Long-Billed Curlew
Conservation Management Plan

Alberta Species at Risk Conservation Management Plan No. 3

Alberta Government

Long-billed Curlew

Conservation Management Plan

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PREFACE

Albertans are fortunate to share their province with a diversity of wild species. A small number of these species are classified as Species of Special Concern because they have characteristics that make them particularly sensitive to human activities or natural events. Special conservation measures are necessary to ensure that these species do not become Endangered or Threatened.

Conservation management plans are developed for Species of Special Concern to provide guidance for land and resource management decisions that affect the species and their habitat. These plans are intended to be a resource tool for Alberta Environment and Parks (AEP) fish and wildlife biologists, and for provincial and regional land and resource management staff.

Conservation management plans provide background information including species biology, threats to species and habitat, and inventory/monitoring history. Plans also provide a goal, objectives, and actions (management recommendations). Management recommendations are typically categorised into inventory and monitoring needs; habitat management and conservation; education and communication; and additional management considerations as required.

Conservation management plans are generally prepared by an AEP biologist who has been designated as the provincial species lead. Writers from outside AEP are occasionally sought to prepare plans for species for which there is little in-house expertise. In order to ensure accuracy and utility, each plan is reviewed by a species expert and a designated provincial representative from Agriculture and Forestry Division and/or Lands Division. In some cases there may be additional reviewers from staff, industry, and other agencies.

Conservation management plans are internal guidance documents. They are implemented under the guidance of the species lead and are "living" documents that can be revised at any time as required. Conservation management plans are more succinct than the recovery plans that are prepared for Endangered and Threatened species and do not involve participation of a multi-stakeholder team.

Conservation management plans are approved by the Director of Species at Risk, Non-Game and Wildlife Disease Policy. Plans will be reviewed annually by the species lead and updated if necessary, and a more in-depth review will occur five years after a plan's approval.

EXECUTIVE SUMMARY

The long-billed curlew (*Numenius americanus*) is found throughout the prairie and into parts of the parkland region of Canada It is typically located in large, undisturbed, moderately grazed, short grass and fescue prairie. The long-billed curlew has been designated a *Species of Special Concern* in Alberta and Canada due to the contraction of its range and small, possibly declining, population. Habitat alteration is the primary threat to this species.

This plan recommendations various ways to conserve long-billed curlew populations and habitat, including: avoid alteration of native grasslands by using existing stewardship programs that are designed to conserve habitat and protect the long-billed curlew during critical time periods; conduct research to evaluate the impact of agricultural practices on nesting success; inform the public about the benefits of native prairie conservation; and promote a native grassland retention policy for public lands.

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The long-billed curlew (*Numenius americanus*) has been designated a *Species of Special Concern* in Alberta and Canada due to the contraction of its range and small, possibly declining, population (ESCC 2000, COSEWIC 2004). It is protected under the *Migratory Bird Convention Act* and under Alberta's *Wildlife Act*.

The Alberta Endangered Species Conservation Committee's Initial Conservation Action Statement (2000) for the long-billed curlew recommends the following:

- Designate the long-billed curlew as a *Species of Special Concern.*
- Develop and implement a conservation management plan for the long-billed curlew.
- Enhance programs to collect information on the long-billed curlew's population size, distribution and trend. Reassess the status of the species within 5 years.
- Secure appropriate management tools including funding and personnel for conservation actions.

1.1 Breeding Biology, Distribution and Habitat Requirements

The long-billed curlew is the largest member of the sandpiper family and is distinguishable by its long downward curved bill and large size (Saunders 2001). It is found throughout the prairie and into parts of the parkland region of Canada (Figure 1) (DeSmet 1992). It is typically located in large, undisturbed, moderately grazed, short grass and fescue prairie (Hill 1998). Despite the fact that cultivated areas are not generally used for nesting, agriculture lands may be used by the long-billed curlew for foraging (DeSmet 1992).

Long-billed curlews arrive in Alberta in late April and the nesting season begins in early May with the laying of 4-5 eggs in a ground scrape (Hill 1998). The long-billed curlew is a late maturing bird with low productivity; females do not mature until their 2^{nd}-3^{rd} year and males until their 3^{rd}-4^{th} year. The conservative breeding strategy exhibited by the long-billed curlew results in this species being sensitive to environmental changes (Hill 1998).

If a nest is depredated or lost the long-billed curlew rarely re-nests and the site is abandoned (Hill 1998, Dechant et al. 2001). The young hatch in the last week of May to the first week of June. The young are precocial, so the family unit can move about in order to forage (Hill 1998). Long-billed curlews frequently prey on grasshoppers (DeSmet 1992). They are, however, opportunistic predators and will consume earthworms, small mammals, amphibians and reptiles, as well as eggs and chicks of other birds (Timken 1969, Sadler 1976). In late August to mid-October long-billed curlews form large groups and begin their southern migration.

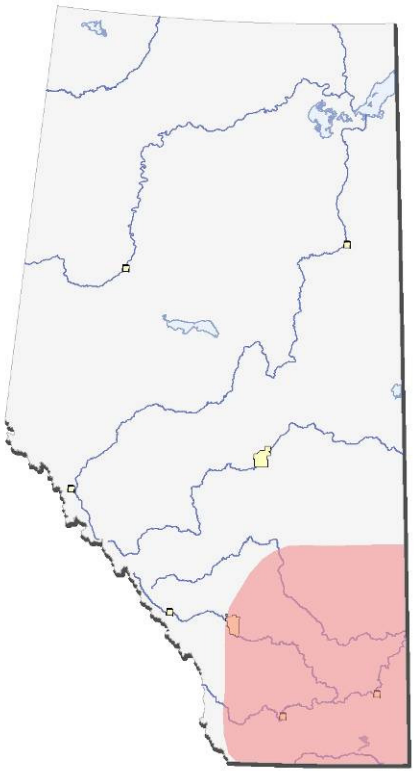

Figure 1: Long-billed curlew range in Alberta

1.2 Threats to Populations

1.2.1 Historical Threats

The large size of the long-billed curlew combined with its pre-migration grouping behavior made it a desirable hunting target in the past (DeSmet 1992, Hill 1998). Though it is now protected under the *Migratory Birds Convention Act*, the high demand for it during the late 1800's to early 1900's significantly decreased the population.

1.2.2. Habitat Loss and Fragmentation

Since the late 1800's large areas of native prairie have been cultivated or converted to urban areas. More recently oil and gas exploration has caused further habitat fragmentation and disturbance (Hill 1998). Long-billed curlews require large areas of undisturbed native prairie for breeding, and intense agricultural operations and oil and gas development can lead to habitat loss, mortality of young, nest depredation and nest abandonment (DeSmet 1992). Additionally, fire suppression has allowed for the encroachment of trees onto some areas of the prairies, reducing the availability of native prairie.

1.2.3. Nest Predation

The long-billed curlew is a ground nesting bird, which increases the chance of nest depredation (Hill 1998). Because the long-billed curlew displays a conservative breeding strategy, increased nesting losses can significantly impact the species. Major predators of the long-billed curlew and their nests include coyote (*Canis latrans*), American badger (*Taxidea taxus*), bull snake (*Pituophis melanoleucus*), black-billed magpie (*Pica pica*), ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsonii*), great horned owl (*Bubo virginianus*), domestic cat (*Felis domesticus*), and domestic dog (*Canis familiaris*)

(DeSmet 1992, Hill 1998). Trampling by large grazers, including cattle, can also negatively affect nesting success of the long-billed curlew (Desmet 1992, Hill 1998).

1.3 Inventory and Monitoring

Until recently there were no monitoring programs specifically aimed at the long-billed curlew in Alberta. However, the species was recorded during other monitoring efforts, including the Breeding Bird Survey, coordinated by the Canadian Wildlife Service (Saunders 2001). In 2001, a provincial inventory protocol was developed by Alberta Fish and Wildlife Division for the long-billed curlew (Saunders 2001). Using a habitat stratification of the Native Prairie Vegetation Inventory (Alberta Environmental Protection 1999), the Grassland Natural Region was surveyed, producing a population estimate of 23,884 (± 4,762 individuals). Between 2002 and 2007, a sub-sample of 20 of the 110 transects was monitored in an effort to determine population trends for the species in Alberta. United States Fish and Wildlife Service adapted the Alberta inventory protocol for a two-year (2004-2005) continental inventory, in which Alberta participated (Fellows and Jones 2009). Results of the inventory indicated that approximately 10-15% of the continental breeding population resides in Alberta (Nations et al 2006).

2.0 GOALS AND OBJECTIVES

The following goals and objectives are based on the current information available on the long-billed curlew.

2.1 Goal

Maintain the current (2001) distribution and population of long-billed curlew in Alberta.

2.2 Objectives

1. Inventory and monitoring: Review the current monitoring program (Saunders 2001) for the grassland natural region to determine future monitoring programs and scope.

2. Habitat management: Avoid alteration of native grasslands by using existing stewardship programs that are designed to conserve habitat and protect the long-billed curlew during critical time periods; and implement land use guidelines consistently to reduce disturbances during critical time periods.

3. Research and management: Investigate the success of breeding pairs in cultivated areas and the impact of agricultural practices on nesting success.

4. Educaton and communication: Inform the public about the benefits of native prairie conservation, which will benefit all species linked to native prairie including the long-billed curlew.

5. Regulation and policy: Develop and promote a native grassland retention policy for public lands that are leased, sold or traded in Alberta.

3.0 MANAGEMENT ACTIONS

3.1 Inventory and Monitoring

In order to monitor population trends for the long-billed curlew in Alberta, a minimum of 20 of the 110 long-billed curlew routes should be completed annually (Saunders 2001). This monitoring program was carried out in Alberta between 2002 and 2007, but has not occurred since 2007 because of fiscal and time constraints. It is recommended that the long-billed curlew monitoring program be put on hold until such time as these constraints are removed or alternative monitoring programs are found.

Currently, research is being completed in North Dakota to refine the Breeding Bird Survey (BBS) to better suit grassland species like the long-billed curlew (Fellows and Jones 2009). The AEP species lead should continue to work with researchers and government agencies in other jurisdictions to determine cost effective monitoring methods for long-billed curlew.

3.2 Habitat Management

Alteration of native prairie sites to cultivation or urban areas should be avoided. Landowners should be informed of the economic viability of native grasslands as well as their ecological importance to species like the long-billed curlew. This should be done through existing conservation and stewardship programs such as MULTISAR.

Domestic grazing is an important tool for the maintenance of suitable habitat. In areas bordering the parkland and the forested foothills, grazing can offset the encroachment of trees stands on to the prairie, and maintain an appropriate vertical structure. However the exact grazing timing and duration that is needed can vary depending on location, weather conditions and range community structure. Beneficial Management Practices (BMPs) have been developed through the MULTISAR program, which recommend appropriate grazing and land management practices (Appendix A, Rangeland Conservation Service Ltd. (RCS) 2004). They are important resources for private landowners and public land managers for the management of native grassland and long-billed curlew. Areas traditionally utilized by the long-billed curlew should be grazed according to recommendations in the MULTISAR BMPs (RCS 2004).

The encroachment of the parkland into the natural grassland region may limit the natural range of the long-billed curlew (Dechant et al. 2001, DeSmet 1992). In some areas fire suppression has allowed for encroachment of trees and shrubs to occur. If fire was to be allowed to return to these areas the original habitat could be restored. Natural and prescribed burns in appropriate areas may be used to maintain a healthy grassland ecosystem, which includes the long-billed curlew. However, prescribed burns would only be considered as a potential management technique after extensive consultation with SRD Lands Division and local communities.

3.2.1 Timing and Setback Recommendations

Oil and gas exploration, recreation activities and other human disturbances should be avoided in suitable nesting areas between April 30 and June 15 (Dechant et al. 2001,

Saunders 2001, ASRD-FWD 2001). This will limit the chance of increased nest depredation, nest abandonment, and mortality of young; all of which can significantly impact the population. The Prairie and Parkland Sensitive Species Setback Distances and Timing restrictions for land use applications on both private and public lands should be followed (ASRD-FWD 2009).

3.3 Research and Management

Long-billed curlews are commonly associated with native grassland habitat; however, in a few locales some curlews appear to breed in areas with little to no native grassland (Saunders 2001). The 2001 long-billed curlew inventory found 36% of curlews detected were in cultivated areas (Saunders 2001), but utilization occurs at a significantly lower rate than native prairie; and there are questions about the productivity of the birds that utilize non-native areas (DeSmet 1992, Dechant et al. 2001). Little is known about the breeding success of pairs that utilize cultivated areas in comparison to nests in native areas (Saunders 2001, DeSmet 1992, Dechant et al. 2001). It is recommended that there be further investigation into the success of breeding pairs in cultivated areas and the impact of the agricultural practices on nesting success.

3.4 Education and Communication

Public education, combined with established native prairie stewardship programs, is key to conserving the native prairie and the long-billed curlew. In Southern Alberta this process is being implemented through the AEP and Alberta Conservation Association's MULTISAR program. Through these programs grazing systems can be identified and applied to benefit the long-billed curlew and associated species.

3.6 Regulation and Policy

Government policy on the conversion of native grassland on public lands should be provided to conserve remaining areas of native prairie. This should be done through a collaborative effort with AEP and Alberta's Prairie Conservation Forum.

Wherever there are opportunities, native prairie should be restored. Because the long-billed curlew may forage in cultivated areas, but requires native cover for nesting, native prairie restoration may benefit the species even in areas of primarily cultivated land. This may, however, prove to be of less benefit for associated grassland species, which may require larger blocks of grassland retention/restoration.

4.0 SUMMARY

The conservation of native prairie habitat is essential for the maintenance of the long-billed curlew population in Alberta. Cooperation between private landowners and lessees, land managers, conservation groups and industry is key to conserving these habitats. The MULTISAR Beneficial Management Practices (RCS 2004) for long-billed curlew should be used in grassland stewardship initiatives by both government and non-government conservation organizations. Land use guidelines need to be consistently applied by regulatory agencies and industry and revised as new information becomes available. A

grassland conservation policy should be developed to protect native grasslands from conversion to cultivation.

This management plan will be reviewed in five years, and may be updated prior to that time if new relevant information becomes available. The review will be lead by FWD, in consultation with researchers, participating agencies, and industry.

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