

Patoka River

National Wildlife Refuge & Management Area

Comprehensive Conservation Plan

Chapter 1: Introduction and Background	1
Introduction	1
Purpose and Need for Plan	1
Establishment of the Refuge	3
Refuge Purposes	4
Refuge Vision	4
The U.S. Fish and Wildlife Service	4
The National Wildlife Refuge System	4
Legal and Policy Guidance	6
Compatibility Policy	6
Biological Integrity, Diversity, and Environmental Health Policy	7
Other Guidance	7
Existing Partnerships	7
Volunteers and Friends Group	8
Museums and Repositories	8
Chapter 2: The Planning Process	9
Public Scoping	9
The Comments	9
Internal Scoping	10
Preparation, Publishing, Finalization and Implementation of the CCP	11
Summary of Issues, Concerns and Opportunities	11
Chapter 3: Refuge Environment and Management	14
Introduction	14
Wetland Loss in Indiana	14
The Ohio River Valley Ecosystem	16
Other Units Administered	20
Migratory Bird Conservation Initiatives	20
North American Waterfowl Management Plan	20
Partners In Flight	21
U.S. Shorebird Conservation Plan	21
Waterbird Conservation for the Americas	22
North American Bird Conservation Initiative	23
Region 3 Fish and Wildlife Conservation Priorities	24
Indiana Comprehensive Wildlife Strategy	24
Other Recreation and Conservation Lands in the Area	24
Sugar Ridge Fish & Wildlife Area	24
Glendale Fish & Wildlife Area	24

Pike State Forest	24
Ferdinand State Forest	26
Other Recreation and Conservation Lands	26
Socioeconomic Setting	26
Population	26
Employment	26
Income and Education	27
Potential Refuge Visitors	27
Climate	27
Climate Change	28
Observed Climate Trends	29
Scenarios of Future Climate	29
Midwest Key Issues	29
Reduction in Lake and River Levels	29
Agricultural Shifts	30
Changes in Semi-natural and Natural Ecosystems	30
Air Quality	31
Geology and Soils	32
Geology	32
Minerals	32
Oil	32
Gas	32
Coal	33
Soils	33
Bottomland Soil Associations	33
Upland Soil Associations	34
Water and Hydrology	35
Refuge Resources	37
Plant Communities	37
Wetlands	37
Open Water	38
Uplands	38
Invasive Plant Species	38
Threatened and Endangered Plants	39
Fish and Wildlife Communities	39
Birds	39
Mammals	41
Game Mammals	41
Furbearers	42
Nongame mammals	43
Amphibians and Reptiles	43
Fish	44
Invertebrates	45
Insects	45
Molluscs	45
Threatened and Endangered Species	46
Threatened and Endangered Flora	46
Threatened and Endangered Fauna	46
Whooping Crane (<i>Grus Americana</i>)	46

Bald Eagle (<i>Haliaeetus leucocephalus</i>)	46
Least Tern (<i>Sterna antillarum</i>) (Interior Population)	48
Fat Pocketbook (<i>Potamilus capax</i>)	48
Indiana Bat (<i>Myotis sodalists</i>)	48
Copperbelly Water Snake (<i>Nerodia erythrogaster neglecta</i>)	49
Threats to Resources	49
Invasive Species	49
Contaminants	52
Interstate 69	55
Administrative Facilities	56
Archeological and Cultural Values	56
Current Management	57
Habitat Management	57
Forested Wetlands (Bottomland Forest)	57
Emergent Wetlands	60
Lakes and Ponds	60
Patoka River, Oxbows, and Patoka Tributaries	60
Water Quality	60
Moist Soil Units	60
Grasslands	60
Upland Forests	60
Cropland	61
Upland Openings	61
Invasive Plant Species	61
Interior Least Tern Nesting Habitat	61
Private Lands and Watershed Management	61
Farm Services Administration Conservation Easements	61
Land Acquisition	62
Wildlife Management	62
Threatened and Endangered Species	62
Migratory and Resident Birds	62
Native Resident Wildlife	62
Fish and Other Aquatic Species	62
Interior Least Terns	62
Pest Management	62
Fish and Wildlife Monitoring	62
Visitor Services	63
Hunting	63
Fishing	63
Wildlife Observation and Photography	65
Interpretation	65
Environmental Education	65
Friends and Volunteers	65
Outreach	65
Archeological and Cultural Values	65
Special Management Areas	65
Wilderness Review	65

Chapter 4: Management Direction	66
Goals, Objectives and Strategies	66
Chapter 5: Plan Implementation	82
New and Existing Projects	82
Construct Visitor Parking Lots	82
Completion of Observation Deck	82
Reconnect Oxbows on Patoka River	82
Maintenance and Construction of Storage Facilities	82
Macrotopography Wetlands	82
Future Staffing Requirements	83
Partnership Opportunities	83
Step-down Management Plans	84
Archeological and Cultural Values	84
Monitoring and Evaluation	85
Plan Review and Revision	85
Appendix A: Finding of No Significant Impact	87
Appendix B: Glossary	91
Appendix C: Species Lists	97
Appendix D: Resource Conservation Priorities, Ohio River Valley Ecosystem	119
Appendix E: Compliance Requirements	125
Appendix F: Mailing List	131
Appendix G: Compatibility Determinations	137
Appendix H: List of Preparers	139
Appendix I: Literature Cited	143
Appendix J: Priority Refuge Operational and Maintenance Needs	151
Appendix K: Response to Comments on the Draft CCP	155

List of Figures

Figure 1: Location of Patoka River NWR & MA	2
Figure 2: Patoka River NWR & MA Delineations	5
Figure 3: Acquisition Authority, Patoka River NWR & MA	15
Figure 4: Ohio River Valley Ecosystem	17
Figure 5: Bird Conservation Region in Which Patoka River NWR & MA is Located	23
Figure 6: Other Conservation Lands in the Area of Patoka River NWR & MA	25
Figure 7: Hydrology at Patoka River NWR & MA	36
Figure 8: Projected Route of Interstate 69	56
Figure 9: Current Landcover (West), Patoka River NWR & MA	58
Figure 10: Current Landcover (East), Patoka River NWR & MA	59
Figure 11: Current Visitor Facilities, Patoka River NWR & MA	64
Figure 12: Long-term (100 Years) Landcover, Patoka River NWR & MA (East)	67
Figure 13: Long-term (100 Years) Landcover, Patoka River NWR & MA (West)	68
Figure 14: Current and Future Concept of Patoka River Channel	69
Figure 15: Current Staffing Chart, Patoka River NWR	83
Figure 16: Staffing Required to Fully Implement Plan	83

List of Tables

Table 1: Status of Land Acquisition, Patoka River NWR & MA	16
Table 2: Endangered, Threatened, or Rare Vascular Plants in Gibson and Pike Counties, Indiana, as of 2005	47
Table 3: Endangered, Threatened, or Rare Fauna in Gibson and Pike Counties, Indiana, as of 2005	50
Table 4: Invasive Plants and Animals at Patoka NWR/MA	53
Table 5: Step-down Management Plan Schedule	84

