



ODFW Field Reports

Oregon Fish and Wildlife Commission
June 9, 2017

EAST REGION

Bruce Eddy, Region Manager

Crooked River Trout and White Fish

The Crooked River tail-water fishery downstream of Bowman Dam is one of central Oregon's premier trout fishing destinations. Deschutes District staff have surveyed redband trout and mountain whitefish populations in a two mile reach below the dam since 1989 to gage their status.

Our surveys suggest a direct relationship between game fish abundance/density and management of Bowman Dam flow releases. Specifically, abundant game fish populations depend on sufficient base flow each winter and modest spill each spring during the snow melt and runoff period. During favorable conditions ODFW has estimated Crooked River redband trout densities below Bowman Dam as high as 8,000 fish/mile.

Bowman Dam and Prineville Reservoir were originally authorized only for irrigation and flood control. Recent federal legislation broadened the project scope to include releases of stored water to benefit fish and wildlife. Implementing this new scheme has been challenging because of differing perspective on how stored water should be used and the difficult conditions presented by the 2015-16 drought and high 2016-17 snowpack.

During the winter of 2015-16 releases from Bowman Dam were very low: 35 cfs for two months. This coincided with air temperatures of -20°F. Subsequent department surveys found a decline in redband trout density from 2,200 trout per mile in 2015 to 300 trout per mile in 2016. Lack of available habitat because of the low flow, reduced forage production and extreme temperatures associated with the 2015-16 winter and drought likely contributed to the decline.

Department staff worked with water managers to maintain better flows for fish during the 2016-17 winter in anticipation of this popular fishery recovering. However, snowpack last year exceeded

130% of average and triggered project flood control requirements causing Bowman Dam releases of more than 3,000 cfs. Previous monitoring found that Bowman releases of more than 1,500 cfs results in total dissolved gas (TDG) levels that exceed the Oregon standard of 110% up to eight miles downstream of the dam. High TDG levels often lead to gas bubble disease (GBD) in fish. This condition is similar to "the bends" in humans where atmospheric gases come out of solution in soft tissues causing lesions and trauma. Acute or chronic exposure to high TDG levels can lead to mortality, particularly among juvenile fish and can have population level impacts. Surveys conducted by district staff in late March found 35% of redband trout and 28% of mountain whitefish exhibited external symptoms of GBD.



We continue to be concerned about the status of the fish populations below Bowman Dam and the associated sport fishery.

2017 Greater Sage Grouse Surveys

Greater sage-grouse are a species of serious conservation concern in Oregon and most western states. Each year the department works with a number of partners to monitor the sage-grouse status. This effort is composed of two parts: the annual sage-grouse wing-bee and spring lek surveys.

Biologists from the ODFW, Bureau of Land Management (BLM), and Oregon State University (OSU) meet each year to assess wings turned in by

sage-grouse hunters. Historically called a “wing-bee,” this assessment determines gender and age of the birds harvested and provides a sense of that year’s reproductive success.

This winter we analyzed 331 wings from birds harvested in 2016. Most of the wings submitted by hunters came from four of the ten Wildlife Management Units (WMU) open for sage-grouse hunting. Analysis indicates two consecutive years of average to high production in these WMUs. Unfortunately, this does not tell us much about what is happening throughout the rest of the sage-grouse range in Oregon.



The Oregon spring sage-grouse lek survey effort is one of the largest collaborative monitoring programs in the state. As part of this effort, biologists from the ODFW, US Fish and Wildlife (USFWS), BLM, Burns Paiute Tribe, and volunteers with the Adopt-a-Lek program visit leks between mid-March and the end of April to count the number of birds gathered there. A lek is an area where male sage-grouse congregate each spring to perform their courtship display for females. Counting the number of birds showing up at leks provides a good sense of whether the Oregon sage grouse population is increasing or not.

More than 700 leks were visited to complete more than 1500 individual surveys this spring. The results of these surveys are still being analyzed, but suggest variable population trends across the state. Some areas exhibited a stable population trend while others exhibited a slight to moderate decline. Overall, results of this year’s wing-bee and lek surveys suggests the Oregon sage-grouse population has increased slightly since 2013; however, remains 24% below the 2003 population baseline and state management objective. The Baker District sage-grouse population is a major

concern, experiencing a more than 75% decline since 2005. Also, the Bend District population has shown poor performance in recent years, experiencing a decline about 50% since 2007. Other areas of concern include southeastern Oregon populations affected by large-scale wildfire since 2012.

WEST REGION

Steve Marx, Region Manager

Spring Chinook salmon Returns

Biologists continue to closely track spring Chinook salmon returns to the Willamette, Umpqua, and Rogue rivers to determine if more restrictive angling regulations are needed to ensure adequate escapement of natural spawners and to meet hatchery broodstock needs. Run strength remains uncertain due to passage delays from high river flows and cool water temperatures.

Through May 17, only 4,174 spring Chinook had passed upstream of Willamette Falls which compares to the ten year average of over 17,305 adults. For comparison, 3,935 adult spring Chinook passed Willamette Falls through the same date in 2008. Harvest was reduced to one Chinook per day on June 2nd that year with fewer than 5,000 adults over the falls. Total escapement for the year was 14,151 adults.

Catch rates and angling reports continue to suggest at least fair numbers of Chinook remain downstream from Willamette Falls. Passage has been impacted by a temporary shutdown of one of the primary ladder legs at the falls and was only recently reopened, low temperatures persisted through April, and high flows are ongoing. On May 8th, ODFW reduced angling to three days per week below the falls to enhance escapement. Staff will assess the need for additional restrictive regulations this week (May 22).

In response to low returns of hatchery spring Chinook on the Rogue River, staff implemented an emergency angling closure of the “Hatchery Hole” at Cole River Hatchery Dam. The closure protects hatchery spring Chinook broodstock and maximizes future angling benefits throughout the Rogue River.

On the North Umpqua River, fish count estimates at Winchester Dam indicate returns are about half of last year’s at this time. However, anglers report good success in the mainstem and colder water

temperatures may be keeping fish lower in the system where they are being harvested. Staff anticipates returns will increase as water temperatures rise.

As a precaution, the number of wild spring Chinook taken for broodstock will be on the low end of the allowable range of wild fish. More restrictive angling regulations went into effect in 2016 to protect the critically low South Umpqua spring Chinook population. The South Umpqua has always been closed to Chinook harvest.

On a positive note, returning adults should have optimal conditions for survival this year.

Elk River Hatchery Alert

Staff at Elk River closely monitored the hatchery water supply recently to detect potential contamination from fuel or oil following a vehicle accident upstream from the intake.

The accident occurred on May 15th when the vehicle left the road, traveled through some brush, and then fell approximately 100 feet to the river. The driver and a dog escaped vehicle and walked out. The vehicle was successfully removed from the river without impact to the hatchery water supply.



INFORMATION AND EDUCATION

Roger Fuhrman, Information and Education Administrator

Drones and Elk Surveys

“How Jedi is this?” was the headline for recent Twitter and Facebook posts about the first use of drones to survey elk populations in Oregon. The story, released on May the Fourth (Star Wars Day), described a cooperative effort between ODFW and Oregon State University researchers to find out whether unmanned aerial systems (UAS), or “drones,” can be used effectively to count elk in rugged terrain. Drones have the potential to be less expensive and much safer than helicopters currently used to conduct elk surveys. ODFW has used drones before to survey salmon spawning in

ivers and assess cormorant abundance along the Oregon coast.

Researchers conducted field trials in January and March to test the effectiveness of drones to survey elk. They first tested the drone camera’s ability to capture imagery that allows biologists to classify elk by age and sex. A later field trial tested the aircraft’s ability to measure elk densities in forest stand types, another useful metric for managing elk. A lengthy news release detailed the findings, the pros and cons of using drones, and some of the regulatory hurdles. YouTube and Facebook videos showed the drones at work along with explanation by ODFW biologist Herman Biederback and OSU researchers Jonathan Burnett and Cory Garms, The story packaging was successful with the Facebook post viewed more than 9,000 times in the first few days. The YouTube video is available at (https://www.youtube.com/watch?feature=player_embedded&v=690esN-eGUA).

New Hatchery and Wildlife Area Signs

More than a dozen new interpretive signs have been installed at Wildlife Areas and hatcheries this year and about a dozen more will be going up in the next few months. The signs help visitors learn more about fish recovery efforts, the role of hatcheries, the importance of habitat restoration, and how to correctly identify birds, fish and wildlife. Not only do the new signs make the visitor experience more enjoyable, they describe important work done by the department.




Installing new sign on the Crooked River

Oregon hatcheries: Raising fish for Oregon



There are many different species of fish raised in Oregon state's ODFW hatcheries



The role of Oregon's state hatcheries
Hatcheries play a vital role in supplementing fish populations for harvest. Some hatcheries also help conserve and restore declining or imperiled fish populations. Each year ODFW hatcheries raise and release millions of fish.

Hatchery harvest programs raise and release fish to be caught by sport, commercial and tribal fishers beyond what naturally reproducing fish populations could sustain. One specific kind of program, mitigation programs, produce and release hatchery fish to compensate for the loss of naturally-reproducing fish due to dam construction on rivers.


Conservation programs can help sustain and improve wild fish populations in a number of ways. Supplemental programs can help an imperiled wild population gain a temporary survival boost by bringing fish into a protected hatchery setting for all or part of the life cycle. Gene banking is a conservation measure that removes part of a naturally-reproducing population from the environment in order to conserve the unique genetic resources of a population into the future.

Most hatchery programs in Oregon are harvest programs. For decades, more than 70 percent of all salmon, steelhead and trout caught in Oregon have been hatchery fish.

Finally, restoration programs place suitable non-local native fish in waters void of any native species.

Built in 1916, Wizard Falls Hatchery has produced over 210 million eggs in its first 70 years. Fish raised from these eggs have been relocated into public water bodies to enhance sport fishing. Others have been used to help restore native fish populations throughout Oregon.

Oregon State Hatcheries
Visit the many Oregon hatcheries across the state



OREGON DEPARTMENT OF FISH AND WILDLIFE
Wizard Falls Hatchery operates under a special use permit with the Deschutes National Forest, and is an equal opportunity service provider.

New sign for Wizard Falls hatchery

Klamath Wildlife Area | Miller Island Unit
Spring Migration Visitors

ONE SURE SIGN THAT SPRING IS ON ITS WAY
is the return of migratory birds during their spring migrations.

Many species migrate great distances between northern breeding grounds and over-wintering areas.

Timing of migration is crucial and the Klamath Wildlife Area provides a much needed and important stop-over in the life-cycle of many varieties of birds as they rest and replenish fat reserves on their annual journeys north.

Here are some key migrators you may see at the Klamath Wildlife Area, Miller Island Unit.



One of four new signs at Klamath Wildlife Area

“What is the Oregon Chub, Alex?”

The Oregon Chub is already known as the first fish ever removed from the federal Endangered Species List due to recovery. The tiny, Willamette River basin minnow gained even more fame in early May when it was mentioned on the game show *Jeopardy!* Contestant Ragavan Ramsubramani, a financial analyst from New York, correctly identified the Oregon Chub and won \$1,200 for his answer.

OREGON STATE POLICE

Captain Jeff Samuels, Fish & Wildlife Division

The Oregon State Police Fish & Wildlife Division Troopers have been busy working a number of cases related to recreational and commercial shellfish harvest. The following are a few examples of their work:

Fish and Wildlife Troopers checked clam diggers in the Florence area. During the patrol three citations were issued for no shellfish license. Warnings were also issued for digging razor clams in a closed area and for not having a shellfish license in possession.

A Fish and Wildlife Trooper patrolled the Clatsop Beach during a razor clam bio-toxin closure. Numerous people were contacted digging razor clams, and were warned for Taking Razor Clams closed season. Approximately 60 razor clams were seized.

A Fish and Wildlife Trooper contacted a wholesale fish dealer who had not submitted any monthly reports for 2017. It was verified the dealer had not bought any fish in 2017, but was told they still needed to submit monthly reports to indicate no activity. The wholesale dealer was warned for Failure to Submit Monthly Reports. While doing the dealer inspection, the Trooper noticed live crayfish for sale in the market. It was determined the market had purchased the live crayfish from a company in California. Live crayfish from out of state are not allowed to be brought into Oregon and sold commercially. Non- native species of crayfish can negatively impact native species and are therefore highly regulated. It was determined the retailer had purchased 255 pounds of crayfish and 22 pounds remained in the store. The Trooper seized the 22 pounds. The retailer had also ordered and was expecting another 99 pounds of live crayfish to be shipped into Portland Airport

that same day. The company who sold them the crayfish was contacted and the shipment was halted at the airport and would be returned to the company.

Disposition:

In August of 2016, ODFW reported that a fish dealer had failed to account for nearly 70 landings of razor clams on fish tickets. The investigation involved the interviews of multiple razor clam harvesters and logbook comparisons. It was determined the dealer had failed to submit 59 fish tickets within the required time-frame, with most of them being months late. It was also determined that 14 landings were not reported on a fish ticket. The dealer was cited for Failure to Submit Fish Receiving Tickets. In March, the dealer pled guilty in Clatsop County Circuit Court and received the following sentence:

- Failure to Submit Fish Receiving Tickets (Class A Misdemeanor)
- \$2,600 in fines (\$2,500 compensatory fine to ODFW)
- As a condition of the sentence, defendant shall complete outstanding fish tickets and pay remaining taxes to ODFW within 30 days.

CONSERVATION PROGRAM

Andrea Hanson, Oregon Conservation Strategy Coordinator

During the Oregon Conservation Strategy revision process, the Stakeholder Advisory Committee emphasized the need for a statewide map(s) identifying key connectivity corridors for species movement throughout Oregon.

Many species rely on the ability to move throughout the landscape to fulfill their needs for survival and to complete their life cycles. Human-caused changes can restrict this ability by adding barriers, impacting critical bird stopover sites, and increasing habitat fragmentation. This can have a detrimental impact to many species populations, which is why it was identified as one of the seven Key Conservation Issues (KCIs) in the Oregon Conservation Strategy (i.e., Barriers to Animal Movement). Mapping and maintaining connectivity corridors provides pathways for species to move, which helps in maintaining biodiversity, restoring at-risk species, and providing refuge to species under a changing climate.

In response to the stakeholder input, the Department has been taking steps to address this priority need. Conservation Program staff are working with a contractor to develop a detailed scope of work outlining the goals, objectives, tasks, timeline, and estimated funding amounts required to successfully develop a statewide connectivity corridor map(s). The contractor will also be responsible for compiling key spatial data needed to conduct the statewide connectivity analysis. Additional funds will be sought to complete phase II of the project, which will consist of analyzing the data, developing maps at multiple scales by ecoregion, and validating the data with on-the-ground specialists.

Conservation Program staff are also on the Steering Committee for the newly formed Oregon Habitat Connectivity Working Group, along with the Oregon Department of Transportation (ODOT), U.S. Forest Service (USFS), U.S. Fish and Wildlife Service, Defenders of Wildlife, and The Nature Conservancy. The working group's charter is for agencies and NGOs to work together to implement the scope of work (outlined above) and assist with completion of phase II of the project for the ultimate goal of producing a statewide habitat connectivity map.

Some examples of how the map will assist staff and partners include:

- Informing ODOT of priority transportation barriers for development of wildlife passage structures
- Guiding conservation, restoration, and mitigation efforts
- Informing land use changes (e.g., energy development), land use planning (e.g., urban growth boundary expansions), and land management plans (e.g., USFS, Bureau of Land Management)

Phase I of this project will be completed in early 2018. The working group hopes to have Phase II completed by 2020. The intent is to continue to refine the products as new data and information becomes available. The product will link back to the OregonConservationStrategy.org website, as well as the ODFW Compass.

OCEAN SALMON AND COLUMBIA RIVER PROGRAM

Tucker Jones, Ocean Salmon and Columbia River Program Manager

Long-Term Fish Monitoring in Large Rivers: Utility of “Benchmarking” Across Basins.

It’s said that designing a long-term monitoring program is like getting a tattoo: you want to get it right the first time because making changes later can be painful and costly. One way to increase the likelihood of designing and implementing an effective long-term fish monitoring program is to learn from others conducting similar monitoring efforts. However, monitoring programs in different basins commonly have differing purposes, sampling designs, procedures, and analytical methods, all of which can limit collaboration. In business, “benchmarking” is a widely used practice of comparing your own business processes to those of other companies and incorporating identified best practices to improve performance.

For an article in the February 2017 issue of *Fisheries*, Colin Chapman, a Columbia River Investigations researcher, collaborated with 10 scientists from across the country who are involved with large river fish monitoring activities. Their objective was to examine five long-term fish monitoring programs on large rivers in the United States (Colorado,

Columbia, Mississippi, Illinois, and Tallapoosa rivers) to 1) develop a list of best practices that individuals setting up monitoring programs can use as guidelines in program management and development; 2) facilitate collaboration across additional large river basins; and 3) highlight the important role that long-term monitoring programs play in understanding human-caused changes to fish populations in large regulated rivers.

Key Findings and Conclusions

- Monitoring programs with up-front investments in defining objectives, optimizing sampling designs, and determining how monitoring results will be used are the most likely to be successful.
- Collaboration with others conducting similar monitoring programs using a benchmarking approach can help identify best practices.
- Benchmarking can be especially effective for new monitoring programs.
- Long-term monitoring programs are critical to interpreting temporal and spatial shifts in fish populations for both established objectives and newly emerging questions.
- Deliberate efforts to develop a broader collaborative network through benchmarking will facilitate sharing of ideas and development of more effective monitoring programs.

River	Recommendation/best practice	Benefits
Colorado	<ol style="list-style-type: none"> 1. Allocate samples among sites based on previous catch data 2. Periodically review and adjust sample size 	<ol style="list-style-type: none"> 1. Detection of specific changes in species of interest over time 2. Detection of population change to facilitate adaptive management of species of interest
Columbia	<ol style="list-style-type: none"> 1. Long term monitoring 2. Standardized sampling methodology 3. Index sampling design 4. Comprehensive data recording 5. Data-driven adaptive management approach 	<ol style="list-style-type: none"> 1. Provides historic perspective to data set and allows trends in target metric to be identified 2. Allows for hypothesis testing and comparison of target metric over time 3. Provides a useful metric for comparisons where estimation of an alternate metric is either not possible or not practical 4. Data recorded for every fish captured may allow for additional assessment of biological trends not related to a predetermined monitoring objective 5. Allows for water management recommendations to aid native fishes not specifically covered by ESA but that are affected by actions intended to recover ESA species
Illinois	<ol style="list-style-type: none"> 1. Long duration standardized monitoring 2. Fixed locations that include a season and river stage component 	<ol style="list-style-type: none"> 1. Gives historic perspective on fish assemblage changes in response to water pollution legislation 2. Allows for better comparisons of similar conditions over time
Upper Mississippi	<ol style="list-style-type: none"> 1. Multiple gears fished in a variety of habitats 2. Custom applications that allow users to query for single species and community-level fish data 	<ol style="list-style-type: none"> 1. Reduces gear and sampling bias 2. Facilitates dissemination of monitoring data to stakeholders
Tallapoosa	<ol style="list-style-type: none"> 1. Adaptive management of flow regime 2. Engage stakeholders with visual presentation of model updates 	<ol style="list-style-type: none"> 1. Links occupancy of native fish to changes in management 2. Allows stakeholders to determine if their objectives are being met

**END OF FIELD REPORTS FOR
June 9, 2017**