

Natural Heritage Ranking Form - Oregon State Rank

Oregon Ranking Form Camas pocket gopher (*Thomomys bulbivorus*)

Oregon Biodiversity Information Center

SPECIES ASSESSED

Scientific Name *Thomomys bulbivorus*

ELCODE AMAFC01090

Common Name Camas pocket gopher

Element ID 7037

Species Concept Reference Citation

Wilson, D. E., and D. M. Reeder (editors). 1993. Mammal species of the world: a taxonomic and geographic reference. Second edition. Smithsonian Institution Press, Washington, DC. xviii + 1206 pp. Available online at: <http://www.nmnh.si.edu/msw/>.

CONSERVATION STATUS RANK

Assigned Rank **S3S4**

| | | | |
|------------------------|-------------------------------|-------------------|------------|
| Rank Assignment Author | Eleanor Gaines | Rank Review Date | 10/19/2022 |
| Rank Factors Author | Eleanor Gaines | Rank Factors Date | 10/19/2022 |
| Calculated Rank | S3S4 | Rank Change Date | 02/07/2001 |
| Rank Methodology Used | Rank calculation - Biotics v2 | | |

Assigned Rank Reasons

Range restricted to the Willamette Valley, Oregon; habitat has been altered considerably via urbanization and conversion to intensive agriculture. Attempts to control the species as an agricultural pest are ongoing. However, it remains widely distributed in early seral habitat and agricultural areas. Population levels and trends are unknown.

RANGE/DISTRIBUTION

Range Extent

Rating 5000-20,000 square km (about 2000-8000 square miles)

Estimate 13,500

Unit Used for Estimate

Comments The Camas pocket gopher is restricted to the Willamette Valley, from Portland to Eugene, Oregon. The range corresponds almost exactly with the extent of the Bretz Flood, which occurred about 13,000 years ago (Carraway and Kennedy 1993). Elevational range rarely exceeds 125 meters (Verts and Carraway 1998). It is known from Benton, Clackamas, Lane, Linn, Marion, Multnomah, Polk, Washington, and Yamhill Counties in Oregon (Verts and Carraway 1998, Hughes 2022).

Area of Occupancy

Grid Cell Size 4 km² Grid Cells

Rating (as Number of 4 km² Grid Cells) G = 501-2,500

Comments Area of occupancy is not known, but there are approximately 2,900 4 km² grid cells in the Willamette Valley, at least a third of which is not suitable habitat. The species is broadly distributed in suitable habitat which includes well drained clay soils in remnant prairies, agriculture, orchards, and early seral habitats (Verts and Carraway 1998). The species persists in less developed portions of urban areas, including Protland, Forest Grove, Sherwood, Newberg, Sheridan (Hughes 2022).

ABUNDANCE AND CONDITION

Number of Occurrences

Rating 21 - 80

Comments

Verts and Carraway (1998) mapped several dozen collection sites, most of which might be regarded as distinct occurrences (subpopulations). Hughes (2022) collected the species at 21 separate locations in 2018 and 2019. Carraway and Kennedy (1993) mapped about 70 collection sites.

Population Size

Rating 100,000 - 1,000,000 individuals

Comments

Total adult population size is unknown but likely exceeds 100,000. Density at a few sample sites was crudely estimated at about 10 to about 32 per hectare (Verts and Carraway 1998). Carraway and Kennedy (1993) collected 217 individuals across 10 sites between 1987 and 1990. Hughes (2022) collected 86 individuals from 21 locations in 2018 and 2019; size of these sampled areas is not available.

Good Viability/Ecological Integrity**Number of Occurrences with Good Viability/Ecological Integrity**

Rating Few to some (4-40)

Comments

Little is known about the number of populations and their viability. Historically this species occurred in Willamette Valley native grassland and savanna habitat which has been reduced to less than 10% of its presettlement extent (Vesely and Rosenberg 2010). Although the species is not uncommon and persists in agricultural landscapes, in these areas, pocket gophers are considered pests and are subject to control attempts.

THREATS

| <u>Threat Category Code</u> | <u>Threat Category</u> | <u>Calculated Impact</u> | <u>Scope</u> | <u>Severity</u> | <u>Timing</u> | <u>Comments</u> |
|-----------------------------|--|--------------------------|---|--|------------------|-----------------|
| 1 | Residential & commercial development | C = Medium | Large: Affects most (31-70%) of the total population or occurrences or extent | Moderate: Likely to moderately degrade/reduce affected occurrences or habitat, or reduce population 11-30% | High: Continuing | |
| 1.1 | Housing & urban areas | C = Medium | Large: Affects most (31-70%) of the total population or occurrences or extent | Moderate: Likely to moderately degrade/reduce affected occurrences or habitat, or reduce population 11-30% | High: Continuing | |
| 2 | Agriculture & aquaculture | CD = Medium - low | Large: Affects most (31-70%) of the total population or occurrences or extent | Moderate - slight | High: Continuing | |
| 2.1 | Annual & perennial non-timber crops | CD = Medium - low | Large: Affects most (31-70%) of the total population or occurrences or extent | Moderate - slight | High: Continuing | |
| 5 | Biological resource use | CD = Medium - low | Large: Affects most (31-70%) of the total population or occurrences or extent | Moderate - slight | High: Continuing | |
| 5.1 | Hunting & collecting terrestrial animals | CD = Medium - low | Large: Affects most (31-70%) of the total population or occurrences or extent | Moderate - slight | High: Continuing | |
| 5.1.3 | Persecution/control | CD = Medium - low | Large: Affects most (31-70%) of the total population or occurrences or extent | Moderate - slight | High: Continuing | |

Calculated Overall Threat Impact BC = High - medium

Assigned Overall Threat Impact BC = High - medium

Overall Threat Impact Comments

Habitat has been and continues to be altered via urbanization and conversion to intensive agriculture. Native prairie and savanna habitat in the Willamette Valley has been reduced to less than 10% of its pre-European settlement extent (Vesely and Rosenberg 2010). Development within urban growth boundaries will limit available habitat for this species. Agriculture is widespread in the Willamette Valley, though this species is able to persist in crop fields, pastures, and orchards. Locally, in orchards and fields, this species is regarded as an agricultural pest and is subject to attempted eradication through poisoning and trapping.

TRENDS

Short-Term Trend

Rating G = Relatively Stable (<=10% change)

Comments

Information on trends is not available. Although most native habitat has been lost, the species persists in rural and agricultural portions of its range. As recently as 2019, Hughes (2022) collected 86 individuals from 21 locations; some of these were collected from trappers.

Long-Term Trend

Rating EG = Decline of <50% to Relatively Stable

Comments

Area of occupancy, number of subpopulations, and population size presumably have been reduced to some degree as a result of conversion of habitat to intensive human uses. However, the species persists in early seral habitat, including in less developed areas of urban areas.

OTHER FACTORS

Intrinsic Vulnerability Rating Not intrinsically vulnerable

Comments

Based on the recovery of populations subject to trapping, Verts and Carraway (1998) concluded that this species can recover rapidly from periods of high mortality.

Environmental Specificity Rating Moderate to broad.

Comments

This species' original habitat was native prairie and oak savanna. It currently occurs broadly in early seral habitats in the Willamette Valley, including pastures, agricultural fields, orchards, and less developed portions of urban areas (Verts and Carraway 1998, Hughes 2022).

ADDITIONAL SPECIES INFORMATION

Oregon Habitat Comments

Occupies unwooded sections of both hill and low land.

RESOURCES

Oregon Biodiversity Information Center, Institute for Natural Resources
Portland State University, Mail Stop: INR, PO Box 751, Portland, OR 97207-0751 Phone: 503-725-9950

Additional ORBIC species ranking forms posted at
<https://inr.oregonstate.edu/orbic/rare-species/ranking-documentation>

Information on Natural Heritage ranking methodology is available at
<http://www.natureserve.org/biodiversity-science/publications/natureserve-conservation-status-assessments-methodology-assign>

The Conservation Rank Calculator is developed and maintained by NatureServe and is available from
<http://www.natureserve.org/conservation-tools/conservation-rank-calculator>

ASSESSMENT CITATION

Oregon Biodiversity Information Center. 2022. Oregon state rank assessment for Camas pocket gopher (*Thomomys bulbivorus*). Institute for Natural Resources, Portland State University, Portland, OR.