

# Leaders: Consider the human factor



## Why you should care about water

By **LEE JUILLERAT**  
H&N Regional Editor

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MEDFORD — When the Klamath River Basin Science Conference opened Tuesday, a series of speakers implored scientists doing river studies to report findings in language that nonscientists can understand, to be transparent and, most of all, to realize people living in the upper and lower basins will be impacted.

When the conference closed Friday, scientists said they heard the message.

“The human dimension has come up again and again,” said Dr. Leslie Dierauf, the U.S. Geological Survey’s Northwest regional executive, who conceived and oversaw organization of the four-day conference. “The social needs and the social dynamics go hand-in-hand with the health of the river.”

In conversations and at conference programs involving 300-plus scientists, Dierauf and others said a major message was to involve people living in areas impacted by the river and its tributaries in ongoing and future studies.

### **The human factor**

Klamath County Commissioner John Elliott, Siskiyou County Supervisor Jim Cook and Humboldt County Supervisor Jill Duffy each urged scientists studying the future of the Klamath River Basin to consider the human factor.

“Either we learn to work together, or I warn you, we will destroy each other,” Elliott said.

Of the proposed removal of four Klamath River dams, which Siskiyou supervisors have

unanimously opposed, Cook asked, “Prove that’s the best for the river and prove that’s the best for the people of the United States. Don’t do it because it feels good.”

“We need to have confidence in the products that are being produced,” Duffy said, echoing concerns by Cook and Elliott that county governments lack the staff and budget to analyze and interpret scientific data.

Duffy urged scientists to “talk about what we know and how we can augment information and move forward. When you say you don’t know, it undermines confidence.”

### **Common goals**

Elliott said trust and collaborative relationships between previously hostile groups were established during negotiations for the Klamath Basin Restoration and Klamath Hydropower Settlement agreements, noting, “We’ve carved out a pseudo state with common goals.”

Regardless of whether the Klamath Basin Restoration Agreement and Klamath Hydroelectric Settlement Agreement are approved, Dierauf said studies aimed on understanding, targeting and solving problems along the Klamath River Basin are needed.

“We have to plan now, to get ready now,” Dierauf said. “Let’s not wait for the agreements.”

### **Fish recovery depends on entire Basin**

By TY BEAVER

H&N Staff Writer

Removing four hydroelectric dams on the Klamath River alone will not restore salmon that call the Klamath River watershed home, says a researcher with the National Oceanic and Atmospheric Administration.

Dam removal would reopen hundreds of miles of habitat that have been closed for roughly a century. But the Klamath Basin contains a multitude of environments, from small streams to shallow lakes, that also need to be restored to keep salmon healthy.

And the dams are just one constraint people have put on the watershed. Their removal will not make other issues disappear.

“It really takes a Basin to raise a salmon,” said researcher Tommy Wells.

That statement doesn’t just apply to salmon, though. Numerous fish species — sucker, trout, sculpin, chub and other aquatic creatures — live in the Klamath River Basin and

have been impacted by environmental changes over the past few decades.

### **More to do**

Researchers and scientists at the Klamath River Basin Science Conference last week said restoration projects are under way to improve the conditions in the Basin, but still more needs to be done to protect the region's diverse species.

Most people familiar with the Klamath Basin know of Chinook and coho salmon and the Lost River and shortnose suckers because of their value as commercial fish, their endangered status and their cultural value to tribes.

### **Many types of fish**

But other fish also live in the river, its tributaries and lakes.

Scott Vanderkooi, fisheries biologist with the U.S. Geological Survey in Klamath Falls, said the Klamath Basin is home to the highest diversity of lamprey species in the world, from the Pacific lamprey to others living in the region's lakes and rivers. There also are varieties of sculpin, minnow, trout and chub.

And many are under siege.

Salmon have seen increasingly smaller runs in recent years. Young suckers aren't surviving to maturity, causing the reproductive population to age and grow smaller. And only one healthy population of bull trout remains in the Basin; the rest are considered at moderate to serious risk.

### **Dams**

The Klamath River's hydroelectric dams are a visible reason for some of the problems.

Salmon and other anadromous fish species haven't been able to swim past Iron Gate Dam in Siskiyou County since it was built in 1962.

But there are other factors.

Vanderkooi said draining two-thirds of the marshes around Upper Klamath Lake for agriculture shifted the trophic, or nutritional, habitat of the lake. Nutrient-rich waters were so rich that toxic algal blooms occurred, causing tissue death in young suckers.

Introduced species, such as catfish and perch, led to increased competition for resources and predation of native species.

Humans also over-fished the Basin. This was especially true of salmon, which are still fished commercially, as well as suckers, which were promoted as a game fish in the

1960s and were processed by a cannery on the Lost River.

“It really shouldn’t come as a surprise to us that this led to population level changes in native fish,” Vanderkooi said.

Salmon hatcheries on the river led to a temporary boost in salmon runs for a while, researchers said, but they’re declining again and there’s evidence that introduction of hatchery fish is making the overall species unable to survive as well as before.

### **Restoration projects**

Vanderkooi said about 400 restoration projects have taken place in the past 15 years in the upper basin. Efforts include fencing off streams to keep out cattle, removing the Chiloquin Dam and reflooding the Williamson River delta.

More needs to be done, though, and that includes altering perceptions about restoration, Wells said. Short-term improvement in fish populations isn’t going to lead to long-term sustainability of a species.

“We need to move away from just focusing on abundance,” he said.

Vanderkooi called dam removal a good step, but said it would likely impact fish as well. For example, lower Klamath River salmon and upper Klamath River fish species would need to co-exist again after nearly 100 years of separation.

Josh Strange with Yurok Tribal Fisheries said it’s important that other viewpoints be taken into consideration. He said his stepfather, a Yurok tribal elder who fished the region’s fisheries for decades, is one example of the spiritual and cultural importance of Basin’s biodiversity.

“This isn’t just about the economic impacts of issues in the Basin,” Strange said.



### **Irrigation and agriculture**

In the Upper Klamath Basin, there are 500,000 acres under irrigation. Of those, 190,000 are on the Klamath Reclamation Project, which includes the Klamath and Tulelake irrigation districts. Most of that acreage relies on flows from the Klamath River. Only 100,000 acres are irrigated with groundwater. Irrigators grow crops such as mint, alfalfa and potatoes, and raise cattle. Agriculture is a \$650 million industry in the Upper Basin.



### **Oregon spotted frog**

The Oregon spotted frog, which historically ranged throughout the region, is now found in only a few areas. Experts don't yet know if the frog will become an endangered species. In the Klamath Basin, the frog lives as far west as Lake of the Woods, as far east as the Pit River in Modoc County and as far north as the Sprague River



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Lamprey

Six of the world's 42 known species of lampreys — which are jawless boneless, long-bodied and mostly unchanged over the past 360 million years — are found in the Klamath River Basin.



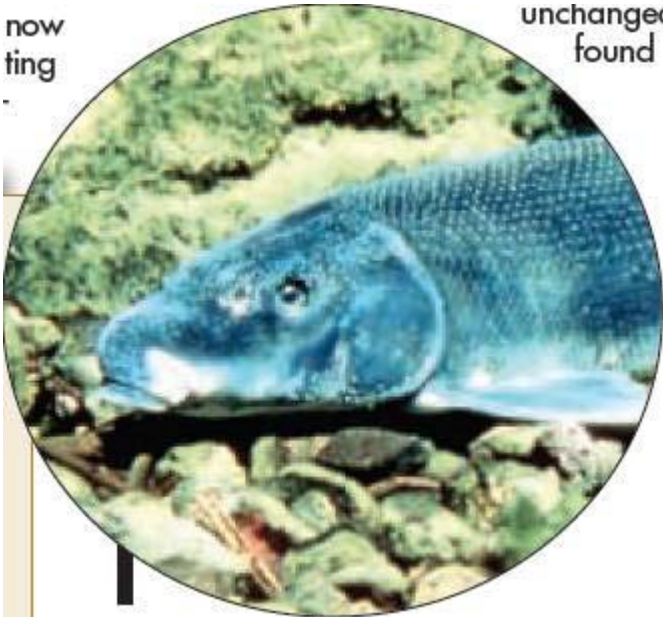
**Iron Gate Dam**

Hydrology in the lower Klamath River Basin has been difficult to study because of dams that control water flows in the river, said Mike Belchik, a senior biologist with the Yurok Tribe. A plan to remove the dams aims to restore salmon runs — the Iron Gate dam is now the end of the road for migrating salmon — to the upper Klamath River Basin



**Upper Klamath Lake**

The lake is fed by the Williamson, Wood and Sprague rivers at the upper end of the watershed. Home to suckers, water levels are monitored to maintain health of the fish.



**Lost River sucker**

Bass and perch living in the reservoirs are expected to be lost through dam removal, but suckers trapped in reservoirs will be captured and relocated

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