

# Best Management Practices for Grassland Birds

## Why they need vegetation mosaic



Interested landowners are encouraged to contact:

**OPERATION GRASSLAND COMMUNITY**

or

**PARKLAND STEWARDSHIP PROGRAM**

Alberta Fish and Game Association

6924 – 104 Street NW

Edmonton, AB T6H 2L7

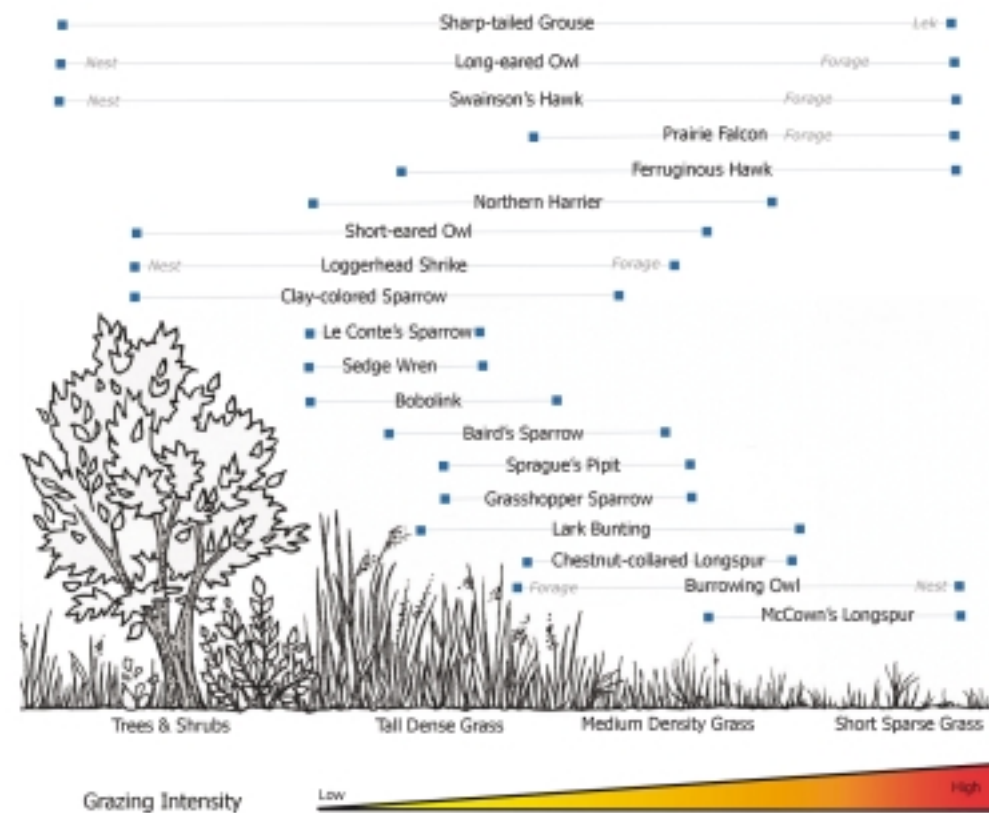
Phone: (780) 437-2342

Fax: (780) 438-6872

On-line at: <http://www.afga.org/>

The birds and other species of the prairie ecosystem evolved over hundreds of thousands of years to adapt to the prairie environment. This is an unpredictable environment, as prairie dwellers today know. Prior to our arrival, many factors contributed to this 'unpredictability' and resulted in a landscape with a mosaic of vegetation types and heights. These factors included: the migration of bison and antelope, who would leave some areas heavily grazed and others untouched; natural fires occurring with varying frequency in different areas; years of heavy rains; and years of drought. Prairie species have become uniquely adapted to this naturally occurring mosaic of vegetation structure.

This information sheet demonstrates why a vegetation mosaic is needed if you are interested in preserving the greatest diversity of wildlife on your lands.



This figure clearly shows that variation in grazing intensity produces variation in vegetation structure, which in turn provides habitat for the greatest diversity of species.

To learn more about why some species need such a variety of habitat types to survive, read the examples below.

## Burrowing Owl

### REASON FOR CONCERN

- Populations declining at over 20% per year. Burrowing Owls are an Endangered species in Canada
- Potential causes of decline: cultivation of grasslands, loss of burrowing mammals that provide nest sites, use of pesticides, higher densities of ground predators, and reduced food availability.

### HABITAT REQUIREMENTS

Burrowing Owls need: holes for nests, short vegetation around nests (to catch insects and see predators), and taller vegetation nearby as a source for mice.

**Nests.** Existing burrows of badgers, ground squirrels, prairie dogs, or foxes in pastures and native prairie that is grazed by livestock.

**Foraging.** Owls avoid cropland, preferring idle fields or pasture. Goal is to find areas of small mammals in highest numbers (taller vegetation).

**Area Requirements.** Home ranges vary from 8 to 481 ha depending on food availability.

### MANAGEMENT ISSUES

- Owls need habitat mosaic that includes treeless, contiguous areas of native grasslands with short/sparse vegetation around nests (to watch for predators), and taller vegetation nearby (better conditions for burrowing owl prey; e.g., mice and voles)
- Burrowing Owls benefit from integrated management of rangelands: sustains ground squirrels, prairie dogs, and badgers (for nest sites) and enhances conditions for burrowing owl prey (areas of taller vegetation).
- Also prefer areas with grazers as the owls use livestock manure to line their burrows (may improve thermoregulation, attract dung beetles as prey, or decrease predation rates on such nests).

## Ferruginous Hawk

### REASON FOR CONCERN

- Listed as a Species of Special Concern
- Vulnerable to loss of grassland habitats, woodland expansion due to fire suppression, and reduction in prey availability in highly cultivated areas.

### HABITAT REQUIREMENTS

Grasslands, including native and tame grasslands, pastures, and haylands. Areas of Alberta with >50% cultivation receive limited use.

**Nests.** Build stick nests on or near the ground, in trees, and artificial platforms. Easily disturbed and prone to abandonment

**Foraging.** Ground squirrels make up 90% of diet in Alberta.

**Area Requirements.** 1 km<sup>2</sup> suggested as minimum area requirement.

### MANAGEMENT ISSUES

- Needs large blocks contiguous native prairie.
- Grazing beneficial as it reduces vegetative cover and increases visibility of ground squirrels, their main prey.
- Because ground squirrels make up 90% of their diet, it would benefit the hawks if gopher control was avoided in the area of their nest (the hawks will control the gophers naturally).

## Loggerhead Shrike

### REASONS FOR CONCERN

- Classified as a threatened species in Western Canada, Loggerhead Shrikes have declined by 10% per year since the 1960's.
- Expansion of cropland has decreased the availability of breeding habitat.

### HABITAT REQUIREMENTS

Open grassland interspersed with trees or shrubs (e.g. thorny buffaloberry, willow, or common caragana) for nesting, perching, and impaling prey (secure prey on thorns and sharp branches for storage and to help the Shrike tear the food for consumption as they lack talons.)

**Nests.** Nests in shrubs and trees.

**Foraging.** Areas of moderately grazed mixed-grass prairie for insects, and in taller grass (>20 cm) for small mammals.

**Diet.** Insects such as crickets, grasshoppers, and beetles, but also small mammals, birds and amphibians.

**Area Requirements.** Average territory size in Alberta is 8.5 ha.

### MANAGEMENT ISSUES

- Shrikes require a shorter grass component (e.g., moderately grazed or mowed) for insect foraging, and a taller grass component for vertebrate foraging.
- Shrubby habitats must be maintained to provide for nesting and perching.
- Grazing is tolerated if trees and shrubs used for perching and nesting are protected against cattle grazing and rubbing.

## Sprague's Pipit

### REASON FOR CONCERN

- Threatened in Canada, Sprague's Pipit have been declining at 7% per year over the past 35 years.
- Rely almost exclusively on native grasslands. Unfortunately, over 75% of native grasslands in Canada have been cultivated, resulting in substantial habitat loss for this species.

### HABITAT REQUIREMENTS

Well-drained native grasslands of moderate height with little or no woody vegetation. Native grassland invaded by smooth brome or crested wheatgrass receive limited use.

**Nests.** At base of a tussock of grass in an area with dense and relatively tall grasses and sedges.

**Foraging.** In areas with grass several centimeters tall. Primarily insectivorous, eating beetles, grasshoppers, spiders, ants, and moth larvae.

**Area Requirements.** The minimum area requirement is 190 ha.

### MANAGEMENT ISSUES

- Sprague's Pipits require native prairie, with moderate vegetation height.
- Management approaches include light to moderate grazing, prescribed burning in moister areas, and, in some cases, mowing done the previous year. Woody plant encroachment should be prevented.