



ODFW Field Reports

Oregon Fish and Wildlife Commission
March 17, 2023

East Region

Nick Myatt, Region Manager

Johnson-Tunnel Creek juniper removal

The Johnson-Tunnel Creek project is located near the northwest corner of the Phillip W. Schneider Wildlife Area (PWSWA) near Dayville, OR. The drainage is used heavily as winter range for mule deer and Rocky Mountain elk due to its low elevation, forage availability and access to water. In recent decades, the drainage became overgrown with western juniper (*Juniperus occidentalis*), choking out the forage that is desired by deer and elk as well as absorbing water--causing some of the springs to produce less water, which in turn impacts anadromous fish in the John Day River basin.



Johnson-Tunnel Creek drainages before juniper treatment in 2022. South Fork John Day Watershed Council photo.

ODFW, in cooperation with the South Fork John Day Watershed Council, received an Oregon Watershed Enhancement Board (OWEB) grant to remove up to 500 acres of juniper within the Johnson-Tunnel Creek drainages, as well as develop a spring located within the project area. The work was completed in Fall 2022 and 491.5 acres of Juniper were removed. The project site borders a juniper cut that was completed in recent years. This project adds to the 6,082 acres of juniper already removed from the wildlife area, and thousands more by surrounding landowners within the John Day basin.



Johnson-Tunnel Creek drainages showing juniper piles prior to burning in 2022. South Fork John Day Watershed Council photo.

After removal of juniper, sites containing bitterbrush, Mountain Big Sagebrush and Mountain Mahogany were identified and juniper piles nearby were not burned to avoid risk of burning the shrub communities. Annual grass treatments and re-seeding will follow.

Staff placed camera traps at 40 sites within the PWSWA to monitor mule deer response to juniper removal. Cameras were used to assess spatial and temporal use by mule deer in treated, untreated, burned, and unburned sites. Results indicated that mule deer are responding favorably to juniper removal occurring on the wildlife area, however, wildfires on the winter range can negate the benefit of juniper removal.



Mule deer observed during camera trap studies on the PWSWA in Dec. 2021. ODFW photo.

Mule deer also use a mosaic of habitats to meet their needs throughout the winter. Results were published in the Journal of Rangeland Ecology & Management, January 2023, [*Habitat Use of Wintering Mule Deer Across a Juniper-Treated and Burned Landscape*](#).

Camera Trapping Studies

Staff expanded on previous monitoring efforts on the PWSWA and placed camera traps from 2019 to 2022 winters respectively to assess effects of wildlife area management on mule deer and elk distribution and to assess the impact of feral horses on mule deer and elk. Analysis indicates that feral horses are expanding their range on the PWSWA and negatively impacting wintering mule deer. Mule deer will temporarily avoid sites following feral horse use.



Feral horses observed during camera trap studies on the PWSWA in Jan. 2021. ODFW photo.

Camera traps were deployed throughout the Murderers Creek and Northside wildlife management units during summers of 2019-2021 to monitor distribution of mule deer and elk. Cameras were active from June through September. An occupancy modeling framework was used to build and evaluate models of mule deer habitat occupancy related to competition, vegetation, and abiotic variables.

The final model set included four covariates: an index of feral horse use, whether the site was disturbed by wildfire, distance to forest edge, and “eastness” of the location. Models indicated that mule deer probability of occupancy was negatively associated with increased presence of feral horses and distance to forest edge. Mule deer probability of occupancy was positively related to eastern slopes and sites within a wildfire perimeter. A manuscript of the results

has been submitted for publication consideration to the Wildlife Society Bulletin.

Other ongoing projects include assessing and comparing the indirect effects of the general and controlled archery season on elk, partnering with Oregon State University (OSU) to analyze bycatch data (e.g., coyotes, bobcat, black bear) for undergraduate honor research thesis.

Crooked River low flows during drought

Crook County and the Crooked River watershed continues to experience extreme drought conditions which in the Fall of 2022 led to an early end to the irrigation season. For a period of six weeks (Sept. 15 to Oct. 31) the Crooked River was subject to minimum release of 10 cubic feet per second (cfs) until flows were increased to 50 cfs consistent with provisions in the Deschutes Basin Habitat Conservation Plan.



Exposed stream channel, dying aquatic vegetation and a Redband Trout mortality at 10 cfs on Sept. 23, 2022, at Chimney Rock. The fish was estimated at 16-in in length. ODFW photo.

The Crooked River has had some very low winter flows in the past but never 10 cfs in early Fall when angling pressure can be significant, fish are active and Mountain whitefish are preparing to spawn. ODFW proactively closed the Crooked River from Bowman Dam to Hwy 97 to angling and implemented some basic monitoring techniques to document impacts of

the low flow event including photo point locations before and after, surveys for fish kills, water temperature measurements, dissolved oxygen monitoring, and fish sampling.



Crooked River below Bowman Dam pictured at 175 cfs August 16, 2022.



Crooked River below Bowman Dam pictured at 10 cfs on Sept. 22, 2022. Photo points by ODFW.

Fish sampling below Bowman Dam at the end of the low flow period compared to annual sampling in June estimated a decline in Redband Trout density from 2,083 to 1,647 fish per mile and a decline in Mountain whitefish density from 6,950 to 896 fish per mile in primary tailwater fishery reach. Trout had also declined in body condition and larger fish were mostly absent from the low flow samples.

Other impacts of the low flow were stressful water quality conditions for fish and extensive dewatering of the stream channel and mortality of benthic macroinvertebrates, an important fish food resource heading into winter.



Teams of electro fishers sample fish in the Crooked River at river mile 70.9 to 70.5 from Oct. 26 to 28, 2022. Photo by ODFW.

The long-term effects of cumulative water quality stressors and the anticipated loss of invertebrate production remain unknown and follow-up sampling in the spring of 2023 is needed to assess the impact of low flows on longer-term fish survival and condition. For more information see ODFW's Memorandum on Crooked River Low Flows here:

https://www.dfw.state.or.us/fish/local_fisheries/deschutes/docs/Crooked_River_Low_Flow_Memo_20221129_v2.pdf

West Region

Chris Kern, Region Manager

New study shows thiamine supplementation improves survival and body condition of hatchery-reared steelhead in Oregon

A [study](#) from ODFW Fish Health Services, United States Geological Survey Columbia Environmental Research Center, and the Oregon Hatchery Research Center identified very low thiamine from eggs in returning hatchery steelhead (*Oncorhynchus mykiss*) along Oregon's coast. The study found that newly hatched steelhead fry have a high mortality rate, but this is improved when broodstock or eggs are supplemented with thiamine. The American Fisheries Society (AFS) has awarded Aimee Reed of ODFW Fish Health Services with the

Bill Wingfield Memorial Award in Fish Culture for her work with this project. The award will be presented March 2 at the AFS Oregon Chapter Annual Meeting.



Adult female steelhead is given a thiamine injection prior to spawning.

Post-restoration monitoring continues at Palensky Wildlife Area

Conservation Program, North Willamette Watershed District and Willamette Wildlife Mitigation Program staff conducted amphibian egg mass surveys at a project site in Clackamas County (year five of the post-restoration monitoring efforts) and at Palensky Wildlife Area (second year monitoring).

Thirty northern red-legged frog egg masses were found and one larval northwestern salamander was captured at the Clackamas site. Several northwestern salamander egg masses were also detected, though far fewer than found during the 2022 breeding season. See video of biologists describing the larval salamander:

<https://youtu.be/v9fCHdFXYZc>



Amphibian egg mass surveys at Palensky wildlife area 2023. Photo by ODFW.

It appears egg-laying has been slightly delayed this year due to the cold and dry weather pattern. Several adult and juvenile long-toed salamanders were found under cover boards deployed at the site.



Long-toed Salamander egg masses found on installed woody structures in the restored wetland. Photo by ODFW.



Northern red-legged frog egg mass from one female frog.

Elk trapping helps focus population survey flights

Umpqua Wildlife District staff are in the third year of trapping and collaring elk in the North Umpqua area (Indigo & Dixon units). Collared elk give vital location information on winter range habitat use that helps biologists better focus population survey flights.

In summer, elk are trapped and collared at higher elevation sites while winter trapping is at lower elevation sites. An elk clover trap was recently deployed at an old trap site developed several years ago for black-tailed deer capture in the Indigo Unit. West Region Wildlife Research staff joined district staff to outfit an adult cow

elk with a GPS radio collar and released her on site.

Funding for this work was provided by the Hydropower Federal Mitigation Fund via Good Neighbor Authority from the U.S. Forest Service. The North Umpqua Hydropower canal system impacts elk populations by decreasing habitat connectivity and some elk die in the canals unable to get out of the deep water due to steep concrete sides and strong current.

Winter Lake Phase III restoration

Charleston District staff continue to work with the Beaver Slough Drainage District and the Coos Soil and Water District to finalize permit applications for the Winter Lake Phase III restoration on the Coquille Valley Wildlife Area. This work to construct new channels and replace 42 interior tide gates to improve water management and fish passage will likely begin in 2024.

Earlier phases of this project installed the major tide gate/berm infrastructure of the Coquille Working Landscapes Project and tidal wetland restoration channels on ODFW's Winter Lake Unit 2.

Tropical visitor seen in Bandon

A Nazca Booby, a tropical seabird native to the South and Central American coastlines, showed up in Bandon recently. This very rare visitor to Oregon caused quite a stir in the coastal birding community.

Charleston District wildlife staff captured the bird and evaluated it for injuries. None were found. After consulting with the U.S. Fish and Wildlife Service, staff released the bird, which was last seen flying and landing on a gravel bar in Bandon.



This Nazca Booby, a tropical seabird, made its way to Bandon recently.



Wildlife staff trapped and examined the bird. No injuries were found, and the bird was released.

Information and Education

Roger Fuhrman, Information and Education Administrator



ODFW's podcast begins fourth year with a new outdoor sound

Season 4 of the Beaver State Podcast is currently underway with some slight changes from previous years. This season will feature more natural sound in each episode. This will give people a feeling of being in the outdoors and create greater connection with fish and wildlife as the podcast highlights management projects, hunting, fishing, and wildlife viewing opportunities. Over the last few seasons, we've produced about 40 episodes each season, which is close to a weekly schedule. Last year, the podcast won 2nd place nationally at the Association for Conservation Information Awards.

This season we're planning for 20-25 episodes. This will allow for more production time for better-sounding podcasts and time in the field with ODFW staff talking about the important work they do. The Beaver State Podcast Book Club will dedicate one podcast each quarter to discussing a book about wildlife conservation. This is an effort to take deeper dives into complicated fish and wildlife conservation topics and keep the podcast relevant and interesting to the outdoors community. The podcast will also continue to our effort to give voice to the stands for Black, Indigenous, and people of color (BIPOC) community to share those experiences with all Oregonians to promote an outdoors that is for everyone.



Veterans listen to whistling duck wings overhead.

ODFW and partners give veterans a mentored waterfowl hunt

A team of volunteers and staff joined together on Sauvie Island to help military veterans experience Oregon waterfowl hunting during a special hunt in February. The final day of the waterfowl season is set aside for veterans and active-duty military personnel. ODFW joined with Pope Lake Duck Club (Terry Martin) & Warfighter Outfitters (Dave Oakes) to provide advanced hunter instructors and volunteer mentors (all US Veterans), shotguns, ammo, and waders to 15 veterans.

The workshop provided an opportunity for veterans to hunt together and gain the skills and knowledge to successfully enter the field and hunt on their own. Some participants intend to partner with new hunters they met through the workshop for future opportunities.

Mentors were placed in each blind with a veteran to share skills and knowledge. Mentors shared duck hunting fundamentals including hunting safety, duck calling, setting decoys, importance of face paint and camouflage and hunting ethics. Other skills were taught, including how to pattern a shotgun and stay ahead of the bird, in addition to the importance of waterfowl identification and habitat.

Next year, per request from participating veterans, ODFW plans to have a two-day workshop, which would include ODFW's Shotgun Skills and Duck 101 courses on Day 1 and the duck hunt on Day 2. Several new duck clubs are stepping up to allow more veterans to do this special hunt next year.



Bighorn sheep are flown in for checkups.

ODFW video showcases partnerships to enhance bighorn sheep health

ODFW crews conducted capture and release work on Hart Mountain National Antelope Refuge in January as part of ongoing efforts with the U.S. Fish and Wildlife Service to increase the bighorn population at the refuge. Six ewes and four rams were captured and collared at Hart Mountain. GPS collars will help biologists monitor the impacts of predator management, and improvements in habitat and water sources on bighorn sheep survival and population growth. These efforts are part of a cooperative project among state and federal agencies, tribes, Oregon State University, and wild sheep nonprofit organizations. The effort was funded through a \$172,000 grant National Wild Sheep Foundation. A [video about the capture](https://www.youtube.com/watch?v=volpsUi116Q) is posted on ODFW's YouTube channel at <https://www.youtube.com/watch?v=volpsUi116Q>.

Oregon State Police

Captain Casey Thomas, Fish & Wildlife Division

A Fish and Wildlife Trooper responded to a vehicle vs deer crash on US-20 near milepost 124. The Trooper was sitting a half mile from the crash site with his emergency lights on trying to slow down traffic because of the high volume of wintering deer that had been hit in that stretch of the highway. The occupants of the vehicle reported no injuries, and the vehicle was towed from the scene due to damage. The Trooper spoke to the ODOT supervisor after the scene was clear, and requested more traffic control signs, or wildlife crossing signs to slow traffic and save some deer from being hit.



Oregon State Police and ODOT in front of signage to protect wintering deer.

ODOT was able to put up two reader board signs advising traffic to slow down in the two-mile stretch where the deer are wintering. The ODOT signs advised "Deer Next Mile & Deer Crossing Ahead."

The Oregon State Police would like to thank ODOT of Salem for approving the signs, and the Burns/Juntura ODOT crew for their assistance in putting the signs out and helping the wintering deer.

Conservation Program

Emily VanWyk, Acting Oregon Conservation Strategy Coordinator

White-nose syndrome bat sampling

ODFW biologists from the wildlife population health lab and conservation program collaborated with partner staff from the U.S. Forest Service and OSU Northwest bat hub to monitor seven caves for white-nose syndrome (WNS) in the Deschutes National Forest.



ODFW staff sample for white-nose syndrome in Central Oregon. Photo by ODFW.

WNS is a fungal disease that occurs in hibernating bats. Although it has not yet been detected in the state of Oregon, it is present in 28 states, including Washington. The fungus that causes WNS thrives in cool, damp locations such as caves and can persist as spores on outdoor gear such as clothes and shoes. It is believed that recreation has caused much of the spread across the United States.



A hibernating Townsend's big-eared bat observed and tested for WNS. Photo by ODFW.

Due to the high level of recreation in many of Oregon's caves, annual sampling paired with vigilant decontamination efforts of recreationalists are important to protect bats that use these caves during hibernation. Several species of *Myotis* and Townsend's big-eared bats were observed hibernating and were sampled.

Ocean Salmon and Columbia River Program

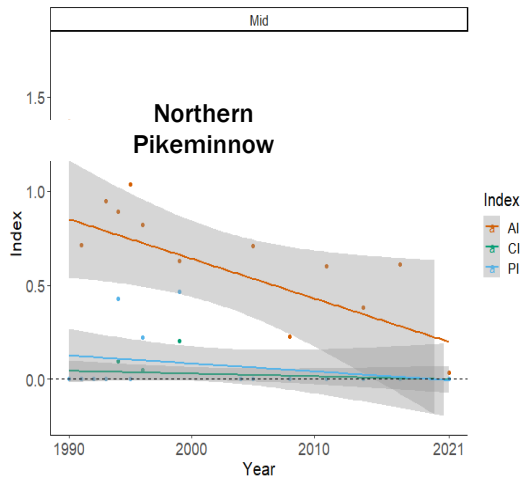
Tucker Jones, Ocean Salmon, and Columbia River Program Manager

Northern Pikeminnow Management Program – long-term trends in fishery indices

For three decades, ODFW has been monitoring and evaluating the ecological effects of a sport reward fishery for Northern Pikeminnow that indicates there has been a substantial reduction in predation on out-migrating juvenile salmon. However, there are complex predator/prey relationships in the Columbia River Basin and the long-term effects of a multi-decade fishery were unknown at the time the fishery was implemented in 1991. Largely because of this, ODFW monitored additional piscine predators, notably Smallmouth Bass and Walleye.

Through these monitoring efforts, ODFW's Northern Pikeminnow Management Program has gathered a long-term data set for indices of relative abundance, consumption (how many juvenile salmon eaten per fish), and predation (the product of abundance and consumption indices) for Northern Pikeminnow and Smallmouth Bass. These indices give ODFW the ability to monitor for changes in fish predator dynamics or other ecological changes linked to the removal of Northern Pikeminnow.

The long-term trends for these indices have moved in opposite directions for Northern Pikeminnow and Smallmouth Bass in Bonneville Reservoir (Fig. 1).



While this relationship has not been analyzed statistically, the pattern between the two species over such a long time series is noteworthy. Although correlations are not necessarily causative, among the possible explanations for these trends is that Smallmouth Bass may be filling in the ecological niche of removed Northern Pikeminnow. While these data don't identify a specific reason for the patterns in these indices, they suggest that further work is warranted to explore the predator/prey relationships in the Columbia River Basin.

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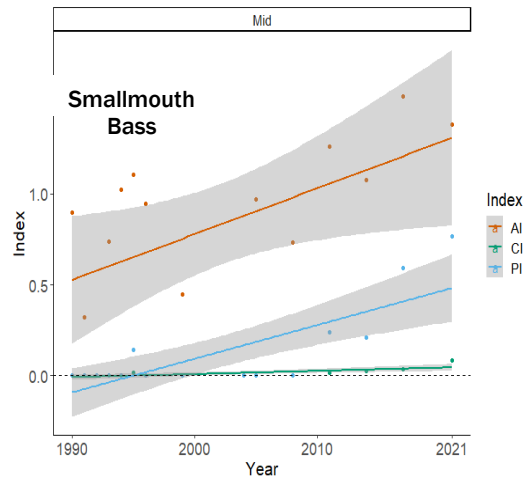


Figure 1. Log-transformed indices of abundance (AI), consumption (CI), and predation (PI) for Northern Pikeminnow and Smallmouth Bass in the Bonneville Reservoir from 1991 – 2021. Shading represents the 95% CI.