

PETITION TO LIST

STREAKED HORNED LARK
(Eremophila alpestris strigata)

AS A FEDERALLY ENDANGERED SPECIES



Center For Biological Diversity
Friends of the San Juans
Oregon Natural Resources Council
and
Northwest Ecosystem Alliance

December 10, 2002

Ms. Gale Norton
Secretary of the Interior
Office of the Secretary
Department of the Interior
18 th and C Street N.W.
Washington D.C., 20240

Dear Ms. Norton:

The Center for Biological Diversity, Friends of the San Juans, Oregon Natural Resources Council, and the Northwest Ecosystem Alliance hereby formally petition to list the streaked horned lark (*Eremophila alpestris strigata*) as endangered pursuant to the Endangered Species Act, 16 U.S.C. 1531 et seq. This petition is filed under 5 U.S.C. 553(e) and 50 CFR 424.14 (1990), which grants interested parties the right to petition for issue of a rule from the Assistant Secretary of the Interior.

Petitioners also request that critical habitat be designated concurrent with the listing, as required by 16 U.S.C. § 1533(b)(6)(C) and 50 CFR 424.12, and pursuant to the Administrative Procedures Act (5 U.S.C. 553).

We are aware that this petition sets in motion a specific process placing definite response requirements on the U.S. Fish and Wildlife Service and very specific time constraints upon those responses. 16 U.S.C. § 1533(b).

Sincerely,

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The Center for Biological Diversity combines conservation biology with litigation, policy advocacy, and an innovative strategic vision to secure a future for animals and plants hovering on the brink of extinction, for the wilderness they need to survive, and by extension for the spiritual welfare of generations to come.

Friends of the San Juans works to protect and promote the health and future of the San Juan Islands: land, water, natural and human communities.

Oregon Natural Resources Council's mission is to aggressively protect and restore Oregon's wild lands, wildlife and waters as an enduring legacy. One of our top goals it to protect and restore habitat for native species, including rare and imperiled species such as butterflies.

Northwest Ecosystem Alliance was established in 1988 and is a non-profit 501(c)(3) public interest organization incorporated in the State of Washington. NWEA and its members are dedicated to the protection and restoration of biological diversity. NWEA conducts research and advocacy to promote the conservation of sensitive and endangered wildlife and their habitat in the northern Pacific region.

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I. EXECUTIVE SUMMARY

The streaked horned lark (*Eremophila alpestris strigata*) is small, ground-dwelling songbird with conspicuous feather tufts, or “horns,” on its head. Its back is heavily streaked with black, contrasting sharply with its deeply ruddy nape and yellow underparts.

It formerly was a common nesting species in grasslands and prairies west of the Cascade Mountains from southern British Columbia, through Washington and Oregon. It was so abundant around Puget Sound as to be a nuisance to turn of the century golfers. The destruction of 95% of native grasslands on the west coast, however, caused cataclysmic population declines. The streaked horned lark was likely extirpated from British Columbia in 1990. Though common around Puget Sound up to the 1950's, it is now extirpated from the San Juan Islands. A total about 100 pairs remain divided between south Puget Sound and islands near the mouth of the Columbia River. In the 1920's the streaked horned lark was considered one of Oregon's “characteristics birds” and was fairly common up to the 1970's. It is now extirpated from the Umpqua and Roque valleys and occurs only in scattered sites in the Willamette Valley. The states entire population is about 200 pairs.

The greatest threat to the streaked horned lark's survival is the dramatic loss of native grasslands. They are perhaps the most endangered habitat type on the west coast of North America. Puget Sound lowland prairies have been reduced from 150,000 to just 4,000 acres- a 97% reduction. Willamette Valley grasslands have been reduced to one-tenth of one percent of their historical extent. The loss has been caused by agricultural expansion, livestock grazing, urban and suburban sprawl, and fire suppression.

II. NATURAL HISTORY

A. Description

The horned lark (*Eremophila alpestris*) is a small ground-dwelling songbird with conspicuous feather tufts, or “horns”, on its head that inspire its common name (Beason 1995). The streaked horned lark (*Eremophila alpestris strigata*) is the most colorful and distinctively marked of all the subspecies (Rogers 1999a), its back heavily streaked with black contrasts sharply with its deeply ruddy nape and its yellow underparts (Jewett et al. 1953).

B. Taxonomy

The horned lark is the only member of the family *Alaudidae* native to North America. The streaked horned lark, one of the first horned lark subspecies recognized, was originally described by Henshaw (1884) from a specimen collected near the southern end of Puget Sound, between Tacoma and Fort Lewis, Washington. It is one of 21 currently recognized horned lark subspecies (American Ornithologists' Union 1957; Beason 1995).

C. Habitat Requirements

The streaked horned lark breeds in short herbaceous vegetation (< 30 cm tall), a relatively high

percentage of bare ground, patches of sparsely vegetated areas interspersed with more densely vegetated patches, and an absence of woody vegetation (Altman 1999). The primary native habitat for the streaked horned lark was gravelly, well drained prairie (e.g., Dawson and Bowles 1909; Samuel F. Rathbun 1911, personal communication cited in Bent 1942), a highly endangered habitat in Washington and Oregon (Dunn and Ewing 1997; Rogers 1999a). To a lesser extent, it uses seasonal mudflats.

In addition to these natural habitats, certain types of disturbed sites may also be suitable for breeding, such as sparsely vegetated patches within or adjacent to pastures or fallow fields, christmas tree farms (< 3 years old with extensive bare ground), airport runways, and gravel roads (Altman 1999). The precise type of converted habitat and particular plant species composition seem not to be of great importance so long as specific microhabitat conditions are met (Altman 1999; Rogers 1999b). Unfortunately, streaked horned larks breeding in these non-prairie habitats (and this includes most extant populations) are particularly vulnerable to both direct threats (e.g., nest destruction) and indirect threats (e.g., disturbance causing nest abandonment). This is because these habitats are often ephemeral (e.g., plowed fields, bare or sparsely vegetated areas within fields), are subject to human disturbance (e.g., roads and roadside shoulders, mowed fields, military training grounds), or are subject to inundation from flooding or heavy rains (mudflats) (Altman 2000). Rogers noted that although breeding may occur at these sites, some of these alternative habitats may in fact function as population sinks (Rogers 1999a). He nevertheless suggested, however, that efforts to restore populations on remaining prairie remnants could be effectively supplemented by facilitating breeding opportunities in certain anthropogenic habitats (e.g., by modifying mowing or plowing schedules based on studies of lark breeding phenology), although management of remaining native prairie habitat (e.g., by careful use of controlled burns) will surely be essential in reversing the decline of the streaked horned lark (Rogers 1999a,b).

III. POPULATION STATUS

A. Historic distribution and abundance

Historically, the streaked horned lark bred west of the Cascade Mountains in southwestern British Columbia, Washington, and Oregon (Behle 1942). It may have been extirpated from British Columbia (Cannings 1998), but small populations persist in a few areas in Oregon and Washington (see below). Even historically, when the streaked horned lark was far more abundant than it is today, its distribution was quite local, with one area supporting a high density of breeding individuals while adjacent apparently suitable habitat remained unoccupied (Bowles 1899; Rogers 2000). In recent decades, as the amount of suitable breeding habitat has been greatly reduced, the streaked horned lark has undergone a dramatic decline.

British Columbia

At one time the streaked horned lark occurred in extreme southwestern British Columbia (Behle 1942). It was distributed west of the Cascades from the Fraser Delta south to Washington and Oregon (Cannings 1998). It was resident along southeastern Vancouver Island, from Comox south to Victoria, and in the Fraser Lowland. It was first noted in British Columbia on southern Vancouver Island, where it was probably a locally distributed resident in the late 1800s. By the

late 1920s, it had also been recorded from the mainland, near Chilliwack, where breeding was subsequently documented (Major A. Brooks, personal communication cited in Behle 1942). Over the next decade or so, additional specimens were collected from localities adjacent to Vancouver (e.g., University of British Columbia agricultural fields) and at Boundary Bay and Lulu Island (Campbell et al. 1997). Small numbers of larks persisted in farmland and prairies in the Fraser River delta through the next 30 years. By the mid-1960s, populations on the Fraser River delta were apparently limited to the mowed fields of the Vancouver International Airport on Sea Island, where it was considered a rare resident as recently as 1990 (Weber et al. 1990 cited in Campbell et al. 1997). Since then, destruction of habitat by urbanization has virtually extirpated this population, although some birds may persist at the airport and in the vicinity of Abbotsford and Chilliwack (Campbell et al. 1997).

Washington

Historically, the streaked horned lark bred mainly on largely barren gravelly prairies west of the Cascades, thus being largely confined to Pierce, Thurston, and Chehalis Counties (Dawson and Bowles 1909). It was common in the south Puget Sound region (from which it was originally described in 1884) around the turn of the century (Bowles 1899; Dawson and Bowles 1909; Gabrielson and Jewett 1940; Jewett et al. 1953). Dawson and Bowles (1909) reported that it was at one time found in abundance on the prairies surrounding the golf links of south Tacoma, and in fact on several occasions larks were killed by errant golf balls. By 1906, however, the area around the golf links had become a common area busy with workmen, children, delivery wagons, cows, sheep, and dogs and the larks rapidly disappeared from this location (Dawson and Bowles 1909). In the early 1950s the streaked horned lark occurred “commonly in the prairie country south of Tacoma” (Jewett et al. 1953). Jewett et al. (1953) wrote of the streaked horned lark's distribution in Washington: “Summer resident and migrant in drier prairies and clearings in the humid transition zone of western Washington. In summer, north and east to Seattle; south and east along the Columbia River to Grand Dalles, Cliffs, Ridgefield, and Dallesport, and west to Grays Harbor region.” From Grays Harbor County, Lawrence (1892) reported streaked horned larks from a small clearing along the bank of the upper Quinault River and Lake, as well as near Humptulips in forest broken by open beaver marshes. Kitchin (personal communication cited in Jewett et al. 1953) observed the species on the sand along the river in Tacoma, and Rathbun (personal communication cited in Jewett et al. 1953) observed it on the tidal flats south of Seattle.

Kitchin (1949) reported that the streaked horned lark was found on the Olympic Peninsula “on the open prairie land between Shelton and Olympia”, with a summer range extending southeastward to include the prairies of Fort Lewis and its vicinity. Kitchin wrote that “in the old days we enjoyed many a long hike over the unlimited, soft moss-covered prairies near Tacoma” during which numerous streaked horned lark nests were found (Kitchin 1949).

Oregon

In the late 19th century, the streaked horned lark was “an abundant summer visitor” in the northern Willamette Valley, “nesting very commonly” (Johnson 1880). Around this same time, it was described as “a rather common summer resident” in Washington County (Anthony 1886). Hoffmann (1927) reported that the streaked horned lark was a common resident in western Oregon and a common summer visitor in southwestern Washington. Around 1920 it was

“plentiful during the summer months” in the open prairie country south of Tacoma and, in fact, “one of the characteristic birds of this part of the state” (Burleigh 1929). Gabrielson and Jewett (1940) described the streaked horned lark as “a common breeding bird of the open fields in suitable locations throughout western Oregon...particularly abundant in the rolling open hills of Polk and Yamhill Counties and in the great, flat, pasture-land area of Linn, Lane, and Benton Counties, and equally abundant in the rocky grasslands east of Medford, Jackson County”. In the early 1940s, the streaked horned lark was regularly found in agricultural areas between Portland and Gresham, and in the Columbia River floodplain north of Portland (D.B. Marshall personal communication cited in Altman 2000 and Marshall et al. 2001).

Gullion (1951) described the streaked horned lark as a "common permanent resident" in the southern Willamette Valley in the 1940s. Gabrielson and Jewett (1940) note that in addition to breeding in the Willamette Valley, the streaked horned lark was "a common permanent resident" breeding in the Umpqua and Rogue River Valleys, as well as in many other smaller valleys of western Oregon. In the early 1970s, Browning (1975) still described the streaked horned lark as “a fairly common permanent resident in the White City area” of the Rogue River Valley.

B. Current distribution and abundance

British Columbia

In British Columbia the streaked horned lark is now at best very rare, and in fact may have been extirpated from British Columbia (Campbell et al. 1997; Cannings 1998), although there have been sight records in the 1990s from the Chilliwack area (R. W. Campbell, personal communication cited in Cannings 1998).

Oregon

In Oregon, breeding populations of the streaked horned lark are limited almost entirely to the Willamette Valley. The horned lark has not been considered a breeding species in the Rogue Valley for the past two decades (O. Swisher personal communication cited in Altman 2000 and Marshall et al. 2001). Similarly, there is no evidence of current breeding in the Umpqua Valley (R. Maertz personal communication cited in Altman 2000 and Marshall et al 2001). Currently, the streaked horned lark is rare to locally uncommon where it occurs in Oregon, with a few small populations in the Willamette Valley (Altman 1999) and a total Willamette Valley breeding population estimated to consist of fewer than 200 pairs, based on an intensive survey effort (Altman 2000).

Within the Willamette Valley, the streaked horned lark can be found in all counties, but rarely in Multnomah and Washington Counties (B. Altman unpublished data cited in Oregon Natural Heritage Program 2001). Most recent records are from Marion and Polk Counties in the central Willamette Valley, especially on and around Basket Slough National Wildlife Refuge and in the Waldo Hills area east of Salem (Altman 1999). Other small scattered populations are found throughout the Willamette Valley, especially the southern part of the valley, and also southeast of Portland near Estacada (Altman 1999). A few additional small populations occur along gravel roads in the highly agricultural, lightly populated areas between Tangent, Peoria, and Harrisburg, as well as between Brownsville and Conurg east of Interstate 5 (Altman 1999). Finally, the streaked horned lark is an uncommon and local breeder on the north coast, especially in the

South Jetty of the Columbia River (Gilligan et al. 1994 cited in Oregon Natural Heritage Program 2001; M. Patterson personal communication cited in Marshall et al. 2001 and Oregon Natural Heritage Program 2001), and on dredged spoil islands in the Columbia River such as Rice Island (M. Patterson personal communication cited in Marshall et al. 2001 and Oregon Natural Heritage Program 2001), Miller Sands Island (Edwards 1979 cited in Marshall et al. 2001 and Oregon Natural Heritage Program 2001), and Jim Crow Island (Dorsey 1982 cited in Marshall et al. 2001).

Breeding Bird Survey data for western Oregon are insufficient for rigorous statistical analysis of population trends, but they are certainly sufficiently grim to cause concern. Of the 11 routes in the Willamette Valley, just four have recorded horned lark. Only one of these routes, west of Salem, consistently records this species, and the number of birds recorded dropped by about half between the late 1970s and early 1980s, from about 20 individuals per route to about 10 (Oregon Natural Heritage Program 2001).

Washington

In recent decades, streaked horned lark populations have declined dramatically in Washington (Rogers 1999c and references therein). This species has been extirpated from the San Juan Islands and from much of the Puget Lowlands (Lewis and Sharpe 1987 cited in Altman 2000). Recent surveys in the north Puget Sound and San Juan Island regions detected no larks. Currently, the only known breeding locations in Washington are a few sites in the south Puget Sound and along the outer coast (Rogers 1999c; Table 1).

Table 1. Sites in Washington with streaked horned larks present during breeding season. Data from Rogers (1999c) and McClaren (2000).

SITE	COUNTY
13 th Division Prairie, Fort Lewis Army Base	Pierce
Gray's Airfield, Fort Lewis Army Base	Pierce
McChord Airforce Base	Pierce
Olympia Airport	Thurston
Shelton Airport	Mason
east end of Puget Island	Wahkiakum
Coffee Pot Island	Wahkiakum
Leadbetter Point	Pacific
Graveyard Spit	Pacific
Midway Beach	Pacific
Damon Point	Grays Harbor

During the 1999 breeding season, Rogers (1999c) surveyed potential lark habitat (large open sites with vegetation <40 cm high and at least 50% bare ground) in the vicinity of historic, current, and potential breeding sites in the San Juan Islands, north Puget Sound, south Puget Sound prairies, Chehalis River Valley, outer coast of Grays Harbor and Pacific Counties, and along the Columbia

River west of Vancouver. Because four of the five known current breeding locations in the Puget Sound are around airstrips, an attempt was made to include in the survey as many areas as possible with airstrips. The only natural area in south Puget Sound where streaked horned larks are known to occur during the breeding season is on a small prairie remnant on Fort Lewis Army Base (Rogers 1999b). A total of 49 singing birds at 11 sites were found in the course of fieldwork; only 2 of these 11 sites were previously unknown, both on small islands in the Columbia River adjacent to Puget Island. Overall, little suitable habitat was found (Rogers 1999c). Most agricultural fields and tree farms visited had vegetation that was too high and too dense for streaked horned larks. It is likely that there are no extant inland populations other than those at McChord Airforce Base, Fort Lewis, Olympia Airport in Thurston County, and Shelton Airport (Sanderson Field) in Mason County. In the Columbia River, the larks detected near Puget Island were nesting on dredge islands. Additional fieldwork during the 2000 breeding season (MacLaren 2000) followed up on the surveys by Rogers (1999c) and detected 58 streaked horned larks at the 11 known breeding sites, with no new sites discovered.

Based on all available survey data and reliable personal communications, Rogers (1999c) estimated the total south Puget Sound streaked horned lark population at about 50 pairs, and the total population for the state of Washington at fewer than 100 pairs. This represents an enormous population decline since the turn of the century (Rogers 1999a; McLaren 2000).

IV. Endangered Species Act Listing Criteria

A. Imperiled status has been formally recognized by federal and state agencies

The streaked horned lark was listed as a candidate species for the federal Threatened and Endangered Species List on October 30, 2001.

The Washington Department of Fish and Wildlife has listed the streaked horned lark as a “species of concern”, and as of October 2001 it had been a candidate for the state endangered, threatened and sensitive species list for at least three years, during which time several surveys have confirmed the critical status of the streaked horned lark throughout its range and particularly in Washington (Altman 1999, 2000; Rogers 1999a,b,c; MacLaren 2000). The Washington Natural Heritage program has ranked this subspecies as critically imperiled (S1B). This is a significant increase in priority rating from the initial priority rating of S3B cited in the FWS Candidate and Listing Priority Assignment Form.

The Oregon Department of Fish and Wildlife has listed the streaked horned lark as critical (a status similar to a federal candidate listing) on its list of sensitive species because of concerns about declining populations and habitat loss. Subsequent studies have reinforced these concerns for both Oregon and Washington (Altman 1999, 2000; Rogers 1999a,b,c; MacLaren 2000). The Oregon Natural Heritage Program has tentatively given this subspecies a rank of S2?.

The streaked horned lark has a natural heritage rank of G5T2, i.e., the species (horned lark, *Eremophila alpestris*) is globally secure, but the subspecies (streaked horned lark, *E. a. strigata*)

occurs only in Oregon and Washington and is globally imperiled (Nature Serve website, <http://www.natureserve.org/explorer/abinhn.htm>).

B. Present or threatened loss of habitat or curtailment of range

The greatest threat to the streaked horned lark's survival is the dramatic loss of native grasslands throughout its range as a result of human activities (Rogers 2000). Likely factors contributing to population declines during the past 40-50 years include (Oregon Natural Heritage Program 2001): extensive loss of natural open habitats to urban/residential development; conversion of suitable agricultural habitat to unsuitable agricultural lands such as rowcrops, orchards, and nurseries; mortality at nests from trampling by livestock; being mowed or run over by vehicles; being inundated by flooding; earlier and more frequent mowing/harvesting of fields which can result in nesting failure; increased predation by predators associated with semi-urban/residential habitats such as skunks, raccoons, crows, and feral and domestic cats and dogs; and potential reproductive failures from the use of pesticides or other contaminants. An additional factor that may be impacting populations is a relatively high likelihood of mortality from moving automobiles resulting from the streaked horned lark's tendency to forage and nest on roads. Nest success on christmas tree farms may be limited by the timing and extent of weed control, pruning, and recreation, and spraying for aphids may reduce prey availability for feeding young (Oregon Natural Heritage Program 2001). Dune stabilization efforts may result in vegetation that is unsuitable for breeding (Rogers 1999c).

Prior to European settlement, the valleys of western Oregon were dominated by grassland and savannah habitats maintained by periodic fires (Towle 1974 cited in Altman 1999; Wilson et al. 1995). In the pre- and early-post settlement of the Willamette Valley, regular flooding and aboriginal burning of the prairies maintained open habitat and likely benefited the streaked horned lark. Settlement, fire suppression, cultivation, and development have resulted in loss of most of these grasslands. As discussed earlier, the streaked horned lark is able to persist in some anthropogenic "grasslands". Until the middle of the 20th century, for example, agriculture in Oregon was characterized by small diversified farms with a mix of cropland, pastures, and fallow fields, which provided suitable habitat for the streaked horned lark (D. Marshall personal communication cited in Oregon Natural History Program 2001). However, after World War II, there was large scale conversion to monocultures of specialty crops in large cultivated fields, with few patches of no or sparse vegetation, a change which has likely played a major role in the decline of the streaked horned lark.

Today, grasslands west of the Cascade Mountains are among the most endangered habitats in Oregon and Washington (Dunn and Ewing 1997; Rogers 1999a, 2000). In the Willamette Valley it is estimated that more than 99% of the native grassland has been lost (Altman 2000). In the Puget Sound region, it is estimated that grasslands covered about 150,000 acres at the time of arrival of Europeans; this expanse has now been reduced to about 4000 acres (Rogers 1999a). In addition to the usual causes of habitat loss such as urbanization and agriculture, as a result of fire suppression these grassland landscapes are now seriously threatened by encroachment by both alien (e.g., *Cytisus scoparius*) and native (e.g., *Pseudotsuga menziesii* and *Pinus contorta*) flora (Rogers 1999a). In grasslands that do persist, alien grasses such as *Agrostis tenuis* and *Anthoxanthum odoratum* replace the native bunchgrass *Festuca idahoensis*, increasing the density

of vegetation beyond what is acceptable to the streaked horned lark. This encroachment is especially serious in the Puget Sound region. Most of the remaining grasslands in this region are within the Fort Lewis Army Base, where fire suppression has long been a part of the landscape management policy (Rogers 1999a). Four of the five known streaked horned lark nesting sites in the south Puget Sound are at active airfields (two at military bases and two at municipal airports). Although mowing at airfields may keep grass cut to a height conducive to horned lark breeding, maintenance activities may destroy nests. Furthermore, potential airport expansions could result in further losses of breeding populations (FWS Candidate Form, updated February 2002). Future business development at Olympia Regional Airport may encroach on streaked horned lark habitat (Dodge 2002). Rogers (2000) notes that flood control measures along the Columbia River have allowed woody vegetation to become established on sandbars where streaked horned larks might once have nested, and deposition of new dredge spoil can destroy previously acceptable habitat on dredge islands (MacLaren 2000; FWS Candidate Form, updated February 2002).

Altman (1999) provided a list of general recommendations for conservation of the streaked horned lark and other grassland associated species in the Willamette Valley. These include: modifications of agricultural practices, such as delaying harvesting of fields until after 15 July; creating or maintaining patches of bare or sparsely vegetated ground within or adjacent to fields; minimizing agricultural field activities during the breeding season; and controlling grazing levels in pasture to manage for preferred grass heights. For the streaked horned lark specifically, Altman (2000) suggested creating and/or maintaining within native and agricultural grasslands small patches (> 0.04 hectares) of suitable habitat that have 20-50% cover of bare or sparsely vegetated ground, have herbaceous vegetation < 12 in (30 cm) tall, and are located in areas with minimal human or environmental disturbances. Bare/sparsely vegetated nesting areas could be created within or adjacent to suitable foraging habitat by mechanically producing depressed scrapes or by flooding desirable sites with minimal threats from vehicles and predators (e.g., sites away from field edges) or flooding (e.g., upland hummocks and dikes)(Altman 2000). Altman (2000) also suggested the possibility of using moist soil management to create seasonal mudflats. To secure the future of the streaked horned lark, he suggested setting an objective of establishing by 2010 >20 breeding populations in the Willamette Valley (>10 pairs/population) and >10 breeding populations in the Puget Lowlands (>10 pairs/population). Establishing multiple populations reduces the risk of catastrophic loss of habitat or other events at any one site and helps maintain genetic diversity. Fortunately, it appears that suitable habitat can support relatively dense populations due to small territory size and the propensity of horned larks to forage communally during the breeding season at good foraging sites.

Habitat management for streaked horned larks would also benefit other species, such as the common nighthawk (*Chordeiles minor*) and the killdeer (*Charadrius vociferus*) (Altman 2000). The status of the Willamette Valley population of the common nighthawk is listed by the Oregon Department of Fish and Wildlife as critical on its list of sensitive species. Two of the known streaked horned lark sites in Washington, Olympia Airport and Shelton Airport, also harbor populations of the Mazama pocket gopher (*Thomomys mazama*), another federal candidate species.

C. Overutilization for commercial, recreational, scientific, or educational purposes

The streaked horned lark does not face any known direct threats from overutilization for

commercial, recreational, scientific, or educational purposes.

D. Disease and predation

The streaked horned lark does not face any known special threats from disease or predation other than predation risks associated with nesting in close proximity to humans (e.g., predation by domestic cats) as a consequence of the scarcity of suitable natural habitat.

E. Inadequacy of existing regulatory mechanisms

The streaked horned lark is protected by the federal Migratory Bird Treaty Act and by state laws as a nongame species, but these laws do not provide protection for breeding habitat. It is also listed as an imperiled species by the states of Washington and Oregon (see IIIA, above), but these designations do not afford any legal protection. Little of the currently occupied habitat is in public ownership with protected status (FWS Candidate Form, updated February 2002).

In Washington, one site is owned by the U.S. Fish and Wildlife Service, one site by the Washington Department of Natural Resources, five sites by the U.S. Department of Defense, two sites by municipal airports, and two sites by private owners (FWS Candidate Form, updated February 2002).

In Oregon, streaked horned larks are found on Baskett Slough, Ankeny, and Finley National Wildlife Refuges; on U.S. Army Corps of Engineers land at Fern Ridge and on two dredged material islands on the Columbia River; and at Willamette Mission State Park. The remainder of the population is on private lands (FWS Candidate Form, updated February 2002). The public lands contain perhaps 20-25% of the Willamette Valley population (Bob Altman, American Bird Conservancy, personal communication 2000 cited in FWS Candidate Form, updated February 2002).

F. Other natural or anthropogenic threats

Introduced exotic species, including predators, may have played a role in the extirpation of the streaked horned lark from San Juan Island and possibly other sites as well (Rogers 2000; FWS Candidate Form, updated February 2002).

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