

LIFE HISTORY, STATUS, AND RESEARCH OF THE NORTHWESTERN POND TURTLE (*ACTINEMYS MARMORATA*) IN THE WILLAMETTE VALLEY, OREGON

Kathleen Smith, Wildlife Biologist
U.S. Army Corps of Engineers, Portland District
April 3, 2024



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PRESENTATION OUTLINE

1. Taxonomy and Geographic Range
2. Life History and Habitat Requirements
3. Conservation Status
4. USACE's Historic and Current Research and Monitoring Efforts
5. Current USGS/USACE Movement Study





TAXONOMY AND GEOGRAPHIC RANGE



Taxonomy

- Northwestern and southwestern pond turtles are genetically distinct species
- Not reproductively isolated and can interbreed

Range

- Currently range from WA south to Baja, CA, Mexico with a small population in western NV
- Historically ranged into British Columbia but has since been extirpated.



LIFE HISTORY TRAITS AND HABITAT

Description

- Medium-sized, semi-aquatic freshwater turtle
- Ectothermic
- Sexually dimorphic
- Late to reproductively mature
- Long-lived
- High mortality rates in the egg/juvenile stages



Habitat

- Aquatic and terrestrial habitat is critical
- Require connectivity between habitats and basking structures for thermoregulation
- Inhabit lentic and lotic environments

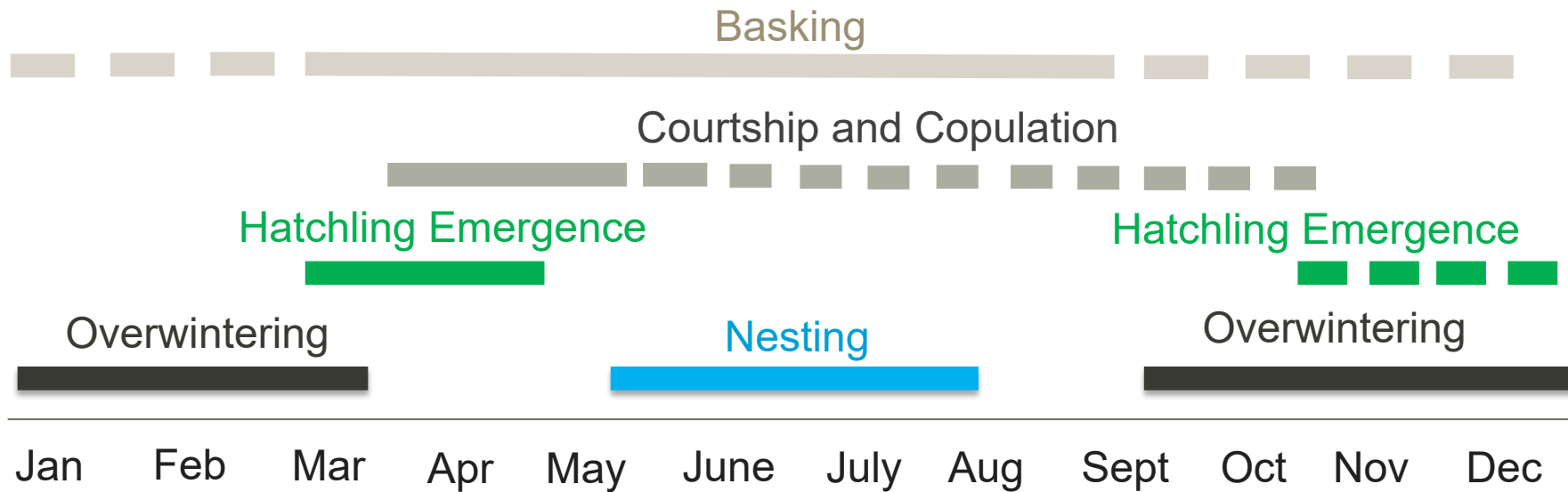




LIFE CYCLE



Photo Credit: Don Ashton



Dashed lines indicate the behavior is less likely to occur during this time and solid line means the behavior is more likely to occur.

Citations: ODFW. 2015. Guidance for Conserving Oregon's Native Turtles including Best Management Practices. Oregon Dept. of Fish and Wildlife. 99 pp., Holland 1991 p. 23, and USACE unpublished data



CONSERVATION STATUS

- State sensitive-critical and priority at-risk species
- Proposed for Federal listing as threatened; final rule in fall 2024
- USACE voluntary conference with USFWS began in fall 2023
- USACE's NWPT Biological Assessment Supplement will be complete in May 2024



Biological Assessment for the Willamette Valley System Operations and Maintenance:
Supplemental information for voluntary conference on Northwestern Pond Turtles, *Actinemys marmorata*

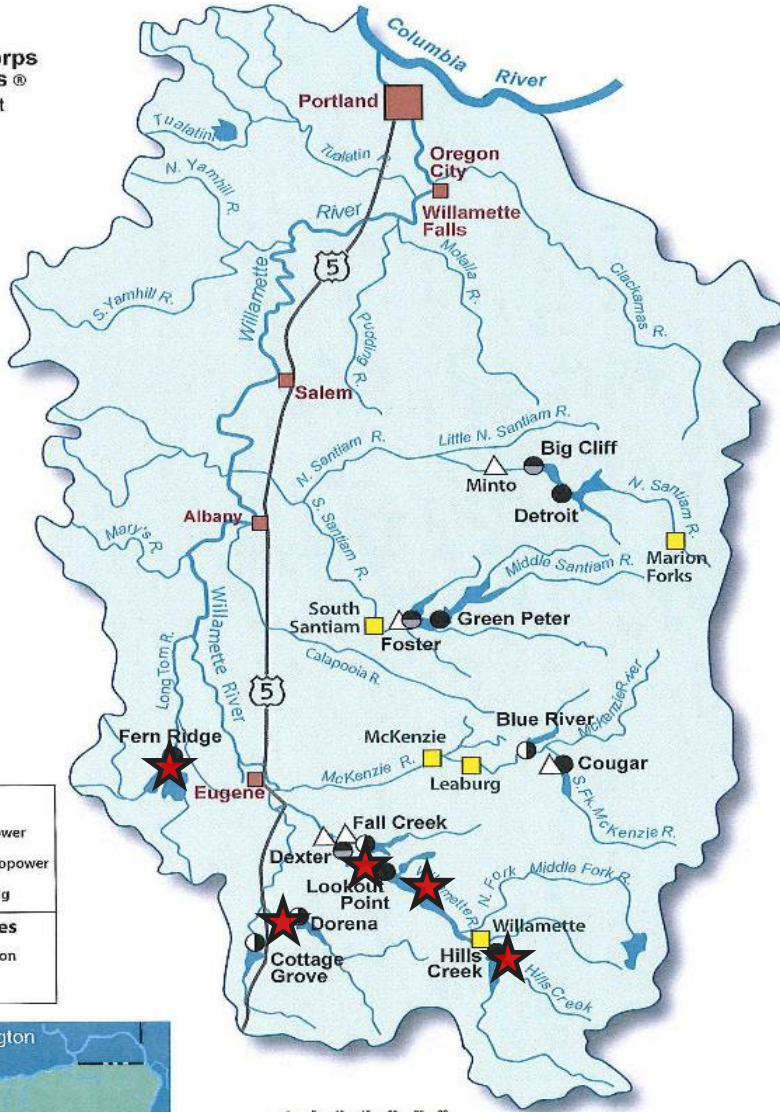


May 01, 2024



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The Willamette River Basin



Dams	
●	With Hydropower
○	Without Hydropower
◐	Re - Regulating
Fish Facilities	
△	Adult Collection
■	Hatchery

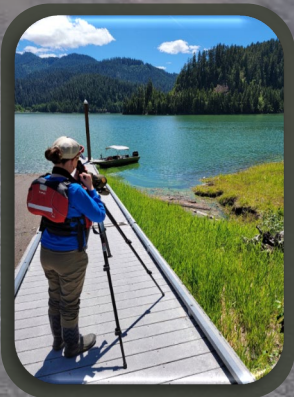




USACE'S HISTORIC RESEARCH AND MONITORING EFFORTS

All Reservoirs

Presence/Absence Surveys



1990

Fern Ridge, Dorena, Fall Creek, & Lookout Point

Trapping, VHF telemetry, CMR, visual mark/recapture, nest surveys, head-starting



1992

Fern Ridge & Lookout Point

Trapping, VHF telemetry, head-starting, nest surveys



1998

Hills Creek

Trapping, VHF telemetry



2003



USACE'S CURRENT RESEARCH AND MONITORING EFFORTS

All Reservoirs

Presence/Absence
Surveys



1990



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Trapping, VHF telemetry



2003



USACE'S HISTORIC RESEARCH AND MONITORING EFFORTS

Fern Ridge, Dorena, Fall Creek, & Lookout Point

Trapping, VHF telemetry, capture/mark/recapture (CMR), visual mark/recapture, nest surveys



1992

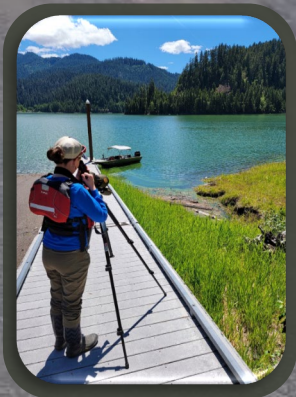
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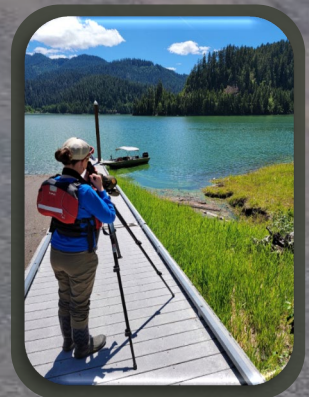
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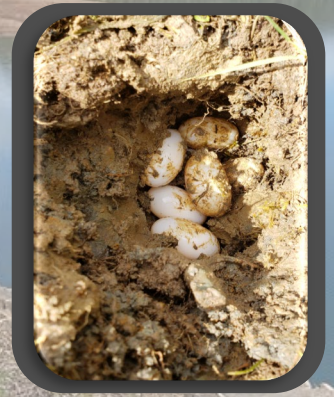
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USACE'S ON-GOING RESEARCH AND MONITORING EFFORTS

Fern Ridge, Fall Creek, & Hills Creek

Nest surveys, slider removal, and hatchling excavations



2000

Hills Creek & Elijah Bristow SP

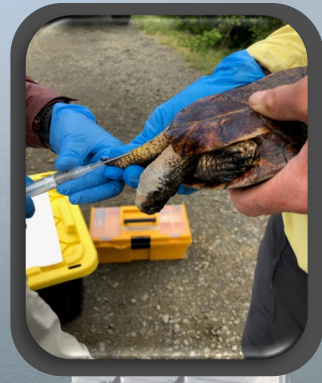
Hatchling post-emergence study



2009

Fern Ridge

Trapping, slider removal, and pond turtle capture/mark/recapture



2018

Fall Creek, Hills Creek, & Lookout Point

Visual encounter surveys, USGS Trapping, VHF telemetry, and GPS tagging



2022



2024



USACE'S ON-GOING RESEARCH AND MONITORING EFFORTS

**Fern Ridge, Fall Creek,
& Hills Creek**

Nest surveys and hatchling excavations



2000

2024



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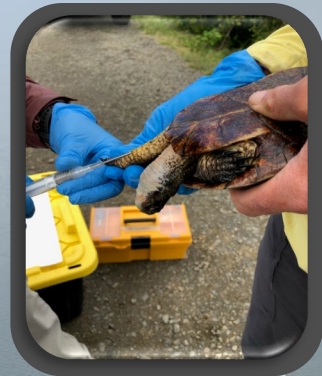
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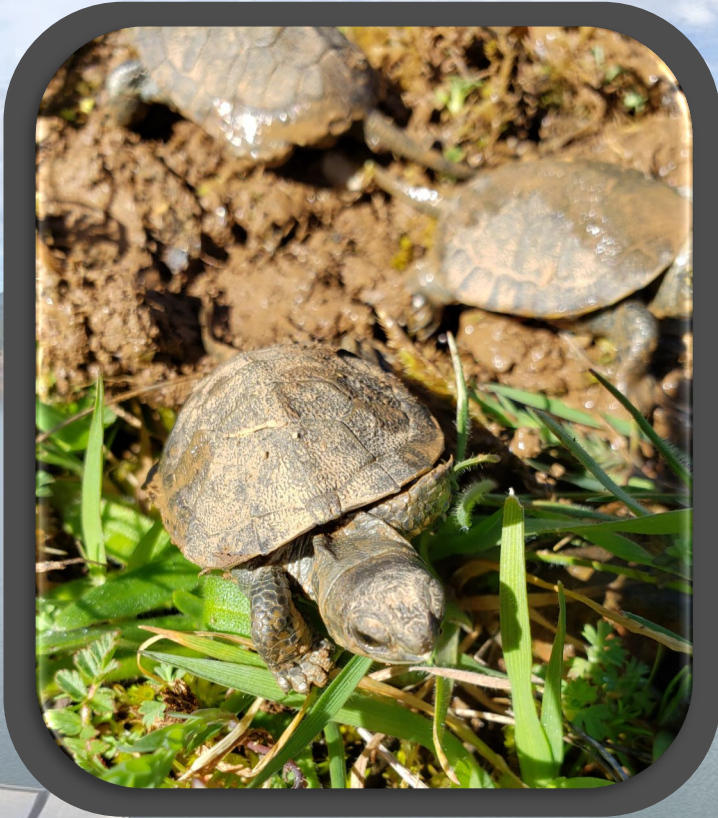
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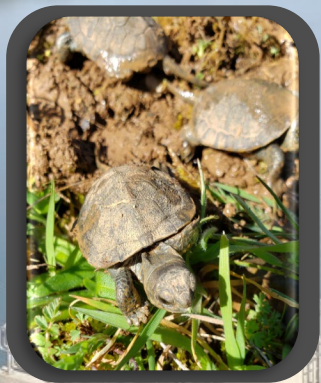
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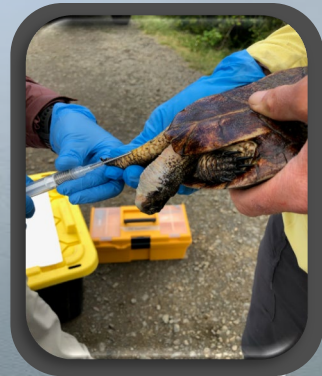
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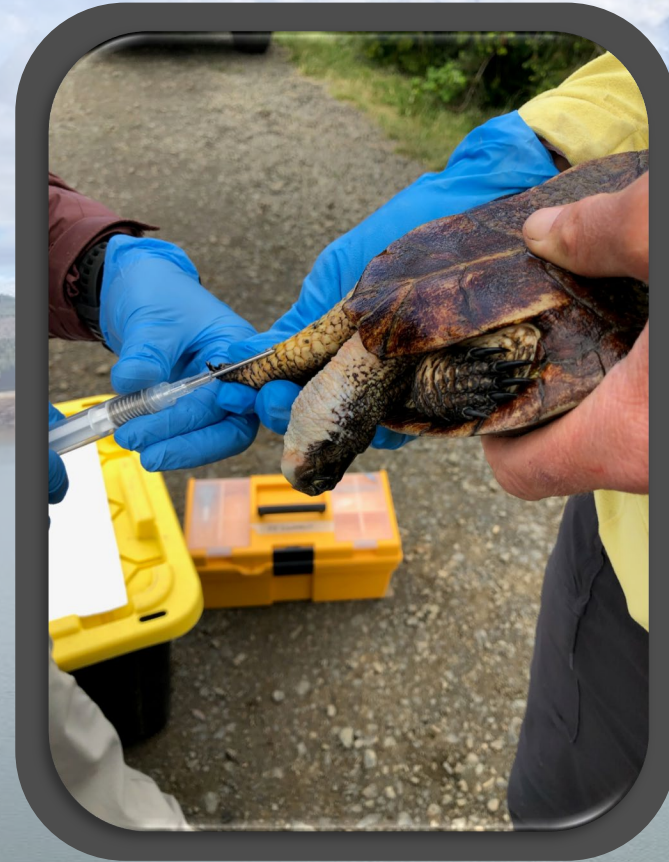
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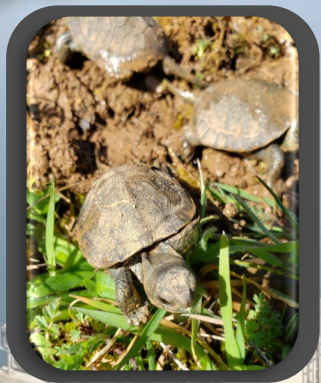
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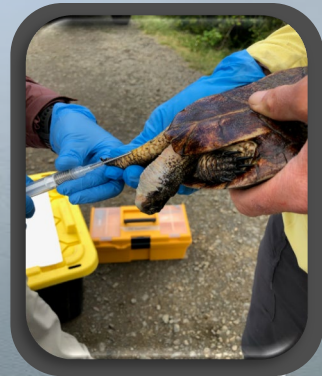
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2022

2024



SUMMARY

- Current research and monitoring can be used to inform operations and management of WVS and the adaptive management plan
- Establish relationships and communication with WVS fisheries biologists and researchers to identify benefits and consequences of water management operations to ESA-listed fish and potentially pond turtles
- Design and implement future research and management efforts for understudied or at-risk pond turtle populations



ACKNOWLEDGEMENTS

- USACE staff and interns (past and present)
- Jenny Fredrickson, Chris Pearl, and Mike Adams, U.S. Geological Survey
- Don Ashton, Applied River Sciences
- Bruce Bury, retired U.S. Geological Survey
- Ivan Arismendi, Oregon State University
- Gwen Bury, U.S. Forest Service
- Chris Yee and Susan Barnes, Oregon Dept of Fish and Wildlife