

Acknowledgements

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Foreword

The issue

Over the last 60-70 years grasslands in the East Kootenay have been decreasing in size and scope as a result of tree ingrowth, conversion to agricultural crops and housing developments. The preservation of these grasslands is critical in maintaining the diversity of plant and animal species of the region. The Long-billed Curlew nests in grassland habitat and is on the provincial Blue List of vulnerable species (Conservation Data Centre 2001). Numbers of Long-billed Curlews have declined during the last century over its entire range (De Smet 1992), and it is likely that, in the absence of an active conservation direction, their future in the East Kootenay will become precarious.

Summary

This conservation plan provides the initial input into what is hoped will be an ongoing conservation strategy for Long-billed Curlews and their grassland habitat at Skookumchuck Prairie, the main breeding area for this species in southeastern British Columbia.

Availability of report:

This report is available in digital format from the Important Bird Areas Web Page: www.ibacanada.com.

Executive Summary

What is an Important Bird Area?

An Important Bird Area (IBA) is a site providing essential habitat for one or more species of breeding or non-breeding birds. These sites may contain threatened species, endemic species, species representative of a biome, or highly exceptional concentrations of birds.

The goals of the Canadian IBA program are to: 1) identify a network of sites that conserve the natural diversity of Canadian bird species; 2) ensure the conservation of sites through partnerships of local stakeholders who develop and implement appropriate on-the-ground conservation plans.

The purpose of this document is to help direct habitat management, stewardship initiatives and other conservation activities in and around the grasslands of the Skookumchuck Prairie Important Bird Area to ensure the ongoing use of this area by breeding Long-billed Curlews.

The Skookumchuck Prairie IBA

Skookumchuck Prairie is located approximately 40 km north of Cranbrook, British Columbia on benches that rise above the Kootenay River in the southern Rocky Mountain Trench.. It is comprised of grassland openings surrounded by stands of small diameter Ponderosa Pine. Under natural conditions, this ecosystem was fire-dependent, with frequent low-intensity ground fires removing tree seedlings and maintaining the grasslands. After 60 years of fire suppression, however, grasslands have become increasingly fragmented and subject to tree encroachment.

The Skookumchuck Prairie IBA supports a breeding population of 19 pairs of Long-billed Curlews (Ohanjanian 2001) on Crown land and private land. Three territories that were occupied by breeding curlews in 1985 and 1992 were empty in 2001. This species is territorial, nesting in grasslands with low profile vegetation. Both adults participate in incubating and brood-rearing, and will work cooperatively with neighbouring curlews to mob predators. There is a Min. of Forests range permit for cattle grazing on the Crown land. Potential threats to the birds at Skookumchuck include: habitat loss due to development and forest encroachment, agricultural conversion, noxious weeds and human disturbance.

Current Conservation Strategies

To date, little has been carried out to promote curlew conservation at Skookumchuck. In 1987, 90 ha of nesting habitat was added through tree removal. A further 300 small ponderosa pines were removed in 2001. The Min. of Forests has recently required grazing permit holders to conform to grazing regimes that will aid the curlews, for example, by lowering vegetation profile in the fall so that it is attractive to the birds during nest-site establishment in spring. The B.C. Wildlife Branch owns a large open area which, if managed to lower residual grass heights, may be used by at least one or two additional pairs.

Initial steps towards the formation of a working group to direct conservation activities are being undertaken. Stakeholders in this group include the Min. of Water, Land and Air Protection, Min. of Forests, Min. of Agriculture, the K'tunaxa/Kinbasket Tribal Council, the Rocky Mountain Naturalists, the Rocky Mountain Trench Natural Resources Society, the East Kootenay Environmental Society (EKES), the East Kootenay Wildlife Association, the Columbia Basin Fish and Wildlife Compensation Program, the Land Conservancy, representatives of the ranching community and private land owners. When this working group becomes active, it will be acting in cooperation with the Grasslands Conservation Council of B.C. and the Federation of B.C. Naturalists.

Conservation Goals and objectives

The main goal of this conservation plan is to preserve and enhance Long-billed Curlews and their habitat in the Skookumchuck Important Bird Area and elsewhere in the East Kootenays, and to direct conservation activities to this end by involving a broad based group of stakeholders. An active working group that understands the species' requirements can make recommendations for local land-use practices and stewardship initiatives that will go far in conserving this conspicuous and beautiful bird. The main goals of this conservation plan are as follows:

- Communicate the needs of Long-billed Curlews to a broad range of individuals and interest groups, including private land owners.
- Help ensure long-term viability of the population through purchase of critical breeding areas.
- Reverse forest encroachment on grasslands and prevent establishment of noxious weeds.
- Prevent expansion of non-compatible agricultural activities
- Work in partnership with range users to optimize Long-billed Curlew nesting habitat through appropriate cattle grazing
- Create awareness of the importance of fire for grassland ecosystem restoration and maintenance in the schools and through land-owenr outreach programs
- Continue research on population size and distribution of Long-billed Curlews in the Skookumchuck IBA and elsewhere in the East Kootenay.

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1. Introduction

Birds are key components in Canada's ecosystems and bird populations are often used as indicators of overall ecosystem health. The conservation of an area to benefit bird life will also conserve other plants and animals present. The loss and fragmentation of habitat throughout the Americas over the past 100 years has resulted in extinctions and measurable population declines in many bird species in Canada. The future of Canadian wildlife depends on our commitment to provide adequate and good quality habitat throughout their ranges.

The Skookumchuck Prairie Important Bird Area (IBA) is located on grasslands in southeastern British Columbia, approximately 40 km north of Cranbrook. It supports Long-billed Curlews (*Numenius americanus*) a species that is on the provincial government Blue-List of Vulnerable Species (Conservation Data Centre 2001). The establishment of this area as an IBA will help direct conservation activities and stewardship initiatives within the IBA and elsewhere to help ensure the species persists in the East Kootenay.

2. The IBA program

The IBA program is an international initiative co-ordinated by BirdLife International, a partnership of member-based organizations in over 100 countries seeking to identify and conserve sites important to all bird species world-wide. Through the protection of birds and habitats, they also promote the conservation of the world's biodiversity. There are currently IBA programs in Europe, Africa, the Middle East, Asia, and the Americas.

The Canadian BirdLife co-partners are the Canadian Nature Federation (CNF) and Bird Studies Canada (BSC). The Canadian IBA program is part of the Americas IBA program that includes the United States, Mexico, and 17 countries in Central and South America.

The goals of the Canadian IBA program are to:

- identify a network of sites that conserve the natural diversity of Canadian bird species and are critical to the long-term viability of naturally occurring bird populations;
- determine the type of protection or stewardship required for each site, and ensure the conservation of sites through partnerships of local stakeholders who develop and implement appropriate on-the-ground conservation plans; and
- establish ongoing local involvement in site protection and monitoring.

IBAs are identified by the presence of birds falling under one or more of the following internationally agreed-upon categories:

- Sites regularly holding significant numbers of an endangered, threatened, or vulnerable species.
- Sites regularly holding an endemic species, or species with restricted ranges.
- Sites regularly holding an assemblage of species largely restricted to a biome.
- Sites where birds concentrate in significant numbers when breeding, in winter, or during migration.

3. IBA Site Information

The Skookumchuck Prairie IBA is located in southeastern British Columbia, approximately 40 km north of Cranbrook (49° 46' N, 115° 45' W) (Figure 1). It encompasses an area of approximately 54 km² in the southern Rocky Mountain Trench, a broad valley that is bisected by the Kootenay River and bordered by the Rocky Mountains to the east and the Purcell Mountains to the west. The IBA is comprised of grassland openings on benches that rise above the Kootenay River. These openings are surrounded by stands of small-diameter Ponderosa Pine, *Pinus ponderosa*, that have grown in dense thickets. A highway travels through part of the IBA, and there are irrigated alfalfa fields immediately adjacent to the grasslands and the highway.

3.1 Ecological Classification

3.1.1 General climatic patterns

Skookumchuck Prairie is located in the East Kootenay Trench Ecoregion in the Southern Interior Mountains Ecoprovince (Demarchi 1996). The trench is situated at an elevation of approximately 850 m and oriented in a roughly north - south direction. This orientation allows outbreaks of cold Arctic air from the sub-boreal regions of the province to move down the Trench and winters may be cold (Demarchi 1996). The mountains to the west produce a rain shadow effect and this, as well as intense solar radiation in summer, causes convective currents to form that push air upwards and hamper cloud buildup over the valley (Demarchi 1986). Summers are therefore very hot and dry, and snow accumulations are low in winter (Braumandl and Curran 1992). Annual precipitation is only 35 cm (14") with most of the rain falling in June (Kemper 1971).

Table 1. Ecological Classification of Skookumchuck Prairie IBA and surrounding areas (adapted from www.elp.gov.bc.ca/rib/wis/eco)

Classification Division	Name
Ecodomain	Humid Temperate
Ecodivision	Humid Continental Highlands
Ecoprovince	Southern Interior Mountains
Ecoregion	Southern Rocky Mountain Trench
Ecoregion	Southern Rocky Mountain Trench
Ecoregion	Southern Rocky Mountain Trench
Ecoregion	Southern Rocky Mountain Trench
Biogeoclimatic Zone	Ponderosa Pine
Biogeoclimatic Subzones	Very dry hot Ponderosa Pine (PPdh2)
Partners in Flight Bird Conservation Region (PIF 1999)	BCR 10 - Northern Rockies

3.1.2 Overall habitat types: Biogeoclimatic zones and subzones, plant associations

The Skookumchuck Prairie IBA is located in the Kootenay Dry Hot Ponderosa Pine Biogeoclimatic variant (Braumandl and Curran 1992). Soils are comprised of deep deposits of soils and gravels of glacial origin with some eolian (wind-deposited) veneers (Braumandl and Curran 1992). The grasslands that support the Long-billed Curlews are grazed by cattle during the growing season and by elk during the winter. Stands of Bluebunch Wheatgrass (*Agropyron spicatum*) in poor to fair condition, is the dominant vegetation throughout much of the IBA, but in areas where cattle grazing has been more intense Junegrass (*Koeleria cristata*) and Needle-and-thread Grass (*Stipa comata*) predominate. Common forbs include Yarrow (*Achillea millefolium*), Rosy Pussytoes (*Antennaria microphylla*) Narrow-leaved Desert Parsley (*Lomatium triternatum*) and Shaggy Fleabane (*Erigeron pumilus*).

Historically, the ecosystem of the southern Rocky Mountain Trench was characterized by frequent low-intensity fires that maintained grasslands. These fires regularly removed tree seedlings while leaving well-spaced, large-diameter trees intact. As a result of over 60 years of fire suppression, forest encroachment and tree ingrowth have resulted in fragmentation of the grasslands; they have become encircled by dense stands of small-diameter Ponderosa Pine and Douglas Fir, *Pseudotsuga menziesii*.

3.2 Areas of conservation value outside the Skookumchuck Prairie IBA

Other areas in the East Kootenay Trench that support Long-billed Curlews include:

- a. Three sites on First Nations Lands. These are the St. Mary's Indian Reserve (approximately 20 km south of the Skookumchuck IBA), the Tobacco Plains Indian Reserve (located near the U.S. border at Grasmere) and the Shuswap Indian Reserve at Invermere. In spring of 2001, there were 6 to 8 pairs believed to be nesting on these lands (Ohanjanian 2001)
- b. Wycliffe Prairie. Privately owned grassland approximately 30 km south of Skookumchuck. Numbers were not ascertained in 2001, but it is believed that only 1-2 pairs use this area.(Ohanjanian 2001)
- c. Crown range to the west of the Tobacco Plains Indian Reserve. There were 2 confirmed pairs on this land in the spring of 2000 and 2001 (Ohanjanian 2001)
- d. Bummer's Flats. Owned by the B.C. Wildlife Branch, 10 km southeast of the Skookumchuck IBA. One pair nested and hatched young in 2001. (Ohanjanian 2001)
- e. Private ranchlands in the Invermere area. There were 2 to 3 pairs on these lands in 2001 (Ohanjanian 2001). Two nests were located and one of these is known to have produced chicks.
- f. East shores of Kooocanusa Reservoir. There are two areas of occupation, one at Baynes Lake and another further south (across the reservoir from the mouth of Gold Creek). At the Baynes Lake site, 4 pairs hatched young on crown land and 2 pairs hatched young on private land. At the southern location, a popular camping site, an estimated 2 to 4 pairs attempted to breed, but all nesting failed.

4. IBA Species Information

4.1 Species within the Skookumchuck Prairie IBA

The Skookumchuck Prairie IBA supports a breeding population of 19 pairs of Long-billed Curlews (Ohanjanian 2001). The species is Blue-listed in British Columbia (Conservation Data Centre 2001) and nationally is designated by COSEWIC as a species of Special Concern (COSEWIC 2001). The Skookumchuck IBA has national significance as it supports >1% of the total Canadian population of this species. Lewis' Woodpeckers (*Melanerpes lewis*), which are Blue-listed in B.C., are also found at the IBA, and Badgers (*Taxidea taxus*), which are on the provincial Red List, use the area as well.

4.2 Natural history of the Long-billed Curlew

The Long-billed Curlew is a large, long-legged shorebird that breeds in grassland habitats. It has mottled, light brown plumage, a buff-coloured breast, and cinnamon underwing linings. The long, down-curved bill may reach a length of up to 196 mm in females and 140 mm in males (Jenni et al. 1982). There are two subspecies, a southern race (*Numenius americanus* Bechstein) and a northern race (*N. a. parvus*) that breeds in Canada and the northern U.S. (Cannings 1998).

4.2.1 Distribution and Population Trends

Numbers of Long-billed Curlew have decreased in the United States and Canada during the last century (De Smet 1992). In the U.S., the Long-billed Curlew's former breeding range extended as far east as Michigan. It is now restricted to states west of the Mississippi River (De Smet 1992). Similarly, in Canada, the Long-billed Curlew formerly bred in southern Manitoba, where it is now listed as extirpated (De Smet 1992, Sauer et al. 2000). Areas of its historic range in southeastern Saskatchewan are no longer occupied even though the habitat still appears to be suitable (Smith 1996; cited in Hill 1998, De Smet 1992). Long-billed Curlews are still present elsewhere in that province, while in Alberta, the highest densities of this species are found in the grasslands south of Red Deer (Hill 1998).

In British Columbia, Long-billed Curlews breed in the East Kootenay Trench, in the Chilcotin west of Williams Lake, near Kamloops, at McBride, and in the Nicola, Okanagan and lower Similkameen valleys (Fraser et al. 1999, Cannings 1999, Ohanjanian 1987). Long-billed Curlews winter on grasslands in central California, and in coastal lagoons and mud flats in Texas, Louisiana, Mexico and Venezuela (Cannings 1998, Sauer et al. 2000).

Breeding Bird Survey data shows an overall decline in numbers of Long-billed Curlews between 1980 and 1999 (Morrison 2001a); this trend was of borderline statistical significance, however, and was variable among regions. Within British Columbia, there is limited data on population trends at present. Although investigations in the East Kootenay indicated that a range expansion occurred between the early 1960's and 1992 (Ohanjanian 1992), monitoring of historical sites in 2001 revealed several empty territories that historically contained breeding birds (Ohanjanian 2001). Birds established a new breeding area in the early 1990's along the eastern shores of the Koocanusa Reservoir, however, the net number of Long-billed Curlews in the East Kootenay appears to be equal to or slightly less than in 1992.

A current estimate of the total population of Long-billed Curlews throughout North America puts the species at only 20,000 birds ($\pm 10,000$) (Morrison 2001b)

4.2.2 Breeding Behavior and Habitat Requirements

Long-billed Curlews nest primarily in dry, open grasslands with low profile vegetation. They return to Skookumchuck Prairie at the beginning of April and establish territories that may range in size from 1 pair per 20 ha (Ohanjanian 1985) to 1 pair per 30 ha (Ohanjanian 1992). The territory size of Long-billed Curlews is highly variable, and reports from other locations range from a maximum density 1 pair per 12 ha (Jenni et al. 1982) to a low of 1 pair per 167 ha (Allen 1980). During territory establishment and incubation, areas with low vegetation (<10 cm tall preferred) and a maximum vertical coverage value of 40% at the height of a curlew's eyes (30 cm) are used preferentially (Allen 1980, Jenni et al 1982, Ohanjanian 1992). At Skookumchuck, these areas have a high percentage of Junegrass, and Needle-and-thread grass, which is indicative of historically high cattle grazing impacts. Nests are shallow scrapes on the ground and may be lined with twigs, grasses, deer or sheep pellets, and small stones (Allen 1980, Jenni et al 1982). Both adults share incubation (Redmond 1976). During nest establishment and incubation, adults at Skookumchuck have been observed foraging for earthworms in irrigated alfalfa fields adjacent to nesting areas (Ohanjanian 1985).

Shortly after chicks hatch, they leave the nest site and follow their parents throughout the grassland in search of their main prey, grasshoppers and carabid beetles (Redmond and Jenni 1985). During this period, a vegetation profile that is higher (up to 30 cm), but not dense, provides cover and thermal protection for chicks (Jenni et al. 1982). Bluebunch wheatgrass clumps provide good habitat at that time. Long-billed Curlews engage in co-operative mobbing of predators during the brood-rearing period. At this time adults are highly conspicuous and may approach close to humans. Predators of nests or chicks include coyotes, long-tailed weasels, badgers, magpies, ravens, and dogs (Allen 1980, Redmond 1984, Ohanjanian 1986). If nests are predated, adults do not usually re-nest (Cannings 1999).

In late June, females usually depart, leaving their chicks to be tended by adult males (Redmond 1984). Males soon depart also, leaving the juveniles to form feeding flocks in July. They too leave soon after and no Long-billed Curlews are generally present in August at Skookumchuck Prairie. Staging areas used by these birds en route to wintering grounds have not been determined.

5. Other elements of high conservation value

Skookumchuck Prairie plays an important role in conserving the biodiversity of this region. In addition to the Blue-listed Long-billed Curlew and Lewis Woodpecker, Western Meadowlarks (*Sturnella neglecta*), Western Bluebirds (*Sialia mexicana*), Mountain Bluebirds (*S. currucoides*), Vesper Sparrows (*Pooecetes gramineus*), Horned Larks (*Eremophila alpestris*), Merlin (*Falco columbarius*) and American Kestrels add to the species richness of the open forest and grasslands of the IBA and its surroundings. The Badger is on the provincial Red List of threatened and endangered species (Conservation Data Centre 2001).

The grasslands at the Skookumchuck Prairie IBA are fragile and have high conservation importance. Range conditions reflect a history of over-grazing which is, in part, slowly being rectified

by current grazing management directions. The grasses that are improving in quality, including stands of rough fescue and bluebunch wheatgrass in and around the IBA, provide winter forage for healthy populations of elk.

6. Land ownership and use

6.1 Historical

Prior to European contact, Skookumchuck Prairie was likely comprised of bluebunch wheatgrass and rough fescue grasslands, with occasional, large and widely spaced Ponderosa Pines. These conditions were maintained by periodic fires; core samples of trees in other areas of the Rocky Mountain Trench indicate an average natural fire interval of 6.4 years (Dorey 1979). These frequent fires killed seedling pines but left large, thick-barked trees and fire-adapted bunchgrasses intact to resprout again. As early as 1884, logging began in the East Kootenay Trench (Kemper 1971) and the forested benches west of the Skookumchuck area were logged in the 1920's (Ohanjanian 1992). In 1929, a major fire went through the Trench. Following this, a policy of fire suppression was adopted (Demarchi 1971). As a result of this policy, frequent, light fires no longer occurred and small trees were not killed. Increasingly large, contiguous thickets continue to expand until today in places where grasslands used to predominate. There is evidence too that fire suppression has resulted in a change in tree species composition; Douglas fir has replaced Ponderosa Pine and Western Larch on all but the driest sites.

The grasslands attracted agricultural interests, and crown land range permits were issued. Prior to 1950, cattle and horse grazing was virtually uncontrolled on Skookumchuck Prairie (McLean and Tisdale 1972) and areas became overgrazed (Gale et al. 1982). These conditions improved between 1950 and 1970, and rotational grazing systems and fences to control cattle impacts on crown range were ultimately put in place under the Co-ordinated Resource Management Plans of the late 1970's and early 1980's (G. Tipper, Min. of Water, Land and Air Protection, pers. comm.). Alfalfa was introduced on private land on the east side of Highway 93/95 in 1953, and this grew into a large irrigated hayfield by 1970 (Fig. 1). In 1980, and again in 1990, these croplands were expanded to encompass native range land immediately to the north. In 1983, 42 ha of privately owned native range on the west side of the highway (Lot 116, Fig. 1) were seeded with non-native Crested Wheatgrass (Ohanjanian 1992).

Rural subdivisions began to appear in the Skookumchuck area in the mid-1960's to 1970's. These are located along the highway corridor, below a bench that supports a major Long-billed Curlew nesting area (Lot 342, Fig. 1). A saw mill, Mardis Logging Ltd., (Lot 9798, Fig. 1) was built adjacent to one of the privately-owned nesting areas in 1980 and a large pulp mill is situated less than 5 km away from the northern boundary of the IBA. The B.C. Wildlife Branch purchased a piece of property on the benchlands to the east of the Kootenay River that supports curlews (Ohanjanian 1985).

6.2 Current

At the Skookumchuck IBA Long-billed Curlews nest on open range in Lots 338, 116, and 342 (Fig 1). In addition, Lot 7003 contains a partial territory as does the crown land to its immediate north, a Fish and Wildlife Reserve (Fig. 1). There is a Crown grazing permit on the range to the west of Highway 93/95. In the middle of the IBA, also on the west side of the highway, there is a large piece of private grassland. This private land (portions of Lots 338 and 116, Fig. 1) is approximately 260 ha in size and is highly significant. It divides the Crown land of the IBA into a northern and a southern section, and in 2001 contained 6-7 nesting territories (Ohanjanian 2001). The native grasslands and Crested Wheatgrass seeding on this property are presently used for cattle grazing. The Crested Wheatgrass must be grazed annually to maintain its low profile; if allowed to grow too tall, this area will become lost as Long-billed Curlew nesting habitat. The privately owned hayfields on the east side of Highway 93/95 continue to be irrigated and farmed, and horses are boarded there as well.

Mardis Logging, a saw mill, continues to operate adjacent to the Skookumchuck IBA, and does not appear to be causing a negative impact on the curlews or their habitat. It is not known if the pulp mill to the north of the IBA has affected air or ground water quality to the detriment of the Long-billed Curlews or their prey base.

7. Conservation concerns

At the Skookumchuck IBA, 18 territories were confirmed in 2001 and one territory was probable, for a maximum breeding population of 19 pairs (Ohanjanian 2001). Of these territories 6/19 were on Crown Land, 10/19 were on Private Land and 3/19 encompassed both private and Crown Land. Three territories that were occupied in 1985 and 1992 were vacant in 2001.

7.1 Loss of habitat

A major threat to the Long-billed Curlews at Skookumchuck is the potential loss of nesting habitat on the large piece of private land that is situated in the middle of the IBA. This parcel is currently for sale and supports approximately one-third of the total number of breeding pairs at Skookumchuck (6 out of 19 pairs). Its value as habitat will be threatened if it is subdivided in future into rural acreages. If it is sold at present, at least one dwelling will be built and this will increase direct disturbance to the curlews. Additional predators (dogs and cats) will arrive and this may effect the curlews nesting on adjacent Crown land as well as those on the private land. Urban or agricultural development of this significant nesting area will lead to a permanent decline in numbers of Long-billed Curlews at Skookumchuck. Stewardship initiatives on these private lands may mitigate this to a degree, but acquisition of this main Long-billed Curlew nesting areas is ultimately required. The large area of open range in the northwest portion of Fig 1 (L 11058) is unsuitable for Long-billed Curlews, as it is primarily shrub-dominated and the grass profile is too high.

7.2. Forest encroachment

Forest encroachment and ingrowth is an ongoing threat to curlew nesting areas both at Skookumchuck and elsewhere. Fire suppression has played a role in this over the past 60 to 70 years. An estimated 3,000 ha of the Rocky Mountain Trench are being converted to each year from native

grassland and open forest to a closed forest condition (RMTERSC 2000). This has led to habitat fragmentation – small pockets of grassland surrounded by many kilometers of small-diameter Douglas fir and Ponderosa Pine in dense thickets. The preservation of the grasslands is critical in maintaining the biodiversity of the East Kootenay.

7.3. Agricultural conversion.

The conversion of native rangelands to agricultural crops such as hay, has occurred in the past (Ohanjanian 1992). Limited water availability on the west side of the highway at Skookumchuck makes further conversion to hay unlikely. Conversion of native range to crested wheatgrass, which is highly drought tolerant (M. Malmberg, pers. comm.) is a threat; if stands become overgrown and dense they are avoided by curlews (Jenni et al. 1982). As mentioned above (Section 6.1) such a conversion did occur on 42 ha of private land in 1983. While the crested wheatgrass was low, this stand was used by nesting curlews (Ohanjanian 1985). By 1992, however, the vertical coverage of the stand was high and it was avoided (Ohanjanian 1992). In 2001, it was low again, and curlews were observed feeding and copulating in the stand.

7.4 Noxious weeds

Noxious weeds, such as Spotted Knapweed (*Centaurea maculosa*) and Diffuse Knapweed (*C. diffusa*) may spread onto rangeland and destroy its suitability for curlews. The potential for its spread is ongoing and should be monitored. Vehicles such as ATV's as well as trucks driving on the grasslands may introduce these and other weeds. Vehicles travelling through the IBA on Highway 93/95 may also be a seed source

7.5 Recreation

Although not a problem at present, recreationists on ATV's may pose a threat at Skookumchuck in future. ATV's may negatively effect curlews by degrading range quality and introducing noxious weeds. ATV's also may cause direct mortality in several ways: eggs may become overheated while adults are flushed off nests, leading to heat stress and embryo death, predators such as ravens may be attracted to chicks by adult alarm calls, and nests or chicks may be run over by these vehicles.

8. Conservation management achieved at the IBA site

To date, little has been carried out to promote curlew conservation at Skookumchuck. In 1987, trees were removed to increase opening size for the benefit of curlews on two areas of Crown range. The activity was funded by a Federal Employment Program and carried out under the supervision of the B. C. Wildlife Branch. This enhancement activity added about 90 ha of habitat to native range lands. Prior to the tree removal, Long-billed Curlews avoided these areas as they were narrow strips of grassland surrounded by dense forest. In 1992, two pairs were confirmed using these new sites (Ohanjanian 1992). In 2001, approximately 300 stems of Ponderosa Pine (2 to 7 cm in diameter and 30 cm to 2.5 m in height) were removed from the north end of the nesting area as part of a Habitat Conservation Trust Fund enhancement project (Ohanjanian 2001).

To provide suitable nesting conditions for Long-billed Curlews, the Ministry of Forests now requires grazing permit holders on Crown land to remove residual vegetation in the fall so it is not too tall the next spring (D. Smith, Min. of Forests, pers. comm.). This is tied to the grazing permit and is a condition of use of the range unit. Other actions that have been suggested to the Forest Service and will likely also be in future range permits include the placement of salt and water in forested areas, to prevent possible nest trampling from concentrations of cattle in open areas during the incubation period.

The B.C. Wildlife Branch owns land on Wolf Creek Road to the east of the Kootenay River. It has supported nesting curlews in the past (Ohanjanian 1985) but the domestic grasses on this land grow too thick and tall. Adjacent native Crown range supported one pair in 2001 and one pair in 2000 (T. Antifeau, pers. comm.). With fall grazing used as a management tool to lower the height of residual domestic grasses on the Wildlife Branch Land, at least one more nesting territory could be accommodated.

The land at the Skookumchuck IBA has no other designations that would afford protection to the curlew.

9. IBA stakeholder group activity

9.1 Stakeholder Group Activities and Opportunities

At present, there is no steering committee that is working on conservation planning at the Skookumchuck IBA. Initial steps towards the formation of a working group are being undertaken and the group will include the following participants:

- **Ministry of Water, Land and Air Protection (MWLAP)** - the agency responsible for management of wildlife within the IBA itself
- **Ministry of Forests (MOF)** - the agency responsible for grazing activities that occur within the IBA
- **Ministry of Agriculture and Food** - the agency responsible for advising seeding mixtures to farmers and land holders within the IBA and elsewhere
- **The K'tunaxa/Kinbasket Tribal Council**, on whose lands, outside the IBA, a significant proportion of the East Kootenay Long-billed Curlew population nests.
- **The Land Conservancy (TLC)** - an organization involved in landowner contact, stewardship advisory, and land purchases.
- **The Rocky Mountain Naturalists (RMN)** - an organization with skilled members willing to participate in monitoring, outreach and education programs
- **The Rocky Mountain Trench Natural Resources Society (RMTNRS)** - an organization formed to encourage restoration of ecosystems in the grasslands of the area.
- **Rocky Mountain Trench Ecosystem Restoration Steering Committee** - committee with responsibility to oversee the restoration of the landscape to natural historic conditions, when fire was part of the ecosystem.

- **Penny Ohanjanian, M. Sc., Reg. Prof. Biologist** - principal investigator of Long-billed Curlews in the East Kootenay since 1985.
- **The East Kootenay Environmental Society (EKES)** - a society with an interest in supporting biodiversity in the East Kootenay Trench
- **The Kootenay Livestock Association (KLA)** - an association representing the interests of the ranching community
- **The East Kootenay Wildlife Association (EKWA)** - a group of hunters and outdoor enthusiasts interested in ensuring that wildlife, and the grass they require, continue to flourish in the area.
- **Private Land Owners** - over two thirds of the curlew nesting territories at the Skookumchuck IBA are located in whole or in part on private land (13 out of a probable 19 territories). Four private land owners own land on which curlews either nest or regularly feed.
- **The Columbia Basin Fish and Wildlife Compensation Program (CBFWCP)** - a partnership between BC Hydro and the B.C. Government to conserve and enhance fish and wildlife populations affected by BC Hydro dams in the Columbia Basin.
- **The Regional District of the East Kootenay (RDEK)**, the agency in charge of zoning and by-law changes.
- **The Ministry of Transportation and Highways (MOTH)**. Because the highway bisects the IBA, this ministry can advise on a possible future wildlife viewing location.

The working group will be acting in co-operation with:

The Grasslands Conservation Council of B.C.

The Federation of B.C. Naturalists

A list of partners associated with IBA Canada may be found in Appendix A.

10. Opportunities

The presence of Long-billed Curlews is an indicator of grassland habitat that has been partially degraded through grazing. Healthy, vigorous, and dense stands of bluebunch wheatgrass and rough fescue are not used by this species, likely because curlews depend on early visual detection of predators and group mobbing activities. On the prairies, bison, concentrating at watering areas or mineral licks, likely were a mechanism for lowering vegetation profile and creating habitat for this species. In the East Kootenay, cattle grazing must remain as a tool to reduce vegetation heights and densities, and to maintain grass communities dominated by species such as Junegrass, Needle-and-thread grass and other low-growing grasses and forbs. The fact that these birds are compatible with cattle grazing, provides excellent opportunities for co-operative interactions between the wildlife, naturalist and ranching communities.

High numbers of wintering elk may also lower vegetation profile for the spring arrival of curlews. Elk, however, are a useful tool only in the short term - long term winter grazing by elk alone will cause stands of bluebunch and rough fescue to continually improve if they remain ungrazed during the growing season (at which time most elk are on high elevation ranges). The goal of continuing

improvement of range condition, therefore, must be balanced by the fact that Long-billed Curlews do not choose excellent quality range for their nesting sites. On the other hand, grasslands that are highly degraded and in poor condition may require resting from cattle grazing to allow the reestablishment of some bunchgrass clumps to provide cover and thermal protection for chicks.

As a result of decades of publicity involving Smoky the Bear, the public remains largely uneducated about the vital role that fire plays in ecosystem health in this region. Resource managers in the Min. of Forests and Min. of Water Land and Air Protection may be hampered by this public perception when they wish to carry out prescribed burns and ecosystem restoration. The IBA and future associated outreach and school materials will further public understanding that fire is necessary. For example, potential public alarm and disapproval at smoke in the air from prescribed fires will be offset by the new awareness - that this will help the curlews. The Skookumchuck Prairie IBA may therefore function as a valuable demonstration site to educate the public about eco-systems that are fire-dependent.

A busy highway bisects the northern part of the Skookumchuck Prairie IBA. As Long-billed Curlews are large and conspicuous, there is a good opportunity to develop a wildlife viewing site on the highway's wide verges with nil to low impact on the birds at this IBA. Furthermore, adjacent to the IBA there is a riparian zone on the Kootenay River. The trees along the river provide perches for Bald Eagles (*Haliaeetus leucocephalus*) during the yearly Kokanee run in the autumn. Stewardship and enhancement work in the IBA may be expanded in future to include these riparian areas. This combined grassland and riparian area would preserve biodiversity and lead to enhanced natural history and bird watching opportunities.

The organizations listed above (**Section 9**) have a long history of conservation and resource management interest in the East Kootenay. A working group from this source of experienced and dedicated people will have the capacity to be delivery agents for conservation activities that are related to the Skookumchuck Prairie IBA, Long-billed Curlews and grassland ecosystems as a whole. Such conservation activities as research, monitoring, land-owner outreach, school programs and land acquisition may be promoted with a high likelihood of success.

11. Conservation Goals and Objectives

The main conservation goal is to preserve and enhance Long-billed Curlews and their habitat in the East Kootenay, and to make recommendations for local land-use practices that are compatible with this goal. Local attitudes among landowners are generally positive towards the curlews. Many are aware of their role as predators of grasshoppers and they are not perceived as a threat to grazing opportunities. The curlews' need for grassland openings is compatible with the local goal of the ranching community, wildlife clubs, naturalists, the Wildlife Branch and members of the Range Division of the Min. of Forests to restore rangelands.

Initial steps have been taken to set up a working group that will include the K'tunaxa/Kinbasket First Nation, government agencies, non-government organizations (NGOs) and private land owners (**Section 9**). The efforts of this working group will be directed not only at the Skookumchuck Prairie IBA, but other grasslands and current and/or potential Long-billed Curlew habitat throughout the East

Kootenay Trench. The group will consider 4 categories of objectives, and develop time frames and priorities. The objectives include:

- Strategic Planning
- Enhancement and Protection
- Education and Outreach
- Research and Monitoring.

To do this, sub-committees, for example a scientific committee and education committee, may be formed. Preliminary objectives which will be discussed and prioritized by the working group are found in Table 2. The highest priority will be to identify means of purchasing the private land in Lots 116 and 338 to ensure its preservation as Long-billed Curlew habitat. Other ongoing activities to be discussed will include reversing the forest encroachment at the IBA, monitoring and removing noxious weeds should they appear, and developing outreach and interpretation opportunities to create awareness of Long-billed Curlews, their habitat requirements and the importance of fire for ecosystem restoration and maintenance.

Skookumchuck Prairie IBA Conservation Plan

Table 2. Objectives for conservation of Long-billed Curlews at the Skookumchuck Prairie IBA and associated areas (Highest Priorities in Red)

Category	Objective	Action Required	Timeline and Status	Estimated \$\$ Required	Possible/Confirmed Funding Source(s)
Strategic planning	Communicate needs of Long-billed Curlews and have a broad scope of participants interested.	a) Set up working group that includes stakeholders identified in Section 8 above.	In progress Partially funded	\$800 needed for coordinator. Possible per diem/mileage for members of working group	IBA Program Real Estate Foundation (REF)
	Identify funding to purchase private grassland on west side of Hwy 93/95 at Skookumchuck (portions of Lots 116, 338)	a) Set up fund-raising sub-committee to contact potential funding sources b) Negotiate purchase	Needed 2001	--	--
Enhancement/Protection	Preserve curlew nesting habitat by preventing development of private land at IBA (portions of Lots 116, 338).	a) Purchase private land	Needed 2001	\$600,000	Columbia Basin Fish and Wildlife Compensation Program (CBFWCP) The Land Conservancy (TLC) Nature Conservancy of Canada (NCC)

Skookumchuck Prairie IBA Conservation Plan

Table 2. Objectives for conservation of Long-billed Curlews at the Skookumchuck Prairie IBA and associated areas (Highest Priorities in Red) (cont'd)

Category	Objective	Action Required	Timeline and Status	Estimated \$\$ Required	Possible/Confirmed Funding Source(s)
Enhancement/Protection	Reverse forest encroachment on grasslands and prevent establishment noxious weeds	a) Communicate with Min. of Forests (MOF) to co-ordinate location of their range-restoration projects using fire and/or stem removal so that it benefits LBCU	Ongoing	--	--
		b) Remove seedling and sapling trees at north end of IBA c) Use volunteers to monitor noxious weeds and if they occur communicate with agency responsible for noxious weed control	Completed in fall 2001 Yearly	Funded \$25 per year (mileage)	Habitat Conservation Trust Fund (HCTF) To be determined by Working Group
	Prevent expansion of crested wheatgrass seedings	a) On private property, discuss optimal grazing regimes with land owner. b) Inform Min. of Agriculture and MOF of unsuitability of crested wheatgrass for LBCU and encourage them not to promote these seedings	Ongoing, will be addressed in working group meetings Completed. Min. of Agric. and MOF were informed in 2001.	-- Funded	-- REF

Skookumchuck Prairie IBA Conservation Plan

Table 2. Objectives for conservation of Long-billed Curlews at the Skookumchuck Prairie IBA and associated areas (Highest Priorities in Red) (cont'd)

Category	Objective	Action Required	Timeline and Status	Estimated \$\$ Required	Possible/Confirmed Funding Source(s)
	Protect habitat	a) Discuss options with land owners in IBA and outside, including First Nations reserves. b) Investigate feasibility of conservation covenants on private land	On going, will be addressed in working group meetings	--	--
Outreach	Educate land owners and cattle grazers about habitat needs of Long-billed Curlew	a) Create fact sheet to be handed out to land owners and ranchers	In Progress	Text only portion funded Need \$ for graphic designer and photo purchase	REF Grasslands Conservation Council (GCC) IBA program Yellowstone to Yukon Initiative Columbia Basin Trust (CBT)
	Raise profile of IBA	a) Publicize IBA in local media	In progress	Funded	REF
	Create awareness of Long-billed Curlews and their habitat requirements and the importance of fire for ecosystem restoration and maintenance	a) Create signage at Skookumchuck in conjunction with a wildlife viewing site at highway pullout. b) Consult with Min. of Transportation and Highways for possible in-kind donation of pull- out construction	To be discussed by working group.	\$5,000 for sign. \$1,000 for text	HCTF Rocky Mountain Trench Ecosystem Restoration Steering Committee (RMTERSC) MOTH

Skookumchuck Prairie IBA Conservation Plan

	Educate children about grassland ecosystems and long-billed curlews	Communicate with school board and organize field trips to IBA and/or classroom visits.	Initial steps taken 2001. Ongoing discussions to be part of working group's actions	Initial steps funded. No further costs anticipated as honorarium paid by School Board for field trips and classroom visits.	REF
Research	Determine up-to-date population size and trend of Long-billed Curlews. Identify new breeding locations if any.	a) Carry out Long-billed Curlew inventory at known nesting locations. b) New nesting areas discovered in 2001 (outside IBA) in need of further research	Partially completed 2001. Should be carried out in spring 2002	Funded \$12,000	HCTF CBFWCP HCTF
Monitoring	Monitor Long-billed Curlew population at IBA regularly in future.	a) Contact willing and competent birders and train them to use a standardized methodology. b) Consultant to train volunteers, review data and convey this to Conservation Data Center c) Working group to identify source of ongoing funds.	Every second year beginning in 2003	Mileage for volunteers (to be estimated by working group) Consultant \$800	

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Appendix A: IBA Canada Partners

Federation of BC Naturalists (FBCN)

“To know nature and to keep it worth knowing”

The Federation of BC Naturalists is a family of naturalist organizations dedicated to fostering an appreciation and understanding of our natural environment, so that it may be used wisely and maintained for future generations. We believe that negotiation and cooperation are ways to build a lasting conservation strategy in British Columbia. Through partnerships with other organizations and governments we strive to further conservation and natural history education in the province of BC. Our membership is open without prejudice to all who share our goals.

The FBCN was founded in 1969, although many of its member clubs have been in existence for much longer. There are currently 51 federated and affiliated member clubs and approximately 5,300 members from communities all around British Columbia. The FBCN is an affiliate of the Canadian Nature Federation. The FBCN is active in nature education and conservation, and is the British Columbia lead agency for two major projects: The Living by Water Project and the BC Important Bird Areas Program. The FBCN website is <http://members.xoom.com/fbcn>.

WBT Wild Bird Trust of BC

Wild Bird Trust is non-profit society dedicated to the protection of birds and their habitats, on the principle that all wildlife must benefit. This mission is carried out through the establishment and management of wildlife sanctuaries, the production of various publications that address conservation and management concerns for birds and their habitats throughout the Province, the housing of the largest regional electronic database and reference library for birds, reptiles and amphibians in the Province, school- and home-based wildlife education programs, volunteer-based inventory programs and an active Heron stewardship program in the Georgia Basin of BC.

BirdLife International

A pioneer in its field, BirdLife International (BL) is the first non-government organization dedicated to promoting world-wide interest in and concern for the conservation of all birds and the special contribution they make to global biodiversity. BirdLife operates as a partnership of non-governmental conservation organizations, grouped together within geographic regions (e.g. Europe, Africa, Americas) for the purpose of planning and implementing regional programs. These organizations provide a link to on-the-ground conservation projects that involve local people with local expertise and knowledge. There are currently 20 countries involved in the Americas program throughout North, Central and South America.

For further information about BirdLife International, check the following web site:
<http://www.birdlife.net/>.

The Canadian Important Bird Areas Program has been undertaken by a partnership of two lead agencies. The Canadian Nature Federation and Bird Studies Canada are the Canadian BirdLife International partners.

The Canadian Nature Federation (CNF)

The Canadian Nature Federation is a national conservation organization with a mission to be Canada's voice for the protection of nature, its diversity, and the processes that sustain it. The CNF represents the naturalist community and works closely with our provincial, territorial and local affiliated naturalists organizations to directly reach 100,000 Canadians. The strength of our grassroots naturalists' network allows us to work effectively and knowledgeably on national conservation issues that affect a

diversity of ecosystems and human populations in Canada. The CNF also works in partnership with other environmental organizations, government and industry, wherever possible.

Our approach is open and cooperative while remaining firm in our goal of developing ecologically-sound solutions to conservation problems. CNF's web site is <http://www.cnf.ca>.

Bird Studies Canada (BSC)

The mission of Bird Studies Canada is to advance the understanding, appreciation and conservation of wild birds and their habitats, in Canada and elsewhere, through studies that engage the skills, enthusiasm and support of its members, volunteers, staff and the interested public. Bird Studies Canada believes that thousands of volunteers working together, with the guidance of a small group of professionals, can accomplish much more than could the two groups working independently. Current programs collectively involve over 10,000 volunteer participants from across Canada.

Bird Studies Canada is recognized nation-wide as a leading and respected not-for-profit conservation organization dedicated to the study and understanding of wild birds and their habitats. Bird Studies Canada's web site is www.bsc-eoc.org/.