Draft Comprehensive Conservation Plan and Environmental Assessment

Benton Lake National Wildlife Refuge Complex

Montana

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Prepared by

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Contents

Summary XV
Abbreviations XXI

CHAPTER 1–Introduction 1
1.1 Purpose and Need for the Plan 5
1.2 The U.S. Fish and Wildlife Service and the National Wildlife Refuge System 5
U.S. Fish and Wildlife Service Mission 5
National Wildlife Refuge System Mission 5
1.3 National and Regional Mandates 7
1.4 Contributions to Regional and National Plans 8
Fulfilling the Promise 8
Partners in Flight 8
North American Waterbird Conservation Plan 8
North American Waterfowl Management Plan 9
U.S. Shorebird Conservation Plan 9
State Comprehensive Fish and Wildlife Conservation Strategy 9
The Nature Conservancy–Northern Great Plains Steppe Ecoregional Assessment 10
Partners for Fish and Wildlife Program Strategic Plan 10
U.S. Fish and Wildlife Service Mission 11
Climate Change Strategic Plan 11
1.5 Strategic Habitat Conservation 11
1.6 Landscape Conservation Cooperatives 12
1.7 The Planning Process 14
Coordination with the Public 16
State Coordination 17
Tribal Coordination 17
Results of Scoping 17
Selecting an Alternative 17

CHAPTER 2 The Refuge Complex 19
2.1 Establishment, Acquisition, and Management History 19
Benton Lake National Wildlife Refuge 20
Benton Lake Wetland Management District 22
Blackfoot Valley Conservation Area 26
Rocky Mountain Front Conservation Area 27
Swan River National Wildlife Refuge 29
Swan Valley Conservation Area 29
2.2 Purposes of the Refuge Complex Units 32
Benton Lake National Wildlife Refuge 32
Benton Lake Wetland Management District 32

Blackfoot Valley Conservation Area 32
Rocky Mountain Front Conservation Area 32
Swan River National Wildlife Refuge 33
Swan Valley Conservation Area 33
2.3 Vision for the Refuge Complex 33
2.4 Goals for the Refuge Complex 33
Landscape Conservation Goal 33
Habitat Goal 34
Wildlife Goal 34
Cultural Resources Goal 34
Visitor Services Goal 34
Administration Goal 34
Visitor and Employee Safety and Resource Protection Goal 34
2.5 Special Values 34
Part of a National System 34
Intact Landscapes 34
Conservation Easements 35
Intact Native Prairie 35
Diversity of Water Features 35
Rare Species 35
Migratory Birds 35
Cultural History 35
Public Use 35
Rural Economies 35
2.6 Planning Issues 36
Climate Change 36
Agricultural Conversion 36
Development 36
Invasive Plants, Nonnative Plants, and Noxious Weeds 37
Loss of Ecological Processes 37
Water Quality 38
Wildlife Management 38
Fisheries Management 38
Visitor Services 39
Nonwildlife-dependent Uses 39
Cultural Resources 39
Operations 40
Nomenclature 40

CHAPTER 3 Alternatives 41
3.1 Development of Alternatives for the Refuge Complex 42
Landscape Conservation Goal 42
Habitat Goal 42
Wildlife Goal 42
Cultural Resources Goal 42
Visitor Services Goal 42
Administration Goal 42
Visitor and Employee Safety and Resource Protection Goal 42

Alternatives Considered but Eliminated from Detailed Study 43
3.2 Elements Common to All Alternatives 43
3.3 Alternative A (Current Management–No Action) 43
Climate Change 44
Preserving Intact Landscapes 44
Grasslands 44
Wetlands and Riparian Areas 45
Forests and Woodlands 45
Species of Concern 45
Migratory Birds 46
Visitor Services 46
Staff and Funding 48
Visitor and Employee Safety 48
Resource Protection 48
3.4 Alternative B 48
Actions Same as Alternative A 48
Climate Change 49
Forests and Woodlands 49
Species of Concern 49
Migratory Birds 49
Visitor Services 49
Staff and Funding 49
Visitor and Employee Safety 49
3.5 Alternative C (Proposed Action) 50
Actions Same as Alternative B 50
Climate Change 50
Preserving Intact Landscapes 50
Grasslands 50
Wetlands and Riparian Areas 51
Migratory Birds 51
Visitor Services 51
Staff and Funding 51
Resource Protection 51
3.6 Summary of the Alternatives' Actions and Consequences 51

CHAPTER 4 Affected Environment 63
4.1 Physical Environment 63
Climate 63
Climate Change 66
Geology and Physiography 66
Soils 70
Water Resources 72
Water Quality 73
Water Rights 75
Air Quality 80
4.2 Biological Resources 81
Grasslands 81
Wetlands and Riparian Areas 84

Forests and Woodlands 91
Sagebrush-Steppe 92
Invasive and Nonnative Plants 93
Threats 95
Wildlife Disease 96
Habitat Management Activities 96

4.3 Species of Concern 98
Federally Listed Species 98
Candidate Species 101
Arctic Grayling, Black-footed Ferret, Greater Sage-grouse, Pallid Sturgeon, and Piping Plover 102
Other Species of Concern 103

4.4 Cultural Resources 104
Prehistoric Occupation 104
Historic Period 105
History and Archaeology of the Refuge Complex 108

4.5 Special Management Areas 111
Wilderness Review 111
Important Bird Areas 111
Western Hemisphere Shorebird Reserve Network 112

4.6 Visitor Services 112
Appropriateness and Compatibility 114
Hunting 114
Fishing 115
Trapping 115
Wildlife Observation and Photography 115
Environmental Education and Interpretation 117

4.7 Operations 117
Staff 117
Facilities 118
Visitor and Employee Safety and Resource Protection 119

4.8 Partnerships 119

4.9 Socioeconomic Environment 120
Regional Economic Setting 120
Economic Conditions and Trends 123

CHAPTER 5 Environmental Consequences 131

5.1 Analysis Methods 131

5.2 Effects Common to All Alternatives 132
Regulatory Effects 132
Environmental Justice 132
Geology and Soils 132

5.3 Landscape Conservation Goal Effects 132
Climate Change 132
Climate Change–Alternative A 133
Climate Change–Alternative B 136
Climate Change–Alternative C 136
Preserving Intact Landscapes 137

Preserving Intact Landscapes–Alternatives A and B 137
Preserving Intact Landscapes–Alternative C 138

5.4 Habitat Goal Effects 139
Grasslands: Native–Alternatives A and B 139
Grasslands: Native–Alternative C 140
Grasslands: Tame 140
Grasslands: Tame–Alternatives A and B 140
Grasslands: Tame–Alternative C 141
Grasslands: Nonnative Tree Plantings–Alternatives A and B 142
Grasslands: Nonnative Tree Plantings–Alternative C 142
Wetlands and Riparian Areas 143
Wetlands and Riparian Areas: Natural–Alternatives A and B 143
Wetlands and Riparian Areas: Natural–Alternative C 144
Wetlands and Riparian Areas: Altered–Alternatives A, B, and C 144
Wetlands and Riparian Areas: Creation, Enhancement, and Restoration–Alternatives A, B, and C 146
Wetlands and Riparian Areas: Protection–Alternatives A and B 146
Wetlands and Riparian Areas: Protection–Alternative C 147
Forests and Woodlands 147
Forests and Woodlands–Alternative A 147
Forests and Woodlands–Alternatives B and C 148

5.5 Wildlife Goal Effects 148
Species of Concern–Alternative A 149
Species of Concern—Alternatives B and C 149
Migratory Birds–Alternative A 149
Migratory Birds–Alternative B 150
Migratory Birds–Alternative C 150

5.6 Visitor Services Goal Effects 151
Hunting 151
Hunting–Alternative A 151
Hunting–Alternatives B and C 151
Wildlife Observation and Photography 151
Wildlife Observation and Photography–Alternatives A and B 151
Wildlife Observation and Photography–Alternative C 152
Environmental Education and Interpretation 152
Environmental Education and Interpretation–Alternatives A and B 153
Environmental Education and Interpretation–Alternative C 153

5.7 Administration Goal Effects 153
Staff and Funding–Alternative A 154
Staff and Funding–Alternative B 155
Staff and Funding–Alternative C 155

5.8 Visitor and Employee Safety and Resource Protection Goal Effects 156
Visitor and Employee Safety–Alternative A 156
Visitor and Employee Safety–Alternative B 156
Visitor and Employee Safety–Alternative C 156
Resource Protection–Alternative A 156
Resource Protection–Alternative B 156
Resource Protection–Alternative C 156

5.9 Socioeconomic Effects 156
Economic Impacts of Current and Proposed Management Activities 156
Economic Impacts of Benton Lake National Wildlife Refuge Complex (Excluding Benton Lake National Wildlife Refuge) . . . 158
5.10 Cumulative Impacts 167

CHAPTER 6 Management Direction 169
6.1 Proposed Goals, Objectives, and Strategies 170
Landscape Conservation Goal 171
Habitat Goal 175
Wildlife Goal 184
Cultural Resources Goal 187
Visitor Services Goal 188
Administration Goal 193
Visitor and Employee Safety and Resource Protection Goal 196
6.2 Stepdown Management Plans 197
6.3 Plan Amendment and Revision 198

CHAPTER 7 Analysis of Management Alternatives for the Benton Lake National Wildlife Refuge . 199
7.1 The Planning Process 199
7.2 Establishment, Acquisition, and Management History 200
7.3 Purpose, Goals and Planning Issues 201
Adjacent Landowners and Land Uses 201
Loss of Ecological Processes 201
Declining Wetland Ecological Health 202
Water Quality, Delivery, and Cost 202
Water Quality and Selenium Contamination 202
Invasive Plants, Nonnative Plants, and Noxious Weeds 203
Wildlife Management 203
Hunting 203
Wildlife Observation 204
Comments Received from the Public and Found to be Outside the Scope of the Plan 204
7.4 Development of Alternatives 206
Elements Common to All Alternatives 207
Actions Same as the Refuge Complex 207
7.5 Alternative A1(Current Management–No Action) 207
Grasslands 208
Wetlands and Riparian Areas 208
Water Resources 208
Visitor Services 208
Staff and Funding 209
Resource Protection 210
7.6 Alternative B1 210
Grasslands 210
Wetlands and Riparian Areas 210
Water Resources 210
Visitor Services 211
Staff and Funding 211

Resource Protection 212
7.7 Alternative B2 212
Grasslands 212
Wetlands and Riparian Areas 212
Water Resources 212
Visitor Services 213
Staff and Funding 213
Resource Protection 213
7.8 Alternative C1 (Proposed Action) 213
Grasslands 214
Wetlands and Riparian Areas 214
Water Resources 214
Visitor Services 214
Staff and Funding 215
Resource Protection 215
7.9 Alternative C2 215
Grasslands 215
Wetlands and Riparian Areas 216
Water Resources 216
Visitor Services 216
Staff and Funding 216
Resource Protection 216
7.10 Alternatives Considered but Eliminated 216
Siphon 216
Only Pumping in Spring 217
Restore Units 1 and 2 and Pump Water to Lower Units 217
Minimal Pumping in the Fall Primarily for Recreation 218
7.11 Affected Environment 218
Climate 218
Climate Change 218
Geology 219
Soils 219
Water Resources 220
Biological Resources 231
Cultural Resources 240
Visitor Services 241
Refuge Management Activities 242
Socioeconomic Environment 242
Staff and Funding 242
Visitor and Employee Safety and Resource Protection 243
7.12 Alternatives Analysis 243
Elements Common to All Alternatives 243
7.13 Consequences of Alternative A1 (Current Management–No Action) 244
Grasslands 244
Wetlands and Riparian Areas 245
Water Resources 247
Visitor Services 247

Staff and Funding 248
Resource Protection 249
7.14 Consequences of Alternative B1 249
Grasslands 249
Wetlands and Riparian Areas 250
Water Resources 251
Visitor Services 251
Staff and Funding 252
Resource Protection 253
7.15 Consequences of Alternative B2 253
Grasslands 253
Wetlands and Riparian Areas 254
Water Resources 254
Visitor Services 255
Staff and Funding 255
Resource Protection 256
7.16 Consequences of Alternative C1 (Proposed Action) 256
Grasslands 257
Wetlands and Riparian Areas 257
Water Resources 259
Visitor Services 259
Staff and Funding 261
Resource Protection 262
7.17 Consequences of Alternative C2 262
Grasslands 262
Wetlands and Riparian Areas 262
Water Resources 263
Visitor Services 263
Staff and Funding 263
Resource Protection 263
7.18 Socioeconomic Environment 264
Impacts from Refuge Revenue Sharing 264
Impacts from Public Use and Access Management 264
Impacts from Benton Lake National Wildlife Refuge Administration 270
Visitor Services 263
Staff and Funding 263
Resource Protection 263
7.19 Cumulative Impacts 276
7.20 Summary of the Alternatives' Actions and Consequences 277
7.21 Management Direction 283
Habitat Goal 283
Visitor Services Goal 287
Administration Goal 290
Visitor and Employee Safety and Resource Protection Goal 290

Glossary 293

Appendixes

Appendix A, Key Legislation and Policy . . . 301
Appendix B, Preparers and Contributors . . . 307
Appendix C, Public Involvement . . . 309
Appendix D, Species List . . . 313
Appendix E, Draft Compatibility Determinations . . . 329
Appendix F, Fire Management Program . . . 345

Bibliography . . . 349

FIGURES

1 The comprehensive conservation planning area for Benton Lake National Wildlife Refuge Complex, Montana . . . 3
2 The strategic habitat conservation process. . . . 11
3 The Great Northern Landscape Conservation Cooperative and the Plains and Prairie Potholes Landscape Conservation Cooperative with Benton Lake National Wildlife Refuge Complex, Montana. . . . 12
4 Process steps for comprehensive conservation planning and associated environmental analysis . . . 13
5 Map of Benton Lake National Wildlife Refuge, Montana . . . 21
6 Map of easements and waterfowl production areas in the Benton Lake Wetland Management District (north), Montana . . . 23
7 Map of easements and waterfowl production areas in the Benton Lake Wetland Management District (south), Montana . . . 24
8 Map of the Blackfoot Valley Conservation Area, Montana . . . 26
9 Map of the Rocky Mountain Front Conservation Area, Montana . . . 28
10 Map of Swan River National Wildlife Refuge, Montana. . . . 30
11 Map of the Swan Valley Conservation Area, Montana . . . 31
12 Map of average annual precipitation in Montana, 1971¬–2000. . . . 65
13 Map of public use at Swan River National Wildlife Refuge, Montana. . . . 113
14 The adaptive resource management process . . . 170
15 Map of the pump station, easement, and travel route of water from Muddy Creek to the Benton Lake National Wildlife Refuge, Montana . . . 201
16 Model of long-term dynamics of water levels in Benton Lake, Montana . . . 220
17 Map of the topography of the Benton Lake National Wildlife Refuge, Montana . . . 221
18 Map of the Lake Creek watershed, Montana . . . 222
19 Water management pools on the Benton Lake National Wildlife Refuge, Montana . . . 225
20 Map of saline seeps in the Benton Lake region, Montana . . . 227
21 Graph showing the range of selenium concentrations from water, sediment, invertebrates, and egg samples across Benton Lake National Wildlife Refuge, 1986–2008 . . . 229
22 Map of upland vegetation at the Benton Lake National Wildlife Refuge, Montana . . . 232
23 Map of potential historical vegetation communities on the Benton Lake National Wildlife Refuge, Montana . . . 235
24 Vegetation communities on Benton Lake National Wildlife Refuge, Montana . . . 236
25 Public use at the Benton Lake National Wildlife Refuge, Montana . . . 242

TABLES

1 Summary of the comprehensive conservation planning process for Benton Lake National Wildlife Refuge Complex, Montana . . . 15
2 Land acquisition history for units of the Benton Lake National Wildlife Refuge Complex, Montana . . . 20
3 Waterfowl production areas in the Benton Lake Wetland Management District, Montana . . . 25
4 Each Benton Lake National Wildlife Refuge Complex-level alternative is linked to one or more alternatives for Benton Lake National Wildlife Refuge, Montana. . . . 41
5 Summary of the actions and consequences of the management alternatives for the Benton Lake National

TABLES (CONTINUED)

Wildlife Refuge Complex, Montana **52**
6 Weather information for units of the Benton Lake National Wildlife Refuge Complex, Montana **64**
7 Water rights and use on Benton Lake National Wildlife Refuge Complex, Montana **76**
8 Federally listed endangered, threatened, and candidate species that occur within the Benton Lake National Wildlife Refuge Complex, Montana **99**
9 Actual Annual Performance Plan for 2011 for Benton Lake National Wildlife Refuge Complex, Montana **112**
10 Staff funded in fiscal year 2011 at Benton Lake National Wildlife Refuge Complex, Montana **118**
11 Regional population estimates and characteristics for Montana, 2000-2030 ..... **121**
12 Unemployment, poverty, and household income in the counties surrounding Benton Lake National Wildlife Refuge Complex, Montana **124**
13 Employment by industry for the 12-county region surrounding Benton Lake National Wildlife Complex, Montana **125**
14 Annual impacts from revenue sharing payments for all alternatives for Benton Lake National Wildlife Refuge Complex, Montana **159**
15 Estimated current annual visitation for Benton Lake Wetland Management District and Swan River National Wildlife Refuge, Montana **160**
16 Annual average number of visits and visitor days by activity and alternative for Benton Lake National Wildlife Refuge Complex, Montana **161**
17 Average annual impacts of nonlocal visitor spending by activity and alternative for Benton Lake National Wildlife Refuge Complex, Montana **162**
18 Staffing and percent of time allocated for working by alternative for Benton Lake National Wildlife Refuge Complex, Montana **163**
19 Annual local impacts of salary spending by alternative by personnel at Benton Lake National Wildlife Refuge, Montana **164**
20 Local economic impacts by alternative of purchases related to Benton Lake National Wildlife Refuge Complex, Montana **164**
21 Summary of all management activities for alternative A for the Benton Lake National Wildlife Refuge Complex, Montana **165**
22 Summary of all management activities for alternative B for Benton Lake National Wildlife Refuge Complex, Montana **165**
23 Change in economic impacts under alternative B compared to alternative A for Benton Lake National Wildlife Refuge Complex, Montana **166**
24 Summary of all management activities for alternative C for Benton Lake National Wildlife Refuge Complex, Montana **166**
25 Change in economic impacts under alternative C compared to alternative A for Benton Lake National Wildlife Refuge Complex, Montana **167**
26 Hunting opportunity throughout the Benton Lake National Wildlife Refuge Complex, Montana **189**
27 Seasonal closures at the Benton Lake National Wildlife Refuge Complex, Montana **191**
28 Current and proposed staff at Benton Lake National Wildlife Refuge Complex, Montana **193**
29 Stepdown Management Plans for Benton Lake National Wildlife Refuge Complex, Montana **198**
30 Each Benton Lake National Wildlife Refuge Complex-level alternative is linked to one or more alternatives for Benton Lake National Wildlife Refuge, Montana **207**
31 Annual amounts of pumped water, natural runoff, and selenium entering Benton Lake, 1970-2010 ..... **222**
32 Lemly Hazard Assessment score by component **228**
33 Lemly Hazard Assessment Results for four sites at the Benton Lake National Wildlife Refuge, Montana **229**
34 Hydrogeomorphic matrix of historical distribution of vegetation communities/habitat types on Benton Lake National Wildlife Refuge, Montana **234**
35 Migratory bird species of concern that breed at the Benton Lake National Wildlife Refuge, Montana **239**
36 Annual mortality of ducks caused by botulism at Benton Lake National Wildlife Refuge, Montana **240**
37 Annual impacts from refuge revenue sharing payments for all alternatives for Benton Lake National Wildlife Refuge, Montana **265**
38 Estimated current annual visitation for Benton Lake National Wildlife Refuge, Montana **266**

TABLES (CONTINUED)

39 Annual average number of visits and visitor days by activity and alternative for Benton Lake National Wildlife Refuge, Montana **268**
40 Average annual impacts of nonlocal visitor spending by activity and alternative for Benton Lake National Wildlife Refuge, Montana **269**
41 Range of annual impacts of nonlocal waterfowl hunter spending for pumping and nonpumping years under alternatives C1 and C2 for Benton Lake National Wildlife Refuge, Montana **270**
42 Staffing and percent of time allocated for working by alternative on Benton Lake National Wildlife Refuge, Montana **271**
43 Annual Local Impacts of Salary Spending by Personnel by Alternative for Benton Lake National Wildlife Refuge, Montana **272**
44 Local economic impacts by alternative of purchases related to Benton Lake National Wildlife Refuge, Montana **273**
45 Summary of all management activities for alternative A1 for Benton Lake National Wildlife Refuge, Montana **274**
46 Summary of all management activities for alternative B1 for Benton Lake National Wildlife Refuge, Montana **274**
47 Change in economic impacts under alternative B1 compared to alternative A1 for Benton Lake National Wildlife Refuge, Montana **274**
48 Summary of all management activities for alternative B2 for Benton Lake National Wildlife Refuge, Montana **275**
49 Change in economic impacts under alternative B2 compared to alternative A1 for Benton Lake National Wildlife Refuge, Montana **275**
50 Summary of all management activities for alternative C1 for Benton Lake National Wildlife Refuge, Montana **276**
51 Change in economic impacts under alternative C1 compared to alternative A1 for Benton Lake National Wildlife Refuge, Montana **276**
52 Summary of all management activities for alternative C2 for Benton Lake National Wildlife Refuge, Montana **276**
53 Change in economic impacts under alternative C1 compared to alternative A1 for Benton Lake National Wildlife Refuge, Montana **277**
54 Summary of the actions and consequences of the management alternatives for the Benton Lake National Wildlife Refuge, Montana **279**

Summary

USFWS

Walling Reef at Rocky Mountain Front Conservation Area.

The United States (U.S.) Fish and Wildlife Service (Service) manages the Benton Lake National Wildlife Refuge Complex (refuge complex)—encompassing 163,304 acres in northwestern and north-central Montana. To address the long-term management of the refuge complex, the Service has developed a draft comprehensive conservation plan (CCP) and environmental assessment (EA).

The Benton Lake Refuge Complex is part of the National Wildlife Refuge System (Refuge System), and is located in northwest and north-central Montana. Spanning both sides of the Continental Divide, the refuge complex is a collection of diverse landscapes, from wetlands and mixed-grass prairie in the east to forests, intermountain grasslands, rivers, and lakes in the west. Likewise, animal species that inhabit the refuge complex lands are diverse and reflective of a variety of habitats. Large numbers of waterfowl and shorebirds inhabit wetlands in the east, while large predators such as grizzly bears make their home in the mountains and forests to the west.

The refuge complex oversees management of 27 units (2 refuges, 1 wetland management district containing 22 waterfowl production areas, and 3 conservation areas) and administers 216 easements within the Refuge System:

- Benton Lake National Wildlife Refuge (refuge) was established in 1929 and consists of 12,383 fee-title acres and 76.88 acres of right-of-way easement. It is located on the northern Great Plains, 50 miles east of the Rocky Mountains and 12 miles north of Great Falls, Montana.

- Benton Lake Wetland Management District (district) was established in 1975. It includes 10 counties (Cascade, Chouteau, Glacier, Hill, Lewis and

Clark, Liberty, Pondera, Powell, Teton, Toole), 22 waterfowl production areas, and 4 distinct easement programs. This district covers the largest geographical area of any in the United States. The protection of habitat in the district continues to grow with acquisition of more easements and waterfowl production areas.

- Blackfoot Valley Conservation Area (CA) was established in 1995 and expanded in 2011. This conservation easement program has the potential to protect up to 103,500 acres in the Blackfoot Valley by buying conservation easements on private land within the 824,024-acre project area.

- Rocky Mountain Front CA was established in 2005 and expanded in 2011. This conservation easement program has the potential to protect up to 295,000 acres in the Rocky Mountain Front (Front) by buying conservation easements on private land within the 918,000-acre project area.

- Swan River National Wildlife Refuge was established in 1973 and consists of 1,568.81 acres. It is located in the Swan Valley, 38 miles southeast of Creston, Montana.

- Swan Valley CA was established in 2011. This conservation area has the potential to protect up to 10,000 acres in the Swan Valley by buying conservation easements on private land, and up to 1,000 acres in fee-title land next to the Swan River Refuge within the 187,400-acre project area.

This document contains the draft CCP and EA for all areas that make up the refuge complex.

THE PLANNING PROCESS

Public scoping began with a Notice of Intent to prepare the draft CCP and EA which was published in the Federal Register on August 18, 2008. Information about plan development was distributed through news releases, a published planning update, presentations to local agencies and organizations, and by holding eight public scoping meetings through June 2011. In addition, the Service has coordinated with Federal, State and local agencies and Native American tribes.

KEY PLANNING ISSUES

The scoping process identified many special values of the refuge along with issues and recommendations. Based on this information as well as on guidance from the Improvement Act, National Environmental Policy Act, and planning policy, the Service identified several key issues for the refuge complex and, specifically, for the Benton Lake Refuge to address in the CCP:

Benton Lake Wetland Management District, Blackfoot Valley Conservation Area, Rocky Mountain Front Conservation Area, Swan River National Wildlife Refuge, Swan Valley Conservation Area

CLIMATE CHANGE

Climate change is anticipated, but there are many unknowns. Intact landscapes with functioning ecological processes, such as the diverse range found on the refuge complex, offer ecosystem resiliency and resistance and are better suited for adapting to the extreme impacts that some are predicting.

AGRICULTURAL CONVERSION

The refuge complex is losing native prairie due to agricultural tilling and plowing. These habitats are especially important for nesting migratory birds, including many shorebirds, waterfowl, and grassland bird species.

DEVELOPMENT

Habitat fragmentation due to housing and road developments has become a threat to the refuge complex. Many opportunities to protect habitat for wildlife may be lost when land is developed for residential, commercial, agricultural, and other purposes.

FISHERIES MANAGEMENT

Bull trout is a federally listed threatened species and is known to occur within that part of the Swan

River that flows through the Swan River Refuge. Northern pike, a nonnative fish species, migrates up Spring Creek and may be impacting bull trout and waterfowl on the refuge.

Benton Lake National Wildlife Refuge

DECLINING WETLAND ECOLOGICAL HEALTH

In recent years, refuge staff and the public have noticed significant declines in the number of waterbirds and overall productivity. An absence of historical dry periods at the refuge that sustain wetland health is a concern

There is uncertainty around how long dry periods need to be to restore and support wetland ecological health.

WATER QUALITY AND SELENIUM CONTAMINATION

Selenium concentrations in the water, sediment and biota of parts of the Benton Lake Refuge are currently at levels that can affect reproduction of species that are particularly sensitive to selenium, such as waterfowl species. In some parts of the refuge, selenium could reach levels that cause reproductive failure in waterfowl and other waterbirds in as little as 10 years.

INVASIVE PLANTS

Nonnative grasses, forbs, and woody species are of concern on the refute because they diminish the quality and suitability of habitat and reduce its potential to support many native wildlife species. Invasive species spread easily, replace native habitat, reduce diversity, and cause great expenditure of financial and human resources.

HUNTING

Hunters have expressed concern that the quality of waterfowl hunting at the refuge has declined significantly over the last several years. Excessive vegetation, limited open-water, and low-water levels have all been mentioned as contributing factors.

FUTURE OF THE REFUGE COMPLEX

VISION

A vision is a concept, including desired conditions for the future, which describes the essence of what the Service is trying to accomplish. The following vision for the refuge complex is a future-oriented statement designed to be achieved through refuge, district, and conservation area management throughout the life of this CCP and beyond.

The spirit of the American West resonates on both sides of the Continental Divide in the prairies, mountains, rivers, and wetlands of the Benton Lake National Wildlife Refuge Complex.

Here, migratory birds fill the sky, bull trout thrive, and grizzlies and wolves still roam. Visitors experience many of the same landscapes that Lewis and Clark explored on their journey through the "Crown of the Continent."

Conservation efforts in the refuge complex protect intact landscapes, manage productive habitats, and offer people opportunities to connect with wildlife in solitude under Montana's big sky.

These efforts rely on innovative public and private partnerships, are supported by the region's people, and harmonize with the historic rural economy.

GOALS

The Service developed a set of goals for the refuge complex based on the Improvement Act, the purposes of the refuge complex, and information developed during project planning. A goal is a descriptive, broad statement of desired future conditions that conveys a purpose, but does not define measurable units. The goals direct efforts toward achieving the vision and purposes of the refuge complex and out-

line approaches for managing refuge resources. The Service established seven goals for the entire refuge complex.

Landscape Conservation Goal

Actively pursue and continue to foster relationships within the Service, other agencies, organizations, and private partners to protect, preserve, manage, and restore the functionality of the diverse ecosystems within the working landscape of the refuge complex.

Habitat Goal

Actively conserve, restore, and manage upland and wetland habitats across the northern prairies and intermountain valleys of the refuge complex, through management strategies that perpetuate the integrity of ecological communities.

Wildlife Goal

Support diverse and sustainable continental, regional, and local populations of migratory birds, native fish, species of concern, and other indigenous wildlife of the northern prairies and intermountain valleys of northern Montana.

Cultural Resources Goal

Find and evaluate the cultural resources of the refuge complex and protect those that are found to be significant.

Visitor Services Goal

Provide opportunities to enjoy wildlife-dependent recreation on Service-owned lands and increase knowledge and appreciation for the refuge complex's ecological communities and the mission of the National Wildlife Refuge System.

Administration Goal

Provide facilities, strategically allocate staff, and effectively use and develop sources of money, partnerships, and volunteer opportunities to support the long-term integrity of habitats and wildlife resources of the refuge complex.

USFWS

Wetland gathering on the refuge complex.

Visitor and Employee Safety and Resource Protection Goal

Provide for the safety, security, and protection of visitors, employees, natural and cultural resources, and facilities throughout the refuge complex.

ALTERNATIVES

The Service developed and analyzed three alternatives as options for managing habitats and public use across the entire refuge complex:

- alternative A–no action
- alternative B
- alternative C–proposed action

These alternatives examine different ways for providing permanent protection and restoration of fish, wildlife, plants, habitats, and other resources and for providing opportunities for the public to engage in compatible wildlife-dependent recreation. Each alternative incorporated specific actions intended to achieve the goals. The no-action alternative, however, represents the current, unchanged refuge management and may not meet every aspect of every goal. The no-action alternative provides a basis for comparison of the action alternatives B and C.

Alternative A (no action)

Management activity being conducted by the Service would remain the same. The Service would not develop any new management, restoration, or education programs at the refuge complex. Current habitat and wildlife practices helping migratory species and other wildlife would not be expanded or changed. Habitat management within the refuge complex would continue to focus, primarily, on helping migratory birds, especially during breeding. Other species would be considered through land protection programs and partnerships (for example, grizzly bear and bull trout). Staff would continue monitoring, inventory, and research activities at their current levels. Money and staff levels would remain the same with little change in overall trends. Programs would follow the same direction, emphasis, and intensity as they do now.

Alternative B

Management efforts would focus on supporting the resiliency and sustainability of native grasslands, forests, shrublands, and unaltered wetlands throughout the refuge complex by emulating natural processes. Prescribed fire, grazing, and other management techniques would be used to replicate historical disturbance factors. Where feasible, restoration of native uplands would occur.

For altered wetlands where water management capability exists, management efforts would focus on minimizing the effects of drought periods of the northern Great Plains and Rocky Mountains. Management would be active and intensive to keep these wetland conditions in a consistent state for wildlife using artificial flooding and drawdowns. Management would be active and intensive to support consistency for wildlife using tools such as artificial flooding, drawdowns, fire, rest, and grazing.

Changes in the refuge complex's research and monitoring, staff, operations, and infrastructure would likely be required.

Alternative C (proposed action)

Emphasis would be placed on achieving self-sustaining systems with long-term productivity. Management efforts would focus on supporting and restoring ecological processes, including natural communities and the dynamics of the ecosystems of the northern Great Plains and northern Rocky Mountains in relationship to their geomorphic landscape positioning. Conservation of native landscapes would be a high priority accomplished by protecting habitats from conversion using a combination of partnerships, easements and fee-title lands, and through active management and proactive enforcement of easements. Management actions, such as prescribed fire, grazing, and invasive species control, would be used to support the resiliency and sustainability of Service-owned lands throughout the refuge complex.

Whenever possible, habitat conditions would be allowed to fluctuate with climatically driven wet and dry cycles, which are essential for long-term productivity.

Benton Lake National Wildlife Refuge alternatives

In addition, it was found that a separate analysis would be conducted, and that a broader range of alternatives would be developed, for just Benton Lake Refuge because the issues that applied to this refuge were more complex. The following alternatives are specific to Benton Lake Refuge and do not apply to the rest of the refuge complex. However, they are extensions of alternatives A, B, and C that would apply to the entire refuge complex:

- alternative A1–no action
- alternative B1
- alternative B2
- alternative C1–proposed action
- alternative C2

ALTERNATIVE A1 (NO ACTION)

Current management on the refuge would continue and would focus, primarily, on the individual wetland units. Most of staff time and efforts would be directed toward providing migration and breeding habitat every year for wetland-dependent wildlife, primarily waterfowl. Annual flooding would be supported by pumping water from Muddy Creek to supplement natural run-off. Water management within the 8 wetland units on the refuge would be similar each year so that units are flooded at approximately the same time and depths consistently. This alternative would provide an opportunity for waterfowl hunting every fall. Managing grasslands and other wildlife-dependent public uses (wildlife observation and photography, environmental education and interpretation, and upland game-bird hunting) on the refuge would be a secondary focus.

ALTERNATIVE B1

Refuge wetland impoundments would be intensely managed to improve health over current conditions, yet provide for wetland-dependent wildlife habitat and recreation (waterfowl hunting) every year at consistent levels. Efforts would be made to improve wetland health and sustainability for individual wetland units through short-term drying rotations, prescriptive management treatments and working in the Lake Creek and Muddy Creek watersheds. Drying rotations may be extended if necessary to achieve wetland health objectives. Managing grasslands and other wildlife-dependent public uses (wildlife observation and photography, environmental education and interpretation, and upland game-bird hunting) would be a secondary focus.

ALTERNATIVE B2

Refuge wetland units would be intensely managed to improve health over current conditions, yet provide for wetland-dependent wildlife habitat and recreation more often than would occur naturally. Efforts would be made to improve wetland health and sustainability through an initial, basin-wide dry period to "reset" the system, prescriptive management treatments and work in the Lake Creek and Muddy Creek watersheds. When wetland health has improved sufficiently, pumping may be incrementally reintroduced and reevaluated annually. Managing grasslands and other wildlife-dependent public uses (wildlife observation and photography, environmental education and interpretation, and upland game-bird hunting) on the refuge would occur as resources allow, primarily during the initial, basin-wide dry period.

ALTERNATIVE C1 (PROPOSED ACTION)

Refuge management would focus on the refuge as a whole, with emphasis on restoring the health and long-term sustainability of the wetland basin, to support a wide diversity of migratory birds and a variety of wildlife-dependent recreation. This would be accomplished by reintroducing the full extent and variability of the natural wet-dry cycles, prescriptive management treatments and working in the Lake Creek watershed. The wetland basin would receive only natural run-off and wetland basin infrastructure (for example, ditches, dikes, and water control structures) could be modified or removed only if necessary to achieve wetland health objectives. The pumphouse and all water rights would be supported. As the wetland basin is restored and becomes self-sustaining, more resources would be directed toward managing and restoring upland grasslands, providing other wildlife-dependent public uses (wildlife observation and photography, environmental education and interpretation, and upland game-bird hunting), and providing support for conservation easement acquisition in the complex.

Refuge management would focus on the refuge as a whole, with particular emphasis on restoring the long-term sustainability of the wetland basin, to support a wide diversity of migratory birds and wildlife-dependent recreation. This would be accomplished by reintroducing the full extent and variability of the natural wet-dry cycle, removal of the water management infrastructure (for example, ditches, dikes, and water control structures), prescriptive management treatments, working in the Lake Creek watershed and decommissioning of the pump house. As the wetland basin is restored and becomes self-sustaining, more resources would be directed toward managing and restoring upland grasslands, providing other wildlife-dependent public uses (wildlife observation and photography, environmental education and interpretation, and upland game-bird hunting), and providing support for conservation easement acquisition in the complex.

Abbreviations

A.D.	Anno Domini or "in the year of the Lord"
Administration Act	National Wildlife Administration Act of 1966
amsl	above mean sea level
ARM	adaptive resource management
AUM	animal unit month
B.C.	before Christ
BLM	Bureau of Land Management
CA	conservation area
CCP	comprehensive conservation plan
CFR	Code of Federal Regulations
cfs	cubic feet per second
CO2	carbon dioxide
compact	Montana House bill 717–Bill to Ratify Water Rights Compact
CKST	Confederated Kootenai and Salish Tribes
CPR	cardiopulmonary resuscitation
CRP	Conservation Reserve Program
DOI	U.S. Department of the Interior
DDT	dichlorodiphenyltrichloroethane
district	Benton Lake Wetland Management District
DNC	dense nesting cover
EA	environmental assessment
EDRR	early detection, rapid response
EIS	environmental impact statement
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
°F	degrees Fahrenheit
Front	Rocky Mountain Front
FTE	full-time equivalent position
FY	fiscal year
GFPS	Great Falls Public Schools
GIS	Geographic Information System
GNLCC	Great Northern Landscape Conservation Cooperative
gpm	gallons per minute
GS	general schedule (pay)
HAPET	Habitat and Population Evaluation Team
HGM	hydrogeomorphic
HCPC	historical climax plant community
IMPLAN	Impact Analysis for Planning
Improvement Act	National Wildlife Refuge System Improvement Act of 1997
IPCC	Intergovernmental Panel on Climate Change
IPM	integrated pest management

LCC	landscape conservation cooperative
LIDAR	light detection and ranging
LWCF	Land and Water Conservation Fund
MFIS	Montana Fisheries Information System
MFWP	Montana Fish, Wildlife & Parks
MDEQ	Montana Department of Environmental Quality
MNHP	Montana Natural Heritage Program
NEPA	National Environmental Policy Act
NISC	National Invasive Species Council
NOAA	National Oceanic and Atmospheric Administration
NRIS	Natural Resource Information System
NRCS	Natural Resources Conservation Service
NWR	national wildlife refuge
PIF	Partners in Flight
PPPLCC	Plains and Prairie Potholes Landscape Conservation Cooperative
refuge	refuge within the Benton Lake National Wildlife Refuge Complex
refuge complex	Benton Lake National Wildlife Refuge Complex
Refuge System	National Wildlife Refuge System
RLGIS	Refuge Lands Geographic Information System
RONS	Refuge Operations Needs System
RRS	Refuge Revenue Sharing Act
Se	selenium
Service	U.S. Fish and Wildlife Service
SHC	strategic habitat conservation
STEM Expo	Science, Technology, Engineering, and Math Exposition
TMDL	total maximum daily load
TNC	The Nature Conservancy
µg/g	micrograms per gram
µg/gDW	micrograms per gram dry weight
µg/L	micrograms per liter
U.S.	United States
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USDA FSA	U.S. Department of Agriculture Farm Service Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USGS–PASA	U.S. Geological Survey Policy Analysis and Science Assistance Branch
WG	wage grade (pay schedule)
WPA	waterfowl production area

Definitions of these and other terms are in the glossary, located after chapter 7.