

Oregon Spotted Frogs Under a Changing Climate




Kaly Adkins

East Region Conservation Wildlife Biologist

Emily VanWyk

Acting Conservation Strategy Coordinator

Presentation Overview

A photograph of an Oregon Spotted Frog sitting in a shallow, muddy stream with a bed of dry sticks and twigs. The frog has a brownish-orange body with dark spots and a yellowish-green eye.

- Species background

- Status and trends

- Threats and climate vulnerability

- Conservation opportunities

Oregon Spotted Frog

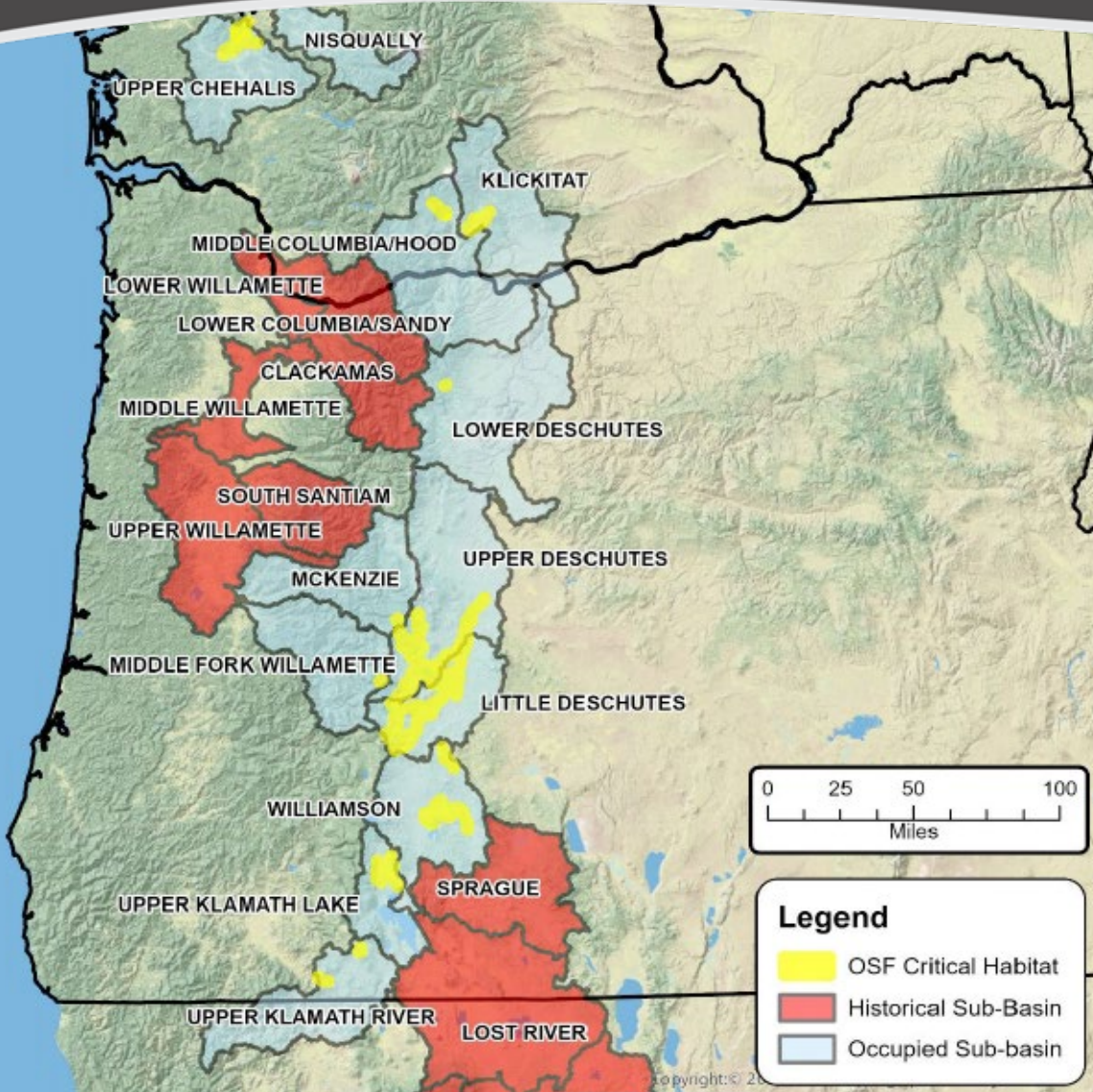
Threatened under Federal ESA

Oregon Conservation Strategy Species

Most aquatic frog in Oregon

Found in wetland complexes with a variety of water depths and abundant vegetation

Status and Trends



Oregon spotted frog (*Rana pretiosa*) current and historical sub-basin occupancy

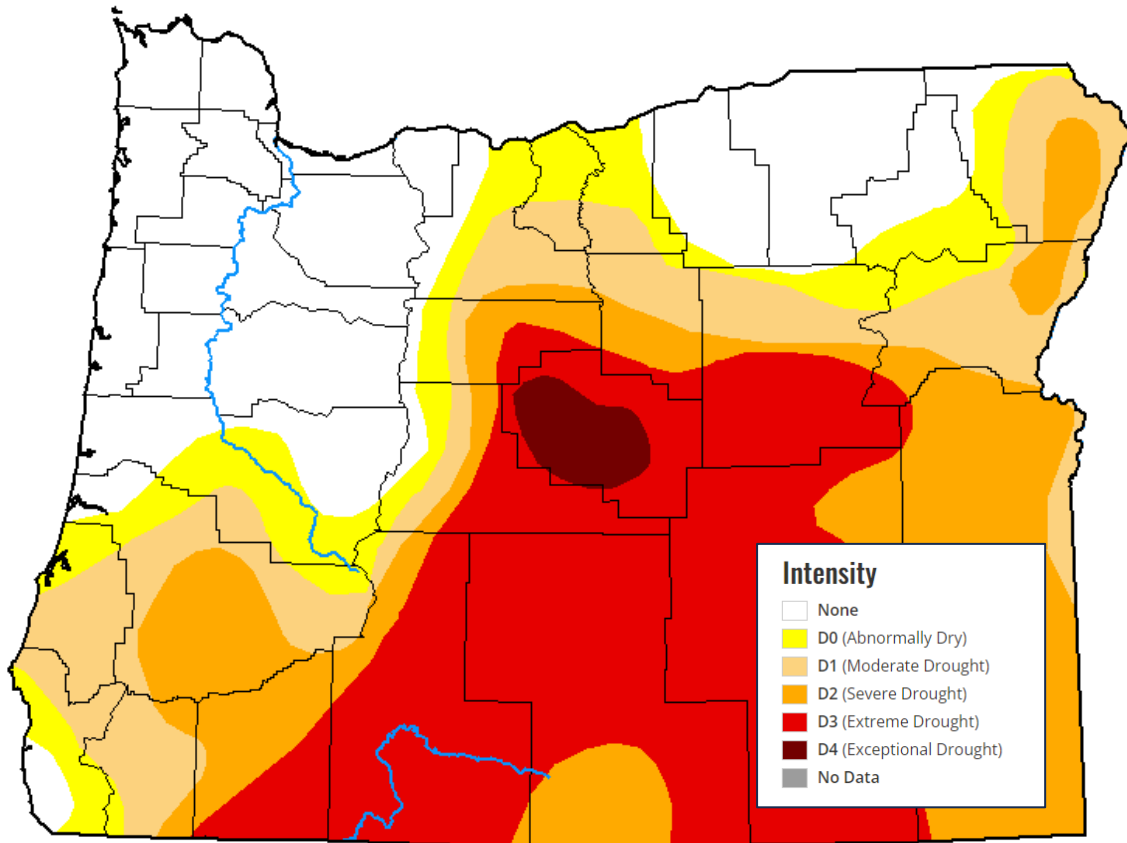
Range wide

- Estimated losses of up to 90% of total range
- Extirpated from California

Oregon

- Approximately 80 sites/populations remaining
- 80% of sites have a low population abundance ranking

Oregon Drought Monitor, One Year Ago to Current



Recent trends

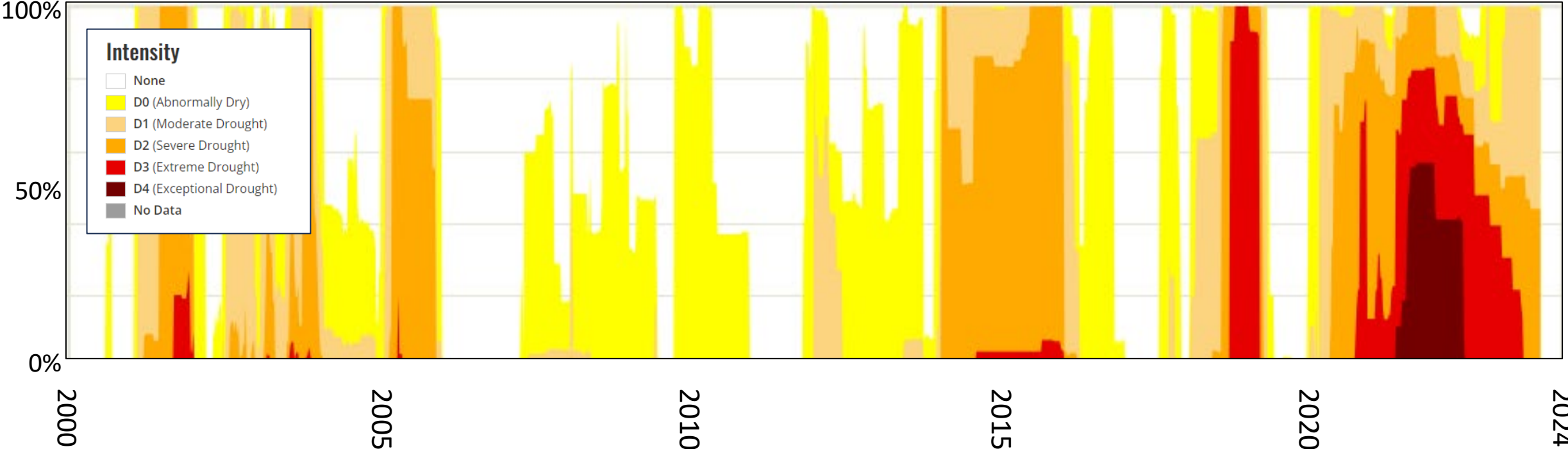
- Ongoing reductions since 2014 listing with increased drought severity
- Worst megadrought on record

Observed Impacts

- (D1) Water levels begin to decline
- (D2) Marshes drying up, little water available for wildlife
- (D3) Low oxygen and high water temperatures affecting wildlife

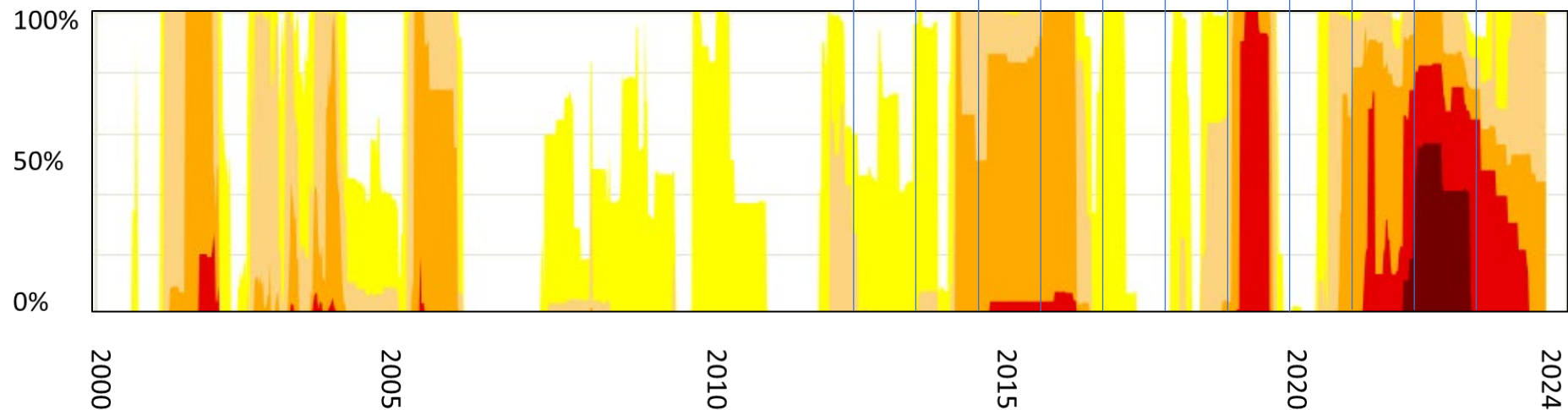
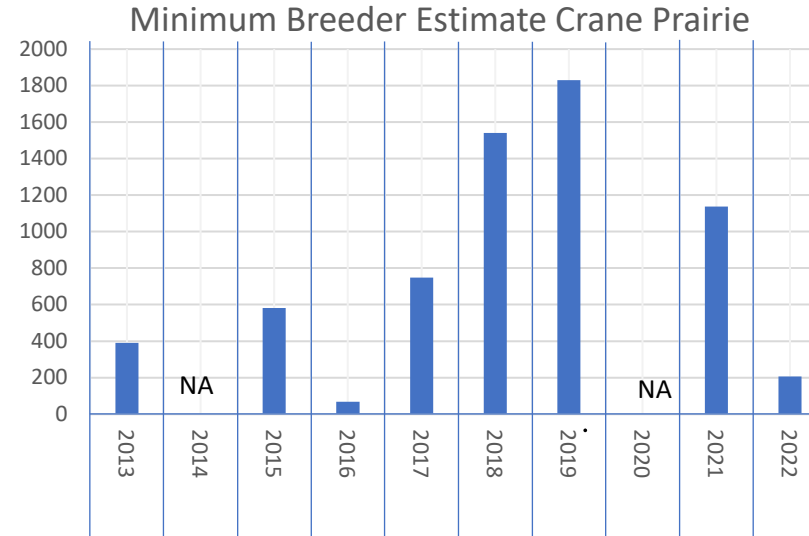
Deschutes County Drought Monitor 2000-Present

Percent Area in Drought Monitor Categories

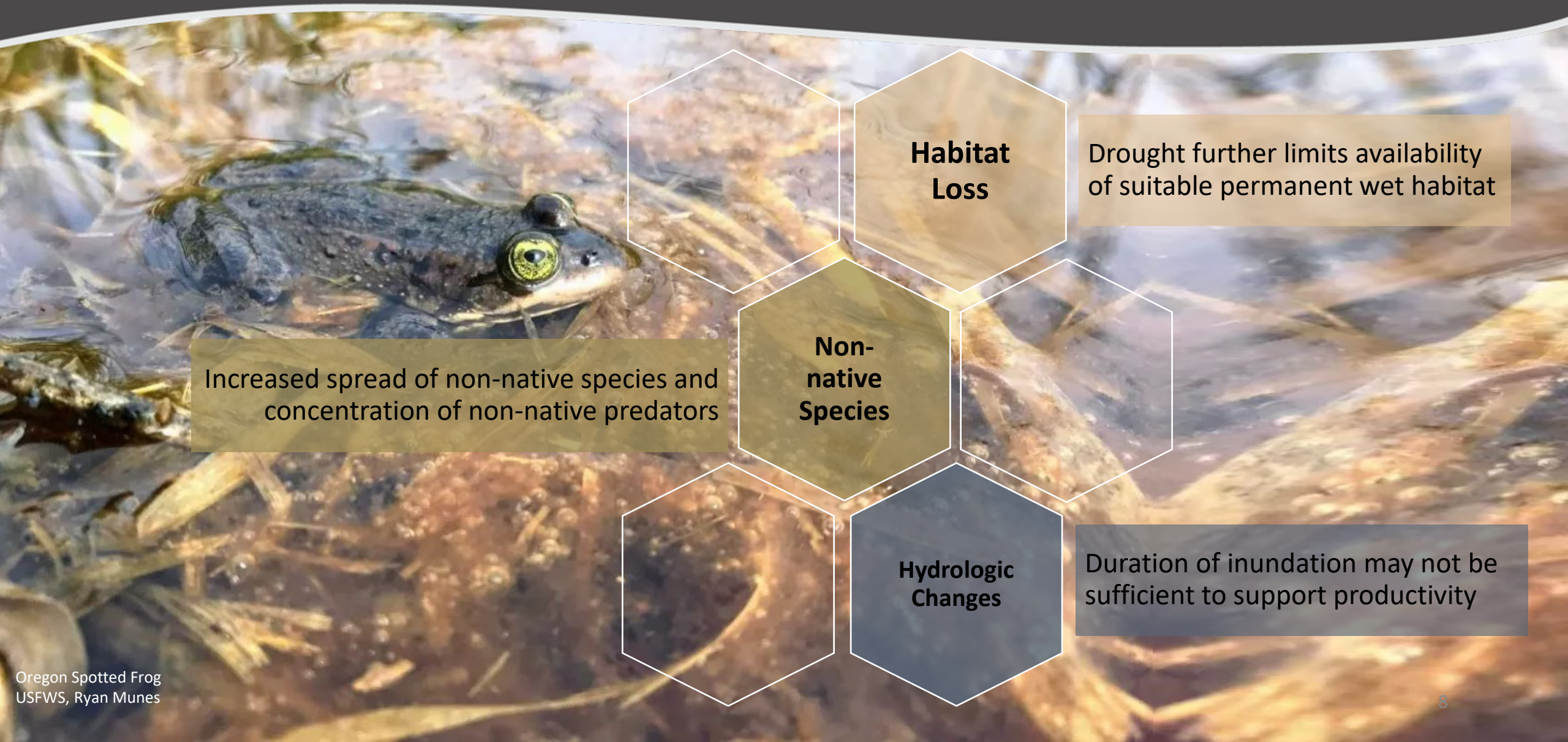


Deschutes County Drought Monitor 2000-Present

- Sharp decline in minimum breeder estimate from 2018 to 2022
- Over same time frame, severe drought documented
- Loss of breeding habitat
- Egg mass stranding and desiccation



Threats, Accelerated by Climate Change



Increased spread of non-native species and concentration of non-native predators

Non-native Species

Habitat Loss

Drought further limits availability of suitable permanent wet habitat

Hydrologic Changes

Duration of inundation may not be sufficient to support productivity

Habitat Loss and Hydroperiod Changes



Wickiup Reservoir pictured at historic low in 2021
Bend Bulletin, Dean Guernsey

Non-Native Plants and Animals



Predatory Fish, Brown Bullhead
ODFW



Reed Canary Grass
iNaturalist, (c) anonymous, (CC BY-NC)



American Bullfrog
ODFW

Conservation Opportunities

- Deschutes Basin Habitat Conservation Plan
 - Collaborative strategy to share water resources across the calendar year
 - Ensures that Endangered Species Act requirements are met
 - Includes conservation funds for invasive species removal and habitat restoration



Deschutes Basin Farmland
USFS



Oregon Spotted Frog
ODFW



Upper Deschutes River in Winter
OPB, Brandon Swanson

Questions?



David Herasimtschuk

USFWS / Freshwaters Illustrated