Dickcissel

Spiza americana

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: Bird of Conservation Concern
WGFD: NSSU (U), Tier II
WYNDD: G5, S1
Wyoming Contribution: LOW
IUCN: Least Concern
PIF Continental Concern Score: 10

STATUS AND RANK COMMENTS

Dickcissel (*Spiza americana*) has no additional regulatory status or conservation rank considerations beyond those listed above.

NATURAL HISTORY

Taxonomy:

There are currently no recognized subspecies of Dickcissel [1].

Description:

Identification of Dickcissel is possible in the field. This species is sexually dimorphic in both size (males average 10–20% larger than females) and plumage [2]. Adults weigh 23–29 g, range in length from 14–16 cm, and have a wingspan of approximately 25 cm [2, 3]. Adult males have a gray head with yellow eyebrows and malars, rufous shoulders, a distinct V-shaped black throat patch, yellow breast, light-gray belly, dark eyes, and gray bill and legs [2, 3]. Males are unlikely to be confused with any other species in their range [2]. Females have similar coloration but duller plumage overall, and noticeably lack the black throat patch [2, 3]. Although similar in size and appearance to some sparrow species, female Dickcissels can be distinguished by their longer bill and pale yellow eyebrows, malars, and breast.

Distribution & Range:

Wyoming lies outside and to the west of the core breeding range of Dickcissel, which is centered over the prairie grasslands of the Great Plains [2]. However, the species is known for its random movements into grassland environments well outside of its primary breeding range, which can lead to extreme and unpredictable annual fluctuations in distribution and abundance in those areas [2]. Eastern Wyoming is within the far western edge of this "sporadic" breeding boundary, and Dickcissel is both a migrant and summer resident in the state [4, 5]. The species has been documented in 19 of Wyoming's 28 latitude/longitude degree blocks, but only 2 degree blocks

include confirmed observations as accepted by the Wyoming Bird Records Committee (WBRC) [5]. Confirmed breeding has been document in 3 degree blocks, all in eastern and northeastern Wyoming [5]. Dickcissel winters in central Venezuela and less commonly in southern mainland Mexico, central America, and far northern South America [2].

Habitat:
Dickcissel is a grassland obligate species that breeds primarily in open prairie grasslands [2]. Ideal habitat characteristics for this species include 90–100% vegetation cover consisting of > 50% forbs, 25–150 cm vegetation height, and 5–15 cm of ground litter [2]. Males sing from elevated vegetation to attract females to their territory, so grassland habitats with a high density (> 10 per ha) of potential perch locations are preferred [2]. Dickcissel will also use restored and managed grasslands [6-13]; a variety of agricultural landscapes including agricultural buffers [14-17]; grassland fragments in urbanized landscapes [18]; and even marginal grassy habitat bordering streams, fences, and roads [2]. In Wyoming, Dickcissel breeds in northwestern Great Plains grasslands and irrigated hayfields in the northeastern corner of the state [4, 5]. Nests are constructed solely by females, typically deep within dense ground vegetation or occasionally in low trees or shrubs [2]. Most nest sites are well-concealed and almost completely sheltered by overhanging vegetation, which provides important natural shade to nestlings [2]. Thick-walled cup nests are made from the stems and leaves of forbs and grasses, with fine plant material and animal hair as a lining [2].

Phenology:
Spring arrival of migrating and breeding Dickcissels in Wyoming is unknown due to low detections [4], and little is known about the specific nesting and breeding habits of this species in the state. The earliest Dickcissel has been reported in Wyoming is 20 April in Sweetwater County [4]. The timing of nest initiation is variable across the breeding distribution, but males can be observed singing at known breeding locations in Wyoming as early as late May [4]. As a species that exhibits resource-defense polygyny, males with high quality territories (i.e., those with more desirable nesting sites) will attract more mates than males with lower quality territories [2]. Clutches average 4 eggs with a range of 3–6 eggs [2]. Dickcissel typically has one brood per season [2]. The timing of fall migration from Wyoming to wintering grounds is unknown, but the latest Dickcissel has been reported in the state is 7 September [4].

Diet:
Dickcissel is omnivorous during the breeding season, consuming a variety of arthropods and plant materials [2]. In the non-breeding season they become granivorous, feeding almost entirely on grass seeds [2].

CONSERVATION CONCERNS

Abundance:
Continental: WIDESPREAD
Wyoming: VERY RARE
In 2013, Partners in Flight estimated that Dickcissel had a global population of approximately 20 million individuals and a Wyoming population of about 9,000 [19]. However, this state abundance estimate is likely very high, and should be viewed with caution, since this species was detected on just 7% of surveyed Breeding Bird Survey (BBS) routes in the state from 1998–2007 [19]. The statewide abundance 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. Dickcissel appears to be uncommon even within suitable habitat in the occupied area, occurring

at relatively low density and requiring intensive survey efforts to detect [5]. From 1968–2015, annual Wyoming BBS detections of Dickcissel ranged from 0 to 41 (average = 3), with 1 recorded in 2015 [20]. Only 2 Dickcissels have been detected during surveys for the Integrated Monitoring in Bird Conservation Regions (IMBCR) program between 2009–2015 [21].

Population Trends:

Historic: UNKNOWN

Recent: UNKNOWN

Robust population trends are not available for Dickcissel in Wyoming because the species is infrequently detected during monitoring efforts. Survey-wide trend data from the North American BBS indicate that Dickcissel numbers experienced a statistically significant annual decline of 0.62% from 1966–2013 and a non-significant annual decline of 0.06% from 2003–2013 [22].

Intrinsic Vulnerability:

MODERATE VULNERABILITY

Dickcissel has moderate intrinsic vulnerability in Wyoming because it is restricted to a narrow range of habitats, occurs at low density in the state, and has nesting behaviors that may leave the species susceptible to nest lost. As a peripheral, grassland obligate species, Dickcissel is likely to be affected by any natural or anthropogenic stressors that negatively impact prairie grassland environments in Wyoming. Dickcissel nests are typically close to the ground in dense vegetation, which makes them vulnerable to natural and anthropogenic ground disturbance, especially in agricultural landscapes.

Extrinsic Stressors:

MODERATELY STRESSED

Habitat loss, degradation, and disturbance could negatively impact Dickcissel in Wyoming. Prairie grassland habitats in the state are vulnerable to development for energy, infrastructure, and agriculture; invasive plant species such as Cheatgrass (*Bromus tectorum*) and Canada Thistle (*Cirsium arvense*); anthropogenic disturbance from off-road recreational activities; altered fire and grazing regimes; and drought and climate change [5]. Dickcissel has not demonstrated displacement or decreased nest success in the presence of wind energy development in Texas [23, 24]. When breeding in agricultural landscapes, this species is highly susceptible to nest loss from early-season mowing practices [2, 4, 25]. Responses of Dickcissel to burning, grazing, and other grassland management activities appear to be varied across its distribution and have not been studied in Wyoming [6, 11-15, 26-30]. Dickcissel nests are parasitized, sometimes preferentially, by Brown-headed Cowbird (*Molothrus ater*) in other parts of its breeding range [9, 31, 32].

KEY ACTIVITIES IN WYOMING

Dickcissel is classified as a Species of Greatest Conservation Need by the Wyoming Game and Fish Department, and as a Level II Priority Bird Species requiring monitoring in the Wyoming Bird Conservation Plan [33]. Current statewide activities for monitoring annual detections and population trends for Dickcissel in Wyoming include the BBS program conducted on 108 established routes since 1968 [22], and the multi-agency IMBCR program initiated in 2009 [21]. However, the extremely limited existing data are not robust enough to support estimates of Dickcissel occupancy, density, or population trend. There are currently no research projects designed specifically for Dickcissel in Wyoming. Observations of this species are reported to the Wyoming Game and Fish Department and vetted through the WBRC. Dickcissel is a species for

which the WBRC requests documentation on first latitude/longitude degree block sightings and all nesting observations [34].

ECOLOGICAL INFORMATION NEEDS

Nothing is known about the timing of migration or the breeding phenology of Dickcissel in Wyoming. This peripheral and transient species would benefit from research to determine its detailed breeding distribution, range of habitat use, and reproductive success in the state. It is not known if Dickcissel is benefiting from cropland to grassland conversion through the Conservation Reserve Program (CRP) in Wyoming, although the species has been shown to use CRP and restored habitat in other parts of its range [9, 10, 13, 14, 16, 27]. Research is needed to determine if current harvesting practices are impacting Dickcissels that nest in cultivated hayfields in eastern Wyoming [4].

MANAGEMENT IN WYOMING

This section authored solely by WGFD; Andrea C. Orabona. Dickcissel is classified as a SGCN in Wyoming due to insufficient information on breeding, distribution, population status and trends, and impacts of habitat loss and degradation on grassland habitats [35]. Two separate but compatible survey programs are in place to monitor populations of many avian species that breed in Wyoming; the BBS [22] and the multi-partner IMBCR [21]. While these monitoring programs provide robust estimates of occupancy, density, or population trend for many species in Wyoming, survey efforts do not tend to detect Dickcissel at adequate levels, suggesting targeted, species-specific monitoring efforts are needed. Best management practices to benefit Dickcissel include managing for large expanses of grassland habitats that have dense grass, a heavy cover of forbs, and thick litter depth; limiting high intensity fire regimes and livestock grazing; rotating livestock grazing; delaying spring mowing; avoiding nighttime and annual mowing; using a flush bar on mowers; implementing mowing and prescribed in the fall to avoid the nesting season; and minimizing insecticide use to maintain a food source for Dickcissel [33]. Key recommendations for Dickcissel include limiting habitat conversions of large expanses of existing grasslands; minimizing conflicts during the breeding season with energy extraction and development, recreation, and landowners; and reducing disturbance (e.g., haying, burning, moderate to heavy grazing) during the breeding season [33, 35].

CONTRIBUTORS

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Figure 1: Adult male Dickcissel in Yuma County, Colorado. (Photo courtesy of Bill Schmoker)

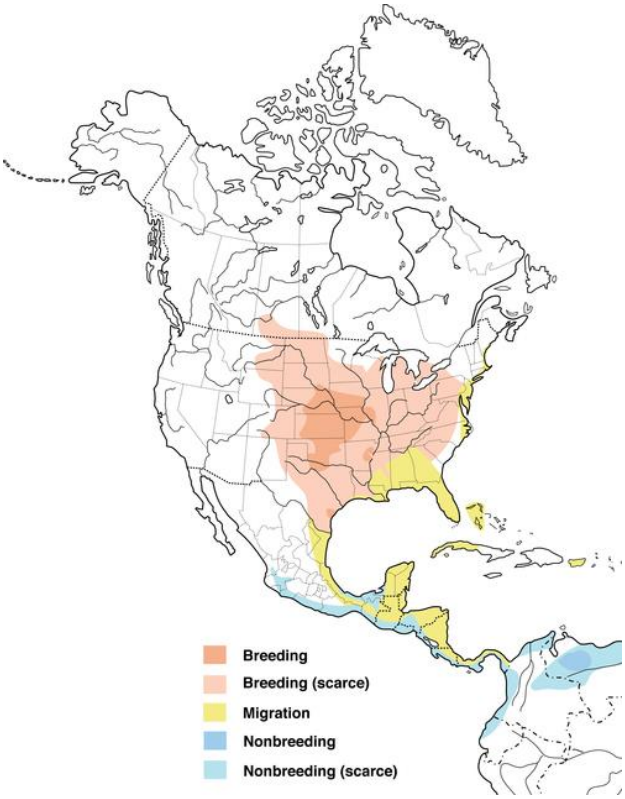

Figure 2: North American distribution of *Spiza americana*, which also breeds and summers sporadically east and west of the breeding distribution shown above. (Map courtesy of Birds of North America, http://bna.birds.cornell.edu/bna, maintained by the Cornell Lab of Ornithology)

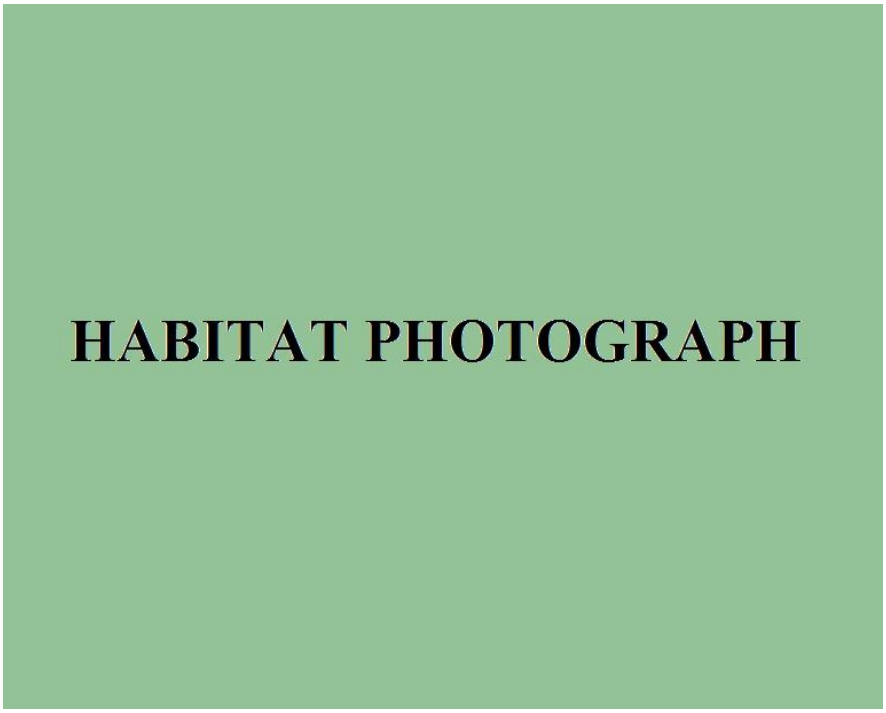

Figure 3: Photo not available.

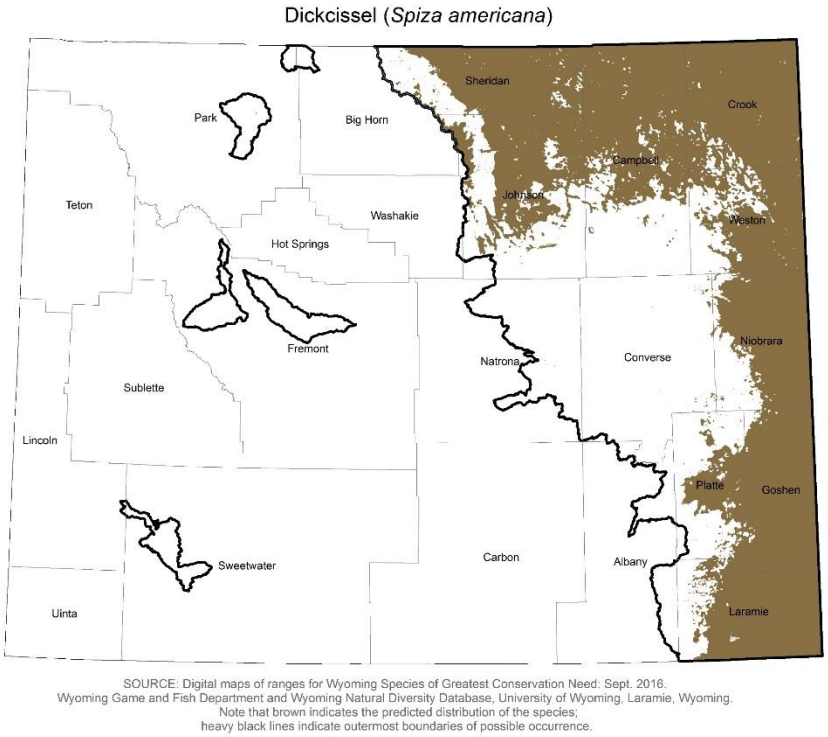

Figure 4: Range and predicted distribution of *Spiza americana* in Wyoming.