**Keeping Grasslands Healthy**

Using birds to measure the health of your California grasslands

**Why should you care about grassland health?** Healthy grasslands are important habitats for birds and other wildlife, and also places where we farm and ranch. They provide food, cover, space and safe access to water for both wildlife and livestock. Since not all grassland birds use the same type of grassland, you may not find all of the birds listed below in one place. Take note which birds are associated with which type of grassland, as indicated at the top of the table. How do you know if your grassland is healthy? Look for these grassland bird species — together they feed and nest in different areas of healthy grassland habitats throughout most of California, including rangelands in and around the Central Valley. If the birds are there, your grassland is healthy!

<table>
<thead>
<tr>
<th>Grasshopper Sparrow</th>
<th>Savannah Sparrow</th>
<th>Golden Eagle</th>
<th>Northern Harrier</th>
<th>Lark Sparrow</th>
<th>American Kestrel</th>
<th>White-tailed Kite</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Photo: Ryan DiGaudio" /></td>
<td><img src="image2" alt="Photo: Ryan DiGaudio" /></td>
<td><img src="image3" alt="Photo: Andrew Reding" /></td>
<td><img src="image4" alt="Photo: Ed Harper" /></td>
<td><img src="image5" alt="Photo: Tom Grey" /></td>
<td><img src="image6" alt="Photo: Ed Harper" /></td>
<td><img src="image7" alt="Photo: Tom Grey" /></td>
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**Tips for a Healthy Habitat**
- Promote native bunch grasses through restoration and prescribed grazing.
- Maintain open grassland areas and promote native bunch grasses.
- Maintain open foraging habitat, especially areas with abundant rodent prey such as ground squirrels.
- Maintain fields with tall, permanent vegetation and hedgerows.
- Maintain and restore native bunch grasses and oak woodlands around grasslands.
- Maintain standing dead trees for perches and nest cavities. Consider installing nest boxes.
- Maintain fields with tall vegetation in grasslands and oak savannas.

**How to Identify**
- A small, mostly brownish sparrow with an unmarked buffy breast, and a dark crown with pale middle stripe. Song is an insect-like buzz.
- Brown above and white below with streaks throughout, often with a small yellow patch in front of the eye. Pink legs.
- One of the largest birds in North America; adults dark brown with golden sheen on back of head and neck; immatures with white patches in wings and tail.
- Medium-sized raptor with distinctive white patch on the rump; males are gray and white; females brown with black bands on tail.
- A large sparrow with a striking face pattern, whitish underparts with a dark spot on breast, and a long, rounded tail with white corners.
- A small falcon with black vertical “sideburns” on the sides of their faces. Males have slate-blue wings; females wings are reddish brown.
- A medium-sized slender hawk with long, narrow, pointed wings. Gray back and wings with black shoulders, white face and underside. Hovers to hunt.

**Nest Site**
- Nests of grass built on ground in dense vegetation, often at base of a large tuft of grass.
- On ground in tall grasses.
- Usually nests on cliff ledges, though sometimes in large trees.
- On the ground in wetland or other dense, tall vegetation.
- In vegetation on the ground, though sometimes low in a shrub or tree.
- In tree cavities (usually old woodpecker holes), but will readily use artificial nest boxes.
- In trees, usually along the edge of open habitat.

**Diet**
- Mostly insects (especially grasshoppers).
- Insects and seeds.
- Small mammals, especially ground squirrels.
- Mostly small to medium sized rodents.
- Seeds and insects.
- Large insects, rodents, birds, and reptiles.
- Mostly rodents.

**Time of Year**
- Spring—Summer.
- Mostly winter in the Central Valley.
- Year-round.
- Year-round (more common in winter).
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<th>Tips for a Healthy Habitat</th>
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<td>Maintain open grassland with sparse, short-statured vegetation.</td>
<td>A ground-loving songbird; males have a black chest band, a black mask, and head stripes that sometimes extend as raised horns.</td>
<td>Grass-lined nest in depression on ground.</td>
<td>Seeds, insects, and fruits.</td>
<td>Year-round (more common in winter).</td>
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<tr>
<td>Maintain large tracts of open grasslands with few to no trees and bushes.</td>
<td>Robin-sized with yellow underparts, streaked brown, black, and buff upperparts. A black “V” crosses the yellow breast. Song loud and flute-like.</td>
<td>In a depression or in dense vegetation on the ground in grassland.</td>
<td>Insects, spiders, and seeds.</td>
<td>Year-round (more common in winter).</td>
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<td>Maintain short-statured grasslands. Avoid disturbing nest burrows and consider installing artificial nest burrows.</td>
<td>A small owl often seen on the ground with no ear tufts, long legs, spots on the back, and barring on the front.</td>
<td>In burrows (usually from ground squirrels), but will use artificial burrows.</td>
<td>Insects, small rodents, and reptiles.</td>
<td>Year-round.</td>
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<td>Maintain open, treeless grasslands and manage for low grass height in the winter months.</td>
<td>A large hawk with long, pointed wings. Tail white or light gray. Adults can be either mostly pale with rufous shoulders or entirely dark brown.</td>
<td>On the ground or platforms (does not nest in the Central Valley).</td>
<td>Large rodents such as rabbits and squirrels.</td>
<td>Winter only (except in northeast California).</td>
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<td>Maintain open habitat with moderate well-spaced shrub cover that provides hunting perches.</td>
<td>A gray songbird with a black mask and white flashes on the black wings. The gray head contrasts with the black mask, black bill, and white throat.</td>
<td>In a densely vegetated tree or shrub ~3—10ft from the ground.</td>
<td>Large insects and small vertebrates.</td>
<td>Year-round.</td>
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### HOW YOU CAN HELP

- Develop a grazing management plan that considers timing (seasonality), duration (length of graze period/rest period), and intensity (stocking rate) of grazing for each field.
- Time grazing within a field from year to year to occur during different plant stages (blooming, seeding, etc.) to encourage plant diversity.
- Time grazing to maximize impact on undesirable plant species (e.g. medusahead and starthistle).
- Limit disturbance to nesting birds and other wildlife during the nesting season (April — July in most California or Central Valley grasslands). If necessary, conduct mowing or burning early in the season and often to prevent nest initiation.
- Avoid using rodenticide poisons that have secondary effects on raptors and other wildlife.
- Retain trees in savannah settings, living or dead, that have cavity holes for nesting and roosting birds. Standing snags and downed wood provide wildlife habitat for many species and contribute to nutrient cycling.
- Protect soil and water resources by minimizing runoff and erosion from access roads and around troughs.
- Manage for a diversity of perennial and annual grasses and forbs to maximize wildlife and livestock benefits.
- Manage for a mosaic of habitat features across a grassland landscape that include short grass, tall grass, streamside shrub and tree corridors, and dispersed tree and shrub stands.

Contact your local NRCS for technical and/or financial help with these beneficial activities.