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LightHawk's monthly update, WayPoint, was created to highlight the impact of our work. Each edition covers one specific flight, or series of flights, and illustrates how LightHawk advances conservation efforts throughout North and Central America through the unique perspective of flight. We hope you enjoy WayPoint and will share with others our success stories from above.

## Flights Show Irrigation and Illegal Suction Mining Taking Big Gulps of Klamath River Tributary



LightHawk helped reveal a bright blue float in the river. Several barges were discovered on the flight, indicating that illegal suction dredge mining continues on the Klamath River despite a moratorium placed on the activity. *photo: Scott Harding/Klamath Riverkeeper/LightHawk*

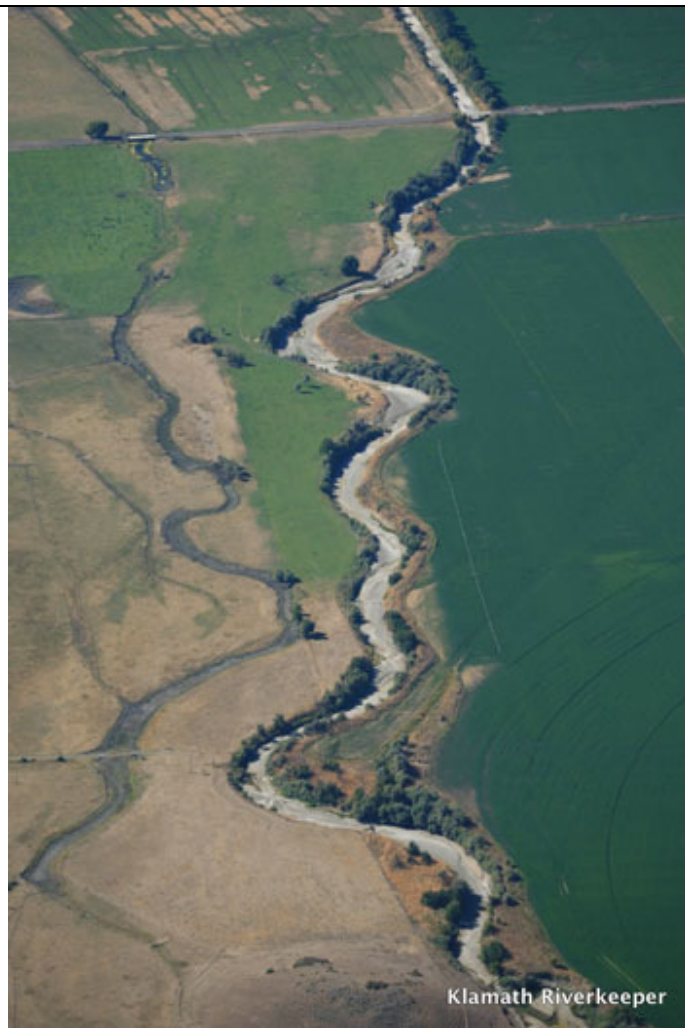


Dewatered Scott River with green irrigated land in the background. *photo: Scott Harding/Klamath Riverkeeper*

*At one time, they were the mainstay of the Karuk Tribe's diet, the source of their identity as a people, and the center of their cultural and spiritual traditions. It is impossible to overstate the importance of Pacific salmon to the Karuk, one of several tribes who have been residents of the Klamath River Basin for millennia. Each year, the Tribe held "first salmon" rituals before harvest: their spiritual leader caught and cooked a salmon, being sure to honor it in the process. The belief was that, if properly treated, this first salmon would "lead" other salmon into their nets. Before this ritual occurred, salmon and steelhead were allowed to pass unimpeded to their spawning areas, ensuring that populations would continue to be productive in years to come. It is this sense of stewardship that motivates the Karuk Tribe to work to improve conditions for salmon in the Klamath River today and why they recently called on LightHawk for help.*

The Klamath River and its tributaries drain an area the size of Switzerland along the California-Oregon border. Once the third most productive salmon fishery on the Pacific coast, in recent decades it has seen drastic declines in salmon, steelhead, and other native fish species due to the many environmental impacts to the river, including dams, irrigation, and development. For the Karuk Tribe and other LightHawk partners like the Klamath Riverkeeper, counted among these impacts are small-scale, often hobbyist, gold mining operations practicing a technique known as suction dredging.

Suction dredge mining takes place directly in rivers and streams using a floating, gas-powered vacuum. The miner vacuums sediment, gravel, and small rocks from the river bottom, which are then run through a sluice box. Gold flakes separate out, and the rest is spit back into the river. According to the Karuk and their allies, suction dredging represents an unnatural disturbance to the river that is harmful to fisheries, particularly to the spawning beds that salmon create on the gravel bottom, and degrades aquatic habitat and water quality.



The Scott River, a tributary of the Klamath River and important habitat for salmon, has run dry along much of its length. Salmon advocates blame the practice of using river water to irrigate adjacent fields *photo: Scott Harding/Klamath Riverkeeper/LightHawk*



Volunteer pilot Jane Nicolai (left) with passengers Scott Harding, Lyra Cressey and Craig Tucker. *photo: Scott Harding/Klamath Riverkeeper*

Last summer, the Karuk Tribe, Klamath Riverkeeper, and their partners succeeded in getting a law passed in California that placed a moratorium on the mining practice pending an environmental review and public process. Despite the ban, miners have continued to operate dredges on the rivers. Karuk representative Craig Tucker turned to LightHawk for help in observing illegal dredging operations and recording coordinates of illegal dredging operations to report to the California Department of Fish and Game (DFG).

When Pacific Region Program Manager Christine Steele put out the call for help, volunteer pilot Jane Nicolai stepped forward to take the flight. On a bright September morning, the group, which included Craig from the Karuk Tribe, Scott Harding, Executive Director of the Klamath Riverkeeper, and Lyra Cressey of the Salmon River Restoration Council, left Montague airport and flew west along the Scott River to the confluence of the Scott with the Klamath River, downstream to the confluence of the Salmon River with the Klamath, and back over the Marble Mountains to the Montague Airport.

"In one hour of airtime, we were able to survey more river miles than we could have in an entire day and located dredges that were intentionally hidden from ground-based views," said Scott Harding. "Despite the fact that we located numerous dredges, we were able to determine that, generally, California's new ban on suction dredge mining has been effective. We were also able to determine that six dredges that had been previously reported for enforcement were still present on the rivers." During the flight, they were able to locate several new illegal dredges and reported these violations to DFG, along with photos and GPS coordinates.

The mission also revealed the extent to which large-scale irrigation projects have contributed to the dewatering of the Scott River in the Scott Valley. Photos taken during the flight told the story of important salmon habitat literally left high and dry. Harding noted, "The aerial perspective clearly depicted the amount of land under intensive irrigation and contrasted these green fields starkly with the Scott River's sandy, dry riverbed winding through the fields. Over 30,000 acres of the valley are irrigated; it is impossible to gain perspective on this from the ground."

As the Karuk Tribe, Klamath Riverkeeper and their partners continue to monitor illegal suction dredge mining and now the dramatic impact irrigation has on rivers and salmon, donated flights from LightHawk contribute a landscape perspective to help steward life below the waterline.

## **About LightHawk**

What started in 1979 with one man and a vision has grown to over 170 volunteer pilots flying missions across the U.S., into Canada, through Mexico and down to Panama. Today, LightHawk is the oldest and largest nonprofit, volunteer pilot-based organization flying environmental missions in collaboration with hundreds of partner organizations.

At LightHawk we believe the view from the window of a small airplane provides a powerful and effective platform for research, ground-truthing, environmental awareness, and education.

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