control efforts; annually map the extent of infestation of spotted knapweed and tansy ragwort in GIS.

Identify locations of new infestations of tansy ragwort; map locations and collaborate with the state coordinator for mapping records for neighboring PCTC land.

Monitor reed canarygrass control efforts, vegetation coverage, and use adaptive management.

Monitor plant species occurrence and percent cover, along with wildlife use, pre- and postrestoration.

Gather information about invasive plant occurrence; inform all Service employees that may work on the refuge about plant and habitat characteristics of invasive plants to get help finding invasive plants during normal field duties.

Conduct walk-through surveys for invasive plants with volunteers to look for new infestations.

MIGRATORY BIRDS

Management direction for migratory birds addresses waterfowl, other water birds, shorebirds, and Neotropical migratory birds.

GOAL

Preserve, restore, and enhance the ecological diversity and abundance of migratory birds of the Intermountain West forest, wetland complexes, riparian habitat, and bunchgrass prairie.

Migratory Bird Objectives

The basis for the following objectives and strategies is described in rationales in appendix H.

Water Bird Objectives

Rationales 42–44 and 49–50 are found in appendix H.

- Annually monitor goose populations...*as in alternative A*
- Monitor levels of nesting and production of ducks, and maintain or increase production for the life of the CCP, to support population goals of the North American Waterfowl Management Plan.
- Evaluate biological potential for shorebirds and marsh birds (including American bittern, sandhill crane, long-billed curlew, and black-crowned night-heron), presence, and nesting; and protect marsh habitat from disturbance during nesting; within 7 years of CCP approval, to preserve biological integrity.

Strategies

Set priorities for and limit special-use permits.

Determine vegetative substrate available for duck forage in late summer and fall.

Increase duck production through habitat restoration, followed by natural processes.

Protect duck nesting from disturbance.

Map availability of dense, tall (>23.6 inches) emergent vegetation for bittern, tern, and redhead nesting cover.

Prohibit public use in marsh habitat during the nesting season.

Limit administrative disturbance in marsh habitat during the nesting season.

Prohibit haying, mowing, and grazing immediately preceding and during the nesting season of shorebirds and marsh birds.

Continue duck pair counts and implement duck brood index survey.

Monitor for marsh birds during duck pair and brood counts, Neotropical migratory bird surveys, and with playbacks.

Other Migratory Birds Objectives

Rationales 54, 58, and 60 are found in appendix H.

- Monitor Neotropical migratory birds...*as in alternative A*
- Develop a conservation plan for Neotropical migratory birds on interagency and private lands in the Pleasant Valley area within 10 years of CCP approval, to preserve a variety of habitats on a landscape level that will maximize species diversity and viability.

Strategies

Conduct Neotropical migratory bird surveys, and nest success monitoring in forest, shrubland, cottonwood, and aspen habitats.

Continue existing Neotropical migratory bird surveys along Pleasant Valley Creek and the refuge road system with staff or volunteers.

Conduct additional surveys and nest success monitoring for Neotropical migratory birds to more closely examine the effects of the Pleasant Valley Creek restoration project, working with NRCS, partners, and volunteers.

Use effective education, communication, and carefully designed mechanisms for planning, cooperation, and coordination for Neotropical migratory bird conservation.

OTHER WILDLIFE

Resident wildlife including large and small mammals, resident birds, amphibians, and reptiles are addressed in the management direction for other wildlife.

GOAL

Restore and maintain resident and endemic wildlife populations of northwestern Montana to maintain and enhance species diversity of Lost Trail National Wildlife Refuge and Pleasant Valley.

Other Wildlife Objectives

The basis for the following objectives and strategies is described in rationales in appendix H.

Large Mammal Objectives

Rationales 61–67 are found in appendix H.

- Maintain elk, deer, and moose populations...*as in alternative A*
- Modify or remove all nonessential fences...*as in alternative A*

- Develop a plan for chronic-wasting disease...*as in alternative A*
- Annually monitor large mammal abundance...*as in alternative A*
- Open the refuge to public use only on designated trails from December 15 through April 1 ...*as in alternative A*

Strategies

Improve habitat quality through invasive plant control, native plant restoration, prescribed fire, and grazing.

Hire a biologist to monitor and evaluate wildlife population dynamics, and to conduct necessary control.

Hire biological staff or use the biologist from the National Bison Range complex, along with volunteers, to conduct monitoring.

Construct temporary fences (electric or barbless wire) if needed.

Identify fence locations and determine their importance for refuge management; map using a global positioning system.

Remove all fences (interior only) or modify fences for wildlife-friendly movement. Remove either the top and bottom wire or two bottom wires so the bottom wire is at least 18 inches off the ground; remove stays to enhance movement or use lay-down wires.

Incorporate additional gates into fences where it is not feasible to modify them; keep gates open when livestock are not present in grazing units.

Develop a system to estimate deer and elk populations on the refuge; review literature for current, valid methods.

Determine best management practices to use in response to monitoring data on deer and elk populations and how they are being affected by refuge management or how they are affecting the refuge; coordinate with MFWP. Apply adaptive management, e.g., modify hunting seasons, or use fire, invasive plant control, or grazing to improve forage.

Determine areas of large mammal concentrations (winter range) and avoid public use in these areas.

Determine if large mammal resource damage is a result of local factors or reflects an ecosystem phenomenon, through comparison of deer and elk population trends on the refuge with MFWP trend data for the ecosystem.

Coordinate proposed prevention, surveillance, research, and control actions for chronic-wasting

disease in cooperation with state wildlife and agriculture agencies.

Conduct outreach to surrounding communities and communication to refuge visitors regarding chronic-wasting disease and disease management.

Remain alert to potential threats from chronic-wasting disease or other diseases.

Educate the public on how to minimize winter disturbance and stress to large mammals during recreation activities.

Evaluate all public uses for their effects on herd numbers and distribution of wildlife on the refuge.

Monitor deer, elk, and moose use of refuge habitats to determine high-use areas and design public use activities around these areas.

Determine baseline populations of large mammals; monitor for 3 years and consult MFWP.

Monitor abundance and presence of elk (in the winter), deer (in the summer), and moose (in the spring or summer).

Determine the cause of any decrease below 75 percent of current herd sizes for deer, elk, and moose; determine if modifications in management are warranted. Monitor deer and elk to determine high-use areas and design public use activities around these areas.

Categorize the vegetation in areas of high use by deer, elk, and moose; map locations and categories.

Ensure deer and elk are staying within the carrying capacity; evaluate areas of high use for browse-line impacts.

Evaluate the effects of public use in areas of habitat damage to determine if overuse of specific habitats by deer and elk is a result of wildlife response to disturbance.

Conduct a passive surveillance program for clinical signs of chronic-wasting disease or other health problems (may lead to a targeted surveillance based on results); conduct monthly, opportunistic observations of deer and elk.

Small Mammal Objectives

Rationale 70 is found in appendix H.

- Monitor Columbian ground squirrel habitat acreage...*as in alternative A*

Strategies

Determine ground squirrel activity centers; map by size of population and damage to vegetation in the GIS.

Determine an acceptable baseline level for habitat affected by ground squirrels and their population numbers, using initial data.

Maintain ground squirrel numbers within 20 percent of a baseline determined after initial monitoring and literature research.

Determine changes in acres affected by ground squirrels; monitor ground squirrel activity on a 3- to 5-year basis.

Resident Bird Objectives

Rationales 72–75 and 77 are found in appendix H.

- Annually inventory and monitor resident (nonmigratory) birds...*as in alternative A*
- Develop prescribed fire plans that would help meet habitat requirements of the flammulated owl and black-backed woodpecker in woodland and forest habitat, within 5 years of CCP approval, to conserve the biological integrity of the ecosystem.

Strategies

Determine endemic species, habitat requirements, and feasibility of restoration; consult the Montana Natural Heritage Association, Montana Atlas of Terrestrial Vertebrates (Hart et al. 1998), and other experts.

Limit disturbance within at least 0.5-mile from any occupied golden eagle nest; consider temporary implementation of alternate routes of public use or management.

Determine potential effects of management activities to species listed as priority for conservation by MPIF Plan (Casey 2000) or the Service's office of migratory bird management (1995).

Continue annual Neotropical migratory bird surveys and detect all resident and migratory birds through addition of one survey route in the uplands.

Inventory for Montana Bird Conservation Plan priority 1 species such as flammulated owls and black-backed woodpeckers.

Implement an owl survey once a year for the next 3 years, using volunteers.

Monitor for the arrival and nesting of golden eagles.

Record any incidental sightings of bird species on the refuge.

Amphibian and Reptile Objectives

Rationales 78–79 and 81–82 are found in appendix H.

- Biannually conduct surveys for bullfrogs...*as in alternative A*

- Determine the presence of amphibians and reptiles (through inventories of representative samples of all habitats) to gather baseline and trend data; and establish habitat guidelines for all species found, within 3 years of CCP approval, to conserve the biological integrity of the ecosystem.
- Determine what species of amphibians and reptiles are endemic to the refuge and develop restoration plans within 6 years of CCP approval, to conserve the biological integrity of the ecosystem.

Strategies

Develop habitat guidelines for amphibians and reptiles; consult experts.

Learn survey techniques and design surveys; coordinate with the “Amphibian Research and Monitoring Initiative” team.

Teach all staff to identify bullfrogs.

Contact local experts about eradication procedures for bullfrogs.

Collaborate with amphibian and reptile biologists to determine the effects of implementing the habitat management plan may have on the boreal toad.

Hire biological staff to conduct monitoring and control, if necessary, for bullfrogs.

Report amphibian data to the regional level, i.e., “Amphibian Research and Monitoring Initiative” team, to support ecosystem-level monitoring.

SPECIES OF CONCERN

This management direction addresses wildlife listed by state or federal agencies as threatened and endangered (or proposed or candidate for listing), sensitive, rare, or species of concern.

GOAL

Contribute to the conservation, enhancement, and recovery of endangered, threatened, and species of concern populations in Lost Trail National Wildlife Refuge and Fisher River watershed.

Species of Concern Objectives

The basis for the following objectives and strategies is described in rationales 83–84 and 86, found in appendix H.

General Objectives

- Document sightings and locations of rare or unusual plants and wildlife...*as in alternative A*
- Develop a conservation easement program (preliminary project proposal), for large carnivores...*as in alternative A*

- To enhance the Pleasant Valley ecosystem, within 10 years of CCP approval, monitor and research species of concern and develop restoration or enhancement plans for any species that have historically had a presence in the Pleasant Valley area.

Strategies

Determine which species are endemic to the area, working with the Service's endangered species biologists, MFWP, and the Montana Natural Heritage Program.

Determine the feasibility of restoring endemic populations that no longer occur on the refuge, e.g., sharp-tailed grouse.

Prohibit livestock grazing as needed in habitat for the gray wolf and Canada lynx.

Do not use livestock grazing as a management tool within 1 year of CCP approval.

Promote complementary management for rare species off-refuge by working with neighbors.

Develop a conservation strategy with PCTC to protect their lands from future development.

Hire a biologist to be stationed at the refuge to coordinate grizzly bear, Canada lynx, and black tern management; and monitor the trumpeter swan reintroduction.

Seek funding from the Land and Water Conservation Fund for a conservation easement program.

Record sightings of rare species during routine staff and volunteer duties.

Conduct surveys to determine which endemic species are currently present on the refuge.

Survey for owls, rails, and rare species; and monitor bald eagle nests and black tern nesting colonies; request assistance from Audubon volunteers.

Develop a preliminary project proposal for the conservation easement program, delineating a focus zone and priority areas.

Grizzly Bear Objectives

Rationales 87–90 are found in appendix H.

- Protect the grizzly bear habitat linkage zone...*as in alternative A*
- Prohibit livestock grazing if a grizzly bear is within 1 mile...*as in alternative A*
- To ensure compliance with the ESA and to support the mission of the Service, minimize conflicts with and disturbance to grizzly bears...*as in alternative A*

- To improve support for and understanding of grizzly bears, the refuge's public use staff (or partners) will conduct or coordinate one workshop or field trip per year and will develop at least one interpretive display and one information sheet...*as in alternative A*

Strategies

Evaluate current grizzly habitat components of Pleasant Valley; use the GIS and consultation with neighbors.

Determine the effects that proposed management actions would have on grizzly bears; consult with biologists.

Identify and secure funding for conservation easements in the grizzly linkage zone; coordinate with the Interagency Grizzly Bear Coordination Team, the Flathead and Kootenai national forests, PCTC, MFWP, Montana DNRC, NRCS, and private landowners.

Close areas for grizzly bears through the use of signs and other informational material; enforce closures through law enforcement patrols.

Limit administrative activity in areas of grizzly bear activity.

Prevent livestock–bear competition for spring forage by restricting livestock grazing if a grizzly bear is within 1 mile of the refuge.

Close designated areas to all public access (based on each particular situation) when one or more grizzly bears are within 1 mile of the refuge.

Work with the interpretation and education subcommittee of the Interagency Grizzly Bear Committee.

Follow guidelines of the Grizzly Bear Compendium (LeFranc et al. 1987) to provide habitat and security within the Pleasant Valley area.

Prohibit hunting of ground squirrels unless it becomes biologically necessary to protect resources.

Prohibit black bear hunting.

Monitor the occurrence and location of grizzly bears in Pleasant Valley, in collaboration with private landowners, MFWP, Interagency Grizzly Bear Coordination team, USDA Forest Service, and PCTC.

Gray Wolf Objectives

Rationales 93–94 and 101–102 are found in appendix H.

- Evaluate the effects of management decisions on gray wolves...*as in alternative A*

- Monitor and maintain habitat and sufficient native prey to support one pack of gray wolves...*as in alternative A*
- Prohibit livestock grazing when a wolf pack is present in Pleasant Valley...*as in alternative A*

Strategies

Determine the effects that proposed management actions would have on gray wolves; consult with biologists.

Prohibit public access within 1 mile of any active wolf den or rendezvous site.

Prohibit all public access on designated refuge areas if wolves are in the Pleasant Valley.

Close the refuge to public access within 1 mile of any active wolf den or rendezvous site from May 1 to July 1.

Close designated areas of the refuge to all public access from December 1 to April 15 if wolves are in the Pleasant Valley watershed.

Prohibit sport trapping.

Maintain or increase deer, elk, and moose populations by improving habitat through the control of invasive plants using biological, mechanical, and chemical methods.

Canada Lynx Objectives

Rationales 104 and 106 are found in appendix H.

[No specific objectives other than those for Canada lynx habitat under Forest Habitat.]

Strategies

Allow natural processes to occur such as fire and disease outbreaks in habitat for Canada lynx.

Prohibit timber harvest in habitat for Canada lynx.

Determine areas where wildfires will be permitted to burn and delineate boundaries of where fires should be stopped within habitat for Canada lynx.

Prohibit sport trapping for the life of this CCP, to prevent accidental death of lynx.

Patrol the area using the seasonal law enforcement position for the refuge, staff from the National Bison Range complex, and MFWP wardens.

Bald Eagle Objectives

Rationales 107–110 and 114–115 are found in appendix H.

- Annually monitor bald eagle nesting and protect habitat...*as in alternative A*
- Remove carrion from roadsides...*as in alternative A*

- Maintain suitable, bald eagle foraging habitat, minimize disturbance within key areas, and maintain the integrity of the breeding area between 0.5 and 2.5 miles of any occupied eagle nest until the bald eagle is delisted and 5 years thereafter, to enhance bald eagle recovery.
- Identify and protect bald eagle foraging habitat outside the 2.5-mile home range of known nesting eagles, within 5 years of CCP approval, to maintain adequate prey and minimize disturbance.
- Identify and manage suitable, unoccupied, bald eagle nesting habitat following the Habitat Management Guide for Bald Eagles in northwestern Montana (MBEWG 1991), within 5 years of CCP approval, to enhance bald eagle recovery.
- To promote bald eagle recovery and nesting success off-refuge, develop an interpretive handout and provide one outreach program per year about living with eagles and minimizing disturbance.

Strategies

Locate suitable bald eagle habitat; use vegetation coverage maps.

Identify bald eagle foraging habitat by direct observation and habitat classification mapping.

Delineate and protect key use areas of bald eagles (foraging and perching) to limit disturbance.

Maintain the prey base in key bald eagle areas.

Evaluate all management decisions for their effects bald eagles prior to implementation, until foraging habitat can be identified.

Evaluate all management decisions for their effects bald eagles prior to implementation to ensure that preferred nesting and feeding habitat characteristics are maintained.

Protect bald eagles by evaluating proposed pesticide use before application.

Protect identified bald eagle areas from contaminants and physical hazards.

Hire a biologist or use volunteers to evaluate habitat for suitability for bald eagle nesting.

Hire a biologist to evaluate or facilitate the evaluation of the effects of existing power lines on bald eagles.

Prohibit sport trapping.

Follow the hunt plan (2002) that limits hunting to deer, elk, moose, turkey, and grouse and designates a closed area in which the existing bald eagle nest is located.

Design habitat alterations to ensure that prey base and important habitat components such as perch trees are maintained or enhanced for the bald eagle.

Design and regulate permanent developments such as viewing areas, trails, parking lots, and kiosks to minimize disturbance and avoid conflict with key use areas for the bald eagle, between 0.5 and 1 mile of an active nest.

Monitor bald eagle nest success to ensure that breeding areas have at least 65 percent nest success, and at least five young fledged during the preceding 5 years.

Monitor occupied bald eagle nest sites to determine fledgling success, using staff or volunteers.

Conduct surveys in a noninvasive manner after the hatching of bald eagle young.

Monitor for human disturbance of nesting bald eagles and take appropriate measures.

Trumpeter Swan Objectives

Rationales 116–118 and 120 are found in appendix H.

- Annually monitor trumpeter swan migration and nesting...*as in alternative A*
- Establish up to four breeding pairs of trumpeter swans on the refuge and surrounding suitable habitat, within 6 years of CCP approval, to restore trumpeter swans to unoccupied, historical breeding habitat and encourage broader winter distribution.
- To assist in the conservation and protection of trumpeter swans, within 3 years of CCP approval, develop an interpretive handout and provide one outreach program per year about living near swans and minimizing disturbance.

Strategies

Evaluate Dahl Lake's suitability to sustain a healthy, reproducing population of trumpeter swans; evaluate emergent vegetation and aquatic invertebrates in the lake.

Implement the habitat development plan to benefit trumpeter swans: (1) maintain or increase the current amount of emergent vegetation; (2) maintain water depths below 4 feet over extended areas; and (3) maintain stable water levels during the swan breeding season.

Annually compile sightings and habitat use data for trumpeter swans in Pleasant Valley area; coordinate through neighboring landowners, MFWP, PCTC, and the USDA Forest Service.

Provide lookouts during the swan migration and nesting season; seek assistance from Flathead Audubon volunteers.

Evaluate threats to swan-nesting success such as snapping turtles, lead shot, and power lines; reduce threats where possible.

Provide relatively disturbance-free swan-nesting areas.

Discourage sedentary swan flocks and prohibit supplementary feeding.

Introduce trumpeter swan cygnets and yearlings to area lakes and wetlands to reestablish nesting trumpeter swans in the Fisher River watershed; collaborate with the Trumpeter Swan Working Group and CSKT.

Limit public access in the trumpeter swan-nesting area, depending on nest site location.

Use signs to post trumpeter swan-nesting areas closed to public use; develop interpretive material to explain closures.

Monitor for trumpeter swans during routine duties including duck pair and brood counts.

Develop monitoring protocols for trumpeter swan restoration efforts.

Black Tern Objectives

Rationale 121 is found in appendix H.

- Annually monitor the number of nesting black terns, and monitor nesting and foraging habitat...*as in alternative A*

Strategies

Ensure refuge-specific data about black terns are included in statewide information; coordinate through MFWP.

Survey for presence, abundance, and nesting activity of black terns on Dahl Lake to determine the nesting population associated with current levels of emergent vegetation.

Monitor black tern nesting response to changes in water levels of Dahl Lake during implementation of the habitat development plan and other management activities.

Monitor for number of black tern adults present, number of nests, and nest success through the use of volunteers, interns, or refuge staff.

Determine the effects of wetland development on black tern habitat by doing pre- and postactivity measurements of vegetation response and water depth in emergent vegetation areas adjacent to open water; map acreages of emergent vegetation and open water in GIS.

Boreal Toad Objectives

Rationale 124 is found in appendix H.

- Assess the impacts that implementing the habitat development plan would have on the boreal toad population...*as in alternative A*

Strategies

Locate breeding sites for boreal toads (Hossack et al. 2001).

Cross reference boreal toad sites against the habitat development plan to determine needed changes.

Determine methods of wetland restoration and management that have the least adverse effect on boreal toads.

Determine what effects implementing the habitat management plan may have on the boreal toad, in collaboration with amphibian and reptile biologists.

Spalding's Catchfly Objectives

Rationale 125 is found in appendix H.

- Inventory for Spalding's catchfly prior to any management actions...*as in alternative A*
- Annually control invasive plants around any Spalding's catchfly population that has a minimum of 20 plants...*as in alternative A*
- Maintain known populations and plants of Spalding's catchfly and restore the catchfly in 75–90 percent of suitable sites, through evaluation of logistics and “best management practices, within 10 years of CCP approval, to protect and restore Spalding's catchfly.
- Conduct a complete search of suitable habitat to locate Spalding's catchfly and protect its habitat—eliminate grazing, control invasive plants, eliminate herbicide use in the area of the plants, and encourage natural fire regimes—within 5 years of CCP approval, to enhance production and survival of the catchfly.

Strategies

Mimic historic Palouse prairie fire regimes in habitat for Spalding's catchfly.

Inventory all suitable habitat within the legislative boundary of the refuge for the presence of Spalding's catchfly.

Locate and map sites of Spalding's catchfly using GPS technology.

Identify all Spalding's catchfly populations, plants, and habitat sites suitable for restoration; map in the GIS.

Search suitable habitat for Spalding's catchfly plants using volunteers from local schools and the Montana Native Plant Society, and Landmark Volunteers.

Establish a list of volunteers that are willing to help inventory for Spalding's catchfly or control invasive plants in catchfly habitat.

Notify the recovery team of newly located plants and populations of Spalding's catchfly; seek advice on management options.

Report locations of Spalding's catchfly populations to the Montana Natural Heritage Program.

Conduct site evaluations for habitat characteristics of Spalding's catchfly to better manage present and other potential sites of suitable habitat.

Evaluate short-term, long-term, and cumulative effects of management actions (e.g., invasive plant control and prescribed fire) on maintenance and restoration of Spalding's catchfly.

Protect Spalding's catchfly sites from trampling and grazing.

Evaluate the possibility of fencing areas where Spalding's catchfly is present.

Coordinate and collaborate with Montana DNRC to maintain Spalding's catchfly plants.

Maintain native Palouse prairie habitat in and around the Spalding's catchfly site with sufficient native forb composition to attract, but not compete for, pollinators.

Use volunteers from local schools or the Montana Native Plant Society to search suitable habitat for Spalding's catchfly plants.

Monitor all Spalding's catchfly populations on the refuge to determine population trend.

Monitor Spalding's catchfly from mid- to late July when flowers are in bloom using walk-through surveys.

Monitor Spalding's catchfly sites for insect damage and apply adaptive management to protect plants.

Map invasive plant populations within and around all Spalding's catchfly populations.

CULTURAL RESOURCES

Archaeological and historical resources, as well as traditional uses, are addressed in the management direction for cultural resources.

GOAL

Protect, manage, and interpret archaeological, cultural, and historical resources present at Lost Trail National Wildlife Refuge for the benefit of present and future generations.

Cultural Resources Objectives

The basis for the following objectives and strategies is described in rationales 126–129, found in appendix H.

- To preserve resources for all Americans and be in compliance with applicable laws and legislation, maintain and protect documented cultural and historical resources...*as in alternative A*
- Survey all refuge lands for cultural resources...*as in alternative A*
- Develop an outreach program...*as in alternative A*
- As a steward of cultural and historical resources to the Nation, research feasibility and restoration of at least one cultural and historical resource...*as in alternative B*

Strategies

Survey for cultural resources before doing developments and restoration activities.

Identify and nominate eligible properties to the National Register of Historic Places, working with appropriate agencies.

Use the most up-to-date techniques for surveying, documentation, preservation, restoration, and research through coordination with region 6's archaeologists, Montana State Historical Preservation Office, the CSKT THPO, and local scholars and experts.

Provide one full-time public use specialist to be trained to conduct and coordinate formal cultural surveys.

Provide one part-time historian to conduct formal surveys and oversee restoration of cultural sites.

Dispense outreach materials for cultural resources in partnership with local schools, colleges, and civic groups.

Develop partnerships with the Montana State Historic Preservation Office and CSKT THPO to provide expertise, personnel, and funding.

Accommodate access to and ceremonial use of sacred sites by religious practitioners of recognized Native American tribes in accordance with policy.

Develop a resource library of information about cultural sites on the refuge.

Develop programs for the public to experience cultural resources with limited direct contact, e.g.,

access to photographs and replicas vs. actual site visits.

Provide one full-time law enforcement officer to enforce laws and regulations to protect cultural resources.

Provide one full-time and one part-time maintenance staff to prevent damage and deterioration of resources.

Work with the Service's region 6 archaeologist to develop and perform a formal review of documented resources every 5 years to ensure protection, evaluation of condition, and preservation.

PUBLIC USE

Priority public uses (wildlife-dependent recreational uses) are addressed in the following management direction for public use.

GOAL

Provide quality wildlife-dependent recreational and educational opportunities for persons of all abilities to learn, understand, and enjoy the Intermountain ecosystem of northwestern Montana; its associated fish, wildlife, and plants of Lost Trail National Wildlife Refuge; and the National Wildlife Refuge System in a safe and compatible manner.

Public Use Objectives

Locations of public use and facilities are displayed in figure 14. The basis for the following objectives and strategies is described in rationales 131–132 and 138–139, found in appendix H.

General Objectives

- Develop a demographic profile of wildlife-dependent recreational users...*as in alternative A*
- Develop and implement a visitor service plan...*as in alternative A*
- To reduce disturbance and increase nest success probability, activities will not be permitted within 0.5-mile of any occupied golden eagle nest...*as in alternative A*
- Develop accessible facilities such as restrooms and drinkable water (figure 14), within 3 years of CCP approval, to provide quality, wildlife-dependent, public use opportunities.

Strategies

Collaborate with the Service's region 6 staff in EVS.

Provide one full-time public use specialist and one career-seasonal park ranger to work with the EVS staff to design, develop, and monitor the public use program.

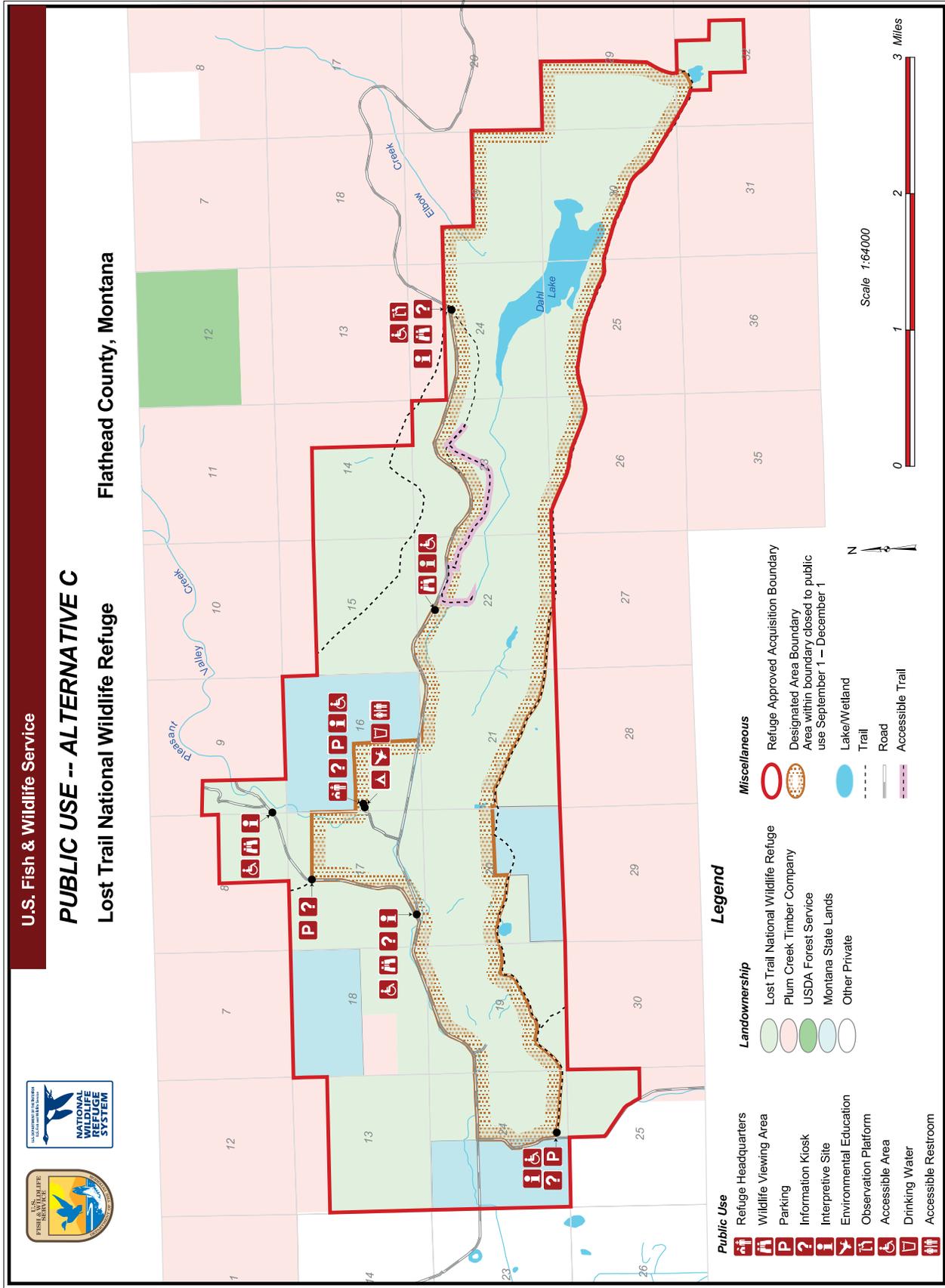


Figure 14. Public use under alternation C of the EA, Lost Trail National Wildlife Refuge, Montana

Provide one full-time public use specialist to work with EVS staff and the Office of Management and Budget to develop a demographic profile of current and future refuge visitors.

Evaluate proposed changes in public access prior to implementation; monitor for effects related to the grizzly bear if access is approved.

Limit public access in trumpeter swan-nesting areas, depending on nest site location.

Incorporate suspension provisions into special-use permits for the presence of grizzly bears.

Incorporate suspension provisions into special-use permits for the presence of wolves.

Allow existing levels of human activity if the bald eagle breeding area has at least 65 percent nest success, and has fledged at least five young during the preceding 5 years.

Limit disturbance to bald eagles by restricting construction of permanent developments such as kiosks, parking areas, and trails that may increase human activity within 0.5 mile of an occupied bald eagle nest or area with prime nesting potential.

Provide one full-time law enforcement officer to contact the public, educate about and enforce ethical standards, and enforce rules and regulations.

Provide one career-seasonal volunteer coordinator to establish and work with “friends groups.”

Provide for sales of educational and interpretive publications by developing a formal agreement with a cooperating natural history association.

Erect standard refuge entrance signs at entries along main roads.

Design and develop facilities to meet accessibility standards in coordination with region 6’s EVS staff.

Ensure that sites are accessible for all users; request design assistance from the National Center on Accessibility, the Summit Independent Living Center, and other groups.

Design and regulate permanent developments such as viewing areas, trails, parking lots, and kiosks to minimize disturbance and avoid conflict with key use areas of bald eagles.

Develop one either-sex accessible restroom facility to be available during daylight hours.

Provide a source of drinkable water available during daylight hours.

Erect and maintain at least three accessible kiosks with maps, rules and regulations, and wildlife-dependent recreational opportunities (figure 14).

Develop an accessible day use area with no fire pits.

Provide one full-time and one half-time maintenance staff to construct and maintain public use facilities and areas.

Help defray the cost of developing and maintaining sites through funding sources such as partnerships and grants.

Open the headquarters/contact station to the public a minimum of 5 days a week, including weekends during peak use (e.g., hunting season).

Provide one full-time public use specialist to recruit volunteers to staff the contact station to allow for minimum and increased operation.

Provide one half-time clerk to staff the contact station and dispense information.

Monitor and evaluate all public uses for their effects on large mammal numbers and distribution of wildlife, to manage for the gray wolf.

Conduct a formal visitor services requirement evaluation with region 6’s EVS staff to determine if the visitor service plan has been met and to determine future needs.

Obtain information on wildlife-dependent recreational users visiting the area, in coordination with MFWP, Flathead County Travel Board, Kalispell and Libby chambers of commerce, and the Institute for Tourism and Recreation Research (University of Montana).

Hunting Objectives

Rationales 141–144 are found in appendix H.

- Allow elk, deer, mountain grouse, and turkey hunting...*as in alternative A*
- Provide special youth-only hunts for deer and elk...*as in alternative A*
- Provide easily accessible information to, and personal contact with, hunters...*as in alternative A*

Strategies

Allow hunters access to portions of the refuge that would provide reasonable challenges and opportunities for taking targeted species under the described harvest objective and create minimal conflict with other priority wildlife-dependent recreational uses or refuge operations (appendix F).

Post and distribute refuge regulations prohibiting trapping to prevent accidental death of Canada lynx.

Make staff available at the contact station to provide rules, regulations, information, and first aid to hunters daily during the opening and closing weeks of archery and rifle seasons, and during weekends throughout hunting season. Staffing would be

recruited from the National Bison Range complex, as well as volunteers.

Provide one full-time law enforcement officer to be available in the field during hunting season to inform hunters of rules, regulations, and ethical behavior.

Provide adequate law enforcement staffing during peak hunting periods, in collaboration with MFWP.

Erect appropriate signs to designate closed and restricted areas to reduce the chance of noncompliance and conflicts with nonhunters.

Inform hunters with disabilities (who have obtained a MFWP permit to hunt from a vehicle) about opportunities to access designated refuge management roads and trails, in collaboration with MFWP.

Provide information about opportunities on surrounding lands to allow hunters to plan for a quality experience, in collaboration with PCTC, Flathead National Forest, and MFWP.

Designate the first week of archery season and the first week of rifle season as youth-only hunts for hunters 12–14 years of age, accompanied by an adult at least 21 years of age.

Make law enforcement and other staff available during the youth hunts to provide a positive hunting experience and promote ethical hunting behavior; include volunteers and MFWP personnel, as well as one full-time, refuge, law enforcement officer.

Develop and implement a monitoring system to receive input from hunters about their hunting experiences using direct interviews, registration stations at parking areas and trailheads, and mail-in/drop-off cards left on vehicles, working with region 6's EVS staff and the Office of Management and Budget.

Annually monitor and evaluate the presence of boundary hunting adjacent to closed areas of the refuge. If necessary to discourage this practice, consider these actions: (1) alter hunt area boundaries or habitat; and (2) eliminate parking areas and access roads—to distribute hunters or modify wildlife use patterns in ways that make boundary hunting less appealing.

Fishing Objectives

Rationales 145 and 147 are found in appendix H.

- Carry out evaluation and restoration of refuge wetlands and streams, with support and partners, within 1 year of CCP approval, to restore native fisheries and protect the Pleasant Valley ecosystem.
- Do not permit fishing for the duration of the CCP to protect natural resources.

- Provide one off-refuge fishing event for youth per year involving at least 20 participants, in coordination with partners, within 2 years of hiring a public use employee, to increase youth appreciation of fish and fishing.

Strategies

Clearly sign closed areas. Post interpretive messages about fishing closure at all contact points, kiosks, parking areas, and trailheads.

Provide one full-time public use specialist and one half-time park ranger to coordinate and conduct the fishing program. Pursue funding sources such as partnerships, grants, and fee programs.

Provide one full-time public use specialist to develop and provide information about fishing opportunities at nearby sites.

Collaborate with off-refuge youth fishing programs (such as MFWP, Hooked on Fishing, and Creston National Fish and Wildlife Center) and recruit community volunteers to help with events held at appropriate fishing sites off the refuge.

To attract more participants and provide more educational opportunities, conduct the youth fishing program during National Fishing Week (early June).

Work with youth programs such as Girl Scouts, Boy Scouts, and schools to encourage a broad spectrum of fishing event participation.

Wildlife Observation and Photography Objectives

Rationales 148–151 and 154–155 are found in appendix H.

- Develop observation and photography sites (four accessible wildlife-viewing areas, one accessible wildlife-viewing platform, and one accessible trail) within 5 years of CCP approval, to promote quality opportunities to the public.
- Encourage the highest standards of ethical behavior...*as in alternative A*
- Permit authorized public access on designated trails and roads to provide visitors with opportunities to observe and photograph wildlife in its natural habitat, and foster wildlife populations by limiting disturbance.
- Provide information about the best observation sites and successful photography techniques to 90 percent of visitors via the visitor contact station, interpretive materials, and interpretive kiosks to provide quality wildlife observation and photography opportunities.

Strategies

Instill ethical observation and photography behavior through presentations, workshops, and field trips, in collaboration with local outdoor groups such as the

Flathead Chapter of the Audubon Society, Boy Scouts, and Girl Scouts.

Provide one full-time biologist work to work with MFWP and NRCS to gather data on wildlife and plants for development of species lists.

Develop and distribute wildlife and bird lists.

Erect and maintain at least three accessible kiosks with maps, rules, and regulations. Post the best, current observational and photographic opportunities for wildlife (figure 14). Provide maintenance personnel to build and maintain kiosks.

Develop four accessible wildlife-viewing areas, one accessible observation platform, and one accessible trail (figure 14).

Provide one full-time and one half-time maintenance staff to construct and maintain parking areas, access points, observation blinds, observation platforms, and trails.

Develop partnerships with local wildlife groups such as Flathead Chapter of the Audubon Society and photography clubs to gather information on member use of local wildland areas for wildlife observation and photography.

Provide one full-time public use specialist and one career-seasonal park ranger to work with the Service's region 6 EVS staff to design, develop, and monitor the wildlife observation and photography program.

Prohibit public access in the area between the county road and the South Pleasant Valley Road from September 1 to December 15 (figure 14).

Allow authorized public access on the uplands from September 1 to December 15 (figure 14).

Allow authorized public access only on designated roads and trails from December 15 to September 1 (figure 14).

Develop a public use handout with a clear map, rules, and regulations; make handouts available at the contact station and kiosks.

Provide a public use specialist to work with the Service's region 6 EVS staff to develop interpretive handouts, including wildlife observational and photographic opportunities, successful techniques, a comprehensive map, rules, and regulations.

Monitor the wildlife observation and photography program with observation of visitor use, comment cards, car counters, registration at kiosks, and personal contacts.

Interpretation Objectives

Rationales 158–160 are found in appendix H.

- Develop interpretive materials...*as in alternative A*
- Develop interpretive themes...*as in alternative A*
- Ensure that at least 85 percent of visitors understand wetland values and the refuge's contribution to restoration and protection of Pleasant Valley wetlands, within 5 years of CCP approval, to promote public appreciation of natural resources.
- Ensure that at least 75 percent of visitors understand and comply with restrictions of public access to large portions of the backcountry, to increase support of management decisions to restore and protect refuge resources.

Strategies

Interpret the mission of the refuge, the National Wildlife Refuge System, and the Service through direct contact of staff with visitors.

Request design assistance from the National Center on Accessibility, the Summit Independent Living Center, and other groups to develop interpretive materials.

Distribute outreach materials about cultural resources in collaboration with local schools, colleges, and civic groups.

Erect and distribute interpretive signs and materials at parking areas, wildlife-viewing areas, trailheads, and the contact station.

Coordinate with local schools, Girl Scouts, Boy Scouts, MCC, and other youth groups to build interpretive nature trails while providing an educational experience for youth.

Develop interpretive materials about management of the refuge, the National Wildlife Refuge System, and the Service.

Develop interpretive materials about the history of Pleasant Valley, in collaboration with the CSKT, local history groups, and neighbors.

Provide one full-time public use specialist to develop cultural resource materials to dispense to the public.

Provide one full-time public use specialist to work with region 6's EVS Staff and NRCS to design and develop interpretive displays about wetlands to be erected at the Dahl Lake wildlife-viewing area, along interpretive trails, and at the contact station (figure 14).

Develop an interpretive handout for trumpeter swans; coordinate with the "Trumpeter Swan Working Group."

Use signs to post areas closed to the public during use by trumpeter swans; develop interpretive material to explain closures for swans.

Provide educational material about the effects of disturbance on waterfowl.

Educate the public on how to minimize winter disturbance and stress to large mammals during recreational activities.

Develop interpretive materials about endangered species, working with region 6's ecological services staff.

Develop an outreach program for the public on the grizzly bear and recovery efforts, to develop better support for and understanding of the species and to minimize adverse human actions and conflicts. Work with the interpretation and education subcommittee of the Interagency Grizzly Bear Committee.

Develop an outreach program to perpetuate understanding and support of wolves and their management on the refuge.

Develop interpretive material about Spalding's catchfly to educate the public on identification of the plant, habitat requirements, and why the plant is endangered.

Develop an interpretive display to post at the contact station, kiosks, parking areas, and trailheads to inform users of ethical behavior.

Provide one full-time public use specialist to develop and present outreach programs and interpretive materials about "light on the land" recreational behavior.

Produce and distribute a tear sheet with a map that designates areas open and closed to hunting, along with all pertinent rules, regulations, and restrictions so hunters can make informed decisions (appendix F).

Develop media contacts and outreach materials to inform the hunting community of hunting opportunities for youth.

Erect interpretive displays at designated parking areas (figure 14) and at the contact station that describe ways to hunt ethically and explain hunting rules, regulations, and restrictions.

Provide one full-time public use specialist to develop outreach information and interpretive programs about a native fish restoration program to educate the public and garner support.

Develop a public use brochure with a clear map, wildlife-dependent recreational opportunities, rules, and regulations; make brochure available at accessible points within 2 years (figure 14).

Develop and design an accessible contact station.

Design and develop interpretive displays for the contact station, working with the Service's region 6 EVS staff.

Provide one full-time maintenance staff to build and maintain the wildlife-viewing area and trails.

Develop interpretive materials about wetland restoration within 2 years, in partnership with NRCS.

Monitor the effectiveness of interpretive messages through comment cards, registration, and personal contacts.

Develop an interpretive handout with tips for ethical viewing behavior and the advantages of following them, i.e., less disturbance to wildlife provides more viewing opportunities.

Provide one half-time clerk to staff the contact station and dispense information.

Develop a formal agreement with a cooperating natural history association to provide for sales of educational and interpretive publications.

In partnership with local wildlife and outdoor groups such as Boy and Girl Scouts, Trout Unlimited, and Flathead Chapter of the Audubon Society, dispense information about low-impact wildlife-dependent recreational opportunities to members of these groups.

Environmental Education Objectives

Rationales 161–167 are found in appendix H.

- Develop an extensive environmental education program...*as in alternative A*
- Develop and maintain a lending library...*as in alternative A*
- Provide at least one in-class environmental education program per school each year, for schools within a 1-hour commute, to foster stewardship of the land, understanding of the refuge vision of conserving natural resources, and experiencing the wonder of native plants and animals, as well as cultural resources.
- Recruit students and educators to contribute to data-gathering and restoration activities, as measured by number of participants and number of returnees each year, to foster understanding of natural and cultural resources, and effectively achieve management and restoration goals.
- Develop an accessible campground for overnight use by educational groups within 2 years of implementation of an environmental education program, to allow students and educators to gain hands-on experience and appreciation of natural resources.

Strategies

Determine environmental educational needs and student numbers within a 2-hour travel radius through collaboration with local schools, including Flathead Valley Community College and the University of Montana's Yellow Bay Biological Station.

Develop an environmental education manual that fulfills both the educational requirements of local and nearby students and the vision and goals of the refuge. Work closely with Pleasant Valley and Marion school districts.

Develop refuge-based themes such as wetlands, endangered species, and local history and incorporate local, state, and national educational standards into programs, working with local schools.

Promote hunter education for youth by providing educational materials and outdoor education sites, in collaboration with MFWP.

Become a member of the Environmental Education Core Group, a coalition of local individuals and groups (private and governmental) involved in environmental education.

Provide one full-time public use specialist to develop, implement, and monitor the environmental education program.

Provide two career-seasonal park rangers to develop and present environmental education programs off-site.

Provide training to environmental education staff at least once a year to attain the knowledge, skills, and abilities to support environmental education at a minimum level.

Recruit and train volunteers to assist in developing and presenting environmental education programs.

Conduct at least one field trip or environmental education activity per year in collaboration with the Pleasant Valley and Marion schools to aid in students' biology education.

Conduct at least one hands-on project per year for biology student in collaboration with the Montana Academy to aid in students' biology education, as well as benefit refuge resources.

Pursue grants that would allow schools to participate in environmental education at the refuge, in coordination with the school boards of Pleasant Valley and Marion schools.

Recruit students for the program, in coordination with local public and private schools, including Montana Academy, Flathead Valley Community College, and the University of Montana's Yellow Bay Biological Station.

Work with MFWP, Glacier National Park, Flathead National Forest, and the CSKT to determine what they offer and whom they serve.

Design and develop an environmental education classroom and laboratory to be located at the contact station (figure 14), working with region 6's EVS staff and the National Center on Accessibility.

Research and obtain materials relevant to natural and cultural resources of the refuge and Pleasant Valley.

Develop and gather environmental education materials, working with region 6's EVS staff and the Service's NCTC, division of educational outreach.

Establish formal partnerships with school districts and community groups to assist with development, implementation, and promotion of the library.

Develop and maintain a web page with information on environmental education opportunities, lending library materials, Service links, and other resources.

Provide one full-time public use specialist to develop, organize, maintain, and distribute library materials.

Create a nonprofit group to support environmental education and research at the refuge, in coordination with the Montana State University extension office (Flathead County).

Develop partnerships with local schools, Girl Scouts, Boy Scouts, the MCC, and other youth groups to provide an educational experience through building observation blinds, trails, and wildlife-viewing areas; fence removal; and habitat management.

Seek assistance from the Montana Academy staff in areas that may be beneficial to the refuge as well as to students (e.g., tansy ragwort control).

Collaborate with colleges and universities to obtain student teachers and interns to supervise restoration programs, while exposing them to the role and importance of refuges and the relationship between wildlife and associated ecosystems.

Provide students to assist with natural resource programs of refuge partners, including NRCS and MFWP.

Provide one full-time public use specialist and one career-seasonal assistant to develop lesson plans that support restoration projects, including initial contact and follow-up to reinforce themes and messages.

Work with the Service's region 6 EVS staff to design the campground to meet accessibility standards.

Provide one full-time public use specialist to coordinate campground use with environmental

education activities, organize a reservation system for qualified groups, and monitor the site during use.

Develop a formal agreement with a cooperating natural history association to provide for sales of educational and interpretive publications.

Develop and provide a refuge-specific curriculum that incorporates, complements, and focuses on local school curricula; work with school district, educators, and the Service's region 6 EVS staff.

Provide one full-time biologist to define restoration projects and data-gathering needs for environmental education activities.

Develop and implement a monitoring system to determine the effectiveness of the environmental education program, including the students and educators involved as well as resources restored; work with the Service's region 6 EVS staff.

ADMINISTRATION

Organizational structure, staffing, facilities, equipment, and maintenance are administrative items addressed in the management direction.

GOAL

Provide staffing, funding, and facilities to maintain the long-term integrity of habitats and wildlife resources of Lost Trail National Wildlife Refuge in supporting the achievement of ecosystem and National Wildlife Refuge System goals.

Administration Objectives

The basis for the following objectives and strategies is described in rationales in appendix H.

Operations Objectives

Rationales 169–178 are found in appendix H.

- Form a new complex comprised of Lost Trail National Wildlife Refuge, Swan River National Wildlife Refuge, and the Northwest Montana WMD...*as in alternative A*
- Provide adequate resources and staff...*as in alternative A*
- Provide on-site law enforcement...*as in alternative A*
- Annually use volunteers...*as in alternative A*

Strategies

Provide a separate organizational code and appropriations, by the Service's region 6 office, for future operations, maintenance, and administration of the refuge.

Transfer the annual funding for the National Bison Range, for one full-time employee for the on-site

supervisory refuge operations specialist, to the reorganized refuge complex.

Recruit one supervisory refuge operations specialist (GS-12) to provide management operations, oversight, and administration for the refuge and other Service units north of the refuge.

Maintain the on-site, full-time refuge manager (GS-11, supervisory refuge operations specialist) to provide daily supervision and oversight to all activities and operations.

Recruit one maintenance worker (WG-8) to provide adequate resources to operate, maintain, and repair facilities.

Develop a web page to describe available maintenance resources and to monitor and track materials.

Recruit one full-time wildlife biologist (GS-11) to be stationed at the refuge for coordination of the biological program.

Hire one full-time administrative support assistant (GS-4/5) to provide daily on-site clerical and administrative support.

Coordinate and plan equipment needs with the maintenance supervisor and project leader at complex headquarters through the RONS and MMS processes, to acquire appropriate equipment to maintain facilities and habitats (e.g., tractor, mower, backhoe, pickup, dump truck, motor boat, vehicle hoist, equipment repair tools and diagnostics, and carpentry tools and machinery).

Maintain equipment in a safe and efficient operating status.

Replace and add equipment through the RONS planning process as needed (due to normal deterioration and needed repair, and as staffing is increased).

Provide microscopes and other necessary equipment to support the environmental education curriculum.

Provide field guides, binoculars, and spotting scopes to assist with census work.

Provide VCRs, televisions, and slide projectors to preview audiovisual materials.

Provide satellite capacity for the Service's "distance from learning" program.

Communicate with MFWP staff to maintain adequate levels of law enforcement on and adjacent to the refuge.

Provide one full-time law enforcement officer to protect natural and cultural resources by coordinating with MFWP.

Facilities Objectives

Rationales 186–188 and 191 are found in appendix H.

- Provide adequate administrative and maintenance facilities...*as in alternative A*
- Identify and remove unnecessary structures...*as in alternative A*
- Restore and protect 28 miles of graveled and two-tracked grass roads...*as in alternative B*

Strategies

Modify the horse arena to provide administrative space, a maintenance shop, and equipment storage; submit as a RONS project to modify the building and acquire equipment and tools including a phone system, computers, work stations, filing and storage cabinets, a vehicle lift, a vehicle wash bay, equipment repair tools, carpentry tools, and metal working tools.

Coordinate with Flathead Wildlife, Inc. to assist with building parking areas for designated public use activities and assist with habitat management projects.

Develop a recreational vehicle trailer site to support a volunteer program.

Work with the Service’s region 6 staff (education and visitor services) on design and accessibility requirements.

Repair and maintain facilities, buildings, fences, and roads on an “as-needed basis.”

Coordinate restoration and maintenance of PCTC easement roads according to terms of the existing cooperative road easement.

Coordinate with the PCTC where shared-easement road maintenance is applicable.

Remove unnecessary facilities and structures including interior fences, east cattle station structures, guest cottage building, ranch office building, and feedlot corrals.

Complete facility maintenance and fence removal through assistance from the MCC and Landmark Volunteers.

Continue the annual fence removal project (RMEF challenge cost-share grant initiated in 2000).

Recruit volunteers for projects such as removal of the east cattle station, clean up or removal of other facilities, monitoring, and public use activities.

PARTNERSHIPS

The management direction for partnerships addresses support to most refuge programs.

GOAL

Promote and develop partnerships with adjacent landowners, public and private organizations, and other interested individuals to preserve, restore, and enhance a diverse and productive ecosystem of which Lost Trail National Wildlife Refuge is an integral part.

Partnership Objectives

The basis for the following objectives and strategies is described in rationales 192–201 and 203, found in appendix H.

- In conjunction with PCTC; MFWP; Montana DNRC; USDA Forest Service; and private landowners, determine the opportunities and feasibility for a forest legacy easement...*as in alternative A*
- Partner with nongovernmental organizations...*as in alternative A*
- Develop a “friends group”...*as in alternative A*
- Share law enforcement responsibilities...*as in alternative A*
- Meet once a year with PCTC, RMEF, Flathead and Lincoln counties weed departments, and the USDA Forest Service to maintain partnerships...*as in alternative A*
- For the period of this CCP, collaborate with the Flathead County Road Department regarding refuge signage and potential cooperative road maintenance and possible relocation issues concerning Pleasant Valley Road...*as in alternative A*
- Continue issuing annual special-use permits with the USDA Forest Service for use, maintenance, and invasive plant control on refuge road North 1019...*as in alternative A*
- Continue coordination with Bonneville Power Administration regarding the power line easement...*as in alternative A*

Strategies

Collaborate with Partners for Fish and Wildlife to continue restoration on the refuge and adjacent lands.

Work with the Flathead County extension office to develop a “friends group” and a direction of focus.

Operate under the statewide agreement with the Montana DNRC for fire suppression on the refuge.

Coordinate fire suppression issues and protocols at annual meetings with Montana DNRC.

Continue coordination activities with PCTC regarding maintenance of existing fence lines.

Control beaver activities that impact Pleasant Valley Road, i.e., flooding, through coordination with MFWP.

Issue a special-use permit to the USDA Forest Service for use of road 1019 for the purpose of logging activities on land north of the refuge.

Continue to abide by rules and agreements in the existing power-line easement document. Annually review the easement document and coordinate all refuge activities that may affect the power line with Bonneville Power Administration.

Provide one three-quarters-time volunteer coordinator to implement the “friends program.”

Establish a “friends group” of people interested in the restoration and protection of native fish resources.

Coordinate closely with the NRCS on stream and wetland restoration throughout the WRP.

Collaborate with USGS, Northern Rocky Science Center, on management of wetlands.

Coordinate protection of species of concern with conservation easement partners such as the NRCS, WRP, MFWP, Montana Land Reliance, The Nature Conservancy, and Audubon Society.

Share the expense and workload of aerial pair and brood counts for waterfowl with MFWP; Avista Utilities; and the CSKT.

Coordinate work with the Montana DNRC, State Lands, PCTC, and USDA Forest Service for conservation of Neotropical migratory birds.

Coordinate with the MPIF and Montana Bird Conservation Partnership Initiative for Neotropical migratory birds.

Seek partners such as MFWP, PCTC, Defenders of Wildlife, Flathead and Kootenai National Forests, and the Great Bear Foundation, for grizzly bear conservation.

Work with state bald eagle biologists and MFWP.

Coordinate and collaborate with Montana DNRC to maintain Spalding’s catchfly.

Meet with “friends group” volunteers at least twice a year to determine group direction and assist where appropriate.

Use students to assist with fence removal or various other habitat management projects.

Maintain adequate levels of law enforcement assistance on or adjacent to the refuge during hunting seasons for big game and upland game birds through continued communication with MFWP.

Provide one full-time law enforcement officer to protect natural resources by coordinating with MFWP.

ALTERNATIVE D

NO-ACTION ALTERNATIVE

Habitats are protected from further detrimental change.

Minimum public use occurs.

Minimal staff conduct custodial-level maintenance.

Partnerships accomplish basic needs.

This alternative describes the level of management activity being conducted by the Service since acquiring the refuge in 1999. This alternative is driven by the philosophy of protecting habitat from further change, with rest from land use practices, while conducting fire suppression, baseline inventories, and monitoring. Minimal management occurs only after a need is established in response to a critical conservation issue. Public use is limited, with custodial-level maintenance.



Ray Washak/USFWS

Pleasant Valley

RIPARIAN HABITAT

Stream channels and associated vegetation are addressed in the management direction for riparian habitat. Water control structures that affect the functioning of riparian habitat, as well as fish passage, are addressed.

GOAL

Restore, enhance, and maintain a mixed deciduous and coniferous riparian habitat to support indigenous wildlife species and perpetuate the ecological integrity of the Fisher River watershed.

Riparian Habitat Objective

The basis for the following objective and strategies is described in rationales 1–2 and 7, found in appendix H.

- The Service will maintain coordination and collaboration for restoration of the stream vegetation and stream meander on the WRP easement... *as in alternative A*

Strategies

Study stream characteristics and the biological potential of Pleasant Valley Creek, in collaboration with NRCS; MFWP; and Trout Unlimited.

Determine viability of sport fish populations by evaluating species presence, potential for continued reproduction, population size capable of supporting expected fishing pressure, and recovery of absent species.

Conduct surveys for migratory birds, songbirds, amphibians, and vegetation before and after restoration efforts in refuge ponds and Pleasant Valley Creek, in collaboration with NRCS and volunteers.

WETLAND HABITAT

Lakes, bogs, and other saturated wetland areas are addressed in the management direction for wetland habitat.

GOAL

Provide breeding, resting, and feeding habitat for wetland-dependent species of northwestern Montana by restoring, maintaining, and enhancing a mosaic of lake, semipermanent, seasonal, temporary, and saturated wetlands.

Wetland Habitat Objectives

The basis for the following objectives and strategies is described in rationales 8–10, 12, and 17; found in appendix H.

- Maintain wetland basins other than the Dahl Lake complex... *as in alternative A*
- Restore Dahl Lake complex water levels... *as in alternative A*
- Increase ground-nesting habitat... *as in alternative A*
- Recharge one-third of drained wetlands to 75–100 percent capacity within 1 year of CCP approval, to foster wetland recharge, promote revegetation around wetlands, and provide waterfowl habitat.
- Annually monitor Dahl Lake vegetation response to initial increase in water and subsequent naturally occurring water level fluctuations to determine whether the refuge (figure 2, unit 14) gains an increase in native emergent vegetation [more than 105 acres of bulrush and sedge, and a decrease in reed canarygrass (less than 630 acres) as a vegetation coverage alliance].

Strategies

Restore or increase water-holding capabilities in wetlands on the WRP easement, e.g., plug ditches, in coordination with the NRCS.

Install a water control structure in the culvert near headquarters to allow water to fill the wetland to road height without washing out the road.

If runoff should not be adequate the first year for wetland refill of each restored basin, divert water for 1–5 years to initiate recharge of the basin.

Plug wetland drain ditches in the wetlands west of Dahl Lake within the west mitigative parcel.

Fill the drain ditch (Meadow Creek) coming out of the west end of Dahl Lake with off-site spoils that remain on-site, and by trucking in spoils to fill the ditch back west to the location of the old water control structure (figure 3).

Use rest, grazing, haying, and prescribed fire to maintain open water and remove decadent, residual, emergent vegetation with adaptive management.

Allow wetlands to recharge and discharge with naturally occurring seasonal fluctuations. Use no control structures to manipulate water depth.

Construct 0.5-acre nesting islands to be irregular in shape with 5:1 slopes, top-dressed with soil, and seeded with native grasses and legumes for ground-nesting habitat.

Monitor wetland-vegetation coverage response to recharge every third year; map in the GIS.

Annually monitor vegetative response by measuring habitat coverage; map in GIS.

Annually monitor emergent vegetation and reed canarygrass coverage in Dahl Lake with line transects for density; map in GIS.

Annually conduct pair-count surveys for water birds to monitor use of wetlands pre- and post-refill.

GRASSLAND HABITAT

This management direction is for the diverse grasslands covering the majority of the refuge.

GOAL

Restore, enhance, and maintain Intermountain grasslands, with an emphasis on native bunchgrass prairie to provide habitat for migratory birds, species of concern, and associated wildlife species.

Grassland Habitat Objectives

The basis for the following objectives and strategies is described in rationales 18–21 and 27–28, found in appendix H.

- Fence and post the entire refuge boundary... *as in alternative A*
- Develop soil descriptions... *as in alternative A*
- Restore vigor to grasslands within 5 years of CCP approval, with rest from use of any management tool until reaching a minimum of 0.6 inch litter depth and a minimum 7.9 inches VOR in areas of tame grasses [Idaho fescue has an average of 8–12 flower stalks/plant, 7.9–8.87 inches maximum leaf length/plant, 2.2–2.7 square inches live basal area (Mueggler 1970, 1975), and an average 5–9 inches leaf height (Pond 1960); and rough fescue has an average 9.8–11.8 inches leaf height (McLean and Wikeem 1985)], to increase cover for nesting migratory birds and provide forage for other wildlife.
- Examine the biological potential of climax vegetative communities for grasslands of the uplands and bottomlands, and develop a habitat management plan that gives high priority to migratory bird habitat, within 2 years of CCP approval, to enhance biological integrity.

Strategies

Fence and post the refuge boundary; use staff from the National Bison Range complex or contracted personnel.

Use wildlife-friendly fencing in areas of high wildlife use, where feasible.

Survey or find markers in areas of uncertainty for the refuge boundary.

Use existing soils layers to determine which soils have not been classified.

Develop vegetation and soil type coverage; map in the GIS.

Sample soils and describe associated climax vegetation for each unclassified type; perform through a request to the NRCS.

Gather technical guides for vegetative climax communities for each soil type; coordinate with NRCS.

Identify and set priorities for areas of particular vegetative communities and those species for which they are managed.

Restrict grazing, haying, mowing, and prescribed fire on grasslands until cover has been restored.

Implement adaptive management (grazing, haying, mowing, or prescribed fire) based on desired habitat conditions for nesting migratory birds.

Develop a monitoring plan to evaluate habitat condition every 2 years to determine trend of vigor recovery for areas of grassland management interest.

Describe an adaptive management process in a habitat management plan describing how rest, prescribed fire, grazing, or haying will be used to maintain each vegetative community and condition.

FOREST HABITAT

Coniferous and deciduous forests are addressed in the management direction for forest habitat.

GOAL

Enhance and maintain Douglas-fir, ponderosa pine, aspen, and cottonwood forested habitats within the context of the Fisher River watershed for migratory birds, species of concern, and other associated wildlife species.

Forest Habitat Objectives

The basis for the following objectives and strategies is described in rationales 29–30 and 35, found in appendix H.

- Identify forest coverage types... *as in alternative A*
- Manage forest habitat with a “hands-off” policy, with the exception of wildland fire suppression, until a refuge manager and biologist are on-site to develop a management plan within 3 years after full staffing, to protect refuge and neighboring property.

Strategies

Prohibit precommercial thinning or clear cutting in habitat for Canada lynx.

Develop a fire management plan for forests above 3,300 feet in elevation that mimics natural fire regimes for Canada lynx habitat.

Get a biologist on the priority hiring list, working with the region 6 regional office.

Classify forest vegetation into National Vegetation Classification Standards; map in geographic information system database.

INVASIVE PLANTS

Prevention and control of nonnative, invasive plants are addressed in the management direction for invasive plants.

GOAL

Native plant communities, composition, occurrence, and density exist without degradation by invasive plants.

Invasive Plant Objectives

The basis for the following objectives and strategies is described in rationales 36–38, found in appendix H.

- Develop and implement an invasive plant management plan...*as in alternative A*

- Annually eradicate and maintain 75–90 percent control of tansy ragwort...*as in alternative A*
- Annually conduct invasive plant control on 200–400 acres of upland grasslands...*as in alternative A*

Strategies

Evaluate invasive plant infestations and control efforts since refuge establishment.

Evaluate invasive plant infestations within Pleasant Valley for priority areas of control by each partner.

Determine appropriate, effective control methods, e.g., mowing, chemical, biocontrol, and prescribed fire; consult with experts.

Gather information about cumulative impacts of chemical, biocontrol, and prescribed fire effects on invasive plants and on native vegetation response; review literature.

Use the GIS to predict areas at greatest risk of new invasions and develop early detection and prevention measures.

Share GIS layers of invasive plant infestations with PCTC and the USDA Forest Service.

Use hand pulling, hand spraying, and ATVs for herbicide application in areas within 330 feet of Spalding's catchfly populations.

Evaluate the target species selectiveness of any biocontrol species prior to release.

Treat new invasions of tansy ragwort in late July and early August by bagging flower heads and burning them, and spraying rosettes with chemicals such as Transline or Tordon.

Survey proposed spray areas for Spalding's catchfly prior to herbicide application.

Use ground and aerial herbicides to inhibit and eradicate encroachment by invasive plants.

Coordinate invasive plant control in Pleasant Valley by meeting at least once per year to share information and discuss control strategies: (1) with PCTC for spotted knapweed; and (2) with PCTC and the USDA Forest Service for tansy ragwort.

Develop a strategy with partners for control of tansy ragwort and how to prevent it from becoming a dominant plant species within the Pleasant Valley.

Attain assistance with tansy ragwort control from the Tansy Trust Fund grant program, as well as from the Service's challenge cost-share grants.

Attain herbicide and/or a technician to apply herbicide and assist with mapping by pursuing grant funding.

Attain assistance with invasive plants (applications and monitoring) by pursuing grant funding through the project advisory committee, e.g., RMEF grants, until the refuge can support its own needs for control.

Determine the extent of infestation of sulfur cinquefoil; create a baseline map.

Continue to discuss, with partners, alternatives for invasive plant control within the Pleasant Valley.

Conduct literature review for reed canarygrass control.

Monitor infestation rates and effectiveness of control efforts; annually map the extent of infestation of spotted knapweed and tansy ragwort in the GIS.

Identify locations of new infestations; map locations and collaborate with the state coordinator for mapping records for neighboring PCTC land.

Monitor vegetation of upland grasslands for vigor and plant species composition every 2 years.

MIGRATORY BIRDS

Management direction for migratory birds addresses waterfowl, other water birds, shorebirds, and Neotropical migratory birds.

GOAL

Preserve, restore, and enhance the ecological diversity and abundance of migratory birds of the Intermountain West forest, wetland complexes, riparian habitat, and bunchgrass prairie.

Migratory Bird Objectives

The basis for the following objectives and strategies is described in rationales in appendix H.

Water Bird Objectives

Rationales 42–43 and 51–53 are found in appendix H.

- Annually monitor goose populations...*as in alternative A*
- Annually monitor waterfowl and other water birds for species presence, population trends, use, and production to evaluate waterfowl production.
- Annually monitor and maintain goose-nesting structures to increase populations of cavity-nesting species.

Strategies

Hire a full-time biologist or biological technician to be stationed at the refuge.

Determine average brood size and hen success with pair-count data to estimate production; use data obtained from the WMD.

Conduct duck pair counts in mid- to late May on Dahl Lake and all ponds.

Other Migratory Birds Objectives

Rationales 54–55 and 58 are found in appendix H.

- Monitor Neotropical migratory birds...*as in alternative A*
- Annually monitor and maintain bluebird and wood duck nest boxes to increase populations of cavity-nesting species.

Strategies

Conduct Neotropical migratory bird surveys, and nest success monitoring in forest, shrubland, cottonwood, and aspen habitats.

Continue existing Neotropical migratory bird surveys along Pleasant Valley Creek and the refuge road system with staff or volunteers.

Conduct additional surveys and nest success monitoring for Neotropical migratory birds to examine more closely the effects of the Pleasant Valley Creek restoration project, working with NRCS, partners, and volunteers.

Note tern, grebe, and sandhill crane numbers on the duck pair counts and Neotropical migratory bird surveys.

Maintain and clean goose nesting structures and bluebird and wood duck boxes; monitor nesting.

OTHER WILDLIFE

Resident wildlife including large and small mammals, resident birds, amphibians, and reptiles are addressed in the management direction for other wildlife.

GOAL

Restore and maintain resident and endemic wildlife populations of northwestern Montana to maintain and enhance species diversity of Lost Trail National Wildlife Refuge and Pleasant Valley.

Other Wildlife Objectives

The basis for the following objectives and strategies is described in rationales in appendix H.

Large Mammal Objectives

Rationales 61–64 and 69 are found in appendix H.

- Modify or remove all nonessential fences...*as in alternative A*
- Develop a plan for chronic-wasting disease...*as in alternative A*
- Annually compile sightings of and areas of use by large mammals, along with survey data from

MFWP, to monitor large mammal populations in Pleasant Valley.

Strategies

Hire biological staff or use the biologist from the National Bison Range complex, along with volunteers, to conduct monitoring.

Construct temporary fences (electric or barbless wire) if needed.

Identify fence locations and determine their importance for refuge management; map using a GPS.

Remove all fences (interior only) or modify fences for wildlife-friendly movement. Remove either the top and bottom wire or two bottom wires so the bottom wire is at least 18 inches off the ground; remove stays to enhance movement or use lay-down wires.

Incorporate additional gates into fences where it is not feasible to modify them; keep gates open when livestock are not present in grazing units.

Evaluate the cause and extent of any marked decline in large mammal populations and ascertain ways to assist recovery of the population (e.g., limit hunting or other public uses, improve habitat), in collaboration with MFWP.

Should resource damage occur due to high deer and elk populations, decrease populations through a change in hunting regulations, in collaboration with MFWP.

Coordinate proposed prevention, surveillance, research, and control actions for chronic-wasting disease in cooperation with state wildlife and agriculture agencies.

Conduct outreach to surrounding communities and communication to refuge visitors regarding chronic-wasting disease and disease management.

Remain alert to potential threats from chronic-wasting disease or other diseases.

Coordinate with the MFWP to assess effects of public use (e.g., implementation of the hunt plan) on large mammal populations in the Pleasant Valley watershed.

Monitor populations on an area-wide basis and relate to refuge populations through use of MFWP surveys for mountain lion, black bear, moose, elk, white-tailed deer, and mule deer.

Gather background information on areas and seasons of use by large mammal populations; conduct informal surveys.

Conduct a passive surveillance program for clinical signs of chronic-wasting disease or other health problems (may lead to a targeted surveillance based

on results); conduct monthly, opportunistic observations of deer and elk.

Small Mammal Objectives

Rationale 70 is found in appendix H.

- Monitor Columbian ground squirrel habitat acreage...*as in alternative A*

Strategies

Determine ground squirrel activity centers; map by size of population and damage to vegetation in the GIS.

Determine an acceptable baseline level for habitat affected by ground squirrels and their population numbers, using initial data.

Maintain ground squirrel numbers within 20 percent of a baseline determined after initial monitoring and literature research.

Determine changes in acres affected by ground squirrels; monitor ground squirrel activity on a 3- to 5-year basis.

Resident Bird Objectives

Rationales 72 and 74–75 are found in appendix H.

- Annually inventory and monitor resident (nonmigratory) birds...*as in alternative A*

[Specific objectives have not been developed for upland game birds under this alternative. However, it is expected that habitat objectives will indirectly benefit upland game species.]

Strategies

Limit disturbance within at least 0.5-mile from any occupied golden eagle nest; consider temporary implementation of alternate routes of public use or management.

Monitor for the arrival and nesting of golden eagles.

Amphibian and Reptile Objectives

Rationales 78–80 are found in appendix H.

- Gather amphibian population data...*as in alternative A*

Strategies

Develop habitat guidelines for amphibians and reptiles; consult experts.

Learn survey techniques and design surveys; coordinate with the “Amphibian Research and Monitoring Initiative” team.

Gather amphibian population data on the refuge as part of the “Amphibian Research and Monitoring Initiative,” in partnership with USGS researchers.

Report amphibian data to the regional level, i.e., “Amphibian Research and Monitoring Initiative” team, to support ecosystem-level monitoring.

Include the use of equipment, housing, or vehicles for refuge in-kind support to the USGS for the “Amphibian Research and Monitoring Initiative.”

SPECIES OF CONCERN

This management direction addresses wildlife listed by state or federal agencies as threatened and endangered (or proposed or candidate for listing), sensitive, rare, or species of concern.

GOAL

Contribute to the conservation, enhancement, and recovery of endangered, threatened, and species of concern populations in Lost Trail National Wildlife Refuge and Fisher River watershed.

Species of Concern Objectives

The basis for the following objectives and strategies is described in rationales 83–84, found in appendix H.

General Objectives

- Document sightings and locations of rare or unusual plants and wildlife...*as in alternative A*

Strategies

Hire a biologist to be stationed at the refuge to coordinate and monitor the program.

Record sightings of rare species during routine staff and volunteer duties.

Survey for owls, rails, and rare species; and monitor bald eagle nests and black tern nesting colonies; request assistance from Audubon volunteers.

Grizzly Bear Objectives

Rationales 87–88 are found in appendix H.

- Prohibit livestock grazing if a grizzly bear is within 1 mile...*as in alternative A*
- To ensure compliance with the ESA and to support the mission of the Service, minimize conflicts with and disturbance to grizzly bears...*as in alternative A*

Strategies

Determine the effects that proposed management actions would have on grizzly bears; consult with biologists.

Close areas for grizzly bears using signs and other informational material; enforce closures through law enforcement patrols.

Limit administrative activity in areas of grizzly bear activity.

Prevent livestock–bear competition for spring forage by restricting livestock grazing if a grizzly bear is within 1 mile of the refuge.

Close designated areas to all public access (based on each particular situation) when one or more grizzly bears are within 1 mile of the refuge.

Prohibit hunting of ground squirrels unless it becomes biologically necessary to protect resources.

Prohibit black bear hunting.

Monitor the occurrence and location of grizzly bears in Pleasant Valley, in collaboration with private landowners, MFWP, Interagency Grizzly Bear Coordination Team, USDA Forest Service, and PCTC.

Gray Wolf Objectives

Rationales 93–94 are found in appendix H.

- Evaluate the effects of management decisions on gray wolves...*as in alternative A*
- Prohibit livestock grazing when a wolf pack is present in Pleasant Valley...*as in alternative A*

Strategies

Determine the effects that proposed management actions would have on gray wolves; consult with biologists.

Prohibit livestock grazing when a wolf pack, as defined by the wolf recovery team, is present in Pleasant Valley.

Close the refuge to public access within 1 mile of any active wolf den or rendezvous site from May 1 to July 1.

Close designated areas of the refuge to all public access from December 1 to April 15 if wolves are in the Pleasant Valley watershed.

Prohibit sport trapping.

Canada Lynx Objectives

Rationale 103 is found in appendix H.

- Evaluate proposed management actions in Canada lynx habitats...*as in alternative A*

Strategies

Prohibit sport trapping for the life of this CCP, to prevent accidental death of lynx.

Bald Eagle Objectives

Rationales 107–108 are found in appendix H.

- Annually monitor bald eagle nesting and protect habitat...*as in alternative A*

Strategies

Evaluate all management decisions for their effects bald eagles prior to implementation, until foraging habitat can be identified.

Prohibit sport trapping.

Monitor bald eagle nest success to ensure that breeding areas have at least 65 percent nest success, and at least five young fledged during the preceding 5 years.

Monitor occupied bald eagle nest sites to determine fledgling success, using staff or volunteers.

Conduct surveys in a noninvasive manner after the hatching of bald eagle young.

Trumpeter Swan Objectives

Rationales 116–117 are found in appendix H.

- Annually monitor trumpeter swan migration and nesting...*as in alternative A*

Strategies

Annually compile sightings and habitat use data for trumpeter swans in Pleasant Valley area; coordinate through neighboring landowners, MFWP, PCTC, and USDA Forest Service.

Provide lookouts during the swan migration and nesting season; seek assistance from Flathead Audubon volunteers.

Limit public access in the trumpeter swan-nesting area, depending on nest site location.

Use signs to post trumpeter swan-nesting areas closed to public use; develop interpretive material to explain closures.

Monitor for trumpeter swans during routine duties including duck pair and brood counts.

Black Tern Objectives

Rationale 121 is found in appendix H.

- Annually monitor the number of nesting black terns, and monitor nesting and foraging habitat...*as in alternative A*

Strategies

Ensure refuge-specific data about black terns are included in statewide information; coordinate through MFWP.

Monitor for number of black tern adults present, number of nests, and nest success using volunteers, interns, or refuge staff.

Boreal Toad Objectives

Rationale 124 is found in appendix H.

- Assess the impacts that implementing the habitat development plan would have on the boreal toad population...*as in alternative A*

Strategies

Locate breeding sites for boreal toads (Hossack et al. 2001).

Cross reference boreal toad sites against the habitat development plan to determine needed changes.

Determine methods of wetland restoration and management that have the least adverse effect on boreal toads.

Document the response of boreal toads to revegetation and restoration of Pleasant Valley Creek; continue collaborative project with USGS' Amphibian and Reptile Monitoring Initiative.

Determine what effects implementing the habitat development plan may have on the boreal toad, in collaboration with amphibian and reptile biologists.

Spalding's Catchfly Objectives

Rationale 125 is found in appendix H.

- Inventory for Spalding's catchfly prior to any management actions...*as in alternative A*
- Annually control invasive plants around any Spalding's catchfly population that has a minimum of 20 plants...*as in alternative A*

Strategies

Inventory all suitable habitat within the legislative boundary of the refuge for the presence of Spalding's catchfly.

Locate and map sites of Spalding's catchfly using GPS technology.

Establish a list of volunteers that are willing to help inventory for Spalding's catchfly or control invasive plants in catchfly habitat.

Evaluate short-term, long-term, and cumulative effects of management actions (e.g., invasive plant control and prescribed fire) on maintenance and restoration of Spalding's catchfly.

Monitor Spalding's catchfly from mid- to late July when flowers are in bloom using walk-through surveys.

Map invasive plant populations within and around all Spalding's catchfly populations.

CULTURAL RESOURCES

Archaeological and historical resources, as well as traditional uses, are addressed in the management direction for cultural resources.

GOAL

Protect, manage, and interpret archaeological, cultural, and historical resources present at Lost Trail National Wildlife Refuge for the benefit of present and future generations.

Cultural Resources Objectives

The basis for the following objectives and strategies is described in rationales 126–127, found in appendix H.

- To preserve resources for all Americans and be in compliance with applicable laws and legislation, maintain and protect documented cultural and historical resources...*as in alternative A*
- To preserve resources for all Americans and be in compliance with applicable laws and legislation, document, maintain, and protect any previously unknown cultural and historical resources discovered during normal refuge duties.

Strategies

Survey for cultural resources before doing developments and restoration activities.

Use the most up-to-date techniques for documentation, preservation, restoration, and research through coordination with region 6's archaeologists, Montana State Historical Preservation Office, and the CSKT THPO.

Provide basic training to National Bison Range complex staff to recognize and minimize damage to cultural resources that may be encountered during normal field duties.

Accommodate access to and ceremonial use of sacred sites by religious practitioners of recognized Native American tribes in accordance with policy.

Work with National Bison Range complex maintenance staff to prevent damage and deterioration of resources.

Work with region 6's archaeologist to develop and perform a formal review of documented resources every 5 years to ensure protection, evaluation of condition, and preservation.

PUBLIC USE

Priority public uses (wildlife-dependent recreational uses) are addressed in the following management direction for public use.

GOAL

Provide quality wildlife-dependent recreational and educational opportunities for persons of all abilities to learn, understand, and enjoy the Intermountain ecosystem of northwestern Montana; its associated fish, wildlife, and plants of Lost Trail National Wildlife Refuge; and the National Wildlife Refuge System in a safe and compatible manner.

Public Use Objectives

Locations of public use and facilities are displayed in figure 15. The basis for the following objectives and strategies is described in rationales 131 and 140, found in appendix H.

General Objectives

To reduce disturbance and increase nest success probability, activities will not be permitted within 0.5-mile of any occupied golden eagle nest...*as in alternative A*

- Develop and implement a visitor service plan within 2 years of CCP approval to provide the highest quality wildlife-dependent recreational opportunities.
- Adopt the public access guidelines outlined in the tear sheet in appendix F to provide visitors with compatible public use opportunities.
- Provide limited support facilities (drinking water and restrooms) at the visitor contact station within 1 year of CCP approval, to support authorized public use.

Strategies

Collaborate with the Service's region 6 staff in EVS.

Evaluate proposed changes in public access prior to implementation; monitor for effects related to the grizzly bear if access is approved.

Limit public access in trumpeter swan-nesting areas, depending on nest site location.

Incorporate suspension provisions into special-use permits for the presence of grizzly bears.

Incorporate suspension provisions into special-use permits for the presence of wolves.

Allow high-intensity activities during the nonnesting season for bald eagles.

Allow existing levels of human activity if the bald eagle breeding area has at least 65 percent nest success, and has fledged at least five young during the preceding 5 years.

Limit disturbance to bald eagles by restricting construction of permanent developments such as kiosks, parking areas, and trails that may increase human activity within 0.5 mile of an occupied bald eagle nest or area with prime nesting potential.

Erect standard refuge entrance signs at entries along main roads.

Design and develop facilities to meet accessibility standards in coordination with the Service's region 6 EVS staff.

Design and develop accessible restroom facilities and provide drinkable water at the headquarters/contact station.

Erect and maintain at least three accessible kiosks with maps, rules and regulations, and wildlife-dependent recreational opportunities (figure 15).

Develop and maintain at least two parking areas with kiosks to dispense handouts and post information (figure 15); coordinate with maintenance staff from the National Bison Range complex.

Open the headquarters/contact station at least 20 hours per week to disseminate information on wildlife-dependent recreational uses of the refuge.

Work with the National Bison Range complex to recruit volunteers to staff the contact station, which would relieve refuge staff to work on other duties.

Make information about local camping areas and other services available at the contact station.

Provide opportunities for comments on public access, and revise policy if needed.

Conduct a formal visitor services requirement evaluation with region 6's EVS staff to determine if the visitor service plan has been met and to determine future needs.

Hunting Objectives

Rationales 141–144 are found in appendix H.

- Allow elk, deer, mountain grouse, and turkey hunting...*as in alternative A*
- Provide special youth-only hunts for deer and elk...*as in alternative A*
- Provide easily accessible information to, and personal contact with, hunters...*as in alternative A*

Strategies

Allow hunters access to portions of the refuge that would provide reasonable challenges and opportunities for taking targeted species under the described harvest objective and create minimal conflict with other priority wildlife-dependent recreational uses or refuge operations (appendix F).

Post and distribute refuge regulations prohibiting trapping to prevent accidental death of Canada lynx.

Make staff available at the contact station to provide rules, regulations, information, and first aid to hunters daily during the opening and closing weeks

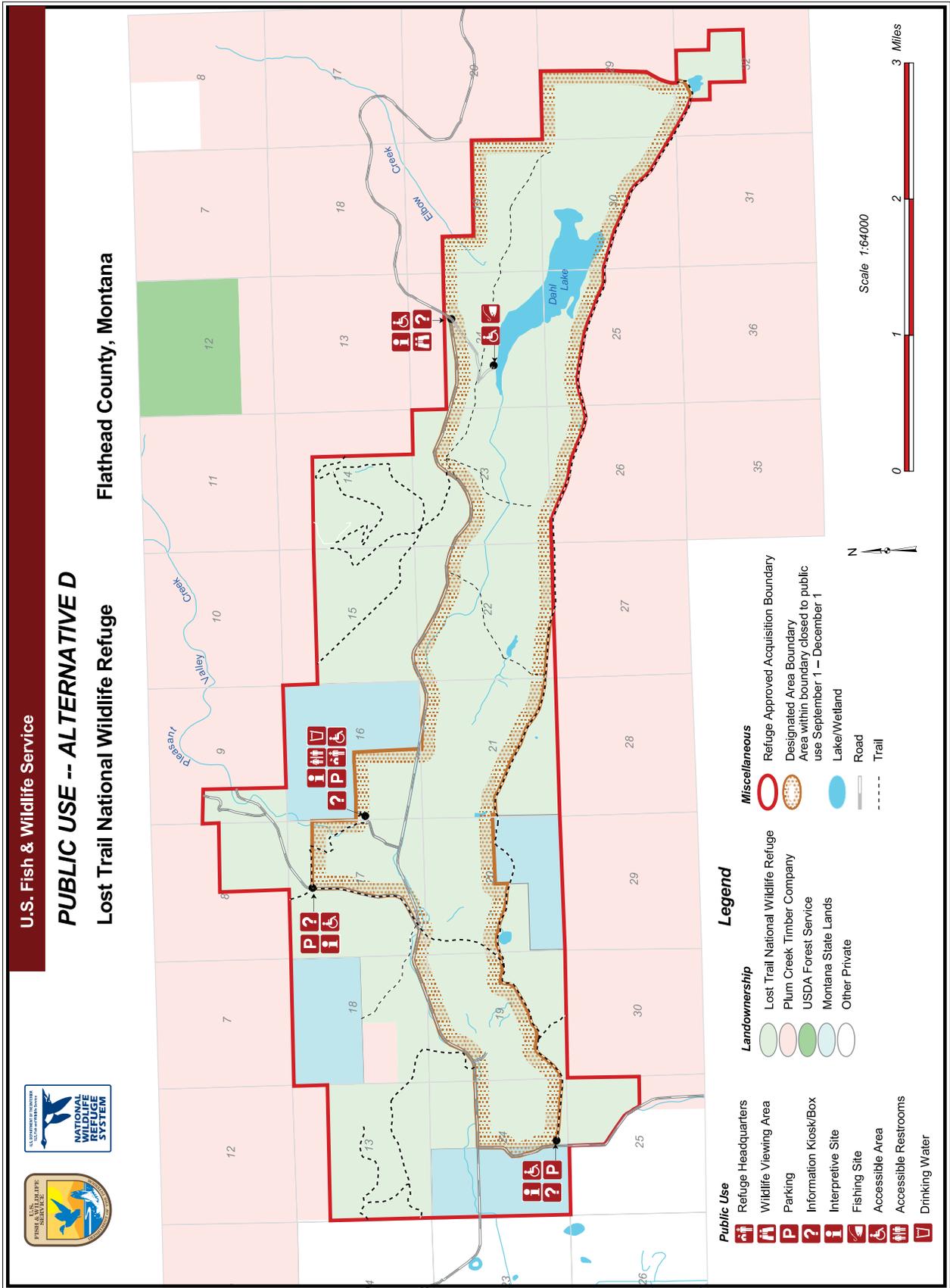


Figure 15. Public use under alternative D of the EA, Lost Trail National Wildlife Refuge, Montana

of archery and rifle seasons, and during weekends throughout hunting season. Staffing from the National Bison Range complex, as well as volunteers, would be recruited.

Provide one full-time law enforcement officer to be available in the field during hunting season to inform hunters of rules, regulations, and ethical behavior.

Provide adequate law enforcement staffing during peak hunting periods, in collaboration with MFWP.

Erect appropriate signs to designate closed and restricted areas to reduce the chance of noncompliance and conflicts with nonhunters.

Inform hunters with disabilities (who have obtained a MFWP permit to hunt from a vehicle) about opportunities to access designated refuge management roads and trails, in collaboration with MFWP.

Provide information about opportunities on surrounding lands to allow hunters to plan for a quality experience, in collaboration with PCTC, Flathead National Forest, and MFWP.

Designate the first week of archery season and the first week of rifle season as youth-only hunts for hunters 12–14 years of age, accompanied by an adult at least 21 years of age.

Make law enforcement and other staff available during the youth hunts to provide a positive hunting experience and promote ethical hunting behavior; include volunteers and MFWP personnel, as well as one full-time, refuge, law enforcement officer.

Develop and implement a monitoring system to receive input from hunters about their hunting experiences using direct interviews, registration stations at parking areas and trailheads, and mail-in/drop-off cards left on vehicles, working with region 6's EVS staff and the Office of Management and Budget.

Annually monitor and evaluate the presence of boundary hunting adjacent to closed areas of the refuge. If necessary to discourage this practice, consider these actions: (1) alter hunt area boundaries or habitat; and (2) eliminate parking areas and access roads—to distribute hunters or modify wildlife use patterns in ways that make boundary hunting less appealing.

Fishing Objectives

Rationale 146 is found in appendix H.

- Evaluate the existence of viable sport fish populations in Dahl Lake and Pleasant Valley and Meadow creeks every 5 years and, within 2 years of reaching a viable sport fishery population, develop a fishing plan that outlines steps to

provide a quality fishing program, to increase public use opportunities.

- Provide a quality fishing experience to persons of all abilities, if fish population levels are viable, with at least 90 percent of anglers reporting quality fishing experiences within 5 years of the fishing plan approval, to increase public use opportunities.

Strategies

Develop fishing access sites with parking areas to discourage the development of numerous unplanned roads and trails (figure 15).

Develop at least one accessible fishing access site (figure 15).

Provide law enforcement coverage to protect fledgling fishing resources, in collaboration with MFWP.

Develop a system to monitor the quality of fishing experiences using comment cards, personal contacts, and registration at fishing sites.

Develop and implement a fish monitoring plan, in coordination with biologists from the National Bison Range complex and MFWP.

Obtain data from conducted studies on fish populations, in coordination with MFWP, NRCS, and Montana DNRC.

Develop partnerships with MFWP, Montana DNRC, and Natural Resources Defense Council to obtain data from studies on fish populations.

Wildlife Observation and Photography Objectives

Rationales 148–149 and 156–157 are found in appendix H.

- Provide information about wildlife observation and photography opportunities to 90 percent of visitors via the refuge office, parking lot kiosks, and public use tear sheets, within 2 years of CCP approval, to provide all visitors with opportunities to observe and photograph wildlife.

Strategies

Develop and maintain at least two parking areas with kiosks to dispense handouts and post information; work with Bison Range complex maintenance personnel.

Erect and maintain at least three accessible kiosks with maps, rules, regulations, and wildlife-dependent recreational opportunities (figure 15).

Design contact station facilities to meet accessibility standards; National Bison Range staff work with the Service's region 6 EVS staff.

Develop handouts and maps showing the best areas for wildlife observation and photography, working with National Bison Range staff and the Service's region 6 EVS staff.

Interpretation Objectives

Rationales 158–159 are found in appendix H.

- Develop interpretive materials...*as in alternative A*

Strategies

Interpret the mission of the refuge, the National Wildlife Refuge System, and the Service through direct contact of staff with visitors.

Install appropriate interpretive panels at the contact station and kiosks (figure 15), in coordination with the outdoor recreation planner from the National Bison Range complex and region 6's EVS staff.

Develop handouts (tear sheets) with rules, regulations, maps and other information to protect resources and provide information about recreational opportunities, in coordination with the outdoor recreation planner from the National Bison Range complex and region 6 staff from EVS.

Pursue funding opportunities to print tear sheets with quality color maps.

Use signs to post areas closed to the public during use by trumpeter swans; develop interpretive material to explain closures for swans.

Produce and distribute a tear sheet with a map that designates areas open and closed to hunting, along with all pertinent rules, regulations, and restrictions so hunters can make informed decisions (appendix F).

Develop media contacts and outreach materials to inform the hunting community of hunting opportunities for youth.

Erect interpretive displays at designated parking areas (figure 15) and at the contact station that describe ways to hunt ethically and explain hunting rules, regulations, and restrictions.

If fish populations are found to be at a viable fishing level, develop a fishing handout with a map, access points, rules, and regulations.

Work with region 6's EVS staff to reserve and obtain traveling interpretive displays available for loan.

Environmental Education Objectives

Rationales 161–164 and 168 are found in appendix H.

- Develop and maintain a lending library...*as in alternative A*
- Encourage students and educators within the Pleasant Valley, Lost Prairie, and Marion areas to

visit the refuge once a year to foster stewardship of the land, understanding of the refuge vision of conserving natural resources, and experiencing the wonder of natural and cultural resources.

Strategies

Develop an environmental education manual that fulfills both the educational requirements of local and nearby students and the vision and goals of the refuge. Work closely with Pleasant Valley School District.

Develop refuge-specific curriculum, lesson plans, and activity guides that complement school curricula and use the refuge as a living laboratory, in collaboration with local schools and region 6's EVS staff.

Promote hunter education for youth by providing educational materials and outdoor education sites, in collaboration with MFWP.

Continue annual coordination with the outdoor recreation planner from the National Bison Range complex involving limited environmental education and interpretation programs with local schools and interest groups.

Recruit and train volunteers to assist in developing and presenting environmental education programs.

Accommodate the Pleasant Valley School whenever appropriate and compatible, to enhance their scientific and biological learning experiences.

Pursue grants that would allow schools to participate in environmental education at the refuge, in coordination with the Pleasant Valley School Board.

Provide one in-school program for each class to orient students prior to field trips to convey safety messages and describe appropriate field conduct to minimize resource damage.

Research and obtain materials relevant to natural and cultural resources of the refuge and Pleasant Valley.

Develop, organize, maintain, distribute, and track library materials, working with the outdoor recreation planner from the National Bison Range complex, region 6's EVS staff, and National Conservation Training Center (NCTC) division of educational outreach.

Promote the availability of materials to local schools and educational facilities, including Pleasant Valley School, Marion School, and the Montana Academy.

Conduct at least one hands-on project per year for biology student in collaboration with the Montana Academy to aid in students' biology education, as well as benefit refuge resources.

Develop partnerships with local schools, Girl Scout, Boy Scouts, the MCC, and other youth groups to provide an educational experience through participation in fence removal, facility maintenance, and other habitat management projects.

Seek assistance from the Montana Academy staff in areas that may be beneficial to the refuge as well as to students (e.g., tansy ragwort control).

Monitor the success of the library by tracking the number of teachers and schools requesting materials, and by providing feedback forms with all materials borrowed.

ADMINISTRATION

Organizational structure, staffing, facilities, equipment, and maintenance are administrative items addressed in the management direction.

GOAL

Provide staffing, funding, and facilities to maintain the long-term integrity of habitats and wildlife resources of Lost Trail National Wildlife Refuge in supporting the achievement of ecosystem and National Wildlife Refuge System goals.

Administration Objectives

The basis for the following objectives and strategies is described in rationales in appendix H.

Operations Objectives

Rationales 169–170 and 181–185 are found in appendix H.

- Annually use volunteers...*as in alternative A*
- Continue coordination with the lead biologist for the National Bison Range complex regarding biological program needs and opportunities for the period of this CCP.
- Maintain current equipment in a safe and efficient working condition to administer the refuge safely and efficiently.
- Provide law enforcement during hunting seasons and high visitor use periods, and coordinate with MFWP to enforce state hunting laws for the duration of this CCP, to provide natural resource protection and public safety.

Strategies

Maintain the on-site, full-time refuge manager (GS-11, supervisory refuge operations specialist) to provide daily supervision and oversight to all activities and operations.

List the maintenance worker as highest priority employment need.

Continue daily coordination with the clerical staff from the National Bison Range complex for

administration processing such as time, budget, and hiring.

Request maintenance assistance through the National Bison Range complex's maintenance supervisor, with at least two weeks notice.

Coordinate equipment repairs, maintenance, and replacement needs with the maintenance supervisor and project leader at the National Bison Range complex headquarters.

Develop a web page to describe available maintenance resources and to monitor and track materials.

Continue temporary duty of biological staff from the National Bison Range complex.

Continue National Bison Range complex funding for one part-time biological technician or park ranger during April–November.

Maintain equipment in a safe and efficient operating status.

Replace and add equipment through the RONS planning process as needed (due to normal deterioration and needed repair).

Provide microscopes and other necessary equipment to support the environmental education curriculum.

Provide field guides, binoculars, and spotting scopes to assist with census work.

Provide VCRs, televisions, and slide projectors to preview audiovisual materials.

Provide satellite capacity for the Service's "distance from learning" program.

Receive temporary-duty law enforcement assistance from the National Bison Range complex, as needed.

Meet with MFWP officials to coordinate law enforcement activities (refuge manager, assisted by law enforcement staff from the National Bison Range complex).

Communicate with MFWP staff to maintain adequate levels of law enforcement on and adjacent to the refuge.

Facilities Objectives

Rationale 186 is found in appendix H.

- Repair and maintain existing facilities, buildings, fences, and roads on an "as-needed basis" for the duration of this CCP, to provide basic support for refuge staff, and provide for public safety.

Strategies

Develop a recreational vehicle trailer site to support a volunteer program.

Coordinate with Flathead Wildlife, Inc. to assist with building parking areas for designated public use activities and assist with habitat management projects.

Work with the Service's region 6 EVS staff on design and accessibility requirements.

Repair and maintain facilities, buildings, fences, and roads on an "as-needed basis."

Implement RONS and MMS projects to maintain refuge resources.

Coordinate road maintenance with the Flathead County Road Department.

Coordinate with the PCTC where shared-easement road maintenance is applicable.

Remove unnecessary facilities and structures including interior fences, east cattle station structures, guest cottage building, ranch office building, and feedlot corrals.

Complete facility maintenance and fence removal through assistance from the MCC and Landmark Volunteers.

Continue the annual fence removal project (RMEF challenge cost-share grant initiated in 2000).

Recruit volunteers for projects such as removal of the east cattle station, clean up or removal of other facilities, monitoring, and public use activities.

PARTNERSHIPS

The management direction for partnerships addresses support to most refuge programs.

GOAL

Promote and develop partnerships with adjacent landowners, public and private organizations, and other interested individuals to preserve, restore, and enhance a diverse and productive ecosystem of which Lost Trail National Wildlife Refuge is an integral part.

Partnership Objectives

The basis for the following objectives and strategies is described in rationales 192–198 and 204, found in appendix H.

- Partner with nongovernmental organizations...*as in alternative A*
- Share law enforcement responsibilities...*as in alternative A*
- Meet once a year with PCTC, RMEF, Flathead and Lincoln counties weed departments, and the USDA Forest Service to maintain partnerships...*as in alternative A*

- For the period of this CCP, collaborate with the Flathead County Road Department regarding refuge signage and potential cooperative road maintenance and possible relocation issues concerning Pleasant Valley Road...*as in alternative A*
- Continue issuing annual special-use permits with the USDA Forest Service for use, maintenance, and invasive plant control on refuge road North 1019...*as in alternative A*
- Continue coordination with Bonneville Power Administration regarding the power line easement...*as in alternative A*

Strategies

Collaborate with Partners for Fish and Wildlife to continue restoration on the refuge and adjacent lands.

Operate under the statewide agreement with the Montana DNRC for fire suppression on the refuge.

Coordinate fire suppression issues and protocols at annual meetings with Montana DNRC.

Coordinate closely with the NRCS on stream and wetland restoration throughout the WRP.

Share the expense and workload of aerial pair and brood counts for waterfowl with MFWP; Avista Utilities; and the CSKT.

Collaborate with the Pleasant Valley School for a minimum of one field trip or environmental education activity per year to foster stewardship of the land, understanding of the refuge vision of conserving natural resources, and experiencing the wonder of natural and cultural resources.

Use students to assist with fence removal or various other habitat management projects.

FUNDING AND STAFFING

Funding levels for the above-described operations and staffing to achieve the refuge vision and goals are described for each alternative in tables 14 and 15.

Actions, projects, and maintenance needs for the refuge are displayed in tables derived from the RONS and MMS, in appendices I and J respectively.

Table 14. Staffing to carry out objectives and strategies of the CCP, Lost Trail National Wildlife Refuge, Montana

| <i>Staffing</i> | <i>Alternative A (proposed action) —Biological potential emphasis —Compatible public use opportunities</i> | <i>Alternative B —Habitat and species protection —Maximum compatible, public use opportunities</i> | <i>Alternative C —Habitat restoration and natural processes —Minimum public use opportunities</i> | <i>Alternative D (no action) —Custodial management —Limited public use opportunities</i> |
|---|--|--|---|--|
| Supervisory refuge operations specialist* ¹ | | | | ✓ |
| Supervisory refuge operations specialist ² | ✓ | ✓ | ✓ | |
| Wildlife biologist ¹ | ✓ | ✓ | ✓ | |
| Biological technician ³ | ✓ | ✓ | ✓ | |
| Outdoor recreation planner (public use specialist) ¹ | ✓ | ✓ | ✓ | |
| Park ranger ³ | ✓ | ✓ | ✓ | |
| Administrative support assistant ⁴ | ✓ | ✓ | ✓ | |
| Maintenance worker ⁵ | ✓ | ✓ | ✓ | |
| Biological technician/park ranger, summer ⁶ | | ✓ | ✓ (2 positions) | ✓ |
| Volunteer for biological program | | | | ✓ |
| Historian (part-time) ⁷ | | ✓ | | |
| Volunteer program coordinator (part-time) ⁶ | | ✓ | | |
| Annual Salary Total⁸ | \$390,000 | \$436,000 | \$399,000 | \$98,000 |

*Existing position

¹GS-11 \$47,110/year plus benefits

²GS-12 \$56,463/year plus benefits

³GS-9 \$38,936/year plus benefits

⁴GS-5 \$25,697/year plus benefits

⁵WG-8 \$35,782/year plus benefits

⁶GS-4/5 \$25,696/year plus benefits

⁷GS-7/9 \$38,936/year plus benefits

⁸Based on general schedule (GS) position levels and salary, rounded to nearest thousand

Table 15. Budgetary needs to carry out objectives and strategies of the CCP, Lost Trail National Wildlife Refuge, Montana

| <i>Budgetary Needs</i> | <i>Alternative A</i> | <i>Alternative B</i> | <i>Alternative C</i> | <i>Alternative D</i> |
|--|----------------------|----------------------|----------------------|----------------------|
| Administration and maintenance facility | \$1,500,000 | \$1,500,000 | \$1,500,000 | \$1,500,000 |
| Equipment | 200,000 | 200,000 | 200,000 | 200,000 |
| Environmental education program | 200,000 | 250,000 | 200,000 | 25,000 |
| “Friends group” facility and activities | 250,000 | 300,000 | 250,000 | 0 |
| Lending library | 300,000 | 300,000 | 300,000 | 50,000 |
| Operations (annual supplies, gas, etc.): | 56,000 | 56,000 | 56,000 | 56,000 |
| Salary with benefits | 390,000 | 436,000 | 399,000 | 98,000 |
| Structure maintenance and improvement | 500,000 | 550,000 | 500,000 | 500,000 |
| Vehicles | 250,000 | 250,000 | 280,000 | 250,000 |
| Visitor contact station | 350,000 | 375,000 | 350,000 | 30,000 |
| Museum | 0 | 400,000 | 0 | 0 |
| Total | \$3,996,000 | \$4,217,000 | \$4,035,000 | \$2,709,000 |

