

# TECHNICAL NOTES

U.S. DEPARTMENT OF AGRICULTURE

WYOMING

SOIL CONSERVATION SERVICE

Biology No. 222

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Subject: VESPER SPARROW\*

## General

The vesper sparrow (Pooecetes gramineus) is a common summer resident in Wyoming, New Mexico, and Colorado where it is found on the plains and in the foothills between 5,000 and 9,000 ft (1,524 and 2,743 m) in elevation. This sparrow is a common breeder on New Mexico mesas, especially from 7,000 to 8,000 feet (2,133 to 2,438 m) and in the open grassy parks of northern New Mexico.

## Food Requirements

The diet of the vesper sparrow consists of 69 percent vegetable matter, in the form of seeds, and 31 percent animal matter, mainly insects. During the winter, the diet consists almost entirely of vegetable matter such as grains and the seeds of weeds and grasses. Beetles, grasshoppers, worms, and caterpillars comprise the bulk of the spring and summer diet. Nestling vesper sparrows in Michigan were fed on a predominantly animal diet, which contained significantly higher frequencies of bugs, caterpillars, flies, and spiders than the adult diet.

## Water Requirements

The combination of low water requirements and a diet of seeds and insects allows the vesper sparrow to live without free water, unless stressed by high temperatures. This species has been found 10 to 15 miles (16 to 24 km) from known water sources. Laboratory tests and observations in the wild show that these sparrows drink water if it is available.



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\*Information taken from Ecoregion M3113 Handbook and Habitat Suitability Index Models, Wildlife Species Narratives (literature searches), U.S. Fish and Wildlife Service, various dates between 1978-1984.

#### Cover Requirements

The vesper sparrow in Colorado is common in grasslands and scrub oak-covered foothills during the breeding season. In northern New Mexico, these birds are found on sagebrush flats and also on plateaus containing grass, forbs, and shrubs. Sagebrush-grassland associations were preferred habitats in central Montana.

#### Reproductive Requirements

Nests of the vesper sparrow are located in a depression on the ground, under a sheltering bush, or clump of grass. Nests are constructed of coarse grasses interwoven with rootlets and are lined with fine grasses and hair. Vesper sparrows in Montana preferred to locate their nests beneath sagebrush that ranged in height from 5.5 to 13.5 in (14 to 34 cm). Nest site selection appeared to be determined by available cover with vesper sparrows locating their nests under live sagebrush which averaged 1.1 ft<sup>3</sup> (0.03 m<sup>3</sup>) in volume.

#### Special Habitat Requirements

Male vesper sparrows perch on rocks, shrubs, fence posts, or on the ground while singing. They appear to prefer the highest perches available.

#### Interspersion Requirements

Territories range in size from 1.2 to 1.8 acres (0.48 to 0.73 ha) per pair in grassland parks of 5 acres (2 ha) or larger.

#### Special Considerations

A few vesper sparrows remain in Wyoming, Colorado, and New Mexico during fall and winter, but the majority migrate south.

A total kill of sagebrush by chemical spraying did not result in a significant reduction in breeding pairs of vesper sparrows in Montana. Nests in these areas were placed under clumps of herbaceous vegetation. The size of sagebrush selected for nest cover appeared to be little influenced by spraying.