

# Puget Sound Prairies and the ESA

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# Puget Sound Prairies and the ESA

## Today's Presentation:

- Biology, threats, conservation, and management
  - Taylor's checkerspot butterfly
  - Streaked horned lark
  - Mazama pocket gopher  
(4 subspecies in Thurston & Pierce Counties)
- Critical Habitat
- Special Rule
- Next Steps



## Puget Sound Prairies and the ESA

### Background

- Species identified in 2001 Notice of Review as Candidate under the Endangered Species Act
- Had sufficient information on biological vulnerability and threats to propose to list, - **BUT** listing precluded by other higher priority listing actions
- As Candidate species, USFWS worked with partners (JBLM, WDFW, NWR, TNC and Ports and others) to survey and monitor the species and restore and protect habitat

## Puget Sound Prairies and the ESA

### Background

- In 2011, Received direction and funding to conduct status review of species and determine if still “warranted listing”
- Initially considered 4 candidate species together in one status review (incl. Mardon skipper)

## Puget Sound Prairies and the ESA

### Background

#### Status Review Results:

- Determined Mardon skipper was not warranted for listing
- Proposed listing and critical habitat for SHL and TCB
- Proposed listing and critical habitat for 4 subspecies of Mazama pocket gopher (3 others not warranted, 1 extinct, 1 taxonomic error)

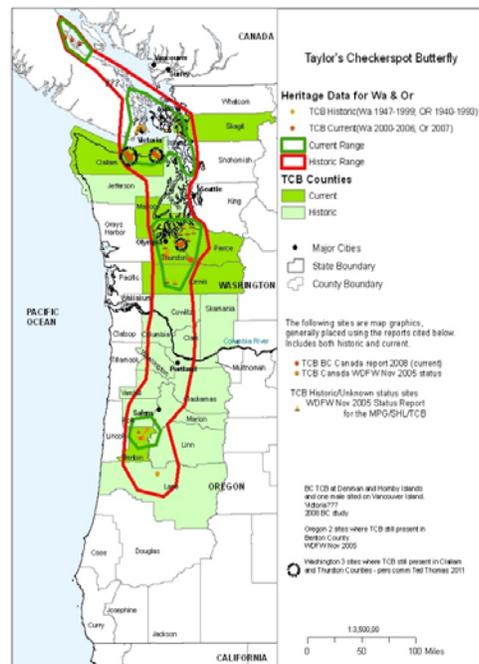
## Taylor's checkerspot butterfly – biology, threats, conservation and management

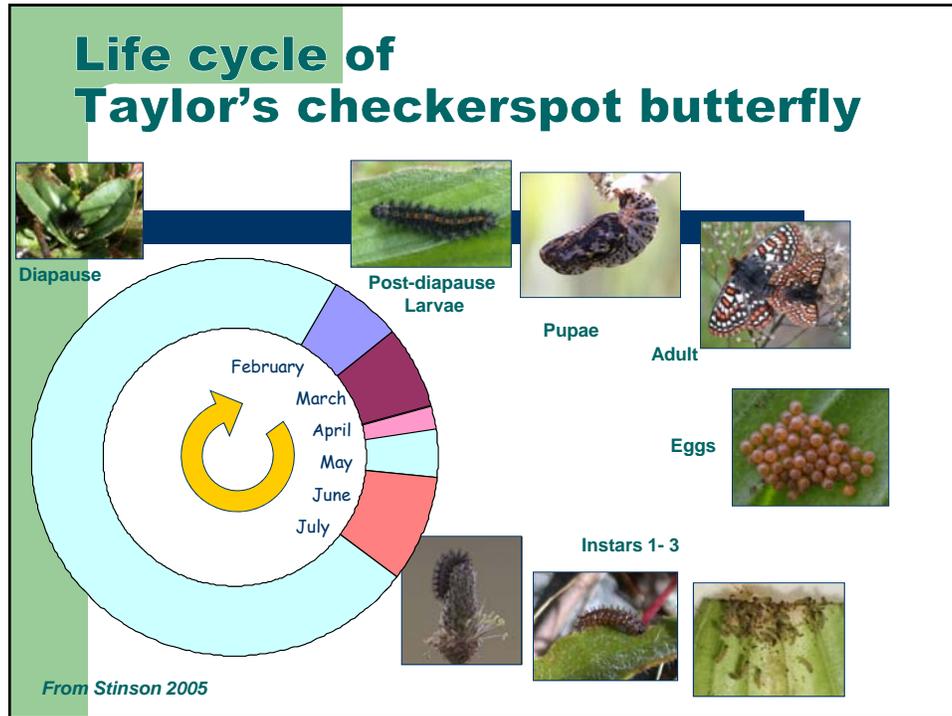


## Historic vs. current occupied sites for Taylor's checkerspot butterfly

- ▣ **Historic distribution: known from > 80 sites in B.C., Washington, and Oregon**
- ▣ **Current distribution is limited to:**
  - 1 occurrence in British Columbia (Denman Island)**
  - 2 occurrences in Oregon**
  - 8 occurrences in Washington**

## Rangewide distribution of Taylor's checkerspot butterfly





## Food Plants – larval and adult

### Larval Food Plants

- English plantain (*Plantago lanceolata*)
- Harsh paintbrush (*Castilleja hispida*)
- Golden paintbrush (*Castilleja levisecta*)
- Speedwell (*Veronica* spp. (several) – B.C. only)
- Sea blush (*Plectritis congesta*)

### Nectar Plants utilized by adult checkerspots

- Puget balsamroot (*Balsamorhiza deltoidea*)
- Camas (*Cammasia quamash*)
- Desert parsley, spring gold (*Lomatium* several spp.)
- Woolly sunshine (*Eriophyllum lanatum*)
- Showy fleabane (*Erigeron speciosus*)
- also thistle, groundsel, common yarrow and others

## Threats to Taylor's checkerspot butterfly

- ▣ Habitat loss – conversion, or degradation of habitat from successional changes, military training, spread of invasive species, encroachment by conifers;
- ▣ Disease, predation;
- ▣ Inadequate regulatory mechanisms;
- ▣ Isolated populations, fragmented landscapes, low genetic diversity;
- ▣ Use of pesticides (primarily BtK insecticide).

## *What actions impact habitat and may harm the species ?*

- Crushing of eggs, larvae, & adult butterflies
- Removing/destroying host plants and nectar plants at occupied sites.
- Pursuing adult butterflies during flight season.
- Collecting any life stage of the butterfly.
- Actions that disrupt the soil between July and March, while larvae are in diapause.
- Fire, prescribed or wildfire.
- Insecticide and less so, herbicide use

## Management Activities to Support Prairie Conservation, and TCB

- ▣ Removal of invasive species (Scot's broom, blackberry, other aggressive nonnative plants)
- ▣ Forest and tree removal
- ▣ Prescribed fire
- ▣ Planting of native forbs, and grasses
- ▣ Mowing, brush removal
- ▣ Judicious herbicide use for restoration
- ▣ Experimentally have tried solarization, mowing, some tilling on highly degraded prairies
- ▣ Grazing ?? Short term rotation of cattle with no grazing during spring and summer.

## *Protect, enhance, and maintain quality habitat; translocate larvae*



## STREAKED HORNED LARK



### Streaked Horned Lark: Biology, Threats, Conservation, & Management

#### Biology and Species Information

- Endemic to Pacific Northwest
- Small, ground-dwelling bird
- Forages on ground in low vegetation or bare ground
- Adults feed mainly on grass and seeds, feed insects to young
- In South Sound, strong fidelity to nest locations (which are located on relatively bare ground), less fidelity elsewhere



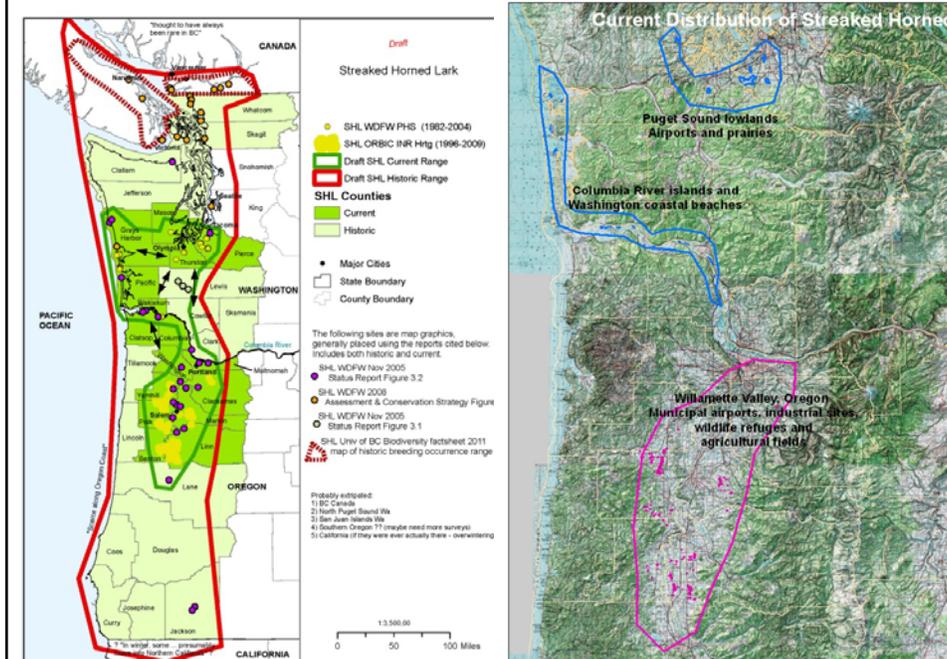
# Streaked Horned Lark: Biology, Threats, Conservation, & Management

## Biology and Status

- Historically known from BC and San Juan Islands to Rogue and Umpqua Valleys in Oregon
- Currently considered rare and extirpated throughout much of its range with a declining population in WA
- Less than 150 to 170 pairs are known from south Puget Sound
- About 120-140 breeding larks are known from the Washington coasts and Columbia River islands
- Fewer than 1,600 SHL rangewide



## Rangewide Distribution of Streaked Horned Lark



## Streaked Horned Lark: Biology, Threats, Conservation, & Management

### Threats

- Habitat loss through succession of plants that alter habitat structure (lack of low vegetation)
- Conversion of agriculture to other land uses
- Invasion of coastal areas by nonnative beach grasses
- Predation
- Recreation impacts
- Aircraft strikes, and
- Military training activities



### What actions impact habitat and may harm the species ?

- Actions in occupied habitat during the nesting season (late March through August).
- Activities that degrade or make habitat unsuitable
- Actions that could kill, injure or cause significant disturbance to SHL outside of the nesting season
- Activities that encourage dense vegetation
- Reducing/altering the “open landscape”
- Burning, tilling, or farming such that vegetation for food and cover is significantly reduced over a prolonged period (many years).
- Activities that attract crows, jays, predators and scavengers.
- Military training (in open prairies), aircraft operations

## Streaked Horned Lark: Biology, Threats, Conservation, & Management

- The Service has committed to conservation of the lark in both Washington and Oregon
- We have been working with JBLM, CNLM, WDFW, NWR and others to improve habitat for, and get better information about, SHL
- Currently implementing conservation actions including:
  - Creating/maintaining/protecting high-quality prairie habitats
  - Encouraging practices that are compatible with SHL habitat needs
  - Protecting nest sites
  - Restoration of habitat
  - Continuing research and monitoring efforts



## Mazama Pocket Gopher



## Mazama Pocket Gopher: Biology, Threats, Conservation, & Management

### Where they live & what they eat

- Endemic to Thurston & Pierce counties
- Loamy, deep soils; generally <15% slope
- Forage mainly from below the surface of the ground, but occasionally also from tunnel entrance
- Prefer forbs, but will eat most anything. Don't prefer woody vegetation, but have been known to eat rootlets when nothing else was available.
- Prefer areas with <10% woody veg. cover; woody veg. shades out forage plants and makes travel difficult

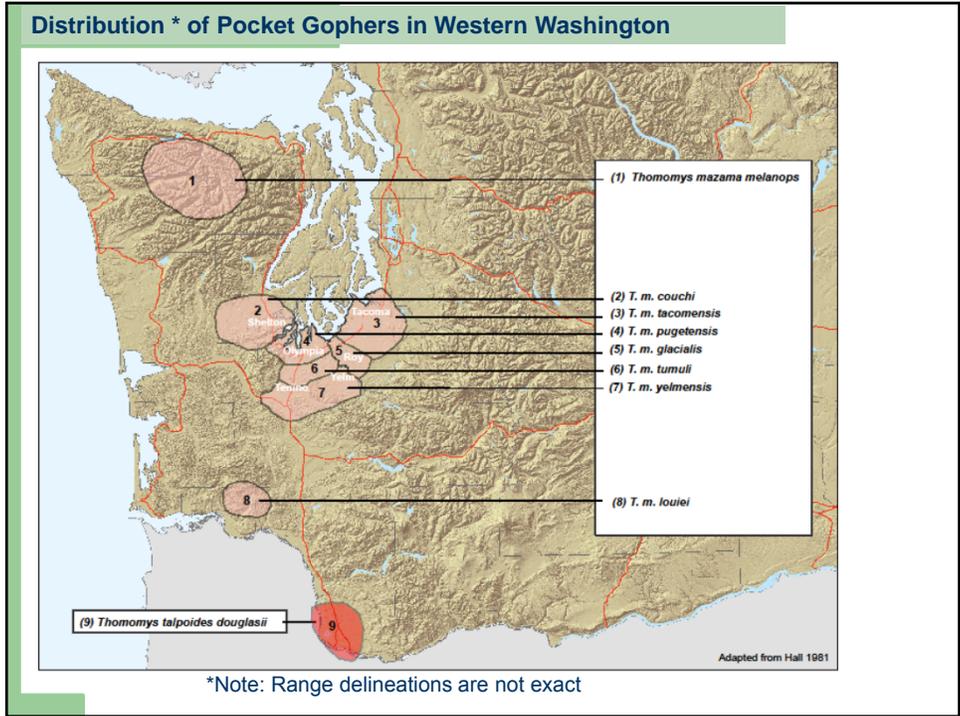


## Mazama Pocket Gopher: Biology, Threats, Conservation, & Management

### Biology and Status

- Each gopher maintains its own burrow system; they remain active all year
- Home range size averages about 1,076 ft<sup>2</sup> (100 m<sup>2</sup>)
- Most disperse less than 131 ft (40 m) from their natal territory
- Most live only a year or two; a few live to 3 or 4
- Total population size is unknown; no standardized survey protocol for anything other than presence/absence.
- Largest known populations are on JBLM lands and Olympia airport.





## Mazama Pocket Gopher: Biology, Threats, Conservation, and Management

### Threats

- Habitat loss or degradation (development, conversion, succession, spread of invasive plants (esp. woody plants).
- Military training
- Predation
- Inadequacy of existing regulatory mechanisms
- Small or isolated populations
- Control as a pest species



## What actions impact habitat and may harm the species?

- Crushing or injury of individuals through any means
- Removing/destroying forage plants in occupied sites
- Collecting any individual
- Trapping or poisoning in areas occupied by MPGs
- Altering otherwise suitable, occupied habitat such that it is no longer navigable by MPGs
- Habitat alterations that reduce suitability and compact soils, crush tunnels, or destroy forage:
  - Tilling, trenching, digging, heavy equipment, trampling, flooding, rock/clay placement
  - Planting woody vegetation or lawns, removing forage plants
- Gopher wire; harassment; handling; domestic predators (dogs, cats)

## Conservation Measures

- Tree and shrub removal
- Planting forage plants that gophers prefer
- Fencing out predators
- Removal of barriers to movement
- Discrete application of herbicides
- Prescribed burns (size matters)
- All treatments to habitat should be proactively followed with seeding, or planting of native prairie associated species, particularly forbs.

## Endangered Species Act, Taylor's Checkerspot Butterfly, Streaked Horned Lark, & Mazama Pocket Gopher

- Based on our evaluation of the best available information and commercial data, status, and threats we have proposed:
- Taylor's checkerspot butterfly as endangered, 
- Streaked horned lark as threatened, and 
- Mazama pocket gopher (4 ssp in Thurston and Pierce counties) as threatened 

## Endangered Species Act, Taylor's Checkerspot Butterfly, Streaked Horned Lark, & Mazama Pocket Gopher

- Required to designate critical habitat at time of listing if we can (have the information and CH won't be harmful to species)
- CH determination based on **best available scientific data**, taking into consideration probable **economic and other impacts**
- Secretary of Interior may exclude areas from critical habitat (due to economics, etc.)



## Endangered Species Act, Taylor's Checkerspot Butterfly, Streaked Horned Lark, & Mazama Pocket Gopher

- How do we identify critical habitat for “species” under the ESA?
  - (i) the specific areas within the geographic area occupied by the species, at the time it is listed ...
  - on which are found those physical and biological features ... (I) essential to the conservation of the species and
  - (II) which may require special management considerations or protections; and

## Endangered Species Act, Taylor's Checkerspot Butterfly, Streaked Horned Lark, & Mazama Pocket Gopher

- (cont'd.) How do we identify critical habitat for “species” under the ESA?
  - (ii) specific areas outside of the geographical area occupied by the species when listed... if such areas are essential for the conservation of the species.
  - (iii) Except in special circumstances, critical habitat **does not include the entire geographical range** of the species.

## Physical and Biological Features ...Primary Constituent Elements

### Taylor's Checkerspot Butterfly:

- Patches of early seral, short-statured, perennial bunchgrass plant communities
- Primarily larval host plants
- Adult nectar sources
- Aquatic features



## Physical and Biological Features ...Primary Constituent Elements

### Streaked horned lark:

- Areas having a minimum of 16% bare ground that has sparse, low stature vegetation composed primarily of grasses and forbs less than 13 inches in
  - Large (300ac), flat (0-5 % slope) areas within a landscape context
  - Areas smaller than above (300 ac) but that provided visual access to open areas such as open water or fields



## Physical and Biological Features ...Primary Constituent Elements

### **Mazama pocket gopher:**



- Friable, loamy, and deep soils (generally on slopes less than 15%)
  - Includes Alderwood, Cagey, Everett, Godfrey, Indianola, Kapowsin, McKenna, Nisqually, Norma, Spana, Spanaway, Spanaway-Nisqually complex and Yelm
- Areas equal to or larger than 50 ac in size
  - Less than 10% woody vegetation cover
  - Vegetative cover suitable for foraging by MPG
  - Few, if any, barriers to dispersal

## Endangered Species Act, Taylor's Checkerspot Butterfly, Streaked Horned Lark, & Mazama Pocket Gopher

- We proposed 6,875 acres (2,782 ha) as critical habitat for the Taylor's checkerspot butterfly in 3 units in the South Sound, Strait of Juan de Fuca, and Willamette Valley
- We proposed 12,159 acres (4,920 ha) as critical habitat for the streaked horned lark in 3 units in the South Sound, Washington coast, Columbia River islands, and Willamette Valley
- We proposed 9,234 acres (3,736 ha) as critical habitat for the Mazama pocket gopher in 1 unit in the South Sound (Thurston and Pierce counties)
- Critical Habitat units overlap for all three species in the South Sound

## 4D Rule (Special Rule under the Endangered Species Act) and Streaked Horned Lark and Mazama Pocket Gopher

Special rule –modifies standard protections under section 9 for threatened species as a means to promote conservation efforts.

In this proposal, covers specified activities associated with

- agriculture,
- airport management, and
- single-family residential non-commercial homes
- For the Streaked horned lark and Mazama pocket gopher **ONLY**

***NOTE: A special rule created under section 4(d) of the ESA does not remove or alter the requirement to consult under section 7 of the ESA.***

## 4D & the Streaked Horned Lark



Under the proposed special rule,

The prohibitions against take of the **streaked horned lark** caused by activities for **agricultural operations** or **airport safety and maintenance activities** on State, county, private, or tribal lands would be exempt from section 9 of the Act.

The Special Rule removes the take prohibitions for these activities to encourage landowners to continue those practices that provide habitat for the streaked horned lark – even though these activities cause some adverse effects.

## 4D & the Mazama Pocket Gopher



Under the proposed special rule,

The prohibitions against take of the **Mazama pocket gopher** caused by **activities for agricultural operations, ongoing small landowner noncommercial activities, airport safety and maintenance activities** on State, county, private, or tribal lands would be exempt from section 9 of the Act.

The Special Rule removes the take prohibitions for these activities to encourage landowners to continue those practices that provide habitat for the Mazama pocket gopher – even though these activities cause some adverse effects.

## The Special Rule would exempt:

Routine agricultural and ranching activities including:

- Planting
- Harvesting
- Mowing
- Grazing
- Irrigation
- Maintenance of fences, stock ponds & berms



Management activities at airports

- Actions to minimize hazardous wildlife
- Maintenance of roads and runways
- Mowing
- Herbicides
- Hazing
- Management of forage water and shelter



## The Special Rule would exempt:

Ongoing Small Landowner Noncommercial Activities (for Mazama pocket gopher):

- Vegetative management through mowing or herbicide use
- Construction of small outbuildings including kennels, storage sheds and carports
- Fences
- Garden Plots



## Overarching View of the Process

Steps in the Proposed Listing and Critical Habitat Process

- Draft notice of listing (includes status review)
- Publish Proposed Rule in Federal Register
- Request comments and information from public
- Conduct peer review
- Complete economic analysis for PCH, reopen comment period and request comments
- **Revise proposal** considering public and peer review comments, and economic analysis and comments
- Publish Final Rule

## Next steps

- Economic analysis (EA) document available for public review and comment, spring 2013
- The comment period will reopen for full proposed rules for both species when open for EA
- **Will revise proposal** considering public and peer review comments, and economic analysis and comments
- Final Rule due to Federal Register Fall 2013

## QUESTIONS ?

