

U.S. Fish & Wildlife Service

Great River/Clarence Cannon  
National Wildlife Refuges  
P.O. Box 88  
Annada, MO 63330  
573/847 2333

TTY users may reach Great River/Clarence  
Cannon through the Federal Information  
Relay System at  
1-800-877 8339

<http://midwest.fws.gov/GreatRiver>

U.S. Fish & Wildlife Service  
1 800/344 WILD  
<http://www.fws.gov>



# Great River & Clarence Cannon

*National  
Wildlife  
Refuges*



*Bald Eagle,*  
D. Menke, USFWS

*“The great  
Mississippi,  
the majestic,  
the magnificent  
Mississippi, rolling  
its mile-wide tide  
along, shining in  
the sun.”*

Mark Twain



## The Mighty Mississippi-America's River

For thousands of years, nature has played out one of its most wondrous spectacles along the 2,300-mile length of the Mississippi River. Each fall, millions of birds migrate south along the river to their winter homes, then return north again in the spring to nest and raise their young. The Great River and Clarence Cannon National Wildlife Refuges play a vital role in this cycle by providing resting, feeding, and nesting habitat along 100 miles of this important migration route.



*Wetlands located in the floodplain of this great river are a vital part of the river ecosystem. Hundreds of species of birds, as well as many kinds of fish, mammals, amphibians and insects, rely on these rich habitats for places to rest, feed and reproduce*

Great River National Wildlife Refuge is comprised of three separate areas, called divisions. These divisions are located along the Mississippi River between Alexandria and Clarksville, Missouri. Together they total more than 10,000 acres of precious floodplain habitat. In addition, Clarence Cannon National Wildlife Refuge, located near Annada, Missouri, encompasses another 3,750 acres. Both refuges were created to restore, protect and manage a rich variety of habitats along the river for the benefit of more than 240 species of migratory birds, as well as many other kinds of river wildlife.

*Long-billed Dowitcher;*  
MDC

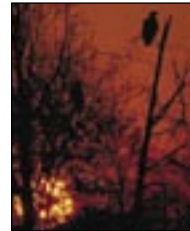


*Least Bittern,*  
D. Menke,  
USFWS

Below  
*Bald Eagle,*  
D. Menke,  
USFWS

*Great River and Clarence Cannon National Wildlife Refuges lie at the heart of the Mississippi Flyway, one of North America's great bird flyways.*

The long narrow valley along the upper Mississippi River creates a natural migration corridor; a migration highway in a sense, for hundreds of species of birds. This river corridor lies at the heart of the Mississippi Flyway, one of the four main flyways in North America. Flyways are the major routes that birds of all kinds, including waterfowl, hawks, eagles, shorebirds and songbirds, use to travel from their northern breeding grounds to their southern wintering ranges. Refuges along the way provide areas where birds can stop to rest and feed before continuing their exhausting and dangerous journeys. These refuges also provide valuable habitat for many birds to nest and raise their young.



Today, the Great River and Clarence Cannon refuges are part of this chain of National Wildlife Refuges along the Mississippi River. These refuges protect and provide habitat for birds and other wildlife all along this great river, one of America's most important natural resources.



*Northern Pintail Pair;* USFWS



## A River & Floodplain in Decline

The Great River and Clarence Cannon refuges lie within the mighty Mississippi River floodplain. Prior to many of man's influences and changes to the river, a myriad of wildlife thrived in the diverse and expansive habitats within this floodplain. The bottomland forests, deepwater sloughs and shallow floodplain wetlands were home to hundreds of species of amphibians, reptiles, mammals, fish and birds.

In the mid-1800s, forests along the riverbank were cut for steamboat fuel. By the late 1800s large expanses of prairie grasses, found throughout the floodplain, such as prairie cordgrass, were plowed under to prepare the ground for farming, and wetlands of all kinds were drained and filled. Ditches, dikes, and levees were constructed across much of the floodplain to divert water off the new farm fields or to hold back the spring floods which replenished the floodplain with nutrients and recharged wetlands.



In the 1930s, a series of locks and dams were constructed to improve the river for navigation. These dams altered the river by creating large "pools" behind each dam that slowed the flow of the water and permanently flooded many shallow areas. These habitat changes initially benefited many types of wildlife but, over time, they have dramatically declined in value, unable to renew or restore themselves through natural river processes because of the altered condition of the river and its floodplain.

## Refuge Growing Pains

What is now known as Great River National Wildlife Refuge began in 1958 as part of the Mark Twain National Wildlife Refuge, a sprawling refuge which included units along the Mississippi River in Iowa, Missouri and Illinois. In 1964, part of Mark Twain was renamed the Clarence Cannon National Wildlife Refuge, after a former Missouri Congressman who was instrumental in establishing this part of the refuge. In 2001, the remainder of the Mark Twain refuge was further separated into four smaller refuges which became the Great River, Two Rivers, Port Louisa and Middle Mississippi River National Wildlife Refuges.



*Great Blue Heron*, USFWS



Currently Great River National Wildlife Refuge is comprised of three divisions: the 2,100-acre Fox Island Division near Alexandria, Missouri; the 6,300-acre Long Island Division north of Quincy, Illinois; and the 1,700-acre Delair Division near Pleasant Hill, Illinois. The 3,750-acre Clarence Cannon refuge is located near Annada, Missouri, and serves as the headquarters for both the Great River and Clarence Cannon refuges.

## A Vital Rest Area

Over 240 species of birds, including, wading birds, shorebirds, songbirds, waterfowl, hawks and eagles follow the Mississippi River valley as a "migration flyway" between their nesting and wintering grounds, stopping along the way to rest and re-fuel. Because many habitats along the river have been lost or heavily degraded over the past 150 years, refuges along the river have become essential "pit stops" for migrating birds as they make their perilous journeys. In recognition of this vital role, the Great River and Clarence Cannon refuges were designated as *Globally Important Bird Areas* in 1998.



*Mallard*, USFWS

Photos from top  
*Dickcissel,*  
*King Rail,*  
*Black-crowned*  
*Night-Heron,*  
MDC



### Management Imitating Nature

Refuge staff actively manages many of the habitats on the refuges to benefit wildlife. They try to replace many essential natural processes such as flooding, scouring, burning and drying that have been lost or altered due to man's influence along the river. By carefully raising or lowering water levels in wetlands, setting controlled fires in grasslands, farming, mowing, and planting trees and other native vegetation, habitat conditions are managed and improved to meet the needs of migratory birds and other wildlife.



Clarence Cannon refuge is known for its more than two thousand acres of wetlands, which attract tens of thousands of waterfowl and many types of shorebirds in the spring and fall, and is home to hundreds of heron and egrets all summer. These wetlands are also noted for a small population of rare King rails that nest here in the summer. The Delair Division also contains many high quality managed wetland units. In spring and summer water levels are gradually lowered in the different wetland units by using a series of ditches and water control structures. The resulting shallow water and mudflats become a favorite feeding area for herons, egrets, shorebirds and broods of young wood ducks. As the wetlands dry out in the summer, seeds in the soil sprout and grow new vegetation that will be eaten by waterfowl in the fall. To further encourage new plant growth and seed production, refuge staff also burns, mows or disks selected wetland units. Crops are also planted to supplement the foods naturally produced in wetlands.

*Wood duck hen*  
*and brood,*  
USFWS



*Controlled fires*  
*help manage*  
*marshes and fields.*  
USFWS



Come fall, the wetlands are slowly re-flooded to provide feeding and resting areas for ducks and geese. Approximately 70 to 80 percent of all the ducks and geese migrating along the river will stop at these refuges. Peak numbers of 60,000 to 100,000 waterfowl create spectacular sights in November and December. As winter approaches and the wetlands freeze, the birds continue their southern migration.



*Great Egrets,*  
MDC

Bottomland forests are another important habitat component for birds and other wildlife. Like other types of habitats, forests along the river have been greatly reduced or changed by the activities of man. The Long Island Division is noted for the large tract of mature forest still remaining on this area. Its size and diversity make it one of the most important bottomland forests still found along this reach of the river. In recent years over 600 acres of flood-prone cropland on this division have been planted back to trees. As these trees grow and mature over the next several decades, they will help create a diverse and valuable forest of over 5,300 acres that will be protected and managed for wildlife.

*Short-eared Owl,*  
MDC



On the Fox Island Division, a combination of habitat management activities are being implemented to benefit wildlife; several small wetlands are being restored and hundreds of acres of frequently flooded cropland are being planted back to trees. This mix of floodplain wetlands and forests provides habitat for a wonderful abundance of wildlife along one of America's most important rivers.



Great River and Clarence Cannon National Wildlife Refuges are part of a national system of over 540 refuges across the country.



### Part of a National System

The Great River and Clarence Cannon refuges are managed by the U.S. Fish and Wildlife Service as part of the National Wildlife Refuge System, the only network of federal lands dedicated primarily to wildlife conservation. The system contains over 540 refuges and thousands of small wetlands encompassing more than 95 million acres all across the country. There is at least one national wildlife refuge in every state.

### Refuges Are for People, Too!

Although wildlife is the first priority on these refuges, many recreational and educational activities are also allowed and encouraged. Hunting, fishing, wildlife observation, wildlife photography, and environmental education are allowed on portions of Great River and Clarence Cannon refuges, in accordance with special refuge regulations. In addition to the information below, consult the refuge's *Public Use Regulations* leaflet and corresponding state regulations.

### Great River NWR

The Long Island Division is open to the public throughout the year from one-half hour before sunrise to one-half hour after sunset. A boat is required to gain access to most of this division. Deer, upland game, turkey and migratory bird hunting are allowed under special regulations. This division is open to fishing year-round. State seasons and regulations also apply.

*Fishing!* USFWS



### Long Island Division



### Fox Island Division

The Fox Island Division is open one-half hour before sunrise to one-half hour after sunset from January 1 - October 15. Access is severely limited due to a lack of roads. Deer, upland game, and turkey hunting are allowed under special regulations; migratory bird hunting is not allowed. Bank fishing is allowed along any portion of the Fox River from January 1 - October 15.

### Delair Division

The Delair Division remains closed to the public year round, except for scheduled school groups or special hunts.



### Public Use at Clarence Cannon

Clarence Cannon refuge is the most popular and convenient of the areas to view and photograph wildlife. Depending on the season, the 5 ½ mile wildlife drive at the refuge offers wonderful opportunities to see and photograph bald eagles, waterfowl, songbirds and shorebirds.



A year-round nature trail winds through the bottomland forest just ¼ mile from the Mississippi River. Interpretive information is provided in the refuge office and at the observation deck near the office. Group visits by schools, scouts, and other organizations are encouraged. Guided group tours may be arranged by contacting the refuge in advance.

The refuge is open year-round, except during periods of flooding, from one-half hour before sunrise to one-half hour after sunset. The refuge is open to white-tailed deer hunting under special regulations. Fishing by boat is permitted in Bryant's Creek. State seasons and regulations apply.

*Environmental programs make the refuge a favorite stop for local school groups.*  
USFWS



## Fall

### Nature's Calendar

Late-October through mid-December are the best months for viewing thousands of ducks and geese feeding and resting in the managed wetlands at Clarence Cannon refuge. The colors in the hills surrounding the floodplain marshes provide a beautiful setting to view eagles soaring over clouds of unsettled waterfowl. Muskrats busy themselves with building their huts to prepare for the coming winter.

## Winter



Bald Eagle,  
D. Menke, USFWS

Time seems frozen in place during this cold, bleak period until you catch sight of a herd of deer grazing in the open fields, a coyote traipsing off in the distance, or an otter playfully sliding in and out of an opening in the frozen water. Bald eagles are plentiful at many locations along the river this time of year and are a favorite sight for many wildlife enthusiasts. Northern harriers and short-eared owls are frequently seen swooping and gliding low over frozen marshes and fields in search of food.

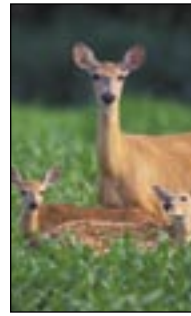
## Spring



Photos from top  
Indigo Bunting,  
Western Painted  
Turtles, USFWS

The woods, wetlands and fields come alive again with the songs of hundreds of species of birds as they migrate north or prepare to nest and raise their young on the refuge. We are alerted to the wakening of this new season with the romancing songs of spring peeper frogs, killdeer, and the hearty gobble of Tom turkeys. As the season progresses, new suitors, including least bitterns, bullfrogs, and prothonotary warblers, take over the stage.

Turtles and snakes emerge from wetlands and fields onto logs to bask in the sun. By mid-May, fawns and broods of wood ducks and hooded mergansers hurry after their mothers.



## Summer



Photos from top  
White-tailed  
Deer, Regal  
Fritillary  
Butterfly,  
USFWS

Spring is also the time for floods, as runoff from the melting snow farther north and heavy spring rains swell the river. Flooding is a natural and vital part of the river ecosystem. Many species of fish and wildlife are adapted to floods, and some even require flooding to complete parts of their life cycles. Other wildlife may be temporarily displaced during floods, but quickly recover when waters recede.

During the hot, steamy days of summer, white-tailed bucks display their velvety antlers, eaglets take to the skies and shorebirds gather as they ready for their early migration south. Butterflies are abundant, even on the hottest days of the summer, and dickcissels sing all day long. If you're lucky, you'll see an adult King rail with its brood of black downy young scavenging for crayfish in slowly retreating waterholes.

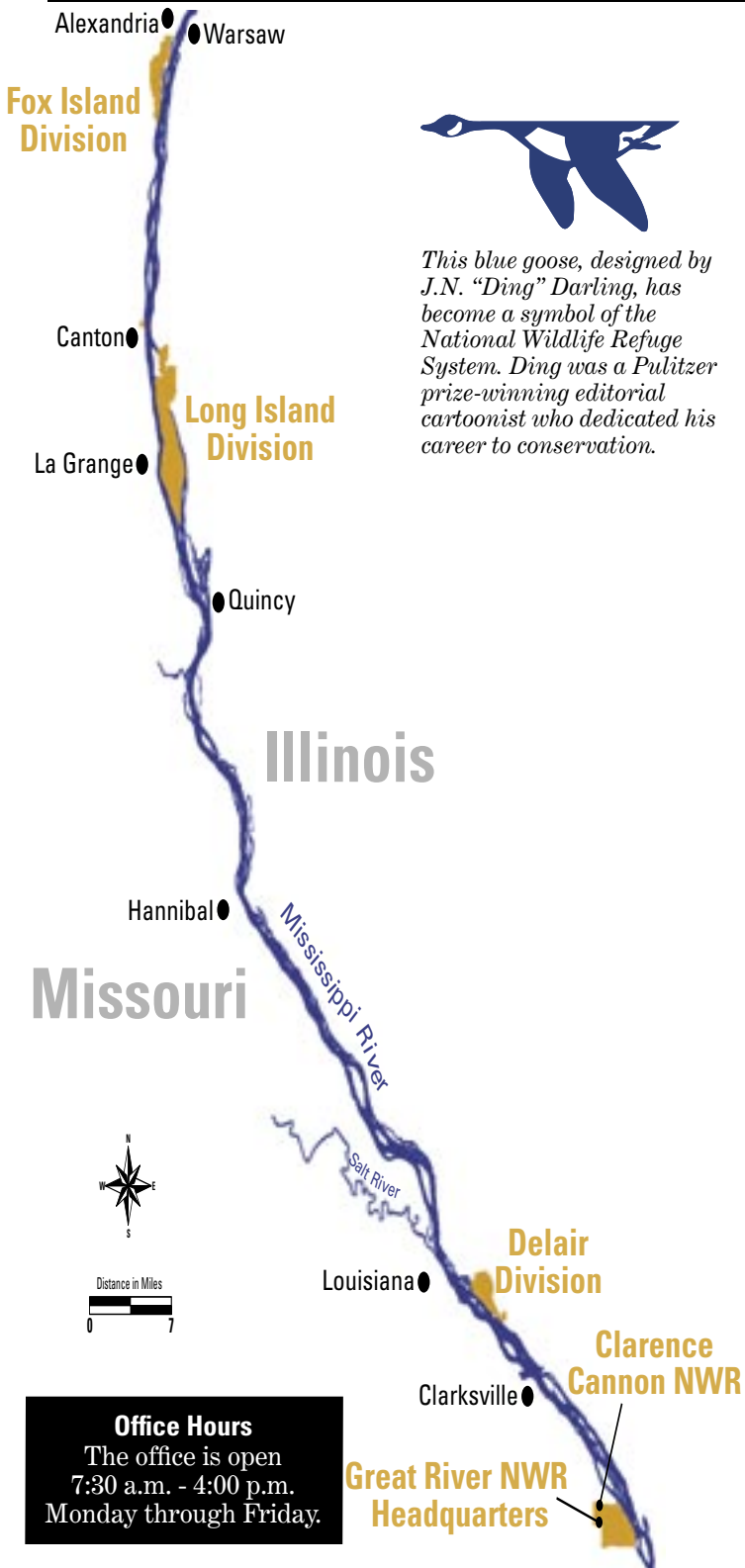
### Wildlife Viewing Tips

- Early morning and early evening hours of the day provide the best time to view wildlife.
- Peak waterfowl migrations occur from late-October to early-December and from March into April. Spring shorebird and warbler migrations usually peak around the first part of May.
- Binoculars and field guides are especially helpful and will make your refuge visit more enjoyable.
- Sudden movements and loud noises startle wildlife. Quiet, patient observers are likely to see more wildlife.

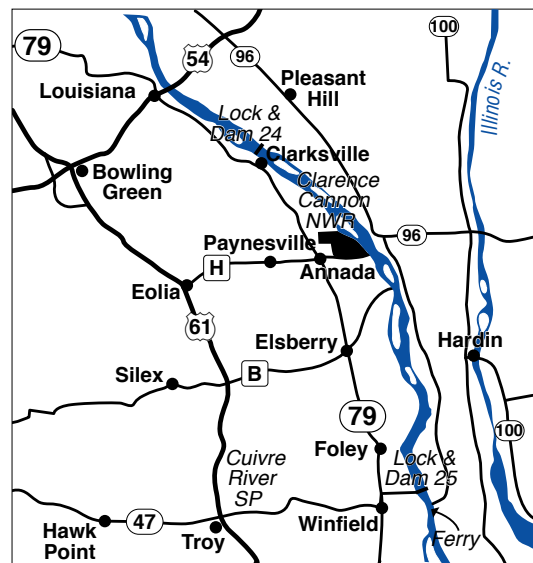
Common  
Yellowthroat,  
USFWS



# Great River National Wildlife Refuge



*This blue goose, designed by J.N. "Ding" Darling, has become a symbol of the National Wildlife Refuge System. Ding was a Pulitzer prize-winning editorial cartoonist who dedicated his career to conservation.*



## Getting There

The headquarters for both the Great River and Clarence Cannon National Wildlife Refuges is located on the Clarence Cannon refuge. From St. Louis, take I-70 west and exit onto Highway 79 north. Take Highway 79 north approximately 35 miles to the town of Annada. Turn right on County Road 206 and proceed one mile to the refuge office.

## Your Cooperation is Appreciated!

To protect the refuge's wildlife and habitats, please observe the following:

- The refuges are open daily, from one-half hour before sunrise to one-half hour after sunset.
- The speed limit is 25 mph.
- Off-road vehicles, open fires, camping, and antler collecting are not allowed.
- Dogs must be leashed at all times, except when used for hunting where hunting is allowed.
- Firearms are prohibited, except when used for hunting.
- The collection of edible mushrooms and berries is permitted for personal use only.
- The introduction, collection or destruction of all other plant and animal life is prohibited.

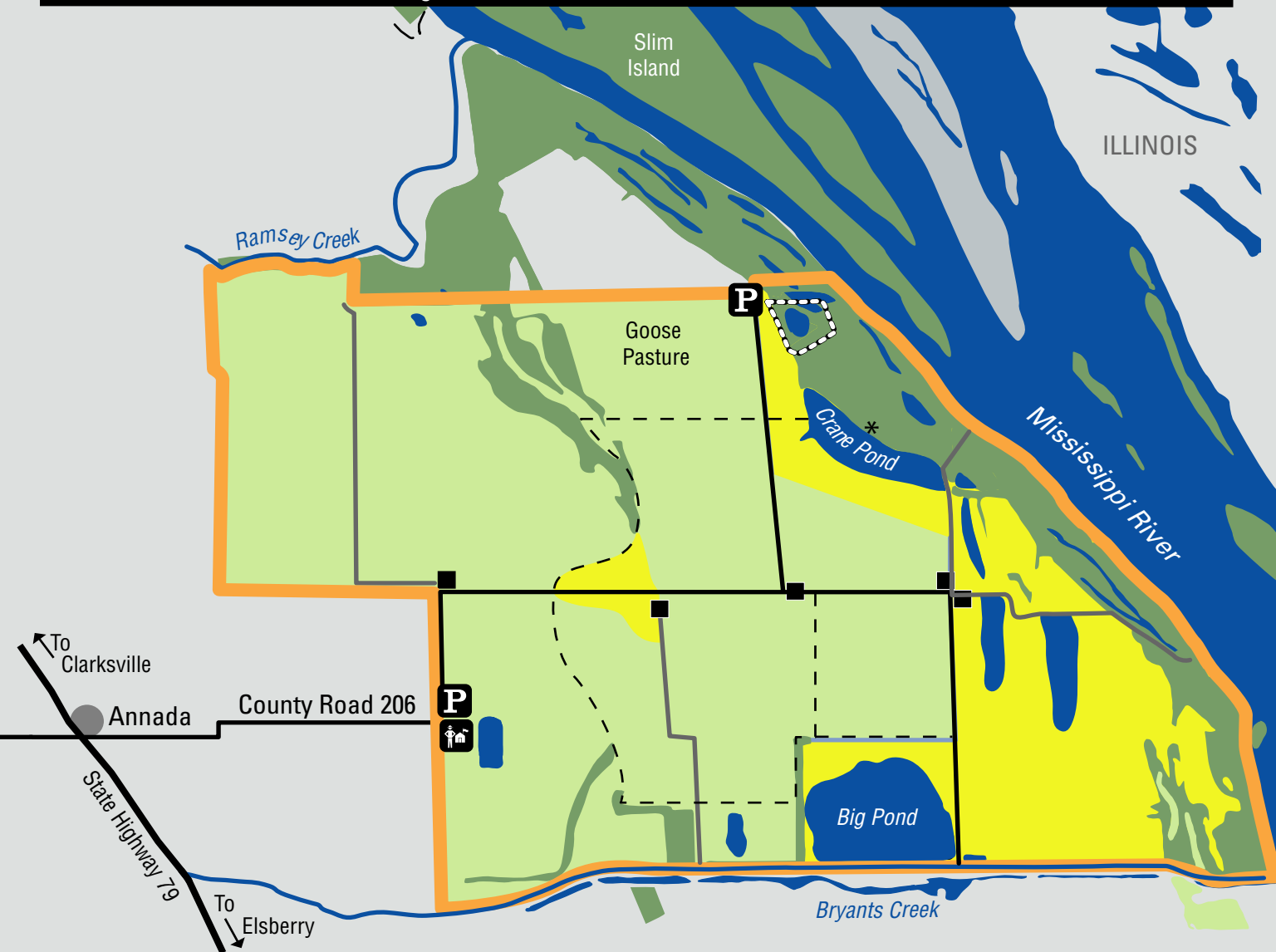
## Office Hours

The office is open  
7:30 a.m. - 4:00 p.m.  
Monday through Friday.













Great River NWR  
Headquarters



# Clarence Cannon National Wildlife Refuge



## Legend to Clarence Cannon National Wildlife Refuge

- |   |                     |   |                   |
|---|---------------------|---|-------------------|
|  | Refuge Boundary     |  | Parking Lots      |
|  | Refuge Headquarters |  | Gates             |
|  | Nature Trail        |  | Eagle Nest (2005) |
|  | Open Roads          |   | Fields/Croplands  |
|  | Closed Roads        |   | Wetlands          |
|  | Ditches             |   | Forests           |