

Cattle Egret

Bubulcus ibis

REGULATORY STATUS

USFWS: Migratory Bird
USFS R2: No special status
USFS R4: No special status
Wyoming BLM: No special status
State of Wyoming: Protected Bird

CONSERVATION RANKS

USFWS: No special status
WGFD: NSS3 (Bb), Tier II
WYNDD: G5, S1S2
Wyoming Contribution: LOW
IUCN: Least Concern
PIF Continental Concern Score: Not ranked

STATUS AND RANK COMMENTS

The Wyoming Natural Diversity Database has assigned Cattle Egret (*Bubulcus ibis*) a state conservation rank ranging from S1 (Critically Imperiled) to S2 (Imperiled) because of uncertainty about population trends for this species in Wyoming.

NATURAL HISTORY

Taxonomy:

Two subspecies of Cattle Egret are recognized based on differences in size and breeding season plumage¹. The subspecies are disjunct from one another, so may be viewed as separate species. *B. i. ibis* is more widespread and breeds in North America, South America, Europe, Asia, Africa, Madagascar, and on islands in the Indian Ocean, while *B. i. coromandus* breeds in Asia, China, Japan, Australia, and New Zealand². Outside of the breeding season, the two subspecies have similarities in plumage². However, variations in courtship displays and vocalizations exist, both between subspecies and among populations³.

Description:

Cattle Egret can be identified in the field, especially during the breeding season. Males and females are similar in appearance, although females have slightly shorter breeding plumes². Adults are stocky with a short neck and white plumage overall. During most of the breeding season, they have orange-buff plumes on the breast, head, and lower back; yellow-green legs; and dark yellow irises⁴. For a short time during the height of the breeding cycle, adults have bright reddish bills, legs, and irises, and purplish-pink lores⁴. Adults are 51 cm long, have a 91-cm wingspan, and weigh 340 g⁵. Juvenile Cattle Egrets have all white plumage with a small, light buff area on the crown; black legs; a mostly black bill with yellow-ochre coloration on the upper mandible; and yellow eyes⁴. Snowy Egret (*Egretta thula*) is also known to breed in Wyoming, and Great Egret (*Ardea alba*) has been documented but is considered an accidental

species^{6,7}. Both Snowy Egret and Great Egret are larger than Cattle Egret and have longer necks and bills⁵. During the breeding season, Snowy Egret can be distinguished from Cattle Egret by its all-white plumage, black bill, and yellow feet⁵.

Distribution & Range:

Originally from Africa, Cattle Egret began expanding its range worldwide in the late 1800s². Cattle Egret first appeared in South America in 1877 and in the United States in 1941, with the first documented nesting in the United States occurring in 1953^{2,8}. The species continues to colonize new areas and has become one of the most abundant species of heron (Family Ardeidae) in North America^{2,8}. Confirmed breeding has been documented in all but four of the contiguous United States (i.e., Montana, New Hampshire, Washington, and West Virginia)².

Cattle Egret was first recorded in Wyoming in August 1978. To date, the species has been documented in 18 of Wyoming's 28 latitude/longitude degree blocks, with the first and only confirmed breeding record documented on 18 July 1996 on Hutton Lake National Wildlife Refuge in degree block 27, approximately 19 km southwest of Laramie, Wyoming^{7,9}.

Observations of Cattle Egret have occurred in 14 counties in Wyoming, with most from Goshen, Laramie, Natrona, Sweetwater, and Teton counties⁶.

Habitat:

Unlike other egret species, Cattle Egret prefers upland habitats for foraging, and is often associated with grazing animals such as cattle². It can also be found foraging on lawns and in fields, pastures, and agricultural areas². Documented breeding in Wyoming occurred in bulrush (*Scirpus* spp.) habitat on Rush Lake, along with nesting Black-crowned Night-Heron (*Nycticorax nycticorax*) and White-faced Ibis (*Plegadis chihi*)^{7,9}.

Phenology:

Cattle Egret has been documented in Wyoming as early as 18 April, with most observations occurring between 18 April and 28 May⁶. The single documented breeding record in Wyoming occurred in 1996, with 12 adults flushed from nests on 18 July and 12 downy young observed in 4 nests on 28 July^{7,9}. Cattle Egret lays a single clutch usually consisting of 3 to 4 eggs, and infrequently 2 to 5 eggs¹⁰. The majority of eggs are laid at 2-day intervals². Incubation takes place for 22 to 28 days, and young fledge within 21 to 30 days^{2,10}. In North America, one brood per year is typical¹¹. Most reports of fall migration in Wyoming are from 24 October to 4 November⁶.

Diet:

Cattle Egret consumes a varied diet depending on conditions, location, date, time of day, food availability, and foraging habits². Foraging usually takes place on dry or moist ground away from water and near grazing animals such as cattle or horses¹². Diet typically consists of insects such as grasshoppers, crickets, and flies². Additional prey items can include small vertebrates, mollusks, crustaceans, earthworms, and nestling birds¹⁰.

CONSERVATION CONCERNS

Abundance:

Continental: WIDESPREAD

Wyoming: VERY RARE

There are no robust population estimates for Cattle Egret in Wyoming. The statewide rank of VERY RARE is based on the rather small area of the state known to be occupied in any given

season, and the small coverage of suitable habitat within that area. However, within suitable habitat in the occupied area, Cattle Egret appears to be rare, as it occupies only a small percentage of preferred habitat within its range and may not be readily detected during surveys expected to indicate its presence⁷. Detections of Cattle Egret in Wyoming during the breeding season are limited during periodic surveys conducted for colonial waterbirds at wetland sites. From 2009–2015, no Cattle Egrets were detected on Integrated Monitoring in Bird Conservation Regions (IMBCR) survey grids in Wyoming¹³.

Population Trends:

Historic: UNKNOWN

Recent: UNKNOWN

Historic and recent population trends are not available for Cattle Egret in Wyoming due to a limited distribution in the state and low detection rates during monitoring surveys. Currently, there are no robust North American Breeding Bird Survey (BBS) trend data for Cattle Egret in Wyoming due to a lack of observations. Regional data, however, indicate a moderate increase, although results should be interpreted with caution because data fall within the ‘important deficiencies’ credibility category¹⁴.

Intrinsic Vulnerability:

HIGH VULNERABILITY

Cattle Egret has high intrinsic vulnerability in Wyoming due to selective habitat requirements, which limit its distribution and abundance in the state. Suitable wetland breeding habitat for Cattle Egret is limited in Wyoming, and changes to the hydrologic regime can either flood nests during high water events, or leave nests susceptible to predation during low water years. The species may also exhibit sensitivity to human disturbance during the breeding season.

Extrinsic Stressors:

MODERATELY STRESSED

Stressors to Cattle Egret in are primarily from limited wetland habitat for nesting, and the susceptibility of this habitat to climate change, drought, and invasive plant species¹⁵. Natural wetlands in Wyoming are limited in size and distribution, with less than 2% of the total state area classified as wetland habitat¹⁵.

KEY ACTIVITIES IN WYOMING

Cattle Egret is classified as a Species of Greatest Conservation Need (SGCN) by the Wyoming Game and Fish Department (WGFD). From 1984–1986, WGFD personnel conducted inventories of nesting colonial waterbirds in Wyoming; Cattle Egret was not detected during this effort^{16, 17}. WGFD personnel have continued to conduct annual or periodic monitoring at the most important and productive sites for colonial waterbird SGCN to determine species presence and distribution, and to estimate number of nesting pairs. Survey results have shown Cattle Egret nesting at only one site in Wyoming (Rush Lake on Hutton Lake National Wildlife Refuge in 1996)^{7, 9}. Due to their sensitivity to human disturbance during the nesting season, the survey technique used for colonial waterbirds is minimally invasive and provides only an estimate of the number of breeding pairs and coarse habitat associations of each waterbird species present in the colony. Actual nests, eggs, or young are not located or counted to prevent colony disruption and reduce predation risk. From 2009–2012, WGFD and the U.S. Fish and Wildlife Service cooperated to conduct a rigorous survey of all historic, known, potential, and new colonial waterbird breeding sites statewide as part of a western range-wide effort to track population size, trends, and

locations of breeding colonial waterbirds in the western United States^{18, 19}. A total of 90 sites were evaluated in Wyoming; 86 potential colonial waterbird nesting sites and 4 known nesting sites. A lack of adequate emergent vegetation to provide secure nesting areas for colonial waterbirds was noted at most potential sites visited. In 2014, an online Atlas of western colonial waterbird nesting sites was produced with data collected and submitted by participating states²⁰. Every 3 to 5 years, WGFD personnel visit known colonial waterbird nesting sites outside of Yellowstone National Park to evaluate water level conditions, determine species present at each site, and estimate the number of nesting pairs of colonial waterbirds. Observations of this species are reported to the WGFD and vetted through the Wyoming Bird Records Committee. Currently, there are no research projects designed specifically for Cattle Egret in Wyoming.

ECOLOGICAL INFORMATION NEEDS

In Wyoming, Cattle Egret would benefit from research to determine its nesting and population status in the state; if breeding occurs on a regular basis or is a function of irruptive behavior from breeding colonies in northern Colorado, south of Hutton Lake National Wildlife Refuge; and the annual abundance of migrating and breeding adults. In addition, information on selection of breeding and foraging areas and breeding site fidelity would be beneficial². Beyond approximate arrival and departure dates, very little is known about the specific breeding habits of this species in Wyoming, and nothing is known about nest success or fledgling survival at the only known breeding location in the state. It would be valuable to examine how current and future land use practices and the potential impacts of climate change could affect the availability and quality of already limited wetland habitat in Wyoming, as these stressors could influence the future persistence of this species, and other colonially nesting waterbirds, in the state.

MANAGEMENT IN WYOMING

This section authored solely by WGFD; Andrea C. Orabona. The colonial nature of nesting Cattle Egrets and other waterbirds makes these species particularly vulnerable across their range to loss or degradation of nesting sites, stochastic weather events such as drought and flooding, changing land use practices, pollution, and climate change. In Wyoming, Cattle Egret is classified as a SGCN due to limited suitable wetland breeding habitat, sensitivity to human disturbance during the breeding season, and susceptibility of nests to fluctuating water levels and predation. Two separate but compatible survey programs are in place to monitor populations of many avian species that breed in Wyoming; the BBS¹⁴ and IMBCR¹³ programs. While these monitoring programs provide robust estimates of occupancy, density, or population trend for many species in Wyoming, colonial waterbirds are one of the species groups that warrant a targeted, species-specific survey method approach to obtain these data. Best management practices to benefit Cattle Egret include maintaining large, high quality wetland complexes; keeping water levels stable during the nesting season; protecting any colony site used by Cattle Egret; keeping human disturbance to a minimum during the breeding season; and monitoring colony sites every three years to determine Cattle Egret presence and estimate number of nesting pairs²¹.

CONTRIBUTORS

Andrea C. Orabona, WGFD
Kaylan A. Hubbard, WYNDD

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Figure 1: An adult Cattle Egret in breeding plumage in Goshen County, Wyoming. (Photo courtesy of Shawn Billerman)

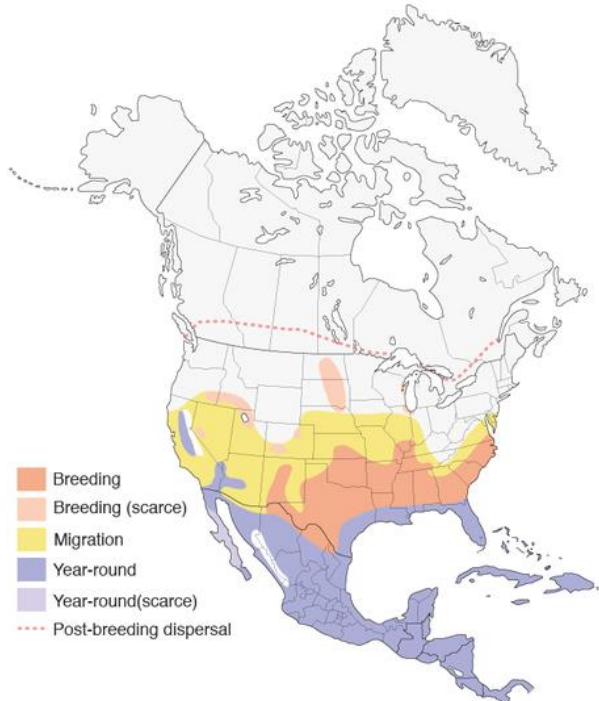


Figure 2: North American range of *Bubulcus ibis*. Note: This map does not accurately reflect the recent expansion or current range of this species in the United States or Wyoming. (Map courtesy of Birds of North America, <http://bna.birds.cornell.edu/bna>, maintained by the Cornell Lab of Ornithology)

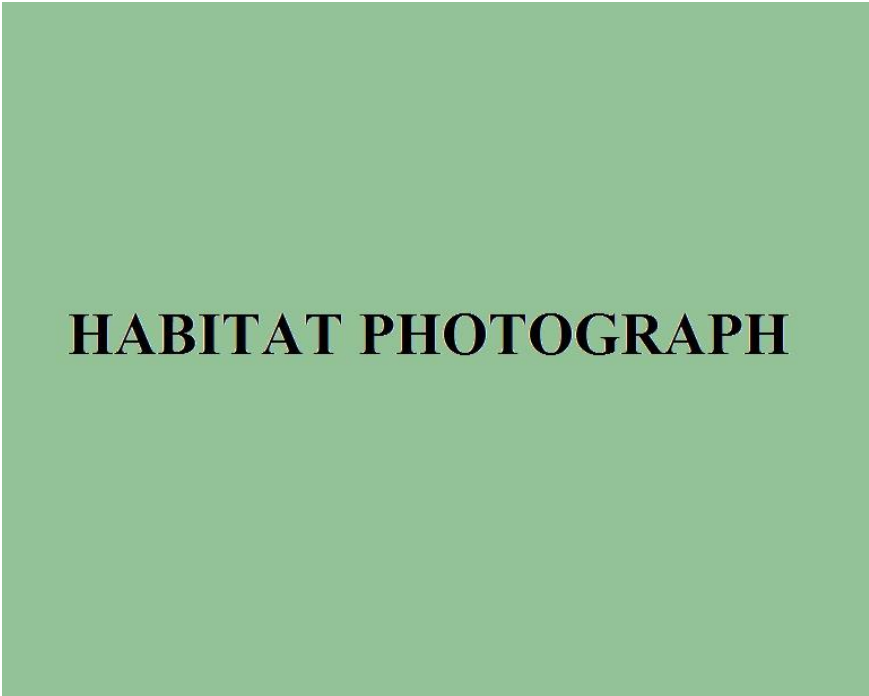


Figure 3: Photo not available.

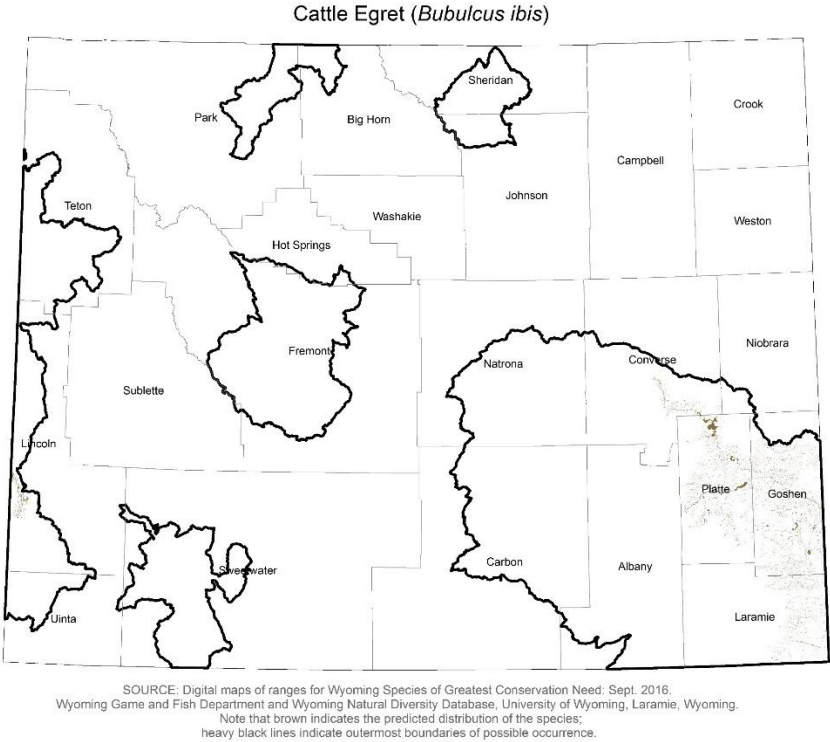


Figure 4: Range and predicted distribution of *Bubulcus ibis* in Wyoming.



Figure 5: Cattle Egret in flight in Lacassine National Wildlife Refuge, Louisiana. (Photo courtesy of Bill Schmoker)