

# **Status of the Canyon Wren in British Columbia**

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by  
R. J. Cannings

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Ministry of Environment, Lands and Parks  
Wildlife Branch  
Victoria, B.C.



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Frontispiece. A male Canyon Wren sings from a rock at Vaseux Lake (S. R. Cannings photo). "As a rule they creep about the rugged cliff-ledges like creepers on tree trunks utterly indifferent to the inclination or overhang of their support. Every once in a while they disappear within some of the crevices and remain there for what seems to the watcher in the hot sun below an interminable time. On emerging they alternately creep about feeding or sit with the head and bill just projecting beyond some slight commanding ledge and sing again and again. Their song is strikingly beautiful..." (Taverner 1922).



## **FORWARD**

In cases where a Wildlife Bulletin is also a Species' Status Report, it may contain a recommended status for the species by the author. This recommendation is the opinion of the author and may not necessarily reflect that of the Wildlife Branch.

Official designation will be made by the Wildlife Branch in consultation with experts, and the data contained in the Status Report will be considered during the evaluation process.



## **ABSTRACT**

The Canyon Wren is found in Canada only in extreme south-central British Columbia. The maximum spring population is approximately 100 pairs. Canyon Wrens require rock cliffs with deep crevices or slopes with very large-diameter boulders for foraging and nesting. They are non-migratory and can suffer catastrophic population declines during very severe winters, occasionally being temporarily extirpated from Canada. Habitat protection is adequate in British Columbia, but populations are low enough that the Canyon Wren should be considered Vulnerable.



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## INTRODUCTION

This status report on the Canyon Wren (*Catherpes mexicanus*) is part of an ongoing program of the British Columbia Ministry of Environment, Lands and Parks, Wildlife Branch, designed to more effectively manage species-at-risk for long-term viability.

The Canyon Wren, a member of the family Troglodytidae, is a small, rusty brown bird with a white bib. It is associated with cliffs, canyons, and rockslides. Until recently, this species had been little studied in B.C., and specific population and habitat information were sparse. The basis for this report was provided by a national status report submitted in 1991 to the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), primarily funded by the Okanagan Region Wildlife Heritage Society, and sponsored by the British Columbia Ministry of Environment, Lands and Parks, in association with the Habitat Conservation Fund, World Wildlife Fund, and the South Okanagan Conservation Strategy.

## GENERAL BIOLOGY

### Reproductive Capability

Local data on nesting dates and success are meagre, but what data there are indicate that the first eggs are laid in late April or in May. Two broods are often attempted; given a total nesting period of about four to five weeks; second broods probably start in late June or early July (Cannings et al. 1987). Clutch size varies from four to seven eggs, with five or six more usual (Ehrlich et al. 1988); the only Canadian clutch size reported was of seven eggs (Cannings et al. 1987). Two nests with young found at Vaseux Lake and Naramata contained four young each (Cannings et al. 1987); two broods of fledglings consisted of two and three young, respectively (Preston 1990).

## Species Movement

Canyon Wrens are nonmigratory. However, young birds apparently disperse into outlying habitat in fall and early winter.

## Behaviour/Adaptability

Canyon Wrens seem to be quite tolerant of what little human disturbance occurs in their rugged environment. They regularly forage at feeding stations at homes in the Vaseux Lake area (F. C. MacNaughton, pers. comm.). In the southwestern United States, Canyon Wrens appear to be somewhat adaptable as to breeding habitat, having nested in abandoned buildings.

## HABITAT

Canyon Wrens are birds true to their name, found in towering rock canyons and cliffs. They seem to require deep crevices or even small caves in which to feed and nest. Large angular boulders, such as those found at the base of the Vaseux Lake cliffs, are much preferred, since they provide an abundance of nooks and crannies. This habitat is well-described by Gabrielson and Jewett (1940) as "tumbled talus piles of huge blocks of rock." Larrison (1981:223) states that in the Pacific Northwest, the Canyon Wren prefers "partly-shaded walls of canyons and outcroppings, as well as rock slides where the proper crannies for nesting occur...Favours cliffs bordering rivers in the arid interior." In fall and early winter, birds are often found in suboptimal situations where cliff faces are smaller and the basal talus is not large enough to provide cover and feeding possibilities. Nests are built in small caves or rock crevices; of the two British Columbia nests described, one was made of grass and lichens and the second of coarse plant material with a base of twigs (Cannings et al. 1987). Old nests are apparently maintained and reused (Ehrlich et al. 1988).

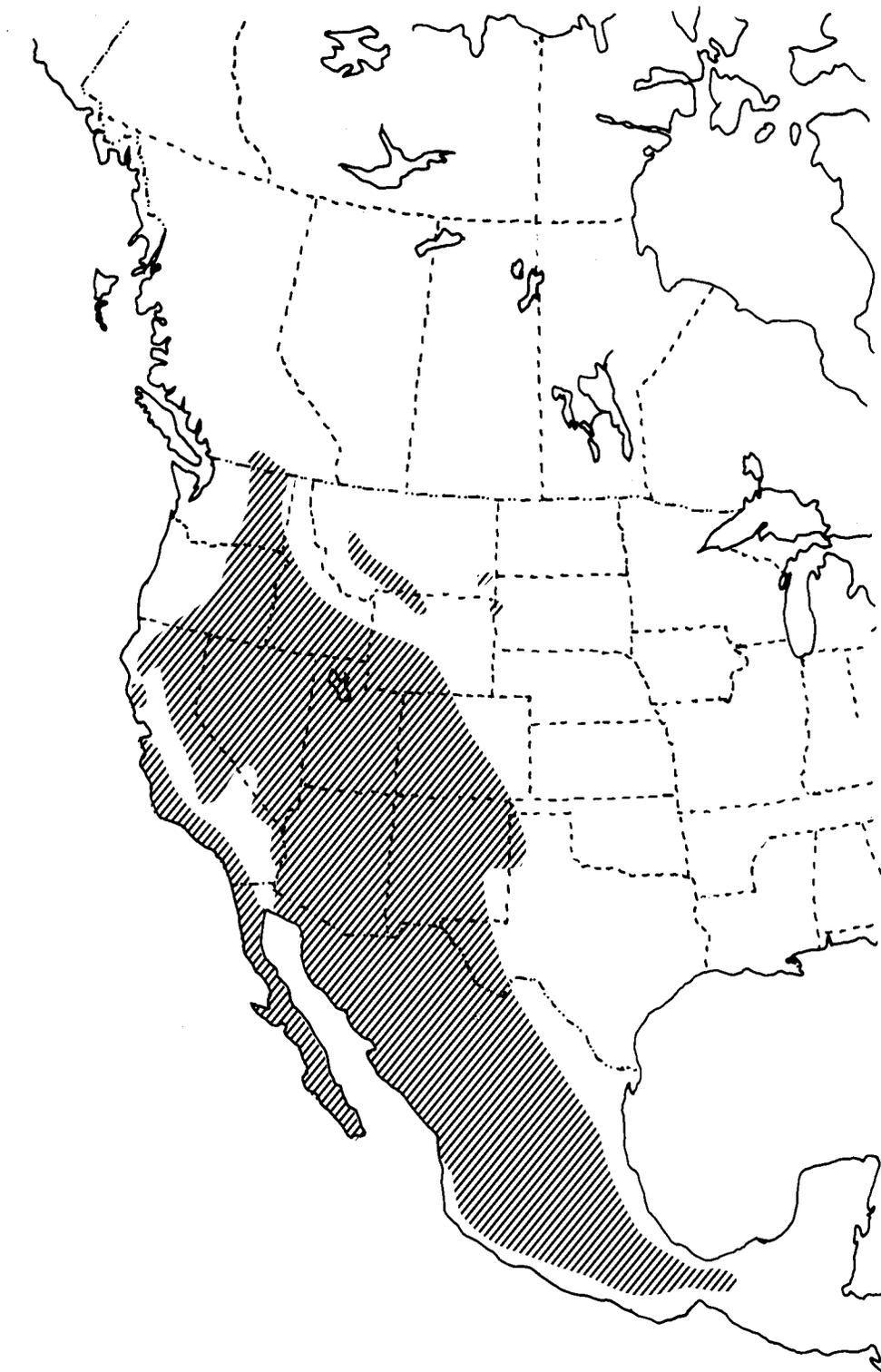


Figure 1. World distribution of the Canyon Wren.

## DISTRIBUTION

### World

The Canyon Wren is a resident from southern British Columbia, Idaho, and Montana, south in the western cordillera to the Mexican states of Baja California Sur and Chiapas. Three subspecies have been described: *Catherpes mexicanus mexicanus* throughout most of the Mexican range, *C. m. albifrons* in the Sierra Madre Orientale in northeast Mexico, and *C. m. conspersus* throughout the northern half of the species' range, including Baja California, Sonora and northern Chihuahua (Paynter and Vaurie 1960) (Figure 1).

### Canada

The Canyon Wren is restricted within Canada to the extreme southern interior of British Columbia (Figure 2).

### British Columbia

The heart of the Canyon Wren's range in Canada is the Okanagan Valley south of Penticton; 298 of the 330 provincial records of Canyon Wrens (90%) have come from this area (British Columbia Wildlife Record Scheme—BCWRS). The range of the Canyon Wren appears to contract and expand consistent with the pattern of harsh and mild winters

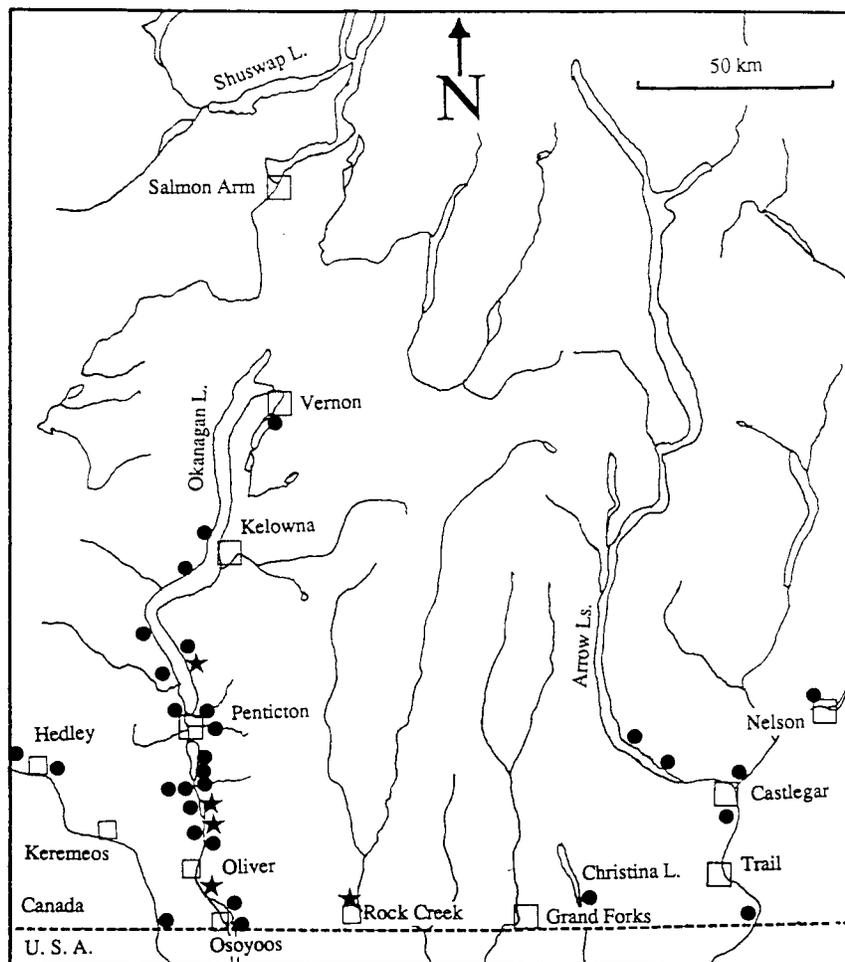


Figure 2. Distribution of the Canyon Wren in Canada.

(Cannings et al. 1987). At its greatest extent, the Canadian breeding range of the Canyon Wren includes the Similkameen Valley north and west to Hedley, the Okanagan Valley north to Summerland and Naramata, the Boundary District from Rock Creek to Christina Lake, and the Columbia Valley from Waneta north to the vicinity of Castlegar (British Columbia Nest Record Scheme—BCNRS, BCWRS). In the fall and early winter, Canyon Wrens, presumably young birds, disperse into new territories, and at this time the species has been sighted north to Vernon. There is only one spring record from the Vernon area.

## POPULATION SIZE AND TRENDS

Preston (1990) counted 51 Canyon Wrens at 40 sites in the south Okanagan Valley from 15 May to 11 July 1990. At least 43 of these birds were singing males. No birds were located in searches of Wild Horse Canyon (Okanagan Mountain Provincial Park), Gallagher Canyon (Kelowna), and Cosens Bay, Kalamalka Lake. In optimal habitat in the south Okanagan, territories seem to be arranged linearly along cliff faces with territory centres about 300 m apart (Preston 1990, Jaroslav Picman, pers. comm.). Using an estimate of three pairs per kilometre of suitable cliff, and judging from the amount of available habitat not searched by Preston (e.g., the east side of Osoyoos Lake, Inkaneep Creek, Manuel's Canyon, Vaseux Creek, Shuttleworth Canyon), the Okanagan population is probably at least twice his total. During peak population periods, the spring population of Canyon Wrens in the Okanagan Valley is almost certainly close to or more than 100 pairs; the overall provincial population would also include at least another five pairs in the Similkameen Valley and perhaps 10 to 15 in the Castlegar area (W. J. Merilees, pers. comm.).

After severe winters, the population drops dramatically. In December 1968, Canyon Wrens were seen as far north as Lambly Creek, northwest of Kelowna, but record low temperatures in January 1969 halted and totally reversed this northward

advance, as Cannings et al. (1987:288) relate: "...At Oliver, the centre of the Canyon Wren's Canadian range, the mean minimum temperature was  $-14^{\circ}\text{C}$  compared to the recent 18-year average of  $-6.7^{\circ}\text{C}$ ...A low of  $-28.6^{\circ}\text{C}$  was recorded in this month. Most, if not all, of the Canyons Wrens in the [Okanagan Valley] did not survive this unusual weather...not one Canyon Wren was reported in 1969 despite many attempts to locate them. Since then, they have become re-established in the Valley's southern reaches and are now as numerous as they were before 1969." The Canadian Canyon Wren population, then, probably fluctuates between zero (after very severe winters—once every 50 years or so?) and 300 or more birds in the late summer or fall after a series of milder winters.

## PROTECTION

The Canyon Wren and their nests and eggs are protected from hunting and collecting under the federal *Migratory Birds Convention Act* of 1994 and the provincial *British Columbia Wildlife Act* of 1982.

Suitable habitat for the species is protected in the Vaseux Bighorn National Wildlife Area and lands managed by the British Columbia Ministry of Environment around Vaseux Lake, and Ecological Reserve #100 (Haynes Lease) at the north end of Osoyoos Lake. Okanagan Mountain Provincial Park may harbour breeding Canyon Wrens, but it is somewhat north of the species' traditional breeding range and Preston (1990) felt that the cliffs there lacked the deep crevices and large-diameter basal talus essential for Canyon Wren habitat.

## LIMITING FACTORS

Canyon Wren populations have two stringent restraints in their Canadian range--the strict habitat requirements of large cliffs with deep crevices, and the frequency of severe winters. The latter factor periodically reduces the population to essentially zero while the former factor undoubtedly slows the spread of Canyon Wrens in periods of milder win-

ters. Another possible threat to the Canyon Wrens of the south Okanagan is the recent increase in popularity of rock climbing on the magnificent cliffs in the Vaseux Lake area. This activity should be closely monitored to assess the extent of disturbance caused by climbers and/or the habitat degradation resulting from modern climbing techniques.

## **SPECIAL SIGNIFICANCE OF THE SPECIES**

The Canyon Wren is on the British Columbia Ministry of Environment's 1993 Blue List (Harper et al. 1994). It is a South Okanagan Critical Areas Program (SOCAP) Priority 2 species (Hlady 1990), meaning most of its British Columbian population is in the south Okanagan. The Canyon Wren is not monitored in Washington State (Washington Department of Wildlife 1988). This species is considered not at risk in Canada by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC 1993).

The rock cliff and talus habitat of the Canyon Wren is also home to several other species of concern, including the Western Rattlesnake (*Crotalus viridis*), Spotted Bat (*Euderma maculata*), Pallid Bat (*Antrozous pallidus*), California Bighorn Sheep (*Ovis canadensis californiana*), Nuttall's Cottontail (*Sylvilagus nuttallii*) and White-throated Swift (*Aeronautes saxatilis*).

## **RECOMMENDATIONS AND MANAGEMENT OPTIONS**

The Canyon Wren is probably adequately protected in Canada as far as secure habitat is concerned. What is needed is further study concerning the precise distribution of the species within protected areas in the Okanagan Valley so that future threats may be recognized, and an assessment of the need for further habitat protection.

## **EVALUATION**

The Canyon Wren is a locally common species in western North America, and has narrow habitat requirements—large cliffs in arid or semi-arid areas with mild winters. In Canada, these requirements are met only in the south Okanagan Valley of British Columbia and to a lesser extent in the adjacent Similkameen and Columbia valleys. Because of its extremely rugged nature, the physical habitat of the Canyon Wren is relatively safe from development pressures, and several of the most important sites in British Columbia are adequately protected. However, these sites are so confined to a small geographic area that the Canyon Wren should be considered Vulnerable in British Columbia.

## **ACKNOWLEDGEMENTS**

I would like to thank the Okanagan Region Wildlife Heritage Society for funding this report, and also the World Wildlife Fund and British Columbia Ministry of Environment for additional support. Orville Dyer and Mike Sarell of the Penticton office of the Wildlife Branch were particularly helpful in arranging funding. Al Preston, ably assisted by Margaret Harris, provided valuable field data collected during the wettest summer in recent history, and Wayne Campbell kindly brought BCWRS and BCNRS data cards from the Royal British Columbia Museum. I also thank the Nongame Program of the Washington Department of Wildlife for providing unpublished status information from that state. Finally I would like to thank Ron Erickson of the Nature Trust for British Columbia and Debbi Hlady of the Ministry of Environment for involving me in the South Okanagan Critical Areas Program, for which I hope this report is of some use.

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