Ramsar Sites Information Service

Annotated List of Wetlands of International Importance

United States of America

41 Ramsar Site(s) covering **1,884,551 ha**

Ash Meadows National Wildlife Refuge

Site number: 347 | Country: United States of America | Administrative region: Nevada
Area: 9,509 ha | Coordinates: 36°24'59"N 116°19'59"W | Designation dates: 18-12-1986
View Site details in RSIS

Ash Meadows National Wildlife Refuge. 18/12/86; Nevada; 9,509 ha; 36°25'N 116°20'W. National Wildlife Refuge. A unique oasis ecosystem of streams, pools, and wet meadows, formed around springs supplying a tributary of the Amargosa River. The site lies within an area exhibiting the greatest biological endemism in the USA. Four species of endangered endemic fish and an endemic aquatic insect are present, and several of the region's plants are listed as threatened or endangered endemic species. Other endemics include several molluscs and one mammal. The water table is close to the surface and soils are mostly saline, often with a well-developed salt crust. Human activities have consisted of agriculture, irrigation, peat and clay mining, and off-road vehicle use. Ramsar site no. 347. Most recent RIS information: 1992.

Bolinas Lagoon

Site number: 960 | Country: United States of America | Administrative region: California
Area: 445 ha | Coordinates: 37°54'59"N 122°41'W | Designation dates: 01-09-1998
View Site details in RSIS

Bolinas Lagoon. 01/09/98; California; 445 ha; 37°55'N 122°41'W. Located in California, less than 20 kilometers up the coast from San Francisco's Golden Gate Bridge, Bolinas Lagoon is a tidal embayment of open water, mudflat, and marsh which provides productive and diverse habitats for marine fishes, waterbirds, and marine mammals, and it is also part of a much larger protected natural habitat complex in the region. The site is located on the Pacific Flyway, which makes the Lagoon an ideal staging ground and stopover site for migratory birds, and the temperate climate provides wintering habitat for a wide array of ducks, geese, and shorebirds. The area supports a number of recreational uses, including the use of manually-powered watercraft. Ramsar site no. 960. Most recent RIS information: 2007.

Cache-Lower White Rivers

Site number: 442 | Country: United States of America | Administrative region: Arkansas
Area: 99,166 ha | Coordinates: 34°16'59"N 91°09'W | Designation dates: 21-11-1989
View Site details in RSIS

Cache-Lower White Rivers. 21/11/89; Arkansas; 99,166 ha; 34°17'N 91°09'W. This Site, representative of the Lower Mississippi Alluvial Valley Ecosystem, is part of the remaining 20% of wetlands in this area, which are accordingly vital for the survival of the numerous species that depend on them. It is the most important breeding area for Wood ducks in Arkansas and one of the most important wintering areas for Mallard ducks (Anas platyrhynchos) in North America. Apart from supporting bird species during critical stages of their life cycles, this Site also acts as a fish spawning and nursery area. Furthermore, it also provides important habitat for threatened or endangered species such as the ivory-billed woodpecker (Campephilus principalus), least tern (Sterna antillarum), piping plover (Charadrius melodus) and fat pocketbook mussel (Potamilus capax). The wetlands of the Cache-Lower White Rivers are rich in biodiversity and support 250 species of birds, 60 species of reptiles and amphibians, 60 species of mammals, 40 of mussels and 100 of fish as well as over 70 species of trees and over 50 of shrubs. The main threats to the Site are associated with long-standing agriculture, forestry and oil and gas development. The threats include altered hydrology and flood regimes, reduced water quality, invasive plant and animal species, loss of natural communities, forest fragmentation, and the overall cumulative habitat effect of land and water resource development activities. Site No. 442. Most Recent RIS information: 2011.

Cache River and Cypress Creek Wetlands

Site number: 711 | Country: United States of America | Administrative region: Illinois
Area: 24,281 ha | Coordinates: 37°17'58"N 89°02'17"W | Designation dates: 01-11-1994
View Site details in RSIS

Cache River - Cypress Creek Wetlands. 1/11/94; Illinois; 24,281 ha; 37o17'59"N 89o02'18"W. This Site, located at the juncture of four ecological provinces, contains rare examples of forested swamps dominated by bald cypress (Taxodium distichum) and water tupelo (Nyssa aquatica) along the Lower Cache River. The entire Site represents the northernmost extension of the Mississippi Embayment. It is highly biodiverse and supports 103 regionally endangered or threatened species as well as numerous species of waterfowl that feed, rest and nest at the Site. Over 20% of the population of canvasback ducks (Aythya valisineria) pass over the Site, during their autumn and spring migrations on the Mississippi flyway. It also supports over 1% of one of the largest populations of the Illinois Chorus frog (Pseudacris streckeri illinoiensis), and 84 endemic species of fish that make up 44% of the fish documented in the State. Furthermore, flood events in the Cache River basin deliver significant nutrients, organic matter and fish numbers into the larger Ohio and Mississippi river systems. The main threats are associated with the large agricultural areas surrounding the Site and the clearing of land for agriculture. This has led to increased erosion, sedimentation and loss of riparian areas. Site No. 711. Most recent RIS information: 2011.

Caddo Lake

Site number: 633 | Country: United States of America | Administrative region: Texas, Lousiana
Area: 7,977 ha | Coordinates: 32°45'N 94°07'59"W | Designation dates: 23-10-1993
View Site details in RSIS

Caddo Lake. 23/10/93; Texas; 7,977 ha; 32°45'N 094°08'W. State Park, Wildlife Management Area. Shallow, heavily vegetated waters of the lake, its sloughs, swamps, backwaters, and hardwood forests. It is one of the best examples in the southern United States of the mature Taxodium distichum community. Wintering habitat is available for substantial numbers of waterbirds and one of the highest populations and best breeding area for Aix sponsa exists here. The mature hardwoods are vital to the survival and productivity of Neotropical migrants. There is small boat traffic to lakeside developments scattered throughout the site. The Caddo Lake Institute has been very active in pursuing Ramsar issues globally. Management of the site has benefited from Caddo Lake's association with Mr Don Henley, a prominent musician and member of the Eagles rock group. Ramsar site no. 633. Most recent RIS information: 2007.

Catahoula Lake

Site number: 523 | Country: United States of America | Administrative region: Louisiana
Area: 12,150 ha | Coordinates: 31°30'N 92°06'W | Designation dates: 18-06-1991
View Site details in RSIS

Catahoula Lake. 18/06/91; Louisiana; 12,150 ha; 31°30'N 092°06'W. National Wildlife Refuge. A large, poorly drained depression subject to artificially controlled, seasonal fluctuations. The lake is fed by the Little River and numerous smaller water courses and is subject to back-flooding. Few plants are ecologically adapted to the extreme variations in water level, although annual grasses and sedges flourish. The most important inland wetland for waterbirds in Louisiana, with peak counts exceeding 400,000 birds. The endangered eagle Haliaetus leucocephalus occurs as a non-breeding visitor. The lake also supports sport and commercial fisheries. Long-term historical hunting at the site has led to a high density of lead pellets in the lake, the use of which is now illegal. The lake overlies an important oil field that has been commercially exploited for 40 years. Ramsar site no. 523. Most recent RIS information: 2005.

Chesapeake Bay Estuarine Complex

Site number: 375 | Country: United States of America | Administrative region: Virginia
Area: 45,000 ha | Coordinates: 38°00'N 76°19'59"W | Designation dates: 04-06-1987
View Site details in RSIS

Chesapeake Bay Estuarine Complex. 04/06/87; Virginia; 45,000 ha; 38°00'N 076°20'W. National Wildlife Refuge, Wildlife Management Area, State Park, Natural Environment Area, Natural Resources Management Area. A vast estuarine complex, composed of multiple, physically separate protected areas. Ten major rivers enter the system. Natural habitats include sand beaches, dunes, mudflats, open water with submerged beds of aquatic vegetation, intertidal marshes, freshwater marshes, and lakes. The Bay is of particular importance for very large numbers of staging and wintering Anatidae (ducks, geese, swans, etc.) and other waterbirds. Breeding birds include two nationally endangered species. Other notable fauna include endangered marine turtles. The Bay's fishery (blue crab and oyster) is of significant economic importance, yielding a dockside value of $60 million per year. Environmental education, conservation-oriented recreation, and scientific research are the primary management objectives. Hunting and trapping of birds and mammals are strictly controlled. Ramsar site no. 375. Most recent RIS information: 1992.

Cheyenne Bottoms

Site number: 411 | Country: United States of America | Administrative region: Kansas
Area: 10,978 ha | Coordinates: 38°30'59"N 98°43'W | Designation dates: 19-10-1988
View Site details in RSIS

Cheyenne Bottoms. 19/10/88; Kansas; 10,978 ha; 38°31'N 098°43'W. Western Hemisphere Shorebird Reserve, State Wildlife Area. A natural, elliptical basin on the Great Plains. Principle natural inflows to the basin are intermittent; additional water is supplied via an artificial canal. Several broad ecological zones are recognized, based on the vegetation communities present. Approximately 45% of all migratory shorebirds nesting in North America stage at Cheyenne Bottoms. Classified as "critical habitat" for the endangered crane Grus americana, the site supports other threatened or endangered birds during nesting, staging or wintering periods. Open to the public, it is an important area for conservation education, recreation and scientific research. Plans for industrial hog farming nearby remain an issue. In April 2002 the site was extended by 2,942 ha and brought under management by The Nature Conservancy. Ramsar site no. 411. Most recent RIS information: 2002.

Chiwaukee Illinois Beach Lake Plain

Site number: 2,243 | Country: United States of America | Administrative region: Wisconsin and Illinois
Area: 1,584 ha | Coordinates: 42°28'15"N 87°48'51"W | Designation dates: 25-09-2015
View Site details in RSIS

Chiwaukee Illinois Beach Lake Plain, on the south-western shore of Lake Michigan, features the highest quality coastal dune and swale ecosystem in south-east Wisconsin and north-east Illinois. It includes six globally rare and representative wetland types and supports two United States federally-listed Threatened and Endangered species which are associated with wetland communities: the eastern prairie fringed orchid (Platanthera leucophaea) and the piping plover (Charadrius melodus). It also has the largest known populations of Blanding's turtle (Emydoidea blandingii), categorized as Endangered by the IUCN Red List and as threatened in the state of Illinois. It also provides the largest near-contiguous block of stopover habitat for migratory birds along the entire Illinois coast and south western Lake Michigan coast in Wisconsin. The main threats to the site include invasive plant species, urban development (including residential and industrial areas, and roadways) and conversion of grasslands and woodlands in the surrounding areas for agriculture.

Congaree National Park

Site number: 2,030 | Country: United States of America | Administrative region: South Carolina
Area: 10,539.1 ha | Coordinates: 33°47'21"N 80°45'33"W | Designation dates: 02-02-2012
View Site details in RSIS

Congaree National Park. 02/02/12; South Carolina; 10,539 ha; 33°47'22"N 80°45'34"W. National Park. A mosaic of freshwater swamp forests, seasonal sloughs, forested peatlands, permanent and seasonal creeks, permanent freshwater lakes, and shrub-dominated wetlands, containing the largest remaining example of old-growth bottomland hardwood forest in North America. The park supports a variety of species with different conservation status under the National Endangered Species Act, such as the Rafinesque Big-eared Bat (Corynorhinus rafinesquii), Southeastern Myotis (Myotis austroriparius), Bald Eagle (Haliaeetus leucocephalus), Wood Stork (Mycteria americana), Swallow-tailed Kite (Elanoides forficatus), Red-headed Woodpecker (Melanerpes erythrocephalus), and Spotted Turtle (Clemmys guttata). The site is an important over-wintering area for large numbers of temperate migrants and year-round residents. One winter census documented over 2,000 birds per 101ha, one of the highest wintering bird densities reported in the United States. It supports 56 species of fish, or almost 40% of the freshwater fish species known to exist in South Carolina. Since 2001, a new visitors' center has been opened. Visitor activities include hiking, fishing, birdwatching, canoeing and camping. Threats include the presence of invasive species like feral pigs (Sus scrofa), privet (Ligustrum spp.), Japanese stilt grass (Microstegium vimineum), kudzu (Pueraria Montana), wisteria (Wisteria sinensis), and Japanese climbing fern (Lygodium japonicum). Ramsar Site no. 2030. Most recent RIS information: 2012.

Connecticut River Estuary and Tidal River Wetlands Complex

Site number: 710 | Country: United States of America | Administrative region: Connecticut
Area: 6,602.8 ha | Coordinates: 41°15'N 72°18'W | Designation dates: 14-10-1994
View Site details in RSIS

Connecticut River Estuary & Tidal Wetlands Complex. 14/10/94; Connecticut; 6,484 ha; 41°15'N 072°18'W. State Wildlife Management Areas, State Parks. The longest and largest river system in New England. Shifting sandbars have preserved the river's extraordinary assemblage of natural and undisturbed plant and animal communities. The site includes open water; fresh, salt and brackish tidal wetlands; floodplains, river islands, beaches, and dunes. The system serves as essential habitat for numerous regionally, nationally, and globally rare or otherwise significant species and forms an extensive biological corridor that links marine and estuarine waters of the Atlantic Ocean. Many migratory and Neotropical bird species nest or winter in the marshes, which regularly support over 10,000 individuals, consisting of 18 species of waterfowl. Two million people live in the river basin that supports active commercial and recreational fisheries, various tourist facilities and activities. Hunting and trapping represent considerable revenues to the state. Ramsar site no. 710. Most recent RIS information: 1995.

Corkscrew Swamp Sanctuary

Site number: 1,888 | Country: United States of America | Administrative region: Florida
Area: 5,261 ha | Coordinates: 26°23'49"N 81°36'56"W | Designation dates: 23-03-2009
View Site details in RSIS

Corkscrew Swamp Sanctuary is located at the heart of the western Everglades in southwestern Florida. The Site contains habitats such as pine flatwoods, cypress swamps, marshes and wet prairies that were once common throughout southern Florida but since the mid-1900s have been largely lost. It supports rich biodiversity including the largest remaining old-growth bald cypress (*Taxodium distichum*) forest in the world. The estimated 500-year-old bald cypress trees reach heights of 40 metres and have provided the primary nesting site for federally threatened wood storks (*Mycteria americana*) since the early 1900s; they currently support 1.34 % of its total population in North America. The habitats also provide refuge for several endangered animal species such as the gopher tortoise (*Gopherus polyphemus*) and the American alligator (*Alligator mississippiensis*). In addition, more than 700 plant species are found including 29 known threatened or endangered plant species such as the ghost orchid (*Dendrophylax lindenii*), the satinleaf (*Chrysophyllum oliviforme*) and the stiff-flower star orchid (*Epidendrum rigidum*). Currently, the greatest threats to the Site are invasive species, dry-season over-draining, regional loss of wetlands, and climate change.

Delaware Bay Estuary

Site number: 559 | Country: United States of America | Administrative region: Delaware,New Jersey
Area: 51,252 ha | Coordinates: 39°10'59"N 75°13'59"W | Designation dates: 20-05-1992
View Site details in RSIS

Delaware Bay Estuary. 20/05/92; Delaware, New Jersey; 51,252 ha; 39°11'N 075°14'W. Western Hemisphere Shorebird Reserve, National Wildlife Refuge, Wildlife Management Area, Fish & Wildlife Management Area, Nature Preserve, State Park. Major estuarine system in an ecological transition zone. The site consists of more than 70 separate protected wetland areas of varying salinity supporting various marsh communities. An important staging area for over 90% of the North American populations of several migratory shorebird species. More than one million individuals use the region, making it one of the two most important staging areas on the Atlantic coast of North America. Notable flora and fauna include five species of marine turtles, the endangered eagle Haliaetus leucocephalus, and several rare or endangered plants. The crab fishery and hunting is valued at over $85.5 million per year. Ramsar site no. 559. Most recent RIS information: 1992.

Door Peninsula Coastal Wetlands

Site number: 2,218 | Country: United States of America | Administrative region: Wisconsin
Area: 4,630.8 ha | Coordinates: 45°13'20"N 86°59'44"W | Designation dates: 10-06-2014
View Site details in RSIS

The Site, which occupies a major section of the Eastern Lake Michigan shoreline of northern Door County, comprises diverse examples of regionally and globally significant wetland communities, including interdunal wetlands and northern wet-mesic forest. It supports numerous species of fauna and flora including the rare dwarf lake iris (Iris lacustris) and over 150 species of birds that use the site for nesting or as staging areas during autumn and spring migrations. It also hosts the largest known population of the federally-endangered Hine's emerald dragonfly (Somatochlora hineana). The Site is part of a karst hydrologic system that contributes to accelerated groundwater recharge. Areas of groundwater recharge are a critical habitat component for the Hine's emerald dragonfly. Threats to the Site include invasive species such as giant red grass (Phragmites australis), urban development, and increasing recreational vehicle use. Climate change has also been identified as a potential threat, as it could lead to changes in levels of the groundwater and of Lake Michigan, changes in water pH and declines in species richness and diversity.

Edwin B. Forsythe National Wildlife Refuge

Site number: 348 | Country: United States of America | Administrative region: New Jersey
Area: 18,800 ha | Coordinates: 39°43'45"N 74°11'43"W | Designation dates: 18-12-1986
View Site details in RSIS

Edwin B Forsythe National Wildlife Refuge. 18/12/86; New Jersey; 18,800 ha; 39o43'45"N 74o11'43"W. This site, which includes coastal salt meadows, flooded woodlands and open bays and channels, is of particular importance for waterfowl, specifically the northern black duck (Anas rubripes) and Atlantic brant (Branta bernicla horta) which nest at the site. It is located on the Atlantic Flyway and so supports over 200 species of bird that use the area each year as a nesting and staging site. Among these species are threatened or endangered species such as the piping plover (Charadrius melodus), the bald eagle (Haliaeetus leucocephalus), the least tern (Sterna antillarum) and roseate tern (Sterna dougallii). The Site supports rare sea-level fen communities, which in turn support six rare plant species. It is also important as a nursery for fish and shellfish species supporting 167 fish species, 35 macroinvertebrate species and two shellfish species. The high levels of urban development in the surrounding areas have resulted in increased nutrient load due inflows, reduction in baseline subsurface and surface water flows, changes in water and air quality and loss of habitat around and at the edges. In addition, sea level rise poses a major threat as it would lead to the disappearance of some of the tidal marshes. Ramsar Site No. 348. Most recent RIS information: 2011.

Elkhorn Slough

Site number: 2,345 | Country: United States of America | Administrative region: Monterey County, California
Area: 724 ha | Coordinates: 36°50'15"N 121°45'01"W | Designation dates: 25-06-2018
View Site details in RSIS

The Site is a seasonal estuary comprised of intertidal marshes, mudflats and seasonal brackish pools. The Slough harbours eelgrass beds as well as oyster communities, which provide valuable fish nurseries, and the intertidal mudflats nourish migratory shorebirds. These distinctive estuarine communities are among the rarest and most threatened habitat type in California, which has lost approximately 91% of its wetlands in the last 100 years. This biologically rich estuary provides habitat for more than 340 species of birds, with more than 20,000 waterbirds, more than 500 species of invertebrates, and 100 species of fish, including the representative bat ray (*Myliobatis californica*) and leopard shark (*Triakis semifasciata*). It also provides key habitat for more than 100 individuals of southern sea otter (*Enhydra lutris nereis*) that feed, nest and nurse in the area. This wetland also provides diverse ecosystem services such as pollution control, climate regulation, food provision, and recreational, educational, and research opportunities, attracting thousands of birdwatchers every year. The Site has also been designated as a Globally Important Bird Area by the National Audubon Society and as a Western Hemisphere Shorebird Reserve Network of Regional Importance.

Everglades National Park

Site number: 374 | Country: United States of America | Administrative region: Florida
Area: 610,497 ha | Coordinates: 25°33'N 80°55'W | Designation dates: 04-06-1987
View Site details in RSIS

Everglades National Park. 04/06/87; Florida; 610,497 ha; 25°00'N 080°55'W. Added to the Montreux Record, 16 June 1993. World Heritage Site, Biosphere Reserve; National Park, Wilderness Area. A vast, shallow drainage basin consisting of two very broad zones. The first consists of large areas of freshwater and wet prairies, characterized by islands of tropical hardwood trees. The second is dominated by saltmarshes, mangrove forests, beach and dune complexes and brackish water estuaries. This area is extremely important for nesting, staging and wintering birds, and supports a rich flora and several threatened and endangered species of flora and fauna. Over one thousand species of seed-bearing plants and 120 both tropical and temperate trees (60 of which are endemic) occur. The Everglades play an extremely important role in domestic, industrial and agricultural water supply, flood protection, and fishery support and is of prime importance in North America for conservation education and outdoor recreation. After years of give and take with sugar growers, serious efforts are being made to restore the natural water flow. Ramsar site no. 374. Most recent RIS information: 2005.

Francis Beidler Forest

Site number: 1,773 | Country: United States of America | Administrative region: South Carolina
Area: 6,438 ha | Coordinates: 33°15'N 80°22'W | Designation dates: 30-05-2008
View Site details in RSIS

Francis Beidler Forest.30/05/08; South Carolina; 6,438 ha; 33°15'N 080°22'W. National Natural Landmark. A protected swamp forest along a broad, flat-bottomed alluvial valley within the Four Holes Swamp, constituting the largest remaining virgin stand of bald cypress and tupelo gum trees in the world. More than 300 vertebrates and 300 plants depend upon the site for survival, and a number of threatened and/or vulnerable species are present, such as the IUCN Red Listed Flatwoods Salamander (Ambystoma cingulatum) and several bat and snake species; threatened flora include Southern Twayblade, Green-fly Orchid, and Shadow-witch Orchid. Some 140 species of birds are supported and the site has been designated a BirdLife Important Bird Area (IBA). The forest is principally owned by the National Aubudon Society, with a parcel owned by The Nature Conservancy and a small parcel belonging to a private landowner, and a model management (and expansion) plan is being implemented. The site is used by bird- and nature-enthusiasts and students, as well as fishers and deer- and hog-hunters in some parts, and low-density farming and grazing occurs in the surrounding area. A principal hydrological role of the site is the improvement and maintenance of water quality of the waters flowing through it, but high levels of mercury have been found in the fish. Logging, farm run-off, and urban sprawl from Charleston are seen as potential threats from outside the site. The visitors' centre offers a full range of environmental education programmes. Ramsar site no. 1773. Most recent RIS information: 2008.

Grassland Ecological Area (GEA)

Site number: 1,451 | Country: United States of America | Administrative region: California
Area: 65,000 ha | Coordinates: 37°10'N 120°49'59"W | Designation dates: 02-02-2005
View Site details in RSIS

Grassland Ecological Area. 02/02/05; California; 65,000 ha; 37°10'N 120°50'W. National Wildlife Refuge, Western Hemisphere Shorebird Reserve. Located in the Central Valley in the San Joaquin River Basin, the site is the largest remaining contiguous block of freshwater wetlands in California. It consists of semipermanent and permanent marshes, riparian corridors, vernal pool complexes, wet meadows, native uplands and grasslands, featuring Alkali Sacaton grassland Sporobolus airoides and the endemic Delta button celery, Eryngium racemosum. The site is renowned for its wintering waterbirds which reach several hundred thousands every winter. These include Sandhill Cranes (Grus canadensis), 19 duck species (Northern pintail Anas acuta; Green-winged teal Anas crecca; Northern shoveler Anas clypeata; Canvasbacks Aythya valisineria and others), 6 species of geese, tens of thousands of shorebirds (most abundantly Western Sandpiper Calidris mauri, Dunlin Calidris alpina and Long-billed dowitcher Limnodromus scolopaceus). The site is home to four endangered shrimps as well the threatened Giant garter snake Thamnophis gigas. Due to flood-control and irrigation projects the entire hydrology of the valley had been dramatically altered, but water quality and allocation issues have been successfully addressed with the Central Valley Project Improvement Act in 1992. Most of the wetlands are managed by the controlled application of water using a series of canals and control structures, mimicking historical flood patterns with pulses of high water flow during winter and spring. The largest potential threat to the site is urban development. Ramsar site no. 1451. Most recent RIS information: 2005.

Horicon Marsh

Site number: 511 | Country: United States of America | Administrative region: Wisconsin
Area: 13,355 ha | Coordinates: 43°30'N 88°37'59"W | Designation dates: 12-04-1990
View Site details in RSIS

Horicon Marsh. 4/12/90; Wisconsin, 13,355 ha, 43°30’00”N 88°38’00”W. The Site is one of the largest intact freshwater wetlands in the USA and also one of the largest cattail (Typha spp) marshes in the world. It is an important staging area for numerous species of migratory birds, especially for Canada geese (Branta canadensis) and mallards (Anas platyrhynchos). In the autumn, 80% of the Mississippi Flyway population of Canada geese (around 1.1 million birds) and 2% of the biogeographic population of mallards use the Site during their migration. Other species, some of them endangered, use the area as a staging, nesting or feeding site. Among these are the bald eagle (Haliaeetus leucocephalus), the whooping crane (Grus Americana) and the yellow-throated warbler (Dendroica dominica). Apart from its importance for migratory birds, the Site is also important for maintaining the biological diversity of the region given the rapid loss of wetlands in the State. It is estimated that the extent of wetlands has decreased by almost 50% since 1850 in most of Wisconsin and by as much as 90% in south-eastern Wisconsin. The main threats are associated to human activities; agricultural runoff has resulted in increased sediment and nutrient loading while the construction of wind farms has resulted in bird mortality. Ramsar Site no. 511. Most Recent RIS Information: 2011.

Humbug Marsh

Site number: 1,928 | Country: United States of America | Administrative region: Michigan
Area: 188 ha | Coordinates: 42°06'N 83°10'59"W | Designation dates: 20-01-2010
View Site details in RSIS

Humbug Marsh. 20/01/10; Michigan; 188 ha; 42p06'N 083p11'W. This Ramsar Site includes a freshwater lagoon and seasonal marshes which represent the last stretch of natural shoreline on the U.S. mainland connecting the lower and upper Great Lakes. Humbug Marsh provides habitat for a number of species such as the Michigan Endangered Peregrine Falcon (Falco peregrinus) and is considered essentialfor the preservation of migrating raptor species such as the Broad-winged Hawk (Buteo platypterus) and other migrating waterfowl and passerines that stop over in the Ramsar Site. Moreover, its lagoon serves as spawning and nursery habitat for many fish species. Humbug Marsh's international importance has been recognized through its inclusion in the Detroit River International Wildlife Refuge (IWR), North America's only IWR as well as through its designation as part of an Important Bird Area (IBA), its recognition as one of 34 Waterfowl Habitat Areas of Major Concern in the North American Waterfowl Management Plan; and its designation as part of an American Heritage River by U.S. Presidential Order. In 2004, the Site was protected due to developers' attempts to negatively impact the wetland. Despite this protection, factors such as invasive species like Phragmites australis, sedimentation, and pollutants still threaten the site. Visitors from all over southeast Michigan, northwest Ohio, and southern Ontario come to Humbug Marsh for fishing, hunting, and paddling; other activities include environmental education for urban and rural schools and scientific monitoring. The management of this Ramsar Site is included in the Detroit River International Wildlife Refuge Comprehensive Conservation Plan and in an Environmental Assessment developed in 2005, which is currently being implemented. Ramsar Site No. 1928. Most recent information: 2010.

Izembek Lagoon National Wildlife Refuge

Site number: 349 | Country: United States of America | Administrative region: Alaska
Area: 168,433 ha | Coordinates: 55°18'55"N 162°53'08"W | Designation dates: 18-12-1986
View Site details in RSIS

Izembek Lagoon National Wildlife Refuge. 18/12/86; Alaska; 168,433 ha; 55o18’55”N 162o53’08”W. The Site consists of a series of lagoons and surrounding marshes on the north coast of the Alaska Peninsula. Izembek Lagoon is the largest of its type in Alaska and contains one of the world’s largest beds of eelgrass which is a primary food source for many geese and ducks. The Site provides staging habitats for waterfowl that undertake transoceanic flights and nest or winter along the Pacific Rim. It supports water bird species including the black brant (Branta bernicla nigricans), Taverner´s Canada geese (Branta canadencis taverneri) and emperor geese (Chen canagica). The site also provides feeding and resting areas for a large number of sea otters (Enhydra lutris) and Steller sea lions (Eumetopias jubatus), which are endangered and near-threatened respectively according to the IUCN Red List. 39 species of fish use the area as migratory, spawning or nursery habitat; four species of Pacific Salmon (Oncorhynchus spp.) enter the freshwater streams of Izembek to spawn. The threats to the site are related to the offshore petroleum operations nearby as there is the possibility of an oil spill and also of disturbance from the construction of pipelines and support facilities. Ramsar Site No. 349. Most recent RIS information: 2011.

Kakagon and Bad River Sloughs

Site number: 2,001 | Country: United States of America | Administrative region: Wisconsin
Area: 4,355 ha | Coordinates: 46°38'33"N 90°40'57"W | Designation dates: 02-02-2012
View Site details in RSIS

Kakagon and Bad River Sloughs. 02/02/12; Wisconsin; 4,355 ha; 46°39'N 090°41'W. National Natural Landmark. A largely undeveloped wetland complex composed of sloughs, bogs, and coastal lagoons that harbor the largest natural wild rice bed on the Great Lakes. The area is under tribal management that is protected as a Conservation Area by an Integrated Resource Management Plan under the jurisdiction of the Bad River Band of the Lake Superior Tribe of Chippewa. The endangered Gray Wolf (Canis lupus) and threatened Canada Lynx (Lynx Canadensis) are two rare and elusive species known to inhabit the site. It provides necessary and rare feeding, resting, and nesting habitat for both migrating and local populations of birds, and one of the two remaining sites for the endangered Piping Plover (Charadirius melodus) is located immediately to the north at Long Island. The site also protects wild rice beds that are becoming increasingly fragmented on Lake Superior - as the only remaining extensive coastal wild rice bed in the Great Lakes region, it is critical to ensuring the genetic diversity of Lake Superior wild rice. Tribal members frequent the area primarily for subsistence trapping, hunting, fishing, and to retain historic harvesting techniques; access to the area is strictly limited to Bad River tribal members and Bad River Natural Resources staff. The largest ecological threat to the site is from invasive species and from controversial potential mining activity in the Penokee-Gogebic Range upriver. In the surrounding areas water quality also could potentially be affected by municipal wastewater, failing household septic systems, and agricultural and logging practices within the watershed. Ramsar Site no. 2001. Most recent RIS information: 2012.

Kawainui and Hamakua Marsh Complex

Site number: 1,460 | Country: United States of America | Administrative region: Hawaïi
Area: 414 ha | Coordinates: 21°24'N 157°45'W | Designation dates: 02-02-2005
View Site details in RSIS

Kawainui and Hamakua Marsh Complex. 02/02/05; Hawaii; 414 ha; 21°24'N 157°45'W. State Wildlife Sanctuary. Sacred to Hawaiians, Kawainui Marsh, the largest remaining emergent wetland in Hawaii and Hawaii's largest ancient freshwater fishpond, is located in what was once the center of a caldera of the Koolau shield volcano. The marsh provides primary habitat for four of Hawaii's endemic and endangered waterbirds, including Laysan Duck and Hawaiian Goose or Nene, and contains archaeological and cultural resources, including ancient walled taro water gardens (lo'i) where fish were also cultivated. Kawainui Marsh stores surface water, providing flood protection for adjacent Kailua town, one of the largest towns on the windward side of O'ahu. Hamakua Marsh is a smaller wetland historically connected to and immediately downstream of Kawainui Marsh, which also provides significant habitat for several of Hawaii's endemic and endangered waterbirds. Ramsar site no. 1460. Most recent RIS information: 2005.

Laguna de Santa Rosa Wetland Complex

Site number: 1,930 | Country: United States of America | Administrative region: California
Area: 1,576 ha | Coordinates: 38°24'26"N 122°47'37"W | Designation dates: 16-04-2010
View Site details in RSIS

Laguna de Santa Rosa Wetland Complex. 16/04/2010; California; 1576 ha; 38°24´N 122°47´W. The Laguna de Santa Rosa Wetland Complex is composed of seasonal and perennial freshwater wetlands such as creeks, ponds, marshes, vernal pools, swales, floodplains, riparian forest and grassland located in the Laguna de Santa Rosa Watershed. The complex includes an array of public and privately owned units with a variety of conservation status that range from Wildlife areas to Mitigation banks. The Ramsar Site is considered a biological hotspot due to its various types of rare and unique wetlands like vernal pools and their associated rare and endemic plant like the Sonoma sunshine (Blennosperma bakeri) and animal species such as the California Tiger Salamander (Ambystoma californiense). Besides its high biological value, the site provides flood control, scenic beauty, and recreation services to the majority of Sonoma County's human population. The Laguna de Santa Rosa Complex main threats are associated to recent land use changes in the area such as wetland drainage for farming and expansion of urban areas, pollution due to excessive use of fertilizers in the Santa Rosa Plain, and hydrological changes due to the construction of drainage and flood control channels. Currently, the Ramsar Site managers are using a restoration and management plan published in 2006 to implement the conservation goals in the Laguna de Santa Rosa Wetland Complex. Ramsar Site no. 1930. Most recent RIS information: 2010.

Lower Wisconsin Riverway

Site number: 2,417 | Country: United States of America | Administrative region: The LWR is located in the Midwest U.S. in southwestern Wisconsin, United States of America.
Area: 17,700 ha | Coordinates: 43°09'47"N 90°21'48"W | Designation dates: 14-02-2020
View Site details in RSIS

The site covers the longest free-flowing stretch of river in the Midwest and includes approximately 17,700 hectares from the Prairie du Sac dam to the confluence with the Mississippi River (where it meets another Wetland of International Importance, Upper Mississippi River Floodplain Wetlands). Its importance is magnified through common boundaries with the nationally and internationally significant Mississippi River, the Driftless Area, and the Upper Mississippi migratory bird flyway. Its sloughs and marshes, forested bottomlands, sand terraces and bluff tops harbour a large number of species and diverse and rich communities. The Riverway has one of Wisconsin's highest concentrations of rare and threatened species, providing habitat for 121 rare animal species such as the wood turtle (*Glyptemys insculpta*) and the Blanding's turtle (*Emydoidea blandingii*) with 17 species listed on the IUCN Red list including the chimney swift (*Chaetura pelagica*), the rusty blackbird (*Euphagus carolinus*) and the ornate box turtle (*Terrapene ornata*). It is also important for the federally endangered Higgins' eye pearly mussel (*Lampsilis higginsii*), a species endemic to the upper Mississippi River and its tributaries. Threatened plants include the pale green orchid (*Platanthera flava herbiola*) and algal-leaved pondweed (*Potamogeton confervoides*). The site is listed as an Important Bird Area (IBA), supporting 25 breeding bird species such as lark sparrow (*Chondestes grammacus*), whooping crane (*Grus americana*) and worm-eating warbler (*Helmitheros vermivorum*). The Riverway is one of Wisconsin's most significant conservation and recreational areas because of its relatively wild, continuous natural area with a wide variety of native plant-animal communities. The area's natural resources attract hundreds of thousands of tourists each year who come to hunt, fish, paddle, and relax, fuelling the region's economy. However, the ecological value of the site is under constant threat from invasive species of aquatic and terrestrial plants and invasive animals and pests.

Missisquoi Delta and Bay Wetlands

Site number: 2,200 | Country: United States of America | Administrative region: Vermont
Area: 3,102 ha | Coordinates: 44°57'18"N 73°10'08"W | Designation dates: 20-11-2013
View Site details in RSIS

Missisquoi Delta and Bay Wetlands. 20/11/2013; Vermont, 3,102 ha, 44°57'19"N, 73°10'9"W. The site is the largest wetland complex in the Lake Champlain Basin, which is considered a resource of national significance. It contains the largest contiguous floodplain forest in Vermont and unique habitat types such as the Maquam Bog. It is important for rare and threatened or endangered species such as the eastern spiny softshell turtle (Apalone spinifera), seven species of mussel and the lake sturgeon (Acipenser fulvescens). The site supports over 200 species of birds and is a breeding area for numerous species of waterfowl, passerines, raptors and wading birds. It is also the only known breeding site for black terns in Vermont. As the site is located along the Atlantic Flyway, populations of waterfowl often reach 20,000 birds in the autumn. The Missisquoi Delta and Bay Wetlands are also essential for numerous fish species that use the site as feeding, spawning and nursery grounds. The site is one of the few remaining spawning grounds of the state endangered lake sturgeon. The main threats are associated with activities in the greater watershed area such as the construction of dams, mercury contamination from atmospheric deposition and pollution from runoff and discharge from wastewater treatment plants. This has led to increased nutrient loading, sedimentation, algal blooms and loss of spawning sites for the lake sturgeon. Ramsar Site no. 2200. Most recent RIS information: 2013

Niagara River Corridor

Site number: 2,402 | Country: United States of America | Administrative region: State of New York
Area: 5,247.7 ha | Coordinates: 43°02'37"N 78°58'11"W | Designation dates: 03-10-2019
View Site details in RSIS

A freshwater, flowing, permanent river, connecting two large freshwater lakes. It covers over 5,247.7 hectares and hosts numerous significant coastal fish and wildlife habitats, including a riverine littoral zone in the upper Niagara River that is a unique ecosystem type in the Great Lakes. Rare and threatened ecological communities are present with at least 21 species such as the Blanding's turtle (*Emydoidea blandingii*) and the lake sturgeon (*Acipenser fulvescens*). Seven species are listed on the IUCN Red List, such as the black-capped petrel (*Pterodroma hasitata*), with the piping plover (*Charadrius melodus*) protected federally in the USA and 45 species protected at the state level in New York. It is also incredibly important as an overwintering site for water birds. During this period, 92 species of birds overwinter in the site, including large congregations of at least 40 species of waterbirds (including gulls and waterfowl). The site was also designated a globally significant Important Bird Area (IBA) supporting at least 338 species of birds. This wetland also provides diverse ecosystem services. It provides fresh water for approximately one million people, and is used to power two hydroelectric power plants in the USA and Canada. Eight million people visit the US side of Niagara Falls each year. It is the backdrop to hundreds of thousands of boaters, hikers, anglers, birdwatchers and swimmers. The river is a laboratory for research and education that informs the world and it serves as a model of successful conservation and restoration in the midst of large cities.

Okefenokee National Wildlife Refuge

Site number: 350 | Country: United States of America | Administrative region: Georgia, Florida
Area: 162,635 ha | Coordinates: 30°48'N 82°19'59"W | Designation dates: 18-12-1986
View Site details in RSIS

Okefenokee National Wildlife Refuge. 18/12/86; Georgia, Florida; 162,635 ha; 30°48'N 082°20'W. National Wildlife Refuge, Wilderness Area. The site, the second largest wetland complex in the USA, is an extensive drainage basin on the divide between the Atlantic Ocean and Gulf of Mexico, characterized by swamp forest. Okeefenokee supports one of the largest populations of Alligator mississippiensis in the USA and a wide diversity of breeding and non-breeding birds. Nesting birds include a rare woodpecker, while mammals include Euarctos americanus and Odocoileus virginianus. Small areas of old-growth cypress and slash pine have escaped logging in the early 1900s. Human activities include nature conservation, hunting, fishing, and general recreation. Issues involving nearby titanium mining seem to be reaching a solution. Ramsar site no. 350. Most recent RIS information: 2006.

Palmyra Atoll National Wildlife Refuge

Site number: 1,971 | Country: United States of America | Administrative region: Pacific Region
Area: 204,127.2 ha | Coordinates: 05°52'N 162°06'W | Designation dates: 01-04-2011
View Site details in RSIS

Palmyra Atoll National Wildlife Refuge. 1/04/11; 204,127 ha; 05°52'N 162°06'W. Coral reefs, permanent shallow marine waters, and intertidal forested wetlands of the atoll and submerged lands and associated waters out to 12 nautical miles from it, in the equatorial Pacific 960 miles south of Honolulu. A National Wildlife Refuge (NWR) since 2001, the site supports a variety of species with different conservation status under the National Endangered Species Act and IUCN Red List, such as the Hawaiian monk seal (Monachus schauinslandi), Hawksbill turtle (Eretmochelys imbricata), and Green Sea Turtle (Chelonia mydas). It is also an important feeding and nesting ground for seabirds like the Red-footed Booby (Sula sula), with the third largest colony in the world, and it sustains approximately 5% of the total population of the Bristle-thighed Curlew (Numenius tahitiensis). As a National Wildlife Refuge, the site is closed to public use without a permit issued by the manager, but scientific research and CEPA activities are coordinated between the US Fish and Wildlife Service and The Nature Conservancy along with the Palmyra Atoll Research Consortium. Threats include the presence of invasive species like the scale (Pulvinaria urbicola), which is responsible for the recent decline in the Pisonia grandis forest coverage. A conservation plan is under development and expected to be completed in 2012. Ramsar Site no. 1971. Most recent RIS information: 2011.

Pelican Island National Wildlife Refuge

Site number: 590 | Country: United States of America | Administrative region: Florida
Area: 2,203 ha | Coordinates: 27°47'45"N 80°25'55"W | Designation dates: 14-03-1993
View Site details in RSIS

Pelican Island National Wildlife Refuge. 14/03/93; Florida, 2,203 ha; 27o47’46”N 80o25’56”. The Site lies in the Indian River Lagoon, a brackish water estuarine system that extends for over 200 km along the east coast of central Florida. Lying in a climatic zone of overlap between temperate and tropical zones its unique conditions are suitable for a large number of species, many of them threatened or endangered, from both zones. Overall the Site supports 140 bird species that use the refuge as a nesting, roosting, feeding or loafing area, as well as 18 species of mammals, 27 of reptiles and amphibians, over 300 of plants, and over 214 species of fish of which 87% are at a juvenile stage. It also serves as a nursery for species of threatened and endangered sea turtles such as the Kemp´s ridley (Lepidochelys kempii), hawksbill (Eretmochelys imbricata), green (Chelonia mydas) and loggerhead (Caretta caretta) turtles. The site’s importance has been recognised since 1903 when it was named as the country´s first National Wildlife Refuge. Since then it has also been designated as a National Historic Landmark and a National Marine Monument. The intensive development of the surrounding area has caused soil and water contamination, pollution, erosion and habitat destruction. Furthermore, the Site has been identified as highly vulnerable to the effects of climate change such as sea level rise and more intense hurricanes. Ramsar site No. 590. Most recent RIS information: 2011.

Quivira National Wildlife Refuge

Site number: 1,172 | Country: United States of America | Administrative region: Kansas
Area: 8,957.7 ha | Coordinates: 38°04'59"N 98°28'59"W | Designation dates: 02-12-2002
View Site details in RSIS

Quivira National Wildlife Refuge. 12/02/02; Kansas; 8,958 ha; 38°05'N 098°29'W. National Wildlife Refuge. An excellent example of inland salt marsh, a rare habitat type in the region, ranging from high salinity to almost fresh water depending upon varying precipitation and saline inflow from Rattlesnake Creek, resulting from local geological conditions which bring a layer of salt groundwater close to the surface upstream. The salt marshes, interspersed with mixed grass prairie and agricultural fields, provide critical nesting, migration, and wintering habitat for more than 311 bird species and literally millions of individuals. A number of nationally endangered and threatened species are present, including the bald eagle, peregrine falcon, whooping crane, interior least tern (Sterna antillarum), and piping plover. A diversity of habitat is provided by native grass uplands, fresh and saltwater marshes, and salt flats, and the site comprises a major site for migratory birds - because of the sporadic nature of prairie thunderstorms, Quivira complements the nearby Cheyenne Bottoms Ramsar site, such that when one is dry or flooded the other is nearly always suitable for use by shorebirds. The two sites, because of this sharing of habitat, often host over 90% of the world's population of such species as stilt sandpipers (Calidris himantopus) and white-rumped sandpipers (Calidris fuscicollis), as well as hundreds of thousands of geese and cranes. A large and growing number of tourists (presently 60,000 p.a.) enjoy wildlife observation at the site, with benefit of a visitors' centre, and a Friends of Quivira volunteer support group organizes many imaginative activities. Reprint of the RIS. Ramsar site no. 1172. Most recent RIS information: 2002.

Roswell Artesian Wetlands

Site number: 1,917 | Country: United States of America | Administrative region: New Mexico
Area: 917 ha | Coordinates: 33°27'N 104°22'59"W | Designation dates: 20-01-2010
View Site details in RSIS

Roswell Artesian Wetlands(Bitter Lake National Wildlife Refuge and Bottomless Lakes State Park); 20/01/2010; New Mexico; 917 ha; 33°27N 104°23W. The Roswell Artesian Wetlands Ramsar Site consists of a series of springs, seeps and sinkhole lakes located along the Pecos River but largely fed by natural groundwater discharged from the Roswell Basin; its wetlands contain two distinct areas: Bitter Lake National Wildlife Refuge and Bottomless Lakes State Park. The Ramsar Site supports a diverse collection of plants and animals including several endemic species such as the Roswell springsnail (Pyrgulopsis roswellensis), Koster's springsnail (Juturnia kosteri), and Noel's amphipod (Gammarus desperatus) as well as many migratory songbirds, waterfowl, and wading birds such as the Sandhill Crane (Grus canadensis); and a large amount of dragonflies and damselflies. The site enables a number of recreation and research activities such as swimming, hiking and wildlife observation; it also plays an important role in the hydrology of the Pecos River and is important economically for the communities living in the Chavez County. The site's main threats include increased groundwater use and surface water diversion, changes in land use towards urbanization, and presence of invasive species like the saltcedar (Tamarix chinensis). Both areas in the Roswell Artesian Wetlands Ramsar Site are designated as a National Natural Landmark and a Research Natural Area and their respective management plans serve as a tool to provide direction for its management. Ramsar Site no. 1917. Most recent information: 2010.

Sand Lake National Wildlife Refuge

Site number: 957 | Country: United States of America | Administrative region: South Dakota
Area: 8,700 ha | Coordinates: 45°45'N 98°15'W | Designation dates: 03-08-1998
View Site details in RSIS

Sand Lake National Wildlife Refuge. 03/08/98; South Dakota; 8,700 ha; 45°45'N 098°15'W. A large freshwater cattail marsh, it provides critical nesting and staging habitat for many different bird species. The number of migrating waterfowl using the large wetland complex often exceeds 20,000 and includes such birds as Mallards, Wood ducks and Canada geese. Sand Lake is also important habitat for reptiles, amphibians, fish, and mammals. Thousands of people from birdwatchers to anglers and hunters to hikers to school groups visit Sand Lake Refuge each year. Ramsar site no. 957. Most recent RIS information: 1998.

San Francisco Bay/Estuary (SFBE)

Site number: 2,097 | Country: United States of America | Administrative region: California
Area: 158,710.9 ha | Coordinates: 37°52'N 122°22'W | Designation dates: 02-02-2013
View Site details in RSIS

San Francisco Bay/Estuary (SFBE). 02/02/13; California; 158,711 ha; 37°52'N 122°23'W. UNESCO Biosphere Reserve; includes National Wildlife Refuges and other protected areas. San Francisco Bay is the largest estuary on the Pacific Coast of the US, encompassing approximately 160,000 hectares. SFBE is widely recognized as one of North America's most ecologically important estuaries, accounting for 77% of California's remaining perennial estuarine wetlands and providing key habitat for a broad suite of flora and fauna and a range of ecological services such as flood protection, water quality maintenance, nutrient filtration and cycling, and carbon sequestration. The site is home to many plant species and over 1,000 species of animals, including endemic and conservation status species. It is noted for hosting more wintering shorebirds than any other estuary along the US Pacific Coast south of Alaska and is recognized as a site of Hemispheric Importance by the Western Hemisphere Shorebird Reserve Network. It is also important for over 130 species of resident and migratory marine, estuarine and anadromous fish species. Development pressures on remaining wetlands and adjacent uplands continue to threaten habitats not owned or managed for conservation. The site is a renowned international tourism destination. Parts of the site are within the UNESCO Golden Gate Biosphere Reserve (1988). Ramsar site no. 2097. Most recent RIS information: 2013.

Sue and Wes Dixon Waterfowl Refuge at Hennepin & Hopper Lakes

Site number: 2,042 | Country: United States of America | Administrative region: Illinois
Area: 1,117 ha | Coordinates: 41°13'19"N 89°20'17"W | Designation dates: 02-02-2012
View Site details in RSIS

Sue and Wes Dixon Waterfowl Refuge at Hennepin & Hopper Lakes. 02/02/12; Illinois; 1,117 ha, 41°13'20"N 089°20'17"W. Includes Nature Preserve. A complex system of backwater lakes, marshes, wet prairie, savannah, and forest that has been restored to a landscape that closely resembles the presettlement conditions of the place, before the human impacts of the 20th century. The mix of rare wetland habitats integrated within the extensive natural landscape is unique in this region, where most remaining wetlands have been isolated and/or fragmented. Due to the extent and quality of habitat, the site is home to federally endangered or threatened species such as the decurrent false aster (Boltonia decurrens), Piping Plover (Charadrius melodus), and King Rail (Rallus elegans). The Refuge hosts 22 federally or state endangered and threatened birds, including the Peregrine Falcon (Falco peregrinus), Common Moorhen (Gallinula chloropus), American Bittern (Botaurus lentiginosus), and Pied-billed Grebe (Podilymbus podiceps). The Refuge has become a living laboratory where restoration techniques, successional dynamics, and adaptive management strategies can be tested and evaluated. The site offers excellent opportunities for hiking, bird-watching, wildlife photography, canoeing, and kayaking. Threats include invasive species, fires, and pesticide residues due to nearby agricultural activities. The Refuge is owned by nine non-profit entities and managed by one of them, the Wetlands Initiative, under agreement with the others. Ramsar Site no. 2042. Most recent RIS information: 2012.

The Emiquon Complex

Site number: 2,031 | Country: United States of America | Administrative region: Illinois
Area: 5,729 ha | Coordinates: 40°21'21"N 90°03'10"W | Designation dates: 02-02-2012
View Site details in RSIS

The Emiquon Complex. 02/02/12; Illinois; 5,729 ha, 40°21'22"N 090°03'10"W. National Wildlife Refuges. The site lies within the former natural floodplain of the Illinois River, and as in other large-floodplain river systems, the dynamic relationship between the river and its floodplain creates a diversity of habitats including bottomland lakes, side channels, sloughs, marsh, bottomland hardwood forests, and wet, mesic and dry prairies. These in turn support correspondingly abundant and diverse animal populations, both terrestrial and aquatic. The site and its natural diversity of both resident and migratory animal species contribute to a corridor that provides essential habitats for long-distance longitudinal migrants such as Neotropical song birds, North American waterfowl, and some fishes such as paddlefish (Polyodon spathula) and American eel (Anguilla rostrata), and it also provides habitat and corridors for lateral migrants, especially amphibians and reptiles. In addition to providing habitat for animals, the complex contributes to important ecological processes including processing and cycling of nutrients, sediments, and energy; improving water quality; sequestering carbon; and normalizing hydrology. It also provides opportunities for people for education, recreation, and compatible economic development. Threats include invasive species, high sedimentation rates, pollution, and altered hydrology in the areas of the complex that are not protected by levees. Ramsar Site no. 2031. Most recent RIS information: 2012.

Tijuana River National Estuarine Research Reserve

Site number: 1,452 | Country: United States of America | Administrative region: California
Area: 1,021 ha | Coordinates: 32°33'N 117°07'W | Designation dates: 02-02-2005
View Site details in RSIS

Tijuana River National Estuarine Research Reserve (TRNERR). 02/02/05; California; 1,021 ha; 32°33'N 117°07'W. National Wildlife Refuge. On the border with Mexico facing the city of Tijuana, the site is one of the few unfragmented estuaries and coastal lagoons in Southern California. It is a seasonally marine-dominated estuary experiencing freshwater input only during the wet winter period, though its mouth remains open throughout the year. It has several sensitive habitats such as sand dunes and beaches, vernal pools, tidal channels, mudflats and coastal sage scrub. The site is critical habitat for nationally endangered species and subspecies such as the San Diego Fairy Shrimp Branchinecta sandiegonensis, the Light-footed Clapper Rail Rallus longirostris levipes and the Salt Marsh Bird's Beak Cordylanthus maritimus maritimus; as well as nursery grounds for commercially important fish like the Diamond turbot (Hypsopsetta guttulata) and the California halibut (Paralichthys californicus). Dirt roads and border patrol off-road vehicles are a primary cause of concern because of the impacts of lighting, noise and sedimentation, already serious due to strong erosion and runoff from the shared basin with Mexico. The site is unfortunately isolated from surrounding habitat by urban areas and there are problems with introduced species. A multi-phased restoration program designed to restore tidal exchange and wetland habitats is in place, as well as a management plan. The site is administered jointly by California State Department of Parks and Recreation (DPR) and the United States Fish and Wildlife Service (USFWS). Ramsar site no. 1452. Most recent RIS information: 2005.

Tomales Bay

Site number: 1,215 | Country: United States of America | Administrative region: California
Area: 2,850 ha | Coordinates: 38°09'N 123°23'W | Designation dates: 21-10-2002
View Site details in RSIS

Tomales Bay. 30/09/02. California. 2,850 ha. 38°09'N, 123°23'W. Part of Marine Sanctuary. Tomales Bay is a marine-coastal wetland consisting of geomorphologicaly dynamic estuaries, eelgrass beds (Zostera marina), sand dune systems, and restored emergent tidal marshes which floods the northern 20 km of the San Andreas Fault-generated Olema Valley on the central California coast. The site fulfills all eight Ramsar Criteria. Approximately 90% of the bay's 28.5 km2 area is subtidal with a much greater area of open water at low tide than most other Pacific coast estuaries, thus becoming a suitable waterbird habitat through the tidal cycle. Because the 58,000 ha. watershed is non-industrial and has a low human population density, the bay is relatively pristine. The site supports several endangered or threatened plant and animal species, and is an important waterbird migratory stopover site and over-wintering ground along the Pacific flyway - it regularly hosts over 20,000 individuals in the winter months, most notably of surf scoter (Melanitta pespicillata), bufflehead (Bucephala albeola), and greater scaup (Aythya mariloides). In the past, the site has been affected by industrial and agricultural activities, which have since been terminated or mitigated. Local authorities and private and non-governmental organizations have conducted a number of watershed protection measures and conservation and restoration projects over the past 40 years in the area. Ramsar site no. 1215. Most recent RIS information: 2002.

Upper Mississippi River Floodplain Wetlands

Site number: 1,901 | Country: United States of America | Administrative region: Minnesota, Iowa, Wisconsin, Illinois
Area: 122,357 ha | Coordinates: 43°09'37"N 91°02'08"W | Designation dates: 01-05-2010
View Site details in RSIS

05/01/10; Minnesota, Wisconsin, Iowa and Illinois; 122,357 ha; 43°03'N 091°10'W. National Wildlife Refuges, National Monument. Natural floodplain backwaters of the Upper Mississippi River in the US Upper Midwest were enlarged and enhanced by construction of locks and dams in the 1930s to improve commercial and recreational navigation. Today the site consists primarily of flowing main and side channel habitats, large shallow to moderately deep backwater marshes, flooded floodplain forests and shrub-dominated communities. It is perhaps the most important corridor of fish and wildlife habitat remaining in the central US; e.g., it supports significant populations of over 100 native fish species and the nationally endangered Higgins' Eye Pearly Mussel (Lampsilis higginsii). In addition, the site is at the core of the Mississippi Flyway, through which 40% of North America's waterfowl migrate, e.g. Canvasback Ducks (Aythya valisineria) and Tundra Swans (Cygnus columbianus). Several federal and state-managed areas are located within the site and recreation is one of the major economic activities in the area (ca. 3 million visits each year). The site is currently threatened by the accelerating spread of plant and invertebrate invasive species. The Ramsar site includes the Upper Mississippi River National Wildlife and Fish Refuge, Trempealeau National Wildlife Refuge, and selected contiguous federal and state-managed floodplain wetlands associated with mouths of tributary rivers and streams. Ramsar site no. 1901. Most recent RIS information: 2010.

Wilma H. Schiermeier Olentangy River Wetland Research Park

Site number: 1,779 | Country: United States of America | Administrative region: Ohio
Area: 21 ha | Coordinates: 40°01'N 83°01'W | Designation dates: 18-04-2008
View Site details in RSIS

Wilma H. Schiermeier Olentangy River Wetland Research Park. 18/04/08; Ohio; 21 ha; 40°01'N 083°01'W. A complex of created and natural freshwater riverine wetlands located on the campus of The Ohio State University in Columbus, Ohio. The wetlands include freshwater, tree-dominated wetlands, permanent rivers/streams/creeks, seasonal/intermittent freshwater marshes, and permanent freshwater marshes. It is a unique combination of 1) a biologically diverse assemblage of different wetland and riverine habitats both representative and unique to the region; 2) high-quality university teaching, research, and publishing related specifically to wetland ecology and management; and 3) significant wetland ecotourism and outreach for an urban community where few wetlands remain. As a result of wetland creation, restoration, and sound management, the ORWRP has developed into a diverse set of habitats and vegetated ecosystems comparable to any similar-sized temperate zone wetland. The site has supported almost 160 bird species, diverse fish and invertebrate communities in the river and marshes, and a wide variety of mammals, amphibians and reptiles, all in an urban region of 1.6 million people. The ORWRP is one of only two wetland research facilities in the USA in the Global Wetland Consortium (GWC). It is also found under the IUCN protected areas category Ia (Strict Nature Reserve). Ramsar site no. 1779. Most recent RIS information: 2008.