

## MAZAMA POCKET GOPHER: FREQUENTLY ASKED QUESTIONS

### What is a Mazama pocket gopher?

The Mazama pocket gopher (*Thomomys mazama*) is one of the smallest of 35 species in the pocket gopher family. They are rodents with forelimbs modified for digging, and external cheek pouches in which they transport food.

Mazama pocket gophers are named after Mt. Mazama, the volcano that exploded 6,000 years ago to form Crater Lake, where the species was first found. Mazama pocket gophers differ from most other gopher species by their small size.

They differ from the similar-sized northern pocket gopher (*Thomomys talpoides*) of eastern Washington in tooth and skeletal characteristics, and a larger dark patch of fur behind their ears. The fur of Mazama gophers is also generally red-brown, whereas Northern pocket gophers are typically yellow-brown or gray-brown.



Photo by Bill Leonard

### Why are Mazama pocket gophers important?

Mazama pocket gophers serve important functions in our prairie ecosystems. Pocket gophers have been called “keystone species” and “ecosystem engineers” because they benefit grassland communities in many ways, affecting the presence and abundance of plants and other animals.

Pocket gophers may turn three to seven tons of soil per acre every year. Their extensive excavations affect soil structure and chemistry, and their food caches and latrines enrich the soil, affecting plant community composition and productivity. Gophers also affect the distribution of vegetation through eating roots and above-ground plant parts. In one study, plant species diversity was 5 to 48 percent higher where gophers were present. Gophers also eat fungi and disseminate the spores of species that have an important role in facilitating plant growth.

Mazama pocket gophers are an important prey species for many predators, including hawks, owls, coyotes, and weasels, and their burrows provide retreats for many salamanders, frogs, lizards, small mammals, and invertebrates. Western Toads are known to remain underground in Mazama gopher burrows for long periods of time. Mazama pocket gophers are a part of Washington’s natural heritage.

## Where are they found?

Mazama pocket gophers are currently found in Clallam, Mason, Thurston and Pierce counties in Washington. They were also historically found around Tacoma, and in Wahkiakum County, but those appear to be extinct. Gophers are most commonly found in areas with sandy loam soils. They are rare in very stony soils, and have not been found in heavy clay soils.

Most of these populations of pocket gophers are found in grasslands on land that historically was prairie. In Washington, pocket gophers have occasionally moved into recent clearcuts adjacent to grassland sites, but are otherwise essentially absent from forest habitats. Other subspecies of

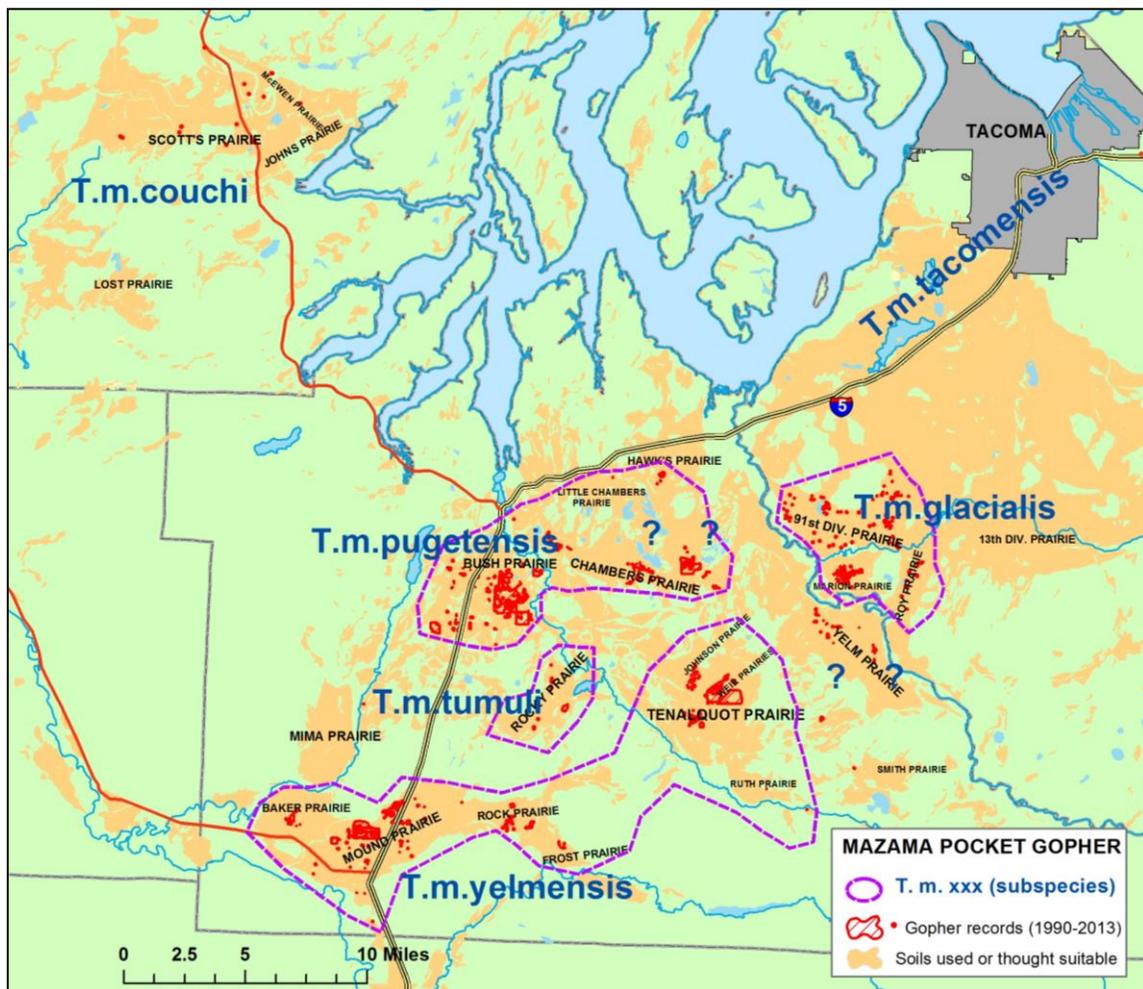


Figure 2. Hypothesized distribution of 6 subspecies of Mazama Pocket Gopher in the south Puget Sound region; ? denotes uncertain subspecies identification because these areas were not included in any subspecies description; *T. m. tacomensis* is believed extinct.

Mazama pocket gophers are found in parts of western Oregon and northern California.

## **What is the legal status of the Mazama pocket gopher in Washington?**

The Mazama pocket gopher was listed by the state of Washington as a threatened species in 2006. State law defines a “threatened species” as, “any wildlife species native to the state ... that is likely to become an endangered species in the foreseeable future ... without cooperative management or removal of threats” (WAC 232-12-297).

The four extant subspecies of Mazama pocket gophers found in Thurston and Pierce counties were listed as Threatened under the U.S. Endangered Species Act by the US Fish and Wildlife Service in April 2014 (<http://www.fws.gov/wafwo/mpg.html> ).

The Mazama pocket gopher is one of several species that have declined in south Puget Sound as prairie habitats have been lost and fragmented. The other wildlife species that have declined – the streaked horned lark, and two butterfly species (Taylor’s checkerspot and Mardon skipper) – are listed as endangered by the state. Taylor’s checkerspot and the streaked horned lark were also recently listed by the U.S. Fish and Wildlife Service (USFWS) as Endangered under the Endangered Species Act (ESA).

## **What does the *federal listing* of the Mazama gopher as threatened mean to me as a landowner?**

Under the ESA, Mazama pocket gophers in Thurston and Pierce counties are protected from “take,” which under federal law means to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” It may also include significant habitat modification or degradation if it kills or injures wildlife by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering.

However, the USFWS finalized a special rule under section 4(d) of the ESA that allows for continued farming and ranching activities, routine maintenance at airports and road right-of-ways, and certain activities on non-commercial, single-family residential properties. The Service also designated 1,607 acres in Thurston County as critical habitat. See the USFWS website for more information.

## **What does the *state listing* of the Mazama gopher as threatened mean to me as a landowner?**

Federal law takes precedence in Thurston and Pierce counties, but pocket gophers are still protected by state law in Mason and Clallam counties from deliberate killing (RCW 77.15.130). The Mazama pocket gophers in Clallam County are all in Olympic National Park.

State law also guides land-use regulation by counties and cities with regard to protecting state-listed species. So when an applicant applies for a permit to develop or clear land in Mason County where Mazama pocket gophers may occur, the county may require that the site be surveyed for gophers. If gophers are present, the county may require preparation of a habitat management plan. Counties and cities, in cooperation with WDFW, work with the landowner to

preserve the gophers on site while allowing reasonable use of the property. See [Mason County's website](#) for more information.

**Mazama pocket gophers seem to be abundant in such areas as the Olympia Airport. Why were they listed as threatened in Washington?**

Mazama pocket gophers were listed primarily because of population declines evident in extinctions of populations – including those in Tacoma – and threats to the remaining populations. Some of the largest remaining populations are threatened by development. Many of the areas with the best “gopher soils” are also the most rapidly developing areas.

The largest remaining populations are those found at the Olympia Airport and on parts of Joint-Base Lewis-McChord, where projects and activities sometimes conflict with gopher conservation. Wildlife managers hope to prevent their extinction by protecting remaining populations before they become endangered and implementing recovery actions for the species.

The Olympia Airport does have a lot of gophers. The airport and surrounding area is located on the best soil type for gophers, and probably contains the largest remaining population. In 2005, a study estimated there were 6,000 pocket gophers at the Olympia Airport. However, that estimate was based on a count of gopher mounds, and did not relate the mounds to the actual number of animals present by live-trapping and marking gophers, so its accuracy is uncertain.

Gopher populations, like those of other rodents, can vary dramatically year-to-year and seasonally. There can be a 300 to 400 percent increase each summer as juveniles are weaned, and then a decline as predators take their toll. For this reason, surveys using mounds help identify the occupied area, but one-time estimates based on mounds without additional investigation are not extremely useful.

**If they are a prairie species, why are they found in my pasture and yard?**

Historically, nearly all the sites where they are found were prairies. However, Mazama pocket gophers will use degraded prairie, pastures, yards or other open habitats as long as suitable soils are present and herbaceous plants are available for food. They will also eat non-native species, such as dandelions and clover.



**If they can live in lawns, do they need to be classified as “threatened”?**

Although gophers can live – at least briefly – under lawns, grassy roadsides, and pastures, life in the suburbs is hazardous for gophers. Dogs, cats, poisons, traffic, and fragmented habitat take their toll. These small, fragmented, and isolated groups of animals are highly vulnerable to local extinction. For example, all the populations once found in Tacoma now appear to be extinct.

### **Big dome-shaped dirt piles appear in my yard. Does that mean I have gophers?**

It is more likely that they are moles. Gophers make less conspicuous, fan-shaped, or irregular piles with the entry hole off to one side.

### **Is it true that government agencies tried to eradicate gophers in the past?**

Pocket gophers can damage tree seedlings creating problems for foresters and they can affect vegetable gardens and farms. For that reason, agencies and land managers have controlled them where they are in conflict with forestry or agriculture, for example in some Oregon pine forests. The USDA once conducted research of methods of controlling pocket gophers, but no attempt has ever been made to completely eradicate any species of pocket gopher.

In the past, government agencies also trapped, killed, and poisoned a number of species, including pocket gophers, jackrabbits, ground squirrels, wolves, grizzly bears, and some hawks. Alaska had a bounty on bald eagles until 1952. Many of these species are now protected as threatened or endangered, or are receiving conservation attention.

### **Can't the gophers just be moved off private property to conservation lands?**

The WDFW is experimenting with translocation, but it isn't a quick and easy process. It likely requires moving large numbers of gophers – at least 200 per year – for multiple years to get a population started. The moved gophers have a high mortality rate, at least partly because they have been taken away from their burrow systems, and many are killed by predators before they excavate a new burrow and nest. Translocation may be used in the future as a means to establish additional populations on conservation lands, but it will not be used routinely to move gophers “out of the way.”

### **What is the long-term plan for conserving Mazama pocket gophers?**

With the federal listing, a federal recovery plan will be required. The WDFW issued a [draft state recovery plan](#) for the Mazama pocket gopher in 2013 that emphasizes long-term protection of gophers on public and conservation lands. It also emphasizes looking for opportunities to develop management agreements on public and private lands that would allow land uses to continue that are compatible with pocket gophers.

When these things are in place, and the species' conservation is assured, they can be down-listed or de-listed when they reach recovery objectives. WDFW may be working with USFWS on a plan that meets federal requirements, and WDFW will complete a plan for the subspecies not covered by the federal listing.

### **Is the state or others acquiring land for pocket gophers?**

WDFW and the USFWS are working with the Center for Natural Lands Management and other agencies and conservation organizations to identify the most important sites for gophers and will seek funds and willing sellers to acquire title or conservation easements.