

# American Bittern



ASSESSING HABITAT QUALITY FOR PRIORITY WILDLIFE SPECIES IN COLORADO WETLANDS

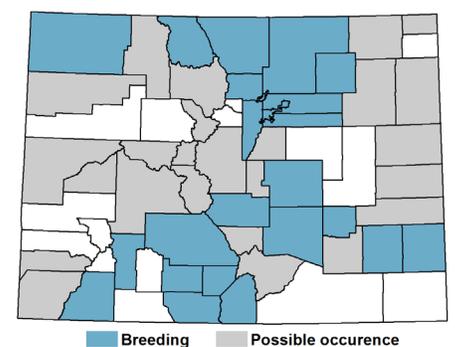
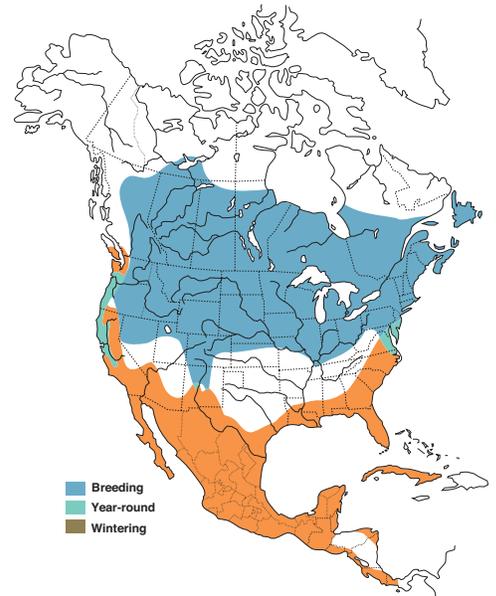


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## Species Distribution

### Range

American bitterns breed from the mid United States through northern Canada. In Colorado, American bitterns occur in non-contiguous areas throughout the state and are most common in the San Luis Valley.



North America map used by permission from Cornell Lab of Ornithology's Birds of North America Online (<http://bna.birds.cornell.edu/bna>). Colorado map based on Andrews and Righter (1992), Kingery (1998), COB-BAII (2015), and CFO (2015).

The American bittern (*Botaurus lentiginosus*, Family *Ardeidae*) is a secretive, marsh bird found throughout Colorado at lower elevations.

## Species Description

### Identification

The American bittern is a type of heron with a haunting low-frequency *dunk-a-doo* vocalization that sounds similar to a metal stake being driven into mud. Even with their large size (24–33 inches), they can be difficult to find because they are secretive, fairly solitary, and cryptic among emergent vegetation, especially dry vegetation.

### Preferred Habitats

American bitterns occur primarily in emergent marshes. However, depending on size and condition of the habitat, they might be found in beaver ponds, oxbows, herbaceous riparian wetlands, warm water sloughs, wet meadows and reclaimed gravel pits.

### Diet

American bitterns consume a wide variety of animal matter, such as amphibians, snakes, small mammals, fish, crayfish, crabs, insects, and spiders. They frequently feed at the interface of water and emergent vegetation.

### Conservation Status

American bitterns are listed as a Non-game Species of Management Concern by the U. S. Fish and Wildlife Service. States list them as endangered, imperiled, at risk, species of special concern, or species of greatest conservation need. In Colorado, American bitterns are listed as a Tier 2 Species of Greatest Conservation Need (CPW 2015). The International Union for Conservation of Nature lists the population as decreasing, but because of its extensive range and low rate of decline, it is considered of least concern.

# Preferred Habitat Conditions

Distance to disturbances	buffer >220 yards
Dominant vegetation	tall, dense and robust emergent vegetation
Height of herbaceous vegetation	3–6.5 feet
Interspersion	complex patterns that maximize interface between water and vegetation
Landscape context	proximity to other wetlands on the landscape
Percent emergent cover	60–80% with high amount of edge
Residual cover (litter)	mix of dead and live vegetation, with moderate litter depth
Size of habitat	large wetlands >25 acres
Water depth (predominant)	at least some open water 3–25 inches deep
Water quality	unpolluted water that will support preferred foods

## Management Recommendations

This fact sheet contains easy-to-use guidelines for understanding habitat needs of Colorado Parks and Wildlife priority wetland-dependent wildlife. A number of practical steps can be taken to improve habitat for American bitterns.

### Hydrology

- Preserve shallow wetlands interspersed with water.
- Avoid complete drawdowns to maintain food base.
- Throughout breeding season, maintain water levels between 3–25 inches.
- Avoid drawdowns before mid-August.

### Vegetation

- Preserve wetlands with robust vegetation.
- Occasionally set back succession with disking and/or drying.
- Maintain wide and dense vegetated buffer around emergent wetlands.
- Limit mowing, burning, and deferred grazing to once every 2–5 years, and avoid immediately around wetland, especially during breeding.
- Use no-tillage or minimal tillage practices; avoid conventional tillage.

### Contamination

- Reduce application of agricultural chemicals and other toxins.
- Reduce siltation and eutrophication.

### Land Use

- Restrict livestock grazing within 220 yards of wetland edge.

### Conservation

- Preserve wetlands greater than 25 acres, preferably larger.
- Maintain mosaic of wetlands in different successional stages.



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### Acknowledgements

Pete Walker (Colorado Parks and Wildlife) and Colin Lee (Rocky Mountain Bird Observatory/Colorado Parks and Wildlife/Natural Resources Conservation Service) reviewed an earlier version and provided input on preferred habitat conditions.

### Suggested Reading and Citations

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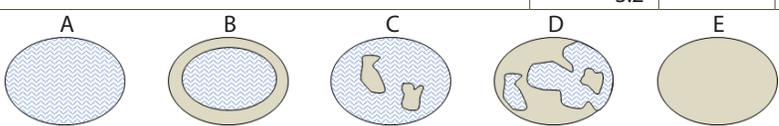
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# Habitat Scorecard for American Bitterns (v. Jan 2016)

## Assessment of habitat before and after restoration or management actions

Project Name: \_\_\_\_\_ Date(s) of Assessment: \_\_\_\_\_

**Instructions:** Enter one value that best describes early to mid-summer conditions of each habitat variable, using the numbers in the value column. Habitat variables are in shaded boxes; ranges of condition are directly below each variable. If condition is outside range or is not described, enter a zero.

Key habitat variable and conditions	Value	Before	After
<b>Size of habitat</b>			
>25 acres	10.8		
>12 – 25 acres	7.2		
2.5 – 12 acres	3.6		
<b>Residual cover (litter) depth</b>			
>15 – 25 inches	10.3		
>8 – 15 inches OR >25 – 40 inches	6.8		
4 – 8 inches	3.4		
<b>Percent of water with emergent vegetation</b>			
>60 – 80%	10.3		
>30 – 60% OR >80 – 100%	6.8		
15 – 30%	3.4		
<b>Water quality</b>			
No visual evidence of turbidity or other pollutants	10.3		
Some turbidity or presence of other pollutants, but limited to small and localized areas within the wetland. Water may be slightly cloudy.	6.8		
Water is cloudy or has unnatural oil sheen, but the bottom is still visible. Note: If the sheen breaks apart when you run your finger through it, it is a natural bacterial process and not water pollution.	3.4		
<b>Dominant vegetation</b>			
Robust wetland herbaceous plants (e.g., cattail, bulrush, reedgrass) OR tall sedges >8 inches	10.3		
Low sedges, rushes, or grasses <8 inches	6.8		
Annual and perennial forbs OR open willows and shrubs	3.4		
<b>Height of herbaceous vegetation</b>			
>3 – 6.5 feet	9.7		
>1.5 – 3 feet	6.5		
1 – 1.5 feet OR >6.5 feet	3.2		
<b>Distance to developed areas (urban or industrial land uses)</b>			
>250 yards	9.7		
>100 – 250 yards	6.5		
50 – 100 yards	3.2		
<b>Interspersion</b>			
B or C or D	9.7		
E	3.2		
Interspersion patterns refer to the diagram (stippled = water, solid = vegetation)			
<b>Percent of wetland with some water</b>			
>70 – 100%	9.7		
>50 – 70%	6.5		
10 – 50%	3.2		
<b>Predominant depth of water</b>			
2 – 8 inches	9.2		
>8 – 40 inches	6.1		
<2 inches or >40 – 50 inches	3.1		
<b>Total (of 100 possible): add all numbers in before or after columns</b>			