

Supplement Appendix A

Waterfowl Hunting Closed Areas, History, Description, Background and Rationale for Alternative E

Supplement to Draft Environmental Impact Statement and Comprehensive Conservation Plan. Upper Mississippi River National Wildlife and Fish Refuge.

This appendix provides background information and rationale for modifications of the existing Refuge closed area system proposed in Alternative E of the supplement to the Draft Environmental Impact Statement and Comprehensive Conservation Plan. Descriptions, backgrounds, and rationales for each closed area are presented. Additional information on closed areas is provided in Chapter 3 (section 3.2.7.1) of the Draft EIS/CCP, with specific locations, objectives, and rationale provided in Objective 4.2 Waterfowl Hunting Closed Areas in Alternative E of the Supplement to the Draft EIS/CCP. These documents are available on the Refuge planning web site: <http://www.fws.gov/midwest/planning/uppermiss>

Background

National Wildlife Refuges play a crucial role in providing breeding, migrational, and wintering ground habitat for waterfowl. Over the past 75 years, the U.S. Fish and Wildlife Service has strategically established many of its refuges to help meet widely held waterfowl conservation goals. Features common to refuges is the inclusion of closed areas, which provide waterfowl the opportunity to feed and rest without disturbance during migration and at wintering locations. Without disturbance, waterfowl are provided opportunity for molting, preening, pair bonding and fat storage, all of which help build healthier populations. Closed areas also help keep regional populations in and around refuges, providing hunting opportunity on adjacent public and private lands. The value of closed areas to waterfowl declines if they are frequently altered or rotated.

The purpose of the Upper Mississippi River National Wildlife and Fish Refuge closed area system is to provide migrating waterfowl a network of relatively secure feeding and resting areas, and to disperse waterfowl hunting opportunities on the Refuge. Existing closed areas are defined as follows:

“Closed to all migratory bird hunting; other hunting and trapping is only allowed beginning the day after the close of the state duck hunting season, until season closure or March 15, whichever comes first, except turkey hunting is allowed during state seasons.”

Refuge closed areas are generally open for other uses, including recreational boating and sport and commercial fishing. The only exceptions are the Spring Lake closed area (Pool 13) which is a sanctuary and closed to all public entry October 1 to the end of the state duck hunting season, and the Goose Island No Hunting Zone (Pool 8) which is closed to hunting at all times. In addition, a portion of the Lake Onalaska closed area has been designated a Voluntary Waterfowl Avoidance

Area since 1986 where the public is asked to remain out of the area October 15 to mid-November to minimize disturbance of feeding and resting waterfowl.

Closed Area Milestones

1924 – Refuge established by Congress

- Entire Refuge closed to waterfowl hunting until the early 1930s

1930s to 1956 – system of 20 closed areas, totaling 34,150 acres

- Some closed areas established out of convenience of Refuge ownership rather than on areas with best food sources (carrying capacity) or reduced disturbance; established only on Fish and Wildlife Service fee title lands; disturbance by boaters a problem; maintenance of boundaries difficult, required constant brushing; “firing lines” developed.

1957-58 – system of 14 closed areas, totaling 41,600 acres

- After 10 years in development, this is the core of the current system which now has 15 units, covering 44,495 acres. Two units do not have standard closed area regulations: 1) Spring Lake in Pool 13 is a sanctuary from October 1 to the end of the duck hunting season, 2) Goose Island in Pool 8 is closed to all hunting year-round. Trempealeau National Wildlife Refuge, next to Pool 6, functions as a closed area with special regulations but is not included in this analysis. When first established, this system generally met goals of providing secure feeding and resting areas and dispersing hunting opportunities. Closed areas are located on Refuge-acquired and Corps of Engineers-acquired fee title lands.

1978 and 1985 – Wildlife Technical Committee of the Upper Mississippi River

- Conservation Committee recognized that some closed areas were not functioning as intended and proposed changes to the closed area system but none were implemented.

1986 – establishment of the Lake Onalaska Voluntary Waterfowl Avoidance Area (Pool 7).

- Other than at Spring Lake and Goose Island (see above), this is the only tool currently being used by the refuge to address human-caused disturbance during fall migration. This program, developed in cooperation with state agencies and local sportsman and conservation groups, asks the public (mostly boaters) to avoid entry into this area. It has been operational each year, from October 15 through mid-November, since 1986. Studies conducted in 1986-88, 1993, 1997, and 2004 revealed that the voluntary avoidance area was effective in maintaining constant levels of boater intrusions and disturbance of birds despite increased levels of boating activity throughout the Pool.

1987 – Refuge’s Master Plan

- During development of the Plan, changes to closed area system were considered but none were included in the final, pending further study on human disturbance and effectiveness of the voluntary avoidance area.

2005 – release Draft EIS/ CCP in May

- Initial preferred alternative (D) proposes closed area system of 21 units, covering 43,704 acres. Areas would retain the standard closed area definition and add proposed regulations of no fishing and the use of no motors during the state duck hunting season.

2005 – release Supplement to the Draft EIS/CCP in December

- New preferred alternative (E) proposes a system of 22 units, covering 45,755 acres.

Areas retain standard closed area definition with proposed regulations of voluntary avoidance on all large closed areas October 15 to the end of the state duck hunting season and use of no motors and voluntary avoidance on small closed areas (~1000 acres or less) October 15 to the end of the state duck hunting season. A threshold for disturbance is also established under Alternative E.

Definitions

Waterfowl Hunting Closed Area, current definition:

“Closed to all migratory bird hunting; other hunting and trapping is only allowed beginning the day after the close of the state duck hunting season, until season closure or March 15, whichever comes first, except turkey hunting is allowed during state seasons.”

“Large” and “Small” Closed Areas: Proposed in Alternative E

Waterfowl hunting closed areas proposed under Alternative E will continue to be defined with the current definition, see above.

In addition, most of the proposed closed areas will be classified as either “Large” or “Small”, as described below:

Under Alternative E, the public will be asked to practice Voluntary Avoidance (limiting entry) on all closed areas (“Large” and “Small”) October 15 to the end of the respective state duck hunting season and in addition there will be a “no motor” restriction on “Small” closed areas October 15 to the end of the regular state duck hunting season. “Large” closed areas are greater than 1,000 acres and “Small” closed areas are ~1,000 acres or less. “No motors” means the use of motors on watercraft is not allowed, although possession of a motor is allowed in these areas. The McGregor Lake closed area in Pool 10 will have special regulations that modify the dates for no motors and voluntary avoidance (see below).

Disturbance Threshold: Alternative E

One major disturbance per day based on a season-long average. This is based on human disturbance monitoring and research on Pools 7 and 8, 1980 – 2004. A major disturbance is defined as a human intrusion which displaces 1,000 waterfowl or 50% of the waterfowl present, whichever is less. The disturbance threshold would not include commercial fishing (handled through permitting process) or government entities engaged in monitoring, research, or law enforcement.

Sanctuary: all alternatives

A waterfowl sanctuary is defined as follows: “No entry October 1 to the end of the regular state duck hunting season.”

Voluntary Waterfowl Avoidance Area or Voluntary Avoidance Area

Under Alternative E, closed areas will be posted to encourage boaters to practice Voluntary Avoidance (limited entry) October 15 to the end of the state duck hunting season to reduce disturbance of waterfowl. Moving the effective date from October 1 in Alternative D to October 15 in Alternative E for these entry regulations reflects public concern about the loss of fall fishing and survey data which shows that the major influx of migrating waterfowl occurs after October 15 each year. The existing Voluntary Waterfowl Avoidance Area on Lake Onalaska in Pool 7 will continue with effective dates of October 15 to mid-November.

Closed Area System Goals

After nearly 50 years, changes from within and outside the closed area system have altered how waterfowl utilize the Refuge during migration. Changes include the amount and quality of habitat available, the number and species of waterfowl using the system, and the size and number of closed areas available. Refuge-wide, fewer islands and acres of vegetation are generally available to provide shelter, food, and cover. More diving ducks, tundra swans, and Canada geese are now present, but fewer puddle ducks.

As a result of these changes, not all closed areas in the system are providing waterfowl with the habitat components required to meet their biological needs. Waterfowl are now concentrated in a few functioning closed areas rather than being dispersed throughout the system.

The overall Refuge closed area system goals and some strategies to achieve them are as follows:

- 1.) Provide migrating waterfowl a more balanced and effective network of feeding and resting areas.
 - Add closed areas in gaps between stepping stones of habitat.
 - Align closed areas over existing preferred food sources.
 - Construct islands to restore habitat, protect vegetation beds from currents, wind and wave action, and sedimentation, and provide thermal and visual barriers for waterfowl
 - Promote growth of aquatic vegetation using water level drawdowns.
- 2.) Minimize disturbance to feeding and resting waterfowl in closed areas.
 - Establish Voluntary Waterfowl Avoidance Areas.
 - Restrict use of motors
 - Restrict fishing.
 - Establish waterfowl sanctuaries (no entry).
- 3.) Provide waterfowl hunters with more equitable hunting opportunities over the length of the Refuge.
 - Add new closed areas to hold birds in new areas.
 - Eliminate or reduce the size of existing closed areas to provide more area open to hunting.
 - Establish hunter spacing limits (Illinois only).
 - Eliminate use of permanent blinds.
- 4.) Reduce hunter competition and waterfowl crippling loss along some closed area boundaries.
 - Consider managed hunts (include hunting public in the development of these hunts).
 - Adjust the closed area boundary
 - Modify hunting regulations.
- 5.) Stabilize boundaries where island and/or shoreline loss or gain creates a fluctuating boundary.

Background and rationale for each of the 18 closed areas and 3 sanctuaries proposed in Alternative E for the Refuge closed area system address one or more facets of these goals. A description of each closed area by Refuge District, Pools 4 through 14, is presented below.

Closed Area Descriptions

Winona District

Pool 4, Big Lake-Buffalo Slough, WI, 3,249 acres

General Description:

Under Alternative E, the proposed Big Lake-Buffalo Slough closed area is classified as a “large” closed area and thus will be designated a Voluntary Avoidance Area October 15 to the end of the state duck hunting season. It includes travel corridors to facilitate access from boat landings and private docks to and from the main channel with minimal disturbance to the birds.

The Big Lake portion of the proposed closed area encompasses 2,461 acres and is located in the general area of an historic (1930s to mid 1950s) closed area that was dropped in 1957. This area is proposed due to the availability of abundant waterfowl foods. The Buffalo (Beef) Slough, WI portion is an existing closed area. The current alignment of closed areas within Pool 4 includes Nelson-Trevino, WI (3,773 acres) and Peterson Lake, MN/WI (2,615 acres) for a pool-wide total of 6,388 acres. Under the new proposal, Nelson-Trevino and the Minnesota portion of Peterson Lake will have the closed area designation removed, leaving 3,249 acres in the closed areas. A net gain of 3,139 acres will be open to hunting within Pool 4.

Background:

Big Lake was a closed area from the mid 1930s through 1954 (named the Beef Slough Closed area) encompassing 1,319 acres. Evaluation of the area in 1954 determined that due to land ownership at the time the eastern boundary was difficult to maintain as it traversed through deep, open water. The north and south boundaries were through marsh which resulted in the creation of firing lines. There was also too much boat traffic through the area causing disturbance of the birds. Following this evaluation, the current closed area configuration was created in 1957. In the following year, 1958, reports indicate that waterfowlers requested the Big Lake Closed area be re-established. No changes, however, were made.

The Big Lake area has seen a decline in aquatic vegetation and a loss of depth diversity caused by sedimentation from the Chippewa River. The bed-load from the Chippewa, primarily sand, not only influences backwater features and water quality, but also the main channel where it affects channel maintenance activities extending through Pool 7. In an attempt to reduce sand loading to Big Lake, two major inflows, Indian Slough and Catfish Slough, have been modified. The Indian Slough closure incorporates features to improve fisheries habitat via tree drops and riffle-pool complexes. Additional activities proposed for Big Lake include: island construction; maintaining/increasing water depths in approximately three percent of the aquatic area for fishery habitat; and increasing emergent vegetation by approximately 14 percent. Other features will be considered to stabilize shorelines and reduce island dissection. Re-vegetation of historic dredged material placement sites is planned to increase the area and diversity of forests.

Rationale:

This proposal will substantially increase the amount of food available to migrating waterfowl in the relatively secure environment of the closed area. Big Lake, one of the last, and the best, puddle duck and diving duck habitat areas on the Winona District (Pools 4-6), will play a vital role in achieving a more even distribution of waterfowl, primarily puddle ducks, but some divers as well, on the entire Refuge. Energetic studies (Slivinski, 2004) indicate an expected 104% increase in gross energy available to migrating and staging waterfowl if the closed areas are aligned to include Big Lake-Buffalo Slough.

Opening the Nelson – Trevino and Peterson Lake areas will result in an overall decrease of 3,139 acres (49%) of Closed area acreages within Pool 4 and provide new opportunities for duck hunters as well as deer and small game hunters.

Winona District

Pool 4, Rieck's Lake, WI, 496 acres

General Description:

Rieck's Lake is an existing closed area with no proposed boundary changes. Under Alternative E, this area is classified as "small," (less than 1000 acres) and therefore, will be closed to the use of motors and designated a Voluntary Avoidance Area October 15 to the end of the regular state duck hunting season. Under this proposal the use of motors would not be allowed and the public will be asked to voluntarily avoid entering the area during the stated time period to minimize disturbance.

Background:

Rieck's Lake is most widely known as the location for the Alma Tundra Swan Watch. This Closed area is located north of Alma, WI and was traditionally renowned as a site that held concentrations of up-to 6,000 migrating tundra swans within close proximity of the road. An observation deck was built through the cooperation of the US Fish and Wildlife Service, US Army Corps of Engineers and City of Alma, and is staffed by volunteers during the fall migration period. The notoriety of Rieck's Lake has grown with over 20,000 people from around the world annually visiting the observation deck for close-up views of swans.

The greatest threat to Rieck's Lake is sedimentation from surrounding lands and the heavy growth of burreed which has overgrown the marsh eliminating open water. Waterfowl counts from 2004 showed a peak of only 300 tundra swans utilizing the closed area. The Swan Watch organization, working with Buffalo County and a grant from the Federal Scenic Byways Program, contracted to have 35,000 cubic yards of sediment dredged during the early-fall of 2005. The material was removed in a mosaic pattern to create large open-water "fingers" that will provide attractive resting and feeding areas for swans and other waterfowl. First year results are inconclusive because a combination of late-arriving swans and a relatively early freeze-up of Rieck's Lake pushed swans to larger, open water areas.

Rationale:

Rieck's Lake is separated from Pool 4 by Highway 35 making it an easy boundary to maintain. It provides moderate waterfowl food resources for migrating waterfowl as well as offering educational benefits to the public by providing one of the few opportunities to see waterfowl close-up. It also provides economic benefit to the surrounding towns through the increased tourism brought by the Swan Watch.

Winona District

Pool 5, Weaver Bottoms/Lost Island, MN/WI, 3,693 acres

General Description:

Weaver Bottoms (MN)/Lost Island (WI) is an existing closed area. Its size has been increased by 554 acres to include the main channel travel corridor (369 acres) and channel maintenance islands constructed in 2005-2006 (185 acres). This closed area would be classified under Alternative E as a "large" closed area (greater than 1000 acres) with a voluntary avoidance area designation from October 15 to the end of the state duck hunting season. Under this proposal the public will be asked to voluntarily avoid entering the area, except the main channel corridor, during the stated time period to minimize disturbance of waterfowl.

Background:

Weaver Bottoms (MN) was historically significant for migrating waterfowl and wintering fish. This was due to extensive beds of emergent and submersed vegetation and a series of main channel border islands that protected the area from inflows from the main channel. Weaver Bottoms has been negatively impacted by inflows from the main channel and the Whitewater River which delivers large amounts of sediment, impacting water quality. Since the late-1960's, the area had degraded to a large, windswept lake with minimal vegetation. However, 58 – 96% of annual waterfowl use on Pool 5 still occurs within Weaver Bottoms, most likely because of reduced disturbance inherent in closed areas.

Extensive studies concluded that to improve conditions in Weaver, a two-tiered approach was needed. First, side-channels needed modifications to restrict sediment and reduce velocities. Second, islands should be constructed to reduce wind fetch and resuspension of bottom sediments. Phase I was completed in 1987 when partial or complete closures were constructed across most of the secondary channels leading into Weaver Bottoms and two islands were constructed. Phase II, construction of additional islands and/or other measures, was not implemented pending results of monitoring the effects of Phase I. To date, monitoring has not shown significant improvements in aquatic vegetation from Phase I projects.

Pool 5 was the site of a pool-wide water-level drawdown in 2005. Preliminary monitoring found over 1,000 acres of exposed sediment with good to excellent annual and perennial plant growth. Planning is underway to conduct a second drawdown during the summer of 2006 which would enhance the growth of perennial plants that were established during the 2005 drawdown. Aquatic vegetation in Weaver Bottoms has the potential to improve over the next several years due to the effects of the drawdowns.

The Lost Island (WI) portion of the closed area contains several forested islands and shallow backwater lakes. Under Alternative E, this section was expanded by 185 acres to include two channel maintenance islands constructed during 2005/2006 near river mile 743. This boundary change was done to meet the intent of the interagency planning team and project designers to include the islands within the closed area. More islands are expected to be constructed within this boundary in the future as part of this “island cluster.”

Rationale:

The Weaver Bottoms/Lost Island Closed Area is remaining intact due to the historic waterfowl use of the area and the potential for improved habitat (including both submersed and emergent plants) and increased waterfowl use in the future. Planned habitat improvement projects include island construction and additional water-level management through drawdowns. With improved habitat for both puddle ducks and diving ducks, Weaver Bottoms/ Lost Island will play a crucial role in achieving a more even distribution of waterfowl on the upper reaches of the Refuge.

Winona District

Pool 5, Spring Lake, WI, 243 acres

General Description:

Spring Lake is a newly proposed closed area under Alternatives D and E and is classified as a “small” unit (less than 1000 acres) which will be closed to motor use and be a Voluntary Avoidance Area October 15 to the end of the regular state duck hunting season. Under this proposal, the use of motors would not be allowed and the public will be asked to voluntarily avoid entering the area during the stated time period to minimize disturbance. The area contains a portion of the islands built through the Environmental Management Program (EMP) in 2004-2006. The southeastern boundary terminates at the upstream toe of the Lock & Dam 5 dike.

Background:

The Spring Lake area was once a diverse complex of islands and deepwater areas which contained abundant vegetation that provided excellent fish and wildlife habitat. Today, habitat of the area has declined due to losses in bathymetric and topographic diversity due to sedimentation and island loss. Spring Lake was the site of a 1995 EMP project designed to reduce flow and sedimentation by placing a rock sill on the north end of the lake.

A second EMP project is near completion in the Spring Lake area and contains an extensive island complex designed to stabilize habitat conditions and improve sediment transport and distribution. The islands will also provide environmental conditions for establishment and continued growth of aquatic vegetation. The proposed actions intend to increase the coverage of emergent vegetation by over 200% and maintain the coverage of submersed vegetation.

Rationale:

The Spring Lake closed area, though relatively small, has the potential to provide significant food resources for migrating waterfowl in future years. EMP projects and water level drawdowns should have a significant impact on the food resources available in the area. With improved habitat, mainly for puddle ducks, the Spring Lake closed area will play an important role in achieving a more even distribution of waterfowl on the entire Refuge.

As a secondary benefit, the proximity of this closed area to a land source (Lock & Dam 5 dike) will provide a wildlife observation opportunity often difficult to provide on a large river system.

Energetic studies (Slivinski 2004) indicates that the proposed Spring Lake closed area will increase the food availability to waterfowl by 69 million Kcals. That amount should increase with the habitat improvements brought on by water level drawdowns.

Pool 5 was the site of a pool-wide water-level drawdown in 2005. Preliminary monitoring found over 1,000 acres of exposed sediment with good to excellent annual and perennial plant growth. Planning is underway to conduct a second drawdown during the summer of 2006 which would enhance the growth of perennial plants that were established during the 2005 drawdown. Spring Lake vegetation has the potential to improve considerably over the next several years following the construction of islands and the water-level drawdowns.

Winona District

Pool 5A, Polander Lake, MN/WI, 1,907 acres

General Description:

This is an existing closed area which includes Polander Lake (MN) and Betsy Slough (WI). A boundary change is proposed to include an additional 318 acres within the main channel and Pap Slough (MN). This modified closed area has travel corridors and would be classified under Alternative E as a "large" closed area (greater than 1000 acres) with a voluntary avoidance area designation from October 15 to the end of the state duck hunting season. Under this proposal the public will be asked to voluntarily avoid entering the area during the stated time period to minimize disturbance.

Background:

Habitat diversity and quality have been degraded within Pool 5A from island loss and sedimentation, especially in the lower portions of the pool. Island dissection and erosion continue to occur and contribute to declines in aquatic vegetation and floodplain forests. Sedimentation has most impacted the Betsy Slough backwaters which have also experienced island erosion and island dissection. The majority of sediment in the pool is transported from the Zumbro River in Pool 5 and the Chippewa River in Pool 4.

Polander Lake has been impacted by erosion which has eliminated many of the islands. This has caused the loss of terrestrial habitat and played a role in the loss of submersed and emergent aquatic vegetation. The Polander Lake HREP (completed in 2002) protected the remaining islands, closed an island breach in Pap Slough, re-vegetated a historic disposal site, and constructed three islands. The desired future condition for Polander Lake includes a 40% increase in emergent vegetation and a 10% increase in submersed vegetation from 1989 conditions.

Rationale:

The full potential of the Polander Lake project has yet to be realized although the area is showing good response by submersed aquatic vegetation. Slivinski's report (2004) indicates that the inclusion of an additional 318 acres north of Polander Lake will increase available waterfowl food resources within the closed area by 44% (161 million Kcal), a substantial gain through a relatively small addition. With improved habitat, mainly for puddle ducks, and a few divers, the Polander Lake closed area should play an important role in achieving a more even distribution of waterfowl on the upper reaches of the Refuge.

La Crosse District

Pool 7, Lake Onalaska Closed Area, WI, 7,357 acres

General Description:

No change is being made in entry regulations for this existing closed area. The existing Lake Onalaska Voluntary Waterfowl Avoidance Area would also remain in effect. Boundary adjustments are being made in three locations:

- Adjust the line in Gibbs Chute where the boundary “splits” a small island vegetated predominately with reed canarygrass. The new boundary will be along the south shoreline of Gibbs Chute. Closed area reduction of .6-acre.
- Continue to make adjustments in the closed area boundary near Proudfoot Slough. When established in 1957, the closed area boundary in this location was defined as the east or left descending bank of the Mississippi River. Sand accretion, followed by rapid colonization by woody plants, continues to add to the barrier island complex in this area. Previous boundary adjustments occurred in 1999 (+5.7 acres added to the closed area) and 2001 (+2.0 acres).
- Restore a portion of the closed area boundary along the “old channel.” As island erosion has occurred, sign placement through an area dotted with small, scattered islands and emergent plant beds, has resulted in an uneven boundary. This uneven boundary allows hunters to setup “ahead” of other hunters. According to Refuge staff, a straight-line boundary was the norm in this area until the early 1980's when the current practice was instituted. Boundary restoration may add about 10 acres to the closed area.

In 1986, the 3,356 acre Lake Onalaska Voluntary Waterfowl Avoidance Area (VWAA) was established within part of the Lake Onalaska Closed Area to reduce boating disturbance to migratory waterfowl. Monitoring boater compliance with the VWAA will continue.

Background:

This closed area was established as a conventional closed area in 1957. Prior to 1957, the one closed area in Pool 7 was located near Hammond Chute and was known as the Hammond Chute Closed Area (1,660 acres). Known initially as the “La Crosse Closed Area,” a number of adjustments have been made to the boundary of the Lake Onalaska Closed Area since establishment, particularly along the northern boundary near Gibbs Lake and the Brice Prairie Barrier Islands.

With the exception of the southeast corner, much of Lake Onalaska is part of the Lake Onalaska Closed Area. This major backwater includes open water, interior islands, barrier island complexes

with associated marsh, and flowing channels that convey water from the main channel into the lake. The arrangement of habitat types supports large concentrations representing each of the four main groups of waterfowl: diving and puddle ducks, swans, and geese, along with a variety of other marsh, waterbirds, and raptors. Peak waterbird counts in recent years include 140,000 ducks, geese, swans, coots, and white pelicans on October 23, 2002 and 145,000 on October 27, 2003. Few other closed areas within the Refuge's existing Closed Area System provide as much habitat for all groups of waterfowl. Wild celery is the dominant submersed aquatic plant in the lake and provides habitat for aquatic invertebrates and panfish, and food for migrating waterfowl. Lake Onalaska also supports one of the premier panfish fisheries on the Upper Mississippi River.

Three crescent-shaped islands were constructed within the closed area in 1989-90 as part of the Lake Onalaska EMP project. Follow-up stabilization maintenance on these islands occurred in 1993 and 1998. Habitat protection projects have also been completed within the closed area. In 1986, a section of shoreline near the midpoint of the lower Brice Prairie Barrier Island was stabilized with riprap. Additional work occurred in 1992 on the southeast tip of the lower barrier island when a rock mound, rock wedge, and terminal groin were constructed. Construction work on the latest project to protect sections of the lower Brice Prairie Barrier Island and the tip of the upper barrier island was initiated in 2005 with completion expected in 2006. In 1988, riprap was placed along the shorelines of four small islands in the lake near Red Oak Ridge Island. "Old Cormorant" Island received shoreline protection in 1993 after a tiny remnant of the island remained. Both ends of Red Oak Ridge Island, the second largest island in the lake, were stabilized with riprap in 1995. Because of the importance of barrier islands in protecting vegetation beds, nearly 1,400' of eroding shoreline on two barrier islands located next to the main channel in the southwest corner of the lake was stabilized in 1998. Other habitat protection projects have also been completed just outside the closed area boundary. Among the tools being considered for use in future habitat projects within or next to the closed area include island construction and stabilization, backwater dredging, and water level management.

Commercial and sport anglers, hunters, sailors, and pleasure boaters are among the user groups recreating on Lake Onalaska in the fall. Boating disrupts feeding activities of diving ducks and other waterfowl on the lake and could reduce the quality of the closed area as a staging site (Korschgen et al. 1985). In response, the Lake Onalaska Voluntary Waterfowl Avoidance Area (VWAA) was established. When established, the VWAA included most of the high quality wildcelery beds in the lake at the time. VWAA boundaries permit boating along principal thoroughfares and allow access to all areas of the lake and the main channel of the river. Boaters are encouraged to avoid the VWAA, which is marked with buoys, from October 15 through mid-November. Monitoring boater compliance with the program was completed in 1986-88, 1993, 1997, and 2004. In 2004, even with increased boater activity on Lake Onalaska, the proportion of lakeside boating events that resulted in disturbance to waterfowl was lower than in previous years. Many boaters also made an obvious effort to comply with VWAA by boating around concentrations of waterfowl. During the 31 days the VWAA was monitored, 29 intrusions were noted that resulted in major disturbances (more than 1,000 birds disturbed).

The La Crosse Municipal Airport is located adjacent to the closed area on French Island. Many waterbirds using the closed area are concentrated on the south end of the lake, or under the approach to Runway 13/31. An extension to Runway 13/31 is identified as a future need in the airport master plan, which would place aircraft directly over thousands of migratory birds each spring and fall.

One of the management problems with the former Hammond Chute Closed Area were firing lines. Firing lines can be crowded, resulting in competition and confrontations between hunters, and skybusting, which often leads to an increase in the number of crippled waterfowl. In 1954, boundaries for the new Lake Onalaska Closed Area, and other Refuge closed areas, were set with the goal of eliminating firing lines. In the 1954 report recommending the current Closed Area System, Refuge Biologist "Doc" Green, justifying the boundary of the Lake Onalaska Closed Area,

cautioned, "...The only possible firing line will be along the slough which forms the north boundary, and since this does go through marsh, there should not be a well developed firing line even there." Unfortunately, a firing line did develop along a section of Gibbs Chute, which forms the northern boundary, and remains today. Preferred hunting sites along this firing line have colorful local names, e.g., Barrel Blinds, Golden Chair, Minnesota Point, and others. Within the Comprehensive Conservation Plan, addressing this issue is found in Objective 4.4 Firing Line – Pool 7, Lake Onalaska.

Rationale:

No change was made in entry regulations for the Lake Onalaska Closed Area to provide a benchmark for measuring long-term voluntary avoidance effectiveness and compliance as presented in the existing Lake Onalaska VWAA. The exception also recognizes the unique location of this closed area amidst heavy residential shoreline development, numerous boat launching facilities, proximity to nearby population centers, and a sailing club. This access translates into considerable boating traffic on Lake Onalaska during fall migration.

Three adjustments are being made. Specific rationales include:

- Sign maintenance and public recognition will be simplified by moving the boundary to south side of Gibbs Chute and eliminating the "split" boundary through the small island. This change will also increase hunting opportunity.
- Near Proudfoot Slough, the closed area boundary will continue to be the east or left descending bank of the Mississippi River. Recognizing the public desire for continued waterfowl hunting opportunity in this area, adjustments will be made with the goal of keeping the small embayment open to hunting. As woody vegetation colonizes the area, adjustments will need to be made due to the difficulty of establishing and maintaining a clear line through dense vegetation and the inherent safety concerns of a hunting/no-hunting line in limited visibility situations.
- The section of boundary bordering the "old channel," is subject to annual change from erosion and/or change in aquatic vegetation beds. In effect, the boundary over time has been moving into what was always intended as closed area. This fluctuation in perceived left descending bank also leads to continual difficulty in annual posting, confusion and concern with hunters on where the boundary is from year to year, and ambiguity for Refuge and state enforcement personnel. This situation will be corrected by straightening the line to provide a better defined boundary visible to waterfowl hunters and law enforcement personnel alike. Alternative E seeks to strike a balance between these various needs and the desires of waterfowlers by reducing the estimated acreage affected by half, or from an estimated 20 acres in Alternative D to an estimated 10 acres in Alternative E.

A fourth adjustment identified in Alternative D, moving the closed area boundary to include an entire island near the former Red Sails Resort on the east side of the lake, has been removed from further consideration in Alternative E in response to public concerns about limiting available hunting areas. It was originally proposed due to the proximity of the area to residences and potential conflicts with anglers and other water users.

La Crosse District

Pool 8, Goose Island No Hunting Zone, WI, 975 acres

General Description:

The Goose Island No Hunting Zone is an existing small closed area that will be expanded by about 99 acres along the south boundary (total area of 975 acres after expansion). An additional expansion of 235 acres to the north is being dropped in Alternative E in favor of a special hunt area (see tables and maps of Supplement). Although designated a no hunting zone due to proximity to Goose Island

County Park, this area is part of the Refuge's Closed Area System. Beginning in fall 2007, boats equipped with motors will not be permitted to enter the no hunting zone from October 15 to the end of the state duck hunting season to reduce human-caused disturbance to migratory birds. To further reduce disturbance, the public is also being asked to voluntarily refrain from entering the area from October 15 to the end of the state duck hunting season. Habitat consists of a backwater complex complete with a flowing slough, shallow lakes, a mix of submersed and emergent plants, and mini-deltas formed where breakouts occurred in the natural levee along Running Slough.

Background:

The following background material concerning the origins of the current Goose Island No Hunting Zone was obtained from annual La Crosse District narrative reports, the 1954 Closed Area Recommendations Report, and the follow-up 1957 Closed Area System Evaluation. Although details are sketchy, the Goose Island No Hunting Zone evidently began in response to a need to buffer hunters from "live decoys" present because of a mallard propagation project. In the 1950's, the Badger State Sportsmen's Club (BSSC) was permitted by the U.S. Fish and Wildlife Service to propagate and release mallards at their facility on Goose Island. In 1955, the sanctuary around the "duck project" was expanded to legally described locations and posted accordingly. This increased the size of the sanctuary from 100 to about 650-700 acres. Due to the presence of mallards serving as live decoys, the entire area was closed to hunting. As a result, the "duck project" served as a de facto closed area, but was not recognized as such in the pre-1954 Refuge Closed Area System.

When the Refuge's Closed Area System was being revised beginning in 1954, the BSSC began moving their mallard breeding stock off the island due to enforcement problems. Views varied on how the "duck project" fit in to the revised Closed Area System. BSSC members wanted to continue releasing mallards, and began raising and releasing wood ducks, so their preferred option was to maintain the hunting ban. Refuge personnel thought the hunting prohibition could be abandoned provided the BSSC continue to remove their breeding stock of ducks, thus eliminating the live decoy problem. Otherwise, a sizeable area would have to be posted to prohibit hunting. In the end, the area remained closed to hunting and became part of the revised Refuge Closed Area System. Canada geese were later propagated and released at the site.

In 1972, the size of the Goose Island Closed Area expanded when two additional areas were added and hunting on the island was prohibited. This action resulted in the designation as the Goose Island No Hunting Zone. Prior to closing, the two open hunting areas were trouble spots because of their proximity to the adjacent Goose Island County Park and the BSSC's propagation project. Rifles aimed carelessly were a source of danger to park visitors, park and Refuge signs were vandalized, and geese were destroyed at the propagation project.

In recent years, the Goose Island No Hunting Zone has been one of the most heavily used puddle duck concentration areas on a per acre basis in the Refuge's Closed Area System. The peak count of 14,820 puddle ducks occurred on November 19, 2001 and included 12,820 mallards. Canada geese and tundra swans also use the area. The "mini-deltas" (particularly the upper delta) and areas protected by emergent plants or woody vegetation provide thermal cover and are important habitat features. As the hunting season progresses and food in the no hunting zone becomes limiting, the birds generally use the area for protection during daylight hours and fly out at night to feed in areas subject to too much disturbance to be used by day. When this pattern is broken, usually by inclement weather, waterfowlers in Pool 8 benefit.

The Shady Maple/Beiers Lake area, which is part of the no hunting zone, at one time supported overwintering habitat for panfish. Use of this site for overwintering fish has been diminished as a result of flow changes and sedimentation. The public has expressed an interest in restoring panfish habitat. Balancing habitat requirements for puddle ducks, geese, and swans, with those of panfish will require careful consideration. Increased human disturbance is also a concern.

Rationale:

The Goose Island No Hunting Zone is being expanded by 99 acres along the south boundary. This adjustment is being made to accomplish the following:

- Add additional puddle duck habitat to the no hunting zone. Tundra swans and Canada geese will also benefit.
- Eliminate the established firing line along the current south boundary. Hunting currently takes place from several islands located along this boundary. Moving the south boundary to the edge of the Running/Wigwam Slough channel reduces the opportunities to stand along the boundary and shoot.
- Eliminating the firing line should increase the effective size of the no hunting zone. Currently, the disturbance created by hunting pressure along the south boundary further reduces the area available to waterfowl to feed and rest.
- An expanded no hunting zone will also increase wildlife observation viewing opportunities available to the public from pullouts along Highway 35.
- The proposed 235-acre expansion of the no hunting zone to the north was dropped in Alternative E due to public comment and concern about the loss of hunting opportunity, especially for youth, and the possible impacts of no hunting in an area with an already high deer population. Details of this hunt are in the tables and maps of the full Alternative E supplement.

To reduce disturbance to waterfowl in this “small” no hunting zone, a no motor regulation will be in effect from October 15 to the end of the duck hunting season. The public is also being asked to voluntarily refrain from entering the no hunting zone during this same timeframe. Hikers using the Goose Island Interpretative Trail, located within the no hunting zone, will not be affected. A section of the Goose Island Interpretative Trail is also located within the no hunting zone. A “Voluntary Closed Period,” from October 1 to November 15, has been in effect since the canoe trail was established. The dates of this “voluntary closed period” will be adjusted to match the no motor and voluntary avoidance area dates. The trail brochure will also be rewritten to reflect the changes. Periodic monitoring will be conducted to determine how well voluntary avoidance is working.

La Crosse District

Pool 8, Wisconsin Islands Closed Area, WI and MN, 6,510 acres

General Description:

Wisconsin Islands Closed Area is an existing closed area located in the lower part of the pool. As islands in lower Pool 8 have disappeared, open water has become a more dominant feature in the closed area. Remnant and restored islands in the upper part of the closed area protect beds of submersed and emergent aquatic plants. In the recent past, submersed plants such as wildcelery have recolonized areas within the lower part of the area. Under this plan, the closed area boundaries will remain the same. The public is being asked to voluntarily avoid entering the Wisconsin Islands Closed Area beginning October 15 each year to the end of the state duck hunting season. Within the closed area and voluntary avoidance area, a travel corridor is being implemented in a section of Raft Channel, from the upper closed area boundary to the five boathouses. To minimize disturbance to waterbirds adjacent to the travel corridor, the Raft Channel Slow No Wake Zone will be in effect each fall.

Background:

The Wisconsin Islands Closed Area was implemented in 1957 after lengthy study. When established, this closed area offered excellent habitat for both puddle and diving ducks. The lower end was widely used by diving ducks. Puddle ducks generally used the upper reach of the area, where the water was fairly shallow and filled with aquatic plants. Islands present at the time also provided thermal cover for the birds during stormy weather. In the 1950's, the dominant submersed aquatic plants were sago pondweed, American pondweed, and flatstem pondweed. Wildcelery, another

important submersed plant, was common to locally abundant, especially at the mouths of cuts leading off the main channel. During the 1957 fall migration, the peak population of ducks recorded in this closed area was 44,620 on a November 20 aerial survey. Nearly 1.85 million duck use days (1 duck per day = 1 use day) were recorded in the closed area from late September through early December 1957. Although no species breakdown was provided for either the peak population or use days in the closed area, for the La Crosse District (Pools 7 and 8) as a whole in 1957, mallards ranked first in number of use days followed in order by wigeon, scaup, ring-necked ducks, pintails, and blue-winged teal.

Since the 1950's, there has been an observed decline in fish and wildlife habitat conditions in lower Pool 8 and the Wisconsin Islands Closed Area due to the loss of islands and the shelter they provide plants, a decline in aquatic plants, and a decline in depth diversity. The loss of aquatic plant beds and aquatic invertebrates resulted in fewer ducks using the closed area. In 1997 for example, fewer than 100,000 duck use days were recorded during fall migration!

Beginning with the completion of Phase I/Pool 8 Islands EMP Project in 1992, habitat restoration efforts in the lower part of the pool and closed area are producing positive results. In 1995, the shorelines of several islands, both in and out of the closed area, were protected with riprap. Two "seed islands" were also constructed in the closed area. Phase II/Pool 8 Islands EMP Project, or the Stoddard Bay Project, was completed in 1999. As part of the project, an additional six "seed islands" were constructed within the closed area. Moreover, a drawdown of water levels in lower Pool 8 in 2001 and 2002 was conducted to promote the growth and establishment of aquatic plants, particularly emergent plants such as arrowhead. Planning for the next large restoration project (Phase III/Pool 8 Islands EMP Project) is underway and when completed will have restored more than 100 acres of islands in the upper part of the closed area. One of the project goals is to restore puddle duck habitat in an area along Raft channel. Additional projects are also being considered.

In response to improved habitat conditions, duck use in the Wisconsin Islands Closed Area increased dramatically beginning in fall 1998. Peak counts from aerial surveys included 112,300 canvasbacks on November 23 and 22,025 scaup, 7,175 common goldeneyes, and 4,500 buffleheads on December 2. Nearly 4.5 million diving duck use days were recorded. Puddle duck numbers also rebounded in 1998, but lagged far behind diving ducks. Large numbers of ducks, primarily diving ducks, continue to concentrate in the closed area. In fall 2004, the peak count of 97,325 occurred on November 15. Diving ducks (canvasbacks and scaup) accounted for 93,705 of the total observed while 3,620 puddle ducks were counted, mostly mallards.

When the Wisconsin Islands Closed Area was established, the focus was on providing migration habitat and protection for ducks. Few geese and tundra swans used the Upper Mississippi River in the 1950's and those that stopped remained only for a short time. For example, the peak combined population of Canada geese and snow/blue geese observed on Pools 7 and 8 was about 300 in 1957. That year the peak tundra swan count in the Wisconsin Islands Closed Area was 13. Today, peak Canada goose counts are about 2,500 in the closed area, while tundra swans typically exceed 10,000. Snow/blue geese are rarely observed.

In the 1950's, human use in the Wisconsin Islands Closed Area was a concern, just as it is today. One of the reasons for proposing this location as a closed area in the 1950's was to minimize human disturbance to waterfowl. This area was of sufficient size to afford sanctuary to the birds. Further, in the 1950's, few small boats were expected to travel into the area except in calm weather. Now, larger boats and changing propulsion technology and availability (e.g., airboat, go-devil, beavertail, hovercraft, etc.) result in access in all kinds of weather. Monitoring human entry into the closed area was conducted in fall 2001. Ninety-one of 468 (19%) boating events documented during 132 hours of observation intruded into the closed area.

Rationale:

No change was made in the size of the Wisconsin Islands Closed Area. In recent years the cumulative impact of habitat projects has resulted in an increase in the density and distribution of aquatic plants and invertebrates. Waterfowl are responding. Future habitat projects, beginning with Phase III/Pool 8 Islands EMP Project, are expected to restore additional acres of waterfowl habitat.

The public is being encouraged to voluntarily avoid entering this closed area from October 15 each year to the end of the state duck hunting season to reduce disturbance to staging waterfowl. Periodic monitoring will be conducted to determine how well the voluntary avoidance is working. A travel corridor is being established in the upper end of the closed area in a section of Raft Channel to provide access to a commercial business and five boathouses that are located adjacent to or within this reach of the closed area. To minimize disturbance adjacent to the travel corridor, the Raft Channel Slow No Wake Zone is being established within the travel corridor. Buoys will be placed in Raft Channel to mark the boundaries of this travel corridor.

The proposed 32-acre expansion of the closed area along Raft Channel in the upper corner of the closed area, identified in Alternative D, has been dropped from Alternative E in response to public concerns about limiting available hunting areas.

Mc Gregor District

Pool 9, Pool Slough, MN-IA, 1,112 acres

General Description:

Pool Slough closed area was established as a conventional closed area in September 2003. Proposed actions under Alternatives D and E would change that designation to a sanctuary, no entry October 1 to the end of the state duck hunting season. The area includes the majority of the Winnebago Creek delta and portions of the former backwater channel of the Upper Iowa River known as Pool Slough and its associated delta. The area lies adjacent to the Pool Slough EMP project scheduled for completion in 2007 on land owned and managed by the State of Iowa.

Background:

Pool Slough is a flowing former backwater channel of the Upper Iowa River. The proposed Pool Slough sanctuary includes portions of this former channel and the deltas associated with this slough and the Winnebago Creek.

Rationale:

This closed area is needed to provide a balanced and effective network of feeding and resting areas for waterfowl, particularly puddle ducks, the length of the Refuge. Energetic studies (Slivinski, 2004) indicate that this closed area will secure an additional 429 million Kcals of estimated gross energy for waterfowl in the area.

The change to "Sanctuary" classification will help optimize the effectiveness of the new moist soil units to be constructed on the adjacent Iowa DNR lands and coincide with their management. The original closed area was established in support of the Pool Slough EMP project. When completed this EMP project and associated sanctuary will help shorten the large gap (25.3 miles) between the Wisconsin Islands Closed Area and Harpers Slough Closed Areas.

Closure to all public use during the proposed period coincides with the sanctuary status on adjacent lands managed by the State of Iowa to minimize disturbance during the duck season and support and optimize water bird use of the marsh management units. Reduced human caused disturbance within Pool Slough closed area would also enhance wildlife viewing opportunities along the Army Road east of New Albin, and perhaps from the overlook platform adjacent to highway 26, north of New Albin.

Mc Gregor District

Pool 9, Harpers Slough, IA-WI, 5,209 acres

General Description:

Harpers Slough is a large open water area in the lower part of the pool interspersed with emergent and submergent aquatic vegetation and small wooded islands. This existing closed area would be classified under Alternative E as a “large” closed area (greater than 1000 acres) with a voluntary avoidance area designation from October 15 to the end of the state duck hunting season. Under this proposal the public will be asked to voluntarily avoid entering the area during the stated time period to minimize disturbance of waterfowl.

Background:

The existing Harpers Slough Closed Area was established in 1957 and 1959. At that time it was predicted to hold high numbers of waterfowl and it has ever since. The abundance of aquatic vegetation and wooded islands that provide birds protection from strong winds has remained somewhat intact or is being restored through EMP projects.

Rationale:

Harpers Slough is a critical feeding and resting area for waterfowl during the fall migration, often having more use than any closed area on the Refuge. It plays a critical role in minimizing disturbance to waterfowl utilizing both the closed area and the open water area in front of Sugar Creek. This area is one of the most important migratory rest stops on the Refuge for canvasback ducks and tundra swans. During peak migration periods up to one quarter of the world’s Canvasback population has been observed resting and feeding in this area. Large concentrations of puddle ducks and additional diving duck species are commonly recorded as well during both fall and spring migration periods. The current closed area boundaries have undergone only slight modification since 1958. Pool 9 is the most productive (Kcal) pool on the Refuge (Slivinski, 2004). Harpers Slough Closed area protects 14 percent of the pool’s estimated 16,810 million Kcal production for use by migrating waterfowl.

The Harpers Slough EMP project is in the planning stages. This project will protect and enhance island habitat and aquatic plant communities, and improve fisheries habitat within the closed area.

Mc Gregor District

Pool 10, McGregor Lake, WI, 852 acres

General Description:

The Alternative E proposal established the McGregor Lake closed area, located north and south of the Highway 18 Bridge. This dual function closed area would be closed to waterfowl hunting from opening of the state duck season through October 31 and then open to hunting from November 1 through the remainder of the state duck season. This closed area is paired with the Wisconsin River Delta (see below) as a dual function area to provide a continually active closed area throughout the season within this portion of the pool.

McGregor Lake will be classified as a “small” closed area (less than 1000 acres) which will be closed to motor use and be a Voluntary Avoidance Area from the opener of the state duck hunting season until October 31. Under this proposal, the use of motors would not be allowed and the public will be asked to voluntarily avoid entering the area during the stated time period to minimize disturbance to waterfowl.

McGregor Lake is also referred to as Sturgeon Lake and Horseshoe Lake because of its shape. It is a large shallow lake bordered on the west by islands separating it from the main channel and

bordered on the east by a long peninsula that separates it from the east channel. It contains some submergent vegetation, although wind action limits extensive submergent development. The area north of the bridge contains small wetlands and sloughs with emergent vegetation and some submergent vegetation. Forested ridges lie between wetlands.

Background:

Prior to 1957, Pool 10 had two closed areas, one at McGregor Lake and one at Sny Magill. Both areas were designated on the basis of Refuge ownership alone and were not very desirable for waterfowl. These closed areas were dropped because of lack of aquatic vegetation and lack of waterfowl use. The Bagley Bottoms area, south of the Wisconsin River delta, was recommended as a new closed area but was never so designated. Since 1957, Pool 10 has had only one closed area (12-Mile Island, 540 acres) in the lower part of the pool. It is contiguous with the 12-Mile Island closed area in Pool 11. However, it is 33 miles south of the Harper's slough closed area in Pool 9. This distance creates a large gap in the network of resting and feeding areas for waterfowl.

An EMP project is proposed for McGregor Lake that would improve vegetation development, in addition to fisheries habitat, to make it more attractive to waterfowl in the future. Lesser scaup, common goldeneye, and coot are the most common species currently using the lake during migration. Mallards and wood ducks also use the lake. The area north of the bridge is primarily used by wood ducks. This early closed area will provide resting area for wood ducks and dabblers. Although this is not currently a heavily used waterfowl area, it will provide waterfowl resting area during the early part of the season and fill the gap in the pool until the Wisconsin River Delta closes November 1. The majority of migrating dabblers typically occur after November 1 in this area.

There is a hiking trail within the proposed closed area just north of the Highway 18 bridge to the old road causeway and back. It is surrounded by a 66-acre no hunting zone proposed in Alternative D to prevent conflicts between hikers and hunters. This no hunting zone will remain active throughout the entire hunting season under Alternative E.

Rationale:

The establishment of the Mc Gregor Lake closed area will provide continuous closed area conditions within this portion of Pool 10, thus shortening the large distance between Harper's Slough and 12-Mile Island closed areas. The McGregor Lake area will serve as closed area for local birds, particularly wood ducks, and early migrants. See rationale for the Wisconsin River Delta closed area for further discussion (below).

Mc Gregor District

Pool 10, Wisconsin River Delta, WI, 1376 acres

General Description:

Under Alternative E, the Refuge proposes to create a new "large" closed area (greater than 1000 acres) just north of the confluence of the Wisconsin and Mississippi Rivers called the Wisconsin River Delta. This will be a dual function closed area with the McGregor Lake closed area to the north. The Wisconsin River Delta will be open to waterfowl hunting beginning with the opener of the state duck season through October 31, thereafter, closed to waterfowl hunting and designated a voluntary avoidance area until the end of the state duck hunting season. Under this proposal the public will be asked to voluntarily avoid entering the area during the stated time period to minimize disturbance of waterfowl.

Hunter Channel will remain open as a travel corridor. When the Wisconsin River Delta is open for hunting, the McGregor Lake area (see below) will be closed. The two areas will then 'flip-flop' as open/closed to maintain an active closed area throughout the waterfowl season in this portion of the pool.

The Wisconsin River Delta closed area contains small wetlands interspersed with sloughs and wooded uplands. One larger lake, Gerndt lake, contains the best waterfowl habitat and receives the most hunting activity. Both submergent and emergent vegetation are present.

Background:

Refer to background presented for McGregor Lake (above).

Rationale:

The Wisconsin River Delta closed area was proposed in Alternative D to satisfy two critical waterfowl management needs of this portion of the Refuge: 1) It would establish a mid-pool closed area in Pool 10, halving the existing distance (33 miles) between closed areas and 2) provide good dabbling duck habitat in a closed area. Both purposes contribute to management goals of achieving a more optimal distribution of waterfowl throughout the Refuge.

The Alternative E proposal will change the closed area configuration and will continue to address these goals, but to a lesser degree. Changes were made in response to public input that acknowledged the need for closed areas but looked to continue some hunting opportunities in the Wisconsin River Delta area. There were several suggestions to establish a closed area in the McGregor Lake area. The creation of dual function closed areas meets management objectives and public concerns. The proposed design will allow hunters to take advantage of opening weekend and early migrants while still filling a gap for resting and feeding areas for the bulk of dabbling duck migrants later in the season. Allowing early hunting opportunity will also alleviate any economic impacts from this new closed area. The McGregor Lake area will then serve as closed area for local birds, especially wood ducks, and early migrants.

The Wisconsin River Delta provides the best combination of spacing, food, and habitat in order to fill the gap between stepping stones at Harpers Slough in Pool 9 and 12-Mile Island in lower Pool 10. The Delta also provides greater potential gross energy (plant foods) than other potential closed areas in Pool 10 (Slivinski, 2004).

In addition, a modification is proposed in alternative E to reduce the size of the Wisconsin River Delta closed area from 1545 to 1376 acres in order to keep boat access channels outside the closed area.

Mc Gregor District

Pool 10. 12-Mile Island, IA, 540 acres

General Description:

Under Alternative E, this existing closed area will be classified as a “small” closed area (less than 1000 acres) and therefore, will be closed to the use of motors and designated a Voluntary Avoidance Area October 15 to the end of the regular state duck hunting season. Under this proposal the use of motors would not be allowed and the public will be asked to voluntarily avoid entering the area during the stated time period to minimize disturbance of waterfowl.

The area is bounded by the main channel on the west and another channel on the east. The area consists of forested narrow island chains that support and protect an extensive marsh complex with both emergent and submergent plant communities. Water depths throughout the area are shallow.

Background:

This closed area was established as part of a larger (12 Mile Island, Pool 11) closed area in 1957. Fall waterfowl (diving ducks, puddle ducks, swans, and Canada geese) use within the closed area is greater than any place within Pool 10. The area is bordered to the east by Ferry Slough which is the site of the most concentrated hunting pressure in Pool 10. Because of the open nature of the area, and the arrow head configuration of the landmasses, disturbances from boaters or other intrusions

result in birds leaving the area. There is intense hunting pressure surrounding the area. In recent years thousands of mallards have used the closed area to stage each evening before feeding in the surrounding agricultural fields. Given the shallow nature of the area little fishing occurs within it.

Rationale:

This existing closed area is needed to provide waterfowl a more balanced and effective network of feeding and resting areas. The “small” classification designation that includes voluntary avoidance and no motors designation after October 15, will prevent unnecessary disturbances to waterfowl in this small and narrow closed area. This closed area, like the Pool 11 component to the south will also provide an undisturbed loafing and staging location for birds utilizing the adjacent moist soil units.

Mc Gregor District

Pool 11, 12-Mile Island, IA, 1145 acres

General Description:

Under Alternative E, this existing closed area will be classified as a “large” closed area (greater than 1000 acres) and will include travel corridors (Skimmer Horn Slough and Ackerman’s Cut). The 12-Mile Island closed area will be designated a voluntary avoidance area October 15 to the end of the state duck hunting season. Under this proposal the public will be asked to voluntarily avoid entering the area during the stated time period to minimize disturbance of waterfowl.

Its habitat is characterized by timbered lined back water sloughs, and lakes, with some small emergent and submergent vegetated pocket marshes.

Background:

This closed area was established as part of a larger conventional closed area in 1957. The area receives its greatest waterfowl use late in the migration season and usually as a response to surrounding hunting pressure. The closed area also holds migrants on a daily basis that utilize the Guttenberg Ponds Moist Soil Units bordering it to the north. Guttenberg ponds will be designated as a sanctuary within this closed area under Alternative E (see below). Little fishing occurs within the area except along the two proposed travel corridors.

Rationale:

This existing closed area will remain as a closed area. It is needed to provide waterfowl a balanced and effective network of feeding and resting areas, and to continue to provide an undisturbed loafing and staging location for birds utilizing the adjacent moist soil units.

Mc Gregor District

Pool 11, Bertom McCartney, WI, 2384 acres

General Description:

Under Alternative E, the Bertom McCartney closed area will retain its existing conventional closed area regulations with no changes. The current area includes islands and water from river mile 599 on the south, to river mile 603.5 on the north. The area’s best waterfowl habitat with both emergent and submergent aquatic vegetation is located in the northern portion (Hay Meadow Lake) of the closed area. The remaining area contains pockets of emergent vegetation, open water areas, and timber lined sloughs.

Background:

This closed area was established as a conventional closed area in 1957. For the last 20 years the most southerly boundary of this closed area has moved south each season following any new deposition of

the island that forms its southerly boundary. The Refuge's newly renovated Bertom McCartney Boat Landing is within the closed area. The closed area was also the site of the District's first EMP project. The EMP project, constructed in 1994 rehabilitated backwater sloughs primarily for the benefit of winter fisheries. The area has traditionally had an excellent fishery and as a result of the EMP project continues to support this activity.

Rationale:

This existing closed area will remain as a conventional closed area. It is needed to provide migrating waterfowl a balanced and effective network of feeding and resting areas. Originally under Alternative D the southern portion of the closed area was proposed to be removed. This proposal, however, is now dropped in lieu of the food resources report (Slivinski, 2004) that indicated there would be a significant net loss in available food within the Pool with this action, (despite adding the John Deere Marsh Closed Area). Waterfowl use remains highest within the northern part of the closed area; however, the smaller pocket marshes in the remainder of the closed area receive considerable waterfowl use later in the fall. Diving ducks also utilize the open water portions of the area, especially during days when strong Northwest winds drive the birds from the open water stretches elsewhere in the pool. The conventional nature of this closed area is important to maintain because of the fisheries within its boundary, and the Refuge's boat landing. Given the size and inaccessibility of the northern portion of the area, fishing pressure should not disturb birds. In addition, most of the waterfowl use occurring within the southern portion of the closed area occurs after the traditional bass fishing season has ended.

Mc Gregor District

Pool 11, Guttenberg Ponds, IA, 252 acres

General Description:

Under Alternative E, Guttenberg Ponds would become a waterfowl sanctuary (no entry October 1 to the end of the state duck hunting season), occurring within the existing 12-Mile Island closed area. The specific area includes the Guttenberg Ponds Moist Soil Units and Big Pond, which is located to the south and adjacent to the moist soil units. Water levels in the 50 acre moist soil units are managed seasonally for migrating water birds, primarily waterfowl in the fall. Typically thousands of waterfowl utilize the area each fall feeding on moist soil plants within the flooded units.

Background:

The entire proposed area was originally part of the Guttenberg National Fish Hatchery which was abandoned and turned over to the Refuge. The proposed sanctuary area is within a conventional closed area established in 1957. The moist soil units were constructed in 1994 during the Bussey Lake EMP project. Big Pond currently has water control structures on it; however, they have not been functional since the 1960s. Big Pond is well known for pan fishing but is not accessible except during periods of high water in the spring. Prior to this proposal the Refuge sought and received concurrence from Iowa DNR to establish a "No Entry Area" at this location.

Rationale:

The proposed sanctuary is needed to minimize disturbance to feeding and resting waterfowl. The current berm structures surrounding the two ~25 acre moist soil units are insufficient to buffer waterfowl from individuals walking on the berms or area. Birds are flushed with each disturbance and forced to relocate in areas open to hunting or leave the area. The Big Pond area functions with the moist soil units to allow open water loafing and a staging area for migrants prior to their arrival within the units each day.

Mc Gregor District

Pool 11, John Deere Marsh, IA, 405 acres

General Description:

Under Alternative E, create a new closed area, John Deere Marsh, at the confluence of the Little Maquoketa and Mississippi Rivers. The south portion of the proposed area contains a developing emergent plant community extending into the open water expanses of lower Pool 11. The northern portion of the closed area consists of a well established emergent community forming a rich wetland band along the shore line. Both areas contain significant submergent vegetation communities in some years, depending on river conditions. This area will be classified as a “small” closed area (less than 1000 acres) and will be closed to the use of motors and a voluntary avoidance area October 15 to the end of the state duck hunting season. Under this proposal the use of motors would not be allowed and the public will be asked to voluntarily avoid entering the area during the stated time period to minimize disturbance to waterfowl.

“Walk-in” hunting will be encouraged in an area between the two sections of this closed area.

Background:

The south portion of this closed area has expanded from a few small spoil placement sites into an ever-expanding emergent marsh over the last 25 years. The forces driving this development are a result of sediment within the Little Maquoketa River watershed and are expected to continue. The northern wetland component within this closed area has remained fairly stable over the same time period. The deflective berms associated with the Mud Lake EMP project (completed 2006) just upriver from this location should provide additional benefits to this marsh as time passes. Because the area is close to Dubuque, Iowa it receives considerable hunting pressure, especially during opening weekend. However, the birds that utilize the area soon leave due to the fact that there are no protected areas to harbor them. The John Deere Marsh area is one of three wetland complexes (Sunfish Lake, WI. Mud Lake, IA.) within the open water area of lower Pool 11. Hunting is permitted in both of these other two locations.

Rationale:

This new closed area is needed to shorten the 29.7 mile gap between Bertom McCartney Lake closed area to the north and the proposed Kehough Slough closed area to the south. In addition the other more heavily hunted locations in the lower portion of Pool 11 will benefit because birds will remain in the area, having a relatively secure location for waterfowl to feed, rest and meet other life requirements. This should provide hunters in the area a more quality hunt over the course of the season. The closed area proposed in Alternative D included all lands within the Refuge at John Deere Marsh. After receiving public comments about the lack of walk-in hunting areas in proximity to Dubuque, the proposal was altered. The new proposal will allow hunting in the area bordered to the south by the John Deere intake channel, and to the north by the Little Maquoketa River on all lands within the Refuge east of the railroad. This adjustment will allow the hunting public to use one of the few walk-in areas in lower Pool 11, and not jeopardize the functionality of the remaining closed area.

Savanna District

Pool 12, Kehough Slough, IL, 343 acres

General Description:

Kehough Slough is proposed under Alternative D and remains in Alternative E. It is classified as a “small” closed area (less than 1000 acres) that will be closed to the use of motors and designated a voluntary avoidance area October 15 to the end of the state duck hunting season. Under this

proposal the use of motors would not be allowed and the public will be asked to voluntarily avoid entering the area during the stated time period to minimize disturbance of waterfowl.

The area is characterized as a backwater lake that contains extensive emergent vegetation surrounded by floodplain forest. Water levels are dependent upon Mississippi River levels and average 6-18 inches deep. Kehough Slough is an isolated area with only one primary entry/exit channel, it is located in the middle of a chain of 7 backwater lakes, and is protected from river currents, as well as wind and wave action.

Background:

There are no historic closed areas in Pool 12. Kehough Slough is currently used by waterfowl hunters and fishermen, but minimal recreational boating or commercial fishing occurs in the area due to shallow water levels. There is an EMP project planned for Kehough Slough, with funding proposed for 2010. The EMP project includes the deepening of 6 backwater lakes for overwintering fish habitat. The EMP project will minimally impact the use of this area by waterfowl, but will encourage other recreational use, especially fishing.

Rationale:

Pool 12 has no existing closed areas. Kehough Slough is located in about the middle of Pool 12 and will be important in the stepping stone concept of providing closed areas for waterfowl by decreasing the existing 46 mile gap between closed areas. It is 18 miles south of the proposed John Deere Marsh closed area in Pool 11 and 15 miles north of the existing Pleasant Creek closed area in Pool 13.

Although Kehough Slough is small in size, it contains a diversity of preferred waterfowl foods and habitat. Energetic studies by Slivinski (2004) show that other areas south of Kehough Slough (Wise Lake) would provide significantly more gross energy for waterfowl. However, Kehough Slough was selected because it is more centrally located within Pool 12 and the Wise Lake area, now with moderate levels of hunting pressure, is within five miles of the bottomland east of Crooked Slough on the Lost Mound unit in Pool 13, closed to human entry due to the presence of contaminants. In effect, this part of Lost Mound functions as a closed area, further meeting waterfowl management goals of the Refuge. Kehough Slough lake is isolated from other nearby lakes and will provide undisturbed resting and feeding areas. Due to its isolated location in a forested backwater area, a firing line situation should not develop. There are other backwater lakes located above and below Kehough Slough that will remain open to public access. Waterfowl hunting opportunities in these adjacent backwater lakes should improve due to an increase in waterfowl concentrations in Kehough Slough.

Savanna District

Pool 13, Pleasant Creek, IA, 2,067 acres

General Description:

Pleasant Creek is an existing closed area and classified as "large" (greater than 1000 acres) It will be designated a voluntary avoidance area October 15 to the end of the state duck hunting season. Under this proposal the public will be asked to voluntarily avoid entering the area during the stated time period to minimize disturbance of waterfowl. The proposed 536-acre reduction in size of the closed area proposed in Alternative D will continue in Alternative E.

The area is characterized by a wetland complex of 5 backwater lakes and a moist soil impoundment located adjacent to the lakes. The entire area is surrounded by floodplain forest. There is restricted boat access into this backwater complex due to shallow sloughs and a low levee surrounding the area.

Background:

Pleasant Creek is an existing closed area that was established in 1957. It is a management unit in which all of the backwater lakes have water control structures and are surrounded by a 5-mile long perimeter levee with two concrete spillways. A 49-acre moist soil unit was completed in 2003 under an EMP project and provides water level management capabilities to promote emergent vegetation. The area receives significant waterfowl use by providing undisturbed resting and feeding areas.

Rationale:

Pleasant Creek is a management unit that has been developed specifically to control water levels for the production of wetland plants, especially waterfowl foods. The extensive low levee system with water control structures and pump station provide capabilities for habitat management. In addition, the isolation of this backwater complex provides an undisturbed area for resting and feeding. Due to its isolation, firing lines have not developed. Pleasant Creek is a successfully functioning management unit that provides valuable habitat for waterfowl. It is important in the stepping stone concept of providing closed areas for waterfowl, with Kehough Slough located 15 miles to the north and Spring Lake located 12 miles to the south. Pleasant Creek has consistently attracted puddle ducks, making it one of the largest puddle duck concentration areas on the Refuge.

The reduction in acreage of the closed area is the result of eliminating a forested tract on the south boundary that contains small pothole areas, but has no sizeable water areas for waterfowl. This opens a significant area to upland game hunting without influencing the effectiveness of the closed area.

Savanna District

Pool 13, Spring Lake, IL, 3,686 acres

General Description:

There will be no change to the designation of Spring Lake, it will continue to be a waterfowl Sanctuary. The lake is a large backwater complex that is divided into Upper Spring Lake and Lower Spring Lake. Upper Spring Lake includes about 600 acres divided into 3 moist soil units that are intensively managed with water control structures and a primary pump station. Lower Spring Lake includes about 3,000 acres, water levels are dependent upon river stages, and the average water depth is about 12-18 inches with extensive emergent vegetation present; a 28 acre levied moist soil unit is within Lower Spring Lake that contains a water control structure and a pump station for water level manipulation. A 12 mile perimeter levee surrounds Spring Lake with boat access into Lower Spring Lake, but the cross dike prohibits boat access into Upper Spring Lake.

Background:

Spring Lake is an existing waterfowl Sanctuary that was established in 1957. An EMP project was completed in 1998 that rehabilitated the extensive levee system, constructed 4 moist soil units, and replaced the deteriorated water control structures and pump station. Water levels in the moist soil units are intensively managed for emergent vegetation production primarily for the benefit of waterfowl. Spring Lake continues to provide excellent habitat and attracts large concentrations of waterfowl. A firing line is established on the southern boundary of Spring Lake, but has not been a significant problem.

Rationale:

Spring Lake is a successfully functioning waterfowl sanctuary. The extensive levee system, with water control structures and pump stations, provide capabilities for intensive habitat management. The production of waterfowl foods has consistently attracted puddle ducks making it one of the largest fall puddle duck concentration areas on the Refuge. Average annual puddle duck use-days on Pool 13 (the bulk of which are at Spring Lake) for the period 1997-2002 reached 1.5 million use-days,

about equal to total puddle duck use on Pools 7, 8, and 9 during the same period. Spring Lake is also an important in the stepping stone concept of closed areas with Pleasant Creek closed area located 12 miles north and Elk River closed area located 1 mile southwest.

Savanna District

Pool 13, Elk River, IA, 1,237 acres

General Description:

Elk River is an existing closed area and will be classified as “large” (greater than 1000 acres) closed area under Alternative E. It will be designated a voluntary avoidance area October 15 to the end of the state duck hunting season. Under this proposal the public will be asked to voluntarily avoid entering the area during the stated time period to minimize disturbance of waterfowl.

This area contains extensive open water and sand bars with minimum submergent or emergent vegetation present. The area is primarily used by waterfowl as loafing habitat. Elk River is not a highly visited recreation area or a travel corridor due to shallow water levels.

Background:

Elk River was established as a closed area in 1957. The area has no habitat management capabilities and water levels are dependent upon Mississippi River levels and range from 6-18 inches deep. Due to shallow water levels, the area is not a popular commercial fishing area or recreation area. The area has consistently attracted puddle ducks and Canada geese over the years. Hunter tend to concentrate on the eastern boundary of Elk River, but this has not developed into a significant firing line problem.

Rationale:

Elk River continues to attract concentrations of waterfowl, especially dabblers and Canada geese. The area is important in the stepping stone concept of closed areas with Spring Lake located 1 mile north and Beaver Island located 12 miles south. Although there are no habitat management capabilities, the extensive open water and sand bars provide excellent undisturbed loafing habitat. The concentration of waterfowl in Elk River has benefited hunting in adjacent areas.

Savanna District

Pool 14, Beaver Island, IA, 717 acres

General Description:

Under Alternative E, Beaver Island is proposed as a new “small” closed area (less than 1000 acres) and therefore, will be closed to the use of motors and designated a Voluntary Avoidance Area October 15 to the end of the regular state duck hunting season. Under this proposal the use of motors would not be allowed and the public will be asked to voluntarily avoid entering the area during the stated time period to minimize disturbance of waterfowl.

The area is characterized by a backwater lake containing emergent vegetation surrounded by floodplain forest. The area has no habitat management capabilities and water levels are dependent upon Mississippi River levels and range from 6-12 inches deep. Beaver Island is an isolated area with one primary entry/exit channel and is protected from Mississippi River currents and from wind and wave action.

Background:

There are no historic closed areas in Pool 14. Beaver Island is currently used by waterfowl hunters and anglers, but minimal recreational boating or commercial fishing occurs in the area due to shallow water levels. At this time, no EMP projects have been funded for Beaver Island.

Rationale:

Beaver Island is a new proposed closed area within Pool 14, which has no historic closed areas. It is located in about the middle of Pool 14 and will be important in the stepping stone concept of closed areas with Elk River located 12 miles to the north. There are no other Refuge closed areas in Pool 14 and Beaver Island will be the last downriver closed area on the Refuge.

Although Beaver Island is small in size, it contains a diversity of habitat, and is isolated to provide undisturbed resting and feeding areas. Due to its isolated location in a forested backwater area, a firing line situation should not develop. There are adjacent backwater areas located west of Beaver Island that will remain open to public access. Waterfowl hunting in these adjacent backwater lakes should improve due to an increase in waterfowl concentrations.