Appendix A. Wildlife Species of Waubay Complex

BIRDS

This list is based on the reference The Birds of South Dakota (South Dakota Ornithologists' Union 1991) along with staff observations.

Loons

*	Common Loon	*Gavia immer*

Grebes

	Pied-billed Grebe	*Podilymbus podiceps*
	Horned Grebe	*Podiceps auritus*
	Red-necked Grebe	*Podiceps grisegena*
	Eared Grebe	*Podiceps nigricollis*
	Western Grebe	*Aechmophorus occidentalis*
	Clark's Grebe	*Aechmophorus clarkii*

Pelicans

	American White Pelican	*Pelecanus erythrorhynchos*

Cormorants

	Double-crested Cormorant	*Phalacrocorax auritus*

Bitterns, Herons, and Egrets

*	American Bittern	*Botaurus lentiginosus*
	Least Bittern	*Ixobrychus exilis*
	Great Blue Heron	*Ardea herodias*
	Great Egret	*Ardea alba*
	Snowy Egret	*Egretta thula*
	Little Blue Heron	*Egretta caerulea*
	Cattle Egret	*Bubulcus ibis*
	Green Heron	*Butorides virescens*
	Black-crowned Night-Heron	*Nycticorax nycticorax*

Ibises and Spoonbills

*	White-faced Ibis	*Plegadis chihi*

New World Vultures

	Turkey Vulture	*Cathartes aura*

Swans, Geese, and Ducks

	Greater White-fronted Goose	*Anser albifrons*
	Snow Goose	*Chen caerulescens*
	Ross' Goose	*Chen rossii*
	Canada Goose	*Branta canadensis*
	Tundra Swan	*Cygnus columbianus*
	Wood Duck	*Aix sponsa*
	Gadwall	*Anas strepera*
	American Wigeon	*Anas americana*
	American Black Duck	*Anas rubripes*
	Mallard	*Anas platyrhynchos*
	Blue-winged Teal	*Anas discors*
	Cinnamon Teal	*Anas cyanoptera*
	Northern Shoveler	*Anas clypeata*
	Northern Pintail	*Anas acuta*
	Green-winged Teal	*Anas crecca*
	Canvasback	*Aythya valisineria*
	Redhead	*Aythya americana*
	Ring-necked Duck	*Aythya collaris*
	Lesser Scaup	*Aythya affinis*
	Surf Scoter	*Melanitta perspicillata*
	White-winged Scoter	*Melanitta fusca*
	Long-tailed Duck	*Clangula hyemalis*
	Bufflehead	*Bucephala albeola*
	Common Goldeneye	*Bucephala clangula*
	Hooded Merganser	*Lophodytes cucullatus*
	Common Merganser	*Mergus merganser*
	Red-breasted Merganser	*Mergus serrator*
	Ruddy Duck	*Oxyura jamaicensis*

Osprey, Kites, Hawks, and Eagles

	Osprey	*Pandion haliaetus*
	Bald Eagle	*Haliaeetus leucocephalus*
*	Northern Harrier	*Circus cyaneus*
	Sharp-shinned Hawk	*Accipiter striatus*
	Cooper's Hawk	*Accipiter cooperii*
*	Northern Goshawk	*Accipiter gentilis*
	Broad-winged Hawk	*Buteo platypterus*
	Swainson's Hawk	*Buteo swainsoni*
	Red-tailed Hawk	*Buteo jamaicensis*
*	Ferruginous Hawk	*Buteo regalis*
	Rough-legged Hawk	*Buteo lagopus*
	Golden Eagle	*Aquila chrysaetos*

Falcons and Caracaras

	American Kestrel	*Falco sparverius*
	Merlin	*Falco columbarius*
*	Peregrine Falcon	*Falco peregrinus*
	Prairie Falcon	*Falco mexicanus*

Gallinaceous Birds

	Gray Partridge	Introduced	*Perdix perdix*
	Ring-necked Pheasant	Introduced	*Phasianus colchicus*
	Sharp-tailed Grouse		*Tympanuchus phasianellus*
	Greater Prairie-Chicken		*Tympanuchus cupido*

Rails

	Virginia Rail	*Rallus limicola*
	Sora	*Porzana carolina*
	Common Moorhen	*Gallinula chloropus*
	American Coot	*Fulica americana*

Cranes

	Sandhill Crane	*Grus canadensis*
	Whooping Crane	*Grus americana*

Plovers

	Black-bellied Plover	*Pluvialis squatarola*
	American Golden-Plover	*Pluvialis dominica*
	Semipalmated Plover	*Charadrius semipalmatus*
	Piping Plover	*Charadrius melodus*
	Killdeer	*Charadrius vociferus*

Stilts and Avocets

	American Avocet	*Recurvirostra americana*

Sandpipers and Phalaropes

	Greater Yellowlegs	*Tringa melanoleuca*
	Lesser Yellowlegs	*Tringa flavipes*
	Solitary Sandpiper	*Tringa solitaria*
	Willet	*Catoptrophorus semipalmatus*
	Spotted Sandpiper	*Actitis macularia*
*	Upland Sandpiper	*Bartramia longicauda*
*	Long-billed Curlew	*Numenius americanus*
	Hudsonian Godwit	*Limosa haemastica*
	Marbled Godwit	*Limosa fedoa*
	Ruddy Turnstone	*Arenaria interpres*
	Sanderling	*Calidris alba*
	Semipalmated Sandpiper	*Calidris pusilla*
	Least Sandpiper	*Calidris minutilla*
	White-rumped Sandpiper	*Calidris fuscicollis*
	Baird's Sandpiper	*Calidris bairdii*
	Pectoral Sandpiper	*Calidris melanotos*
	Dunlin	*Calidris alpina*
	Stilt Sandpiper	*Calidris himantopus*
	Buff-breasted Sandpiper	*Tryngites subruficollis*
	Short-billed Dowitcher	*Limnodromus griseus*
	Long-billed Dowitcher	*Limnodromus scolopaceus*
	Common Snipe	*Gallinago gallinago*

	American Woodcock	*Scolopax minor*
	Wilson's Phalarope	*Phalaropus tricolor*
	Red-necked Phalarope	*Phalaropus lobatus*

Skuas, Jaegers, Gulls, and Terns

	Franklin's Gull	*Larus pipixcan*
	Bonaparte's Gull	*Larus philadelphia*
	Ring-billed Gull	*Larus delawarensis*
	California Gull	*Larus californicus*
	Herring Gull	*Larus argentatus*
	Common Tern	*Sterna hirundo*
	Forster's Tern	*Sterna forsteri*
*	Black Tern	*Chlidonias niger*

Pigeons and Doves

	Mourning Dove	*Zenaida macroura*
	Passenger Pigeon EXTINCT	*Ectopistes migratorius*

Cuckoos and Anis

	Black-billed Cuckoo	*Coccyzus erythropthalmus*
	Yellow-billed Cuckoo	*Coccyzus americanus*

Typical Owls

	Eastern Screech-Owl	*Otus asio*
	Great Horned Owl	*Bubo virginianus*
	Snowy Owl	*Nyctea scandiaca*
*	Burrowing Owl	*Athene cunicularia*
	Long-eared Owl	*Asio otus*
	Short-eared Owl	*Asio flammeus*
	Boreal Owl	*Aegolius funereus*
	Northern Saw-whet Owl	*Aegolius acadicus*

Nightjars

	Common Nighthawk	*Chordeiles minor*
	Whip-poor-will	*Caprimulgus vociferus*

Swifts

	Chimney Swift	*Chaetura pelagica*

Hummingbirds

	Ruby-throated Hummingbird	*Archilochus colubris*

Kingfishers

	Belted Kingfisher	*Ceryle alcyon*

Woodpeckers

*	Red-headed Woodpecker	*Melanerpes erythrocephalus*
	Red-bellied Woodpecker	*Melanerpes carolinus*
	Yellow-bellied Sapsucker	*Sphyrapicus varius*
	Downy Woodpecker	*Picoides pubescens*
	Hairy Woodpecker	*Picoides villosus*
	Northern Flicker	*Colaptes auratus*
	Pileated Woodpecker	*Dryocopus pileatus*

Tyrant Flycatchers

*	Olive-sided Flycatcher	*Contopus cooperi*
	Eastern Wood-Pewee	*Contopus virens*
	Yellow-bellied Flycatcher	*Empidonax flaviventris*
	Alder Flycatcher	*Empidonax alnorum*
	Willow Flycatcher	*Empidonax traillii*
	Least Flycatcher	*Empidonax minimus*
	Eastern Phoebe	*Sayornis phoebe*
	Great Crested Flycatcher	*Myiarchus crinitus*
	Western Kingbird	*Tyrannus verticalis*
	Eastern Kingbird	*Tyrannus tyrannus*
	Scissor-tailed Flycatcher	*Tyrannus forficatus*

Shrikes

*	Loggerhead Shrike	*Lanius ludovicianus*
	Northern Shrike	*Lanius excubitor*

Vireos

	Yellow-throated Vireo	*Vireo flavifrons*
	Warbling Vireo	*Vireo gilvus*
	Philadelphia Vireo	*Vireo philadelphicus*
	Red-eyed Vireo	*Vireo olivaceus*

Crows, Jays, and Magpies

	Blue Jay	*Cyanocitta cristata*
	Black-billed Magpie	*Pica hudsonia*
	American Crow	*Corvus brachyrhynchos*

Larks

	Horned Lark	*Eremophila alpestris*

Swallows

	Purple Martin	*Progne subis*
	Tree Swallow	*Tachycineta bicolor*
	Northern Rough-winged Swallow	*Stelgidopteryx serripennis*
	Bank Swallow	*Riparia riparia*
	Cliff Swallow	*Petrochelidon pyrrhonota*
	Barn Swallow	*Hirundo rustica*

Titmice and Chickadees

	Black-capped Chickadee	*Poecile atricapilla*

Nuthatches

	Red-breasted Nuthatch	*Sitta canadensis*
	White-breasted Nuthatch	*Sitta carolinensis*

Creepers

	Brown Creeper	*Certhia americana*

Wrens

	House Wren	*Troglodytes aedon*
*	Sedge Wren	*Cistothorus platensis*
	Marsh Wren	*Cistothorus palustris*

Kinglets

	Golden-crowned Kinglet	*Regulus satrapa*
	Ruby-crowned Kinglet	*Regulus calendula*

Thrushes

	Eastern Bluebird	*Sialia sialis*
*	Veery	*Catharus fuscescens*
	Gray-cheeked Thrush	*Catharus minimus*
	Swainson's Thrush	*Catharus ustulatus*
	Hermit Thrush	*Catharus guttatus*
	American Robin	*Turdus migratorius*

Mimic Thrushes

	Gray Catbird	*Dumetella carolinensis*
	Northern Mockingbird	*Mimus polyglottos*
	Brown Thrasher	*Toxostoma rufum*

Starlings

	European Starling	*Sturnus vulgaris*

Wagtails and Pipits

	American (Water) Pipit	*Anthus rubescens*

Waxwings

	Bohemian Waxwing	*Bombycilla garrulus*
	Cedar Waxwing	*Bombycilla cedrorum*

Wood Warblers

	Tennessee Warbler	*Vermivora peregrina*
	Orange-crowned Warbler	*Vermivora celata*
	Nashville Warbler	*Vermivora ruficapilla*
	Northern Parula	*Parula americana*
	Yellow Warbler	*Dendroica petechia*
	Chestnut-sided Warbler	*Dendroica pensylvanica*

	Magnolia Warbler	*Dendroica magnolia*
	Cape May Warbler	*Dendroica tigrina*
	Yellow-rumped Warbler	*Dendroica coronata*
	Blackburnian Warbler	*Dendroica fusca*
	Palm Warbler	*Dendroica palmarum*
	Bay-breasted Warbler	*Dendroica castanea*
	Blackpoll Warbler	*Dendroica striata*
	Black-and-white Warbler	*Mniotilta varia*
	American Redstart	*Setophaga ruticilla*
	Ovenbird	*Seiurus aurocapillus*
	Northern Waterthrush	*Seiurus noveboracensis*
	Mourning Warbler	*Oporornis philadelphia*
	Common Yellowthroat	*Geothlypis trichas*
	Wilson's Warbler	*Wilsonia pusilla*
	Canada Warbler	*Wilsonia canadensis*
	Yellow-breasted Chat	*Icteria virens*

Tanagers

	Scarlet Tanager	*Piranga olivacea*

Sparrows and Towhees

	Spotted Towhee	*Pipilo maculatus*
	American Tree Sparrow	*Spizella arborea*
	Chipping Sparrow	*Spizella passerina*
	Clay-colored Sparrow	*Spizella pallida*
	Field Sparrow	*Spizella pusilla*
	Vesper Sparrow	*Pooecetes gramineus*
	Lark Sparrow	*Chondestes grammacus*
*	Lark Bunting	*Calamospiza melanocorys*
	Savannah Sparrow	*Passerculus sandwichensis*
*	Grasshopper Sparrow	*Ammodramus savannarum*
	Le Conte's Sparrow	*Ammodramus leconteii*
	Nelson's Sharp-tailed Sparrow	*Ammodramus nelsoni*
	Fox Sparrow	*Passerelia iliaca*
	Song Sparrow	*Melospiza melodia*
	Lincoln's Sparrow	*Melospiza lincolnii*
	Swamp Sparrow	*Melospiza georgiana*
	White-throated Sparrow	*Zonotrichia albicollis*
	Harris' Sparrow	*Zonotrichia querula*
	White-crowned Sparrow	*Zonotrichia leucophrys*
	Dark-eyed Junco	*Junco hyemalis*
	Lapland Longspur	*Calcarius lapponicus*
*	Chestnut-collared Longspur	*Calcarius ornatus*
	Snow Bunting	*Plectrophenax nivalis*

Cardinals, Grosbeaks, and Allies

	Rose-breasted Grosbeak	*Pheucticus ludovicianus*
	Lazuli Bunting	*Passerina amoena*
	Indigo Bunting	*Passerina cyanea*
*	Dickcissel	*Spiza americana*

Blackbirds and Orioles

	Bobolink	*Dolichonyx oryzivorus*
	Red-winged Blackbird	*Agelaius phoeniceus*
	Western Meadowlark	*Surnella neglecta*
	Yellow-headed Blackbird	*Xanthocephalus xanthocephalus*
	Rusty Blackbird	*Euphagus carolinus*
	Brewer's Blackbird	*Euphagus cyanocephalus*
	Common Grackle	*Quiscalus quiscula*
	Brown-headed Cowbird	*Molothrus ater*
	Orchard Oriole	*Icterus spurius*
	Baltimore Oriole	*Icterus galbula*

Finches

	Pine Grosbeak	*Pinicola enucleator*
	Purple Finch	*Carpodacus purpureus*
	House Finch	*Carpodacus mexicanus*
	Red Crossbill	*Loxia curvirostra*
	White-winged Crossbill	*Loxia leucoptera*
	Common Redpoll	*Carduelis flammea*
	Hoary Redpoll	*Carduelis hornemanni*
	Pine Siskin	*Carduelis pinus*
	American Goldfinch	*Carduelis tristis*
	Evening Grosbeak	*Coccothraustes vespertinus*

Old World Sparrows

House Sparrow	Introduced	*Passer domesticus*

*Migratory Nongame Birds of Management Concern in the United States: The 1995 List

MAMMALS

This list is based on the reference Wild Mammals of South Dakota (Higgins et al. 2000) along with staff observations.

Opossums

Virginia Opossum	*Didelphis virginiana*

Insectivores

Shrews

Cinereus or Masked Shrew	*Sorex cinereus*
Northern Short-tailed Shrew	*Blarina brevicauda*
Arctic Shrew	*Sorex arcticus*
Hayden's Shrew	*Sorex haydeni*
Water Shrew	*Sorex palustris*
Pygmy Shrew	*Sorex hoyi*

Bats

Vespertilionid Bats

Little Brown Myotis	*Myotis lucifugus*
Northern Myotis	*Myotis septentrionalis*
Eastern Red Bat	*Lasiurus borealis*
Hoary Bat	*Lasiurus cinereus*
Silver-haired Bat	*Lasionycteris noctivagans*
Big Brown Bat	*Eptesicus fuscus*

Lagomorphs

Hares and Rabbits

Eastern Cottontail	*Sylvilagus floridanus*
White-tailed Jackrabbit	*Lepus townsendii*

Rodents

Squirrels

Eastern Chipmunk	*Tamias striatus*
Woodchuck	*Marmota monax*
Franklin's Ground Squirrel	*Spermophilus franklinii*
Richardson's Ground Squirrel	*Spermophilus richardsonii*
Thirteen-lined Ground Squirrel	*Spermophilus tridecemlineatus*
Eastern Gray Squirrel	*Sciurus carolinensis*
Eastern Fox Squirrel	*Sciurus niger*

Pocket Gophers

Northern Pocket Gopher	*Thomomys talpoides*
Plains Pocket Gopher	*Geomys bursarius*

Heteromyids

Plains Pocket Mouse	*Perognathus flavescens*

Beavers

American Beaver	*Castor canadensis*

Mice, Rats, and Voles

Western Harvest Mouse	*Reithrodontomys megalotis*
White-footed Mouse	*Peromyscus leucopus*
Deer Mouse	*Peromyscus maniculatus*
Northern Grasshopper Mouse	*Onychomys leucogaster*
Norway Rat	*Rattus norvegicus*
House Mouse	*Mus musculus*
Southern Red-backed Vole	*Clethrionomys gapperi*
Prairie Vole	*Microtus ochrogaster*
Meadow Vole	*Microtus pennsylvanicus*
Common Muskrat	*Ondatra zibethicus*

Jumping Mice

Meadow Jumping Mouse	*Zapus hudsonius*
Western Jumping Mouse	*Zapus princeps*

New World Porcupines

Common Porcupine	*Erethizon dorsatum*

Carnivores

Canids

Coyote	*Canis latrans*
Red Fox	*Vulpes vulpes*
Common Gray Fox	*Urocyon cinereoargenteus*

Procyonids

Common Raccoon	*Procyon lotor*

Mustelids

Ermine	*Mustela erminea*
Long-tailed Weasel	*Mustela frenata*
Least Weasel	*Mustela nivalis*
American Mink	*Mustela vison*
American Badger	*Taxidea taxus*
Northern River Otter	*Lutra canadensis*

Mephitids

Eastern Spotted Skunk	*Spilogale putorius*
Striped Skunk	*Mephitis mephitis*

Cats

Feral Cat	*Felis catus*
Bobcat	*Felis rufus*

Cervids

Wapiti or Elk	*Cervus elaphus*
Mule or Black-tailed Deer	*Odocoileus hemionus*
White-tailed Deer	*Odocoileus virginianus*
Moose	*Alces alces*

Pronghorn

Pronghorn	*Antilocapra americana*

Bovids

American Bison	*Bos bison*
Domestic cattle	*Bos taurus*

AMPHIBIANS AND REPTILES

This list is based on the reference A Field Guide to South Dakota Amphibians (Fischer et al. 1999) and A Field Guide to Reptiles and Amphibians (Conant and Collins 1991), along with staff observations.

Salamanders

Tiger Salamander	*Ambistoma tigrinum*
Mudpuppy	*Necturus maculosus*

Frogs and Toads

Chorus Frog	*Pseudacris triseriata*
Northern Leopard Frog	*Rana pipiens*
Wood Frog	*Rana sylvatica*
Eastern Grey Treefrog	*Hyla versicolor*
Woodhouse's Toad	*Bufo woodhousei*
American Toad	*Bufo americanus*
Canadian Toad	*Bufo hemiophrys*
Great Plains Toad	*Bufo cognatus*

Turtles

Western Painted Turtle	*Chrysemys picta bellii*
Snapping Turtle	*Chelydra serpentina*
Spiny Soft Shelled Turtle	*Trionyx spiniferus*

Snakes

Eastern Garter Snake	*Thamnophis sirtalis sirtalis*
Plains Garter Snake	*Thamnophis radix*
Smooth Green Snake	*Opheodrys vernalis*
Northern Redbelly Snake	*Storeria occipitomaculata*
Western Hognose Snake	*Heterodon nasicus*
Bullsnake	*Pituophis melanoleucus*
Northern Prairie skink	*Eumeces septentrionalis*

FISH

This list is based on the reference Guide to the Common Fishes of South Dakota (Neumann and Willis 1994) along with staff observations.

American Eel	*Anguilla rostrata*
Black Bullhead	*Ameiurus melas*
Yellow Bullhead	*Ameiurus natalis*
Stonecat	*Noturus flavus*
Channel Catfish	*Ictalurus punctatus*
Common Carp	*Cyprinus carpio*
White Sucker	*Catostomus commersoni*
Bigmouth Buffalo	*Ictiobus cyprinellus*
River Carpsucker	*Carpiodes carpio*
Shorthead Redhorse	*Moxostoma macrolepidotum*
Freshwater Drum	*Aplodinotus grunniens*
Central Mudminnow	*Umbra limi*
Banded Killifish	*Fundulus diaphanus*
Fathead Minnow	*Pimephales promelas*
Emerald Shiner	*Notropis atherinoides*
Common Shiner	*Luxilus cornutus*
Golden Shiner	*Notemigonus crysoleucas*
Creek Chub	*Semotilus atromaculatus*
Northern Redbelly Dace	*Phoxinus eos*
Brook Stickleback	*Culaea inconstans*
Trout-perch	*Percopsis omiscomaycus*
Topeka Shiner	*Notropis topeka*
Logperch	*Percina caprodes*
Johnny Darter	*Etheostoma nigrum*
White Bass	*Morone chrysops*
Rock Bass	*Ambloplites rupestris*
Smallmouth Bass	*Micropterus dolomieu*
Largemouth Bass	*Micropterus salmoides*
Bluegill	*Lepornis macrochirus*
Pumpkinseed	*Lepomis gibbosus*
Green Sunfish	*Lepomis cyanellus*
Orange-spotted Sunfish	*Lepomis humilis*
Black Crappie	*Pomoxis nigromaculatus*
White Crappie	*Pomoxis annularis*
Yellow Perch	*Perca flavescens*
Walleye	*Stizostedion vitreum*
Saugeye	*Stizostedion spp.*
Northern Pike	*Esox lucius*
Muskellunge	*Esox masquinongy*

Appendix B. References

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U.S. FISH & WILDLIFE SERVICE

INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION FORM

Originating Persons: Larry Martin, Project Leader
Bridget McCann, Refuge Planner

Telephone Numbers: (605) 947-4521; (303) 236-8145

Date: July 29, 2002

I. Region: 6

II. Service Activity (Program): Refuges & Wildlife, Waubay National Wildlife Refuge Complex (Refuge and Wetland Management District)

III. Pertinent Species and Habitat:

A. Listed species and/or their critical habitat within the action area:

Bald eagle, *Haliaeetus leucocephalus* (threatened and proposed delisting)
Whooping crane, *Grus americana* (endangered)
Eskimo curlew, *Numenius borealis* (endangered)
Interior least tern, *Sterna antillarum* (endangered)
Piping plover, *Charadrius melodus* (threatened)
American burying beetle, *Nicrophorus americanus* (endangered)
Topeka shiner, *Notropis topeka* (endangered)
Western prairie fringed orchid, *Platanthera praeclara* (threatened)

There is no federally designated critical habitat in the action area (Waubay NWR Complex)

B. Proposed species and/or proposed critical habitat within the action area:

None

C. Candidate species within the action area:

Dakota skipper, *Hesperia dacotae*

IV Geographic area or station name and action:

Station: Waubay National Wildlife Refuge Complex in northeast South Dakota
Action: Implementation of the Comprehensive Conservation Plan for Waubay NWR Complex

V Location:

A. Ecoregion Number and Name: Waubay NWR Complex is located within the Service's Region 6, Mountain-Prairie Region, and specifically in the Main Stem Missouri River Ecosystem

B. County and State: Marshall, Roberts, Day, Grant, Clark, and Codington counties, South Dakota

C. Species/habitat occurrence:

Bald eagle:	An uncommon migrant throughout South Dakota. Previously seen only during migration in Waubay WMD, but pairs have been found nesting in Roberts and Marshall counties during the last 3 years.
Piping plover:	Locally common resident in the Missouri River Valley; but an uncommon migrant elsewhere in the state, including the Complex. Have rarely nested in Day and Codington counties, with the last known nesting attempt in Day County occurring in 1985.
Whooping crane:	Rarely passes through the Complex during migration. Most recent sighting was in Clark County in fall of 2000.
Eskimo curlew:	Not known to exist on Complex. Nearly extinct. Passes through Great Plains during migration. Could potentially occur in wet meadows within the Complex.
Interior least tern:	Uncommon migrant on Complex. Nests along Missouri River in central South Dakota.
American burying beetle:	Trapline on Refuge in 1996 produced no beetles. Other recent trappings have found the beetle in extreme south central South Dakota.
Topeka shiner:	Not known to exist on the Complex. Recent surveys have found healthy populations in many of the tributaries of the James, Vermillion and Big Sioux Rivers.
Dakota skipper:	Found on the Refuge and on some WPAs in Marshall, Roberts and Grant counties. Also found on a number of prairie sites on private and tribal lands within the WMD. Seem to be found wherever there is fairly healthy native prairie.

Western prairie fringed orchid: No known populations on the Complex. Appears to have been extirpated from South Dakota, but remote populations may have been overlooked as it does occur in adjacent counties in Minnesota, North Dakota, Iowa, and Nebraska. Occurs in moist, tallgrass prairies and sedge meadows.

VI Description of proposed action

The proposed action is the implementation of a Comprehensive Conservation Plan for Waubay NWR Complex over the next 15 years. Implementation of this Plan comprises implementation of all actions and activities to achieve the stated goals. Briefly, the CCP emphasizes the restoration, protection, and management of native grasslands, wetlands, and native woodlands. For a detailed description of proposed management objectives and strategies, please refer to the Management Direction chapter of the Draft CCP, pages 45 - 84.

VII Determination of effects:

A. Explanation of effects of the action on species and critical habitats in items III. A, B & C

Eskimo curlew, American burying beetle, Topeka shiner, Western prairie fringed orchid:

These species do not occur on the Complex. The CCP calls for protection, restoration, and management of habitats that could be used by these species; thus, the CCP will have a beneficial effect on these species should they again utilize Service lands on the Complex. None of the proposed actions in the CCP will have detrimental effects on these species or their habitats.

Bald eagle, piping plover, whooping crane, interior least tern:

These species are occasional migrants on the Complex. The bald eagle nests in very small numbers in two counties within the Complex. The other species are not known to nest on any Complex lands. The CCP calls for continued protection, restoration, and management of habitats used by these species; thus, implementing the CCP will have a beneficial effect on these species. None of the proposed actions in the CCP will have detrimental effects on these species or their habitats.

Dakota skipper:

This species does occur on the Refuge and in the WMD on sites with healthy native prairie. The CCP calls for continued protection, restoration, and management of prairie habitat. Thus, implementing the CCP will have a beneficial effect on this species. Prescribed fire could adversely affect this species if conducted on too large of an area all at once. However, actions will be taken to avoid this impact. None of the other proposed actions in the CCP will have detrimental effects on this species or its habitat.

There is no federally designated critical habitat on the action area (Waubay NWR Complex) nor is there a need to propose designating critical habitat within the Refuge

B. Explanation of actions to be implemented to reduce adverse effects:
In order to protect the Dakota skipper and its habitat, management units on which it is found will be divided into smaller sub-units to prevent management activities, such as burning or haying, from affecting the whole unit all at once.

VIII Effect determination and response requested[* = optional]

A. Listed species/designated critical habitat:

Determination	Response requested
no effect/no adverse modification (Species: Eskimo curlew, American burying beetle, Topeka shiner, Western prairie fringed orchid)	____ *Concurrence
may affect, but is not likely to adversely affect species/adversely modify critical habitat (Species: Bald eagle, piping plover, whooping crane, interior least tern)	____ Concurrence
may affect, and is likely to adversely affect species /adversely modify critical habitat (species: NONE)	____ Formal Consultation

B. Proposed species/proposed critical habitat

Determination	Response requested
no effect on proposed species/no adverse modification of proposed critical habitat (species: NONE)	_ ..... *Concurrence
Is likely to jeopardize proposed species/ adversely modify proposed critical habitat (species: NONE)	____ Conference

C. Candidate Species:

Determination	Response requested
no effect (Species: NONE)	____ *Concurrence
may affect, not likely to jeopardize the species (Species: Dakota skipper)	____ Concurrence
is likely to jeopardize candidate species (species: NONE)	____ Conference

Larry D Martin — 7/31/02

Larry Martin, Project Leader,
Waubay National Wildlife Refuge Complex

Date

IX Reviewing ESO Evaluation:

A. Concurrence X Nonconcurrence _____

B. Formal Consultation required: _____

C. Conference required: _____

D. Informal conference required: _____

E. Remarks:

D Gober — 8-12-02

Donald Gober
South Dakota Field Supervisor, U.S. Fish & Wildlife Service

Date

Appendix D. Glossary

Anadromous: Fish which swim up rivers from the sea at certain seasons for breeding (i.e. salmon).

Animal Impact: Sum total of all direct physical influences of livestock on grasslands such as trampling, dunging, urinating, salivating, rubbing, digging, etc. Animal impact is controlled through stock density and time.

Animal Unit Month (AUM): An AUM is the amount of forage necessary to maintain one 1,000-pound animal for 1 month.

Brood water: Wetlands with semipermanent or permanent water regimes used by ducks for the rearing and protection of ducklings.

Conservation Reserve Program(CRP): A Department of Agriculture program where payments are made to landowners to idle cropland.

Cool Season Exotic Grasses: Cool season grasses introduced to the Waubay Complex. They include smooth brome, quack grass, Kentucky bluegrass, intermediate wheatgrass, and tall wheatgrass.

Cool Season Grasses: These grasses have a C_3 photosynthetic process. Optimum growth of cool season grasses is approximately 65-75 °F. In the Waubay Complex, their primary growth periods are spring and fall. Examples include green needle grass, smooth brome, western wheatgrass, intermediate wheatgrass, and needle-and-thread.

Dense Nesting Cover (DNC): A combination of grasses and legumes planted to provide tall dense cover. DNC describes cover planted for upland nesting waterfowl in the Prairie Pothole Region. Principal species of vegetation used in DNC mixes include tall wheatgrass, intermediate wheatgrass, alfalfa, and sweet clover. This mix of species provides the necessary structural components for tall, upright residual vegetation.

Deteriorated (poor condition): As applied to grasslands in this EA, refers to a condition of less-than-potential total biotic productivity. Low productivity is usually the result of environmental conditions not natural to the site. Deteriorated grasslands typically have low species diversity (plant and animal), poor plant vigor, and significant proportions of undesirable plant species.

Duck Stamp: Common name for Migratory Bird Hunting and Conservation Stamp. Purchased by hunters and others to fund land purchases for migratory bird conservation.

Endangered: A plant or animal species listed under the Endangered Species Act that is in danger of extinction throughout all or a significant portion of its range.

Endemic Species: Plants or animals that occur naturally in a certain region and whose distribution is relatively limited to a particular locality.

Eutrophication: The process of a lake aging caused by nutrient enrichment, resulting in increased production and deposition of organic matter.

Extirpated: no longer existing in area, wiped out, locally extinct.

Fee-title: Lands owned by the U.S. Fish & Wildlife Service.

Fauna: All the vertebrate and invertebrate animals of an area.

Flora: All the plant species of an area.

Forb: A broad-leaved, herbaceous plant; for example, a columbine.

Grazing: Livestock feeding on grasses and herbage.

Grassland Succession: Natural process of change and development in the entire grassland communities.

Haying: Mechanical removal of grasses and herbage for livestock feed.

High Succession: Complex communities composed of populations of many different species of plants, animals, birds, insects, and microorganisms. Usually highly stable and not prone to high fluctuations in numbers of individual populations.

High Grassland Succession: Complex grassland communities composed of populations of a great many different species of plants, animals, birds, insects, and micro-organisms. Usually highly stable and not prone to high fluctuations in numbers of individual populations.

Indigenous: Occurring or living naturally in a geographic area.

Indigenous Migratory Birds: Migratory birds occurring or living naturally within the Waubay Complex. Synonymous with native species.

Insectivore: mammals depending on insects as food. For example - moles, shrews.

Integrated Pest Management (IPM): Control of pests utilizing a practical, economical, and scientifically based combination of biological, physical, cultural, and chemical control methods. IPM emphasizes these methods in order to reduce or eliminate the need for chemical pesticides. It is a balanced approach which considers hazard to the environment, efficacy, cost, and vulnerability of pests.

Legumes: Any of a large family of plants including peas, beans, and clovers that are used for food and forage, bearing nodules on the roots that contain nitrogen-fixing bacteria.

Litter: Residual vegetation which has lodged and become matted.

Low Succession: Simple communities composed of populations of only a few species. Usually highly unstable and vulnerable to fluctuations.

Low Grassland Succession: Simple grassland communities composed of populations of only a few species. Usually highly unstable and vulnerable to fluctuations.

Macroinvertebrate: larger invertebrates, animals without a backbone.

Migratory birds: Birds which follow a seasonal movement from their breeding grounds to their "wintering" grounds. Waterfowl, shorebirds, raptors, and song birds are all migratory birds.

Mowing: Mechanical cutting of grasses and herbage without the removal of the cut grasses and herbage.

Neotropical Migrant: A bird species that breeds north of the U.S./Mexican border and winters primarily south of this border.

Noxious Weed: A plant species designated by Federal or State law as generally possessing one or more of the following characteristics: aggressive or difficult to manage; parasitic; a carrier or host of serious insect or disease; or nonnative, new, or not common to the United States. According to the Federal Noxious Weed Act (PL 93-639), a noxious weed is one that causes disease or had adverse effects on man or his environment and, therefore, is detrimental to the agriculture and commerce of the Untied States and to the public health.

Obligate hydrophyte: Species that are found only in wetlands, such as cattails.

Overwater Nesting: Method of using wetland vegetation to build a nest that floats on water; used by migratory birds such as canvasback ducks, ruddy ducks, and grebes.

Passerine: Perching songbird; order includes over half of all birds. For example - sparrows, finches, warblers.

Perpetual: Continuing forever, permanent.

Prescribed Burn: Controlled application of fire to wildland fuels in either their natural or modified state. Fire is confined to a predetermined area while producing heat intensity and rate of spread required to achieve planned management objectives.

Residual Vegetation: Upright dead vegetation remaining from previous years of growth. Residual vegetation is different from litter in that it has not lodged.

Revenue Sharing Trust Fund: A fund provided to the County to offset the difference between taxes and revenue sharing. The amount of the fund is set so that interest earned yearly on this principal would provide the shortfall amount.

Succession: Process of change and development in community components—soil, micro-organisms, animal and plant life and microenvironment.

Seeded Nesting Cover: Vegetation planted to provide nesting cover, usually cover planted for upland nesting waterfowl in the Prairie Pothole Region. This may include DNC, cool and warm season grasses, forbs, and shrubs.

Small Wetlands Acquisition Program(SWAP): U.S. Fish & Wildlife Service program used to purchase easements and fee-title land to protect wetlands.

Tame Grass Plantings: Planted vegetation, typically a monotypic planting of a single cool season exotic grass such as smooth brome, intermediate wheatgrass, or crested wheatgrass. A legume, usually alfalfa, may be planted with a grass.

Warm Season Grasses: These grasses have a C_4 photosynthetic process. Optimum growth of warm season grasses is approximately 90 to 95 °F. In the Waubay Complex, their primary growth periods are in the summer. Examples include switchgrass, big bluestem, little bluestem, and sideoats grama.

Waterbank: A Department of Agriculture program where payments are made to landowners to protect wetlands and uplands associated with these wetlands.

Waubay Complex: Includes both the National Wildlife Refuge and the Wetland Management District.

Wetland Reserve Program(WRP): A Department of Agriculture program where payments are made to landowners to protect wetlands and uplands associated with these wetlands.

Winterkill: When dissolved oxygen levels drop to a point which cannot support large fish species.

Appendix E. Acronyms

ARPA - Archaeological Resources Protection Act
BBS - Breeding Bird Survey
CCP - Comprehensive Conservation Plan
CEA - Conservation Extension Agreement
COE - Corps of Engineers
CRP - Conservation Reserve Program
DTP-WMA - Dakota Tallgrass Prairie Wildlife Mgmt. Area
EA -Environmental Assessment
FmHA - Farmers Home Administration
GIS - Geographic Information Systems
GPS - Global Positioning System
HAPET - Habitat and Population Evaluation Team
HMP - Habitat Management Plan
IPM - Integrated Pest Management
LWCF - Land and Water Conservation Fund
NHPA - National Historic Preservation Act
NWR - National Wildlife Refuge
NWRS - National Wildlife Refuge System
NRHP - National Register of Historic Places
PFW - Partners for Fish and Wildlife
PPR - Prairie Pothole Region
PUMR - Public Use Minimum Requirement
SD GF&P - South Dakota Game, Fish and Parks
SUP - Special Use Permit
SWAP - Small Wetlands Acquisition Program
TNC - The Nature Conservancy
USDA - United States Department of Agriculture
USFWS - U.S. Fish & Wildlife Service
WBPD map - Waterfowl Breeding Pair Distribution
WEA - Wildlife Extension Agreement
WMD - Wetland Management District
WPA - Waterfowl Production Area
WRP - Wetland Reserve Program
WWPP - Waubay Watershed Protection Project

Appendix F. Key Legislation/ Policies

Volunteer and Partnership Enhancement Act of 1998: To amend the Fish and Wildlife Act of 1956 to promote volunteer programs and community partnerships for the benefit of national wildlife refuges, and for other purposes. October 5, 1998

Executive Order 13084, Consultation and Coordination With Indian Tribal Governments (1998): The United States has a unique legal relationship with Indian tribal governments as set forth in the Constitution of the United States, treaties, statutes, Executive orders, and court decisions. Since the formation of the Union, the United States has recognized Indian tribes as domestic dependent nations under its protection. In treaties, our Nation has guaranteed the right of Indian tribes to self-government. As domestic dependent nations, Indian tribes exercise inherent sovereign powers over their members and territory. The United States continues to work with Indian tribes on a government-to-government basis to address issues concerning Indian tribal self-government, trust resources, and Indian tribal treaty and other rights.

National Wildlife Refuge System Improvement Act of 1997: Sets the mission and administrative policy for all refuges in the National Wildlife Refuge System. Clearly defines a unifying mission for the Refuge System; establishes the legitimacy and appropriateness of the six priority public uses (hunting, fishing, wildlife observation, wildlife photography, environmental education and interpretation); establishes a formal process for determining compatibility; establishes the responsibilities of the Secretary of the Interior for managing and protecting the System; and requires a Comprehensive Conservation Plan for each refuge by the year 2012. This Act amended portions of the Refuge Recreation Act and National Wildlife Refuge System Administration Act of 1966.

Executive Order 13007 Indian Sacred Sites (1996): Directs Federal land management agencies to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners, avoid adversely affecting the physical integrity of such sacred sites, and where appropriate, maintain the confidentiality of sacred sites.

Executive Order 12996 Management and General Public Use of the National Wildlife Refuge System (1996): Defines the mission, purpose, and priority public uses of the National Wildlife Refuge System. It also presents four principles to guide management of the System.

Americans With Disabilities Act (1992): Prohibits discrimination in public accommodations and services

Native American Graves Protection and Repatriation Act (1990): Requires Federal agencies and museums to inventory, determine ownership of, and repatriate cultural items under their control or possession.

Federal Noxious Weed Act (1990): Requires the use of integrated management systems to control or contain undesirable plant species; and an interdisciplinary approach with the cooperation of other Federal and State agencies.

North American Wetlands Conservation Act of December 13, 1989 (16 U.S.C. 4401-4412): Public Law 101-233 provides funding and administrative direction for implementation of the North American Waterfowl Management Plan and the Tripartite Agreement on wetlands between Canada, U.S. and Mexico.

Agricultural Credit Act of 1987, Public Law 100-233: Authorizes the Farmer's Home Administration to transfer fee-title or assign interests in real estate to the U.S. Fish & Wildlife Service for the protection of floodplains, wetlands, and surrounding uplands.

Emergency Wetlands Resources Act (1986): The purpose of the Act is "To promote the conservation of migratory waterfowl and to offset or prevent the serious loss of wetlands by the acquisition of wetlands and other essential habitat, and for other purposes."

Food Security Act of 1985 (Title XII, Public Law 99-198, 99 Stat. 1354; December 23, 1985), as amended: This Act authorizes acquisition of easements in real property for a term of not less than 50 years for conservation, recreation, and wildlife purposes.

Farmland Protection Policy Act of 1980 and 1995: Requires identification of proposed actions that would affect any lands classified as prime and unique farmlands. The U.S. Natural Resources Conservation Service (formerly Soil Conservation Service) administers this act to preserve farmland. Contact the U.S. Natural Resources Conservation Service office in the project area and ask them to determine if the proposed action will affect any lands classified as prime and unique farmlands.

Archaeological Resources Protection Act (1979) as amended: Protects materials of archaeological interest from unauthorized removal or destruction and requires Federal managers to develop plans and schedules to locate archaeological resources.

American Indian Religious Freedom Act (1978): Directs agencies to consult with native traditional religious leaders to determine appropriate policy changes necessary to protect and preserve Native American religious cultural rights and practices.

Executive Order 11990, Protection of Wetlands (1977): This order directs all Federal agencies to avoid, if possible, adverse impacts to wetlands and to preserve and enhance the natural and beneficial values of wetlands. Each agency shall avoid undertaking or assisting in wetland construction projects unless the head of the agency determines that there is no practicable alternative to such construction and that the proposed action includes measures to minimize harm. Also, agencies shall provide opportunity for early public review of proposals for construction in wetlands, including those projects not requiring an EIS.

Executive Order 11988, Floodplain Management (1977): Each Federal agency shall provide leadership and take action to reduce the risk of flood loss and minimize the impact of floods on human safety, and preserve the natural and beneficial values served by the floodplains.

Executive Order 11987, Exotic Organisms (1977): This Executive Order requires Federal agencies, to the extent permitted by law, to: restrict the introduction of exotic species into the natural ecosystems on lands and waters owned or leased by the United States; encourage States, local governments, and private citizens to prevent the introduction of exotic species into natural ecosystems of the U.S.; restrict the importation and introduction of exotic species into any natural U.S. ecosystems as a result of activities they undertake, fund, or authorize; and restrict the use of Federal funds, programs, or authorities to export native species for introduction into ecosystems outside the U.S. where they do not occur naturally.

Clean Water Act (1977): Requires consultation with the Corps of Engineers (404 permits) for major wetland modifications.

Archaeological and Historic Preservation Act (1974): Directs the preservation of historic and archaeological data in Federal construction projects.

Rehabilitation Act (1973): Requires programmatic accessibility in addition to physical accessibility for all facilities and programs funded by the Federal government to ensure that anybody can participate in any program.

Endangered Species Act (1973): Requires all Federal agencies to carry out programs for the conservation of endangered and threatened species.

Executive Order 11644, Use of Off-road Vehicles on Public Lands (1972): Defines zones of use by off-road vehicles on public lands.

Wild and Scenic Rivers Act (1972): This Act establishes a National Wild and Scenic Rivers System for the protection of rivers with important scenic, recreational, fish and wildlife, and other values. Rivers are classified as wild, scenic or recreational. The Act designates specific rivers for inclusion in the System and prescribes the methods and standards by which additional rivers may be added. The Act contains procedures and limitations for control of lands in federally administered components of the System and for disposition of lands and minerals under Federal ownership. Hunting and fishing are permitted in components of the System under applicable Federal and state laws.

National Environmental Policy Act (1969): Requires the disclosure of the environmental impacts of any major Federal action significantly affecting the quality of the human environment.

Architectural Barriers Act (1968): Requires federally owned, leased, or funded buildings and facilities to be accessible to persons with disabilities.

National Historic Preservation Act (1966) as amended: Establishes as policy that the Federal Government is to provide leadership in the preservation of the nation's prehistoric and historic resources.

National Wildlife Refuge System Administration Act of 1966 as amended by the National Wildlife Refuge System Improvement Act of 1997, 16 U.S.C. 668dd-668ee. (Refuge Administration Act): Defines the National Wildlife Refuge System and authorizes the Secretary to permit any use of a refuge provided such use is compatible with the major purposes for which the refuge was established. The Refuge Improvement Act clearly defines a unifying mission for the Refuge System; establishes the legitimacy and appropriateness of the six priority public uses (hunting, fishing, wildlife observation, wildlife photography, environmental education and interpretation); establishes a formal process for determining compatibility; established the responsibilities of the Secretary of Interior for managing and protecting the System; and requires a Comprehensive Conservation Plan for each refuge by the year 2012. This Act amended portions of the Refuge Recreation Act and National Wildlife Refuge System Administration Act of 1966.

Land and Water Conservation Fund Act (1965): Uses the receipts from the sale of surplus Federal land, outer continental shelf oil and gas sales, and other sources for land acquisition under several authorities.

Refuge Recreation Act (1962): Allows the use of refuges for recreation when such uses are compatible with the refuge's primary purposes and when sufficient funds are available to manage the uses.

Fish and Wildlife Act (1956): Established a comprehensive national fish and wildlife policy and broadened the authority for acquisition and development of refuges.

Federal Aid in Fish Restoration Act of August 9, 1950 (16 U.S.C. 777-777k), as amended: This Act, commonly referred to as the "Dingell-Johnson Act," provides aid to the States for management and restoration of fish having material value in connection with sport or recreation in marine or fresh waters. Funds from an excise tax on certain items of sport fishing tackle are appropriated to the Secretary of Interior annually and apportioned to States on a formula basis for approved land acquisition, research, development and management projects.

Bald and Golden Eagle Protection Act (1940): The Act prohibits the taking or possession of and commerce in bald and golden eagles, with limited exceptions. The enacting clause of the original Act stated that the Continental Congress in 1782 adopted the bald eagle as the national symbol; that the bald eagle became the symbolic representation of a new nation and the American ideals of freedom; and that the bald eagle threatened with extinction.

Federal Aid in Wildlife Restoration Act of September 2, 1937 (16 U.S.C. 669-669i), as amended: This Act, commonly referred to as the "Pittman-Robertson Act," provides to States for game and nongame wildlife restoration work. Funds from an excise tax on sporting arms and ammunition are appropriated to the Secretary of the Interior annually and apportioned to States on a formula basis for approved land acquisition, research, development and management projects and hunter safety programs.

Migratory Bird Hunting and Conservation Stamp Act (1934): Authorized the opening of part of a refuge to waterfowl hunting. Also authorized the acquisition of Waterfowl Production Areas (WPAs) through both fee-title and easements.

Fish and Wildlife Coordination Act of March 10, 1934 (16 U.S.C. 661-66c), as amended: This Act authorizes the Secretary of the Interior to assist Federal, State and other agencies in development, protection, rearing and stocking fish and wildlife on Federal lands, and to study effects of pollution on fish and wildlife. The Act also requires consultation with the U.S. Fish & Wildlife Service and the wildlife agency of any State wherein the waters of any stream or other water body are proposed to be impounded, diverted, channelized or otherwise controlled or modified by any Federal agency, or any private agency under Federal permit or license, with a view to preventing loss of, or damage to, wildlife resources in connection with such water resource projects. The Act further authorizes Federal water resource agencies to acquire lands or interests in connection with water use projects specifically for mitigation and enhancement of fish and wildlife.

Migratory Bird Conservation Act (1929): Establishes procedures for acquisition by purchase, rental, or gift of areas approved by the Migratory Bird Conservation Commission.

Migratory Bird Treaty Act (1918): Designates the protection of migratory birds as a Federal responsibility. This Act enables the setting of seasons, and other regulations including the closing of areas, Federal or non-Federal, to the hunting of migratory birds.

Antiquities Act (1906): Authorizes the scientific investigation of antiquities on Federal land and provides penalties for unauthorized removal of objects taken or collected without a permit.

Appendix G. Mailing List

Federal Officials

- Senator Tom Daschle, Washington, D.C. and Aberdeen, SD (Beth Smith)
- Senator Tim Johnson, Washington, D.C. and Aberdeen, SD (Sharon Stroschein)
- Representative John Thune, Washington, D.C. and Aberdeen, SD (Mark Vaux)

Federal Agencies

- US Army Corps of Engineers; Steven Naler
- US Department of Agriculture
  APHIS-PPQ, Bruce Helbig
  Farm Service Agency
  (Paul Hanson, Clark Co.; W. Stanley Lamb, Codington Co.; Donna Beitelspacher, Day Co.; Joel Foster, Grant Co.; Stan Thompson, Marshall Co.; Curtis Sylte, Roberts Co.; Steven Cutler, State Executive Director)
  Natural Resource Conservation Service
  (Earl Henderson, Clark Co.; Arlene Brandt-Jensen, Codington Co.; Ron Christianson, Day Co.; Dale Johnson, Grant Co.; Tom Martin, Marshall Co.; Kent Duerre, Roberts Co.; Connie Vicuna, Biologist; Janet Oertly, State Conservationist)
- US EPA, Denver, CO
- US Fish & Wildlife Service: Denver, CO; Arlington, VA; Portland, OR; Albuquerque, NM; Anchorage, AK; Juneau, AK; Fort Snelling, MN; Atlanta, GA; Hadley, MA; Sacramento, CA; Shepherdstown, WV; Sherwood, OR; Air Quality Branch, Lakewood, CO; Tewaukon NWR, ND; Lost Trail NWR, MT; Medicine Lake NWR, MT; Crescent Lake/North Platte NWR, NE; Arrowwood NWR, ND; Sand Lake NWR, SD; Alamosa/Monte Vista NWR, CO; Arapaho NWR, CO; Ecological Services - Pierre, SD; Big Stone NWR, MN; Morris WMD, MN; Madison WMD, SD; Huron WMD, SD; Lacreek NWR, SD; Brookings WHO, SD; Lake Andes NWR, SD
- US Geological Survey (Rick Benson; Dr. Charles Berry, SDSU Coop. Wildlife Research Unit; Doug Johnson, Northern Prairie Science Center; Rick Schroeder, Midcontinent Ecological Service Center)

Tribal Officials

- Sisseton Wahpeton Sioux Tribe - Fish and Wildlife Department, Alvah Quinn

State Officials

- Governor William J. Janklow
- Representatives (Tim Begalka; Art Fryslie; Gary Hanson; Claire Konold; Jim Peterson; David Sigestad; Jim Hundstad; Al Koistinen; Duane Sutton)
- Senators (Don Brosz; H. Paul Dennert; Larry Diedrich; Brock Greenfield; Paul Symens)

State Agencies

- Department of Agriculture - Ron Moehring
- Department of Environment and Natural Resources - John Hatch, P.E.
- Department of Game, Fish and Parks (John Cooper, Secretary; Doug Alvine, Regional Supervisor, Watertown; Ron Meester, Fisheries Manager, Webster; Paul Coughlin, Senior Wetlands Biologist, Pierre; SD Game, Fish and Parks Commissioners: Tim Kessler, Chairman)
- Department of Military & Veterans Affairs - Division of Emergency Management; Gary Whitney
- SD State Historical Society
- Illinois Department of Natural Resources - Tom Nelson

City/County/Local Governments

- 1st Dist. Assoc. of Local Govt. - Gregory Maag
- Fort Township - John Hogland, Chairman
- Grant Co. Commissioners
- Marshall Co. Commissioners
- Roberts Co. Commissioners
- Codington Co. Commissioners
- Clark Co. Commissioners
- Day Co. Commissioners
- Watertown City - Mayor Brenda Barger
- Waubay City - Mayor Kevin Jens
- Webster City - Mayor Mike Grosek

Libraries

- Webster Public Library
- Britton Public Library
- Watertown Public Library
- Waubay Public Library
- Grant County Public Library
- Emil M. Larson Public Library
- Sisseton Memorial Library

Organizations

- Animal Protection Institute, Sacramento, CA
- Chambers of Commerce - Milbank, Watertown, Sisseton, Webster
- Clark Co. Pro Pheasants - Fred Obemeier
- Conservation Districts (Diane Bowers, Clark Co.; Sandy Law, Codington Co.; Noel Anderson; Dennis Skadsen, Project Coord.; Day Co.; Jan Berger, Grant Co.; Wanda Franzen, Marshall Co.; June Helgeson, Roberts Co.)
- Defenders of Wildlife - Noah Matson; Tom Uniack
- Ducks Unlimited, Inc. - Rick Warhurst, Bismarck
- EDWDD, Jay Gilbertson
- Farm Bureau of SD - Richard Kjerstad, President
- Girl Scouts of America (Service Center, Marian Raml; Webster Troop 4004, Marianna Finn)
- Glacial Lakes and Prairies Tourism Assoc.
- Institute for Policy Research - H. Paul Friesema
- Izaak Walton League - James Madsen
- Klein Family Farms, Inc. - Earl Monnens
- KRA Corporation, F&W Reference Service
- National Audubon Society - Gretchen Muller
- National Farmers Organization - Dave Meyer, President
- National Trappers Association - Scott Hartman
- National Wildlife Refuge Assoc. - Brent Giezentanner
- The Nature Conservancy - Pete Bauman; John Humke
- Nobles County Env. Service - Judy Petersen
- North American Bluebird Society - John Ivanko and Lisa Kivirist
- Outdoor Women of SD - NE Chapter
- Phillips Petroleum Co., Laws and Regulations Department - B.D. “Diann” Beene
- Prairie Restorations, Inc. - Ron Bower

- SD BASS Federation - Phillip Risnes
- SD Ornithologists' Union
- SD Wildlife Federation - Chris Hesla
- The Wildlife Society, Central Mountain & Plains Sec.
- Upper Big Sioux River Watershed Project - Mike Williams
- Whitetail Bowman Archery Club - Bob Jensen
- The Wilderness Society
- Wildlife Management Institute - Bob Bryne (CARE); Rob Manes
- The Wildlife Society - SD Chapter; Paul Coughlin, President

Newspapers

- Aberdeen American News
- Britton Journal
- Clark County Courier
- Grant County Review
- Langford Bugle
- Sisseton Courier
- South Shore Gazette
- Reporter & Farmer, Webster
- Watertown Public Opinion
- Wilmot Enterprise

Schools/Universities

- Augustana College - Peter Winham, Archeology Lab.
- South Dakota State University - Extension Service (Chuck Tollefson, Clark Co. Ext. Agent; Chuck Langner, Codington Co. Ext. Agent; Gary Troester, Day Co. Ext. Agent; Amy Kruse, Grant Co. Ext. Agent; Lorne Tilberg, Marshall Co. Ext. Agent; Sandy Gregg, Roberts Co. Ext. Agent; Leon Wrage)
- South Shore School, Max Nawroth

Individuals

Jim Anderson
James Barnett
Richard Barnett
Kurt Bassett
Frank Bauer
Frank Benoit
Loren Berg
Art Berger
Gordon Bergquist
Neil Bien
Rory Binkerd
Douglas and Elaine Block
Craig Brown
Dan Brown
Robert Brown
Marvin Bury
Kenneth Cameron
Jeff Case
Mark Conrad
Dr. M. S. Dorsett
John Dorsett
Bruce Eldridge
Maurice Erickson
Calvin Finnesand
Lylas Fisher
Donald Foote
Byron E. Foreman
Dennis Foster
Ms. Dorothy Foster
Kevin Fridley
Chuck Fromelt
Charles Fulker
Charles Gauker
Delton Gerber
Derek Greene
Duaine Greenhagen
Robert Gruba
Harlan Hagen
Harold Hansen
Bruce Harris
Robert Hartinger
Frank Heidelbauer
Clinton Hellevang
Scott Helms
James Hendrickson
Dale Henry
Orlin Jameson
The Johnsons
Gary Jongeling
C.M. Keintz
Kim Kempton
Margaret King
Dean Kirkeby
Roger Knapp
LeRon Knebel
Alfred LaMee
Scott Larson
Loriann Lindner
Ron Loeschke
Don Mahlen
Jerry Marnette
Gary Marrone
Bob Martenson
Joy McGregor
Kim McWilliams
John K. Miller
Mac Miller
James O. Monson
Rick Norris
William Obermeier
Lela Olson
Dr. Jason Ostby
Kermit Parks
Ben Parsons
Vernon Pearson
Ken Pigors
Tim Pravecek
Thomas L. Raines
Mark Redlinger
Ken Rock
Lester Rowland
Sam Rudolph
Herbert Samson
Allen Sass
Jerry Schlosser
Steven Schultz
Larry Schwarze
Robert Sommers
Loy Stange
Duane Steege
David Strang
Orman Street
William Street
Lowell Summa
Jim Sweeting
David Trautner
Jerry Travis
Tony Travis
Bob Urevig
David Wade
Daniel M. Weber
Henry L. Wells
Robert F. Witt
John Woodman
Dennis Zenk
Fred Zenk

Appendix H. WPA Management Priorities

Waubay Wetland Management District includes a diverse group of 199 Waterfowl Production Areas spread over six counties. Many of the WPAs were purchased in pieces from different landowners. For the sake of the discussion in this section, a WPA consists of one, or more, purchased tracts which are managed together as a unit.

The WPAs range in size from 0.98 to 1674 acres. They vary from all water to all uplands. Uplands vary from tame grasses to native grasses being dominant. Most of the WPAs are located on the Coteau Des Prairies, but there are also units in the James Basin, and Minnesota River-Red River Lowlands. Surrounding land uses range from primarily cropland to dominated by rangeland. WPAs range from being bordered by a United States Highway to being inaccessible to the general public. Some WPAs have uplands in good nesting condition and require only maintenance management, while others require aggressive management to change the current condition. There is no such thing as a "typical" WPA and all of the above factors influence the management of any individual WPA.

Many of the comments provided in the CCP public process suggested that more management (grazing, burning, haying) be done on WPAs (see Consultation and Coordination with Others). These comments echoed an annual sentiment of the staff, that there is so much more that could be done. Due to current staff and budget, only about 10 percent of WPAs are actively managed in any year. Management is done in many cases on an opportunistic basis. For example, where the previous landowner has cattle adjoining the WPA.

It is obvious from bird use of these units that all migratory birds do not view WPAs as equal. Therefore, it seemed appropriate to divide WPAs into priority groups so that more resources, time and money, could be spent on WPAs that have the greatest potential of achieving the mission of the WMD.

There are three factors that were considered in compiling the priority list. Those factors were the Waterfowl Breeding Pair Distributions Map, the size of the WPA and the upland to wetland ratio.

The Waterfowl Breeding Pair Distributions map (Map 8) shows where waterfowl breeding pairs are located. By focusing resources (time and money) on areas with an average of 25 duck pairs per square mile and above, the greatest effect can be realized.

Many studies have concluded that large tracts of grasslands are best for nesting birds, both waterfowl and passerines (Burger et al. 1994; Duebbert and Kantrud 1974; Herkert 1994; Samson 1980: Vickery et al. 1994). The highest priority was given to tracts of 160 acres or more. A medium priority was given to tracts 60 - 159 acres. The lowest priority was for tracts less then 80 acres.

The upland to wetland ratio is a management consideration based on the economy of scale concept. Wetlands are critical for waterfowl broods, but uplands are needed by most species for nesting. There is little management that can be done to wetlands, so the higher the upland to wetland ratio is, the more management potential exists. The highest priority was given to tracts with an upland to wetland ratio of at least 1. A medium priority was assigned to tracts with upland to wetland ratios of .75 - .99. A low priority was given to tracts with an upland to wetland ratio of less then .75.

Three groups of WPAs were developed. These are labeled A, B and C, with A being the highest priority. Below is a description of what specific criteria were used for each and what the management implications are:

A: These areas were selected to represent the best nesting units in the WMD. They must be a minimum of 160 acres and have a minimum upland to wetland ratio of one. "A" WPAs will be managed and monitored yearly. Sixty-one, or 31 percent, of the WPAs are in this group. Rest will be used as a management tool as needed. If previous commitments for grazing/haying have not been made, the tracts will be put out for bid. Burning is another management tool that may be used. These WPAs will be monitored to assure that dense nesting cover is being maintained. Within the A category there are some units that are good native grass stands. These will be monitored to ensure there is no loss of plant diversity or encroachment of tame or exotic vegetation. Other WPAs in this category have poor nesting cover. These units will be actively managed to alter their current condition.

B: These areas were selected if they were a minimum of 80 acres and upland to wetland ratio of .75. There are 52 tracts, or 26 percent of the WPAs, in this group. These WPAs will be managed on an opportunistic basis, as time and money permit.

C: These units will not be managed. There are 86 units in this category. Weeds will be controlled and signs maintained.

For 5 percent of the units, the category an individual WPA should have been in was changed due to manager discretion. Discretion was used when other conditions where known to exist which were not included in the original evaluation. Some units were very close to one of the cutoffs and due to the presence of grassland easement or state lands adjoining the unit it was elevated to the next level. Many of the changes were units that were placed into the "C" category for now due to current high water levels. These categories are not static. They can and will be changed if conditions change.

All counties have units within each of the categories. A complete listing follows.

PRIORITY LIST A

WPA	Acres	up/wet ratio	T-Storm score	County
Lamb (121,499)	320	1.1	50	Clark
Neal-Barton (180,452)	315.7	1.78	36	Clark
Geidd-Hagen etc. (299,375,306,469)	292.85	2.68	49.3	Clark
Markrud-Larkin (219,427)	280	1.3	43.3	Clark
Lacraft (329)	160	2.45	43	Clark
Anderson (101,a)	160	2.17	50	Clark
Bender (179)	160	1.49	47.2	Clark
Herker (471)	160	1.01	48.6	Clark
Huppler-Springer (66, 68)	777.81	2.08	29.4	Codington
Warner Lake (1,110, 133, 343, 383)	745.47	9.53	49.7	Codington
Roe E&A (107, 131, 107 b-c)	720	3.67	47.2	Codington
Horseshoe L. (Roe) (107a)	617.47	2.6	51.8	Codington
Overland-Korth (155)	390.95	4.17	48.6	Codington
Johnson (120)	297.97	2.13	36.3	Codington
Bursvold-Darling-Sandel (41,111, 158)	241.93	1.3	38.8	Codington
Thompson (12)	226.5	0.9	36	Codington
Bruflat (135)	190	1.64	36.7	Codington
Rasmussen-Moorhouse (36a,64)	185.2	1.56	36	Codington
Roe, E. (159,a)	177	3.56	50.9	Codington
Coplan (16, a)	160	1.92	36	Codington
Moe, T.D. (156)	160	1.79	25	Codington
Stangland-Augustana (25, 60)	635.2	1.82	64.4	Day
Kriech-Becht-Lanager (13, 26, 276, 296)	340	1.72	60.8	Day
Meuer-Orness (14, 19)	314.42	2.94	51.8	Day
E. Hanson-Thurow (59, 474)	280	3.5	50	Day
West Storley (56 a)	195.88	3.3	50	Day
N. Taylor-Helwig (291, 216)	180	1.36	50	Day
McCarlson-Johnson (15, 333)	179.46	1.59	50	Day
Zenk (319)	160.45	2.22	43	Day
Donat (22)	160	1.99	50	Day
S. Taylor (291 a)	160	1.66	50	Day
Hendrickson-U.S. (55, 1a)	160	1.25	43	Day
Hagen (290)	159	1.69	36	Day
O'Farrell-Reyelts (24, 148)	1674.1	5.37	67.5	Grant
Meyer Lake (149)	1325.44	1.85	59.6	Grant
Price-Kaufman (82, 85)	340	2.47	26.2	Grant
Meyer-Janssen (41, 42)	280	1.06	62.6	Grant
Berger-Eidet (73, 74)	209.17	1.33	36	Grant
VanHout (59)	160	7.81	25	Grant
Peterson-Solem (60, 61)	160	2.06	36	Grant
Jensen (274)	1100	2.27	68	Marshall
Lake Emma (22, 126, 143, 186, 231,etc.)	1069	3.36	70.7	Marshall
N. Red Iron Lake (76, 250, 272)	918.7	3.64	64.4	Marshall
Cottonwood Lk.(94, 150, 260)	851.71	2.75	55.4	Marshall
Ruckdashel-Hofland (11, 244)	804.91	4.05	68	Marshall
Lamee N. & S. (84)	762.89	4.9	60.8	Marshall
Peterson Memorial (33, 122)	640	3.74	67.1	Marshall
Deutsch (47, 2, 108, 220, 214)	612.83	1.68	54.44	Marshall
LCFJ (92, 134, 161, 249, 251)	519.93	3.97	51.8	Marshall
Abraham Lake (255, 257, 268)	466.8	5.55	49.5	Marshall
Ringer-Guy (217, 258)	419.34	3.91	51.8	Marshall
Rolstad (69, 269)	405.39	2.91	79.7	Marshall
Buss (227)	160.12	2.52	68	Marshall
Weeks (242, 109)	160	3.04	95	Marshall
Strand (93)	160	1.18	36	Marshall
Olson (10)	148.6	5.19	68	Marshall
Hellevang (143c)	147.25	2.71	50	Marshall
Wike (187, 362)	594.9	3.6	88.25	Roberts
Berwald et al (84, 93, 166)	560	1.88	64.4	Roberts
Loberg et al (11, 282, 286)	282.6	2.45	50	Roberts
Hamm-Elton (44, 114)	173.85	1.28	44.4	Roberts

PRIORITY LIST B

WPA	Acres	up/wet ratio	T-Storm score	County
Geise (200)	240	0.87	49.3	Clark
Evans-Kelly (314,502)	160.11	0.52	36	Clark
Graves (326)	147.99	1.38	50	Clark
Kadinger (24,a)	146.07	3.36	50	Clark
Poppen (324)	120	2.78	36	Clark
Kuecker (252)	80	2.59	36	Clark
Tulowetzke (31)	80	1.39	36	Clark
Kramer (11)	80	1.35	50	Clark
Struckmann-Trumm (30, 67)	261.38	0.94	36	Codington
David (124)	209.07	1.01	43.7	Codington
Geiger-Stevens-Page (89, 91, 92)	144.21	1.46	36.7	Codington
Owen-Mills (162, 165)	139.37	1.77	35.45	Codington
Swan (132)	137.92	1.4	36	Codington
Peterson (69)	80	2.35	50	Codington
Neal (127)	80	1.96	36	Codington
Dolney (40)	133.72	1.85	50	Day
Hanse-Rumpca (18, 139)	98.6	0.68	49.3	Day
Holden et al. (292, 293, 294)	81	1.59	36	Day
Wagner-Stianson (43, 57)	80	1.34	50	Day
McKane (288)	79.79	1.4	36	Day
East Storley (56 b)	75	1.67	50	Day
Case-Anderson et al (43, 44, 48)	227.13	0.75	68	Grant
Mogart-Street et al (53, 54, 142)	131.7	1.84	32.7	Grant
Antroinen-Broich (69, 172)	119.6	2.9	49.3	Grant
Miller-Schumacher (72, 75)	108.43	2.26	20	Grant
Garvey-Loehrer (62, 84)	104.84	3.5	15	Grant
Green (155)	87.3	7.78	81.5	Grant
Stink Slough (120a, 260)	400.43	0.74	50	Marshall
Keintz E. & W. (29)	174	1.78	30.5	Marshall
Gerber (221)	154	3.32	50	Marshall
Little Ruckdashel (11a)	143.2	3.33	68.54	Marshall
Guy C. East (257b)	120	5.49	68	Marshall
Fagerland E. (136)	85	0.94	50	Marshall
Hilleson-Sanderson (13, 30)	82.66	0.84	68	Marshall
Syverson (130, 246)	80.69	1.68	50	Marshall
Little Hinman (94)	80.21	2.96	59	Marshall
Silver Lake (257a)	80	3.88	50	Marshall
Bahr (12)	80	3.81	68	Marshall
Horseshoe Lake (171, 212, 214)	60.82	2.38	68	Marshall
Fonder-Okeson (134, 285)	401.6	0.69	25	Roberts
Danielson-Fladland (163, 173)	280	0.65	50	Roberts
Stowe (129)	160	0.83	50	Roberts
Kutter-Bredvik (113a, 148)	144.38	1.33	50	Roberts
Broz (211)	130.49	2.07	49.3	Roberts
Rolstad-Pearson (133, 352)	130.4	1.24	55.4	Roberts
Kutter et al (113, 136, 138)	125.8	0.93	50	Roberts
S.D-Eggen E. (2, 196)	120.8	5.46	51.8	Roberts
Navratil (130)	120	0.93	50	Roberts
Cameron (121)	119.04	1.04	30.5	Roberts
Knebel et al (147, 149, 150, 158)	117.2	0.83	68	Roberts
Minder-Dickinson (10, 132)	103.08	0.82	50	Roberts
Johnson (140)	80	3.4	36	Roberts

PRIORITY LIST C

WPA	Acres	up/wet ratio	T-Storm score	County
Froke-Waldow-Ness (372,373,374)	567.51	0.4	54.68	Clark
Saboe (476)	280.8	0.71	57.2	Clark
Smith (477,478)	189	0.64	48.6	Clark
Milburn-Foster (311,339)	177.37	0.38	36	Clark
Seefeldt (370)	170.83	1.06	50	Clark
Reinhart (10)	157.49	0.46	36.7	Clark
Ash-Moe (146,240)	147.69	0.44	50	Clark
Lee (315)	121.85	0.8	43	Clark
Storbeck (340)	103.85	0.61	36	Clark
Austin (312)	86.17	0.96	36	Clark
U.S. 1	80	0	36	Clark
Kannegieter, R. (18)	73.18	0.2	36	Clark
Wells (103)	60	1.32	36	Clark
Kannegieter, D. (92)	57.7	0.43	36	Clark
Evenson (328)	50	1.06	36	Clark
McLain (232)	46.62	0.56	36	Clark
Christopherson (241)	40	1.05	50	Clark
Hunt-Jennings (308,309)	38.79	0.41	36	Clark
Orthaus (119)	199.78	0.38	38.8	Codington
McClung (80a)	156.42	0.34	36	Codington
Briggs (130)	80	0.04	36	Codington
Elmore-Wasland (10, 234)	77.76	0.18	66.2	Codington
Halse-Grygiel (15, 38)	76.65	0.7	25	Codington
Burnstad (17)	48.95	0.42	25	Codington
Hansen (82)	45.35	3.3	41.6	Codington
Moorhouse (36)	42.58	0.28	15	Codington
Drake (160)	20	0	15	Codington
U.S. (1)	3.01	0	36	Codington
U.S. (1a)	0.98	0	68	Codington
Hozerland-Hamman (12,23,24)	205.71	0.26	41.6	Day
Lundeen (284)	149.94	0.93	49.5	Day
Dulitz (310)	149.67	0.61	50	Day
Akerson-Mattson (175, 338)	145.98	0.47	52.2	Day
Gruba-Teigen-Kwas. (243, 263,277)	133.87	0.35	50	Day
Hanson-Johnson (11, 20)	124	0.59	36	Day
Cramer (298)	109.47	0.68	36	Day
Gonsoir (132)	89.76	0.51	50	Day
Schmig (176)	82.46	0.43	50	Day
Fishbeck (44)	80	0.73	50	Day
Thompson (282)	80	0.02	50	Day
U.S. (1d)	80	0.02	50	Day
Denholm-Nelson (10, 193)	79.4	0.45	50	Day
Opitz (342)	70.8	0.8	36	Day
Schmit (194)	64.03	0.59	36	Day
Hilt (17)	62.12	0.55	50	Day
White-Stavig (170, 186)	44.85	0.35	43	Day
Eidahl (68)	44.84	0.88	50	Day
Bristol Grazing (197)	42.8	0.46	50	Day
Hawkinson (16)	40.94	1.79	36	Day
U.S. (1b)	40	0.32	50	Day
U.S. (1c)	40	0.23	68	Day
Wika (428)	40	0.16	36	Day
Nicolay (58)	40	0	31.6	Day
Bailly (45)	37.52	0.89	28.9	Day
Hubsch (229)	31.67	0.49	50	Day
Peterson (207)	27.69	0.38	36	Day
H. Hanson (146)	13.75	0.27	68	Day
U.S. (Antelope Lake) (1)	8.75	0	50	Day
Larson et al (63, 67, 68)	126.9	0.55	36	Grant
Streich (20)	79.24	0.62	17	Grant
Jensen (83)	71.84	3.24	15	Grant
Anderson (65)	65	1.2	25	Grant
Loehrer (84a)	48.08	1.55	25	Grant
Skoog (86)	46.01	1.54	15	Grant
Nelson (38)	34.06	0.62	68	Grant
Keeney (55)	34	0.64	15	Grant
Pew (10)	22.5	1.78	15	Grant
N. Ottertail (214c)	79.81	0.06	43	Marshall
Likness (92)	47.06	0.19	50	Marshall

S. Ottertail (214b)	40	0.03	50	Marshall
Osterman (119)	38.7	0.54	95	Marshall
Little Hauck (120)	16.99	0.11	50	Marshall
U.S. (1)	16.89	7.04	50	Marshall
Eickman (175)	78.5	2.27	36	Roberts
Carl (269)	75.4	2.22	36	Roberts
Pearson, M. (120)	75.2	0.11	25.6	Roberts
Remund (80, 351)	69.14	0.84	29.4	Roberts
Kastner (165)	65.52	1.98	50	Roberts
Pederson (181)	56.5	1.68	50	Roberts
Arndt (141, 142)	49.57	1.83	50	Roberts
Harsted-Elton (61, 127)	46.66	0.91	68	Roberts
Gleason (164)	44	1.4	50	Roberts
Meyer (167)	40.5	1.63	50	Roberts
Eggen W. (196)	40.11	2.31	68	Roberts
Eneboe (33)	34.6	1.02	36	Roberts
Stavig (122)	31.4	1.39	25	Roberts

Appendix I. Ecosystem Planning for the Mainstem Missouri River (condensed for CCP)

ECOSYSTEM PLAN
MAINSTEM MISSOURI RIVER
NORTH DAKOTA, SOUTH DAKOTA AND EAST MONTANA

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WETLANDS AND WATERSHEDS FOCUS AREA
MISSOURI RIVER
MISSOURI RIVER FOCUS AREA

NATIVE PRAIRIE GRASSLANDS
RIPARIAN AREAS
RIPARIAN FOCUS AREA

Mainstem Missouri River Ecosystem

Ecosystem Planning for the Mainstem Missouri Watersheds, including the Dakotas and Northeastern Montana

Prairies, wetlands, rivers. The contrasts are obvious, but a common thread runs through them: these habitats and the fish and wildlife that depend on them have undergone substantial change in the 200 years since Lewis and Clark ventured up the Missouri. Wetlands and native prairies have been converted to agricultural crop production and cities and towns. The "mighty Missouri" and many other rivers and streams have been dammed. The habitats that remain are increasingly more important to the region's fish and wildlife populations.

The U.S. Fish & Wildlife Service (Service) has adopted an ecosystem approach to conservation to fulfill its trust responsibilities with greater efficiency and effectiveness. Through this holistic approach to resource conservation, the Service can accomplish its mission to "conserve, protect, and enhance the Nation's fish, wildlife, and plants and their habitats for the continuing benefit of the American people."

An ecosystem approach to fish and wildlife conservation means protecting or restoring functions, structure, and species composition of an ecosystem while providing for its sustainable socioeconomic use. Key to implementing this approach will be recognizing that partnerships are an essential part of a diverse management team to accomplish ecosystem health.

The Service has adopted watersheds as the basic building blocks for implementing ecosystem conservation. The ecosystem includes portions of the Missouri River and Hudson Bay watersheds and is called the Missouri River Mainstem Ecosystem.

The Mainstem Ecosystem Team's Plan identified needs and set short and long-term goals and quantifiable objectives. The Team, with input from current partners and field stations, identified four focus areas; wetlands, native prairies, the Missouri River, and riparian areas. Priorities are based on significance in the ecosystem, species diversity, risk/threat to the entire focus area, public benefits, international values and trust resources. Also considered was a feasibility ranking based on legal mandates, opportunity for partnership, likelihood of success, cost effectiveness for activities, and significance of public land/private reserves.

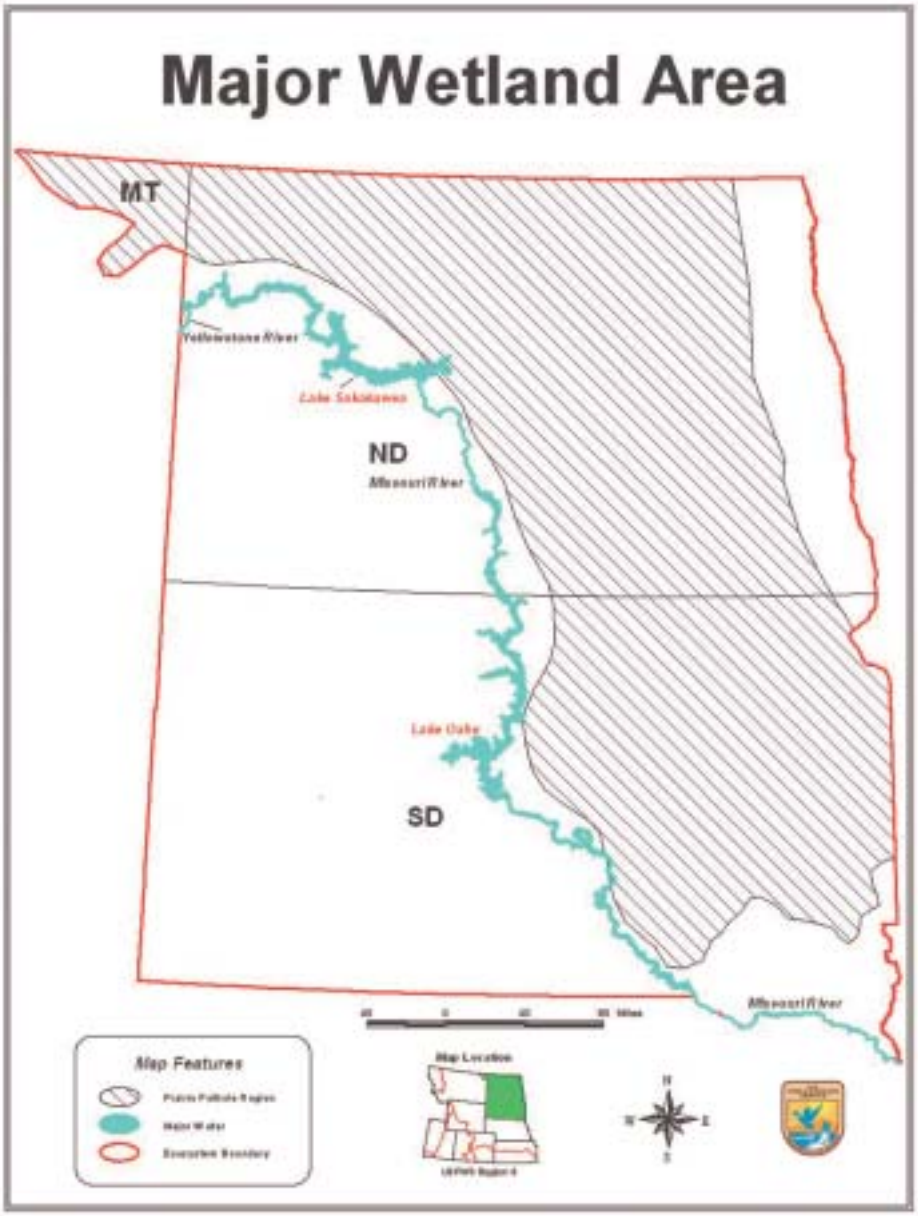
This document is a first step to the implementation of an ecosystem approach to fish and wildlife conservation and calls for conserving fish and wildlife by protecting and restoring natural ecosystems.

WETLANDS

The glacia-ted prairies on North and South Dakota and northeastern Montana cover approximately 60 million acres. Once a myriad of prairie pothole wetlands in a sea of native prairie, the area is now the "brea-d basket" of the country and intensively farmed. Drainage, largely for agricultural purposes, has reduced 7.2 million acres of wetlands by over 40 percent, to 3.9 million acres. Native prairie, mostly mid-grass, has been reduced by 75 percent to 14.9 million acres. Much of the remainder is overgrazed by livestock.

The area is rich in wildlife. Prairie potholes are the lifeblood for waterfowl and other migratory water birds. As an example of the importance of the prairie wetlands, ducks bande-d in North Dakota have been recovered in 46 states and 23 other countries. Grassland nesting, neo-tropical birds have declined faster than woodland neotropica-ls or prairie nesting ducks. Several endangered and threatened species and species of management concern, including the ferruginous hawk, black tern, and Baird's sparrow, breed in the prairie and wetland habitats of this focus area.

Agriculture is the dominant economic activity and force on prairie wet-lands and grasslands. No other activity in the focus area affects habitats and wildlife populations to the extent that agriculture does. Simi-larly, USDA and the various federal farm programs have more influence on natural resources and wild-life than the Fish and Wildlife Service, all the state wildlife agencies and all the conservation organizations combined.



The Fish and Wildlife Service has been involved in prairie and wetland resources since the early 1900s. The Service has sixty-nine National Wildlife Refuges (380,000 acres) and nineteen Wetland Management Districts in the focus area. Since 1961, the Service's Small Wetland Acquisition Program has acquired 448,000 acres in fee-title and 1.9 million acres in perpetual easement. Since the 1985 Food Security Act, the Service has been involved with the USDA, in almost all wetland conversions on private land. Similarly, Service activities through the U.S. Army Corps of Engineer's administration of the Section 10/404 programs and the Fish and Wildlife Service Coordination Act have been focused on wetland resources.

The Prairie Pothole Joint Venture, including these three states, is a priority area for the North American Waterfowl Management Plan. As a result of the Joint Venture, the Service, other federal agencies, the state wildlife agencies, and a number of private conservation organizations, such as Ducks Unlimited, The Nature Conservancy, National Audubon Society, and the North Dakota Natural Resources, have formed excellent partnerships.

WETLANDS AND WATERSHEDS FOCUS AREA

Visions : Diverse, wetland habitats and watersheds that provide an abundance and diversity of native flora and fauna in the ecosystem for the benefit of the American public.

Goal 1: Increase recognition of wetland values by the various publics (communities, conservation organizations, communication people, Congressional delegations and staff, and corporate entities) to develop a wetland advocacy.

Objective A: Over the next 3 years, de-velop and implement an information and outreach plan in North and South Dakota and northeastern Mon-tana. (Work with EVS Bran-ch)

Goal 2: Conserve, restore, and enhance wetlands and wetland habitats and functions for trust species and species of concern.

Objective A: As a minimum, annually protect 15,000 acres of wetlands through fee and easement over the next 10 years in the ecosystem.

Objective B: Assist partners and other agencies in protecting, creating, restoring, managing, and en-han-cing 10,000 acres of wetlands and associated uplands annually.

Goal 3: Protect the water supply and property interests of wetlands on Service lands and easements. (This goal will be further defined with the Water Rights Division)

Objective A: File for and secure water rights on eligible Service properties and easements over the next 10 years.

MISSOURI RIVER

Prior to the early 1900-s, the Missouri River was characterized by ever eroding banks, shifting side channels, heavily wooded islands, abundant bottoml-ands, and myriad sandbars. The "Big Muddy'-s" con-stantly changing nature supported one of North America's most diverse and extensive aquatic and riparian ecosystems. Today the Missouri River is vastly different from that "untamed" floodplain system of even 50 years ago. Originating in the Rocky Mountains of south-central Montana, the River flows 2,300 miles, traversing seven States and passing through seven mainstem dams built and maintained by the Federal Government. Over 900 miles (nearly 60 percent) of the former upper River passing through Montana, North Dakota, South Dakota and Nebraska, now lie under permanent multi-purpose reservoirs. Construction and management of these dams transformed a complex natural riverine system and caused profound physical and natural changes to the River.

As the Missouri River changed, so did the wildlife communities that depended so com-pletely upon it. Impoundments, channelization, and subsequent control of water discharges have significantly reduced population levels and reproductive success of some nature species. Currently, eight fish species, 15 birds, six mammals, four reptiles, six insects, four mollusks, and seven plants indigenous to the system are listed as either threatened or endangered or are under status review for possible listing. One of the Missouri River fauna groups most severely impacted by the chang-es was the endemic fish populations. Large river species, like the sturgeon and paddlefish, have experienced serious population declines and loss of reproduction as a result of the changes to the System.

Although the Missouri River ecosystem can never be returned to its predevelopm-ent state, some of the ongoing destructive processes can be modified and the overall condition of the ecosystem improved. Actions can be taken toward recovery of the river's biological integrity, while retaining developmental purposes such as flood control, recreation and water supply. A holistic plan of action involving such diverse entities as the States, Tribes, Federal Agencies, and private interests will be required to accomplish the needed rejuvenation of the Missouri River. This plan must involve a coordinated, system-based approach which recognizes the needs of the Basin's fish and wildlife re-sources, and the public benefits they impart, in addition to facilitating developmental needs and values.

MISSOURI RIVER FOCUS AREA

Visions: **A healthy Missouri River capable of self-sustaining fish and wildlife resources.**

Goal 1: Reestablish some semblance of the natural form and function of the Missouri River and prevent further degradation for priority riverine sections.

Objective A: Implement provisions of the Services Reasonable and Prudent Alternative described in the Missouri River Biological Opinion(November 30,2000).

1. Achieve a more ecologically beneficial hydro graph below Ft. Peck, Garrison, Ft. Randall, and Gavins Point Dams by working with COE, States, and other stakeholders by 2003.
2. Work with the COE, States, and stakeholders to achieve compatible ecologically beneficial water quality parameters including temperature, sediment transport, and turbidity by 2003.
3. Increase functional habitat base in prioritized riverine sections through restorations, creations, and modification/enhancement where opportunities allow. Attempt one major project per year beginning in 2001.

Objective B: Work with local zoning authorities and regulators to develop and implement policies that discourage floodplain development and bank stabilization to maintain/restore river functions by 2003.

Objective C: Continue an environmental contaminants presence on the Missouri River that monitors conditions, identifies issues and problem areas, and develops strategies for rehabilitation.

Objective D: Identify strategies and implement partnerships that maintain and restore riparian values, with emphasis on cottonwood regeneration.

Objective E: Develop and implement a conservation strategy that protects riparian values at the confluence of the Missouri and Yellowstone Rivers (2004).

Goal 2: Conserve endangered and threatened species and species of special concern in riverine and impounded reaches, consistent with other Service objectives.

Objective A: Augment current pallid sturgeon populations in: 1) the Missouri River above Ft. Peck Reservoir, 2) the Missouri and Yellowstone Rivers above Lake Sakakawea, and 3) below Gavins Point Dam through hatchery production to develop a genetically sound natural population structure by 2011.

Objective B: Achieve a 3-year running average fledged success rate of 0.70 for 325 pairs of least terns, and 1.13 for 350 pairs of piping plovers on the Missouri River system by 2011.

Objective C: Develop management strategies plans for the sicklefin chub and the sturgeon chub by 2002, and seek funding and implementation of plans by 2004 in order to prevent declines in their population status.

Objective D: Establish priority and complete status reviews for species of special concern, such as the blue sucker, flathead chub, western silvery and plains minnows, initiating one species per year beginning in 2002.

Objective E: Monitor threats and develop strategies to eliminate or minimize affects of invasive species on native aquatic resources.

Objective F: Work with partners and the Upper Missouri/Yellowstone Team to relieve fish passage barriers on the Yellowstone River (2005).

Goal 3: Strive for a fully informed public on Missouri River natural resource issues and activities.

Objective A: Promote restoration of river functions and values through proactive outreach.

Objective B: Seek support and partnerships for River activities through proactive outreach.

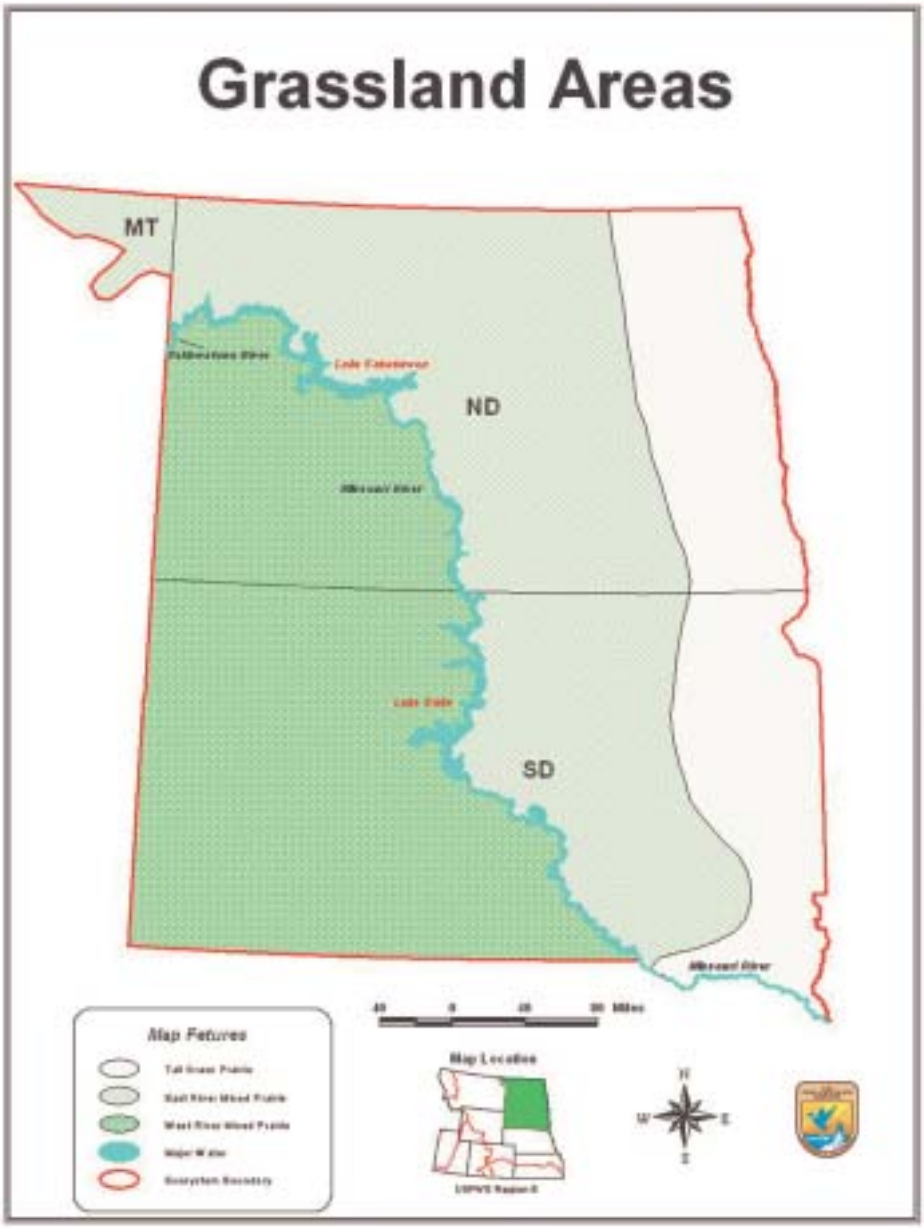
Goal 4: Fulfill commitments for mitigation of fishery resources brought about by construction of the mainstem dams.

Objective A: Through hatcheries, management, and conservation, support State fisheries objectives for the Missouri River and its impoundments consistent with other Service objectives.

NATIVE PRAIRIE GRASSLANDS

Prairie habitats in the Mainstem Mis-souri ecosystem consist of tall grass, mid-grass, and short grass prai-ries from the eastern Dakotas to the west. Although the plant and wildlife species differ across the gradation from tall to short grass, the threats and issues remain the same; conversion of prairie to other uses. Habitat losses have been the most severe in the tall grass, and least in the western reaches of the Dakotas and northeastern Montana.

The tallgrass prairie once spanned millions of acres along the eastern border of North and South Dakota. The tallgrass prairie is characterized by big bluestem, switch grass, Indian grass, and prairie dropseed. In North Dakota this is found main-ly in the Agas-siz Lake plain, but transitionally can be found along the State's east-ern bor-der in a strip 2-3 counties wide. Similarly in South Dakota the zone follows the eastern border at a sim-ilar width broadening to the Missouri River at the south-ern end of the State. Most of the tallgra-ss habitat has been con-verted to agriculture. The remaining tall gra-ss prai-rie sites are found in small frag-mented parcels scattered through-out and are crucial to main-taining and restoring the ecosystem. These sites are threatened by con-version to cropland; invasion by exo-tics, noxious weeds, and woody plant-s; pesticides; and heavy grazing pressure.



The remaining tallgrass prairie sites support a wide assemblage of plant and animal species including many Federal and State rare species. Sites in North Dakota have the largest population of the western prairie fringed orchid, a federally threatened plant found in lowland swales within the tallgra-ss community. Other species of concern in-clude the regal fritillary, Dakota skip-per and the powesheik skipper, all butterflies which are species of management concern. Eighteen state classified rare plants occur in tallgrass prairie of North Dakota. The tallgrass prai-rie also provides primary and secondary breeding habitat for neotropic-al migrants in decline such as the upland plover, bobolink, common yellowthroat, grasshopper sparrow, clay-colored sparrow, Baird's sparrow, and loggerhead shrike. Long-term survival of these small, isolated prairies depends on establishing prairie networks and connecting these prairies and nearby habitats to ward off extinction, and integrating prairies with their surrounding to reduce harm from improper management on surrounding lands.

The native prairie west of the tallgrass area in the two Dakotas consists primarily of mixed grass prairie with some shortgrass prairie in the far western portion of the two Dakotas.

In the east river portions of the Dakotas, over half the historic native prairie has been converted to cropland, tame hayland, or other uses. Statistics from the Natural Resources Conservation Service's (NRCS) NRI data indicate the east river North Dakota has lost about 403,000 acres of native range between 1982 and 1997. Similar statistics for South Dakota show a 519,000 acre loss of native range in east river South Dakota. Much of the remaining native prairie in private ownership is overused for livestock. Native grasslands in public ownership are often under-managed and idled for too long without prescribed treatments, and are invaded by introduced and exotic plant species. Nevertheless these native east river prairies are important as cover for a wide variety of migratory birds, resident wildlife species, and species of management concern such as the Dakota skipper, Baird's sparrow, upland plover, and the ferruginous hawk. In addition, native prairie grasslands protect the watersheds for prairie wetlands and streams and rivers in the east river country. Wetlands located in grasslands managed for livestock are more secure from drainage than those located in cropland or more intensive agricultural situations.

The west river area of North and South Dakota, located west of the Missouri River has lost approximately 40 percent (60 percent for North Dakota and 30 percent for South Dakota) of the original 34 million acres of native prairie due to agricultural conversion. These losses are compounded by overgrazing on much of the remaining acres. Some of the remaining prairie is in public ownership managed by several federal agencies, primarily the U.S. Forest Service with about 1.6 million acres of National Grasslands. Another 4.5 million acres in South Dakota and 1.5 million acres in North Dakota are under tribal jurisdiction. NRCS NRI data show a 480,000 acre native prairie loss in west river South Dakota and a 184,000 acre loss in North Dakota during the 1982-1997 period. The continual decline of prairie has re-sulted in habitat fragmentation of the native prairie in the west river. Grassland conversion and overuse of the grasslands results in a loss of natural habitat diversity through the decline in vegetative species and the establishment of introduced and exotic plants. West River native prairies support a wide variety of migratory birds including high numbers of waterfowl in certain areas, endangered and threatened species and species of management concern. A major species found west river is the black-tailed prairie dog and its colonies which provide habitat for over 130 vertebrate species. Past and continued reduction of black-tailed prairie dogs from the landscape jeopardizes a number of species, most notably the black-footed ferret, swift fox, and burrowing owl. Also included in the west river area of both states are 2 million acres of "badlands", two areas of highly eroded, rugged topography. The South Dakota badlands are mostly under the management of the National Park Service in Badlands National Park; in North Dakota the badlands are mostly within the jurisdiction of the U.S. Forest Service.

Visions: Protect, restore and maintain ecosystem native prairie and other grasslands to ensure its diversity and abundance of indigenous flora and fauna.

Goal 1: Prevent degradation and conversion of native prairie grassland.

Objective A: Locate, categorize, evaluate and map native prairie within the ecosystem for baseline information by 2003.

Objective B: Protect native prairie by FWS easement on a minimum of 100,000 acres per year for the next 10 years.

Objective C: By the year 2003, develop and implement informational programs to promote awareness and advocacy for native prairie.

Objective D: Develop partnerships to protect 1,000,000 acres of native prairie by 2010.

Objective E: Develop partnerships to reduce the extent and curtail the impact of invasive species in native prairie by 2010.

Objective F: Strive to work with partners to reduce fragmentation effects to flora and fauna in native prairie communities.

Objective G: Identify contaminant issues affecting native prairie and the adverse impact each may be on native prairie and associated wildlife species.

Objective H: Develop a plan, on how to prevent and/or reduce further contaminants from entering native prairie.

Goal 2: Maintain and establish networks of native prairie and planted grasslands on public and private lands.

Objective A: Promote and implement prescribed burning and rotational grazing on a minimum of 20 percent of private lands per year to enhance and maintain healthy native prairie.

Objective B: By the year 2003, develop informational materials on the importance of proper grazing management of native prairie.

Objective C: By the year 2002 identify the key areas in the ecosystem to restore perennial grasslands, maintain and/or increase planted grassland with an emphasis on native species restoration.

Objective D: Strive to treat a minimum of 20 percent of FWS administered grasslands annually using prescribed fire, prescribed grazing, invasive species control or other recognized man-agement practice.

Goal 3: Protect, restore and enhance habitat for trust species and species of special concern.

Objective A: Identify declining grassland species of wildlife by the year 2003.

Objective B: Develop information programs on why grassland species in decline are important, approaches to be taken to reverse decline, and the public's role in prairie conservation.

Objective C: Develop statewide partnerships to get people involved in species management.

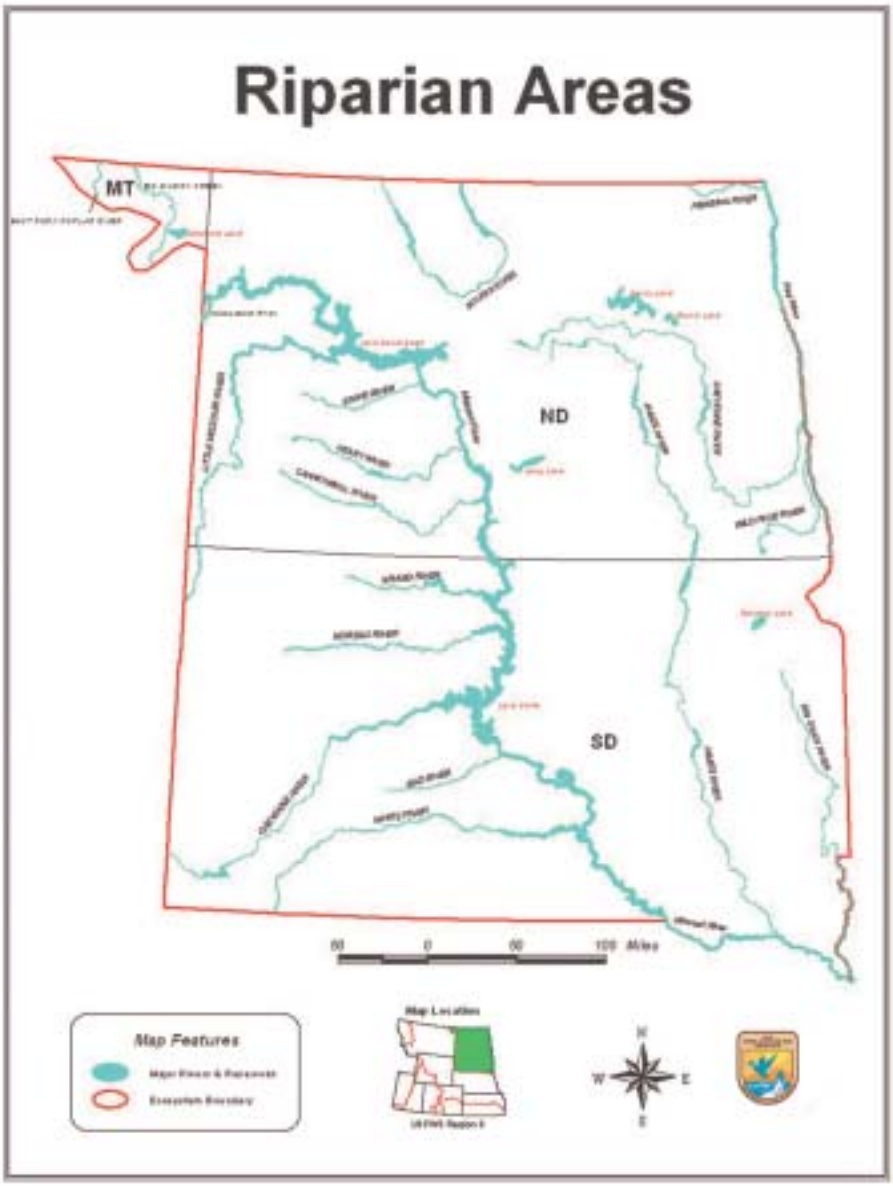
Objective D: Develop criteria and identify the most biologically significant grasslands by 2003.

Objective E: Over the next 10 years, develop partnerships to enhance and man-age native prairie including invasion by nonnative species.

Objective F: Develop management strategies to enhance species of concern on priority grasslands.

RIPARIAN AREAS

Riparian areas make up a very small portion of the habitat in the Ecosystem. However, riparian and riverine wetland habitats are very important to fish and wildlife resources including migratory birds, threatened and endangered species, native fish, rare and declining fisheries, amphibians and many mammals. Many vertebrates including species of nongame and neotrop-ical migratory birds, are dependent on riparian and adjacent aquatic zones for reproduction or for foraging during reproduction. Riparian habitats provide for much of the biodiversity in the ecosystem. Many of the species currently occurring in the ecosystem would be eliminated without healthy riparian habitats.



Riparian habitats are impor-tant even to the species that main-ly occur in the adjacent upland areas. Many rare and declining neotropic-al prairie grassland species need to nest a short distance from water, and will use riparian areas during juvenile dispersal and as critical sites of migratory stopovers. Many wildlife species use these zones as migratory corridors. Riparian habitats are also important for stabilizing riverbanks, reducing sedimentation, providing woody debris, and organic material for invertebrates, thus enhancing fish habitat. Many resident wildlife species use riparian areas for winter survival. These species leave the upland areas, using the riparian areas for food and cover during the winter.

National Wildlife Refuges occur along the Missouri, Souris, James, Des Lacs, and Red River and their tributaries. These refuges include sites of internationally significant Prairie Pothole Joint Venture projects critical to success of the North American Waterfowl Management Plan. Riparian wetlands in the Missouri River system are nursery areas for forage fish vital to survival of the Federally endangered pallid sturgeon and least tern, and a variety of candidate species.

Opportunities for partnerships will increase as people realize that pro-active, ecosystem-based management can head off listing of endangered species in this wildlife-rich area that contains food, energy, and water supplies of global importance.

RIPARIAN FOCUS AREA

Visions: Healthy riparian and floodplain ecosystems that provide an abundance and diversity of indigenous flora and fauna.

Goal 1: Reduce the conversion of riparian habitats and maintain, restore or enhance existing riparian habitats, quality and func-tions on priority rivers and trib-utaries.

Objective A: Inventory and determine the quality of riparian hab-itats and associated wildlife populations within the ecosystem by 2004 to provide baseline informa-tion.

Objective B: Implement an informational program in the ecosystem by 2004 to promote a public appreciation and understanding of the benefits and the threats to riparian habitats.

Objective C: Support and assist in locating and control of invasive species in the ecosystem by 2006 to maintain or improve the quality of the riparian habitat and protect National Wildlife Refuges and other important habitats.

Objective D: Use existing programs and opportunities in the ecosystem by 2009 to improve critical riparian habitats.

Goal 2: Conserve and recover threatened and endangered species and species of management concern.

Objective A: Inventory threatened and endangered species and species of concern along riparian corridors in the ecosystem by 2004 to provide baseline information.

Objective B: Develop and implement strategies for conserving and recovering threatened and endangered species and species of concern along riparian habitats in the ecosystem by 2004 and preclude the need to list any further species.

Goal 3: Conserve, restore, and create habitat resources in watersheds to enhance the quality and quantity of water flowing into rivers and streams.

Objective A: Use existing oversight, coordination and technical assistance by 2006 to promote sound management on critical watersheds in the ecosystem.

Objective B: Use existing programs and opportunities in the ecosystem by 2006 to conserve, enhance or restore grasslands and wetlands to provide quality water runoff.

1) Threatened and endangered species. 15 Points

The intent of this criteria is to give more weight to proposals demonstrating a direct benefit to the greatest number of imperiled species, those species that are in greatest need of assistance, and proposals that move the species towards recovery.

Species Status

Endangered	5 points *	# of endangered species benefitted =
Threatened	3 points *	# of threatened species benefitted =
Proposed	2 points *	# of proposed species benefitted =
Species of Mgt. Concern:	1 point *	# of candidate species =

2) Migratory Birds. 15 Points Maximum

Provides habitat for raptors:	3 points
Provides habitat for passerines:	3 points
Provides habitat for ducks, geese, and swans:	3 points
Provides habitat for shorebirds and other wetland obligate species:	3 points
Provides habitat for 3 or more of the migratory bird groups above:	3 points

3) Large, Intact Landscapes. 15 Points Maximum

> 5000 acres:	5 points
1000 - 5000 acres:	1 point
< 1000 acres:	3 points

Land adjoining or expanding upon areas already protected (i.e. subject to state and/or federal resource): 3 points

Disturbance/Restoration Potential

Little to no disturbance (pristine):	4 points
Slight disturbance (easily restored):	3 points
Moderate disturbance (moderate restoration required:	2 points
Significant restoration required:	1 point
Heavily disturbed (cannot be restored)	0 points
Lands that create corridors linking priority habitats	3 points

4) Fisheries. 15 Points Maximum

High quality habitat present:	5 points
Habitat capable of being restored:	4 points
Presence of indigenous species:	3 points
Absence of nonnative or invasive species:	3 points

5) Degree and Immediacy of Threats. 15 Points Maximum

This criteria measures the immediacy as well as the potential degree and extent of threats facing a particular resource.

Degree of Threat:		Immediacy of Threat:	
High degree of	8 points	Immediate and imminent action pending:	7 points
Medium degree	5 points	Moderate chance of impending action:	4 points
Low degree of	2 points	Slight chance of impending action:	1 point

6) Good Opportunities. 10 Points Maximum

Ten or more partners:	Yes / No
Identified as a "Focus Area" by NGO or other agency:	Yes / No
At least a 3:1 non-FWS match available:	Yes / No
Watershed group in place:	Yes / No
Defined and measurable objectives:	Yes / No
Multiple native species benefits:	Yes / No
Excellent (6 of 6 criteria met):	10 points
Very Good (5 of 6):	7 points
Good (4 of 6):	5 points
Fair (3 of 6):	3 points
Poor (2 or less):	1 point

7) Likelihood of Achieving Objective(s) as Defined in Mainstream Missouri Plan 10 Points Maximum

Will meet most objective(s):	10 points
Will meet most objective(s):	7 points
Will meet some objective(s):	4 points
Does not meet objective(s):	0 points

8) Cost/Benefits 5 Points Maximum

(Units other than area may require different multipliers.)

Less that $300 per acre:	5 points
$300-$700 per acre:	3 points
Greater than $700 per acre:	1 point

GRAND TOTAL (100 Points Maximum) =

Appendix J. Grassland Easement Evaluation Worksheet

GRASSLAND EASEMENT EVALUATION WORKSHEET

NAME:	COUNTY:
ADDRESS:	LEGAL DESCRIPTION:
TELEPHONE:	
TRACT SIZE:	WETLAND MANAGEMENT DISTRICT:

Ranking Factors

		(5)	(4)	(3)	(2)	(1)	Factor		Score
1.	Grassland Easement Location	on wetland easement	adjacent to fee title or wet. ease.	Adjacent to public water	within 1 mile of fee or ease.	--		x3	
2.	Grassland Quality (% of total area)	(Choose the line with the highest point value)							
	Native Prairie	>75	50-74	25-49	0-24	—		x3	
	Tame Grasses/DNC	---	---	50-100	25-49	<25		x2	
	Tame Grasses/Interior	---	---	---	50-100	<50		x1	
	Cropland/Native	---	—	50-100	25-49	<25		x1	
	Cropland/DNC	—	---	—	50-100	<50		x1	
	Cropland/Interior	← disqualified for easement →							
3.	Distance from perpetually protected brood water or, "thunderstorm Map" siting	on the tract (Red/Yellow) 100 - 96%	within 0.5 miles 81 - 95%	0.5 - 1.0 miles 61 - 80%	— 41 - 60%	— 21 - 40%		x3	
4.	Number of Wetland Basins/Square Mile or, "Thunderstorm Map" siting	50+ (Red/Yellow) 100 - 96%	30 -49 81 - 95%	15 - 29 61 - 80%	5 - 14 41 - 60%	1 - 4 21 - 40%		x3	
5.	Tract Size (acres)	640+	480 - 639	320 - 479	240 - 319	160 - 239		x3	
6.	Soil Capability	85 - 100% of upland is highly erodible soil or Capability Class IV+	70 - 84%	50 - 69%	20 - 49%	<20%		x2	
7.	Special Features (Bonus Points - One Point each)								
	a. Low brush, woody cover, riparian habitat with benefits to waterfowl or non-game migratory birds							x1	
	b. Habitat with benefits to endangered species							x1	
	c. Easement will help control saline seeps, existing contaminant problems, etc.							x1	
	d. Landowner simultaneously signs grassland management agreement or easement is part of a partnership project.							x3	
	e. Other (specify)							x1	
						Total Score:			
						Threshold Score:			

Evaluator:	Recommended:
Date:	Not Recommended:
Supervisor:	

Appendix K. Existing Partnerships

The following organizations, agencies and individuals have been instrumental in helping us to meet current objectives for protecting or restoring habitat or improving and providing public use, education or interpretation.

Federal Emergency Management Agency
U.S. Department of Agriculture
    Natural Resource Conservation Service
    Farm Service Agency
    APHIS
Sisseton-Wahpeton Sioux Tribe
South Dakota Game, Fish and Parks
South Dakota Conservation Commission
Soil and Water Conservation Districts: Grant, Day, Roberts, Marshall, Clark, Codington
Minnesota Area III Conservation Districts
Friends of Big Stone Lake
Ducks Unlimited, Inc.
Pheasants Forever
The Nature Conservancy
Glacial Lakes Outdoor School
Boy and Girl Scouts of America
North American Wetlands Conservation Council
Aberdeen Development corporation
East Dakota Water Development District
Watershed groups for Lake Farley, Big Stone Lake, Lake Kampeska, Lake Traverse
SD Chapter of The Wildlife Society
American Fisheries Society - Dakota Chapter
National Audubon Society
HT Enterprises, Inc.
SD Army National Guard
Izaak Walton League of America - Kampeska Chapter
Scheels All Sports
Dave Genz and The Ice Team
Lindy Little Joe, Inc.
Berkely
Hundreds of private landowners
Beth Ullenburg - Outdoor Recreation Planner, Sand Lake NWR
Bob Losco - Conservation Officer, South Dakota Game, Fish and Parks
Kari Sorenson - NE-SO-DAK
Numerous other individuals who have helped over the years with various programs or projects

Appendix L. Compatibility Determinations

The following activities were previously covered under compatibility determinations evaluated in 1994 to comply with a court order. During the process of the Comprehensive Conservation Plan these activities have been reevaluated and determined to comply with the compatibility standards.

- Upland Management - Waubay NWR Complex
- Deer Hunting - Waubay NWR
- Waterfowl, Upland Game and Deer Hunting - Waubay WMD
- Sport Fishing - Waubay WMD
- Trapping of Furbearers - Waubay WMD
- Education and Interpretation - Waubay NWR
- Cross Country Skiing - Waubay NWR
- Picnicking - Waubay NWR

An Environmental assessment was completed for Management of Upland Habitat on Waubay NWR and Waubay WMD. It was found to have no significant impact.

Copies of these compatibility determinations and Environmental Assessment are located at the Waubay NWR Complex Headquarters.

As in the past, prior to new activities occurring or permitted in the Complex a compatibility determination and NEPA documentation is completed and concurrence is obtained by the Regional Office.

When new activities or actions are proposed and found to have significant impacts affecting the quality of the human environment or there is disagreements on the impacts, an Environmental Assessment or Environmental Impact Statement is required and includes public input on the decision process.

Compatibility Overview

Compatibility is a tool refuge managers use to ensure that recreation and other uses do not interfere with wildlife conservation - the primary focus of refuges. For purposes of this document, uses are any recreational, economic/commercial, pest/predator control, or other use of the refuge by the public or a non-Service entity. Compatibility is not new to the Refuge System and dates back to 1918, as a concept. As policy, it has been used since 1962. The Refuge Recreation Act of 1962 (Recreation Act) directed the Secretary of Interior to allow only those public uses of refuge lands that were "compatible with the primary purposes for which the area was established." This law also required that adequate funds be available for administration and protection of refuges before opening them to any public uses. Legally, refuges are closed to all public uses until officially opened through a compatibility determination.

The National Wildlife Refuge System Administration Act of 1966 set a compatibility standard which refuge managers used until new compatibility regulations, required by the National Wildlife Refuge System Improvement Act of 1997 (Refuge System Improvement Act), were adopted. The Refuge System Improvement Act maintains a compatibility standard but provides more detail regarding the standard and the process, and requires the process be promulgated in regulations. It also requires that a use must be compatible with both the mission of the System <u>and</u> the purposes of the individual refuge, which helps to ensure consistency in application across the System. The Act also requires that the public have an opportunity to comment on use evaluations. This Act stipulates that the needs of wildlife must come first and defines a compatible use as a use that ". . . in the sound professional judgement of the Director, will not materially interfere with or detract from the fulfillment of the mission of the [NWRS] or the purposes of the refuge." Sound professional judgement is defined as ". . . a finding, determination, or decision, that is consistent with principles of sound fish and wildlife management and administration, available science and resources. . . ." Compatibility for priority wildlife-dependent uses may depend on the level or extent of a use.

In 1978, the compatibility standard was tested in court when recreational uses at Ruby Lake NWR (water skiing and motor boating) were found to be in violation of the Refuge Recreation Act. The court determined that compatibility is a biological standard and cannot be used to balance or weigh economic, political, or recreational interests against the primary purpose of the refuge. This ruling stated that the existence of noncompatible uses on a refuge in the past has no bearing on the compatibility of present uses. In their summary of this case, Coggins et al. (1987) conclude "neither poor administration of the Refuge in the past nor prior interferences with its primary purpose, nor past recreational, nor deterioration of its wildlife resources since establishment, nor administrative custom or tradition alters the statutory standard."

The Service recognizes that compatibility determinations are complex. For this reason Refuge Managers are required to consider "principles of sound fish and wildlife management" and "available science" in making these determinations. Evaluations of the existing uses on Waubay Complex are based on the professional judgement of refuge personnel including observations of refuge uses and reviews of appropriate scientific literature.

The compatibility determinations that follow are consistent with the Compatibility Policy and Regulations published in the Federal Register (FR 62484, FR 62458).

1. Use:
2 Refuge Name:
3. Establishing and Acquisition Authorities:
4. Refuge Purposes:
5. NWRS Mission:
6. Description of Use:
7. Availability of Resources:
8 Anticipated Impacts of the Use:
9. Public Review and Comment:
10. Determination:
11. Stipulations Necessary to Ensure Compatibility:
12. Justification:

Items 2 through 5 are listed once in the beginning of this document. Items 1 and 6 through 12 will be listed for each determination.

Compatibility determinations for the following uses are included within this appendix:

- Environmental Education and Interpretation
- Wildlife Observation & Wildlife Photography
- Fishing
- Hunting
- Trapping
- Farming, Grazing and Haying
- Research

Compatibility Determinations

Refuge Name:
Waubay National Wildlife Refuge Complex (Complex)

Establishing and Acquisition Authority(ies):
Waubay National Wildlife Refuge:
Established on December 10, 1935

Waubay Wetland Management District:
Established on August 1, 1958

Waubay National Wildlife Refuge located in Day County, South Dakota was established by Executive Order 7245 "as a refuge and breeding ground for migratory birds and other wildlife."

Waubay Wetland Management District is part of the Small Wetland Acquisition Program (SWAP) started in the1950s to save wetlands from various threats, particularly draining. The passage of Public Law 85-585 on August 1, 1958, amended the Migratory Bird Hunting and Conservation Stamp Act (Duck Stamp Act) of 1934, allowing for the acquisition of "Waterfowl Production Areas" and "Easements for Waterfowl Management Rights" (easement). The Wetland Loan Act (P.L. 87-383) was passed on October 4, 1961 and allowed for the advancement of the funds against future revenues from Duck Stamp sales. As a result, Wetland Management Districts (WMD) were created in 1962.

Refuge Complex Purpose(s):

- For lands acquired under Executive Order 7245, dated Dec 10, 1935, the purpose of the acquisition is ". . . as a refuge and breeding ground for migratory birds and other wildlife . . . ."
- For WMD lands acquired under Public Law 85-585, dated August 1, 1958, the purpose of the acquisition is to assure the continued availability of habitat capable of supporting migratory bird populations at desired levels.
- For lands acquired under the Migratory Bird Hunting and Conservation Stamp Tax, 16 U.S.C. 718, as amended, for the purpose: ". . . as Waterfowl Production Areas" subject to . . . all of the provisions of such Act [Migratory Bird Conservation Act] . . . except the inviolate sanctuary provisions . . . 11 16 U.S.C. S 718 (Migratory Bird Hunting and Conservation Stamp Act).

National Wildlife Refuge System Mission:
The National Wildlife Refuge System mission is to administer a national network of lands and waters for the conservation, management and, where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Use: Environmental Education and Interpretation

Description of Use:
Environmental education consists of activities conducted by Complex staff, volunteers, NeSoDak staff (a Service Partner) and teachers. Interpretation occurs in less formal activities with Complex staff and volunteers or through exhibits, educational trunks, signs, and brochures. Currently, environmental education and interpretation activities are conducted at the Complex office/visitor center. Programs and activities are also held at various locations on the Complex Headquarters Island and on Waterfowl Production Areas (WPA's) throughout the Wetland Management District (District). Additional programs are conducted at schools and other locations as personnel are available. The CCP calls for establishing an environmental education center located near the Complex office. This facility will permit school groups to maximize their time at the Complex Headquarters in environmental education activities during a limited school day. The current outdoor education site is equipped with facilities for school groups to have lunch while participating in all day events. The remainder of the Refuge serves as a sanctuary for wildlife. Cross country skiing and snowshoeing on established hiking trails will be allowed during winter months. These uses occur year-round with peak use in the spring and fall for environmental education.

The CCP proposes to continue with the above uses and add the following to improve environmental education and interpretation opportunities and access for all visitors.

- Hire an Outdoor Recreation Planner
- Construct a new Education Center
- Construct a boardwalk and observation deck
- Update and improve Complex Signs
- Construct new entrance kiosk and update existing kiosk panels
- Establish a Coteau Birding Trail with sites located on the Refuge and WPA's
- Update existing brochures to new Service standards
- Pave headquarter/visitor center and trail head parking lots with asphalt or concrete

Availability of Resources:
Currently all above activities are conducted using available Complex staff. Funding is adequate to continue with our current outreach activities. Additional funds will be required to provide additional programs and activities as outlined in the CCP.

Anticipated Impacts of Use:
Anticipated impacts from environmental education and interpretation are minor damage to vegetation, littering, possible conflict with other users, and increased maintenance activity. Minor disturbances to wildlife were considered during planning. Location and time limitations placed on environmental education and interpretation activities assure that this activity has only minor impacts on wildlife and does not detract from the primary purposes of the Refuge.

Public Review and Comment:
This Compatibility Determination was distributed for public review and comment as an appendix to the draft Comprehensive Conservation Plan and Environmental Assessment for Waubay National Wildlife Refuge Complex.

Determination (check one below):

_____Use is Not Compatible

__X__ Use is Compatible With the Following Stipulations

Stipulations Necessary to Ensure Compatibility:
Environmental education and interpretation will only occur in designated areas or under the guidance of a Complex staff member, volunteer, or trained teacher to assure minimal disturbance to wildlife, minimal vegetation damage, and minimal conflict between user groups. Environmental education and interpretation activities will be reviewed annually to ensure this compatibility determination still applies.

Justification:
Based upon biological impacts described in the CCP and Environmental Assessment, it is determined that environmental education and interpretation within the Waubay National Wildlife Refuge Complex will not materially interfere with or detract from the purposes for which this Complex was established.

Secondly, environmental education and interpretation are priority public uses listed in the National Wildlife Refuge System Improvement Act. By facilitating environmental education on the Complex, we will increase knowledge and appreciation of fish, wildlife and their habitats among program participants, which will lead to increased public stewardship of wildlife and their habitats at the Complex and elsewhere. Increased public stewardship will support and complement the Service's actions in achieving the Complex's purposes and the mission of the National Wildlife Refuge System.

Mandatory 10- or 15-year Re-evaluation Date: 2017

Use: Wildlife Observation and Wildlife Photography

Description of Use:
Currently, wildlife observation and wildlife photography occurs along the Complex Headquarters entrance road, walking trails and the observation tower at the Complex Headquarters. Wildlife observation and wildlife photography also take place throughout the Wetland Management District, mostly on Waterfowl Production Areas. These activities occur throughout the year but main interest is during the spring and fall migrations. Access for wildlife observation and wildlife photography is gained through hiking, bicycling, and by automobile. Automobile and bicycling are only allowed on the entrance road and public roads located along and through WPA's. Individuals using the established refuge trails will be allowed to use cross country skis and snowshoes for winter access. An outdoor education site is available for visitors to rest and have a lunch at while hiking the trails and enjoying area wildlife.

The CCP proposes to continue with the above uses and add the following to improve wildlife observation and wildlife photography opportunities along with access for all visitors.

- Repair flooded refuge roads for an auto tour or bicycle path (will only happen if flood waters recede)
- Construct a new photography blind
- Construct a boardwalk and observation deck
- Update and improve Complex Signs
- Establish a Coteau Birding Trail with sites located on the Refuge and WPA's
- Update existing brochures to new Service standards
- Pave with asphalt or concrete headquarter/visitor center and trail head parking lots

Availability of Resources:
Based on a review of the Complex budget allocated for this activity, there is adequate funding to ensure compatibility and to administer and manage the use at its current level. Additional funds will be required to provide additional programs and activities as outlined in the CCP.

Anticipated Impacts of Use:
Anticipated impacts from visitors engaged in wildlife observation and wildlife photography are minor damage to vegetation, littering, increased maintenance activity, potential conflicts with other visitors, and minor disturbances to wildlife. Because visitors are limited to the Complex Headquarters Island and on designated trails, wildlife observation and wildlife photography has only minor impacts on wildlife and does not detract from the primary purposes of the Refuge. All other potential impacts are considered minor.

Public Review and Comment:
This Compatibility Determination was distributed for public review and comment as an appendix to the draft Comprehensive Conservation Plan and Environmental Assessment for Waubay National Wildlife Refuge Complex.

Determination (Check one below):

_____Use is Not Compatible

__X__ Use is Compatible With the Following Stipulations

Stipulations Necessary To Ensure Compatibility:
Public access for wildlife observation and wildlife photography will be limited to Refuge designated trails to assure minimal disturbance to wildlife and minimal conflict between user groups. Wildlife observation and wildlife photography activities will be reviewed annually to ensure this compatibility determination still applies.

Justification:
Based upon biological impacts described in the CCP and Environmental Assessment, it is determined that wildlife observation and wildlife photography within the Waubay National Wildlife Refuge Complex will not materially interfere with or detract from the purposes for which this Complex was established.

Secondly, wildlife observation and wildlife photography are priority public uses listed in the National Wildlife Refuge System Improvement Act. By facilitating these uses on the Complex, we will increase visitors' knowledge and appreciation of fish and wildlife, which will lead to increased public stewardship of wildlife and their habitats at the Complex and elsewhere. Increased public stewardship will support and complement the Service's actions in achieving the Refuge's purposes and the mission of the National Wildlife Refuge System.

Mandatory 10- or 15-year Re-evaluation Date: 2017

Use: Fishing

Description of Use:
The Refuge was opened to ice fishing in 1998 as rising water levels linked Hillebrand's and Spring Lakes (the main refuge lakes) and their associated peripheral marshes, to Waubay Lake. Suddenly, a world-class fishery for northern pike, walleye and yellow perch was thrust into Refuge lakes. Fishing is allowed from the close of Refuge rifle deer season (ice dependent) until ice-out in the spring. No motorized vehicles (passenger vehicles, snowmobiles, ATV's etc.) will be allowed to travel off existing trails and roads. The District WPA's are legally open to fishing as per their establishing legislation and the Federal Code of Regulations.

Availability of Resources:
Based on a review of the Complex budget allocated for this activity, there is adequate funding to ensure compatibility and to administer and manage the use at its current level. A RONS project for additional funds will provide increased law enforcement presence.

Anticipated Impacts of the Use:
Nearly all migratory birds and waterfowl have migrated from the Complex by the end of deer rifle season (December 1 or later). Remaining wildlife after this date concentrate their use on upland habitats, not frozen lakes. Harvests are regulated by South Dakota Game, Fish and Parks to take only surplus specimens, thus assuring viable, healthy populations within management and habitat guidelines. Restrictions to the fishing program assure that these activities have no adverse impacts on other wildlife species and little adverse impact on other public use programs.

Public Review and Comment:
This Compatibility Determination was distributed for public review and comment as an appendix to the draft Comprehensive Conservation Plan and Environmental Assessment for Waubay National Wildlife Refuge Complex.

Determination (Check one below):

_____Use is Not Compatible

___X__Use is Compatible With the Following Stipulations

Stipulations Necessary to Ensure Compatibility:
To ensure compatibility with National Wildlife Refuge System and Waubay Complex goals and objectives, movement of vehicles will be restricted to existing roads and trails to minimize disturbance to a wintering white-tailed deer herd. No ice-fishing prior to the end of rifle deer season will be allowed to avoid conflicts between deer hunters and ice-fisherman. Deer hunting was permitted for many years before the establishment of a fishing program. There are safety considerations to permitting two groups, one using high powered rifles, to utilize a relatively small area. Ice houses will be limited to day-use-only. Disturbance to Complex wildlife should be very minimal, with the above constraints.

Justification:
Based upon biological impacts described in the CCP and Environmental Assessment, it is determined that ice fishing within the Waubay National Wildlife Refuge Complex will not materially interfere with or detract from the purposes for which this Complex was established.

Secondly, fishing is a priority public use listed in the National Wildlife Refuge System Improvement Act. By facilitating this use on the Complex, we will increase visitors' knowledge and appreciation of fish and wildlife, which will lead to increased public stewardship of wildlife and their habitats at the Complex and in elsewhere. Increased public stewardship will support and complement the Service's actions in achieving the Refuge's purposes and the mission of the National Wildlife Refuge System.

Mandatory 10- or 15-year Re-evaluation Date: 2017

Use: Hunting

Description of Use:
Deer hunting may occur throughout the Refuge except for Headquarters Island which is closed to all hunting. There are currently three types of Refuge deer hunts, they include archery, muzzleloader and rifle seasons. Archery season is open to all properly licensed participants and muzzleloader and rifle seasons are by state permit only. Hunters are allowed to access island hunting areas with watercraft using only oars or paddles (no motorized watercraft are allowed, including electric motors). Hunting seasons begin in September with archery season and muzzleloader, and rifle seasons occur during November and early December. Archery season closes the end of December on the Refuge. The Wetland Management District WPA's are legally open to hunting as per their establishing legislation and the Federal Code of Regulations. The CCP does not propose any additional improvements beyond maintaining the existing use on WPA's.

Availability of Resources:
Based on a review of the Complex budget allocated for this activity, there is adequate funding to ensure compatibility and to administer and manage the use at its current level. A RONS project for additional funds will provide increased law enforcement presence.

Anticipated Impacts of Use:
Continuing this activity has shown no assessable environmental impact to the Refuge, its habitats, or wildlife species. With restrictions to hunting on Headquarters Island little disturbance will occur between hunting activities and all other allowable Refuge uses. With the use of non-motorized watercraft for island access, little disturbance will occur with migrating waterfowl and other migratory birds. Disturbance to wildlife is limited to occasional flushing of non-target species and the harvest of individual members of the species open to the hunting season in the periphery areas only. Restrictions to the hunting program assure that these activities have no adverse impacts on other wildlife species and little adverse impact to other public use programs. These activities are compliant with the purpose of the Refuge and the National Wildlife Refuge System Mission. Operating this activity does not alter the Refuge's ability to meet habitat goals, provides for the safety of local citizens, and supports several of the primary objectives of the Refuge.

Public Review and Comment:
This Compatibility Determination was distributed for public review and comment as an appendix to the draft Comprehensive Conservation Plan and Environmental Assessment for Waubay National Wildlife Refuge Complex.

Determination (check one below):

_____Use is Not Compatible

___X_ Use is Compatible With the Following Stipulations

Stipulations Necessary to Ensure Compatibility:
To ensure compatibility with National Wildlife Refuge System and Waubay Complex goals and objectives this activity can only occur under the following stipulations:

- No hunting will be permitted on Headquarters Island to prevent conflicts between other permitted activities and for safety of the visiting public.
- Only non-motorized watercraft (including electric motors) will be permitted on Refuge waters for use of transportation to and from Refuge Islands.
- Annually review all hunting activities and operations to ensure compliance with all applicable laws, regulations and policies.
- Annual population censuses will be completed to ensure population reduction is necessary to maintain deer numbers within the carrying capacity of the habitat.

Justification:
Based upon biological impacts described in the CCP and Environmental Assessment, it is determined that hunting within the Waubay National Wildlife Refuge Complex will not materially interfere with or detract from the purposes for which this Complex was established. In addition, deer hunting is necessary to meet the Refuge's habitat objectives and prevent adverse impacts to other wildlife species.

Secondly, hunting is a priority public use listed in the National Wildlife Refuge System Improvement Act. By facilitating this use on the Complex, we will increase visitors' knowledge and appreciation of fish and wildlife, which will lead to increased public stewardship of wildlife and their habitats at the Complex and elsewhere. Increased public stewardship will support and complement the Service's actions in achieving the Refuge's purposes and the mission of the National Wildlife Refuge System.

Mandatory 10- or 15-year Re-evaluation Date: 2017

Use: Trapping

Description of Use:
Provide for recreational trapping on Waubay Complex lands along with spring predator trapping to improve upland nesting bird success on the Complex. The Wetland Management District WPA's are legally open to trapping according to State regulations as per their establishing legislation and the Federal Code of Regulations.

Availability of resources:
Currently there is insufficient funding and staffing to manage the recreational trapping and spring predator trapping on the Complex. The Complex recreational trapping program will be enhanced through additional law enforcement staff. To administer a spring predator trapping program additional biological staff for monitoring of predator populations and upland bird production will be required. Both positions are listed in the RONS Appendix N.

Anticipated Impacts of the Use:
Trapping removes individual animals from wildlife populations, and predator populations are temporarily reduced up to and during the nesting season. Spring predator trapping increases nesting success of upland nesting birds. There would be direct mortality of target animals, some vegetation trampling by personnel, and some minor increase in general wildlife disturbance in trapping areas due to human and vehicular traffic. There is the possibility of injury to nonmarket wildlife that are caught in traps such as badgers, weasels, an occasional rabbit, domestic dogs and feral cats.

Public Review and Comment:
This Compatibility Determination was distributed for public review and comment as an appendix to the draft Comprehensive Conservation Plan and Environmental Assessment for Waubay National Wildlife Refuge Complex.

Determination (check one below):

_____Use is Not Compatible

___X__Use is Compatible With the Following Stipulations

Stipulations Necessary to Ensure Compatibility:
- Trapping will be conducted in a manner that will remove only targeted species or species removed for public health and safety concerns.
- Recreational trapping will occur within regular State seasons and will not conflict with other public uses.
- Trapping for predators outside of regular season will be coordinated with the South Dakota Game, Fish and Parks.
- Detailed trapping records will be maintained for refuge and staff trappers.
- No trapping will take place in areas of high public use areas, especially Headquarters Island unless done for health and safety reasons.
- No exposed bait will be placed near traps that might attract eagles or other raptors.
- Traps must be monitored at a minimum of every 24 hours.
- Monitoring of nest success in areas targeted for predator removal to determine effectiveness and need for next year's trapping (only when nest success falls below 30 percent Mayfield will trapping be conducted).

Justification:
Recreational trapping removes excessive wildlife populations and provides public recreational opportunity. Spring predator trapping will benefit upland nesting birds, including many species of waterfowl, when predator populations are reduced during the nesting season. Long-term negative effects to these predator populations will not take place as conducted trapping activities cannot feasibly remove enough animals to permanently impact these populations.

Mandatory 10- or 15-year Re-evaluation Date: 2017

Use: Farming, Grazing and Haying

Description of Proposed Use:
Continue upland management activities such as farming, grazing and haying that are conducted under permit by private individuals. Currently, these economic uses are used as management tools to manage habitat for wildlife. Farming averages 100 acres each year in the Complex, including Refuge fields and grassland restoration activities on WPA's. Cattle grazing is currently used as a management tool throughout the Complex and averages 2,000 acres a year. Haying is used on the Refuge and District to improve grassland conditions and control invasive weed species with an average of 200 acres hayed annually. The CCP proposes to maintain the number of crop acres, and may include increasing grazing and haying if these tools are required for improving habitat.

Availability of Resources:
Current resources are stretched thin to maintain existing programs. If additional staff support were available, these programs could be expanded to utilize these tools more effectively and monitoring could be accomplished. Additional management and biological staff are identified in the RONS Appendix N. These positions will be necessary to fully accomplish the goals of the CCP and improve the existing programs.

Anticipated Impacts of the Use:
Current management affects less than 5 percent of the upland habitat annually. This management is not evenly distributed over the entire Complex, and the percentage of upland receiving optimum management is considered to be much less than 5 percent. General habitat conditions on the Complex would gradually deteriorate due to long periods of non-prescribed rest. While some wildlife disturbance does occur with these activities, the benefits to wildlife far outweigh these disturbances. No cultural resources would be impacted. No impact to endangered species should occur; however, habitat suitability for the Dakota skipper and regal fritillary would continue to deteriorate without some form of defoliation treatment.

Public Review and Comment:
This Compatibility Determination was distributed for public review and comment as an appendix to the draft Comprehensive Conservation Plan and Environmental Assessment for Waubay National Wildlife Refuge Complex.

Determination (check one below):

_____Use is Not Compatible

___X_ Use is Compatible With the Following Stipulations

Stipulations Necessary to Ensure Compatibility:
- General and special conditions are required for each permit to ensure consistency with management objectives.
- Farming permittees are restricted to a list of approved chemicals which are less detrimental to wildlife, use of only the necessary amount to control problem spots, and to report their use yearly.
- Farming permittees must leave a portion of the crop for wildlife use.
- Cattle grazing permittees are required to follow a short-term rotational grazing system to provide appropriate stimulation of grasses.
- Grazing permittees must comply with State Livestock Health Laws.
- Haying will be restricted to after July 15 to avoid disturbance to nesting birds.
- Haying permittees are required to report and mow noxious weeds in their areas.

Justification:
Without these uses there would be many adverse reactions. Upland habitat conditions would deteriorate without the use of a full range of upland management tools. Exotic and noxious weed species would increase and habitat diversity would decrease causing a decline in wildlife diversity. Migratory bird production and diversity would decrease as habitat suitability for these species declined. Consumptive and non-consumptive wildlife-oriented recreational opportunities would decline as wildlife diversity and populations decreased. Although the prescribed management techniques listed in the proposed use are not adequate in scope to prevent such declines from taking place in all upland habitat sites, the limited upland management which does take place will diversify and improve treated grasslands.

Mandatory 10- or 15-year Re-evaluation Date: 2017

Use: Research

Description of Use:
The Waubay Complex receives periodic requests to conduct scientific research. Priority would be given to studies that support the Complex purposes, goals and objectives. This would include, for example, studies that contribute to the enhancement, protection, use, preservation and management of native Complex wildlife populations and their habitats, and would also include cultural resources. Research applicants must submit a proposal that would outline: 1) objectives of the study; 2) justification for the study; 3) detailed methodology and schedule; 4) potential impacts on Complex wildlife and/or habitat, including disturbance (short- and long-term), injury, or mortality; 5) personnel required; 6) costs to the Complex, if any; and 7) end products (i.e. reports, publications). Research proposals would be reviewed by Complex staff, Regional Office Branch of Refuge Biology and others, as appropriate. Evaluation criteria will include, but not be limited to, the following:

1) Research that will contribute to priority management activities will have higher priority than other requests.

2) Research that will conflict with higher priority research, monitoring or management programs may not be granted.
3) Research projects that can be done elsewhere off-Waubay Complex lands, are less likely to be approved.
4) Research which causes undue disturbance or is intrusive, will likely not be granted. Level and type of disturbance will be carefully weighed when evaluating a request.
5) Research evaluation will determine if any effort has been made to minimize disturbance through study design, including considering adjusting location, timing, scope, number of permittees, study methods, number of study sites, etc.
6) If staffing or logistics make it impossible for the Complex to monitor researcher activity this may be reason to deny the request depending on the circumstances.
7) The length of the project will be considered and agreed upon before approval. Projects will not be open ended, and at a minimum, will be reviewed annually.

Availability of Resources:
Direct costs to administer research activities are primarily in the form of staff time and transportation. It is estimated that current staff is adequate to manage small and short-term research projects. RONS projects for additional biological and management staff will be required to monitor complex and long-term research activities. Proposals will only be accepted if funding and personnel are available to adequately monitor all research activities.

Anticipated Impacts of Use:
Minimal impact to Complex wildlife and habitats will be expected with research studies. Some level of disturbance is expected with all research activities since most researchers will be entering areas that are normally closed to the public and may be collecting samples or handling wildlife. Special Use Permit conditions will include special conditions to ensure that impact to wildlife and habitats are kept to a minimum.

Public Review and Comment:
This Compatibility Determination was distributed for public review and comment as an appendix to the draft Comprehensive Conservation Plan and Environmental Assessment for Waubay National Wildlife Refuge Complex.

Determination:

_____Use is not Compatible

__X__Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:
- If the proposed research methods would impact or potentially impact Complex resources (habitat or wildlife), it must be demonstrated that the research is necessary (i.e. critical to survival of a species, will enhance restoration activities of native species, will help in control of invasive species or provide valuable information that will guide future Refuge or Service activities), and the researcher must identify the issues in advance of the impact.
- Highly intrusive or manipulative research is generally not permitted in order to protect native wildlife populations and habitats in which they live.
- Research that doesn't involve birds will be conducted outside of the breeding season of avian species in all possible circumstances.
- Project Leader can suspend/modify conditions/ terminate on-refuge research that is already permitted and in progress, should unacceptable impacts or issues arise or be noted.

Justification:
Research projects will contribute to the enhancement, protection, use, preservation, and management of native Complex wildlife populations and their habitats. In view of the potential impacts associated research activities can have on the U.S. Fish & Wildlife Service's ability to achieve Complex purposes, sufficient restrictions would be placed on the researcher to ensure that disturbance is kept to a minimum. This program as described is determined to be compatible.

Mandatory 10- or 15-year Re-evaluation Date: 2017

Waubay Complex Compatibility Determinations Approval

Refuge Manager/
Project Leader
Approval: _____ (Signature) 23 Aug. 2002 (Date)

Concurrence:

Refuge Supervisor: _____ (Signature) 8/29/02 (Date)

Regional Chief,
National Wildlife
Refuge System: _____ (Signature) 8/30/02 (Date)

Appendix M. Plans and Organizations Affecting Waubay Complex

North American Waterfowl Management Plan - an international strategy that coordinates the efforts of public and private conservation groups to protect, restore and enhance wetland habitats for declining waterfowl populations. Implementation occurs regionally, within one of nine habitat joint ventures in the U.S. Waubay Complex falls under the scope of the **Prairie Pothole Joint Venture,** which works to promote waterfowl conservation and the preservation of all wetland and associated-upland species in the Prairie Pothole Region of the U.S. and Canada.

The Nature Conservancy - the world's leading private international conservation group dedicated to preserving the plants, animals, and natural communities that represent the diversity of life on Earth. The **Tallgrass Prairie Ecoregional Plan** works to ensure the long-term survival of the remaining tallgrass prairie that occurs within this ecoregion, which is considered to be less than 4 percent of its historical range.

Partners in Flight - a cooperative effort among individuals, government agencies, and nongovernmental organizations to address the growing concerns about declines in populations of many land bird species, especially those not covered by existing conservation initiatives. Efforts focus on improving monitoring and inventory, research, management, and education programs involving birds and their habitats.

Partners for Fish and Wildlife - Helps accomplish the mission of the U.S. Fish & Wildlife Service by offering technical and financial assistance to private landowners to voluntarily restore wetlands and other fish and wildlife habitats on their land. Emphasizes reestablishment of native vegetation and ecological communities for the benefit of wildlife in concert with the needs and desires of private landowners.

South Dakota Natural Heritage Program - a cooperative project between South Dakota Game, Fish and Parks and The Nature Conservancy to monitor and protect rare and endangered species or unique features and document potential threats to the continued survival of such species or communities in the State of South Dakota.

Western Hemisphere Shorebird Reserve Network - a joint program of Manomet Observatory and Wetlands International that focuses on the study, management, and protection of wetlands and grasslands essential for migratory shorebirds.

Dakota Tallgrass Prairie Wildlife Management Area - a grassland easement program developed by the USFWS to preserve 190,000 acres of native tallgrass prairie in eastern North and South Dakota.

U.S. Department of Agriculture, Natural Resources Conservation Service - has several programs aimed at conserving tallgrass prairie rangeland and protecting highly erodible soils while providing wildlife habitat. The Environmental Quality Incentives Program (EQIP) provides ranchers and farmers with information on grazing systems, water development, and educational programs. The Conservation Reserve Program (CRP) allows highly erodible croplands to be set-aside and planted to a mixture of native grasses for 10 to 15 year contracts. The Wildlife Habitat Incentive Program (WHIP) provides expertise and funding for planting native grasses.

Ducks Unlimited - a private organization whose mission is to fulfill the annual life cycle needs of North American waterfowl by protecting, enhancing, restoring, and managing important wetlands and associated uplands. They are initializing a Revolving Land Acquisition Program on the Prairie Coteau of northeastern South Dakota that is aimed at restoration of waterfowl habitat on large tracts.

Friends of Prairie - a group of private citizens focused on raising public awareness and support of issues related to the conservation and preservation of tallgrass prairie in the Dakotas.

Appendix N. RONS List

RONS Projects Waubay National Wildlife Refuge and Waubay Wetland Management District					
Priority No.	***Links to CCP Goal***	***Project Description***	***First Year Need***	***Recurring Annual Need***	***FTE***
1	R1, R3, R4, D1, D3, D4	Initiate environmental education program - Education Specialist	$128,000	$63,000	1.0
2	R1, D1	Restore 500 acres of tallgrass grasslands - Maintenance Worker	$164,000	$99,000	1.0
3	R1, D1	Improve noxious weed control on 500 acres of native prairie - Maintenance Worker	$144,000	$79,000	1.0
4	R1, R2, R3, R4, D1, D2, D3, D4	Protect 20,000 acres of prairie wetlands and grasslands - Administrative Clerk	$118,000	$53,000	1.0
5	R1, R2, R3, R4, D1, D2, D3, D4	Protect 10,000 acres of threatened grassland and wetland habitats - Resource Specialist	$139,000	$74,000	1.0
6	R1, R2, R3, R4, D1, D2, D3, D4	Develop a GIS based habitat mapping system for 250,000 acres of Refuge System lands	$93,000		
7	R3, R4, D3, D4	Improve enforcement of wetland and grassland easements on 200,000 acres - Law Enforcement Officer	$139,000	$74,000	1.0
8	R1, R2, R4, D1, D2, D4	Survey bird and plant communities - Biologist	$128,000	$63,000	1.0
9	R1, D1	Improve 2,000 acres of grassland on waterfowl production area - Maintenance Worker	$152,000	$87,000	1.0
10	R1, R3, R4, D1, D3, D4	Increase management intensity of Refuge System lands - Manager	$76,000	$37,000	0.5
11	R1, R3, R4, D1, D3, D4	Expand land management activities - Manager	$166,000	$101,000	1.0
12	R1, R2, R4, D1, D2, D4	Survey plant communities on 200 waterfowl production areas - Bio Tech	$277,000	$77,000	1.0
Totals			**$1,724,000**	**$807,000**	**10.5**

Appendix O. MMS List

MMS Projects Waubay National Wildlife Refuge and Waubay Wetland Management District			
Priority No.	***Links to CCP Goal***	***Project Description***	***Estimated Cost***
1	R1, R2, R3, R4, D1, D2, D3, D4	Repair Office/Visitor Center heating and cooling	$27,000
2	R1, R2, R3, R4, D1, D2, D3, D4	Replace WPA boundary fence	$79,000
3	R1, R2, R3, R4, D1, D2, D3, D4	Replace WPA boundary signs	$65,000
4	R1, R2, D1, D2,	Replace 1978 implement truck	$55,000
5	R1, R2, R3, R4, D1, D2, D3, D4	Stablize Office/Visitor Center lakeshore	$105,000
6	R1, R2, D1, D2	Replace 1979 farm tractor	$96,000
7	R1, R2, D1, D2	Replace 1979 tandem disc	$25,000
8	R1, R2, R3, R4, D1, D2, D3, D4	Replace WPA boundary fence	$79,000
9	R1, R2, R3, R4, D1, D2, D3, D4	Replace WPA boundary fence	$65,000
10	R1, R2, D1, D2	Replace 1980 skid loader	$48,000
11	R1, R2, R3, R4, D1, D2, D3, D4	Replace WPA boundary fence	$79,000
12	R1, R2, D1, D2	Replace 1984 implement trailer	$25,000
Totals			**$748,000**

Appendix P. List of Preparers

Waubay NWR Staff:
Laura Hubers, Wildlife Biologist
Jarrod Lee, Refuge Operations Specialist
Doug Leschisin, Deputy Project Leader
Larry Martin, Project Leader
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USFWS, Division of Planning, Denver, CO
Bridget McCann, Wildlife Biologist, Team Leader
Toni Griffin, Landscape Architect, Team Leader
Sean Fields, GIS Coordinator, Mapping
Barbara Shupe, Writer/Editor, Document Layout

Appendix Q. Public Involvement / Response to Comments

Various methods were used to involve the public in this planning process. Three public meetings and open houses were held at the beginning of the planning process. Sixteen hundred questionnaires were distributed to all township, county, state and Federal elected officials, past permit holders (easement and special use), anyone who entered into a new easement contract in the last 10 years, all private lands cooperators, organizations that the Refuge deals with, and Refuge deer hunters. The questionnaires were distributed to gather ideas and suggestions on issues the public believed should be addressed at Waubay Complex. A 7 percent returned response rate resulted in a mix of suggestions, as well as some issues that are not under Waubay Complex jurisdiction. Information was also distributed through a web site and newsletter updates. A mailing list was complied of all persons that commented or requested notification (Appendix G). Lastly, the Draft Plan was distributed for comment to everyone on the mailing list.

This section will generally list the types of comments received during the process, whether written or verbal, and provide the Service's response to each. No attempt was made to quantify the number of people making each comment.

There was an overall agreement among respondents that they are glad the Refuge system is here to provide free access to land for relaxation, education, hunting and fishing opportunities, and a place for wildlife and habitat. Whether people use the land or not, the knowledge that the land is here was satisfying to most.

Habitat

Comments:

✓ Do not change management priority of Refuge or WMD
✓ Need more active habitat management on WMD
✓ Manage Refuge habitats for native wildlife only
✓ Allow buffalo grazing on Refuge lands
✓ Too much haying and grazing on Federal lands

Response: Traditionally, the most common management technique used in the Waubay Complex has been cattle grazing, with lesser treatments of prescribed burning or haying. Prairie ecosystems evolved with frequent disturbances by grazing animals (buffalo, elk) and fire. These disturbances evolved with native wildlife and are compatible. Plans are to maintain grasslands and wetlands in quality condition for wildlife using more frequent management treatments than has been used in the past. Buffalo ranching is becoming more common in the area, and with the necessary fencing, is another option for treating grasslands. In order to provide quality habitat, haying, grazing or burning generally need to be used every 3 to 5 years.

Comments:

✓ Encourage biological methods for weed control
✓ Increase weed control on Refuge lands
✓ Decrease amount of chemical weed control - increase non-chemical methods

Response: The Service's active involvement in biological control insects have significantly reduced leafy spurge on several Waterfowl Production Areas and adjacent private, tribal, and state lands. Noxious weeds negatively impact native grasslands and the wildlife using them. The Service is committed to reducing noxious weeds (Canada thistle, leafy spurge, and others) using biological, mechanical, and cultural controls.

Comments:

✓ Need grassland buffer around easement, WPA and Refuge lands to filter agricultural impacts
✓ Emphasize watershed management planning

Response: Payments are made to landowners for wetland easement contracts to protect wetlands from draining, burning, leveling, and filling: these contracts do not address grassland buffers adjacent to these wetlands. However, the Service's grassland easement program protects grasslands from conversion to other uses and indirectly protects wetlands from agricultural runoff. The Service's Partners for Wildlife Program has been very active working with watershed groups to improve watersheds.

Comment:

✓ Control water on easements to allow lowering water levels

Response: Service easement contracts are designed to protect wetlands in their natural state and do not permit artificial lowering of water levels.

Comments:

✓ Use boundary signs only - no fences
✓ Maintain fences

Response: Boundary fences serve several purposes including marking a clear boundary for adjacent landowners and visitors, discouraging vehicle trespass, and facilitating cattle grazing to treat grasslands. Plans are to maintain existing fences and erect new ones where necessary.

Comments:

✓ Increase tree plantings
✓ Remove trees from around WPA wetlands
✓ Plant more native shrubs on WPAs

Response: Trees are native to certain localities of the Complex, namely Waubay NWR, around some large lakes, and many drainages on the eastern face of the Prairie Coteau. The rest of the Complex had very few trees at time of European settlement, but plantings and fire suppression has increased trees greatly on the overall landscape. Plans are to increase plantings of native grasses, forbs, and shrubs to recreate more native plant communities. If more burns are conducted nonnative trees may be inevitably removed. Nonnative species will not be planted.

Comments:
- ✓ Plant crops on Refuge to reduce depredation on private land
- ✓ Reestablish Refuge island food plots when water levels drop
- ✓ No crops on Refuge, native species only

Response: The primary purpose of Refuge croplands is to provide food for wintering deer, especially in years of heavy snow. Presence of corn, alfalfa, and other crops takes browsing pressure off trees and shrubs when food resources are scarce in tough winters. Plans are to eliminate food plots on Refuge islands and restore forest communities in these locations, but maintain croplands on other sites.

Comments:
- ✓ Increase attention paid to rare plants and animals on Refuge
- ✓ Increase habitat management for butterflies
- ✓ Use native plants for reseeding, haying, and burning to improve grassland management

Response: Increased monitoring efforts should give the Service a better idea of what plant and wildlife resources are present on federal lands, including rare plants and animals. Plans are to increase emphasis on plantings of native grasses, forbs, and shrubs. Prescribed burning will be increased to enhance and maintain native vegetation.

Comments:
- ✓ Buy only drained wetlands and restore them
- ✓ Expand land acquisition program
- ✓ Expand easement acquisition
- ✓ Acquire fee-title and easements that are adjacent to current Refuge lands
- ✓ Step up land acquisition to take advantage of current conditions
- ✓ No new acquisition - manage current lands better
- ✓ Increase acquisition of native woodlands
- ✓ Establish easements only where public hunting will be allowed - make a condition of the easement
- ✓ Better explain to sellers the terms of easement contracts; provide guidelines on exactly what can and can't be done on easement lands.

Response: Fee-title acquisition of Waterfowl Productions Areas began in the Complex in 1959, but few purchases have taken place since the mid-1980s, when increase emphasis was placed on acquisition of wetland and grassland easements. Service acquisition of rights to privately owned wetlands and grasslands has been a popular program since the early 1960s, and continues to this day. Plans are to continue the priority of acquisition of high quality wetland and grassland easements on privately owned lands. All terms of easement contracts are fully explained at the time of sale. It is impossible to exactly define all permitted and non-permitted actions on easement lands as proposed uses by landowners are not foreseeable into perpetuity. Only broad guidelines, such as "no alteration of grasslands" is possible until specific uses are proposed. Decisions are then made based on contract terms and intent. There are no plans to change the terms of these easement contracts or requirements of wetland conditions. Current funding sources are for waterfowl production so acquisition of native woodlands will not be possible without additional funding sources.

Wildlife

Comment:
- ✓ Use artificial nest structures on all WPAs

Response: Mallards and Canada geese are the waterfowl species that most commonly use nest structures. The Service has de-emphasized the use of nest structures for geese because of concerns of over-population of this bird across its range. Past programs have partnered with conservation organizations to encourage nest structures for mallards. Plans are to continue with this effort.

Comment:
- ✓ Need predator control for fox, raccoon and skunk

Response: Many studies have shown that predators may impact nest success of ground nesting birds, including waterfowl, especially in areas where grassland habitat has been destroyed or fragmented. Predator management is most successful where it is undertaken on large blocks of land. Research by Delta Waterfowl Foundation in North Dakota has found that conducting predator removal on Township size blocks (36 square miles) has increased ground nesting bird success significantly. Currently, we have no predator removal programs in place within the Refuge or Wetland Management District, but would consider such actions where warranted.

Comment:
- ✓ Need sanctuaries on WPAs for resting waterfowl

Response: During negotiations in Congress for the Small Wetlands Program it was agreed that the WPAs would not be subjected to the "inviolate sanctuary" requirements of the Migratory Bird Conservation Act, which required that no more than 40 percent of a refuge could be opened for migratory bird hunting. In honor of that agreement, it was then codified in the Code of Federal Regulations that all WPAs would be opened to hunting.

Comment:
- ✓ Want an area for an elk herd

Response: The Service has no plans to introduce elk to the Refuge or Waterfowl Production Areas. There are no federally owned tracts of land large enough to maintain an elk herd.

Comment:
- ✓ Introduce the bald eagle to the Refuge

Response: Recent expansion of bald eagle populations has resulted in the national bird being downlisted from endangered to threatened. It is currently proposed for delisting altogether. At least three active bald eagle nests were recently established in the six county Waubay Wetland Management District, so it would not be surprising if eagles chose to use the Refuge as a nesting site. Plans do not call for establishing a hacking site, since there is no assurance those birds would return to the Refuge.

Comment:
- ✓ Control populations of cormorants and pelicans

Response: Double-crested cormorants and white pelicans are protected migratory birds listed by the Migratory Bird Treaty Act. Any efforts to control these populations would have to be undertaken on a nationwide scale, and is outside the scope of this local plan.

Comment:
- ✓ Maintain bluebird boxes at Refuge

Response: Plans are to maintain current levels of bluebird boxes on Waubay National Wildlife Refuge.

Comment:
✓ Assess impacts of bison grazing on Refuge cultural resource sites

Response: Plans include a more detailed cultural resource inventory of the Refuge. Impacts to any sites potentially disturbed by grazing, prescribed burning, or other management would have to be considered prior to undertaking management actions.

Comment:
✓ Encourage more snow goose use of Refuge

Response: Snow goose use of the Refuge has traditionally been very low, especially in the fall. Most falls have no sightings of snow geese resting on the Refuge. The main flyway of snow geese, in South Dakota, is 50-miles or more to the west. Efforts to attract resting snow geese are likely to fail.

Public Use

Comments:
✓ Restrict Refuge deer hunting to muzzleloader and archery
✓ Allow non-motorized boat access for deer hunting
✓ Decrease number of deer tags on Refuge
✓ Survey deer hunters before implementing restrictions

Response: Past Refuge deer hunting opportunities included archery hunting as part of South Dakota's general archery deer seasons and lottery hunts for muzzleloader and firearm deer hunts. Allowing all three types of hunts enables a larger group of people to experience this unique eastern South Dakota hunt. Rifle hunters are more effective at providing overpopulation solutions for the Refuge. Numbers of lottery tags for Refuge hunts are determined annually by the Service and South Dakota Game, Fish and Parks Department. License numbers are based on past season hunting success, winter survival, herd size, and the desire to maintain a quality, uncrowded hunting experience. Hunters are surveyed annually with the Refuge routinely receiving high marks for its deer hunting program. Planned restrictions on hunter densities are based on hunter feedback and safety concerns. Non-motorized boat access has been allowed for deer hunters desiring to hunt Refuge islands. Plans are to maintain similar strategies for Refuge deer hunts.

Comment:
✓ Consider offering pheasant hunting on appropriate upland areas of the Refuge.

Response: Waubay NWR, and the immediate surrounding area, is marginal pheasant habitat. In 2002, less than a dozen pheasants were found on the Refuge. There are considerable pheasant hunting opportunities in the region. However, if pheasant numbers increase, which could warrant pheasant hunting, consideration would be given to opening the Refuge to pheasant hunting.

Comments:
✓ Restrict fishing by time or location to protect wildlife
✓ Open Refuge to roadside fishing all year, all Refuge for ice fishing
✓ Open Refuge lakes to non-motorized boats
✓ Develop a boat landing on Refuge
✓ Improve access for ice fishing - more road access or shuttle
✓ Make full use of fishing resource
✓ Expand youth hunting and fishing programs
✓ Need ice fishing regulations/information at Spring Lake overlook

Response: Sport fishing became possible in 1997, for the first time in the Refuge's history, when the expanding waters of the Waubay Lake Chain joined with Refuge lakes. Fishing is a priority public use on Refuges, if it is compatible with Refuge purposes, namely "a refuge and breeding ground for migratory birds and other wildlife." The Service determined that open water boating and fishing activities would interfere with breeding and resting migratory birds. Limited ice-fishing was allowed since most migratory birds and a large wintering deer herd would not be disturbed by this public use. Restrictions placed on ice-fishing included no vehicles on the ice (including shuttle vehicles), no over-night shacks, and no night fishing to allow the wintering deer herd undisturbed access to their feeding sites. These restrictions allow both fishing and wildlife protection. Year-round roadside/shoreline fishing will not be allowed for several reasons: safety concerns, road damage during wet conditions, and lack of adequate parking areas. Youth fishing programs and increased information disbursal are being pursued.

Comment:
✓ Develop fishery (stocking) and provide access on large WPAs

Response: The primary purpose of Waterfowl Production Areas is to provide habitat for the production of waterfowl. Several studies have shown that ducklings and fish compete for the same invertebrate food source, so stocking of fish may lower a wetland's capability to produce ducklings and other water birds. For this reason, plans do not include developing fisheries on WPAs.

Comments:
✓ Additional road access to Westwoods Island (Refuge)
✓ Continue public access to Refuge, WMD
✓ Improve road and trail access to Refuge lands
✓ Improve access for elderly and disabled on Refuge and WPAs
✓ Decrease Refuge road access except for disabled
✓ Allow access to trails for wildlife watching on WPAs
✓ Don't allow vehicles on WPAs

Response: Much of the Refuge's traditional road system was inundated by rising waters of the Waubay Lake system. Costs to raise these flooded roads would be astronomical and degrade the water quality of the entire system by dumping tons of suspended solids into the water. Refuge facilities have been retrofitted to allow access for visitors with disabilities and new universally accessible trails will provide further opportunities. Vehicle access is limited to existing public roads on all Complex lands to limit damage to vegetation and disturbance to wildlife. The Service does not have jurisdiction on these public roads and their upkeep. Wildlife observation, by foot, is permitted on some Refuge trails and Waterfowl Production Areas.

Comments:
- ✓ Promote a tribal/Refuge tourism cooperative program
- ✓ Increase public relations with sportsmen groups to improve image and public participation
- ✓ Expand public "work days" - volunteer projects beyond those for youth groups
- ✓ Create citizen committee to provide advice for Refuge management

Response: Increased public input and volunteerism are important cornerstones of the 1997 Refuge Improvement Act and plans call for an increase of both in the Waubay Complex. Feasible cooperative programs that result will be pursued.

Comments:
- ✓ Need more interpretation about different wildlife habitats
- ✓ Provide more wildlife educational opportunities - spring bird walks, etc.
- ✓ Extend weekend hours for visitor center
- ✓ Formalize and enhance relationship with NE-SO-DAK
- ✓ Limit amount of visitation on Refuge to protect wildlife

Response: Plans include more wildlife compatible interpretation and educational opportunities for the public within the Waubay Complex. These opportunities may include a variety of avenues.

Comments:
- ✓ Provide primitive tent camping on Refuge
- ✓ Want horseback riding, hiking, overnight camping on Refuge
- ✓ Allow mountain biking on Refuge lands
- ✓ Keep picnic area available

Response: Camping is available on nearby State parks, but is not a permitted use on the Refuge. Horseback riding and mountain biking is permitted on existing public roads, but not off-road on federal lands. These restrictions are in place to limit damage to vegetation and disturbance to wildlife and make activities wildlife compatible. The Refuge picnic area serves as a focal point for environmental education programs and plans are to continue this use as water levels permit.

Comment:
- ✓ Complete thorough archaeological survey for all Refuge and WMD lands

Response: Plans are to complete more archaeological surveys in areas suspected of having these resources.

Private Lands

Comments:
- ✓ Provide nest structures for private lands
- ✓ Create more wetlands on private lands
- ✓ Create 10-year management contracts for private lands - short-term easements
- ✓ Need more incentives for private landowners to improve water quality
- ✓ Subsidize native grass seed purchases for private landowners
- ✓ Expand private lands program efforts in Upper Big Sioux watershed
- ✓ Subsidize seeding on Conservation Reserve Program lands
- ✓ More outreach about pasture management on private lands

Response: Partners for Wildlife programs are funded through partnerships with federal agencies, state agencies, conservation organizations, and private landowners. Most of the above programs have been funded through Partners for Wildlife in the past and are likely to be funded in the future, if partners remain interested and funding resources remain steady.

Issues under Authority of Other Agencies/Groups

Comments:
- ✓ Stock fish in Refuge and private lands
- ✓ Provide boat ramps and public use facilities on Waubay Lake
- ✓ Increase pheasant population
- ✓ Make more deer tags available for Refuge and WPAs
- ✓ Landowners should have authority to control wildlife depredation on their own land
- ✓ Provide or acquire walk-in rights on private lands

Response: These programs or activities are the responsibility of the South Dakota Game, Fish and Parks Department and are beyond the scope of this plan.

Comments:
- ✓ Change high water mark for area lakes
- ✓ Lower level of Waubay Lake
- ✓ Eliminate all drainage onto public lands

Response: These programs or activities are the responsibility of the South Dakota Department of Environment and Natural Resources and are beyond the scope of this plan.

Comment:
- ✓ Refuge should pay 100 percent of property tax due on Federal lands

Response: Federal agencies, such as the U.S. Fish & Wildlife Service, by law, do not pay property taxes, but make a payment-in-lieu-of-taxes to counties every year. Payments are appropriated annually by the Congress of the United States and are beyond the scope of this plan.

Comments:
- ✓ Allow more haying and grazing on Conservation Reserve Program lands
- ✓ Reestablish the Waterbank program
- ✓ Need weed and gopher control on Conservation Reserve Program lands

Response: These programs or activities are the responsibility of the Farm Service Agency of the U.S. Department of Agriculture and are beyond the scope of this plan.