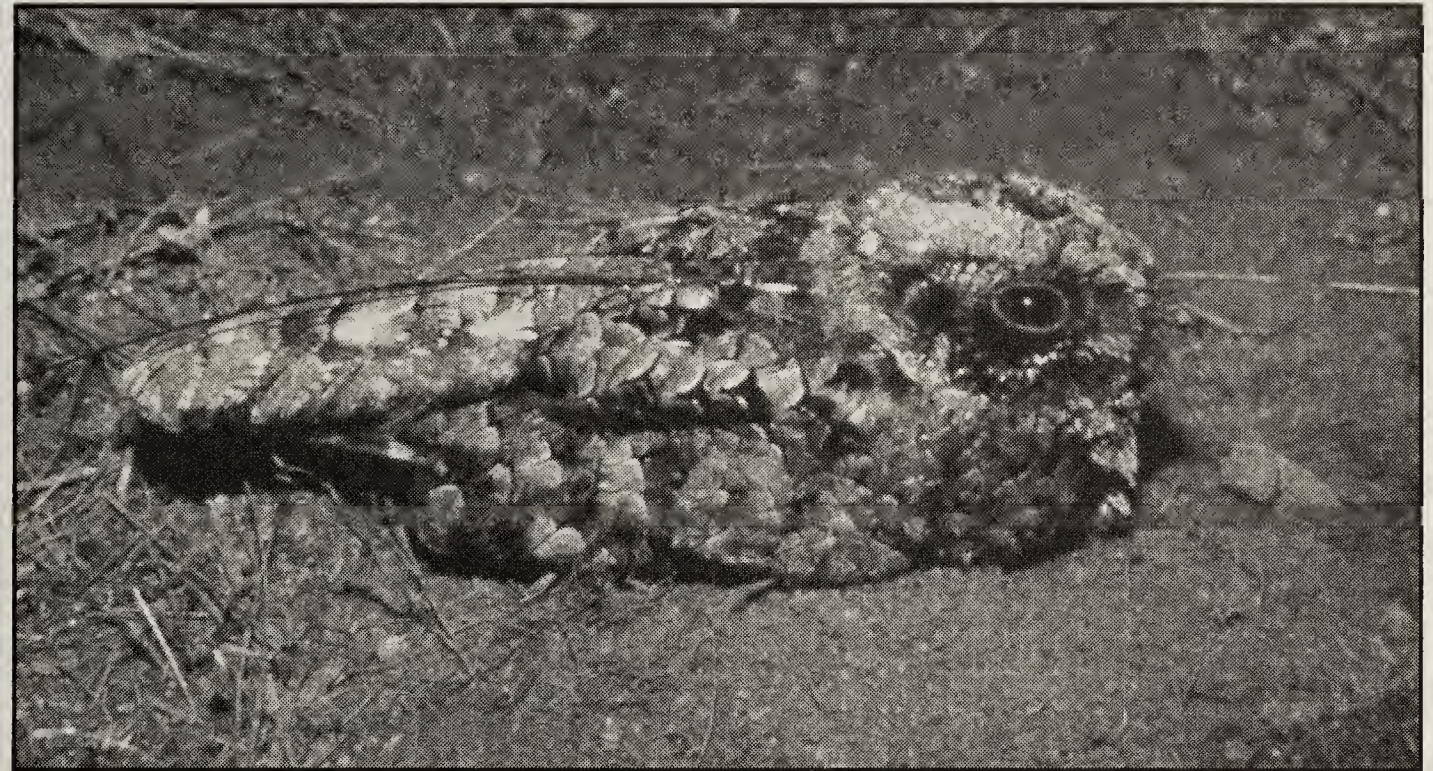


DISTRIBUTION AND ABUNDANCE OF THE COMMON POORWILL IN SOUTHWESTERN SASKATCHEWAN

DAVID R. MACDONALD, STEPHEN K. DAVIS, and D. GLEN MCMASTER
Saskatchewan Watershed Authority, # 101, 2022 Cornwall Street, Regina SK, S4P 2K5,
Email: dave.macdonald@swa.ca



Common Poorwill (note transmitter attached to back)

Mark Brigham

The Common Poorwill (henceforth poorwill) is one of three species of Caprimulgidae (the Goatsucker family) known to occur in western Canada. The poorwill range includes sw Saskatchewan, se Alberta, and the southern interior of British Columbia.² Its Saskatchewan range and abundance are poorly known, but evidence suggests that outside the West Block of the Cypress Hills Interprovincial Park (CHIP), where the species is considered a regular breeder, it is an uncommon and local summer resident in the southwest (Mark Brigham, pers. comm.).^{6,9} The first documented breeding record for the province was in 1983 in the West Block of CHIP.¹⁰ A 1991 survey estimated there were 30 territorial males in the West Block region of the park.⁶ Territorial poorwills have also been documented in the Great Sand Hills (Don Weidl, pers. comm.) and there are historical records for poorwills

from the Frenchman River Valley near Eastend, the most recent being in 1991 (Fig. 1).^{4,6} In addition to these areas, poorwills have been documented in and around the West Block of Grasslands National Park (GNP) (Adrian Sturch and Tim Schowalter, pers. comm.).⁸

In 1993, the poorwill was assigned an official status of “indeterminate” in Canada because there was “not enough information on population size or trend to know what the status is.”³ Our objective was to determine the distribution and abundance of the poorwill in Saskatchewan through a comprehensive survey of suitable habitat in southwestern Saskatchewan. This area was chosen because all but one breeding record for poorwills in Saskatchewan occur in the southwestern corner of the province.⁹

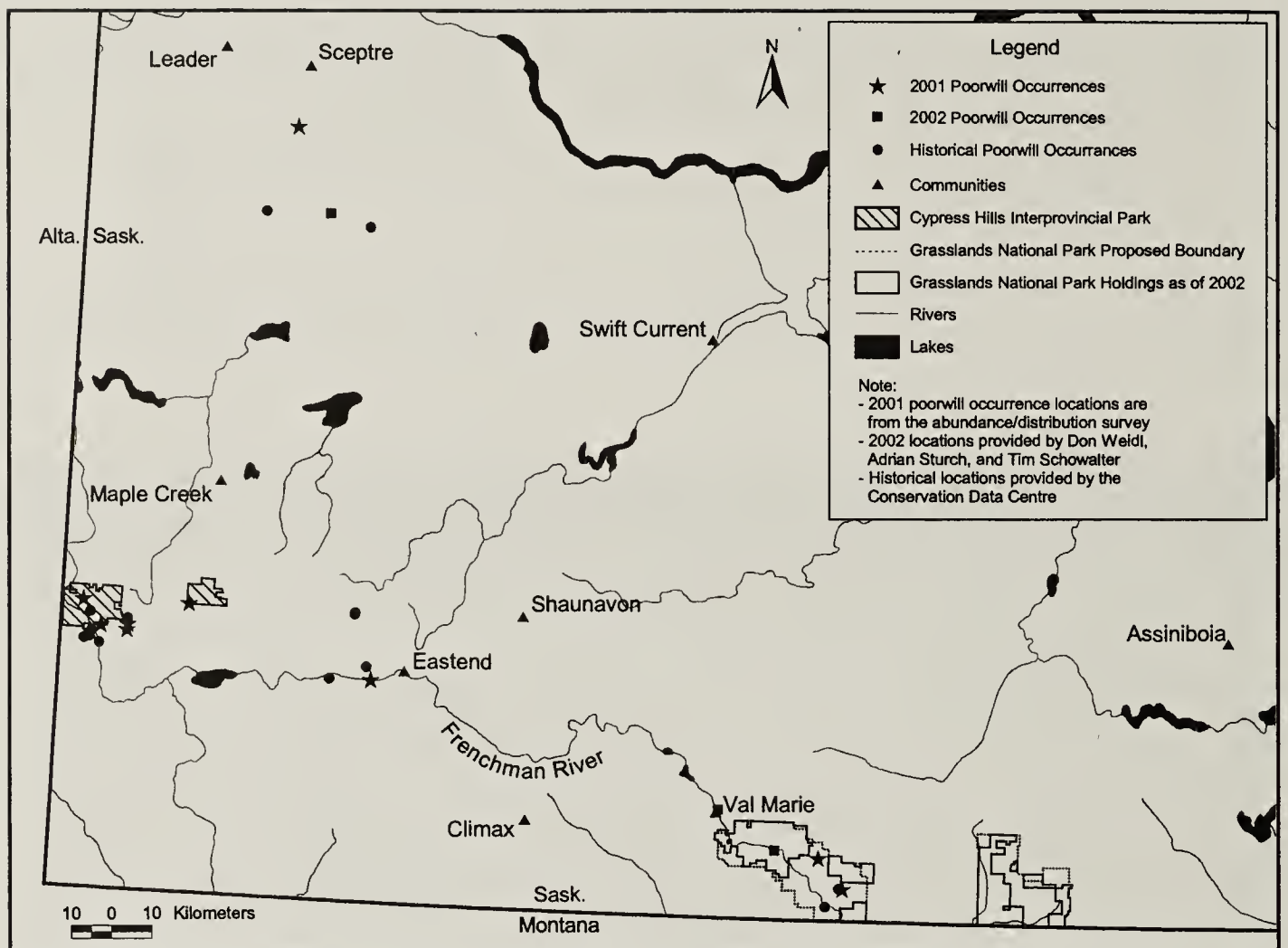


Figure 1. Poorwill occurrence locations in southwest Saskatchewan

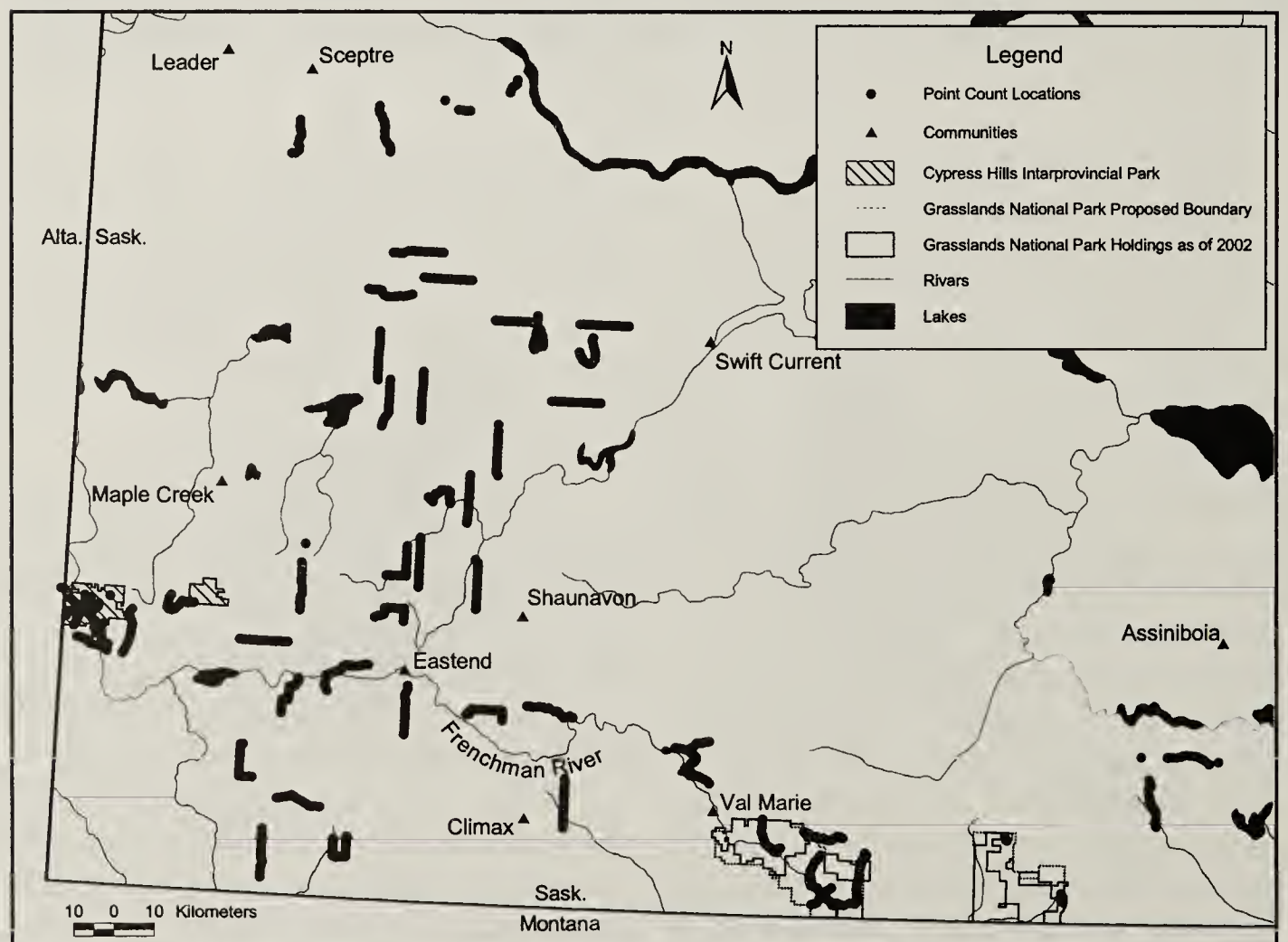


Figure 2. 2001 poorwill survey point count locations

Methods

Using a geographic information system we randomly selected 30 townships (a township is six miles by six miles) in each of National Topographic System mapsheets Prelate (72 K), Cypress Lake (72 F), and Wood Mountain (72 G). Each township consisted of at least 75% grassland habitat (defined as native grassland, seeded pasture, and woody vegetation less than 2 m in height) according to Saskatchewan's Southern Digital Landcover classification. Townships with grassland habitat types were selected because poorwills are not known to occur in cultivated areas (Mark Brigham, pers. comm.). Townships that did not contain gravel or dirt roads were deleted from the sample.

In order to establish starting locations for road-based transects, a point was randomly placed within each of the selected townships. Transects began at the landmark (such as a road intersection or stream-crossing) nearest to each random point that was visible both on the maps and while driving along the road. The starting direction of the transect was chosen randomly relative to the direction of the road. The transect continued in the starting direction as far as possible; if a "T" intersection was encountered, the direction of the turn was chosen randomly. Because road availability is biased toward areas with increased cultivation, we relaxed the selection criterion for transect routing (i.e. disregarded the random start points and directions) after several surveys failed to yield a poorwill. We also supplemented road-based transects with a total of three walking-based transects (each with between 2 and 4 count points - see below) through areas that appeared to be good habitat but had no road access.

The survey was conducted in 2001 between May 23 and July 11, dates that correspond with the early part of the breeding season for the poorwill in Saskatchewan.² Kalcounis *et al.* found that poorwill calling in the West Block of CHIP

was most intense in late spring and early summer.⁶

A team of two observers conducted all surveys, usually with two transects surveyed simultaneously each night. In order to maximize the amount of area surveyed, each transect was surveyed only once. Poorwills are mainly crepuscular; therefore surveys began 30 min. after sunset and continued for 1.5 hours. Because poorwills are active on nights with bright moonlight, one survey period (July 8) with suitable lunar conditions was extended beyond 1.5 hours. To conduct the point counts for road-based transects, observers stopped every 800 m and exited the vehicle. Point counts for the three walking-based transects were not necessarily separated by 800 m. For all transects, each point count was three minutes in duration. The first minute was designated as a listening period without playback. Playback was started at the end of the first minute and consisted of a series of four or five calls followed by a listening period. This was repeated several times until the end of the three minutes. A Johnny Stewart Electronic Caller was used to broadcast the playback calls. The number of points in road-based transects ranged from 10 to 16, with most having 16.

Results and Discussion

We conducted a total of 757 point counts on 50 transects (including 9 points on 3 walking transects) (Fig. 2). A total of 10 individual poorwills (presumably males) were heard (Figs 1 & 3), 8 of which were detected when they responded to our playback. Poorwills were heard calling both on the wing and from the ground or low perches; one individual was observed sitting on a gravel road, a typical practice for Common Nighthawks, which also reside in the area.⁷ Three of the ten poorwills were in, and two were near, the West Block of CHIP (Fig. 3). Two were within the proposed boundary of GNP, on privately leased rangeland (Fig 1). One poorwill was detected in each of the following: Centre

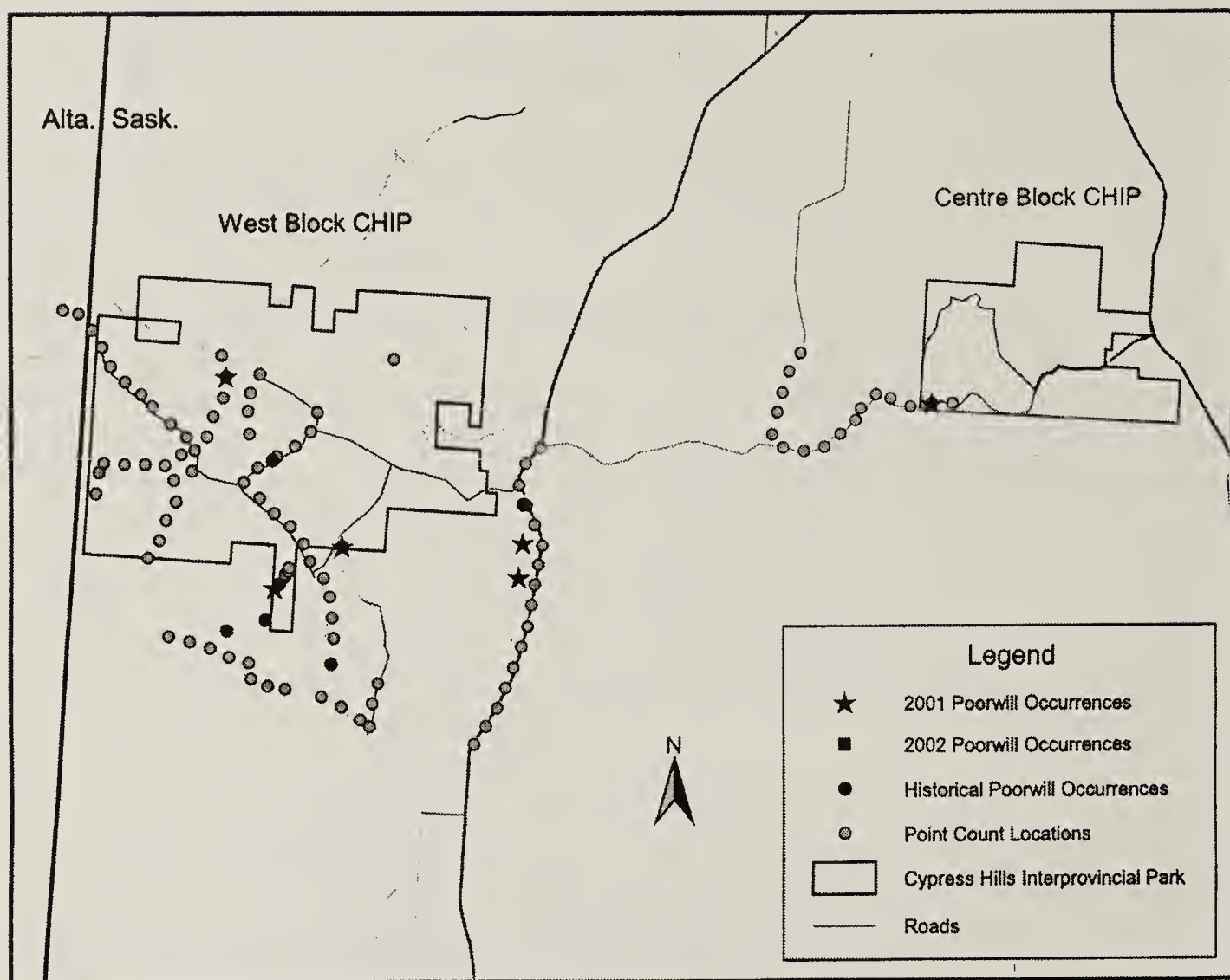


Figure 3. Poorwill occurrence and 2001 survey point count locations for the Cypress Hills in Saskatchewan

Block of CHIP, the Great Sand Hills, and the Frenchman River Valley near Eastend. The poorwill in the Centre Block was the first recorded occurrence for this area.

The poorwills noted in the study appear to be using at least three different landscape types in southwestern Saskatchewan. In the West and Centre Blocks of CHIP, they were found in open native prairie areas near forest edges. The two near GNP were in sloping, sparsely vegetated, native rangeland areas with a high percentage of bare sandy soil. Finally, in the Sandhills, the one individual was found in a shrubby native rangeland area with patches of stunted aspen nearby. However, habitat selection may occur at multiple spatial scales, including landscape and microhabitat levels. Hardy *et al.* found that poorwill habitat suitability was influenced by physiographic features such

as dry eroded drainages and sloping uplands as well as microhabitat features such as rocky substrate, mid-canopy vegetation, and an absence of understory grass.⁵ Wang and Brigham found that roost sites in the Cypress Hills had “significantly less green vegetation, less overhead cover, more bare ground, and were further away from tall objects than random sites.”¹¹ Our observations are consistent with both of these findings.

Even at close range, all poorwills heard had a two syllable “*poor will*” call, unlike the “*poowJEEwup*” described in most field guides and on most bird call recordings (including the recording we used for playback). Interestingly, one individual, after hearing our playback, added an additional “*up*” syllable to the end of his two-syllable call.

The fact that we detected only 5 poorwills in or near the West Block of CHIP may be a cause for concern. An apparent decline over the last 12 years, noted by biologists conducting other research in the area, is coincident with the termination of logging of Lodgepole Pine (*Pinus contorta*) in the West Block of CHIP. Subsequent regeneration of trees in clearcuts may be affecting areas that previously provided suitable breeding habitat for poorwills (Mark Brigham, pers. comm.).

Based on historical sightings and the information we collected, it is reasonable to conclude that poorwills have a highly localized breeding distribution in southwestern Saskatchewan. However, it does appear that, at least for the West Block of Cypress Hills, poorwill populations have declined since the early 1990s. Poorwill numbers in areas with suitable habitat should be monitored in the future.

Acknowledgements

First and foremost, we would like to acknowledge the contributions made to this project by the late Wayne Harris. His generous sharing of unparalleled, first-hand knowledge of southwestern Saskatchewan landscapes greatly assisted our efforts. The authors would like to thank Brianna Dopson for her outstanding and dedicated assistance during the survey. We are grateful to Pat Fargey (Parks Canada) for his advice and suggestions regarding our surveys in and around GNP. We would also like to thank the various landowners who generously allowed us to conduct surveys on their property including: the White, Walker, Dixon, and Hanson families, as well as Braaten Ranching Ltd. Mark Brigham (University of Regina) provided valuable guidance and advice on the methodology as well as the manuscript. Thanks to Paul James (Saskatchewan Environment) for lending us the Johnny Stewart caller we



Typical poorwill habitat in the West Block of Cypress Hills Interprovincial Park

Dave MacDonald

used, and to Jeff Keith (Saskatchewan Conservation Data Centre) who provided historical occurrence location information. Don Weidl (Golder Associates), Adrian Sturch (Fisheries and Oceans Canada) and Tim Schowalter (University of Regina) provided 2002 poorwill location information. Robert Sissons (Parks Canada) provided the GIS file for GNP boundaries. Funding for this project was provided by Environment Canada (Habitat Stewardship Program) and the Saskatchewan Wetland Conservation Corporation.

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SASKATCHEWAN BIRD BANDERS: J.A. BRIGGS OF REGINA*

C. STUART HOUSTON and MARY I. HOUSTON, 863 University Drive, Saskatoon, SK S7J 0J8

When J.A. Briggs applied for a banding permit, his instructions from Ottawa were forwarded to him by Fred Bradshaw, Chief Game Commissioner for Saskatchewan, on April 17, 1925. Briggs was a railwayman who traveled widely along the Canadian National Railway, radiating out from Regina in a hand-pumped "jigger" to inspect the track. Between 1925 and 1943, he banded 1075 birds of 24 species, mainly nestlings, and in 1948 added six more flickers. With the exception of Fred G. Bard, who ranged

widely during his crow and magpie campaign, Briggs banded in more localities than any other Saskatchewan bander of his era. Between Regina and Melville, Briggs banded birds at every siding and village: Victoria Plains, Zehner, Frankslake, Edenwold, Avonhurst, Edgeley, Muscow, Fort Qu'Appelle, Hugonard, Balcarres, Gillespie, Lorie, Finnie, Duff, Colmer, and Melville. Between Regina and Moose Jaw, he banded at Sidmar, Keystown, Stony Beach, Eastview, Burdick, and Moose Jaw,