STITCHING TOGETHER POLLINATOR HABITAT INITIATIVES ACROSS OREGON

Andony Melathopoulos
Pollinator Health Extension Specialist

OREGON CONSERVATION PARTNERSHIP
Pollinator Affinity Group
July 15, 2021

Oregon State University
Extension Service

STITCHING TOGETHER:

1. What is the Pollinator Affinity Group
2. What is pollinator habitat
3. Challenges to pollinator habitat
4. Oregon Bee Project Strategic Plan
5. Stitching efforts together

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Oregon Conservation Partnership

Pollinator Affinity Group

The goal of this group is to to work together, learn together and share ideas and resources so that we can collectively support the great diversity and abundance of native pollinators (bees, butterflies, bats and more). Proposed focus areas include:

- **Highlight monarchs** and the work we've been doing to help conserve this rapidly declining species; (Lead by Amanda Egertson);
- Highlight bees and **what land trusts are doing to help restore habitat and survey for native bee populations**;
- **Create a summit/meeting**, likely connected to another conference;
- Strategies for **restoration**;
- Strategies for **community engagement**.

AFFINITY GROUP INTEREST FORM

https://beav.es/3ba

Bees Require …

A suitable nesting substrate from which they can access adequate forage over the course of individual or colonial life spans.

Steve Javorek

Butterflies require…

no nest (migration), no pollen, larval host plant

Pine White (*Neophasia menapia*, Pieridae)

Images Wikipedia (Megan McCartyAlan Schmierer)

Flora of Oregon

Volume 2: Dicots A–F

Stephen C. Meyers,
Thea Jaster,
Katie E. Mitchell,
Tanya Harvey
& Linda K. Hardison, eds.

APPENDIX 4

BUTTERFLY FOODPLANTS

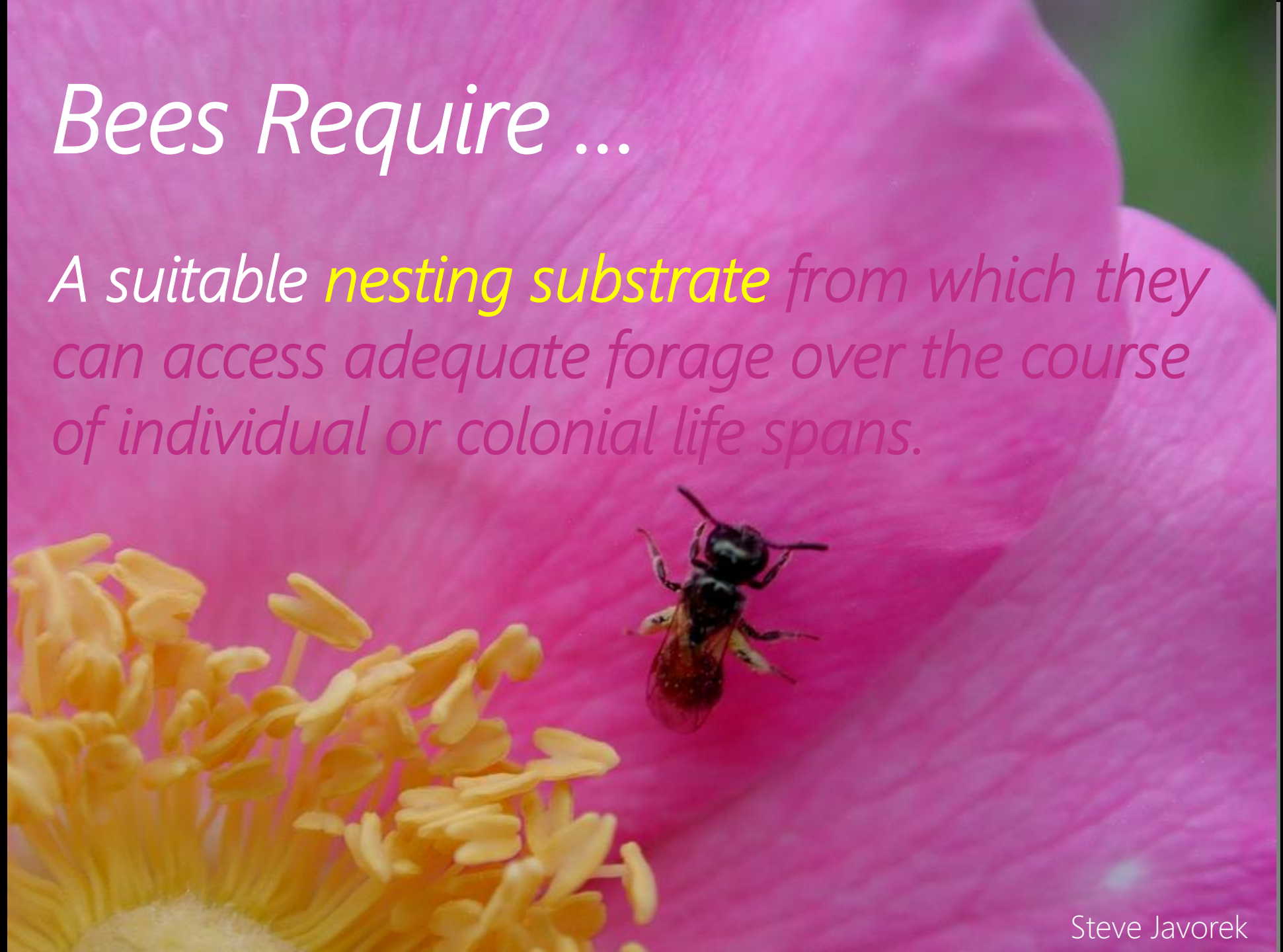
This appendix lists the caterpillar foodplants of known, documented species of Oregon butterflies, organized by plant family. Several subtaxa that are of conservation concern are also included. Known plant genera used by the butterfly species are listed, but these may be from observations in other states. Pages listed refer to those where the butterfly is mentioned in the Insects as Plant Taxonomists chapter. Listed also are the allelochemicals present in the plants that are relevant to the plant-caterpillar interaction. Symbols used after butterfly species indicate the following:

* specialist using only one family
° generalist using three or more families
^ species of conservation concern

BUTTERFLY SPECIES	COMMON NAME	PLANT GENERA	PAGE	CHEMICALS
GYMNOSPERMS				
CUPRESSACEAE				
*Callophrys gryneus**	cedar hairstreak	*Calocedrus, Juniperus, Thuja*		
PINACEAE				
*Callophrys eryphon**	western pine elfin	*Pinus*	29	terpenes
*Neophasia menapia**	pine white	*Abies, Cedrus, Picea, Pinus, Pseudotsuga, Tsuga*	29	terpenes
MONOCOTS				
CYPERACEAE				
[illegible]*	dun skipper	*Carex*	43, 53	

Bees Require …

A suitable nesting substrate from which they can access adequate forage over the course of individual or colonial life spans.



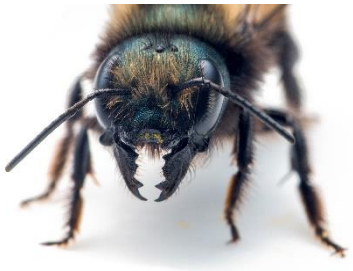
Steve Javorek

Bees vary greatly:

- Size
- Appearance
- Behavior
- Effectiveness as pollinators
- Floral choices

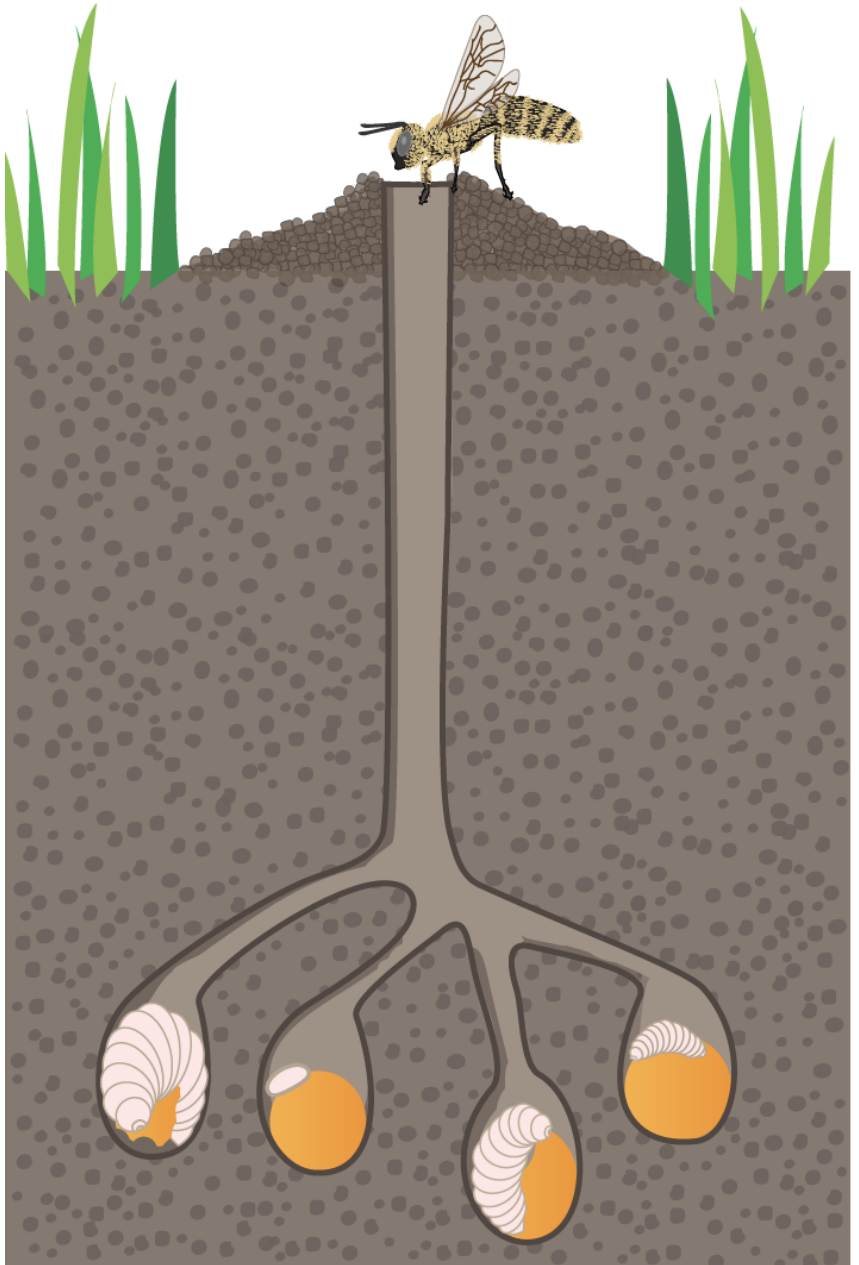
630?

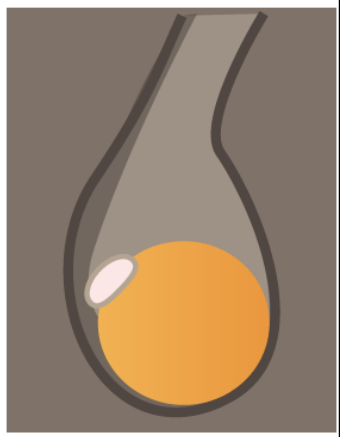
species

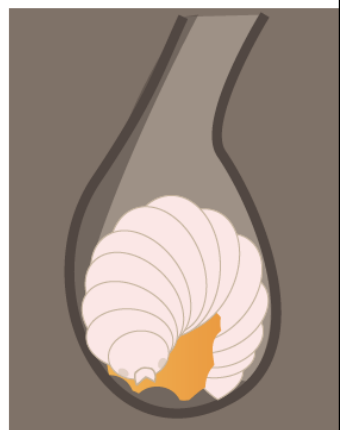


GROUND NESTING BEES
~70% of Oregon species

GROUND NESTING BEES







GROUND NESTING BEES
~30% of Oregon species

Orchard Mason Bee

Osmia lignaria

FAMILY: MEGACHILLIDAE

- A spring bee.
- Flies for 3-4 weeks.
- Excellent fruit tree pollinator.

Lincoln Best

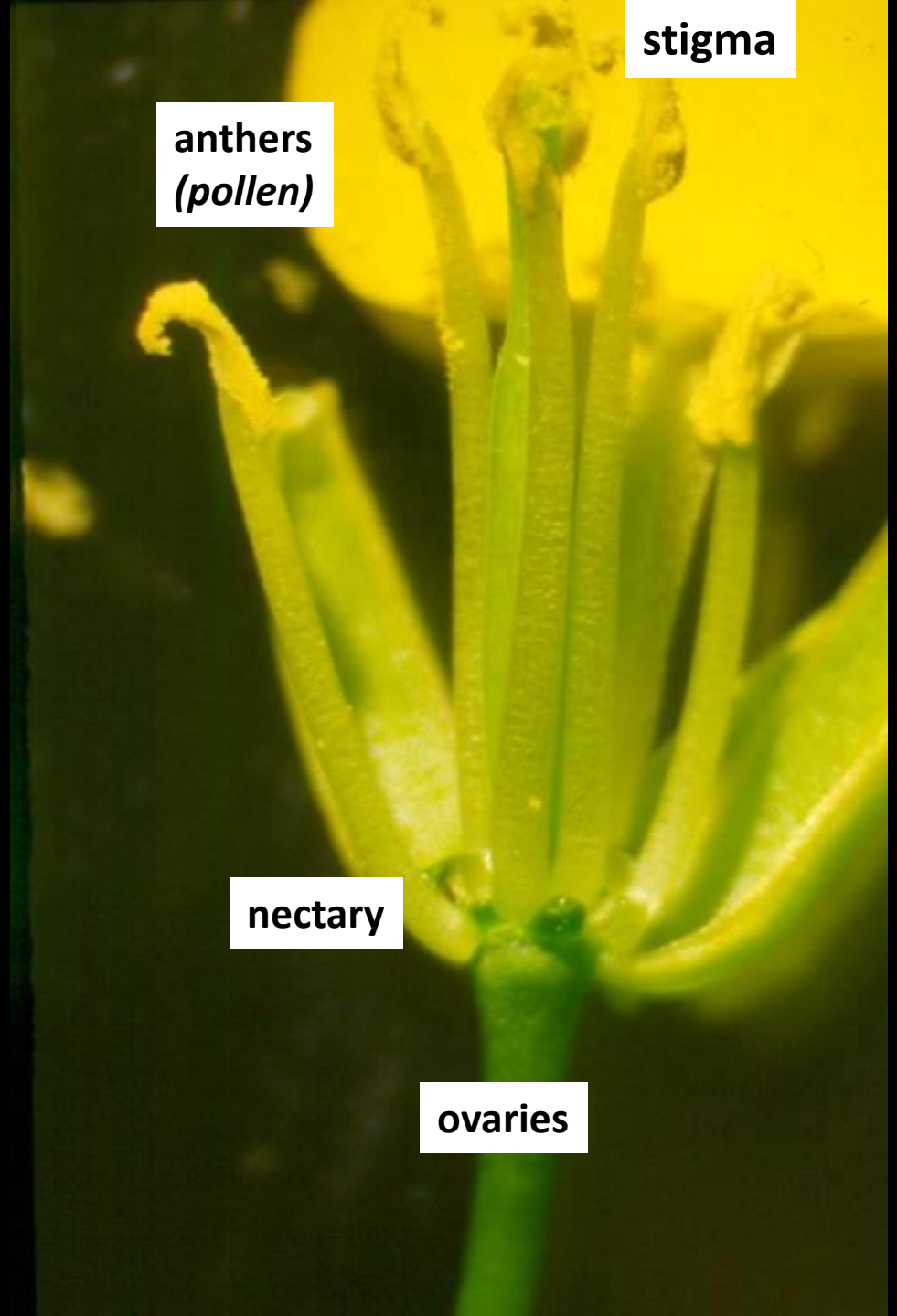
A. Melathopoulos

A. Melathopoulos

Bees Require …

A suitable nesting substrate from which they can access adequate forage over the course of individual or colonial life spans.

Steve Javorek



If its carrying pollen, it's a bee.
But not all bees carry pollen.

Pollen-Only Plant

California Poppy

Eschscholzia californica

Pollen-Only Plant

Lupine

Lupinus spp.

Jim Rivers

Black-eyed Susan: *Rudbeckia hirta* + Russian sage: *Perovskia atriplicifolia*

POLLEN SPECIALIZATION

Polylectic

Collect and digest pollen from a wide array of plants.

Oligolectic

Monolectic

Photo Lincoln Best

Oligolectic

Collects and digests pollen from a limited range of plant species

Melissodes on Rabbitbrush (*Ericameria spp.*)

Photo Lincoln Best

Oligolectic

Collects and digests pollen from a limited range of plant species

Diadasia on cactus

Monolectic

Collects and probably digests pollen from a limited range of plant species

Calliopsis on Rocky Mountain Bee Plant (*Cleome serrulate*)

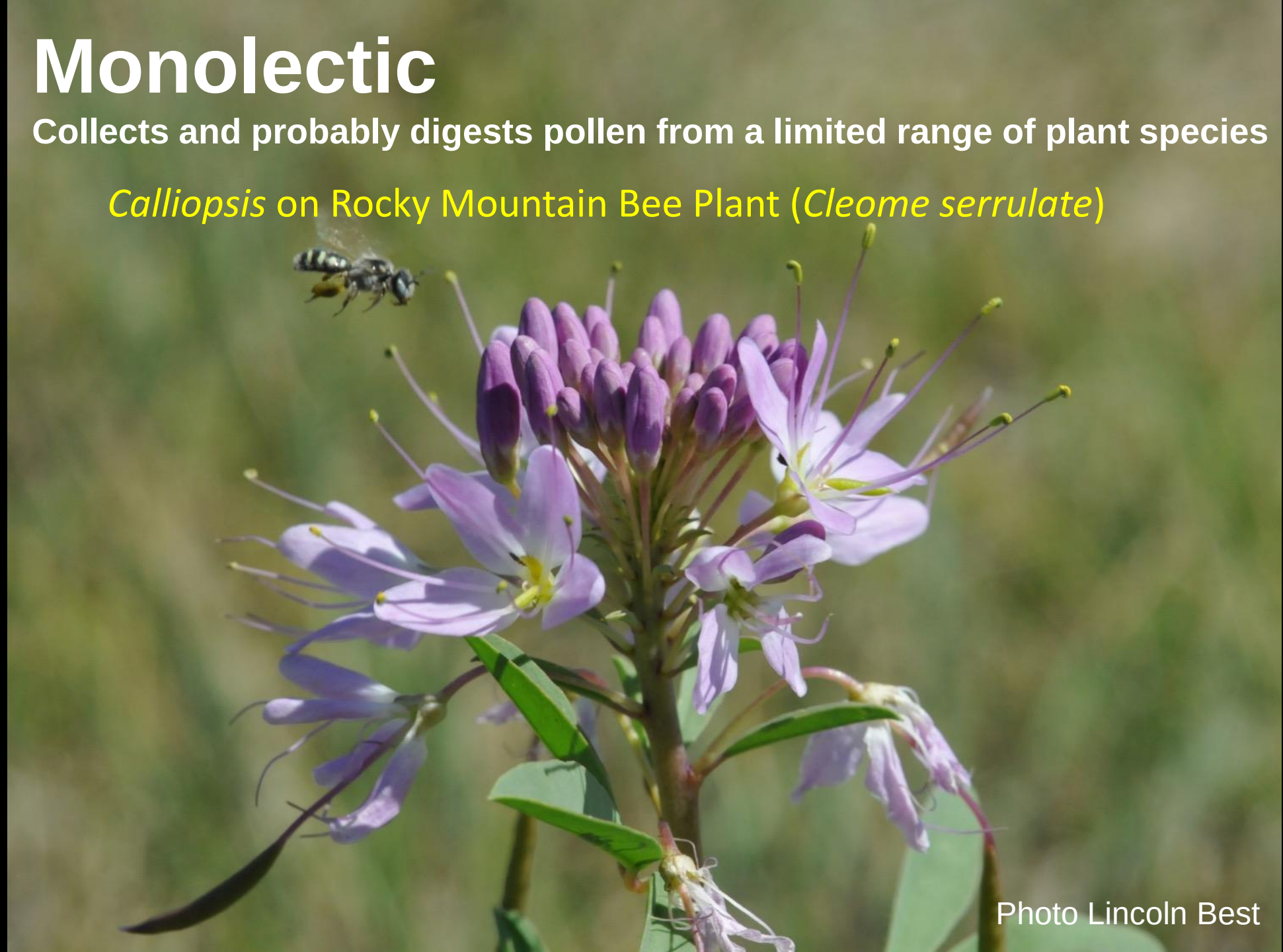


Photo Lincoln Best

Photo Lincoln Best

Monolectic

Collects and probably digests pollen from a limited range of plant species

Dufourea maura on *Campanula*

STITCHING TOGETHER:

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5. Stitching efforts together

CHALLENGES

1. Lack of “plug and play” practices


seeds for bees®
Project Apis m.

Are you concerned about a blooming cover crop competing with your almond bloom?

The efficient, successful pollination of almonds is your top priority. An understandable concern of almond growers is whether a flowering nearby cover crop will divert honey bees away from the almond bloom. In-the-field research shows providing honey bees forage prior to almond bloom can actually ***increase*** the frames (or numbers of bees) and these bees are **healthier** and **more robust**. [1,2,3,4]

Pollinators are critical for almond production each spring, and the honeybee is the most important pollinator partner for almond growers. At Blue Diamond we want to protect and nourish honeybees so we promote healthy bees as well as a healthy crop of almonds.

You may be eligible for financial assistance of between **75-100% cost share** to perform the following activities on your property:

- **Conservation Cover** from $68-$91/acre to establish permanent vegetation between rows
- **Cover Crop** from $50-$67/acre for winter erosion prevention
- **Mulching** from $181-$242/acre for winter erosion prevention
- **Herbaceous Weed Treatment** from $13-$18/acre for noxious weed control
- **Field Border** from $789 –$1053/acre to better filter surface water at field edges
- **Critical Area Planting** from $463-$618/acre to repair gully erosion and establish vegetation


Marcelo Moretti
Weed Science Horticulture


Gilia capitata

LACEY PHACELIA

Pollinator and Beneficial Insects for Mid-Columbia Basin Fruit Crops, Conservation Innovation Strategy

NRCS
Natural Resources Conservation Service


Good Fruit Grower

Emily Carlson, PhD student
Oregon State University

"For pollinator mixes to work on county roadsides the seed mix has to be inexpensive and seeding can't be a big departure from their existing ditch maintenance protocols. And if it works in one county I can see it being picked up by neighboring counties, particularly when their residents drive by and see how beautiful the ditches look on the other side of the line."

- Marie Vicksta - Yamhill Soil & Water Conservation District

Episode 175

PolliNation

Oregon State University
Extension Service


Pollinator Seed Trial
THE OREGON BEE PROJECT
This trial site is seeding Yamhill County roadsides in a way that supports pollinators as well as preventing erosion, which benefits our community and the surrounding ecosystem. We have planted these test plots with a mix of native flowering plants and soil holding grasses in an effort to create a better roadside vegetation management strategy.
1843
YAMHILL COUNTY
Please Do Not Spray
YAMHILL SOIL & WATER CONSERVATION DISTRICT

CHALLENGES

1. Lack of “plug and play” practices

2. Accounting for changes in habitat in the state

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

WORKING LANDS FOR WILDLIFE

WORKING LANDS FOR WILDLIFE

HELPS LANDOWNERS MAKE VOLUNTARY IMPROVEMENTS TO THEIR LANDS THAT BENEFIT WILDLIFE AND THEIR AGRICULTURAL OPERATIONS.

3.5 MILLION ACRES ENROLLED IN 35 STATES

x 100 = **700** RANCHES ENROLLED ACROSS 11 WESTERN STATES TO BENEFIT SAGE-GROUSE

ADDITIONAL HIDING COVER IS EXPECTED TO INCREASE SAGE-GROUSE NUMBERS BY **8-10%** WITHIN 2.1 MILLION ACRES

NRCS EFFORTS HAVE TRIPLED THE CHANCES OF MAINTAINING A VIABLE SAGE-GROUSE POPULATION BY REMOVING **200,000** ACRES OF INVASIVE CONIFERS

ACRES ENROLLED IN WORKING LANDS FOR WILDLIFE BY SPECIES BENEFITED*

- **4,213 ACRES** GOLDEN-WINGED WARBLER
- **3,401 ACRES** NEW ENGLAND COTTONTAIL
- **122,389 ACRES** GOPHER TORTOISE
- **920,000 ACRES** LESSER PRAIRIE CHICKEN
- **2.5 MILLION ACRES** GREATER SAGE-GROUSE
- **129 ACRES** BOG TURTLE
- **1,866 ACRES** SOUTHWESTERN WILLOW FLYCATCHER

NEARLY **2/3** OF SPECIES LISTED AS ENDANGERED OR THREATENED EXIST ON PRIVATE LAND

* FARMER AND RANCHERS WHO PARTNER WITH NRCS TO CONSERVE WILDLIFE CAN KEEP WORKING THEIR LAND EVEN IF THE SPECIES IS LISTED AS THREATENED OR ENDANGERED

WE PREVENT **2,600** FENCE COLLISIONS ANNUALLY

BY MARKING OR MOVING **500** MILES OF FENCES, WE'VE REDUCED THE RISK OF FENCE STRIKES BY **83%**

THE GOLDEN-WINGED WARBLER HAS SUFFERED ONE OF THE STEEPEST POPULATION DECLINES OF ANY SONGBIRD SPECIES IN THE PAST 45 YEARS

NRCS HOPES TO CREATE AND ENHANCE **10,000** ACRES OF EARLY SUCCESSIONAL FOREST HABITAT OVER 5 YEARS TO BENEFIT WARBLER POPULATIONS

USDA NRCS
www.nrcs.usda.gov

CHALLENGES

1. Lack of “plug and play” practices

2. Accounting for changes in habitat in the state

3. Poor understanding of plant and pollinator communities

"If we want to understand what's happening with bees, we have to be a lot more specific. We need basic maps of where species live in relation to habitats and ecoregions"

- John Ascher - National University Singapore

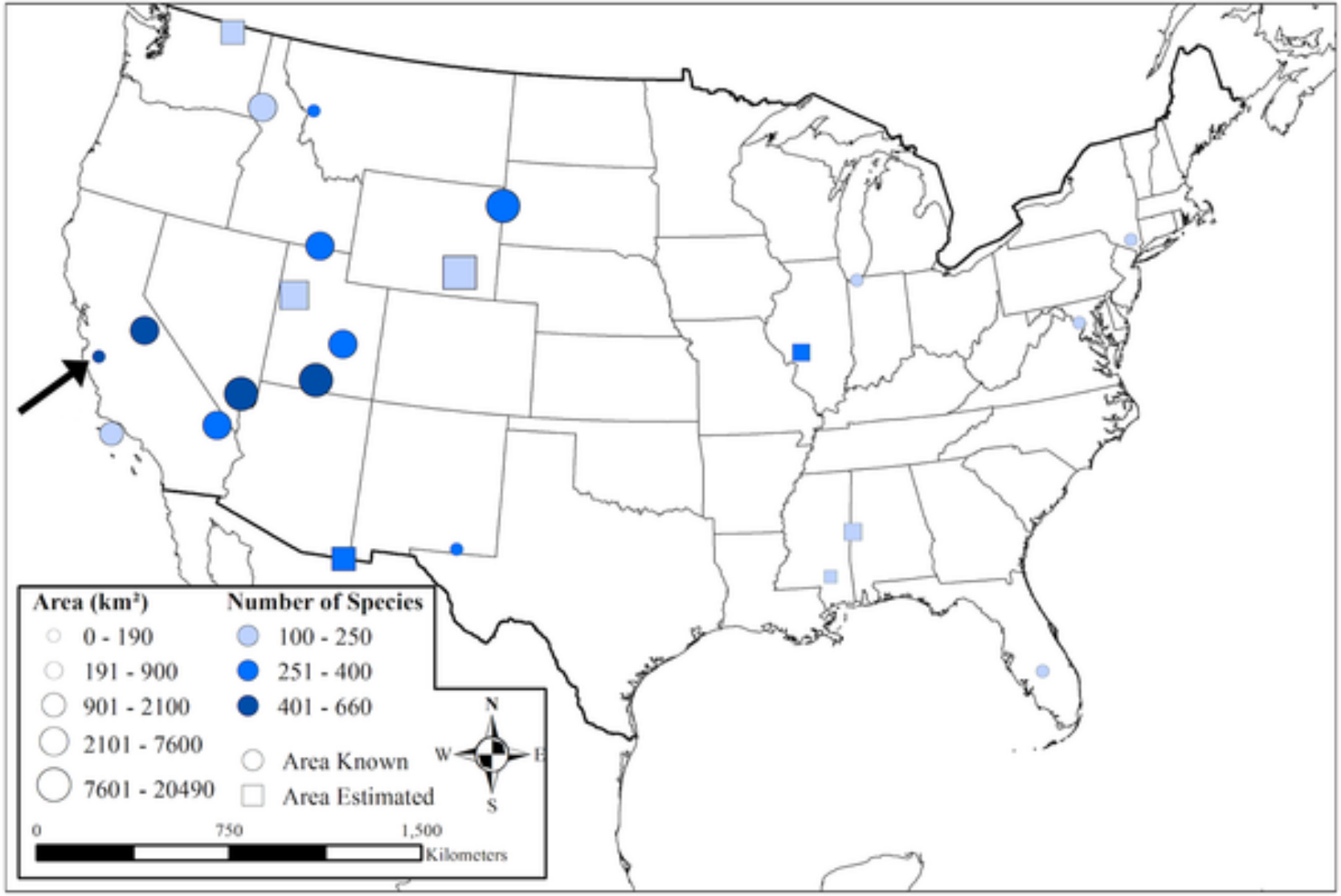
Episode 137

PolliNation

Oregon State University Extension Service

INVENTORYING BEES IN US

Bee biodiversity density results for all known native bee inventory projects with at least 100 species in natural or semi-natural areas across the United States



Meiners, Griswold and Carril 2019 PLOS ONE 14(1)

CHALLENGES

1. Lack of “plug and play” practices

2. Accounting for changes in habitat in the state

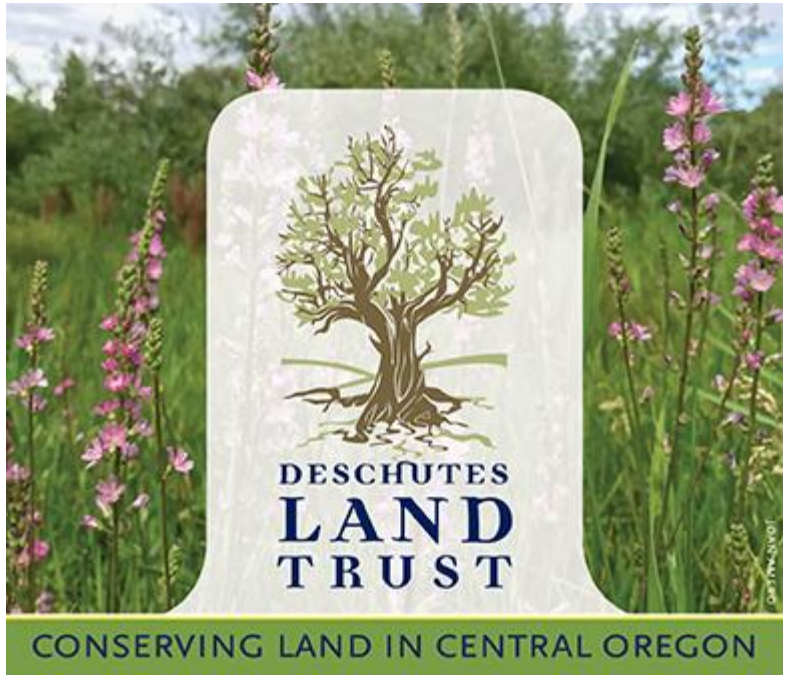
3. Poor understanding of plant and pollinator communities

4. Lack of connection between initiatives.

STRONG REGIONAL INITIATIVES

THE UNDERSTORY INITIATIVE

BENTON SOIL AND WATER CONSERVATION DISTRICT



STITCHING TOGETHER:

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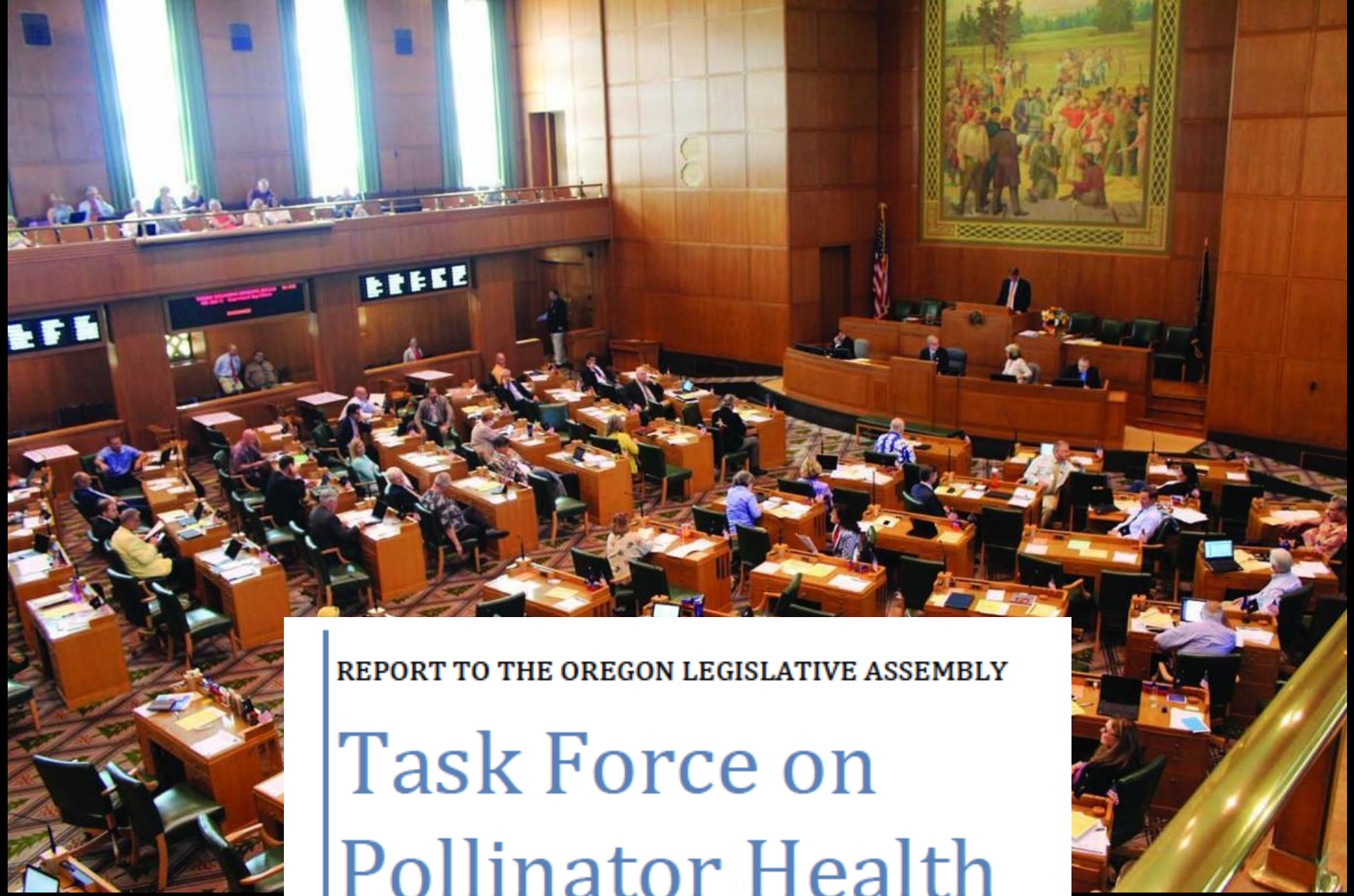
TARGET®

June 2013, Wilsonville, OR



REPORT TO THE OREGON LEGISLATIVE ASSEMBLY

Task Force on Pollinator Health

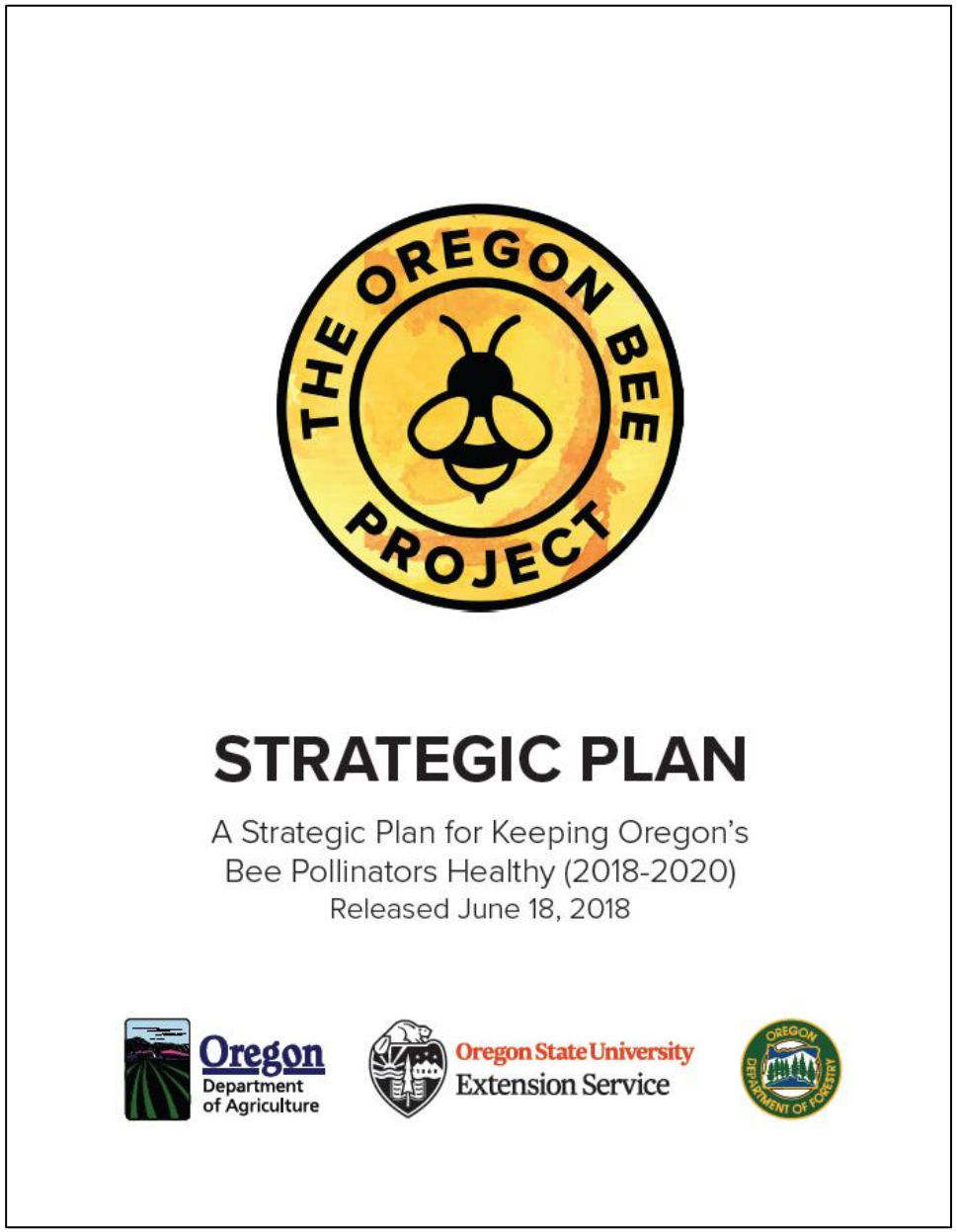
November 2014

OREGON BEE LAW

enacted July 2015

ORS 634.045: Avoidance of adverse effects on pollinating insects

- "develop a pollinator health outreach and education plan"



Goal 1: Protect bees from pesticide exposure

- Train 2000 pesticide applicators
- 4 Bee Protection Protocols
- 10,000 members of public reached

Goal 2: Increase pollinator habitat

- 35 Flagship Farms
- 20,000 members of public reached

Goal 3: Reduce impacts of diseases and pests on bees

- 500 samples for varroa, 100 bee disease samples
- Train 500 beekeepers on sampling and disease diagnosis

Goal 4: Expand our knowledge of Oregon bees

- 150 bee surveyors, 25 para-taxonomists
- 30,000 new records

THE OREGON BEE PROJECT

Oregon
Department
of Agriculture

OREGON DEPARTMENT OF FORESTRY

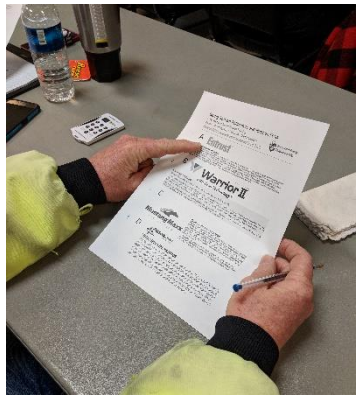
Oregon State University
Extension Service

www.oregonbeeproject.org/strategic-plan

THE OREGON BEE PROJECT

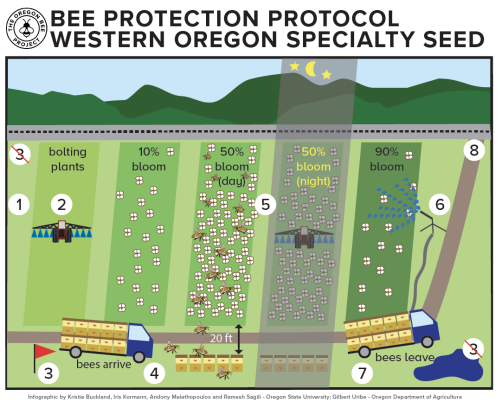
TRAIN & ENGAGE

- Pesticide applicators
- Land managers
- Beekeepers
- Volunteers
- Public



DECISION-MAKING SUPPORT

- Bee diseases
- Bee Protection Protocols
- Extension



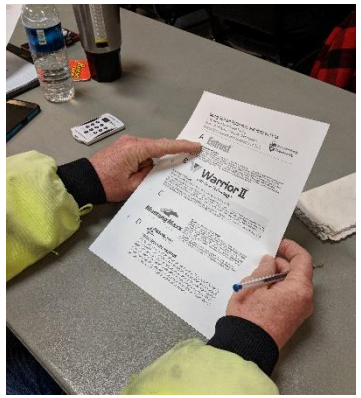
INNOVATORS

NATIVE BEE SURVEY

THE OREGON BEE PROJECT

TRAIN & ENGAGE

- Pesticide applicators
- Land managers
- Beekeepers
- Volunteers
- Public



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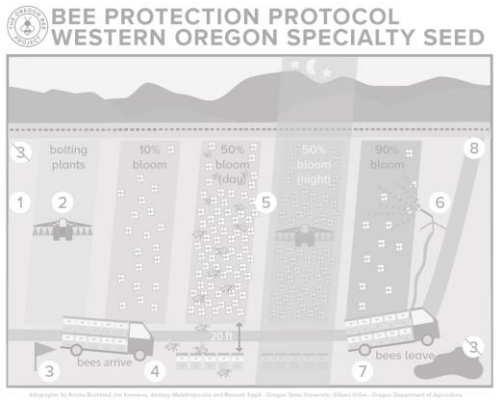


INNOVATORS

THE OREGON BEE PROJECT

woodland POLLINATOR STEWARD

USDA NIFA

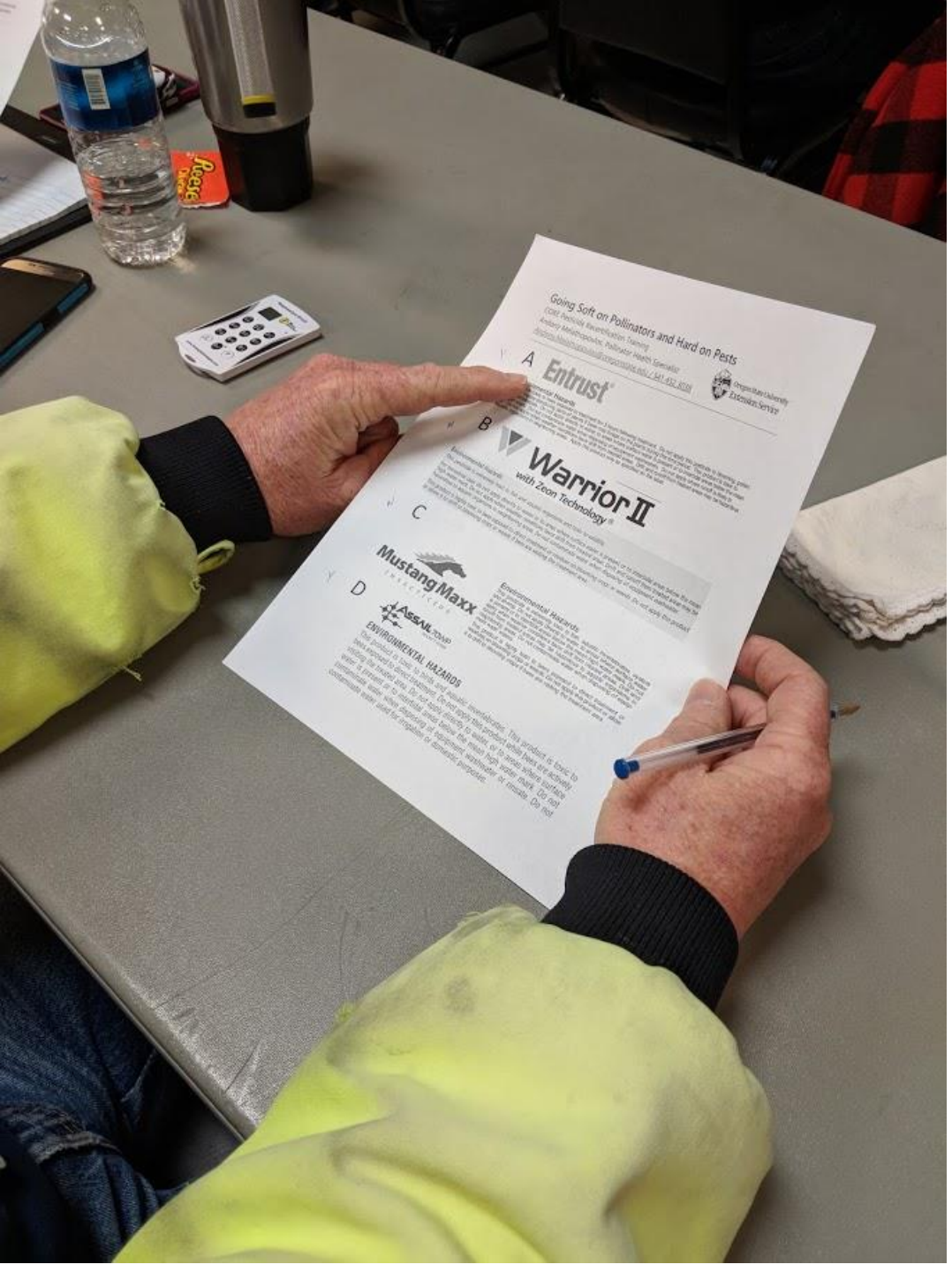
Extension Service

NATIVE BEE SURVEY

THE OREGON BEE PROJECT

OREGON BEE ATLAS


GETTING TOUGH
WITH PESTS
AND
GOING SOFT
ON POLLINATORS
Andony.Melathopoulos@oregonstate.edu



GETTING *TOUGH* WITH PESTS

AND

GOING *SOFT* ON POLLINATORS

Oregon State University
Extension Service

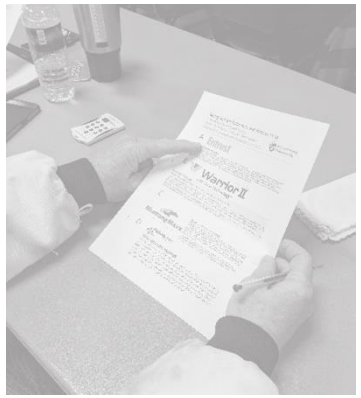
6,700 trained

18 counties

THE OREGON BEE PROJECT

TRAIN & ENGAGE

- Pesticide applicators
- Land managers
- Beekeepers
- Volunteers
- Public



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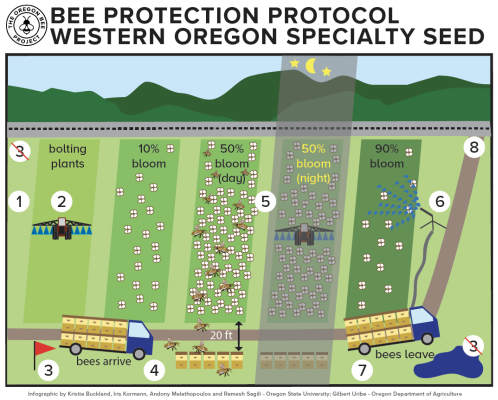


INNOVATORS

woodland POLLINATOR STEWARD

NATIVE BEE SURVEY

OREGON BEE ATLAS

"There's no easy money in agriculture, and banging your fist on the table and pointing your finger will put walls up. I want to build bridges."

- Harry Vanderpool - Vanderpool Farms

Episode 83

PolliNation

Oregon State University
Extension Service

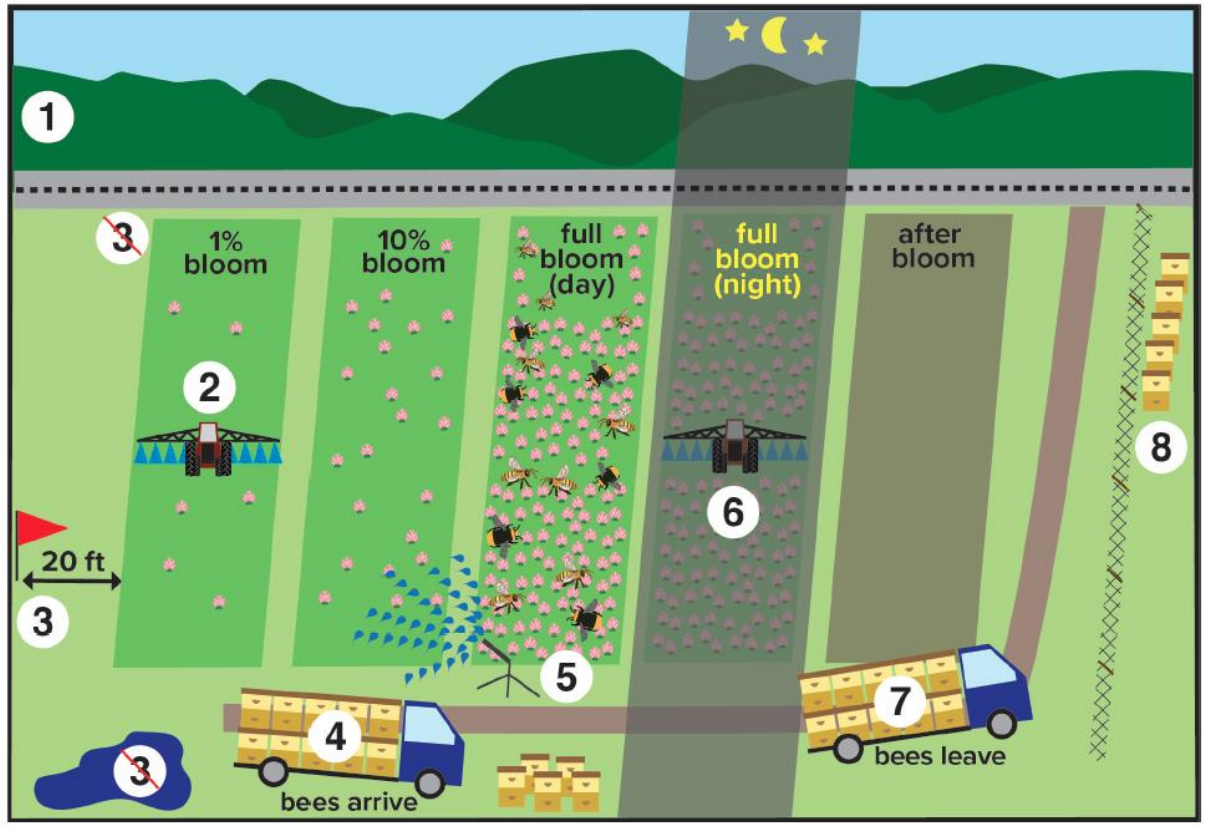
SPECIALTY SEED GROWERS OF WESTERN OREGON

OREGON CLOVER COMMISSION

Getting specific about honey bees during pollination – driven by industry and supported by Extension.

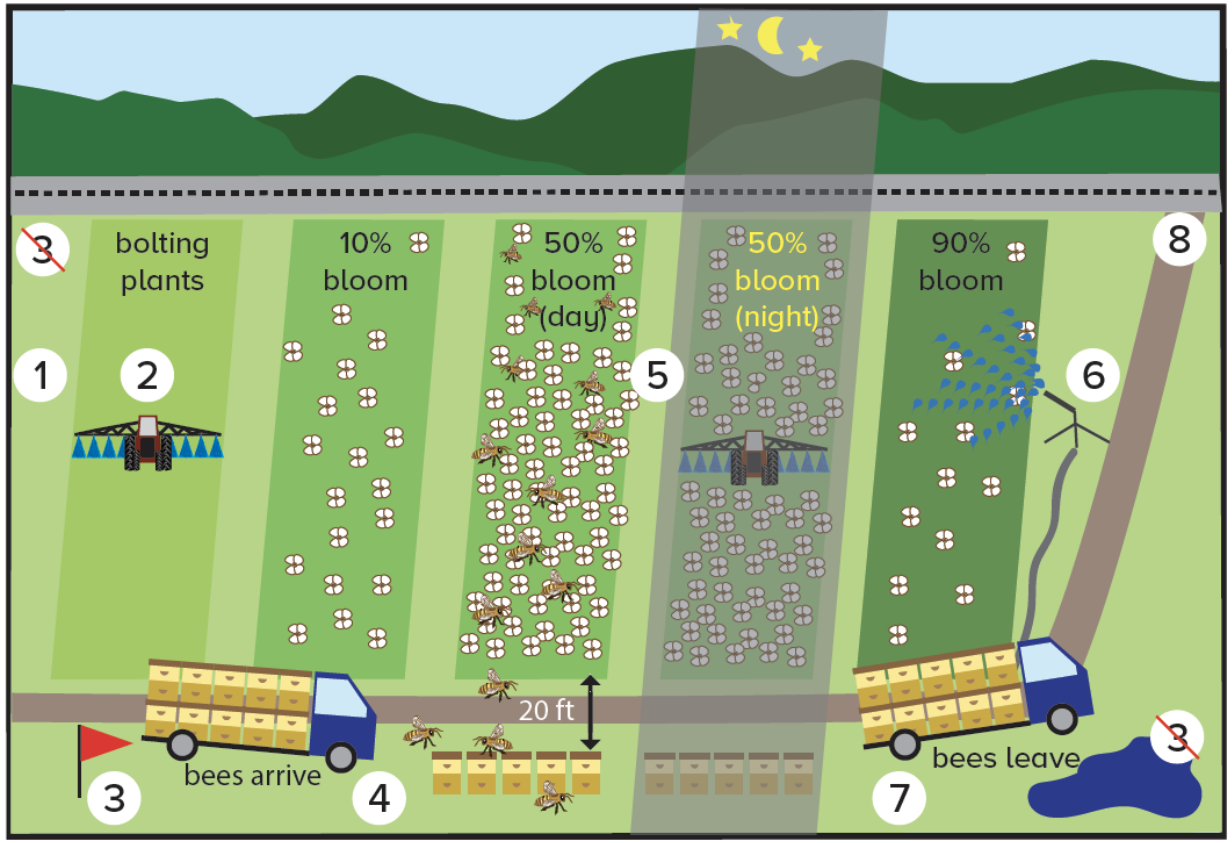
BEE PROTECTION PROTOCOLS

BEE PROTECTION PROTOCOL CLOVER SEED



Infographic by Nicole Anderson, Iris Kormann, Andony Melathopoulos and Ramesh Sagili - Oregon State University

BEE PROTECTION PROTOCOL WESTERN OREGON SPECIALTY SEED



Infographic by Kristie Buckland, Iris Kormann, Andony Melathopoulos and Ramesh Sagili - Oregon State University; Gilbert Uribe - Oregon Department of Agriculture


Before Bloom Insecticide Use

THE OREGON BEE PROJECT

TRAIN & ENGAGE

- Pesticide applicators
- Land managers
- Beekeepers
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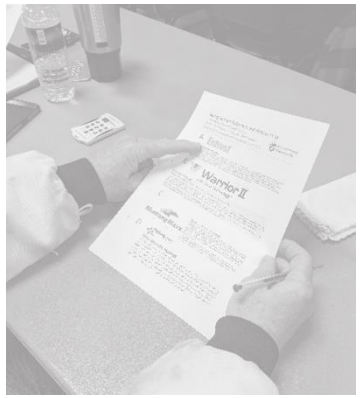
- Public



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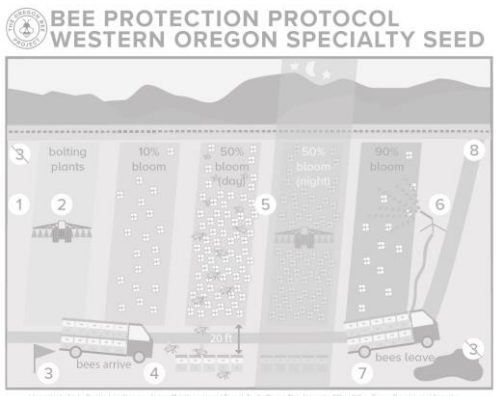


INNOVATORS

THE OREGON BEE PROJECT

woodland POLLINATOR STEWARD

Extension Service

NATIVE BEE SURVEY

Flora of Oregon

Volume 1: Pteridophytes, Gymnosperms, and Monocots

Stephen C. Meyers,
Thea Jaster,
Katie E. Mitchell,
& Linda K. Hardison, eds.

COUNCIL ON BOTANICAL AND HORTICULTURAL LIBRARIES
2016 LITERATURE AWARD
NOMINEE

Juncus tenuis Willdenow

Path rush, poverty rush, slender rush

Juncus tenuis Willd. var. *tenuis*

Plants perennial, 15–50 cm tall, cespitose, usually delicate, base usually green to brown, with 0–1(2) strong longitudinal stem ridges visible on a side. **Leaves** thin and wiry, blade flat and slightly inrolled, usually 1–8 mm on early season shoots, dirty white or translucent, scarious, acute or acuminate, auricles soft and thin. **Inflorescences** cymes, usually small, 1–6 cm; individual flowers often longer than internodes, bractlets subtending flowers usually acute (blunt). **Flowers** tepals 6, 3–4.1 mm, green to reddish, tips acuminate; stamens 6, filaments 0.6–1.2 mm, anthers usually 0.4–0.6(0.8) mm; styles 0.1–0.3(0.5) mm. **Capsules** usually 2.5–3 mm, more than 75% the length of, and shorter than the tepals, pale brown, apex usually blunt (acute), not crested, 1-chambered. **Seeds** 0.4–0.5 × 0.2–0.25 mm, apiculate. ***2n***=40, 80.

Shores, swales, springs, dune hollows, wet woods, marshes, damp paths, ditches, cranberry farms, moist disturbed sites. 0–1800 m. BW, Casc, CR, Est, Lava, Sisk, WV. CA, NV, ID, WA; throughout most of North America. Native.

Juncus tenuis is usually much smaller than *Juncus anthelatus*. The blunt unridged capsules separate *J. tenuis* from *J. confusus*, *J. occidentalis*, and *J. trilocularis*.

Juncus tiehmii Ertter

Tiehm's dwarf rush

Plants annual, 0.5–6 cm tall, unbranched. **Leaves** capillary, basal. **Inflorescences** 1–4(7) flowers in a terminal cluster, flowers subtended by 2 bractlets, tips acute. **Flowers** tepals usually 4, pale green or pink; stamens 2(3), filaments 0.6–0.9 mm, anthers 0.3–0.4 mm; styles 0.1–0.3 mm. **Capsules** usually elliptic to oblong, equaling or longer than the tepals, pale green or pink. **Seeds** up to 7 per chamber, 12–30 per capsule, 0.3–0.5 × 0.2–0.3 mm, longitudinally striate (at 10×). ***2n***=34.

Damp depressions, stream banks, sunny floodplains. 1000–2000 m. BR, ECas. CA, NV, ID, WA; south to Mexico. Native.

Plants with few seeds per capsule have larger seeds, and thus some specimens might suggest *J. capillaris*, but there is no overlap. *Juncus capillaris* always has fewer than 10 seeds per capsule.

Juncus torreyi Coville

Torrey's rush

Plants perennial, 30–100 cm tall, rhizomatous, rhizomes elongate, usually swollen or tuberous, at least at some nodes, perennial. **Leaves** round, hollow, septate, often stiff and divaricate; auricles 1–3.5 mm. **Inflorescences** 1–23 dense head-like clusters, clusters globose with 26–80 flowers. **Flowers** tepals 6, brown, greenish or reddish, tips acuminate; stamens 6, filaments 0.6–1.2 mm, anthers 0.4–0.8 mm; styles 0.1–0.2 mm. **Capsules** equaling or longer than the tepals, pale brown to dark brown, gradually tapered to acuminate tips, 1-chambered. **Seeds** ellipsoid to ovoid, 0.4–0.5 × 0.2–0.3 mm, apiculate. ***2n***=40.

Shores, swales, springs, ditches. 50–1300 m. BW, Col, Lava, Owy. CA, NV, ID, WA; across the US and southern Canada, south to Mexico. Native.

This is primarily an eastern Oregon species, with large globose clusters, peculiar swollen rhizome nodes, and spreading stiff foliage.

Juncus triglumis Linnaeus var. ***albescens*** Lange (p. 281)

Three-flowered rush

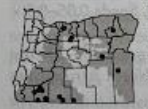
Plants perennial, 5–30 cm tall, cespitose. **Leaves** mostly basal, round, hollow, more or less septate, very thin, 0.3–0.6 mm wide; auricles 0–1 mm. **Inflorescences** 1 small terminal cluster of 1–3(5) flowers, often partially hidden by sheathing base of inflorescence bracts; flowers without subtending bractlets. **Flowers** tepals 6, white to pale brown, tips acute to obtuse, hooded, blunt; stamens 6, filaments 2–3 mm, anthers 0.5–0.8 mm; styles 0.3–0.4 mm. **Capsules** longer than the tepals, pale brown to dark brown, 1-chambered. **Seeds** narrowly ellipsoid to linear, 1.3–2.8 × 0.2–0.3 mm, tails 0.4–0.8 mm, 0.5–1 times as long as seed body. ***2n***=132.

Limy shorelines and marshes in the high peaks of the Wallowa Mountains. 2300–2400 m. BW. ID; across North America; eastern Russia. Native.

Juncus triglumis is a well-marked species with a small terminal flower cluster, pale flowers, and tailed seeds. Some study is needed to clarify the subspecies in North America. The septate leaf character is difficult to detect in some specimens. The leaves are minutely hollow, usually with two longitudinal tubes.

Juncus trilocularis Zika

Foothill rush



Plants perennial, 10–78 cm tall, cespitose, lacking strong stem ridges. **Leaves** thin and wiry, blade flat and slightly inrolled; auricles soft and thin distally, 0.3–3 mm, dull, rounded or acute, dirty white. **Inflorescences** cymes, 2–20 cm, usually open; bractlets subtending flowers acute to acuminate, often aristate. **Flowers** tepals 6, 3.3–5.1 mm, greenish to pale brown, nearly concolorous, tips acuminate, outer tepals distinctly longer than inner tepals; stamens 6, filaments 0.5–0.8 mm, anthers (0.6)0.8–1.7 mm; styles 0.3–1 mm. **Capsules** 2.8–4.1 mm, shorter than the tepals, pale brown to dark brown, apex truncate to notched (acute), crested, 3-chambered. **Seeds** 0.4–0.6 × 0.2–0.3 mm, apiculate, reticulate.

Seasonally damp meadows, springs, shores, creek banks, moist open forest, ditches. 300–1900 m. BW, Col, ECas, Owy, Sisk, Casc. CA, ID, NV, WA. Native.

This is an uncommon species found east of the Cascade Range and in the Siskiyou Mountains that has long been confused with *Juncus brachyphyllus*, a plant of grasslands and glades in the Midwest, which occurs no further west than Nebraska.

Juncus uncialis Greene

Inch-high rush, twelfth rush

Plants annual, 0.3–3.5 cm tall, unbranched, stems not thickened below flowers. **Leaves** capillary, basal. **Inflorescences** 1 terminal flower, subtended by solitary bractlet, base encircling stem, tip truncate. **Flowers** tepals

"Thomas Jefferson told Lewis and Clark to go out there and identity everything. Well, it's been two hundred years, and it's high time we had an inventory. In a way, it is fitting that this should be such a grassroots sort of thing. Instead of a huge agency that could have put a few million into a Flora Project, but hasn't and won't, it is heartening to see that many dedicated people will get the job done."

- Jerry Igo, naturalist; Moiser, OR on the Oregon Flora

OREGON FLORA

OREGON BEE ATLAS

OREGON BEE ATLAS

Volunteers

Oregon State University
Extension Service
Master Melittologist

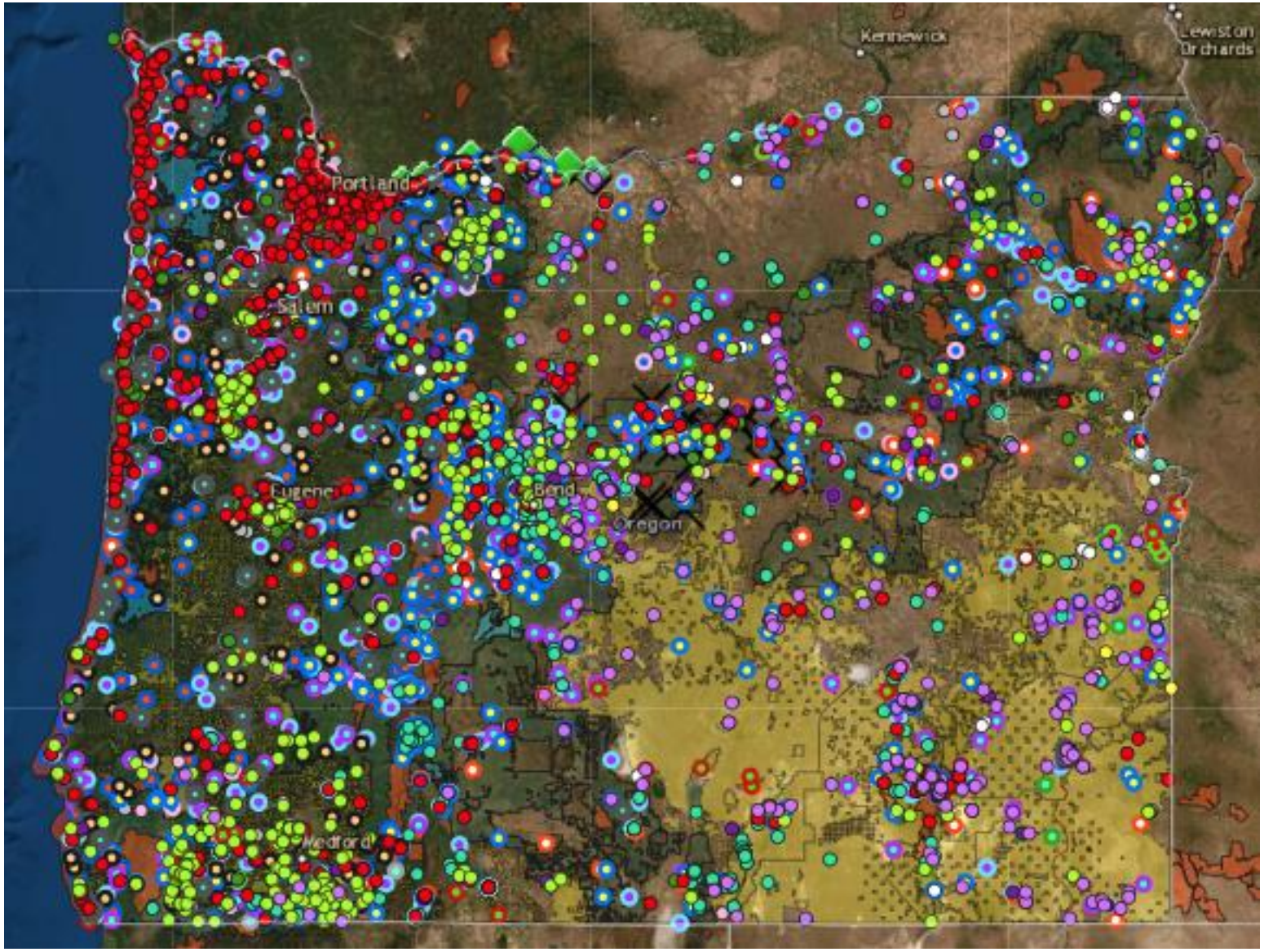
Jen Lawson
Program Coordinator

Sarah Kincaid
Education Coordinator


Joe Engler
Atlas Instructor
Dan O’Loughlin
Master Melittologist, Yamhill Co

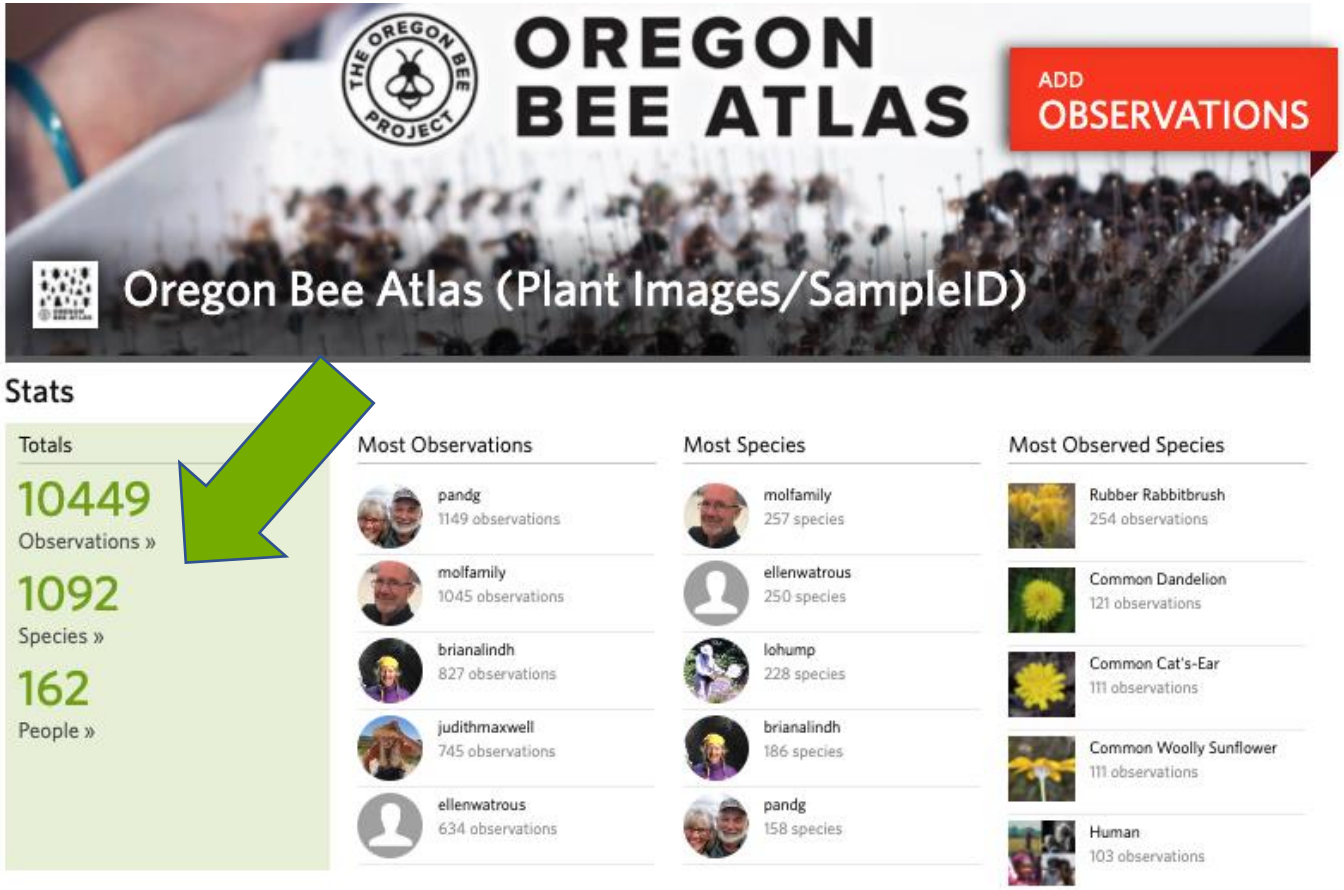
Collection Sites and Permits

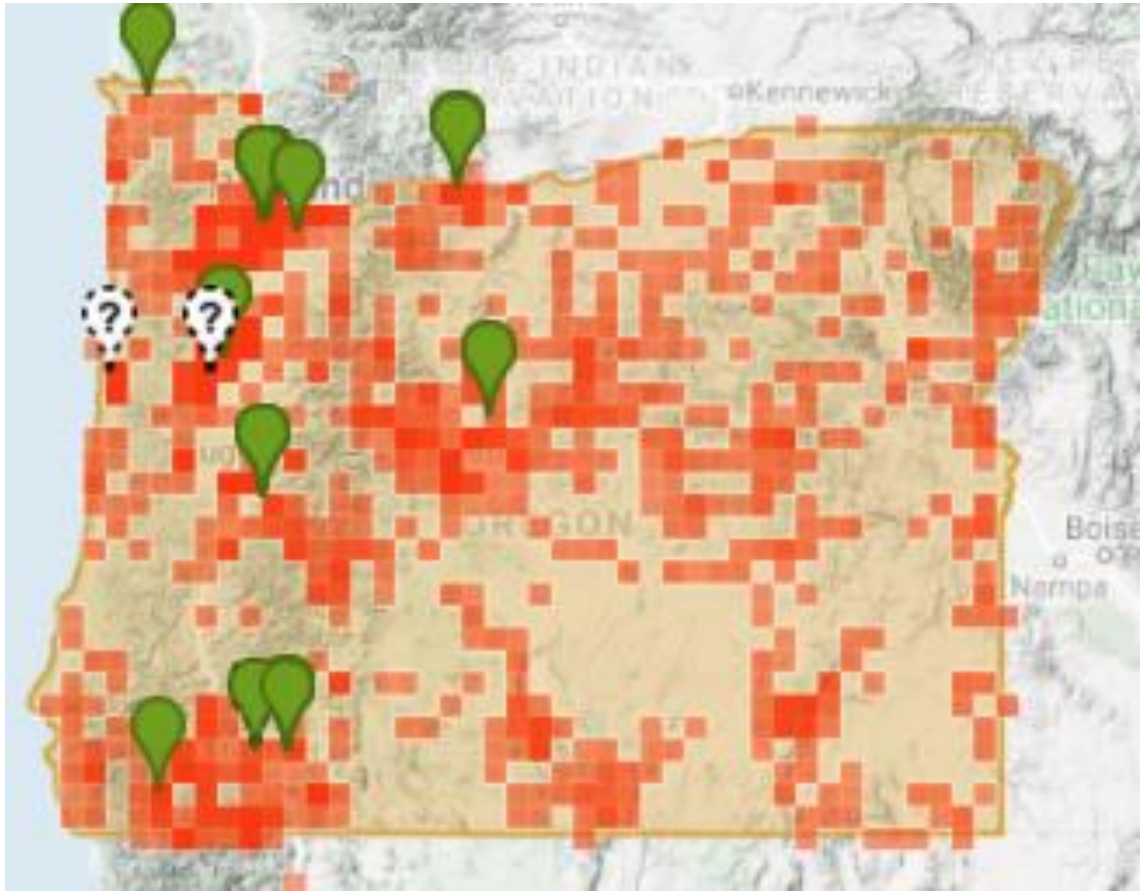
- [x] Astragalus
- [x] Calochortus
- [x] Cirsium
- [x] Cleome
- [x] Cryptantha
- [x] Cucurbita
- [x] Dalea
- [x] Ericameria
- [x] Grindelia
- [x] Helianthus
- [x] Iliamna
- [x] Lotus
- [x] Lysimachia
- [x] Oenothera
- [x] Opuntia
- [x] Penstemon
- [x] Phacelia
- [x] Potentilla
- [x] Salix
- [x] Solidago
- [x] Sphaeralcea
- [x] Stephanomeria
- [x] Vaccinium
- [x] Vicia



GEOGRAPHIC SPREAD

Sample event and number bees caught by county





OREGON BEE ATLAS

Volunteers

Oregon State University
Extension Service
Master Melittologist

Lincoln Best
Taxonomist

Taxonomy


2019
Andrena ♂
2.5.2021
DB
J.FAN BROWN
2019
Andrena ♂
2.9.2021
DB
J.FAN BROWN
2019
Hylaeus ♂
2019
2019
2019
Melissodes
2019
2019
Melissodes ♀
2019

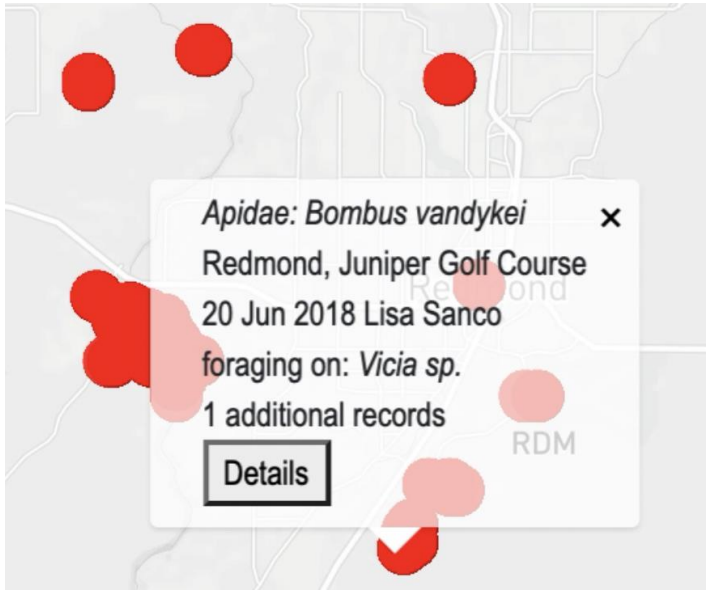
HIGH QUALITY RECORDS

Hoplitis emarginata male sunning

Atoposmia oregona on *Penstemon davidsoni*

OREGON BEE ATLAS

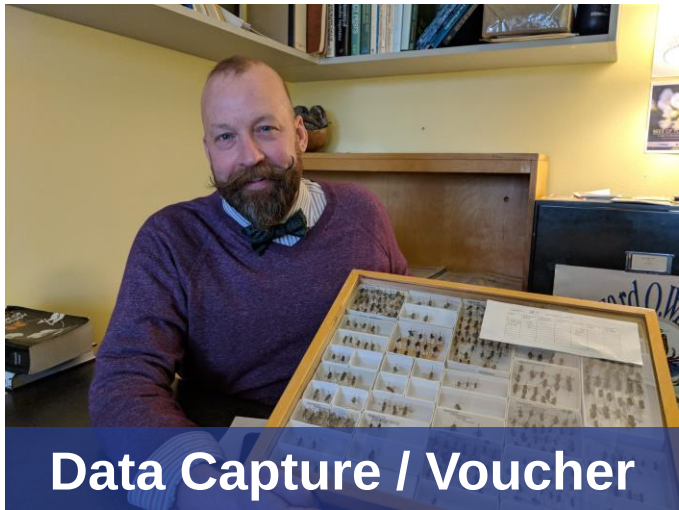
Volunteers



Chris Marshall
Curator (OSAC)

Oregon State University
Extension Service
Master Melittologist

Taxonomy



Data Capture / Voucher

Catalog: Oregon State Arthropod Collection Vol 5(1) 1—12

Oregon Bee Atlas: native bee findings from 2018

Lincoln Best[1*], Cody Feuerborn[1], Jennifer Holt[1], Sarah Kincaid[1], Christopher J. Marshall[2], Andony Melathopoulos[1], Samuel V.J. Robinson[3]

GBIF
Global Biodiversity Information Facility

OCCURRENCE DATASET | REGISTERED FEBRUARY 9, 2021

Oregon Bee Atlas Survey Data: 2018

Published by Oregon State University

Lincoln Best • Colby Feuerborn • Jennifer Holt • Sarah Kincaid • Christopher Marshall • Andony Melathopoulos

DATASET PROJECT METRICS ACTIVITY DOWNLOAD

11,046 OCCURRENCES 1 CITATION

These data are the observational data from the 2018 Oregon Bee Atlas native bee surveys. All of the records represent specimens caught in the field, pinned, labelled, and identified by experts. Voucher specimens were deposited in the Oregon State Arthropod Collection for all nominative taxa sampled from as many locations as feasible.

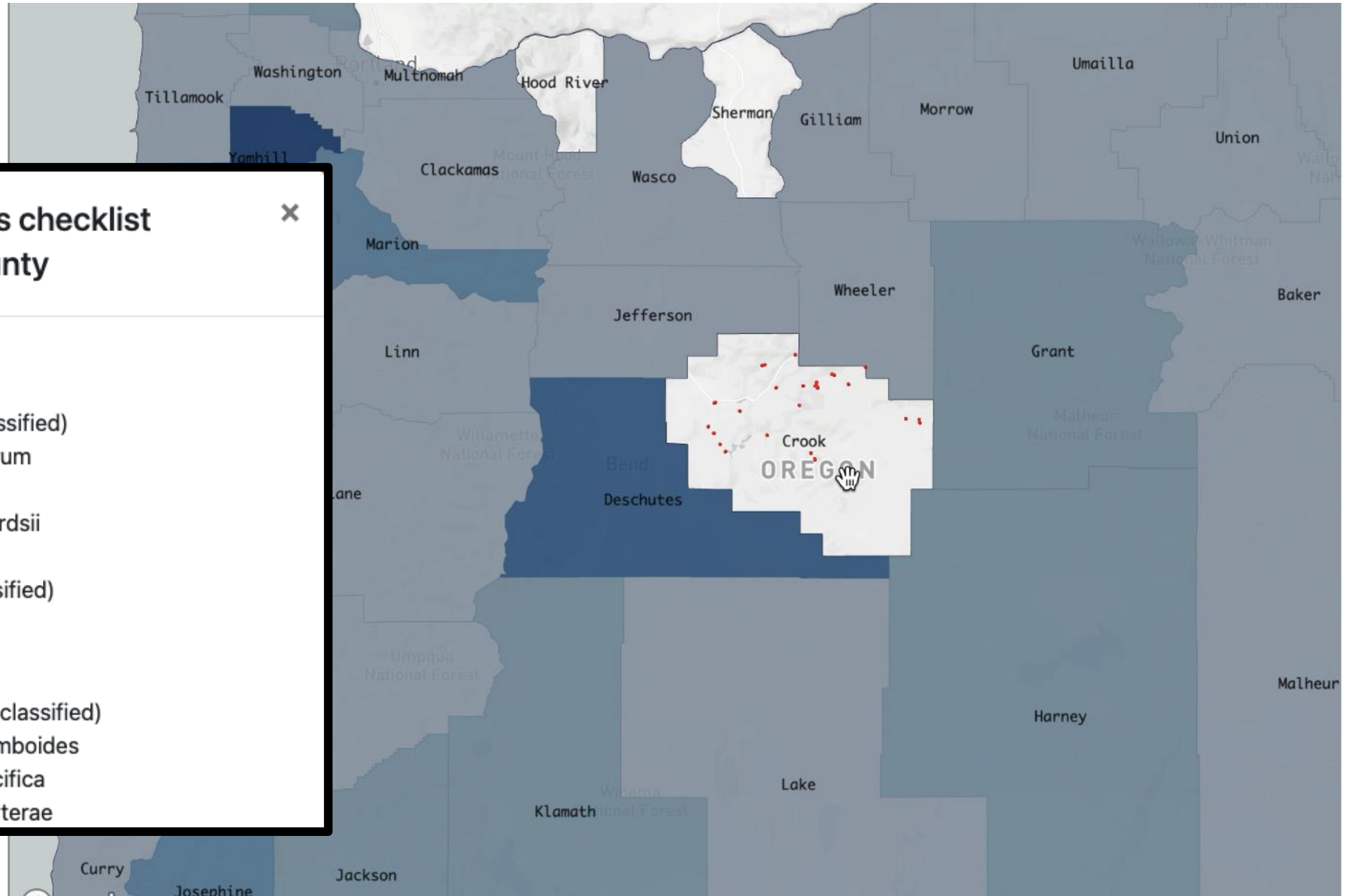
Project ID: DOI: https://doi.org/10.5399/osu/cat_osac.5.1.4647
Publication date: April 20, 2021
Metadata last modified: April 20, 2021
Hosted by: Oregon State University
License: CC BY 4.0
How to cite DOI 10.15468/dmyc73

11,046 Occurrences
100% With taxon match
99.9% With coordinates
99.9% With year

INTERACTIVE BEE ATLAS

Crook county

360 specimens
44 locations



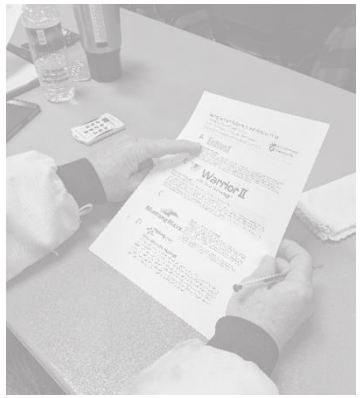
OBA bee species checklist
Lane County

- Andrenidae
  - Andrena
    - Andrena (unclassified)
    - Andrena prunorum
  - Calliopsis
    - Calliopsis edwardsii
  - Perdita
    - Perdita (unclassified)
- Apidae
  - Anthophora
    - Anthophora (unclassified)
    - Anthophora bomboides
    - Anthophora pacifica
    - Anthophora porterae

THE OREGON BEE PROJECT

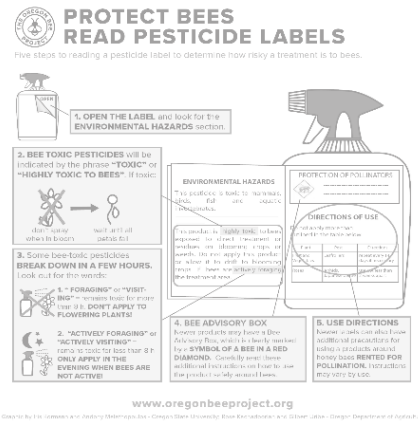
TRAIN & ENGAGE

- Pesticide applicators
- Land managers
- Beekeepers
- Volunteers
- Public



DECISION-MAKING SUPPORT

- Bee diseases
- Bee Protection Protocols
- Extension



INNOVATORS

- THE OREGON BEE PROJECT
- woodland POLLINATOR STEWARD
- Extension Service

NATIVE BEE SURVEY

- OREGON BEE ATLAS


BEES OF OREGON
MINING BEE
Andrena
EUROPEAN HONEY BEE
Apis mellifera
NEVADA BUMBLE BEE
Bombus nevadensis


Waggle Dancer
OREGON BEE ATLAS
Grumpbee
OREGON BEE ATLAS
The Salty Dog
OREGON BEE ATLAS
Bumbles
OREGON BEE ATLAS
The Mason
OREGON BEE ATLAS
BEES OF OREGON
THE OREGON BEE PROJECT

STITCHING TOGETHER:

1. What is the Pollinator Affinity Group
2. What is pollinator habitat
3. Challenges to pollinator habitat
4. Oregon Bee Project Strategic Plan
5. Stitching efforts together

OREGON BEE PROJECT

STRATEGIC PLAN 2022-2025

Goal 2: Increase habitat

Objectives:

2.1 Increase habitat: Increase the amount of pollinator habitat in the state by 100 acres per year.

2.2 Expand training: Provide land managers and the public with a greater variety of training opportunities that are coordinated across different agencies and nonprofits.

OREGON BEE PROJECT

STRATEGIC PLAN 2022-2025 (proposed)

Activities:

- **Train licensed pesticide applicators** on the principles of vegetation management to promote pollinator habitat.
- Develop a **Pollinator Advocate curriculum** to provide volunteers the skills and outreach resources for educating the public on how to create pollinator habitat. Resources will include pollinator seed mix packs of annual and perennial seed mix packages suitable for urban pollinator habitat.
- Develop an **online portal** that enables partners in Soil and Water Conservation Districts, NRCS offices, and non-profits to log the impacts of their training.
- Hold an **annual meeting of state agencies**, regional Soil and Water Conservation Districts, seed producers, to set sector level targets for develop project concepts for state and federal grants.

Andony.Melathopoulos@oregonstate.edu
oregonbeeproject.org

Steering Committee:

Oregon Department of Agriculture

Gilbert Uribe (Rose Kachadoorian) – Pesticides Division
Jessica Rendon (Jake Bodart) – Insect Pest Prevention and Management

Oregon Department of Forestry

Christine Buhl

State of Oregon 1859

FFAR

USDA NIFA
United States Department of Agriculture
National Institute of Food and Agriculture

Western SARE
Sustainable Agriculture Research & Education

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

North American Pollinator Protection Campaign
NAPPC

Oregon State Beekeepers Association

Oregon Clover Commission