# Natural History: Streaked Horned Lark and Land Management

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Horned Larks are widely distributed across North America. A journey through the heartland will undoubtedly show that they are one of the most common and ubiquitous species of bird that you will encounter. For this reason, it may come as a surprise to some people that they are of increasing conservation and management concern in one corner of the country.

Mention the words "Pacific Northwest" and the image that most people will conjure in their minds is one of a sodden temperate rain forest with towering spruce and fir trees. It would probably be safe to say that "dry upland prairies surrounded by oak woodlands, that glissade into savannas where they meet" is an image not often associated the Pacific Northwest. Yet, analogous to the law of physics that 'all actions have and equal and opposite reaction,' these dry treeless plains do exist in the rain shadow of that popular image.

As might be expected, these landscapes house a variety of unique flora and fauna. Amongst these unique taxa is the Streaked Horned Lark (*Eremophila alpestris strigata*). The Streaked Horned Lark (Figure 1) is one of twenty-four races of Horned Lark found in North America (Beason 1995). In appearance, it is the most colorful and well defined of all the races. The males have a bright chestnut colored nape and intensely yellow face, breast and belly, while the females are similar, but slightly duller. Allopatric with other races, it breeds only in the dry prairies of Washington's Puget Trough and in Oregon's Willamette Valley and sparingly in coastal dunes of Washington, as illustrated in Figure 2 (Gabrielson and Jewett, 1940; Jewett et al., 1953). It formerly bred in British Columbia and the northern part of the Puget Sound, but is now believed extirpated from those areas (Campbell et al., 1997).

The Streaked Horned Lark is a migratory race within the species (some races of

**Figure 1.** The Streaked Horned Lark. Sketch by Russell Rogers.

Horned Larks are not migratory). They arrive on their breeding grounds in early to mid February and begin nesting activities by the end of March. In the Puget Trough they are known to double brood, which can carry their breeding season into the first of August. By mid to late August they have all but disappeared from their breeding grounds. To where they migrate is somewhat of a mystery. Many authorities believe that they migrate directly to the south to areas of California. However, some authors have suggested (Behle, 1942; Gabrielson and Jewett, 1940), based on a few specimen records, that they migrate over the Cascade Mountains to winter in the bitterly cold and arid regions of eastern Oregon, which is contrary to our understanding of why birds migrate. Nonetheless, it is an interesting question and one that warrants further research.

These birds were a common sight in the south Puget Sound region and the Willamette Valley around the turn of the century (Bowles, 1900; Dawson and Bowles, 1909; Gabrielson and Jewett, 1940; Jewett et al., 1953). Today, however, the population in Washington is estimated to be no greater than 100 pairs (R. Rogers, unpublished data). The Streaked Horned Lark was recently listed as a candidate for the Washington Endangered Species List (Washington Department of Fish and Wildlife, 28 October 1998) and in Oregon they are designated as State Sensitive Species (Oregon Sensitive Species List, December 1997).

The grasslands west of the Cascade Mountains that these birds inhabit are among the most endangered landscapes in Washington and Oregon. In the Puget Sound region, estimates of the extent of grasslands

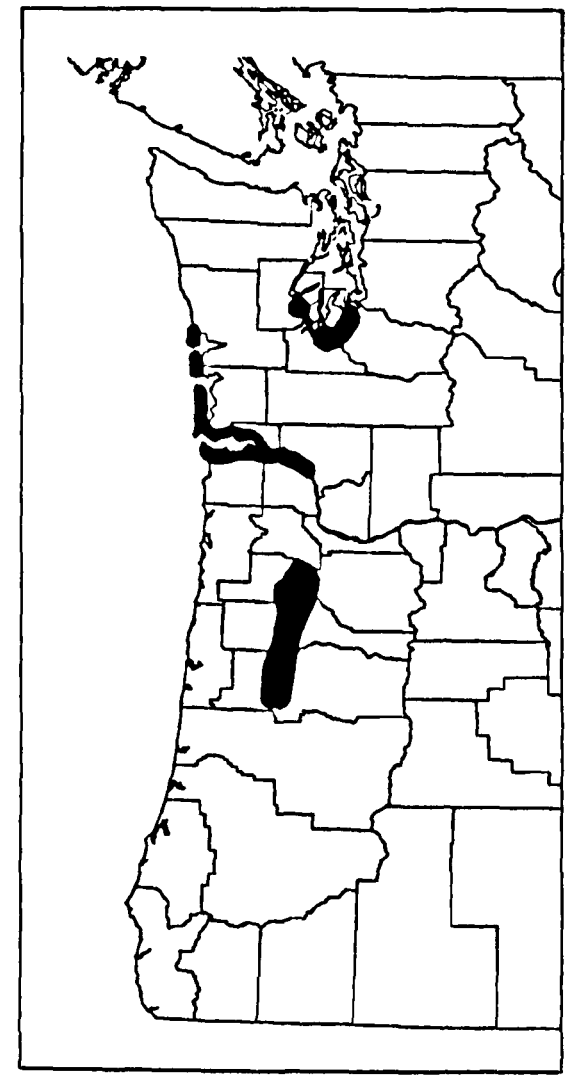

**Figure 2.** Current known distribution of the Streaked Horned Lark in western Washington and Oregon.

at the arrival of Europeans is believed to have been approximately 150,000 acres, where today less than 4000 remain. In addition to the threats that are usually associated with habitat loss such as urbanization and agriculture, these landscapes are also threatened by encroachment by introduced flora, such as Scot's broom (*Cytisis scoparius)*, as well as native flora, such as Douglas-fir (*Pseudotsuga menziesii*) and lodgepole pine (*Pinus contorta*). The cause of this encroachment is attributed primarily to the suppression of fire. In the grasslands that do persist, introduced grasses such as colonial bentgrass (*Agrostis tenuis*) and sweet vernalgrass (*Anthoxanthum odoratum*) crowd out and replace the native bunchgrass Idaho Fescue (*Festuca idahoensis*), increasing the structure and density of the vegetation to the point that the Streaked Horned Larks no longer find it acceptable. This scenario of encroachment by woody vegetation and introduced forbs is particularly prevalent in the Puget Sound region. There, most of the remaining grass-



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lands are located within the Fort Lewis Army Base, where fire suppression has long been a part of the landscape management policy. In contrast, in the Willamette Valley of Oregon, much of the loss of native grasslands has been due to its conversion to agriculture and urbanization.

Horned Larks prefer vegetation that is very low (<3cm) and not very dense (>50% bare ground; Rogers, 1999; Altman, 1998). Some converted landscapes provide these parameters; for example, plowed agricultural fields, Christmas tree farms, and airport runways. However, all of these converted landscapes have a high degree of human activity, which could affect the reproductive success of birds breeding there. Further study is needed to determine if these areas are population sinks or not. If Horned Larks can reproduce in these areas, research to determine their breeding phenology could suggest the optimal timing of mowing and plowing in order to least interfere with the brooding of chicks.

Reintroducing fire as a management tool in the remaining grasslands, and subtle alterations in the way some converted landscapes are managed will be good first steps in reversing the declining population trend of this unique bird.

## Acknowledgments

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