

Land Manager's Guide to



Grassland Conservation

and the

Long-billed Curlew



A Long-billed Curlew in mixed-grass prairie along the Rocky Mountain Front of west-central Montana. All photos by Dan Casey, ABC, unless otherwise attributed.



Grassland Bird Declines

Grassland birds have shown the most widespread and severe population declines of any suite of landbirds in North America, with some species down 75-90% over the past 50 years. Habitat conversion, particularly due to agricultural crop production, has played a huge role in these declines, and there is continuing pressure to put native grasslands into production. Energy and residential development is placing additional stress on these habitats, as larger blocks of habitat are fragmented by roads and infrastructure.

But many of these bird species are adapted to grassland systems where grazing by large herbivores (e.g. bison) and periodic disturbance by fire were common, meaning there are opportunities to manage for these declining species on working farm and ranch lands. Some require shorter-stature grasses for nesting, while others prefer more residual cover. Stemming or reversing population declines may be possible if further habitat conversion can be minimized, in combination with the adoption of appropriate management actions to maintain or enhance the grassland habitat qualities needed by each species (or those with similar needs).

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Why Curlews?

The Long-billed Curlew is North America's largest shorebird, and one of its rarest, with a population estimated at fewer than 200,000 birds. Though it has never been proposed for listing as threatened or endangered, the bird is recognized as a conservation priority by state and federal wildlife agencies and organizations, in part due to long-term declines (Fig. 1). Since it co-occurs with other declining species across its range, sustainable management of working lands for curlews can also provide for the needs of other birds and wildlife. Loud, large, and fiercely territorial, it is easily recognized and therefore easily monitored.

Curlew Ecology

Long-billed Curlews prefer open, level to gently rolling grasslands for nesting, and will also nest in wet meadows, sparse shrub-steppe, and some agricultural habitats (e.g. hayfields, pastures, fallow, stubble). They:

- Arrive on their nesting grounds in March or April, and are done nesting by July;
- Lay 4 eggs in a ground nest often placed near a mound, clump of grass, or cowpie;
- Feed in a variety of habitats where insects (especially grasshoppers) and other invertebrate prey are abundant;
- Use mudflats and wetlands for feeding, particularly during migration, and often nest in landscapes with wetlands present;
- Prefer fairly short (<12") vegetation for nesting, with some taller vegetation for brood-rearing.

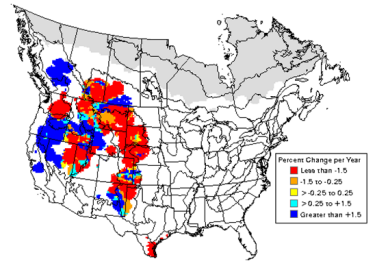
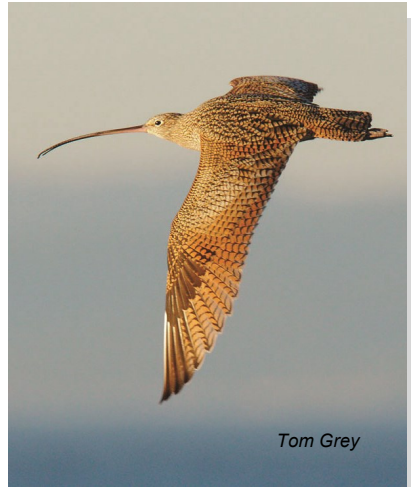


Figure 1. Curlew population trends from Breeding Bird Survey data.



Long-billed Curlews prefer short grass and forb cover for nesting, with some taller vegetation for brood-rearing.

Recommended Management Actions

American Bird Conservancy recommends the following principles be adopted **wherever practicable** within the breeding range of the Long-billed Curlew in North America. They will be **most effective on landscapes already known to be inhabited by breeding curlews**; ideally implementation should be accompanied by local **surveys** to verify important nesting or brood rearing areas. We present these as overall guidance to land managers rangewide,. We urge local partner cooperation and consultation during their implementation, to ensure that other site management objectives are taken into account, and that acceptable conservation tools (e.g. easements, incentives payments, fencing, grazing systems, haying, fire) are being used as needed.

Halt Habitat Conversion

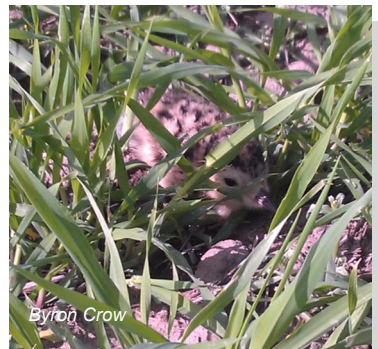
- Prevent conversion of grassland or shrub-steppe, particularly in landscapes with wetland elements.
- Maintain or manage for grassland block sizes of **>120 acres**.
- Manage the forest fringe to minimize/reverse forest encroachment



Perhaps the single biggest opportunity to stem the tide of continued grassland bird declines is to prevent the further plowing of native prairies.

Manage Grazing Appropriately

- Remove tall, dense residual vegetation before the spring arrival/pre-laying period (graze in fall/winter). Target date: **15 March** (adjusted regionally/locally)
- Adjust timing and intensity of grazing to leave grass cover 10-30 cm (4 –12”) tall by the time of nest initiation. Target date: **15 April** (adjusted regionally/locally).
- Retain 5% of grasses and forbs in taller condition (30-40 cm; 12-16”) for broods.
- Avoid grazing during the incubation and nestling period, to avoid potential for trampling. Target dates: **15 April – 15 July** (adjusted regionally/locally)
- Do not break up cowpies by dragging hayfields, as they provide some structure used by nesting birds.



Emphasize Native Grasses and Forbs

- Burn areas only where and when fire intensity will reduce shrub coverage and increase habitat openness without reducing the diversity of native grass and forbs.
- Avoid seeding with non-natives (e.g. crested wheatgrass, smooth brome).
- Use locally-appropriate native bunchgrass/forb seed mixes for restoration, revegetation, and reclamation efforts.
- Where necessary, manage taller non-native grass cover with grazing, mowing or fire to maintain low profile vegetation prior to the nesting season.



Many declining grassland birds, like this Sprague's Pipit, rely almost exclusively on native habitats

Avoid Disturbance During Sensitive Periods

- Protect breeding habitat of curlews from detrimental human activities, such as vehicular use, construction activities, and shooting.
- Do not construct additional roads in occupied curlew habitat unless there is no other practicable option. Limit road use during the breeding season (March 15-July 15).



Adjust Certain Agricultural Practices

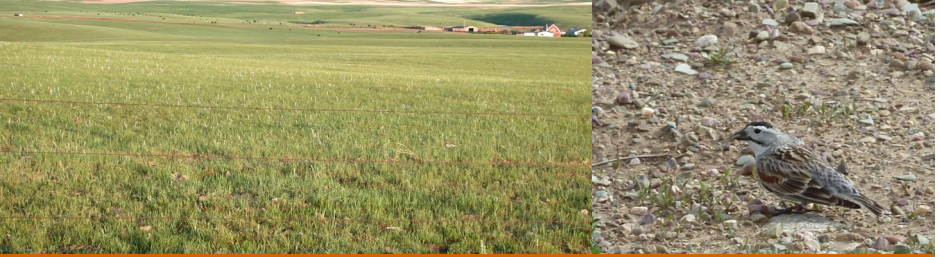
- Reduce pesticide use on grasslands, especially near water, to maintain both terrestrial and aquatic invertebrates as a food sources.
- Avoid widespread pesticide applications aimed at controlling grasshoppers in known nesting areas.
- Reduce herbicide use to maintain nesting, loafing, and brood-rearing cover.
- Postpone tilling until at least mid-June in those agricultural habitats used for nesting.
- Whenever possible and practicable, favor flood-irrigation of hay meadows over sprinkler systems.



Grassland birds offer the ecological service of helping to control insects and other pests

Multiple Species Benefits

The best management systems will provide a variety of conditions over space and time. Because they prefer a mid-range of grass heights, managing grasslands for Long-billed Curlews for short structure early in the season with some taller components can meet the needs of a range of other species:



McCown's Longspurs prefers short (4-8") grass



John Carlson

Sprague's Pipits, Chestnut-collared Longspurs (left) prefer mid-height (8-12") mixed grass



Steve Byland

Grasshopper (pictured) and Baird's Sparrow prefer taller (>12") bunchgrasses



Alan Wilson

Priority Landscapes

Long-billed Curlews nest from Texas to British Columbia, and spend their winters on the Pacific and Gulf coasts, Baja and north-central Mexico (Fig. 2).

Long-term conservation of the species will require action rangewide, and ABC and our partners are working to protect and manage wintering areas in north central Mexico, to identify connectivity between different nesting populations and wintering areas, and to protect key migration stopover sites.



Figure 2. Long-billed Curlew breeding and winter ranges.

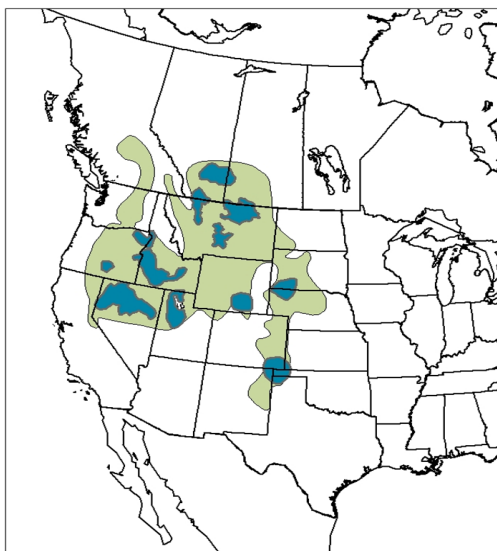


Figure 3. Primary focal areas for the conservation of Long-billed Curlew breeding habitat.

ABC has also identified a set of twelve primary continental focal areas for curlew breeding habitat conservation. These were selected to represent those areas where Breeding Bird Survey data indicate high relative abundance and downward population trends. They were reviewed and modified based on review by state and regional experts and distribution models. We are setting up conservation “registries” for each.

Key References

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- Fellows, S.D., and S. L. Jones. 2009. Status assessment and conservation action plan for the Long-billed Curlew (*Numenius americanus*). U.S. Dept. of Interior, Fish and Wildlife Service, Biol. Tech. Publ, FWS/BTP-R6012-2009, Washington, D.C. 98p. http://www.fws.gov/mountain-prairie/species/birds/longbilled_curlew/BTP-LB-Curlew-rev-9-14-09.pdf
- Saalfeld, S. T., W. C. Conway, D. A. Haukos, M. Rice, S. L. Jones, and S. D. Fellows. 2010. Multiscale habitat selection by Long-billed Curlews (*Numenius americanus*) breeding in the United States. *Waterbirds* 33:148-161.

For more information about Long-billed Curlew conservation strategies, partnership opportunities, or how you can contribute, contact ABC (www.abcbirds.org), the USDA Natural Resources Conservation Service office (www.nrcs.usda.gov), or the Joint Venture serving your area (www.fws.gov/birdhabitat/JointVentures/).



American Bird Conservancy (ABC) is a non-profit organization whose mission is to conserve native wild birds and their habitats throughout the Americas. ABC acts across the full spectrum of conservation issues to safeguard the rarest species, restore habitats, and reduce threats, while unifying and strengthening the bird conservation movement. www.abcbirds.org

Front cover photos: D. Casey (top), Dennis Molenaar

Back cover photo: John Carlson

